

Stewart, Michael

From: BIGBOFF@aol.com
Sent: Wednesday, January 23, 2008 2:32 PM
To: Stewart, Michael; Rhoads, Dean Senator; Marvel, John Assemblyman; Amodei, Mark Senator; Care, Terry Senator; Claborn, Jerry Assemblyman; Smith, Debbie Assemblywoman; Hardy, Warren Senator; McGinness, Mike Senator; Schneider, Michael Senator; Bobzien, David Assemblyman; Carpenter, John Assemblyman; Goicoechea, Pete Assemblyman; Kirkpatrick, Marilyn Assemblywoman
Cc: dmbechtel@att.net; d.bierman@att.net; jcciac@co.lincoln.nv.us
Subject: Correct File Attached: Lincoln Co. Comments to DOE Rail EIS
Attachments: 1808FinalNEPACComments.DOC

All: I attached the wrong file to my previous e-mail. In preparation for the Nevada Legislature's Public Lands Committee meeting this Friday in Beatty, I have attached Lincoln County's comments to the Department of Energy's Yucca Mountain related Rail Alignment Draft Environmental Impact Statement. Lincoln County is very concerned with the magnitude of impacts which will result from construction and operation of the DOE proposed Caliente rail alignment, particularly upon private property and public land grazing permittees. In addition to the extensive comments provided by the Board of Lincoln County Commissioners, I know DOE has received comprehensive comments from many other Nevada counties, the State of Nevada and the Bureau of Land Management. I am certain a wide variety of other parties have also submitted comments on the Rail Alignment DEIS prior to closing of the public comment period on January 10, 2008. Notwithstanding the magnitude of comments received by DOE, just last week Mr. Ward Sproat, Director of the DOE's Office of Civilian Radioactive Waste Management stated to both the Nevada Legislature's Committee on High-Level Radioactive Waste and the presidentially appointed Nuclear Waste Technical Review Board that DOE was on schedule to complete the Final Environmental Impact Statement for the Yucca Mountain Rail Alignment by May 2008, just 4 months after the close of the public comment period on the Draft EIS. Given the extent of comments received by DOE, I can not conceive of any way that DOE could complete the Final EIS by May of 2008 unless the Department largely ignores or otherwise fails to adequately respond to the myriad of comments received on the Draft EIS. Accordingly, during your meeting this Friday, I would encourage members of the Legislature's Public Lands Committee to ask DOE's Ned Larson the following questions:

1. The State of Nevada and Lincoln County (among other possible requests) requested in writing that DOE extend the comment period on the Rail Alignment DEIS. Given that DOE's schedule for constructing and beginning operations of the Yucca Mountain rail line has been pushed back two years, why did DOE elect not to extend the public period on the Rail alignment DEIS?
2. How many comment letters and how many individual comments were received by DOE on the Rail Alignment Draft Environmental Impact Statement?
3. What is DOE's schedule for completing the Final Rail Alignment EIS?
4. Given the brevity of comments received by DOE to the Draft Rail Alignment EIS, how can DOE possibly expect to complete the Final EIS by May 2008?
5. Does DOE plan to engage the State of Nevada, Affected Units of Local Government or State Grazing Boards which submitted comments to the DEIS in discussions regarding resolution of comments; particularly regarding measures to mitigate impacts?
6. How does DOE intend to acquire the right to cross private property? Will DOE only acquire access from willing land owners or will it exercise eminent domain to access said private lands?

I trust these thoughts to be of help as you prepare for the Committee meeting on Friday in Beatty. I will not be in attendance at the meeting, but Dennis Bechtel, Intertech Services Corporation Senior Associate, will be

present. In the meantime, please feel free to contact me should you have any questions regarding this matter.

Mike Baughman, Ph.D.

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January 7, 2008

United States Department of Energy
Office of Civilian Radioactive Waste Management
1551 Hillshire Drive M/S 010
Las Vegas, NV 89134
Attn: Dr. Jane Summerson

RE: Board of Lincoln County Commissioners Comments to 1) *Draft Supplemental 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-SID) ("Repository DSEIS"); 2) *Draft Supplemental Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High Level Nuclear Waste at Yucca Mountain, Nye County, Nevada—Nevada Rail Transportation Corridor* (DOE/EIS-0250F-S2D) ("Rail Corridor DSEIS"); and 3) *Draft Environmental Impact Statement for a Rail Alignment for the Construction and Operation of a Railroad in Nevada to a Geologic Repository at Yucca Mountain, Nye County, Nevada* (DOE/EIS-0369D) ("Rail Alignment DEIS").

Dear Dr. Summerson:

The Board of Lincoln County Commissioners (the "County") respectfully submits these comments under the National Environmental Policy Act ("NEPA") on the Repository DSEIS, Rail Corridor DSEIS, and Rail Alignment DEIS, all of which were released for public comment by the Department of Energy ("DOE" or the "Department") as announced in a Notice of Availability published October 12, 2007 in the Federal Register.

