# Summary of Public Scoping Comments

**Expanded Scope of the**
**Environmental Impact Statement**
**for the Alignment, Construction, and Operation of a Rail Line to a Geologic Repository at Yucca Mountain, Nye County, Nevada**

***The Mina Corridor***
***and Alternative Rail Alignments within this Corridor***

**May 2007**

U.S. Department of Energy
Office of Civilian Radioactive Waste Management
Las Vegas, Nevada

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## 1. Introduction

This report summarizes the comments contained in letters, faxes, e-mails, and other correspondence from the public on the U.S. Department of Energy's (the *Department*) request for comments on the expanded scope of the ongoing *Environmental Impact Statement for the Alignment, Construction and Operation of a Rail Line to a Geologic Repository at Yucca Mountain, Nye County, Nevada* (Federal Register, Vol. 71, No. 198, p. 60484). This expanded EIS is formally titled the *Supplemental Yucca Mountain Rail Corridor and Rail Alignment EIS* (DOE/EIS–0250F–S2 and DOE/EIS–0369). For the remainder of this report, it is referred to as the *Supplemental Rail Alignment EIS*.

The original public scoping for the *Rail Alignment EIS* was conducted in 2004 (DOE/EIS–0369, Rail Alignment EIS, Notice of Intent, April 8, 2004, 69 FR 18565). At that time the Department was examining only the Caliente corridor in Nevada for a possible new rail line to Yucca Mountain. The *Supplemental Rail Alignment EIS* will examine a second rail corridor in western Nevada, referred to as the Mina corridor, as another alternative for a rail line to Yucca Mountain. The public scoping period for the *Supplemental Rail Alignment EIS* began on October 13, 2006, and ended on December 12, 2006. Summaries of the comments received after December 12, 2006, are included in this report.

During the scoping period for the *Supplemental Rail Alignment EIS*, the Department also conducted public scoping on 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* (DOE/EIS–0250F, February 2002) [referred to hereafter in this report as the *Supplemental Repository EIS* (Federal Register, Vol. 71, No. 198, p. 60490)]. A companion report summarizing the public scoping comments on the *Supplemental Repository EIS* is also available on the Departments WEB site at www.ocrwm.doe.gov.

Because public scoping was conducted during the same period of time for both EISs, many documents received by the Department contained comments on both EISs. Consequently, all comments, regardless of whether the document was addressed to the *Supplemental Rail Alignment EIS* or the *Supplemental Repository EIS*, were reviewed for applicability to both scoping reports. This was done to ensure a full and complete consideration of all public input to the scoping process. Comments that were applicable to both EISs are summarized in both scoping-summary reports.

## 2. Process Used to Categorize and Summarize Scoping Comments

Comments on the scope of the EISs were submitted in the form of court-reporter transcripts, letters, comment forms, e-mails, and facsimiles. Upon receipt, each comment document was date stamped, given a unique document number, and scanned into a database along with other relevant information such as the name, address, and phone number of the commentor. A total of 263 comment documents were received for both EISs.

Next, a list of topic "bins" was developed for each comment document into which individual comments would be assigned. For this scoping-summary report on the *Supplemental Rail Alignment EIS*, 33 major bins and 98 sub-bins were established to categorize comments (see Attachment A, *Comment Bin List*). (See the companion scoping-summary report for the bins and sub-bins used to categorize comments on the *Supplemental Repository EIS*.)

Each comment document was then read carefully. Scoping comments were identified and marked in the margin of each document in numerical order (1, 2, 3, etc.). Some comment documents had only one identifiable comment. Others, however, had dozens of comments. Each comment was assigned to a single bin or sub-bin (comments assigned to both scoping-summary reports were assigned to the appropriate bin for each report). The table below contains a summary of all comments identified from the 263 scoping documents, and the categories in which the comments have been organized.

| **Comments on the Scope of the Supplemental Rail Alignment EIS and the Supplemental Repository EIS** | |
|---|---|
| Total Comments Identified from all Scoping Documents | 1,376 |
| Comments Applicable Exclusively to the *Supplemental Rail Alignment EIS* | 653 |
| Comments Applicable Exclusively to the *Supplemental Repository EIS* | 586 |
| Comments Applicable to, and Addressed in, both Scoping Reports | 137 |
| **Total Comments on *Supplemental Rail Alignment EIS*** | 790 |
| **Total Comments on *Supplemental Repository EIS*** | 723 |

All comments in each bin and sub-bin were summarized and these summaries were placed in tables (see Attachment B). The number of comments assigned to the 33 major bins established for the *Supplemental Rail Alignment EIS* is shown below.

**Public Scoping Comments on the Supplemental Rail Alignment EIS by Major Bin**

| ***Bin*** | ***Topic*** | ***Number of Comments*** |
|---|---|---|
| *A* | NEPA Process | 132 |
| *B* | Action Alternatives | 57 |
| *C* | No-Action Alternative | 16 |
| *D* | Shared Use | 35 |
| *E* | Rail-Related Infrastructure | 14 |
| *F* | Construction and Operation of a Rail Line and Related Facilities | 101 |
| *G* | Regions of Influence and Baseline Studies | 32 |
| *H* | Land Use | 39 |
| *I* | Socioeconomics | 23 |
| *J* | Environmental Justice | 7 |
| *K* | Visual Resources and Noise | 2 |
| *L* | Cultural Resources and Cultural Values | 34 |
| *M* | Geology, Mineral Resources, and Abandoned Mines | 7 |
| *N* | Water Resources | 12 |
| *O* | Air Quality | 1 |
| *P* | Biological Resources | 11 |
| *Q* | Recreation | 3 |
| *R* | Transportation | 4 |
| *S* | Health and Safety | 33 |
| *T* | Cumulative Impacts | 10 |
| *U* | Costs | 15 |
| *V* | Accidents | 30 |
| *W* | Terrorism/Sabotage | 13 |
| *X* | Emergency Response | 52 |
| *Y* | Mitigation of Impacts | 12 |
| *Z* | Comprehensive National Transportation Plan | 3 |

| Public Scoping Comments on the Supplemental Rail Alignment EIS by Major Bin | | |
|---|---|---|
| ***Bin*** | ***Topic*** | ***Number of Comments*** |
| *AA* | Pro/Con Yucca Mountain Project and a Particular Corridor | 66 |
| *BB* | No Faith in Government | 4 |
| *CC* | Stigma and Perceived Risk | 12 |
| *DD* | Worst-Case Analysis | 3 |
| *EE* | No Authorization for Repository | 1 |
| *FF* | Carlin Corridor | 3 |
| *GG* | Miscellaneous | 3 |
| | **Total** | **790** |

The information contained in the summary tables (see Attachment B) in this report was then reviewed by the Department to help define the scope of the *Supplemental Rail Alignment EIS*. The *Supplemental Rail Alignment EIS* will describe the results of the scoping process and how the scope evolved in response to these public comments.

# Attachment A – List of Comment Bins

The *comment bin list* below shows where individual public comments on the scope of the *Supplemental Rail Alignment EIS* were assigned. Following the *comment bin list* are the tables (Attachment B) that contain the summaries of all comments within each bin and sub-bin. The tables correspond to the major headings shown on the *comment bin list* (e.g., Table A is *NEPA Process*, Table B is *Action Alternatives*, Table C is *No-Action Alternative*, etc.).

A) NEPA PROCESS
   1) Content and Adequacy of NOIs
   2) Duration of the Scoping Period
   3) Confidence in Scoping Process
   4) Number, Place, and Timing of Scoping Meetings
   5) Format of Scoping Meetings
   6) Criteria for Selecting among Alternatives
   7) "Cooperating Agency" Issues
   8) Future Meetings and Interactions, and Education about DOE's Repository Program
   9) 2004 Scoping for the RA EIS

B) ACTION ALTERNATIVES
   1) Comments on DOE's Proposed Routes
   2) Suggested New Routes and Routes Eliminated in 2002
   3) Range of Acton Alternatives and Details of Analysis

C) NO-ACTION ALTERNATIVE

D) SHARED USE
   1) Confusion over Shared Use
   2) Arguments in Favor of Shared Use
   3) Arguments Opposed to Shared Use

E) RAIL-RELATED INFRASTRUCTURE
   1) Type and Location of Infrastructure
   2) Condition of Existing Rail Lines in Nevada
   3) Existing Infrastructure at the Hawthorne Army Ammunition Deport

F) CONSTRUCTION AND OPERATION OF A RAIL LINE AND RELATED FACILITIES
   1) Construction Maps and Plans
   2) Constructing the Rail Bed and Rail Line
   3) Constructing Rail-Related Structures
   4) Constructing Access Roads
   5) Construction Rights-of-Way
   6) Construction Equipment
   7) Construction Raw Materials
   8) Restoration of Disturbed Areas
   9) Construction Wastes
10) Modification of Existing Rail Lines, Facilities, and Infrastructure in Nevada
11) Timing of Rail Construction
   12) Construction Permits
   13) Legal Issues involving Construction
   14) Dedicated vs. Shared Use

15) Number and Routing of Waste Shipments and Waste Characteristics
16) Train Speeds and Dwell Time
17) Safety, including Crossings and Grade Separations
18) Security
19) Weather Hazards
20) Communications
21) Disruption of Commercial Freight and Vehicle Traffic
22) Coordination with the Union Pacific Railroad
23) Prior Record of Waste Shipments

G) REGIONS OF INFLUENCE AND BASELINE STUDIES
1) Regions of Influence, Scope of Analysis, and Baseline Studies
2) Bounded Analysis of Waste Shipments
3) Consideration of Future Growth and Developments in Nevada

H) LAND USE
1) General Land-Use Issues
2) Affects on Access to and Use of Other Lands
3) Private Land and Private Developments
4) Issues Related to Rights-of-Way and Land Withdrawals
5) Relationship to BLM Resource Management Plans
6) Protected Lands
7) Ranching and Mining
8) Effects on Department of Defense Operations
9) Changes in Land Use in Las Vegas and Clark County since 2002

I) SOCIOECONOMICS
1) Employment Opportunities and Community Development
2) Socioeconomic Baseline Data
3) Social Risks
4) Quality of Life
5) Impacts to Community and Public Services

J) ENVIRONMENTAL JUSTICE

K) VISUAL RESOURCES AND NOISE

L) CULTURAL RESOURCES AND CULTURAL VALUES
1) Cultural Sites and Districts
2) Ethnographic Studies
3) Native American Tribal Concerns
4) Spiritual and Religious Values
5) Treaties and Land Claims
6) Fiscal Impacts to Tribes, including Stigma
7) Quality of Life

M) GEOLOGY, MINERAL RESOURCES, AND ABANDONED MINES
1) Geology
2) Mineral Resources
3) Abandoned Mines

N) WATER RESOURCES
1) Water Quality Issues
2) Water Supply and Use Issues
3) Flooding
4) Water Permits and Water Rights

O) AIR QUALITY

P) BIOLOGICAL RESOURCES

1) Impacts to Fauna and Flora
2) Wild Horses and Burros
3) Reclamation of Disturbed Areas
4) Invasive Plant Species

Q) RECREATION

R) TRANSPORTATION

S) HEALTH AND SAFETY
1) Radiological Exposure from Routine Rail Operations
2) Radiological Exposure from Rail Accidents
3) Radiological Exposure from Resuspension of Radioactive Soils

T) CUMULATIVE IMPACTS

U) COSTS
1) Cost to Construct and Operate the Rail Line
2) Cost as a Selection Criteria
3) Additional Costs for State and Local Agencies
4) Price-Anderson Act

V) ACCIDENTS
1) Accidents from Routine Transport
2) Derailments
3) Accidents at Crossings
4) Accidents involving Fire
5) Accidents involving Military Aircraft
6) Accidents in Reno and Las Vegas
7) Risk Analysis and Assessment of Accidents

W) TERRORISM/SABOTAGE
1) Recommended Analyses
2) Security Measures
3) Independent Review of Security Issues

X) EMERGENCY RESPONSE
1) Existing Emergency-Response Resources
2) Community Notification and Education
3) Coordination among Federal, State, and Local Agencies
4) Cost of Emergency Response
5) Training, Equipment, and Funding for First Responders
6) Section 180(c) of the Nuclear Waste Policy Act

Y) MITIGATION OF IMPACTS
1) Overall Mitigation
2) Mitigation for Private Lands and Developments

Z) COMPREHENSIVE NATIONAL TRANSPORTATION PLAN

AA) PRO/CON YUCCA MOUNTAIN PROJECT AND A PARTICULAR CORRIDOR
1) Opposed to or in Favor of the Yucca Mountain Project
2) In Favor of or Opposed to the Caliente Corridor
3) In Favor of or Opposed to the Mina Corridor
4) In Favor of the Carlin Corridor

BB) NO FAITH IN GOVERNMENT

CC) STIGMA AND PERCEIVED RISK

DD) WORST-CASE ANALYSIS

EE) NO AUTHORIZATION FOR REPOSITORY

FF) CARLIN CORRIDOR

GG) MISCELLANEOUS

# Attachment B: Comment-Summary Tables

**TABLE A. NEPA Process**

| Subissue | Summary | Documents |
|---|---|---|
| Content and adequacy of NOIs | A large number of people said that the NOIs did not contain sufficient information about the proposed actions for meaningful and substantive comments. Many people noted that the NOI for the Mina corridor did not contain a map showing the location of the corridor, and that it took DOE two weeks to post maps on its website. Others requested detailed information about the corridor, including route options, connections to existing mainlines, and the possible location of related infrastructure such as transfer stations.<br><br>Some people said that other than Nevada and the District of Columbia, States throughout the nation have not been adequately informed about the proposed changes in the repository program. Others said that towns along I-80 in northern Nevada, such as Elko, were not adequately informed about the proposed Mina corridor, and that DOE needs to alert people (particularly on Reservations and in California) who have not previously been involved in the Yucca Mountain project. One person noted that the Mina route between Hazen and Wabuska was part of the corridor and that residents in this area may not even know what's happening. One person said that the scoping meeting in Las Vegas was not adequately publicized. Some suggested that DOE take out full-page adds in local papers to inform local citizens about the EISs and that DOE not schedule meetings before a holiday weekend. Another asked how DOE conducted outreach to vision-impaired people, spanish-speaking people, and Indian tribes.<br><br>Several people wanted to know why DOE didn't alert people about its application to the BLM to withdraw 208,000 acres of public land for the Mina corridor. Others said that the continuing changes in the Yucca Mountain project, such as the new Mina corridor and redesign of the repository, are beginning to look like NEPA segmentation and that the project should be examined as a whole [presumably in one EIS]. A few accused DOE of not meeting the letter or spirit of NEPA by developing a less than transparent and open process that creates mistrust in the agency. And one person said it was unfortunate that the NOI solicited comments on only the proposed Mina Corridor, and not for existing track and connections along mainline rail lines in Nevada.<br><br>Based on preceding comments, many people requested that DOE withdraw, re-write, and re-issue the NOIs to resolve these issues. | 60027, 60035, 60044, 60046, 60050, 60058, 60068, 60076, 60077, 60079, 60081, 60082, 60085, 60086, 65002, 65003, 65004, 65005, 65008, 65009, 65015, 65021, 65041, 65045, 65058, 65063, 65065, 65067, 65072, 65073 |