As a general matter, the Department's decision to release three separate and substantially overlapping NEPA documents on the same day concerning the same project is highly objectionable. Especially considering the limited 90-day public comment period,¹ the confusing

¹ By letter dated October 17, 2007, the County has requested that the DOE extend the comment period for 30 days. To date, the DOE has not responded to that request.

and counterintuitive way that the Department has organized the three documents and forced readers to continually switch between documents -- all of which involve the same project -- does not further the letter or spirit of NEPA.

More important, and as discussed more fully below in Section I, the DOE's approach appears to be part of a coordinated effort with the Nuclear Regulatory Commission ("NRC") to illegally restrict the scope of the NRC's own NEPA review in the licensing proceedings that the NRC will hold on the Department's Yucca Mountain application.

In addition to our concerns with the way in which the DOE has structured its NEPA review, the County has carefully reviewed the October NEPA documents and finds them to be substantively deficient in many areas of analysis. Our substantive comments with respect to each document are set forth in detail in Section II below and in Exhibit A to this letter.

Finally, in the Rail Corridor DSEIS and Rail Alignment DEIS, the Department failed to address the County's scoping comments set forth in our scoping letter dated December 4, 2006. The DOE has failed to address both the County's substantive scoping comments on the content of each draft EIS (which are discussed in Section III below) and the County's request to be granted cooperating agency status, pursuant to 40 C.F.R. § 1508.5 (discussed in Section IV).

I. Improper Segmentation

A. The DOE's Attempt to Segment Transportation-Related Impacts From Repository Impacts is Arbitrary, Capricious, an Abuse of Discretion and Otherwise Not in Accordance With Law

As the Department has repeatedly acknowledged, and as federal law makes plain, the Yucca Mountain proposed action includes not only the construction and operation of the repository itself, but construction and operation of any system necessary to transport wastes to the repository. Thus, in its 2002 FEIS for the Yucca Mountain Repository, the Department sensibly included transportation within the scope of the "Proposed Action".

Under the Proposed Action, the [Department] would construct, operate and monitor, and eventually close a geologic repository for the disposal of spent nuclear fuel and high-level radioactive waste at Yucca Mountain The Proposed Action includes transportation of spent nuclear fuel and high-level radioactive waste from commercial and DOE sites to the Yucca Mountain site (see Figure 2-1).

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) ("Repository FEIS") at 2-1. In fact, the Repository FEIS devotes over 470 pages to a discussion of the environmental impacts of transportation, including the impacts of truck and rail transportation nationally and within the State of Nevada. See Repository FEIS Chapter 6 and Appendices J and M. An additional 694 pages are devoted to responding to public comments concerning those impacts.

Now, however, the DOE has issued three NEPA documents: the Rail Corridor DSEIS, the Repository DSEIS, and the Rail Alignment DEIS. The Rail Corridor DSEIS supplements analyses that were contained in the 2002 Repository FEIS. The Repository DSEIS supplements other portions of the Repository FEIS. The Rail Alignment DEIS overlaps substantially with the rail corridor analyses contained in the Rail Corridor DSEIS and the Repository FEIS. Yet the DOE confusingly describes it as both (1) one part of the "Nevada Rail Corridor SEIS and Rail Alignment EIS" (which are actually two separate NEPA documents, but which the Department seems to describe as one);² and (2) a completely separate document, tiered off from both the Repository FEIS and Rail Corridor DSEIS.³

The structuring of these documents and the manner in which the DOE has conducted these NEPA reviews are hopelessly confusing and duplicative, and cannot be squared with DOE's recognition that the Yucca Mountain proposal includes transportation of the waste to the repository. The Department's decision to prepare environmental impact statements for supplemental rail corridor analyses and rail alignment analyses in documents that are separate from the Repository DSEIS -- only to incorporate those analyses into the Repository EIS where they originally belonged -- is a Ruben Goldberg device that violates NEPA and makes sense only if it is seen as part of an effort to improperly remove transportation-related impacts from consideration in the NRC licensing proceedings (See II-B below).

The unnecessary complexity and circularity of DOE's approach is perhaps best illustrated by its strange and unsupported characterization of the Yucca Mountain repository as a "reasonably foreseeable future action" in relation to the rail alignment. Such a formulation is untenable given the obvious fact that the purpose of building a railroad to the repository is to allow the repository to perform its intended function. The impacts associated with the preferred rail alignment (and rail corridor) arise only because of, and follow from, the recommendation to store waste at Yucca Mountain. The environmental impacts of transporting radioactive wastes to that facility. Indeed, the DSEIS for the repository -- the supposedly "reasonably foreseeable future action" -- was issued concurrently with the rail alignment DEIS and rail corridor DSEIS. These are not separate actions that may have cumulative impacts; they are one and the same action for purposes of NEPA analysis.

NEPA requires that "proposals or parts of proposals which are related to each other closely enough to be, in effect, a single course of action shall be evaluated in a *single impact statement*." 40 C.F.R. § 1508.25 (emphasis added). Any impacts related to construction of a rail line to Yucca Mountain clearly are part of the same action, as the Department consistently has maintained until recently. Neither a Caliente nor Mina corridor rail line would be constructed but for the construction of the repository.

In *Thomas v. Peterson*, 753 F.2d 754 (9th Cir. 1984), the U.S. Forest Service was considering both timber sales and the construction of a logging road needed in connection with timber sales, but did not include the environmental impacts of the road in its consideration of the timber sales. The court held that the Forest Service needed to consider the road and the sale

together because they were "connected actions" under NEPA: "It is clear that the timber sales cannot proceed without the road, and the road would not be built but for the contemplated timber sales." *Id.* at 758. The court explained that even if the road had other benefits, the Forest Service did not claim that any other benefits would justify the road's construction in the absence of the timber sales. The court stated that "[w]e conclude, therefore, that the road construction and the contemplated timber sales are inextricably intertwined, and that they are 'connected action' within the meaning of the CEQ regulations." *Id.* at 759.

The parallel to the instant case is exact. A waste transportation system, such as the Caliente rail corridor and its specific alignments, would not be built but for the Yucca Mountain waste repository. The construction of the rail line (including the corridor and rail alignment designations) and the contemplated construction and operation of the repository are "inextricably intertwined," and therefore are "connected actions" for which one EIS is required under regulations promulgated by the Council on Environmental Quality ("CEQ").

The Department's contrary approach perverts the NEPA concept of "tiering." The CEQ's regulations define tiering as the coverage of general matters in broader environmental impact statements (such as national program or policy statements) with subsequent narrower statements or environmental analyses (such as regional or basinwide program statements or ultimately site-specific statements) incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared. Tiering is appropriate when the sequence of statements or analyses is:

- (a) From a program, plan, or policy environmental impact statement to a program, plan, or policy statement or analysis of lesser scope or to a site-specific statement or analysis.
- (b) From an environmental impact statement on a specific action at an early stage (such as need and site selection) to a supplement (which is preferred) or a subsequent statement or analysis at a later stage (such as environmental mitigation). Tiering in such cases is appropriate when it helps the lead agency to focus on the issues which are ripe for decision and exclude from consideration issues already decided or not yet ripe.

40 C.F.R. § 1508.28.

The CEQ regulations further provide:

Agencies are encouraged to tier their environmental impact statements to eliminate repetitive discussions of the same issues and to focus on the actual issues ripe for decision at each level of environmental review (Sec. 1508.28). Whenever a broad environmental impact statement has been prepared (such as a program or policy statement) and a subsequent statement or environmental assessment is then prepared on an action included within the entire program or policy (such as a site specific action) the subsequent statement or environmental assessment need only summarize the issues discussed in the broader statement and incorporate discussions from the broader statement by reference and shall concentrate on the issues specific to the subsequent action. The subsequent document shall state where the earlier document is available. Tiering may also be appropriate for different stages of actions.

² Rail Alignment DEIS and Rail Corridor DSEIS, Foreword, page vii.

³ *Id.*, page ix.

Id. § 1508.20 (emphasis added).

It is thus apparent that tiering may apply when an agency intends to implement an action or series of actions in stages, each of which is "type" for decision at different times or different levels. The archetypical example, discussed in the CEQ regulation, is when an agency first makes the generic decision whether to initiate a program (for example, whether to embark on a national program to allow offshore leasing for oil and gas exploration) and, after deciding to do so, it then makes individual, site-specific decisions under that program (e.g., whether to allow oil and gas leasing at a specific offshore location). In that situation, a general "programmable" EIS is prepared that examines from a broad perspective the potential environmental impacts that offshore oil and gas exploration may entail. Later, when the agency is proposing to lease a particular area for a specific lease, the site-specific EIS for that proposed lease may "tier" off the prior general programmable EIS.

Obviously, the proposal to construct a waste repository at Yucca Mountain and, as a necessary corollary, to transport waste to the mountain, bears no identifiable relationship to the circumstances under which the CEQ regulations contemplate "tiering." *In fact, the DOE's preparation of three separate but substantially overlapping impact statements for one and the same project creates the very "repetitive discussions" that tiering is designed to avoid.* The DOE's use of tiering in this case amounts to an improper effort to segment environmental impacts. *Thomas v. Peterson, supra.*⁴

Further, the Rail Corridor EIS is currently only a draft document. The DOE cannot properly use a draft environmental impacts statement, that has not undergone review and comment by the public and other agencies, as the basis for a separately tiered environmental review of specific rail alignments.