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| | One person stated that if the analysis of the Mina corridor were similar to the level of analysis in the 2002 FEIS for the Caliente corridor, then it would be adequate. [Presumably DOE's initial list of issues to be examined for the Mina corridor, as described in the NOI, was based, at least in part, on the topics examined for the Caliente corridor in the 2002 FEIS.] Another said that the list of issues in the NOI was appropriate for this project. Another liked DOE's website. | |
| **Duration of the Scoping Period** | Many people said that the scoping period was too short and does not give citizens and public agencies adequate time to research and prepare substantive comments. Some said that because DOE released two NOIs on the same day, and that the NOIs did not contain sufficient information, additional time was needed to fully understand the nature of the proposed changes in the repository program. As a result, many people requested that the comment period be expanded to at least 90 days. Others said that because Mina is a new route, affected populations need more information, including maps of the corridor, before scoping meetings even begin. Finally, a few people said that DOE's addition of 14 days to the comment period was still inadequate. | 60006, 60056, 60058, 60079, 60085, 65002, 65003, 65004, 65008, 65021, 65022, 65023, 65063, 65064, 65065, 65073, 65074, 65079 |
| **Confidence in Scoping Process** | Several people questioned DOE's record of considering scoping comments. In the view of the State of California, DOE did not adequately consider many of California's 1999 scoping comments on the repository EIS that was issued in 2002. Several other people complained that citizens have been pressured by DOE over the years to respond quickly to the ever-changing schedule for the repository. Some noted that DOE officials now say that a repository at Yucca Mountain may not be open by even 2017; hence, why is DOE in such a rush to scope the EISs? Another person doubted that DOE would seriously consider scoping comments that could result in changes to the already-announced schedule for licensing and release of the EISs. Another noted that DOE had not formally requested input from Nevada or California. | 60044, 60085, 65065, 65073 |
| **Number, Place, and Timing of Scoping Meetings** | Many people requested that DOE hold additional scoping meetings in parts of Nevada, California, and Utah in communities that would be directly or indirectly affected by waste transport. For Nevada, scoping meetings were requested for Reno, Elko, Eureka, Winnemucca, Battle Mountain, Lovelock, Yerrington, Hazen, Fernley, Silver Springs, Carson City, and an additional meeting in Las Vegas. For California, scoping meetings were requested for Sacramento, Lone Pine, Los Angeles, the Central Valley, and Barstow. And in Utah, scoping meetings were requested for Salt Lake City and St. George.<br><br>Many people noted that access to the Mina corridor from the east would be via Salt Lake City and from the west via Sacramento. Based on this, people said that communities near the Union Pacific railroad along this stretch should be given the opportunity to comment on the NOI at public scoping meetings without having to travel long distances to do so. | 60024, 60058, 60075, 60079, 65002, 65003, 65008, 65021, 65023, 65063, 65065, 65071 |

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| | Some said that scoping meetings should have been held in all cities throughout the nation that would be affected by waste transport. Others said that, at a minimum, scoping meetings should have been held in the same places where they were held for the Repository EIS in the 1990s. And a few people complained that the timing of meetings conflicted with other County meetings scheduled at the same time in Las Vegas.<br><br>People said that DOE should wait at least 60 days after the NOIs are issued before holding scoping meetings. These people noted that meetings in Washington and Nevada were held only 11 and 13 days after the NOIs were published and that this was too soon considering that the NOIs contained insufficient information about DOE's proposals. Because few scoping meetings were held, some people suggested that DOE use satellite feeds for those unable to attend. | |
| **Format of Scoping Meetings** | Many people said that they should be able to comment on both NOIs at all scoping meetings, not just the joint meeting in Amaragosa Valley, and that the NOIs should have made that clear. Others said that scoping of both EISs at same time was confusing and attributed this confusion to DOE's inability to separate the two issues and clarify the process. One person said that transportation impacts should be assessed in three parts: (1) construction and operation of the new rail line to Yucca Mountain; (2) waste shipments along the mainline rail system in Nevada to the new rail line; and (3) waste shipments to Nevada from shipping sites throughout the country.<br><br>Many people said that the format of the scoping meetings hindered public participation. Rather than having citizens huddled in a corner with a court reporter, which according to these commentors is intimidating, DOE should make a formal presentation at a specified time after which the public can engage DOE in a question-and-answer session for all to hear. This approach would have encouraged information sharing and foster the NEPA process, especially considering that the NOI(s), in the view of the commentors, did not contain sufficient information for meaningful comments. | 60058, 60074, 60079, 60085, 65002, 65004, 65021, 65030, 65060, 65064, 65067, 65071, 65074, 65078 |
| **Criteria for Selecting among Alternatives** | One person said that the EIS should clearly state the criteria that DOE will use to choose between the proposed alternatives, including the no action alternative. Another person said that the timeframe for the ultimate decision on a rail route should be stated in the EIS and that the social and economic impact of delaying this decision should be examined (e.g., effects on sales of public lands, land planning, economic planning, passage of a comprehensive lands bill for Esmeralda County, and community expansion). Nye County suggested that DOE make a quick decision about the corridor and shared use soon after the RA EIS is completed. This decision should be documented in a publicly available form. It is not in the best interest of Nye County or the nation to delay the decision-making process. Another said that the draft EIS must assess and compare rail | 60074, 60077, 60078, 60085 |

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| | corridors other than just the Caliente and Mina corridors in that the identification of the Caliente and Mina corridors has been arbitrary and apparently driven by federal agency whim rather than by any defensible NEPA decision process. | |
| **Cooperating Agency Issues** | One person requested that Elko, Eureka, Humboldt, Lander and Pershing Counties become cooperating agencies in the preparation of the RA EIS. The basis for the request was that each county has unique expertise on emergency management, first-response capabilities, emergency-medical capabilities, and local socioeconomic conditions and trends. Others said that because DOE has already accepted shared use, the Surface Transportation Board should take over the EIS, and that other federal and state agencies should be involved. | 60026, 60080, 60083, 60085, 65067 |
| **Future Meetings, Interactions, and Education about DOE's Repository Program** | In defining the Mina alignment, and making a decision between the Mina and Caliente corridors, some recommended that DOE begin working with affected jurisdictions and individual property owners (and ranchers), similar to what DOE is now doing with the Walker River Paiute Tribe. Another person, citing a recommendation in a 2006 study by the National Academy of Sciences, said that DOE should describe in the EIS the efforts to ensure effective involvement of states and tribal governments in its decisions involving routing and scheduling. One person suggested that people be kept informed about the repository program through a newsletter. Several Nevada counties noted that they had a substantial amount of data on existing conditions along and near the rail corridors, including GIS data, that would be available to DOE in its compilation of the EISs (e.g., "*Mineral County Baseline Report Update 2005*"). Esmeralda County said that they should be given the opportunity to provide DOE information on various aspects of the EIS. Lander and Churchill Counties encouraged DOE to contact each county for information on existing conditions and GIS data. Another said that DOE must now refocus its resources, interactions, and support to northern Nevada.<br><br>Upon release of the Draft EIS, several people encouraged DOE to hold public meetings in communities along the proposed rail alignments and along existing rail lines that would be affected by waste transport. At a minimum, DOE should follow the format that it has traditionally used for public input, by allowing members of the public to make comments publicly, rather than in private to a transcriber. The time of the formal comment hearing should be announced so that people can, if they wish to, attend just the hearing. Others said that DOE should commit to regular interactions with communities along the Mina corridor to help determine impacts.<br><br>One person suggested that DOE establish a Yucca Mountain Information Center in Hawthorne, similar to the center in Nye County, to education local citizens and visitors about the repository program. | 60018, 60060, 60064, 60070, 60071, 60077, 60085, 65061, 65068, 65079 |

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| | The Consolidated Group of Tribes and Organizations (CGTO) requested a list of all tribes identified by DOE that are along and near the proposed transportation corridors, including State-recognized tribes. It also requested that DOE provide a copy of the Cultural Resource Management Plan being used by the Yucca Mountain project. The CGTO is aware that the information contained therein is dated and requires updating by the American Indian Writer's Subgroup as soon as possible before it can be formally accepted and applied to the Yucca Mountain project. The CGTO questions why project archaeologists rely solely on the "Red Book" which includes dated material and was not intended to be a comprehensive study but a summary of some activities.<br><br>Finally, one person said that DOE, in consultation with federal, state, tribal, and local governments and organizations, and citizens, must develop a comprehensive plan for protecting all environmental resources along the Mina corridor. | |
| **2004 Scoping for the RA EIS** | In a letter dated July 7, 2004, Nye County submitted scoping comments on the Rail Alignment EIS. The Nye County scoping comment letter is enclosed with this letter and hereby incorporated by reference. All comments provided in the previous letter should be addressed during the preparation of the expanded Rail Alignment EIS. | 60077, 65076 |

**TABLE B. Action Alternatives**

| Subissue | Summary | Documents |
|---|---|---|
| **Comments on DOE's Proposed Routes** | Several people offered specific comments on DOE's proposed rail alignments within the corridors. Two people said that DOE should move routes OV-1 and OV-3 at least five miles east of where they are shown now. These people are concerned about noise and vibration from a railroad near their ranch, which is about eight miles north of Beatty. Some urged DOE to use an abandoned railroad grade that still exists along parts of the Mina corridor, and particularly the existing grade in the Goldfield area as a means of avoiding the Silver Peak route which, according to these people, would have far more impacts than the Goldfield route. Some residents of Silver Peak said that DOE should avoid the alignment near Silver Peak in favor of a straighter route that winds around Silver Peak and avoids the steep grades, length, and construction costs associated with the proposed route. Another said that if the Silver Peak route is selected, DOE should consider linking Silver Peak to Goldfield. Others said that DOE should consider moving all alignments near Goldfield to the west to avoid future mineral exploration, development, and mining, and to assist in the orderly expansion of the town of Goldfield. Another person requested that DOE consider moving the alignment in the Redlich area (T4N, R36E, Sections 21, 22, and 27) as far east as possible because of mineral exploration for gold and silver. Another said that DOE should avoid the Montezuma Range and follow existing roads. One person expressed support for the NM2 alignment near Goldfield and opposed the NM1 alignment because it would needlessly harm sensitive areas; another said that DOE should reconsider the Mina 6A route. Another person recommended that DOE evaluate alternative alignments in Crater Flat to facilitate possible rail spurs to areas identified by Nye County for potential industrial development.<br><br>People suggested that before completing the comparative analysis of impacts of the Caliente, Mina and no-action alternatives, DOE should update and distribute in draft form its comparative analysis of all previously-considered rail routes (i.e. the Carlin, Jean, Valley-Modified). This report should be the basis for development of the EIS and be a justification for inclusion or elimination of a particular route. | 60002, 60005, 60009, 60011, 60022, 60026, 60044, 60060, 60062, 60063, 60080, 60082, 60083, 65030, 65031, 65038, 65068 |
| **Suggested New Routes and Routes Eliminated in 2002** | Several people suggested new rail-line routes to Yucca Mountain and alternatives to rail transport. One person suggested a new rail corridor originating from Baker, CA, and extending through Death Valley Jct. to Yucca Mountain. This corridor would be shorter than the Mina corridor and easier to construct according to the commentor. Another person said that a rail route through the Tonopah Test Range would be reasonable considering that the Range will be closing in 2010. Another person suggested a rail route from Fallon southward through Gabbs Valley. One person said that DOE should build loops to avoid all communities along the Mina corridor. Several people | 60021, 60022, 60063, 60064, 60070, 60071, 60074, 60077, 60084, 60088, 65012, 65016, 65054, 65068 |

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| | suggested that a Mina railroad to Yucca Mountain be extended southward to connect with the existing mainline in southern Nevada or California. Another person said that a route through the Nevada Test Site should be used, along with part of the Caliente corridor. One person questioned why the shortest distance to Yucca Mountain, via a 100-mile-long railroad through the Las Vegas Valley, was not being considered. Another person said that a rail line in both the Mina and Caliente corridors should be developed, along with trucking routes. One person suggested that all possible corridors to Yucca Mountain be considered in the EIS (e.g., one from Barstow, California, and Apex, Nevada), including those previously examined in the 2002 Repository EIS (Jean, Carlin, etc.). Another person said that the Carlin corridor provides a reasonable cost alternative to the Mina and Caliente corridors and avoids rapidly growing areas in western Nevada. One person requested that DOE study the Feather River rail line as an alternative to the Donner Pass rail line that passes through Reno.<br><br>Several people said that the EIS should fully evaluate credible, realistic and mode-specific alternatives to the construction of either rail line. These alternatives might include a mostly-truck scenario, the shipment of casks by rail to an existing rail-head/intermodal facility, and heavy-haul truck shipments of rail casks from an existing railhead.<br><br>One person said that DOE should eliminate those routes that had already been eliminated in the 2002 Repository EIS, and focus *only* on the Mina and Caliente corridors. According to this person, there is no reason for DOE to reconsider in this EIS its 2002 *record of decision* that the Caliente corridor is preferred to the other four corridors previously evaluated; to do so would add unnecessary cost and complexity to the preparation on the ongoing EIS and delay its issuance.<br><br>Finally, Nye County requested that DOE evaluate the siting of a construction lay-down yard and rail siding (including related infrastructure such as roads, water supply, and power) adjacent to the currently proposed rail alignment in Crater Flat, but outside the proposed land withdrawal area, as a way to support the County's growth plans. As an alternative, the County requested the EIS examine a rail siding, construction lay-down yard, and related infrastructure, in an area north of the town of Beatty that would eventually be conveyed to Nye County when no longer required for DOE. | |
| **Range of Acton Alternatives and Details of Analysis** | A few people pointed out that DOE's Supplemental Analysis issued on March 10, 2004, makes legal-weight truck-haul nationally, and in Nevada, a possibility for the first six years and might be longer, pending completion of construction and operation of a rail line to Yucca Mountain. Moreover, DOE is apparently not ruling out this scenario. Therefore, it must also be fully evaluated as an alternative in the EIS, including truck shipments in Nevada from all 77 waste- | 60064, 60070, 60085, 65016, 65068, 65076, 65080 |