B. Transportation-Related Impacts Cannot Be Carved Out of the NRC Licensing Proceeding

It appears that the DOE has balkanized its NEPA review in such a confusing and improper manner in furtherance of its desire (and that of the NRC) to insulate the NRC licensing proceeding from many of the considerations that must be taken into account under NEPA -- including but not limited to transportation-related environmental impacts. This intent is made plain in the "Foreword" to the Rail Corridor DSEIS and Rail Alignment DEIS. There, DOE states that the Repository SEIS "evaluates the potential environmental impacts of constructing and operating the Yucca Mountain repository under the current repository design and operation plans, the purpose of which is to assist the [NRC] in adopting, to the extent practicable, any EIS prepared pursuant to Section 114(f)(4) of the Nuclear Waste Policy Act, as amended. . . ." In

contrast, DOE states that the Rail Corridor SEIS and Rail Alignment EIS "evaluate the potential environmental impacts of constructing and operating a railroad for shipments of spent nuclear fuel and high-level radioactive waste from an existing rail line in Nevada to the repository at Yucca Mountain, the purpose of which is to help the Department decide whether to construct and operate a railroad, and, if so, within which corridor and along which alignment." (emphasis added).

In other words, according to the DOE, only the site repository's environmental impacts will be subject to the NRC's review under NEPA (and very limited review at that, given the NRC's illegal interpretation of the statutory criteria governing its decision whether to adopt DOE's EIS, as discussed below), whereas transportation-related environmental impacts will be considered only by the DOE in its selection of a rail corridor and rail alignments.

In this manner, the DOE (and the NRC) impermissibly seek to restrict the proper scope of the NRC licensing proceeding. This short-sighted approach ultimately will prove self-defeating for both agencies, because it virtually ensures that any NRC approval of DOE's license application for Yucca Mountain will be judicially reversed.

Despite the duplicative and overlapping discussions in three impact statements, DOE has correctly defined the Yucca Mountain project to include transportation -- and it has acknowledged that all significant transportation impacts therefore must be addressed in the Repository impact statement "to ensure that the Repository SEIS considers the full scope of potential environmental impacts associated with the proposed construction and operation of the repository."⁵

Since all transportation-related impacts must be considered as part of the site repository EIS, they all must be considered by the NRC and are properly at issue in the NRC licensing proceeding. See *Nuclear Energy Institute, Inc. v. Environmental Protection Agency*, 373 F.3d 1251, 1313 (D.C. Cir. 2004) ("NEI") (where the D.C. Circuit flatly rejected the NRC's contention that the NWPA allows the NRC to "adopt" the Department's EIS without independently reviewing the adequacy of that EIS). The fact that the DOE intends to issue a separate Record of Decision for the rail alignment designation does not abrogate the NRC's own independent obligation under NEPA to determine the adequacy of the DOE's environmental analyses. Because, as the Repository FEIS acknowledges (and NEPA demands), transportation is part of the proposed action and transportation-related impacts are within the scope of that EIS, the NRC's independent adequacy review must include a review of all transportation-related impacts including the designation of rail corridors and rail alignments.

Further, the Nuclear Waste Policy Act ("NWPA") does not provide any basis for the NRC to avoid considering all environmental impacts associated with the proposed Yucca Mountain project, including those related to transportation of nuclear waste to the repository. The NWPA directs the NRC to "adopt" DOE's environmental impact statement "to the extent practicable." 42 U.S.C. § 100134(f)(4). The NRC has interpreted this phrase to mean that it is not required to evaluate independently whether the EIS "meets the standards for an adequate statement," as it otherwise would be required to do under NEPA. See e.g., 10 C.F.R. § 51.109;

⁵ Rail Alignment DEIS and Rail Corridor DSEIS, Foreword, page ix.

⁴ In *Nevada v. Department of Energy*, 457 F.3d 78 (D.C. Cir.), the court rejected the State's contention that it was impermissible for DOE to "tier" its rail corridor analysis and rail alignment analysis -- and did not rule on whether the DOE may segregate its consideration of transportation impacts from its site repository's impacts in a manner that would deprive the NRC of authority to consider transportation-related environmental issues. In *Nuclear Energy Institute v. EPA*, 373 F.3d 1251 (D.C. Cir. 2004), the State did raise the argument that it was improper for DOE to segregate consideration of transportation-related impacts from its consideration of the repository's impacts. However, the D.C. Circuit did not adjudicate that issue, finding instead that challenges to the Repository EIS were premature.

see also NEPA Review Procedures for Geologic Repositories for High-Level Waste, Proposed Rule, 53 Fed. Reg. 16131 (May 5, 1988), and Final Rule, 54 Fed. Reg. 27864 (July 3, 1989). Specifically, the NRC contends that it must review the DOE's EIS only to the extent that new information or a change in the project requires supplemental environmental reviews. 10 C.F.R. § 51.109. However, this position is contrary to the regulations implementing NEPA promulgated by the CEOQ, case law and, most importantly, the NWPA itself.