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| | generator sites over the life of the project in the event that a rail line is not constructed to Yucca Mountain. DOE should specify the likely ratio of rail use to heavy-haul truck use, delineate the procedures and locations for the intermodal transfer of waste, needed safety measures and routes, and comprehensively assess impacts in a manner that affords comparisons among alternatives.<br><br>For comparative purposes, the EIS should also examine an intermodal transfer station in Hawthorne with truck shipments to Yucca Mountain, similar to the intermodal transfer station evaluated for the Caliente corridor. Moreover, the existing track within the corridor that would be used by DOE should be included in the EIS analysis in that this rail line is not used very much.<br><br>One person noted that the N0I, on page 604841, said that "…*during subsequent public scoping, DOE received comments that offered preferences for various rail corridors analyzed in detail in the Yucca Mountain Final EIS, and identified other rail corridors for consideration…*," and that one of those "…*other corridors*…" is known as the Mina Route. This person requested that DOE disclose all of the "…*other corridors*…" and explain why they were eliminated from further consideration. A related comment requested that the EIS include a list of the environmental features, engineering, and design factors used by DOE to determine a reasonable range of alternative alignments. | |

**TABLE C. No-Action Alternative**

| Subissue | Summary | Documents |
|---|---|---|
| [none] | Many people commented on, and favored, the no-action alternative. Some said that a no-action alternative should be fully considered in the EIS, but did not specify the nature of the alternative. Others, by implication, said that all rail routes to Yucca Mountain were unsafe and that the no-action alternative was preferred [but did not specify what *no action* meant to them]. One person noted that the NOI did not describe what the no-action alternative is; this person said that it should be the use of legal-weight trucks, which is the only available no-action alternative given that DOE has decided to go forward with the Yucca Mountain project.<br><br>Some said that the no-action alternative should be defined as leaving the waste on-site at generator facilities. The risks and costs of this alternative should then be compared with the risks and costs of transporting the waste and storing it at a repository at Yucca Mountain. Another said that the no-action alternative should include the Carlin corridor. In contrast, other commentors said that DOE had already considered *no action* in the 2002 Repository EIS and that *not* transporting the waste to Yucca Mountain is not an alternative if there is to be a repository. Hence, it is important that DOE clearly determine and define the no-action alternative in the RA EIS and that analyses in the 2002 Repository EIS on the no-action alternative should be incorporated by reference in the RA EIS. If neither the Mina nor Caliente corridors are selected, other transportation options from the 2002 Repository EIS would have to be reconsidered and a revised ROD issued. Finally, one person said that DOE should not simply fall back on the use of truck shipments along I-15 through Las Vegas as part of the no-action alternative. | 60030, 60032, 60033, 60053, 60058, 60059, 60064, 60065, 60070, 60077, 60079, 60083, 60085, 65009, 65059, 65068 |

**TABLE D. Shared Use**

| Subissue | Summary | Documents |
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| **Confusion over Shared Use** | Several people said that the EIS should clarify whether shared use would be allowed and, if so, specify the types of materials that could be shipped and whether these shipments would be monitored (e.g., Would the rail line be used by the Nevada Test Site? Would ammunition shipments to the Hawthorne Army Depot be carried on the same trains that would carry waste? Would the Mina railroad be used in the final NNSA Complex 2030 program?). One person said that DOE has made contradictory statements about shared use, telling residents of Lincoln, Esmeralda, and Nye Counties that shared use would be a boost for the local economy, yet downplaying shared use when talking to the Walker River Paiute tribe. | 60044, 60074, 60078, 60085, 65039, 65067, 65076 |
| **Arguments in Favor of Shared Use** | Many people favored shared use in either corridor, often citing economic benefits as the chief reason (e.g., mining, commercial shipping, military use, transporting people, disposal of California wastes in Nevada, economic development of towns in Nye and Esmeralda Counties; and economic development in Reno and Fallon). Many said that the rail line should be extended beyond Yucca Mountain and connect to the main line in southern Nevada and California. These people said that a northern and southern approach to Yucca Mountain would add flexibility to the national shipping program in that north-south and east-west rail corridors would be available to accommodate seasonal (weather), construction, and load/density considerations. Commercial use of such a through-going rail line would also ensure the efficient movement of waste shipments, reduce the number of rail shipments that would arrive at Yucca Mountain from any one direction, and facilitate shipments of construction materials for the repository. Others said that DOE should specifically attempt to maximize the economic benefits of shared use even though such a purpose is not part of the purpose and need as it is currently defined. Some said that DOE should evaluate the potential for other commercial rail users and describe the terms and conditions of shared use and whether these terms and conditions could have a negative or beneficial impact on future commercial users and development along the rail corridor. Nye County suggested that rail spurs be constructed to local communities to foster economic development. The spurs would function as sidings, allowing trains to pull off the main track, thereby making the track available to other trains. One person was in favor of shared use as long as the rail line met all specifications required by the Surface Transportation Board. | 60009, 60012, 60013, 60014, 60015, 60020, 60029, 60042, 60043, 60048, 60060, 60063, 60064, 60071, 60077, 65010, 65012, 65014, 65034, 65037, 65062, 65068 |

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| **Arguments Opposed to Shared Use** | Some people were not in favor of shared use because they believed it was inappropriate to mix rail shipments of nuclear waste with shipments of hazardous, toxic, and explosive materials. These people said that the waste trains should be dedicated. Others wanted to know whether shipments of "other materials," as noted in the NOI, would affect shipments of nuclear waste and that this should be examined in the EIS. One person, citing a 2006 National Academy of Sciences study, said that DOE should fully implement its dedicated-train decision before it begins shipping nuclear waste to Yucca Mountain to avoid the need for a stopgap-shipping program using general trains. | 60070, 60076 |

**TABLE E. Rail-Related Infrastructure**

| Subissue | Summary | Documents |
|---|---|---|
| **Type and Location of Infra-structure** | Many people said that the EIS should identify the infrastructure and facilities needed to support the new rail line and discuss the advantages and disadvantages of alternative locations for these facilities. Some people wanted to know if staging areas, storage yards, security facilities and other infrastructure would be constructed near Hazen. If so, these people wanted to know how big the facilities would be; whether they would be secured and, if so, how; the resource requirements for such facilities (power, water, etc.); and the manpower required to ensure security.<br><br>Several people were in favor of rail-support facilities in counties in western Nevada. People in Esmeralda County said that DOE should describe in the EIS all means to maximize positive economic impacts to Esmeralda County and to work directly with affected local communities and their elected officials to identify economic opportunities. Facilities mentioned include training centers for local emergency-response personnel, communications infrastructure, maintenance and construction support, and the production of components needed for the railroad. Nye County requested that facilities for the rail line be located in Crater Flat or north of Beatty.<br><br>Several people wanted to know if additional sidings would be constructed next to the mainline in northern Nevada to avoid conflicts with existing train-traffic. If so, these people wanted to know where they would be constructed, their size, and how they would be secured and guarded. If only existing sidings would be used, these people wanted to know if they would need to be modified and how frequently they would be used. | 60047, 60060, 60078, 60083, 60088, 65068 |
| **Condition of Existing Rail Lines in Nevada** | Some people requested that DOE describe the overall condition of the existing Union Pacific rail line in northern Nevada, along with the adequacy of rail-maintenance facilities. These people point out that there have been several accidents and derailments along this rail line. Others wanted a comparison in the EIS of raising parts of the Union Pacific track in Nevada associated with the selection of a single corridor. Another wanted to know why the old rail lines were removed [presumably the rails that had been along the old grades in the region]. | 60044, 60070, 60080 |
| **Existing Infrastructure at the Hawthorne Army Ammunition Deport** | It was requested that the EIS describe the advantages of having a military-security force and hazardous-response team available at the Hawthorne Army Ammunition Deport to support rail shipments within the corridor. People noted that the Depot has a full-time professional fire department and an on-site hazardous-materials team. Moreover, these people point out that the Depot is already licensed by the NRC to handle certain types of radioactive materials. The costs and advantages to having this type of support should be compared against similar options available along the Caliente corridor. | 60064 |

**TABLE F. Construction and Operation of A Rail Line and Related Facilities**

| Subissue | Summary | Documents |
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| **Construction Maps and Plans** | The EIS should include detailed maps and plan views of all rail-alignments, including vertical profiles for the Caliente and Mina alternatives and any other corridors that are evaluated. The maps and views should show the relationship to the existing transportation network, including all highway and road crossings, rights-of-way according to ownership, and land-use. Detailed information on grades and curves, earthworks, borrow pits, spoils pits, bridges, tunnels, grade crossings, underpasses, and overpasses, should be shown. In addition, the EIS should provide information on difficult terrain such as mountains and other engineering challenges, and should include a sufficient number of photographs of representative or unique areas along each corridor to adequately characterize the routes.<br><br>The EIS should also contain detailed maps showing how each rail-line alternative would affect waste shipments nationally. These maps should depict all applicable rail-routing scenarios from each point of origin to the point(s) of departure from railroad main lines. DOE should provide this information as a hardcopy appendix to the EIS and make it available in PDF format on CD-ROM, in a format compatible with GIS systems such as ArcExplorer, and on the DOE website. | 60083, 60085, 65068 |
| **Constructing the Rail Bed and Rail Line** | For each alignment, the EIS should describe in detail the preparation and construction of the rail bed and area where double tracks would be needed, especially for the steep grades along the Caliente corridor. If construction would begin simultaneously at multiple locations, these locations should be described. Any temporary access roads built along and within the construction right-of-way should be described. The number and location of safe-parking areas that would be used for waste trains should be included. The EIS should identify where existing track in the Mina corridor needs to be upgraded to meet FRA criteria appropriate for waste transport. Finally, construction practices to avoid or minimize flooding of the track should be described (e.g., raising track above floodplains).<br><br>Detailed information on the finished track structure should be included in the EIS. The top-of-rail elevation above the adjacent land surface and the height and slope of the ballast are details of particular importance. | 60047, 60070, 65015, 65068 |
| **Constructing Rail-Related Structures** | The EIS should identify and describe the construction of all major structures such as bridges, tunnels, and grade separations. The use and placement of pre-cast concrete structures should be described, including site preparation and pouring of footings, and the locations for the pre-cast plant and staging yard should be identified. Location and size of road underpasses, livestock underpasses, and culverts should be provided. Any planned intermodal facilities should be | 60044, 60047, 60085 |

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| | identified and described. Any fences and water wells associated with rail construction (and operation.) should be identified and described. The location, size, and duration of construction camps and construction-support areas should be described, along with the amount and types of materials and equipment that would be delivered to temporary storage yards or lay down areas. | |
| **Constructing Access Roads** | Access roads that parallel the tracks for service and maintenance should be described, including points of access for the roads, methods of preventing unauthorized use of the access roads, and the frequency of use of the roads. If the Fleur De Lis Road north of Beatty is to be used to access the rail route, two people requested that it be paved from U.S. 95 to the rail line. | 60055, 60085 |
| **Construction Rights-of-Way** | The right-of-way required for construction of the rail line should be described in detail, including the minimum width, as well as the width in areas of cut and fill slopes. Additional rights-of-way required for disposal of cut material not useable because of its composition or excessive haul distances should be described.<br><br>The EIS should describe whether waste shipments along the Mina route could adversely affect existing uses of the rail right-of-way for such things as a jet-fuel line to NAS Fallon and fiber-optic lines? In addition, what contingencies would be put in place in the event of a leak along a fuel line beneath the right-of-way? | 65034, 65068 |
| **Construction Equipment** | Equipment used for rail-bed construction should be described, including scrapers, dozers, power shovels, drag lines, front-end loaders and belly dump-trucks. Any blasting required should be described. The location of rail-welding facilities should be provided. | 60085 |
| **Construction Raw Materials** | All borrow areas outside of the right-of-way should be identified. The quantities and source of ballast, subballast, gravel, and other fill should be provided. The EIS should list and describe the requirements for other natural and manmade resources, including steel. | 60085 |
| **Restoration of Disturbed Areas** | The EIS should describe the method of replacing topsoil on disturbed areas and the method of re-vegetation to be used, including vegetation types, seeding, and mulching options. Methods to control runoff and erosion such as silt fences, plastic netting, and other silt-control devices should be described. | 60085 |
| **Construction Wastes** | The EIS should identify local landfills and any new landfills that would be used to dispose of solid waste that is not salvaged as scrap. | 60085 |
| **Modification of Existing Rail Lines, Facilities, and Infrastructure in Nevada** | The EIS should contain detailed information about upgrades, changes, and modifications that would be required for existing/connecting rail lines. These may include turnouts, secure yards temporary storage of cask cars, operations centers, locomotive shops, maintenance headquarters, vehicle maintenance facilities, emergency stations, dormitories, fueling stations, and railroad-car repair shops. | 60026, 60044, 60047, 60068, 60070, 60075, 65068 |

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| | The proposed connections to the existing rail lines should be described in detail, including the connections required to accommodate rail traffic from both directions, overpass structures, etc. The EIS should identify and describe the location of any new facilities, railroad crossings, and re-alignments of existing track in northern Nevada. For example, would the at-grade crossings in Lyon County be converted into under- or over-passes at Hazen (Hwy 50A), Silver Springs (Hwy 50), near Fort Churchill State Historic Park (Hwy 95A), and at Wabuska (Hwy 95A)? Would these crossings take into account future local plans to widen U.S. 50 from 2 to 4 lanes? Would it be necessary to reconfigure roads in the Hazen area?<br><br>All existing sidings, along with other facilities and structures that would be affected, should be identified. For example, would a new rail alignment near Lahonton Reservoir be needed? Will track in Churchill County need to be replaced? Will track and rail crossings in the Battle Mountain area be replaced considering that the track bed has subsided at some older crossings? The EIS should evaluate these areas with respect to safety and the potential for derailments. An evaluation should be made of whether the Humboldt River corridor has sufficient room for additional sidings. Areas of potential flooding, especially in the Battle Mountain area where there have been track washouts, should be identified. In addition, the number and location of safe parking areas for waste trains along the Union Pacific in Nevada for both the Caliente and Mina corridors should be identified.<br><br>The EIS should describe the age and condition of existing railroad bridges and tunnels in northern Nevada, particularly in the Barth and Palisade areas in Eureka County, where the infrastructure is aging and communication is difficult.<br><br>The EIS should describe whether munitions shipments to Hawthorne would be interrupted during construction of a rail line within the Mina corridor. | |
| **Timing of Rail Construction** | The EIS should consider building the rail line as soon as possible, especially a phased-construction schedule in which DOE constructs the rail line to Yucca Mountain and upgrades roads in the vicinity of Yucca Mountain prior to beginning repository construction. Otherwise, direct and indirect impacts in terms of safety, highway congestion, noise, and emissions will accrue to the residents of Nye County near Yucca Mountain and to the personnel working at Yucca Mountain. The EIS should therefore examine early rail construction and highway upgrades (specifically the extension of the 4-lane highway from Mercury to at least Gate 510) prior to the start of repository construction. | 60071, 60077 |

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| **Construction Permits** | The EIS should discuss permitting issues for the various rail crossings of county-owned roads and other aspects of the rail line consider. Lincoln County is currently evaluating whether the Caliente rail line would require issuance of Special Use Permit by the County. | 60083 |
| **Legal Issues involving Construction** | The proposed withdrawal of land for the Mina route is interfering with the Federal Railway Act and the commercial interests of the Nevada Central Railroad (NCR) with respect to building the NCR bypass. This interference by DOE has cost NCR $120 million in damages in that the withdrawal will prevent NCR from acquiring a right-of-way for part of its railroad and scare off real and potential investors. NCR has previously filed maps and information with DOE which, apparently, can no longer be found by DOE. This constitutes criminal activity on the part of DOE. DOE must respond and execute a settlement of current conflicts and damages to the shareholders of the NCR and Aviation Technologies Ltd. by 12/13/06. If DOE does not respond to the satisfaction of NCR in relation to the settlement of all issues, a law suit will be filed in Federal District Court in Nevada. | 60041 |
| **Dedicated vs. Shared Use** | The EIS should thoroughly discuss options for operation and management of the proposed rail line. These include at least two major options: (1) a dedicated, single-purpose rail line owned and operated by DOE for the sole purpose of shipping nuclear waste to Yucca Mountain; and (2) a multi-use/shared-use rail line operated by DOE and/or another entity that would be used for the movement of other cargoes in addition to nuclear waste. A thorough and comprehensive assessment of impacts arising from each alternative specific to each potential rail line evaluated in the EIS should be conducted in a way that allows for direct comparisons. | 60044, 60085, 65068 |
| **Number and Routing of Waste Shipments and Waste Characteristics** | The EIS should discuss the maximum, minimum, and likely number of rail and truck shipments to the repository over the course of the project. The number of rail shipments that would occur along the Union Pacific rail line in northern Nevada under both the Caliente and Mina routes should be described (including the number of shipments through Salt Lake City, Sacramento, and Las Vegas), as well as the number of shipments along each corridor. In addition, the EIS should identify the generator sites from which the waste would be shipped along either corridor. These estimates should consider all changes to the program and variables, including: the radiological characteristics of the waste (see letter 60085, comment 10, for additional information); "other materials" that may be shipped (as mentioned in the NOI); the use of TADs; the extension of current reactor operating licenses; the possibility that the oldest fuel may not be shipped first; the new repository design; the range in the amount of waste to be disposed; the years of emplacement; and possible operation of the Private Fuel Storage Facility in Utah. Finally, EIS should disclose whether a final decision has been made to use dedicated trains from generator sites. [See letter 60085, comment 25, for additional information.] | 60047, 60064, 60070, 60075, 60085, 65015, 65022, 65067, 65068, 65071, 65076 |

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| | More specifically, the EIS should estimate and evaluate the minimum and maximum number of rail shipments through Las Vegas and Reno/Sparks if either the Caliente or Mina routes were selected. With respect to Las Vegas, some said that waste shipments through Las Vegas should be avoided. With respect to Reno/Sparks area, the EIS should state whether the Donner Pass route or the Feather River Canyon route is preferred, and whether one route would be a backup for the other route. | |
| **Train Speeds and Dwell Time** | The EIS should contain detailed information on train speeds within each corridor and explain the likely rules of operation for rail operators. Will waste trains travel at slower speeds to eliminate the potential for high-speed accidents or at higher speeds to minimize exposure of an area to radioactive materials? DOE studies have indicated that speeds on steep grades and sharp curves could be less than 20 mph, downhill speeds could be 25 mph, and maximum speeds could be 60 mph along flats. The EIS should identify specific topographic characteristics along each corridor that may limit rail speed. Specifically, what would be the speed of trains through communities in Nevada such as Hazen, Elko, Beowawe, and Battle Mountain?<br><br>The EIS should describe whether there would be constraints on dwell time in yards; explain the tradeoffs between faster and slower train speeds with respect to radiation exposure; describe how the operating parameters imposed on the railroads would be monitored and enforced; and explain what penalties would be imposed for non-compliance. Specifically, the EIS should identify and describe where and why waste trains would dwell in Nevada (e.g., crew changes in the Reno/Sparks yard, interchanging along the Union Pacific railroad in northern Nevada, etc.). | 60038, 60047, 60054, 60070, 60075, 65068 |
| **Safety, including Crossings and Grade Separations** | The EIS should describe how DOE intends to operate the rail line within each corridor. For example, would it be operated under contract by a short-line operating company under FRA requirements for maintenance, operations, and safety (e.g., the FRA 12-hour time limit for crew service)? Would DOE monitor operation criteria? If not, what agency would? How would safety issues such as cask integrity and leakage by monitored? If operators did not abide by safety criteria, what remedies exist for local communities? The EIS should examine whether transportation safeguards adequately protect waste shipments in view of recent changes by the Bush administration.<br><br>The EIS should describe how DOE intends to maintain and enhance safety at crossings. Where would grade separations be constructed along U.S. 95 (underpasses and/or overpasses)? How would pedestrian safety, bicycle safety, and automobile safety be maintained? Would routes for trucks carrying hazardous materials be separated at grade crossings? For at-grade crossings that would not be separated, the EIS should describe the precautions that would be installed to ensure safety. | 60038, 60064, 60070, 60075, 65063, 65068 |

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| | The EIS should evaluate the existing rail line from Sacramento to Salt Lake City with respect to safety and the potential for derailments. | |
| **Security** | The EIS should describe the criteria that would be used to plan, design, and construct security facilities for nuclear-waste shipments. Where would these facilities be located, and what type and number of personnel would be required? Would there be safe havens and, if so, where?<br><br>The EIS should also discuss security components that are not required under FRA regulations, but which would enhance operational security. These components could include such things as a centralized traffic-control system to direct the movement of trains on the rail line, as well as mid-route way-stations for crew changes, maintenance, security, and emergency response.<br><br>The EIS should describe any security surveillance that would be undertaken. Would a central-security location be established? Who would guards answer to? What security provisions would be made for double-track areas? Would permanent facilities need to be placed in such areas? | 60047, 65068 |
| **Weather Hazards** | The EIS should discuss geologic and hydrologic events in northern Nevada that have interrupted train travel in the past (e.g., floods causing derailments). How might rail disruptions affect the dwell time of trains traveling to Yucca Mountain (e.g., could waste trains be stranded in Churchill County)? The EIS should describe how DOE would handle stranded/stalled nuclear-waste trains during periods of service interruption.<br><br>Parts of each rail corridor and parts of the existing Union Pacific Railroad in northern Nevada are within or near 100-year floodplains. The EIS should evaluate the potential for floods and train interruptions in these areas, identify safe harbors in the event that track becomes flooded or washed out, and describe alternatives if waste trains are blocked by floods or other hazards. [Baseline rail conditions in Lander County are described in a report titled "Lander County Rail Assessment November 2006."] | 60015, 60047, 60070, 60075, 65068 |
| **Communications** | The EIS should explain how communications would be conducted between generator sites and the secure movement of waste trains to Yucca Mountain, including communication with regular rail traffic, at rail-switching sites, and at traffic crossings. Specifically, would shipments of radioactive materials be undertaken independent of coordination with regular rail traffic? Would cities, counties, and states receive advance notification of waste shipments and, if so, what would be the method and timing of such notification? How would communications be accomplished in remote parts of Nevada where communication is difficult at best? | 60075, 65068 |

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| **Disruption of Commercial Freight and Vehicle Traffic** | The EIS should describe any restrictions that would be imposed on commercial uses of existing track over the period that waste would be shipped to the repository. Are there assurances that commercial use of rail lines would not be adversely affected by waste shipments? Would waste trains have priority over commercial shipments? Would waste shipments occur at times and intervals that would disrupt regular traffic patterns? If waste trains were to travel at reduced speeds, how would this affect commercial railroad traffic such as shipping rates?<br><br>The EIS should consider Churchill County's plan to develop railway-access facilities in the Hazen area for economic development. Will commercial users of rail facilities be subject to scheduling limitations relating to shipments? Will commercial user fees be increased? Will commercial users be subjected to any level of uncertainty relating to the receiving or sending of their goods? What extraordinary operational challenges will be imposed upon regular freight? Will radioactive materials have shipping priority?<br><br>Planning is currently underway for an industrial park, with rail access, in the Hazen area. The EIS should address the industrial park and consider Churchill County's present and future plan regarding this park, including the extent to which rail access will be allowed for commercial activity in the vicinity of Hazen. | 60047, 60070, 65068 |
| **Coordination with the Union Pacific Railroad** | The EIS should describe the expected level of cooperation with the Union Pacific Railroad concerning the installation of rail facilities such as new main-line turnouts. Would the Union Pacific Railroad be reluctant to build future turnouts needed in Churchill County for commercial shipping? | 60047 |
| **Prior Record of Waste Shipments** | The EIS should describe the safety record of rail transport of radioactive waste in the United States. More specifically, the EIS should describe the safety record of the Union Pacific Railroad with respect to the transport of radioactive and hazardous materials. | 60071, 60076 |

**TABLE G. Regions of Influence and Baseline Studies**

| Subissue | Summary | Documents |
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| **Regions of Influence, Scope of Analysis, and Baseline Studies** | The EIS should include sufficiently large regions of influence for each resource examined so that real impacts can be assessed from rail construction and operation in each corridor (for Mina, this should include the area from Hazen to Yucca Mountain). For example, noise impacts should be considered several miles away from passing trains because for many areas this would be new man-made noise. Visual impacts would similarly extend far beyond the local region of impact. Impacts to land use should include the bisecting of current and future land uses, such as the splitting of grazing allotments and its effects on ranching operations. Impacts to wildlife, particularly big game, should include the entire range used by the game, including summer range, winter range and critical habitat. These ranges should be determined based upon current and historic migration patterns. Other standard EIS issues should similarly be addressed, including topics such as socioeconomics, cultural resources, water resources, geology and soils, air resources, traffic and transportation, health and safety, environmental justice, infrastructure, waste management, and agriculture.<br><br>The EIS should not only consider the Caliente and Mina corridors, but should also include a comparative analysis of using their companion segments of the Union Pacific mainline. For example, the Caliente corridor would use the Union Pacific mainline that extends from Ogden, Utah, through southern Nevada (including Las Vegas) to southern California. The Mina corridor should extend beyond Wabuska to Hazen, and the impact analysis should include Union Pacific mainline tracks in northern Nevada from Hazen westward to Sacramento and eastward to Ogden. The EIS should then examine the full range of impacts to all affected communities in Nevada and California from waste shipments to Yucca Mountain, considering both minimum and maximum shipment scenarios and likely truck shipments of waste. Amtrak also provides passenger service on the route through northern Nevada, and the potential impacts of transporting waste on lines shared by passenger service should be analyzed.<br><br>The region of influence for direct impacts from rail construction should be a minimum of one-mile-wide on each side of the rail line. In some cases, where roads or trails are crossed, the region of influence for land use conflicts should be even wider. For both existing mainline railroads in Nevada, the EIS should include populations within one-half mile, one mile, and five miles and access impacts accordingly | 60026, 60037, 60064, 60068, 60070, 60075, 60083, 60085, 65030, 65067, 65073, 65076, 65080 |

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| | The EIS should address the concerns raised by Eureka County in its 2005 report titled "Yucca Mountain Existing Transportation Corridor Impact Assessment Report." This report is available at www.yuccamountain.org/impact_report/cover.htm<br><br>The EIS should consider all comments submitted during the 2004 scoping period for the Caliente corridor as included, by reference, for the expanded RA EIS.<br><br>The EIS should develop baseline studies to acquire data for all defined regions of influence. | |
| **Bounded Analysis of Waste Shipments** | The EIS should define boundaries with respect to the maximum number of waste shipments that could potentially be transported along the Caliente and Mina corridors. The period of analysis for shipments should consider a larger repository than is now planned, as well as truck transport from recycling the waste. The period of analysis for shipments should also consider a larger repository. The EIS should also consider increased demand for new reactors and the potential increase in the number of shipments to Yucca Mountain.<br><br>Because the Caliente rail line does not eliminate waste shipments trough heavily populated parts of the Las Vegas valley, the EIS should include a comprehensive assessment of impacts to Las Vegas and Clark County from a Caliente rail line and/or rail-to-truck intermodal operation originating from a Caliente intermodal facility. | 60070, 60080, 60083, 60085, 65068 |
| **Consideration of Future Growth and Developments in Nevada** | The EIS should examine how impacts would change over the duration of the shipping campaign as a result of changes in environmental conditions, population growth/decline, economic growth/decline, etc. along each corridor and its companion Union Pacific mainline segments. For example, the EIS should consider planned developments along the I-80 corridor even though they had not been developed at the time the EIS was prepared.<br><br>The EIS should conduct a comprehensive assessment of impacts to Clark County and the Las Vegas Metropolitan area whether or not the Jean or Valley-Modified routes are selected. The expansion of the scope of the EIS not only reaffirms that shipments would pass through Clark County if the Caliente or Mina routes were constructed, but again opens the possibility that a rail or intermodal infrastructure may be built in Clark County. For this reason, route- and mode-specific analyses should be completed. [See Document 60085, comment 31, for additional information.] | 60026, 60070, 60075, 60083 |