Under the CEOQ's NEPA regulations, which are applicable to all federal agencies including the Department and the NRC, an "agency may adopt a Federal draft or final environmental impact statement or portion thereof provided that the statement... means the standards for an adequate statement under these regulations." 40 C.F.R. § 1506.3. An agency adopting another agency's EIS has a duty to "independently review" the EIS to determine whether it is legally sufficient. See, e.g., Guidance Regarding NEPA Regulations, 48 Fed. Reg. 34263 (1983); see also *Sierra Club v. U.S. Army Corps of Engineers*, 295 F.3d 1209 (11th Cir. 2002) ("NEPA regulations require an agency to undertake an independent review of a lead agency's EIS before adopting it"); *Davis Mountains Trans-Pecos Heritage Assn. v. Federal Aviation Admin.*, 116 Fed. Appx. 3, n. 64 (5th Cir. 2004) ("In order for a cooperating agency to adopt the lead agency's EIS, the NEPA process actually requires the cooperating agency to do some independent study after the final EIS has been prepared").

Nonetheless, the NRC, while acknowledging that its regulations for adopting DOE's FEIS "might be seen as a departure from established practices," has concluded that "NWPA and the principles of res judicata obviate the need for an entirely independent adjudication of the adequacy of the EIS by this agency." Proposed Rule, 53 Fed. Reg. at 16138. The NRC's reasoning, flawed to begin with, was made even less compelling because three years later Congress essentially mooted all challenges to DOE's reliance on the FEIS at the conclusion of the Department's site selection process by enacting a joint resolution selecting Yucca Mountain as the repository site -- thereby rendering the concept of res judicata irrelevant. Pub. L. No. 107-200, 116 Stat. 735 (April 8, 2002). NEI 373 F.3d at 1311. Indeed, the NEI court also made it clear that the substance of the EIS could be challenged during the NRC's licensing process and in connection with the DOE's transportation-related decisions. *Id.* at 1313-14.

Even assuming that Congress had not foreclosed a legal challenge to the Department's site selection process, the NRC's reasoning is fatally flawed. There is no legitimate reason to treat the relation between the Department and the NRC any differently than in other cases where two federal agencies are responsible for different aspects of the same project, or where one federal agency is applying for a permit or approval from another agency. Thus, the CEOQ's Deputy General Counsel, in her comments on the NRC's Proposed Rule, pointedly stated:

I disagree with this interpretation of the NWPA, and read the phrase "to the extent practicable" to mean just that: after looking at DOE's EIS and evaluating it, NRC should adopt some or all of it in order to avoid unnecessary duplication.

Letter from Lucinda Low Swartz to James R. Wolf of 9/20/88, available at <http://www.isnnet.gov/docview.aspx?mode=1&isn=NR0000024546&ic=1&im=0&co=1&sm=0> (emphasis in original).

Any doubt concerning this issue has been resolved by the D.C. Circuit in NEI. There, the court made it quite clear that it would not indulge the NRC's cramped interpretation of its NEPA obligations. In holding that "substantive claims against the [Repository] FEIS will not be fit for judicial review until the FEIS is used to support a concrete and final decision," NEI 373 F.3d at 1313, the court relied on the statements made by counsel for DOE and NRC at oral argument, which indicated that "Nevada will be permitted to raise its substantive challenges to the FEIS in any NRC proceeding to decide whether to adopt the FEIS and in any DOE proceeding to select a transportation alternative." *Id.* Most significantly, in a post-argument submission, the NRC attempted to backpedal from its counsel's representations at oral argument, and referred the court to its "adoption" regulations for the proposition that the NRC may only review DOE's EIS based on new information or changes in the project. In response, the D.C. Circuit made it clear that it rejects such a narrow interpretation of the NRC's NEPA obligations. The court noted that (in keeping with NEPA) it would not be "practicable" for the NRC to adopt the FEIS unless it met the CEOQ standards for an adequate EIS, and that the "NWPA's mandate that the FEIS be adopted by NRC 'to the extent practicable' is intended to avoid duplication of the environmental review process." *Id.* at 1314.

Contrary to the NRC's tortured interpretation of the statute, the court's ruling in NEI is fully consistent with the text of the NWPA, and the statute provides no support for the notion that the NRC's "adoption" proceedings need only consider project changes or new information. In the section of the NWPA addressing the EIS, the statute states:

In any such statement prepared with respect to the repository to be constructed under this subtitle, the [NRC] need not consider the need for a repository, the time of initial availability of a repository, alternate sites to the Yucca Mountain site, or nongeologic alternatives to such site.