**TABLE H. Land Use**

| Subissue | Summary | Documents |
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| **General Land-Use Issues** | The EIS should identify and describe current and potential land uses along each corridor, including uses of private land (e.g., Goldfield's water pipeline would be crossed by the Mina rail line). It should contain detailed assessments of the expected impacts to current uses and users of land for such things as grazing, wildlife, wild horses, mining and geothermal development, and recreation. Impacts to, and mitigation for, specific parcels of land and specific landowners should be identified for all BLM lease/permit holders. | 60010, 60044, 60078 |
| **Affects on Access to and Use of Other Lands** | The EIS should describe how construction and operation of the rail line in either corridor could affect access to county roads and trails historically used to access public lands for recreation, mining, grazing, or Native American cultural traditions. For example, could the Mina route limit access to the Lone Mountain turquoise mine west of Tonopah along Paymaster Canyon Road? Would permittees be able to extend pipelines and support roads across the rail line to improve livestock distribution and decrease potential conflicts between the rail line and livestock operations? Would fencing limit access? Would a rail line in the Caliente corridor destroy Bennet Springs, which is a popular spot to fish and picnic, and would it disrupt the highway between Caliente and Panaca? What kind of security would DOE implement along the rail corridor? Would access to State-designated wildlife areas and historic parks be affected? | 60019, 60076, 60078, 60086, 65031 |
| **Private Land and Private Developments** | The EIS should describe whether eminent domain would be used to acquire private lands for rail construction and, if so, identify what lands would be acquired and the potential financial impact to affected parties. If eminent domain would be required for new easements, the criteria used to identify these easements should be described. To what extent would this constitute a taking of property rights? How would the rail alignment avoid existing and planned residential and commercial areas in Churchill Co.? The EIS should also consider indirect impacts to private land along the corridors with respect to the loss of property value and the prohibition of certain activities on these private lands.<br><br>The EIS should identify existing and planned residential and commercial developments along the corridors that could be affected by the rail line. For example, how would rail construction and operation affect a County-approved planned development by *Matthews Homes* near Hazen for 2,200 homes and a 1,600-acre commercial/industria1 development (located in Sections 1, 3 and 11, in T.19 N, R.26E, and Section 35 in T. 20 N., R. 26 E). Furthermore, the EIS should examine the effects on a planned airport and rail park that may be developed in the Hazen area. The EIS should also identify possible impacts on established plans for community expansions. | 60047, 60064, 60076, 65030, 65044, 65068 |

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| **Issues Related to Rights-of-Way and Land Withdrawals** | The EIS should identify other users of the right-of-way for the existing rail line that ends at Hawthorne. This right-of-way is used for jet fuel lines and other utility lines, and the effects of rail construction on these other uses should be assessed. Would the existing right-of-way for the rail line be relinquished and replaced with a new right-of-way? Would DOE obtain a right-of-way that would be sufficiently broad to buffer future developments that might encroach upon the rail line? Finally, the EIS should describe how the proposed withdrawal of public lands would affect current permitted uses of these lands. | 60047, 60064, 65068 |
| **Relationship to BLM Resource Management Plans** | The EIS should address all needed changes to affected BLM Resource Management Plans and the appropriateness of those changes. Specifically, why aren't the rail line and repository at Yucca Mountain discussed in BLM Resource Management Plans?<br><br>The EIS should assess the impacts to communities that are expecting to acquire public land from the BLM for community expansion (specifically as described in the 1997 Tonopah Resource Management Plan). Some of these areas in Esmeralda County lie close to or within the rail corridor and the proposed land withdrawal. Delays in acquiring these lands for community expansion could have detrimental effects on efforts to expand both private ownership and the tax base of Esmeralda County.<br><br>The EIS should also note that the Goldfield bike trail (2001), funded by a U.S. Forest Service and BLM grant, is in the vicinity of the proposed Mina route. | 60010, 60060, 60073, 60085 |
| **Protected Lands** | The EIS should examine the impacts of rail construction and operation on all protected lands and lands being considered for protection. For example, there are several wilderness study areas along the corridors that are protected by the BLM. The Mina route would adversely affect plans to establish a new state park at Monte Cristo's Castle near Blair Junction (T2-3N, R38E). Establishment of the park is supported by surrounding counties and the Nevada State Legislature. The proposed rail route would extend along the north side of US Highway 95/6, which would encompass the southern part of the proposed state park and could thereby prevent access to the park from the only highway in the area. | 60069, 60085 |
| **Ranching and Mining** | The EIS should identify and individually assess the full range of impacts to the several dozen BLM grazing allotments that would be affected by the Caliente and Mina routes, including the type and cost of impact mitigation to be used (e.g., box culverts and bridges). The Caliente corridor would adversely affect more than 40 ranching operations in Lincoln and Nye Counties, whereas the Mina corridor would affect more than 20 ranching operations in Churchill, Mineral, Esmeralda, and Nye counties. | 60047, 60085, 65067 |

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| | If the rail corridor is fenced, the EIS should describe mitigation for forage loss within the easement area and the added cost to ranchers from developing new water sources and new water-distribution lines. Moreover, splitting allotments and fencing the rail line could substantially increase travel to manage livestock on those parts of an allotment that may no longer be accessible by existing roads and dirt tracks. The EIS should also describe who would be responsible for maintenance of the fencing and any fencing projects that might become necessary as part of the proposed project [See Document 60085, comment 30, for additional information.]<br><br>The EIS should assess the impacts on ranching and mining along the Mina corridor from effectively close thousands of acres to ranching and mining.<br><br>Finally, the EIS should evaluate the impacts of exposure of cattle and food sources to radioactive materials. | |
| **Effects on Department of Defense Operations** | The EIS should consult with Department of Defense to assess impacts of a rail line on DOD operations, particularly to military overflights along parts of each corridor.<br><br>Parts of the rail alignment border on and, in some cases, intrude upon land withdrawn for the Nellis Test and Training Range (NTTR). The EIS should assess the impacts of constructing, operating, and maintaining the rail line on U.S. Air Force missions at the NTTR, including physical impacts to the NTTR and indirect impacts from mission restrictions to protect waste shipments from aircraft accidents and crashes. The assessment should include the entire length of each corridor, as well as connecting or mainline railroads where military flights occur in established "military operating areas" from the NTTR and from Fallon Naval Air Station. In addition, the expanded mission of the NTTR, including Creech[?] Air Force Base, should be thoroughly analyzed and adequately considered in the EIS. | 60047, 60085, 65068 |
| **Changes in Land Use in Las Vegas and Clark County since 2002** | The EIS should consider the many land-use changes that have occurred in the Las Vegas Metropolitan area since the 2002 FEIS was released. For example, as of June 2006, there were 105 projects planned or being built within one mile of the existing Union Pacific railroad, I-15, State Route 160, and the beltway. Within this area are 132,951 housing units and 33,368,223 square feet of commercial property [maps attached to comment]. | 65076 |

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| | The EIS should also consider substantial changes that have occurred elsewhere in Clark County relative to DOE's continued consideration of routes other than Mina and Caliente. Annexation of large amounts of land by both the City of North Las Vegas and the City of Henderson, as well as privatization of BLM lands in the valley, have resulted in substantial real and planned changes since issuance of the 2002 Repository EIS. The development of the Ivanpah Airport in the southwestern part of Clark County should also be taken into consideration when evaluating both rail and truck routes. | |

**TABLE I. Socioeconomics**

| Subissue | Summary | Documents |
|---|---|---|
| **Employment Opportunities and Community Development** | The EIS should estimate the number and type of primary and secondary workers that would be needed to construct and operate the rail line and ancillary facilities. Included in this description should be pay scales, union vs. nonunion jobs, and job duration. The EIS should consider the use of local workers (e.g., from colleges in Esmeralda County), local hiring goals, and set asides to help with rail construction, and as an integrated strategy for coordinated community development in Nevada. In this way, the federal government could signal an interest beyond merely transporting radioactive waste to Yucca Mountain. By doing so, DOE could make decisions regarding the location of key support facilities on principles of best business practices.<br><br>Several Nevada counties would like to see DOE invest in local infrastructure, create jobs, and provide training. Hence, the EIS should discuss the potential direct and indirect socioeconomic impacts to local communities in the vicinity of the rail alignments using current and projected population data and input from local communities. Mitigation measures should be presented for both adverse and beneficial impacts recognizing that impacts that may be considered beneficial, such as economic development in local communities, may require actions to minimize the effect that rapid growth may have on those communities.<br><br>The EIS should describe the potential economic benefits to communities along the rail route as an evaluation criterion, commensurate with the consideration of shared use and local benefit. Local economic benefit should also be considered a criterion for the determination of construction methods and sourcing of materials, equipment and services for the rail construction.<br><br>The EIS should compare the social and economic impacts to local communities along each corridor, along with the ability of these communities to accommodate impacts from rail construction and operation. In addition, the use of local firms that are available for rail construction along the Mina and Caliente corridors should be compared. | 60012, 60047, 60064, 60077, 65068 |
| **Socioeconomic Baseline Data** | The EIS should use the most recent data, county master plans, and future trends to assess social and fiscal impacts of rail construction and operation. This information is available from Nevada counties and local communities. | 60047, 60068 |
| **Social Risks** | The EIS should discuss the social risks and impacts from the transport of nuclear waste to Yucca Mountain. In the EIS, DOE should commit to the recommendations in a 2006 study by the National Academy of Sciences concerning social risks of the waste transport ["Going the Distance? The Safe Transport of Spent Nuclear Fuel and High-Level Radioactive Waste in the | 60070, 65076 |

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| | United States" (2006)]. The study recommends that DOE take early and proactive steps to establish formal mechanisms for gathering high-quality and diverse advice about social risks and their management. To accomplish this, the study recommends (1) an expansion in the membership and scope of the "Transportation External Coordination Working Group" to obtain outside advice on social risk, including impacts and management, and (2) establishing a transportation risk-advisory-group to provide advice on characterizing, communicating, and mitigating the social, security, and health and safety risks that arise from the transportation of nuclear waste to a repository. | |
| **Quality of Life** | The EIS should describe potential impacts to the quality of life from the transport of nuclear waste to Yucca Mountain. Considering that most of the rail line in either corridor would pass through largely rural areas, the EIS should describe likely changes in the rural atmosphere enjoyed by residents. Specific impacts in and around Silver Peak with respect to quality of life should be addressed considering things such as noise, dust, and visual intrusions. How might the current trend of retirees moving to Churchill Co. be affected? How would the quality of life in Reno be affected? What are the social impacts of the project? | 60047, 60074, 60078, 65070 |
| **Impacts to Community and Public Services** | The EIS should address in detail the impacts from a large construction workforce on services, housing, and schools in affected communities. It should divulge any costs that would accrue to local communities, such as paying for additional emergency-response professionals and identify whether these costs can be funded with non-local funds. Would DOE assist counties and rural communities that have limited resources meet the increased demands for public services due to the influx of construction and support personnel and their families? Current school-bus routes may be affected by bisecting school districts, which could limit the flexibility of the districts in the future if they wanted to change the enrollment areas for the students.<br><br>The EIS should assess the impacts on the Nevada Highway Patrol Division in that State policy requires the Division to inspect and escort waste shipments before proceeding to the repository. Consequently, the EIS should assess resources that would be required by the State to carry out mandated responsibilities and address impacts including, but not limited to, the inspection, security, and escort of rail shipments, as well as shipments involving legal-weight and heavy-haul trucks. These impacts could accrue from required inspection and escort personnel, escort vehicles and other necessary equipment, training, inspection facilities at points of entry into the State, en-route facilities for inspection and repair of vehicles, a radio communication system in the selected corridor, and the ability to connect to other communication systems of public safety and local government agencies. | 60085, 65068 |

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| | The EIS should also examine the fiscal impacts to the Nevada Highway Patrol Division from a derailment, breakdown, or more significant accident. Additional expenses would be incurred from traffic control and re-routing, perimeter control, and routine patrol of affected areas. During rail construction, the Division would also be affected by an increase in vehicle traffic associated with construction workers and equipment. [1999 comments by the Nevada Highway Patrol Division on the DOE's Draft EIS for the Yucca Mountain Repository are incorporated by reference by the commentor; see Document 60085, comment 52.] | |

**TABLE J. Environmental Justice**

| Subissue | Summary | Documents |
|---|---|---|
| [none] | The EIS should include a comparative analysis of all action alternatives with regard to environmental justice for the Walker River Paiute Tribe, the Western Shoshone, and all other tribes in Nevada that would be affected by waste transport (e.g., Fallon Paiute and Shoshone Tribes, Yerington Paiute Tribe, Wells Shoshone Tribe, Temoak Shoshone Tribe, and the Timbisha Shoshone Tribe). The analysis should not be limited to tribes along or near the Mina, Caliente, and other routes, but should include tribes along and near existing rail lines in northern and western Nevada.<br><br>Specifically, would the Walker River Paiute Tribe receive any of the cost savings that would accrue to DOE from rail construction in the Mina corridor rather than the Caliente corridor? | 60076, 60083, 65039, 65041, 65079 |

**TABLE K. Visual Resources and Noise**

| Subissue | Summary | Documents |
|---|---|---|
| [none] | The EIS should examine the impacts of noise, especially how it could affect the "City" sculpture in Garden Valley. | 60072, 60085 |

**TABLE L. Cultural Resources and Cultural Values**

| Subissue | Summary | Documents |
|---|---|---|
| **Cultural Sites and Districts** | The EIS should evaluate the impacts of rail construction and operation on cultural resources, especially Native American cultural resources, for each rail corridor evaluated in the EIS. The EIS should describe the criteria by which sites would be protected. When cultural sites are discovered, preservation in place is the preferred option. If this option is not reasonable, DOE should account for the physical destruction or damage to a property; alteration of the property; change of the character of the property's use; change of physical features within the property's setting that contribute to its historic significance; and introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features.<br><br>DOE should determine the effects not just to properties within the rail corridors, but also within the greater area of potential effect, including the Goldfield Historic District, Walker Lake, Mount Grant, the Gillis Mountain Range, and the "City" sculpture. For example, the GF-4 alternative is aligned extremely close to the Goldfield Historic District, which is listed on the National Register of Historic Places. It is possible that gravesites exist outside known cemeteries in the district, and further investigation would be necessary by DOE to determine the exact location of these unmarked graves. For example, one-quarter mile north of the present day Goldfield Cemetery is a poorly known cemetery that contains more than 25 graves. Remnants of grave markers, pickets, and fencing material are still visible. West of this cemetery are unrecorded boulder rock shelters and other resources, including litter scatters and petroglyphs. There are also historical sites including a vegetable stand, a photo of which is in the Goldfield museum. There are also rock shelters from the boom days of Goldfield in the early 1900s, artifacts at Rabbit Spring, the Gardner Mill (1905-1909) north of Rabbit Spring.<br><br>DOE should identify members of the public and members of tribes who would be consulted, along with the SHPO, regarding treatment of adverse effects to historic properties. American Indian Monitors should accompany archaeologists during all field evaluations of the transportation corridors and be compensated accordingly. DOE should provide logistical and financial support for field examination of the Mina corridor and preparation of a reference document by the American Indian Writers Group. | 60007, 60010, 60087, 65041, 65067, 65079 |
| **Ethnographic Studies** | Ethnographic studies are recommended for many specific areas including, but not limited to, the Ghost Dance Site(s), the Wovoka Burial Site, the Pinenut Festival, the area around the Fallon Paiute/Shoshone Reservation, the area around Spirit Cave, the Stillwater Burial Sites, and other areas identified by tribal communities with cultural ties to the rail corridors. These tribal communities include the Temoak Shoshone Tribe, the Yerington Paiute Tribe, the Walker River | 65079 |

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| | Paiute Tribe, the Fallon Paiute and Shoshone Tribe, the Wells Shoshone Tribe, the Temoak Shoshone Tribe, the Timbisha Shoshone Tribe, the Paiute Indian Tribe of Utah, the Moapa Paiute Tribe, the Las Vegas Paiute Tribe, and others Northern Paiute and Western Shoshone tribal groups as determined appropriate. | |
| **Native American Tribal Concerns** | The EIS should discuss why DOE has not appointed a Tribal Liaison or established a tribal office with a Tribal staff that understands tribal culture. For example, has DOE consulted with the Western Shoshone regarding any studies conducted along the rail corridor?<br><br>The EIS should discuss overall concerns raised by tribes about waste transport and Yucca Mountain. These include Tribal authority to regulate waste shipments across reservations; authority for emergency-response planning and training of Tribal personnel; advance notification of shipments and shipment monitoring; protection of Native American religious and cultural sites, plants, and animals on and off reservations; and protection and access to graves, religious sites and other cultural resources within the rail corridor and repository site; the failure by both the DOE and the Bureau of Indian Affairs to formally recognize affected-tribe status and provide financial and technical assistance; the fact that the Timbisha Tribe is not referenced in the NOI even though two of the proposed routes would traverse lands held in trust for the Timbisha Shoshone Tribe; and cultural implications of possible radiological contamination and cleanup activities on tribal lands. [See Document 60085, comment 38, for additional information.] | 60003, 60047, 60073, 60085, 65041, 65079 |
| **Spiritual and Religious Values** | The EIS should address the impacts of the rail line on Native American spiritual and religious vales. Specifically, the Timbisha Tribe (and other tribes) would be adversely affected because the whole ecosystem would be affected and the Tribe is responsible for protecting all forms of life, the air, and solitude. | 60003 |
| **Treaties and Land Claims** | The EIS should evaluate all treaties, Congressional Acts, and relevant executive orders that pertain to tribal, trust-land status, and related jurisdictional issues that may apply to the rail line. The EIS should describe Tribal land claims, water rights, treaty obligations, federal laws protecting the cultural and religious rights of Native Americans, unsettled political and legal issues, and potential applications of Indian law to the repository and rail corridor.<br><br>The EIS should discuss the Treaty of Ruby Valley of 1863 with respect to the construction and operation of a rail line in either corridor. Parts of the proposed project are within the ancestral lands of the Westem Shoshone people. The United States has yet to prove title to this land. Without legal title, this land cannot be withdrawn for the proposed rail line. The Treaty and proposed action should also be discussed in light of the findings of the United Nations Indigenous Rights Commission that the land belongs to the Western Shoshone Tribe. | 60022, 60073, 65007, 65041, 65064, 65079 |

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| **Fiscal Impacts to Tribes, including Stigma** | The EIS should describe how the rail line might affect current and future socioeconomic conditions for Native Americans in Nevada. The potential for transport accidents on Tribal lands should be described, along with the methods by which Tribes would deal with emergencies. If railroads refused to pay insurance to Tribes for accidents, what legal forum would Tribes resort to?<br><br>The EIS should address the effects of stigma and perceived risk on Tribal businesses and tourism if waste were allowed to pass through a reservation. Would real estate values decrease? How might this affect Tribal relationships with neighboring non-Indian entities? | 65041 |
| **Quality of Life** | The EIS should examine the effects of the rail line on the quality of life and social fabric of the Walker River Paiute Tribe. The EIS should consider affected individuals with land holdings, including leased and allotted lands on the Walker River Paiute Reservation, as identified by their tribal government. | 65041, 65079 |

**TABLE M. Geology, Mineral Resources, and Abandoned Mines**

| Subissue | Summary | Documents |
|---|---|---|
| **Geology** | The EIS should examine the risks from earthquakes and fault ruptures on waste transport along each corridor and existing rail routes in Nevada where waste trains would travel. | 60079, 65075 |
| **Mineral Resources** | The EIS should evaluate the potential impacts to mineral exploration and development within and near each corridor, including impacts on existing mining claims and geothermal resources. Owners of existing mining claims in the corridors should, at a minimum, be guaranteed access to their claims and be allowed to develop them. A new mine is currently being developed in the Goldfield area that will impact US 95 and could also affect the proposed rail alignment.<br><br>The EIS should address the impacts of acquiring materials such as sand and gravel on other users of these materials. The EIS should also address the impact that the acquisition of steel for the rails would have on the national steel market, including the cumulative impacts from other DOE activities, such as cleanup at other DOE sites. | 60047, 60064, 60085 |
| **Abandoned Mines** | The EIS should assess the status of abandoned mine openings that may exist within or near each rail corridor. Do any of these sites contain hazardous materials? Because the Nevada Division of Minerals is tasked with discovering and securing abandoned mine openings, the Division must be given access to the corridor for the purpose of securing any abandoned mines that might be discovered. | 60079 |

**TABLE N. Water Resources**

| Subissue | Summary | Documents |
|---|---|---|
| **Water Quality Issues** | The EIS should address the impacts to water quality from rail construction in any corridors and from accidents anywhere in Nevada during the shipping campaign. Impacts to water quality from all rail-construction activities should assess the effects to all surface waters (e.g., springs, rivers, lakes, reservoirs, and farmlands) and the effects that such degradation could have on wetland habitat, wildlife, and livestock.<br><br>The EIS should disclose the potential impacts to water resources from accidents (and terrorist attacks) where radioactive materials are released, and describe how and who would mitigate such accidents and who would be responsible for emergency response. The EIS should consider the affects of such accidents to all stakeholders who use or intend to use such water sources and not just those living within the corridor (e.g., effects on drinking water and irrigation water). Methods of mitigating potential impacts should be discussed, including the possibility of moving water-diversion lines that are in harms way. Specific places where the impacts of accidents should be assessed include the Truckee River in Reno/Sparks, Lahontan Reservoir, and the Humboldt River.<br><br>The EIS should identify where cuts needed to maintain grade and curve requirements could intercept aquifers, thereby causing groundwater to seep from the cuts to the surface and create water-quality problems.<br><br>The EIS should describe any effects that rail construction and operation could have on areas needed for future wells to monitor potential transport of radioactive materials from past weapons testing on Pahute Mesa. | 60026, 60047, 60057, 60070, 60076, 60085, 65068, 65070 |
| **Water Supply and Use Issues** | The EIS should discuss the impacts of water consumption during rail construction. How would DOE determine, document, and compensate existing water-right holders for any negative impacts? Would water developed as part of the project be available for livestock, wildlife, recreation, safety and emergency services?<br><br>The EIS should commit DOE to using the water resources of Esmeralda County solely for the benefit of constructing and operating the rail line and that water rights would remain with Esmeralda County and not used for mitigation by any government agencies other that Esmeralda County. | 60060 |
| **Flooding** | The EIS should discuss how the rail line would be protected from flash floods and describe the procedures for maintenance after water damages the track. | 60047 |

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| **Water Permits and Water Rights** | The EIS should describe how DOE plans to obtain water to construct and operate the rail line, as well as other facilities associated with the rail line. The EIS should discuss this in light of the State Engineer's denial of permanent water rights to DOE for a repository at Yucca Mountain on the grounds that it is not in the public interest. Why would water for construction of a rail line be any different?<br><br>The EIS should also evaluate the impact of rail construction in either corridor on existing and proposed water rights, including applications filed by the Southern Nevada Water Authority and water-right applications that may be affected by the Mina rail corridor. Included in this analysis should be rights-of-way for future pipeline corridors that would be transected by the rail corridors. | 60085, 65034 |

**TABLE O. Air Quality**

| Subissue | Summary | Documents |
|---|---|---|
| [none] | The EIS should assess the impacts to air quality during construction of the rail line and related facilities and from operations. The assessment should describe proposed methods of controlling fugitive dust during construction and operation of the rail line, and the impacts that such dust suppression methods could cause. | 60085 |

**TABLE P. Biological Resources**

| Subissue | Summary | Documents |
|---|---|---|
| **Impacts to Fauna and Flora** | The EIS should examine the potential impacts to biological resources, including endangered species, from rail construction and operation. A complete and thorough assessment of flora and fauna along the corridors should be presented in the EIS, including wildlife on the Walker River Paiute Reservation and Stillwater National Wildlife Refuge. The effects of habitat fragmentation should be discussed (especially because the project is linear), as well as direct and indirect habitat loss and habitat degradation within and near the rail line right-of-way, particularly habitat for endangered species. Without undisturbed access to critical habitat, the wildlife using that habitat may abandon large areas of year-round habitat, such as strutting grounds (leks) for sage grouse. The EIS should also assess how construction and operation could adversely affect leks some distance away.<br><br>Has DOE identified leks and/or nesting, brooding, and winter habitat for sage grouse in the proposed alignments? How will DOE determine and document potential impacts to sage grouse and other sensitive wildlife species? What mitigation measures is DOE going to use to reduce direct impacts (habitat loss/fragmentation, lost water sources) and indirect impacts (fencing and transmission lines, increase in predator advantages, etc.)?<br><br>The EIS should also describe how big game such as Pronghorn sheep could be affected if their migration paths are blocked, especially so if the paths are blocked by fences which Pronghorn tend to crawl under rather than jump. Therefore, the type of fencing, if used, should be described with respect to allowing big game to cross. A fenced corridor 200 to 300 miles long in open range would radically change the biological and cultural character of the State and have tremendous biological and economic impacts, creating a myriad of problems for livestock and wildlife. The EIS should determine and document these impacts and how the would be mitigated, if possible, or otherwise compensate the state, its industries, and its citizens for these impacts.<br><br>The EIS should discuss the tendency of wildlife and livestock in snow-bound parts of Nevada to use corridors that are cleared of snow such as the rail line. Wildlife and livestock mortality during these times should be discussed, as should secondary mortality of eagles and other raptors that are attracted to the wildlife and livestock. | 60047, 60083, 60085, 65041 |
| **Wild Horses and Burros** | The EIS should identify impacts to wild horses and burros within the areas affected by the rail corridors and the cumulative impacts to each herd. Impacts should consider seasonal effects, including foaling and migration, and access to water sources. | 60085 |

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| **Reclamation of Disturbed Areas** | The EIS should describe the methods by which disturbed areas would be reclaimed. Soils in some areas are strongly alkaline. These soil types are generally difficult to revegetate following disturbance, especially in Nevada's arid climate. | 60085 |
| **Invasive Plant Species** | The EIS should discuss how DOE intends to prevent the introduction and spread of invasive plants during construction of the rail line and support facilities. What steps would be taken to assure consistent and effective control of invasive weed species over the life of the railroad? Does DOE intend to re-vegetate disturbed areas, and with what plant species? Will state agencies, BLM, and permittees be included in the determination of revegetation species (re-vegetation may result in an attractive nuisance for livestock and wildlife)? The accomplishment of successful re-vegetation is highly dependent upon proper planting, seed viability and climate (i.e., moisture and growing temperatures). Does DOE intend to irrigate re-vegetation areas if and when necessary? | 60085 |

**TABLE Q. Recreation**

| Subissue | Summary | Documents |
|---|---|---|
| [none] | The EIS should identify the recreation areas along and near the corridors and existing rail routes and how they would be affected by construction and operation of the rail line. For example, how would Sand Mountain and Lahonton Reservoir in Churchill County be affected considering that 400,000 people visit these areas annually? How would Walker Lake recreation area be affected considering that 100,000 people visit this area annually? Would some visitors choose not to go to these areas thereby causing economic impacts to local communities and counties? | 60047, 60064, 65068 |