42 U.S.C. § 10134(f)(6) (emphasis added). These limitations on the scope of the NRC's responsibilities set forth in subsection (f)(6) parallel the limitations placed on the scope of DOE's EIS set forth in subsection (a)(1)(D), which states that the Department "shall not be required in any such environmental impact statement to consider the need for a repository, the alternatives to geological disposal, or alternative sites to the Yucca Mountain site." 42 U.S.C. § 100134(a)(1)(D).

In the preamble to its Final Rule, the NRC dismissed the language in subsection (f)(6) as merely "an editorial measure, lacking substantive effect." 54 Fed. Reg. at 27867. The NRC said that this language was not mere "surplusage," however, because the NRC "may have an obligation to prepare a supplemental EIS where there are new considerations or new information." *Id.* In fact, the NRC's explanation of this provision makes no sense and is not supported by the language of the statute -- and would, despite the NRC's contrary assertion, relegate the statutory language to mere surplusage, in violation of the rules of statutory construction.⁶

⁶ *Reiter v. Sonotone Corp.*, 442 U.S. 330, 339 (1979) ("In construing a statute [federal courts] are obliged to give effect, if possible, to every word Congress used."); *One Children's Earth Foundation v. United States*

The only sensible interpretation of subsection (f)(6) is that the NRC need not consider in its licensing proceeding the same issues that the Department is exempted from considering in its EIS. This interpretation is not only most consistent with NEPA, but it gives effect to the statutory language contained in subsection (f)(6). Indeed, the statute's use of the word "such" not only supports this interpretation, but conclusively defeats the NRC's interpretation. The word "such" clearly must refer to an existing EIS, not a hypothetical one to be completed at some later date by the NRC in light of new information or new developments. This interpretation is also bolstered by the language in subsection (f)(4) referring to the NRC's adoption of the Department's EIS, which states that "[f]o the extent such statement is adopted by the [NRC], such adoption shall be deemed to also satisfy the responsibilities of the [NRC] under [NEPA]." § 100134(f)(4). The use of "such" in both subsections must refer to the Department's EIS.

Moreover, the contrasting use of the past and future tenses in subsection (f)(6) also demonstrates that Congress was referring to the scope of NRC's independent review of the Department's EIS. The statute states that in "any such statement prepared" (past tense), NRC "need not consider" (future tense) certain issues. Thus, subsection (f)(6) is not concerned with some new EIS that may be prepared in the future based on new developments or information; rather, it articulates the straightforward requirement that in making its independent evaluation whether to adopt the existing ("such") EIS, the NRC need not consider the issues that Congress exempted from DOE's consideration.

In short, under NEPA, the NPPA and applicable case law, the NRC must consider all environmental impacts, including those related to transportation, in reviewing the Department's application for a license to construct the Yucca Mountain repository. The confusing and disjointed way in which DOE has structured its environmental reviews may facilitate the NRC's efforts to avoid those obligations in the short run, but such efforts are doomed to failure in the long run, because they virtually ensure judicial reversal of any NRC decision to approve the DOE's license application.

II. The October 2007 NEPA Documents are Substantively Deficient

The October 2007 NEPA documents released by DOE for review and comment are substantively deficient and will not enable DOE and the NRC to make appropriately informed decisions regarding the Yucca Mountain Repository System. Among other things, these documents fail to identify and adequately assess potential environmental impacts of the proposed action, fail to identify and adequately assess alternatives to various aspects of the proposed action that would avoid or minimize adverse impacts (including the "No Action" alternative); and fail to identify and analyze feasible mitigation measures to reduce adverse impacts. These violations of NEPA's core requirements constitute a great disservice to Lincoln County and its residents. As but a few examples:

Environmental Protection Agency, No. 05-16214 (9th Cir. 2007) ("The rule against surplusage requires that we not regard Congressional acts as meaningless and the amendment of acts as 'mere surplusage.'"). See also Minhly Exploration and Production Co. v. U.S. Dept. of the Interior, 252 F.3d 473, 481 (D.C. Cir. 2001); Natural Resources Defense Council v. Hahn, 345 F.2d 320, 325 (2d Cir. 1976).

• DOE Has Not Fully or Accurately Described the Proposed Action, Alternatives Thereof and the "No Action" Alternative

As one example, the DOE's decision to use the "TAD" system to transport spent nuclear fuel by rail so Yucca Mountain has not previously been the subject of analysis as required by NEPA. The correct definition of the proposed action is to implement a *rail-dependent TAD-based repository*. Several corollaries follow from this definition, including the following:

-The Purpose and Need statement in the Repository SEIS must be expanded to include the need to provide DOE with the information necessary to support a decision to implement a rail-dependent TAD-based system.