**TABLE R. Transportation**

| Subissue | Summary | Documents |
|---|---|---|
| [none] | The EIS should quantify and characterize all vehicular traffic that would cross of otherwise come in contact with the rail line. The consequences to vehicular travel along I-80 from a rail accident or terrorist attack should be assessed. What effect, if any, would the transport of radioactive material have on Highway 50A, especially near Hazen? Assuming the existence of an above-grade railroad crossing in this area, would the flow of vehicular traffic along Highway 50A, which will be widened from 2 to 4 lanes, be interrupted? | 60047, 60076, 60077, 65076 |

**TABLE S. Health and Safety**

| Subissue | Summary | Documents |
|---|---|---|
| **Radiological Exposure from Routine Rail Operations** | The EIS should describe radiation and the level of radiation exposure of workers, residents, visitors, threatened and endangered species, and agricultural animals along all waste-transport routes throughout Nevada, including Las Vegas, from routine operations over the course of the shipping program. Exposure from both passing trains and trains stalled or dwelling in certain areas should be considered. Radiation-exposure calculations and estimates of latent-cancer fatalities and non-lethal health consequences from elevated radiation exposure over many decades should be included. Simply using Radtran or other types of risk-analysis software is not sufficient for the corridor segments in Nevada.<br><br>The EIS should show the locations of the rail routes and the proximity to populations to these routes. Estimates of the maximally exposed individual should be included. The EIS should include a comparative analysis of radiation exposure along all routes with respect to sensitive populations such as pregnant women and their unborn children, and to children. Methods proposed by DOE to mitigate routine radiation exposure should be described.<br><br>The EIS should discuss the debate within the health physics community over background radiation levels from natural and man-made sources; use of different dose-conversion factors for different health effects and different population groups; the linear no-threshold theory; and the radiation hormesis theory. | 60026, 60047, 60057, 60064, 60070, 60074, 60075, 60076, 60080, 60083, 60085, 65019, 65020, 65038, 65068 |
| **Radiological Exposure from Rail Accidents** | The EIS should describe the level of radiation exposure of workers, residents, visitors, wildlife and plants, and agricultural animals from accidents and terrorist attacks. DOE should run air-dispersion models of major releases of radioactive materials in large cities along the transportation routes such as Las Vegas and Reno/Sparks. DOE should assess and address hazards from a combination of radiological, chemical, and blast effects. How would medical facilities deal with such accidents or attacks? The EIS should consider accidents that result in loss of shielding and waste containment and the potential for volatile Cesium-137 to be dispersed. Latent-cancer fatalities from these accidents should be estimated. | 60026, 60070, 60075, 60083, 65019, 65049, 65052, 65068 |
| **Exposure during Construction from Resuspension of Radioactive and Hazardous Soils** | The EIS should assess the likelihood that workers in some areas would be exposed to and inhale radon and zeolite fibers during rail construction. How would DOE mitigate the dispersion of zeolite fibers during rail construction and by what method would this material be disposed? How would the public be protected from inhalable zeololite fibers? | 60085, 65049, 65052 |

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| | The EIS should assess the likelihood that construction in either corridor would re-suspend many of the radioactive fallout particles in soils from past above-ground nuclear-weapons tests at the Nevada Test Site. [This commentor suggested that the EIS explain the difference between radiation from past weapons testing and radiation from waste transport.] DOE should conduct surveys of construction areas to develop baseline data on the extent of contamination against which impacts of rail construction and operational activities should be assessed. | |

**TABLE T. Cumulative Impacts**

| Subissue | Summary | Documents |
|---|---|---|
| | The EIS should analyze cumulative impacts following the process recommended by the Council on Environmental Quality (*Considering Cumulative Effects Under the National Environmental Policy Act*). The following existing and reasonable foreseeable activities should be considered in assessing cumulative impacts to environmental resources (e.g., wildlife, air quality), socioeconomic conditions, and human health and safety (e.g., cumulative health risks of radiation exposure, including latent cancer fatalities):<br><br>• waste trains, as well as other trains under shared use, under routine and accident scenarios<br>• rail spurs to support industrial and business development<br>• truck shipments of nuclear waste via I-80 and U.S. 50/95<br>• auto and truck traffic, including truck shipments of hazardous materials<br>• construction, operation, and closure of a repository at Yucca Mountain<br>• current and future waste-management projects at the Nevada Test Site<br>• past weapons testing on and off the NTS<br>• National Nuclear Security Administration's Complex 2030 initiatives<br>• Tonopah Test Range<br>• munitions projects at the Hawthorne Army Depot<br>• commercial/private industrial activities<br>• ranching and mining<br>• planned highway construction and infrastructure developments<br>• pending or likely legislation concerning the repository program.<br><br>[As parts of other comments classified elsewhere, commentors also asked that the EIS discuss the EIS examined the cumulative impacts of the acquisition of steel for the rails and steel use for other DOE activities such as cleanup of other DOE sites; and the cumulative impacts to wild horses and burros within the areas affected by the rail corridors.] | 60003, 60044, 60070, 60077, 60083, 60085, 65030, 65068 |

**TABLE U. Costs**

| Subissue | Summary | Documents |
|---|---|---|
| **Cost to Construct and Operate the Rail Line** | The EIS should estimate and compare the costs of constructing and operating a rail line in each corridor and the costs if shared use were allowed. The EIS should also describe how the costs of infrastructure modifications and upgrades would be paid considering that local communities do not have funds for such improvements (e.g., additional costs for maintenance of roads and rail crossings). The effects on taxpayers should be described, as well as the likelihood of cost overruns.<br><br>The EIS should examine the costs of constructing a through-going rail route along the Mina corridor to the mainline rail line in southern Nevada. | 60018, 60077, 60078, 65067, 65068 |
| **Cost as a Selection Criteria** | The EIS should provide comparable cost estimates for construction and waste transport for each corridor and explain in detail how these costs were developed. The cost-estimating methodology and data must be transparent, and the costs of specific route segments and structures (such as bridges) should be provided.<br><br>If cost is a criterion for selecting a rail-alignment alternative, then the EIS should explain this criterion in detail. For example, DOE dropped an alternative segment of the Caliente route to avoid the "City" sculpture in Garden Valley because it would have increased the total cost of the Caliente rail line by less than 10 percent. The EIS should explain whether DOE has hard-and-fast cost criteria for eliminating rail segments. The estimated cost of rail construction along the Caliente corridor has increased from $800 million in 2002 to $2 billion in 2005. In view of this, the EIS should discuss whether there is a threshold where cost becomes the major factor in selecting the preferred rail corridor or where even building the rail line would be prohibitive. | 60070, 60074, 60085, 65067, 65068 |
| **Additional Costs for State and Local Agencies** | The EIS should assess impacts to state and local agencies associated with operational oversight of waste shipments. Such impacts would include the costs (e.g., funds, personnel, equipment, etc.) of continuous inspection and escort operations that will be required, whether or not the rail line functions independently or in concert with intermodal operations. | 60079, 60085 |
| **Price-Anderson Act** | The EIS should provide a thorough and updated overview of the Price Anderson Act liability system, other nuclear insurance programs, and their combined applicability to the waste-transportation system. The EIS should outline the major provisions of the Act and their specific application to waste-transport accidents and incidents. Special attention should be given to the Act's coverage of waste shipments assuming that DOE takes title to the waste when it leaves the reactor site; coverage of waste shipments from DOE facilities; any coverage limitations regarding DOE contractor activities; coverage of accidents or incidents involving carrier or DOE contractor negligence; and coverage for terrorist attacks and/or radiological sabotage. The | 60085, 65061 |

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| | EIS should also provide an overview of non-governmental nuclear insurance pools and their applicability to the waste-transport system.<br><br>The EIS should also specifically discuss the application of the Act and other nuclear insurance to waste shipments from the 77 shipping sites to Yucca Mountain on existing railroads, and any differences in application of the Act and other nuclear insurance to waste shipments on the proposed new rail line along either corridor to Yucca Mountain. The EIS should identify any DOE actions or decisions regarding the design, construction, ownership and operation of the proposed rail line that would affect or limit application of the Act. | |

**TABLE V. Accidents**

| Subissue | Summary | Documents |
|---|---|---|
| **Accidents from Routine Transport** | The EIS should analyze the possibility that train transport would weaken the canisters through shock and vibration, and estimate the effects that this weakening could have on the degradation of the fuel rods. | 60070 |
| **Derailments and other Severe Accidents** | The EIS should consider derailments, runaway trains, and other accidents along both corridors and along the mainline segments leading to the corridors. Included should be accidents between waste shipments and trains carrying hazardous materials, and DOE's plan to prevent such accidents. The effects of such accidents should be assessed (e.g., on the Humboldt and Truckee Rivers), wetlands, groundwater, human health, cultural resources (on and off reservations), rangelands, and the general environment. The analysis should include (1) the likely duration between time of derailment and recovery of the shipping container; (2) the identification of any special equipment needed to retrieve the shipping container; (3) the time needed for the equipment to get to the site of the derailment; (4) the release of radioactive materials and volatile cesium, and an estimate of the size of the area that might be secured. The discussion should also include responsibilities of local emergency-response personnel such as County sheriff and fire departments [See Document 60085, comment 54, for additional information]. The EIS should assess the likely number of accidents that would be expected, as well as accidents at bridges and tunnels. | 60018, 60026, 60047, 60064, 60070, 60075, 60079, 60080, 60083, 65039, 65041, 65075 |
| **Accidents at Crossings** | The EIS should divulge the accident and maintenance records for every at-grade crossing where waste trains would travel in Nevada. The cause and frequency of these accidents should be described, and the EIS should assess accidents at all at-grade crossing on U.S. 95 involving truck tankers filled with fuel and other hazardous materials. | 60047, 60075, 65040 |
| **Accidents involving Fire** | The EIS should evaluate accidents involving waste canisters that are exposed to very-long-duration/high-temperature fires. Such accidents might involve a waste train and a train or truck carrying fuel or other highly flammable materials to mining operations in Nevada. The EIS should describe the performance of package barriers (spent fuel cladding and package seals); estimate the potential quantities and consequences of any releases of radioactive material; and examine the need for regulatory changes (e.g., package testing requirements) or operational changes (e.g., restrictions on trains carrying spent fuel) either to help prevent accidents that could lead to such fire conditions or to mitigate their consequences. The EIS should describe any tests for improving and validating the computer models used for carrying out these analyses, perhaps as part of the full-scale tests planned by the NRC for its package-performance study. Based on the results of these fire investigations, the EIS should describe any operational controls and restrictions on waste shipments that would reduce the chances that such fires might happen in service. Such effective steps might include, for example, additional operational | 60070, 65068 |

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|---|---|---|
| | restrictions on trains carrying waste to prevent co-location with trains carrying flammable materials in tunnels, in rail yards, and on sidings. DOE needs to commit to findings and recommendations of this type of analysis as part of the ElS. | |
| **Accidents involving Military Aircraft or Affecting Military Operations** | The EIS should evaluate accidents involving accidental bombs from military overflights striking a waste train. U.S. Air Force and Navy operations should be considered. The effects of accidents near Nellis Air Force Base should be evaluated with respect to military operations. | 60076, 65033, 65041 |
| **Accidents in Reno and Las Vegas** | The EIS should evaluate the consequences of an accident in the newly completed railroad trench in downtown Reno. The EIS should evaluate how an accident in the Reno trench would be mitigated and describe the consequences to public health from exposure to radiation. The EIS should re-examine the impacts of severe rail accidents in Las Vegas. Because some legal-weight truck shipments would be required under the mostly rail scenario or under reasonable alternatives, the EIS should also include an updated analysis of severe truck accidents in Reno and Las Vegas that reflects the changes in expected radiological characteristics of the waste. | 60085 |
| **Risk Analysis and Assessment of Accidents** | The EIS should address the state of Nevada's concerns about the misapplication of probabilistic risk analysis generally, and specifically address Nevada's concerns about the use of NUREGICR-6672 in transportation accident-impact analyses. This includes Nevada's contention that the maximum reasonably foreseeable accident scenarios for Nevada should not be the same scenarios used for national transportation [see Document 60085, comment 54, for additional information.]<br><br>The EIS should contain a comprehensive risk assessment of accidents along both corridors, including an analysis of the likelihood of accidents at new crossings.<br><br>The EIS should describe the safety record of DOE's Transportation Safeguards Office with respect to rail transport of weapons-related materials. | 65006, 65068 |

**TABLE W. Terrorism/Sabotage**

| Subissue | Summary | Documents |
|---|---|---|
| **Recommended Analyses** | The EIS should thoroughly examine the impacts of successful terrorist attacks and sabotage against rail shipments considering the topography and remoteness of the rail corridors. Because some legal-weight truck shipments would be required under the mostly rail scenario or under reasonable alternatives, the EIS should also include an updated analysis of terrorism and sabotage against truck shipments [See Document 60085, comment 55, for additional information.]<br><br>The EIS should consider the consequences to public health and safety from a terrorist attack on a waste train and a munitions train; a plane that intentionally crashes into a waste train; and hijacking of waste trucks. Could the waste be used by terrorists to launch additional attacks? | 60045, 60074, 60076, 60085, 65019, 65039, 65040, 65054, 65069 |
| **Security Measures** | The EIS should describe the measures or forces that would ensure the security of rail shipments of waste. Would these measure/forces work with local law enforcement? What agency of government would coordinate or oversee such measures? Would the military assist in any aspect of transport of radioactive waste? How are drivers certified and would there be backup drivers? How much would security cost? | 60047, 65039, 65064 |
| **Independent Review of Security Issues** | The EIS should discuss the recommendation in a 2006 report by the National Academy of Sciences that an independent examination of the security of spent fuel and high-level waste transportation be carried out prior to shipments to the repository. This examination should provide an integrated evaluation of the threat environment, the response of packages to credible malevolent acts, and operational security requirements for protecting waste while in transport. This examination should be done by a group that is independent of the government and free from institutional and financial conflicts of interest. This group should be given full access to the necessary classified documents and safeguards information to carry out this task. While many details of such a study would presumably be classified, the EIS should include declassified information on what types of concerns were evaluated, the methods used for evaluation, and the general results of that review. DOE should commit to this type of study as a condition of the EIS. | 60070 |