-Alternatives to the proposed action that must be fully analyzed under NEPA include: mostly legal-weight truck; a mostly overweight truck; or a rail to truck intermodal TAD-based system, among others.

-The construction of a rail line, the designation of rail corridors and rail alignments, must be identified as "connected actions" in relation to the repository.

-The "No Action" alternative to the Mine Rail Corridor is not simply the absence of a railroad within that corridor; rather, the No Action alternative would be some other method of shipping nuclear waste to Yucca Mountain, including one or more of several alternatives such as (1) shipping waste by rail along the Caliente corridor; (2) transporting waste using existing rail to an intermodal point in Nevada and then shipping it by legal and/or overweight trucks to Yucca Mountain; and (3) use of legal and/or overweight trucks to transport waste from reactor sites around the country directly to Yucca Mountain.

• DOE Has Not Adequately Analyzed the Environmental and Socio-Economic Impacts of the Proposed Action. For example:

-With respect to the repository itself, DOE has failed to accurately analyze potential radiological impacts, including an accurate identification of the maximally exposed individual, associated with volcanic eruptions, due to its unrealistic assumption that in the event of volcanic activity contamination will not rise higher than 60 meters.

-With respect to transportation-related impacts, the DOE's assessment reveals a profound lack of understanding concerning the fragility (and specific characteristics) of the desert environment, and the impacts of the proposed Caliente rail line on that environment as well as on cattle grazing, grazing allotments and other private property; ground water resources that are already stressed; and the culture and way of life that has defined Lincoln County for generations but that would be irretrievably altered by the construction of the Caliente rail line.

• DOE has failed to Commit to Best Management Practices as Part of the Proposed Action that Would Mitigate Adverse Impacts

- DOE's Identification and Assessment of Potential Measures to Mitigate Environmental and Socio-Economic Impacts is Woefully Inadequate

These and other deficiencies in the NEPA documents are discussed in detail in Attachment C hereto.

III. The Department of Energy Failed to Address Lincoln County's Substantive Scoping Comments

By letter dated December 4, 2006, the Board of Lincoln County Commissioners provided DOE with extensive comments regarding the scope of the Repository DSEIS, Rail Corridor DSEIS and Rail Alignment DEIS. These comments were based on and supported by the County's obvious extant knowledge of environmental and socioeconomic conditions within the County and nearly 24-years of experience interacting with and overseeing DOE's implementation of the Nuclear Waste Policy Act. In submitting its scoping comments, Lincoln County intended that the October 2007 NEPA documents would accurately reflect regional environmental and socioeconomic conditions; contain comprehensive and accurate analyses of impacts; and provide a comprehensive suite of feasible measures to mitigate impacts of the Project, including transportation.

However, a review of the October 2007 NEPA documents reveals that DOE has largely ignored most of the important issues raised by the County in its scoping comments. Exhibit B hereto contains Lincoln County's analysis of the extent to which DOE has failed to address scoping comments provided by the County in preparing the October 2007 NEPA documents.

IV. The Department of Energy Failed to Respond to Lincoln County's Request for Cooperating Agency Status

In a letter dated December 4, 2006, Lincoln County requested that DOE grant it, pursuant to 40 C.F.R. § 1501.6, cooperating agency status for purposes of the DOE's rail alignment NEPA review. The County has never received a response to that request. Accordingly, by this letter, Lincoln County renews its request to be designated a cooperating agency under NEPA.

Such a designation is fully warranted under the applicable regulations. We attach as Exhibit C to these comments, and incorporate herein by reference, a January 30, 2002 memorandum from James Connaughton, Chair of the CEO, addressed to the heads of federal agencies, which discusses this issue. The language of the regulation and the Connaughton memo confirm that Lincoln County should be granted cooperating agency status.

40 C.F.R. § 1501 directs federal agencies responsible for preparing NEPA analyses to do so "in cooperation with State and local governments" and other agencies with (1) jurisdiction by law or (2) special expertise. As the Connaughton memo notes, stakeholder involvement is

"important in engaging decisionmakers have the environmental information necessary to make informed and timely decisions efficiently." Cooperating agency status, in turn, is "a major component of agency stakeholder involvement . . ." Moreover, the "benefits of enhanced cooperating agency participation in the preparation of NEPA analyses include disclosing relevant information early in the analytical process, applying available technical expertise and staff support, avoiding duplication with other . . . procedures; and establishing a mechanism for addressing intergovernmental issues." The benefits also include "fostering intra- and intergovernmental trust." Accordingly, as Mr. Connaughton states, the responsible federal agency "should determine whether such agencies are interested and appear capable of assuming the responsibilities of becoming a cooperating agency . . ."