**TABLE X. Emergency Response**

| Subissue | Summary | Documents |
|---|---|---|
| **Existing Emergency-Response Resources** | The EIS should describe the emergency-response capabilities (personnel and equipment) for all local jurisdictions, including those at mine sites, that could be affected by waste transport in Nevada. The EIS should describe the ability of these personnel to respond to accidents involving radiological materials and the local and regional emergency-medical services that are available, particularly medical services that can handle radiation exposure. The EIS should assess whether these existing resources are adequate. For example, does Reno have adequate capabilities to respond to an emergency situation involving a waste shipment? Because the State of Nevada has no emergency-response personnel, any emergencies fall on County agencies and many areas where the waste trains would pass look to the Counties for assistance with emergencies, rather than State agencies. The EIS should examine whether regional-response teams in Nevada, rather than just a county response, would be more effective.<br><br>The EIS should provide information on existing response times along all affected rail routes in Nevada and along each rail alternative. Consideration should be given to the likely degradation in response times of volunteer fire departments caused by delays at at-grade crossings and wildfires caused by the railroad which can go undetected much longer than natural-caused wildfires. More specifically, how would first responders deal with accidents in difficult terrain such as along either the Truckee River Canyon (the Donner route) or the Feather River Canyon, especially during the winter?<br><br>The EIS should provide a comparative analysis of all routes with regard to difficult-to-evacuate facilities such as schools, correctional institutions, hospitals, assisted living centers, and home-bound persons. | 60018, 60039, 60040, 60054, 60070, 60075, 60075, 60077, 60080, 60083, 60085, 65068, 65071 |
| **Community Notification and Education** | The EIS should describe how people along and near the rail line would be notified if there are emergencies or accidents. Do evacuation plans exist or would they need to be developed? The EIS should describe how and when communities that would be affected by waste transport would be educated with respect to risks and emergencies associated with waste transport. Would there be a community outreach program to prepare and assist citizens for waste shipments, especially the first shipment? Would District Health Departments be kept up to date on the program and be part of the decision-making process? | 60002, 60035, 60038, 60050, 60054, 60087, 65039, 65068, 65070, 65075, 65080 |
| **Coordination among Federal, State, and Local Agencies** | The EIS should describe how emergency response among local, state, and federal responders would be coordinated. What would be expected from local emergency-response personnel? What information would be given to planning authorities so that they can increase and train emergency-response and medical personnel when the transport of waste begins? Would | 60075, 60079, 60083 |

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| | emergency-action plans need to be developed for or by each of the communities that waste transport would affect? How would emergency communication work in northern Nevada among the various local and state law-enforcement agencies where communications is spotty at best? | |
| **Cost of Emergency Response** | The EIS should describe any costs that would accrue to communities, local emergency-response agencies (such as County Sheriff Departments), counties, and state agencies from additional training, personnel, and equipment needed to augment existing emergency-response capabilities. Would local governments be reimbursed for the costs of first responders? Health insurance policies routinely exclude nuclear and radioactive accidents from policy coverage. Would taxpayers be levied an additional tax burden for increased indigent medical funds? The EIS should specify whether funds would be made available to assist local governments for these additional services? Also, the likely costs of an accident involving transportation of the spent nuclear fuel should be estimated. | 60026, 60052, 60057, 60070, 60075, 60079, 60080 |
| **Training, Equipment, and Funding for First Responders** | The EIS should describe the additional training that would be needed to deal with emergencies related to rail shipments of radioactive materials. Who would provide this training? Would local hospitals along the routes, as well as regional, full-service medical facilities in Las Vegas and Reno, need training and additional equipment? Such impacts would not be one-time occurrences, but would continue for as long as the rail line (or intermodal facility) remains operational. The EIS should therefore examine such impacts and assess the decades-long requirements for emergency management, emergency response, and public health and safety.<br><br>The EIS should describe any agreements made between DOE and the Walker River Paiute Tribe to provide the tribe with emergency-response equipment and training. Would similar equipment and training be provided to other entities such as the City of Fernley, the North Lyon County Fire Protection District, and the Lyon County Sheriff's Department? What would be the schedule for this training?<br><br>The EIS should consider using and training Nye County personnel with respect to emergency response and related fire/rescue, police/security, and medical/health services. The personnel could be trained in conjunction with DOE personnel to ensure appropriate and cost-effective first response to any emergency, anywhere along the rail line. | 60026, 60047, 60049, 60051, 60064, 60068, 60077, 60083, 60085, 65068, 65071 |
| **Section 180(c) of the Nuclear Waste Policy Act** | The EIS should address how DOE will undertake implementation of Section l80(c) of the Nuclear Waste Policy Act and discuss the following recommendations from a 2006 report by the National Academy of Sciences: | 60070 |

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| | • Establish a cadre of professionals from the emergency-responder community who have training and comprehend emergency response to spent fuel and high-level waste transportation accidents and incidents<br>• Work with the Department of Homeland Security to provide consolidated "all-hazards" training materials and programs for first responders that build on the existing national-emergency-response platform<br>• Include trained emergency-responders on the escort teams that accompany spent fuel and high-level waste shipments<br>• Use emergency-responder preparedness programs as an outreach mechanism to communicate broadly about plans and programs for transporting spent fuel and high-level waste to the repository with communities along planned shipping routes. | |

**TABLE Y. Mitigation of Impacts**

| Subissue | Summary | Documents |
|---|---|---|
| **Overall Mitigation** | The EIS should discuss all proposed efforts to monitor and mitigate impacts from construction and operation of the rail line. What would DOE do if monitoring found that impacts were higher than expected? Mitigation of accidents or terrorist attacks, especially to water resources, should be described, along with responsibilities for the clean up. Mitigation of impacts to Walker Lake, including its scenic quality, should be described. The EIS should recognize that truck and train traffic at crossings would increase over the decades-long shipping campaign and that shipments of hazardous cargoes would also increase; measures to mitigate accidents at these crossings should be described. How would DOE compensate the state and counties for the degradation of paved and gravel roads due to heavy traffic during rail construction and operations?<br><br>The EIS should discuss whether DOE would be responsible to ensure that requests for mitigation of impacts be submitted to the federal government on all relevant matters including, but not limited to, medical services, early warning systems, safety of the public, and emergency response. Would funds be available for District Health Departments to work with those responsible for mitigation?<br><br>The EIS should address the mitigative effectiveness of training of, and equipment for, emergency responders for each action alternative. | 60038, 60064, 60083, 65054, 65068, 65071, 65078 |
| **Mitigation for Private Lands and Developments** | The EIS should discuss how existing and planned residential and commercial developments along the routes that are adversely affected by rail construction and operation would be mitigated. For example, what specific mitigation measures would be offered to avoid impacts to a planned residential/commercial development near Hazen? The EIS should consider all areas along routes where future development could take place even though these developments may simply be on the books by the time the EIS analysis is conducted. How would impacts to private crossings be mitigated? | 60047, 65068 |

**TABLE Z. Comprehensive National Transportation Plan**

| Subissue | Summary | Documents |
|---|---|---|
| **[none]** | The EIS should describe a comprehensive National Transportation Plan for the safe transport of waste to Yucca Mountain. It has been nearly five years since the site was approved and DOE has still not developed such a plan. The plan should lay out how DOE would ship these materials, addressing both the mix of shipping modes and routes. For example, even though Inyo County, California, would not be affected by the rail transport of nuclear waste, the county could be affected by truck shipments of some waste to Yucca Mountain. In view of the lack of such a plan, why even try to license the repository? | 65009, 65015, 65030 |

**TABLE AA. Pro/Con Yucca Mountain Project and a Particular Corridor**

| Subissue | Summary | Documents |
|---|---|---|
| **Opposed to or in Favor of the Yucca Mountain Project** | Many people submitted comments stating their opposition to the Yucca Mountain Project, including any type of waste transport. These people either offered no reasons for their opposition or said such things as the entire project was unsafe or that the waste should be kept at the reactors or that Yucca Mountain has not been licensed. Fewer people submitted comments expressing support for the Yucca Mountain Project, generally without citing a reason. | 60001, 60016, 60021, 60028, 60030, 60031, 60034, 60046, 60059, 60066, 60067, 60071, 60076, 60079, 60085, 60086, 65001, 65011, 65018, 65030, 65032, 65035, 65040, 65041, 65042, 65043, 65055, 65057, 65058, 65062, 65070, 65077, 65078, 65079 |
| **In Favor of or Opposed to the Caliente Corridor** | Many people submitted comments stating their opposition to, or support for, the Caliente corridor. These people generally offered no reasons for their opposition or support.<br><br>Some people favored the Caliente corridor because it would have fewer adverse impacts on Nevada residents, water, and wildlife compared to the Mina corridor. One person said that the Mina corridor has too many institutional constraints and that dollars and constructability should not be the main reasons for DOE to select the Mina corridor. Another was opposed to the Caliente route because of cost, division of grazing allotments, and adverse affects on private water rights.<br><br>In contrast, others were opposed to the Caliente corridor for very broad reasons such as the corridor would be unsafe, has high mountains to cross, or would be exposed to earthquakes and terrorists. A few believed that a route through Garden Valley in Lincoln County would have adverse effects on a sculpture known as the "City;" several people opposed it because it would passes through Garden Valley and would annihilate a way of life. Others said that a railroad would adversely affect ranching, grazing allotments, private water rights, and would be detrimental to the remoteness and beauty of the area. Others opposed the Caliente corridor | 60017, 60045, 60066, 60067, 65026, 65027, 65029, 65031, 65033, 65054 |

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| | because of the excessive cost to construct the railroad, and the belief that the railroad would ruin the economy of Caliente by driving people and businesses away. | |
| **In Favor of or Opposed to the Mina Corridor** | Many people submitted comments stating their opposition to, or support for, the Mina corridor. These people generally offered no reasons for their opposition or support.<br><br>Of those expressing support for the Mina corridor, one person cited the infrastructure in the many small communities within and near the corridor and nearby natural amenities. Another person preferred the B2 Mina corridor near Tonopah because he could provide DOE water, aggregate, power, and land. Another expressed support for the Mina corridor because of fewer environmental impacts, less cost, and greater economic benefits.<br><br>Others said that the Mina route would be more disruptive than any other routes studied by DOE because it would pass through numerous population centers in Nevada (including Reno), agricultural areas, and water bodies compared to the Caliente corridor. The City of Reno opposed the Mina route because, among other reasons, a 1996 resolution declaring Reno a "nuclear free zone." And one person was in favor of a railroad in the Mina corridor, but for tourism, not for waste. The City of Fallon opposed the route because of impacts to future development east of Fallon and because of "new issues" that have not been under consideration for sufficient time to make a decision about the route. | 60004, 60006, 60036, 60057, 60072, 60076, 60086, 65012, 65013, 65029, 65034, 65036, 65038, 65053, 65056, 65059, 65066. 65078 |
| **In Favor of the Carlin Corridor** | A few people preferred the Carlin corridor to either the Mina or Caliente corridors because Carlin would be more protected and has less chance of sabotage. | 60070, 65031 |

**TABLE BB. No Faith in Government**

| Subissue | Summary | Documents |
|---|---|---|
| **[none]** | A few people commented on a lack of faith that DOE can complete the project or clean up after accidents. One said that the U.S. government cannot impose the Mina railroad on people who don't want it. Another said that the selection of Yucca Mountain as site for a repository was based on politics. | 60021, 60058, 60086, 65054 |

**TABLE CC. Stigma and Perceived Risk**

| Subissue | Summary | Documents |
|---|---|---|
| **[none]** | The EIS should describe the fiscal consequences of stigma-induced impacts to counties and cities along all waste routes in Nevada and along the Caliente and Mina alternatives. Stigma effects from both routine shipments and after an accident should be examined along all rail routes in Nevada where waste trains would travel. Issues that should be addressed include stigma effects on property values (including those in Silver Peak); tourism (including Reno); locally produced agricultural products; ad valorem taxes, sales taxes, and use taxes; desirability as residential and commercial locations; and the desirability for various existing or potential state parks, wildlife management areas, river and stream corridors, lakes, and other federal, state, and local recreation sites.<br><br>The EIS should describe the measures that DOE proposed to mitigate the effects of stigma and perceived risk.<br><br>The DOE should conduct a "Perceived Risk Assessment" to evaluate cultural concerns along the proposed rail corridors. | 60026, 60047, 60057, 60075, 60078, 60080, 60083, 65054 |

**TABLE DD. Worst-Case Analysis**

| Subissue | Summary | Documents |
|---|---|---|
| **[none]** | A few people said that the EIS should contain comparative worst-case analyses and impacts for the Mina and Caliente routes and for the mainline rail segments in Nevada that lead to each corridor. | 60057, 60070, 65068 |

**TABLE EE. No Authorization for Repository**

| Subissue | Summary | Documents |
|---|---|---|
| **[none]** | One person said that it would be premature, irresponsible, and wrong to pursue a plan to ship waste to a site that has not yet received a license to construct or operate, has not been proven to meet radiation health standards, and would pose a significant public health risk to Nevadans, as well as millions of Americans along the transportation routes. | 60058 |

**TABLE FF. Carlin Corridor**

| Subissue | Summary | Documents |
|---|---|---|
| **[none]** | The EIS should address the concerns raised by Eureka County in its 2001 report on the Carlin Corridor (see www.yuccamountain.org/impact_report/impact01.htm). Activities at Barrick Gold Mines' property in Crescent Valley have increased substantially since the 2002 Repository EIS was released. Other mining activities are occurring near Beowawe and it's possible that this part of Eureka County could one day rival the famous Carlin trend farther east near Elko. | 60075 |

**TABLE GG. Miscellaneous**

| Subissue | Summary | Documents |
|---|---|---|
| **[none]** | One person stated that Nye, Esmeralda, Lincoln and Mineral Counties can become energy-producing centers with development of nuclear power and reprocessing. Another person said that the roundabout proposed on Lathrop Wells road as part of an industrial park should be integrated with plans for the repository and waste transport. This same person was opposed to the proposed roundabout at Gate 510, citing their inherent danger, especially considering that trucks carrying nuclear waste would travel past the gate. | 65010, 65013 |