In other words, granting cooperating agency status should be undertaken liberally in order to maximize the value of the NEPA process and ensure that its purposes of fully informed decision making and full disclosure and analysis of important impacts are performed.

Particularly when measured against this backdrop, Lincoln County meets the criteria for cooperating agency status contained in the CEO regulation as elucidated in the Connaughton memo. Thus:

- The County has relevant expertise, especially with respect to the transportation-related impacts associated with the Caliente rail corridor and alternative rail alignments under consideration, much of which are located within the county. Having been designated by the Secretary of Energy as an affected unit of local government ("AULG") under the Nuclear Waste Policy Act, Lincoln County has sponsored over 83 studies regarding, and can provide DOE with local information relating to emergency management, emergency first response capabilities; emergency medical capabilities; transportation; and local socioeconomic conditions and trends. Consistent with 40 CFR § 1501.6, Lincoln County has special expertise regarding the proposed action's relationships to the objectives of regional, State and local land use plans, policies and controls, which will assist the DOE in carrying out its mission pursuant to 40 CFR § 1502.16(c). The County's special expertise also enables it to aid DOE in identifying social, economic, historic and cultural issues, each of which must be addressed pursuant to 40 CFR § 1502.16.

In this regard, many of the substantive deficiencies contained in the October 2007 NEPA documents (described in detail in Exhibit A) could and would have been avoided had the County been designated as a cooperating agency at the outset of the process.

- The County has jurisdiction by law. Although many of the specifics of the DOE's plans remain unclear, it appears virtually certain that the County will have permitting jurisdiction over a variety of activities associated with the construction and operation of the Caliente rail route. For example, the intended construction and operation of a staging yard, the two alternative locations of which would lie north of the City of Caliente in the County, would require a special use permit. (The proposed Indian Cove staging area lies within the jurisdiction of Lincoln County, not with the City of Caliente as the DOE states. Oral communication with Greg Bartow, Lincoln County District Attorney, November 30, 2007). County flood control regulations and siting requirements also may apply to various activities that would be part of the Caliente route. Several County roads will be crossed by the Caliente route. Page 4-56 of the Rail

Alignment EIS notes that the "The regulatory authority to make decisions regarding roads, road closures, and rail line crossings rests with the BLM and county and local governments."

- The County understands what cooperating agency status means and can legally enter into an agreement to act as such.
- The County can participate, and has participated, during scoping and throughout the preparation of the analysis and documentation as necessary to meet milestones.
- The County can, in a timely manner identify significant environmental issues and eliminate minor issues from further study;
- The County can provide resources to support scheduling and critical milestones;
- The County can provide data and rationales underlying its analyses and assessment of alternatives.

• The County will work constructively and cooperatively with other agencies and with DOE.

- The County can take responsibility for developing information and preparing environmental analyses including portions of the EIS concerning which it has special expertise and make available staff support at DOE's request to enhance its interdisciplinary capability (40 C.F.R. § 1501.6)

The County notes that other AULGs such as Nye County have been granted cooperating agency status. With respect to transportation, impacts of the proposed project are as direct and substantial for Lincoln County as the site repository's impacts may be for Nye County.

For the foregoing reasons, the County should be granted cooperating agency status.

V. Conclusion

Lincoln County's intent in providing these extensive comments to the DOE's October 2007 NEPA documents is to ensure that decisions made by DOE and the NRC regarding the Yucca Mountain Repository System are fully informed, and that the public is likewise fully informed, with regard to the potential environmental and socioeconomic impacts of said decisions, particularly to the extent that such impacts may be mitigable. Consistent with NEPA implementing regulations, Lincoln County expects DOE to carefully consider each and every comment submitted by the County and others to the October 2007 NEPA documents. Lincoln County expects DOE to fully respond to all comments received and to otherwise comply with its obligations under 40 C.F.R. § 1503.4, which requires DOE, in responding to comments, to take the following actions as appropriate: (1) modify alternatives including the proposed action; (2) develop and evaluate alternatives not previously given serious consideration; (3) supplement, improve and modify its analyses; (4) make factual corrections; or (5) state why, in DOE's view, comments do not warrant further response.

Lincoln County believes that the comprehensive comments to the October 2007 NEPA documents contained within this letter and Exhibits A, B and C require DOE to (1) modify alternatives including the proposed action; (2) develop and evaluate alternatives not previously given serious consideration by DOE; (3) supplement, improve or modify analysis contained with the EIS; and/or (4) make factual corrections to the EIS. Lincoln County further believes that the deficiencies of the October 2007 NEPA documents are substantive and that the degree of modification required to remedy such insufficiencies require that DOE re-issue the draft NEPA documents for further review and comment. The County notes that in its letter dated December 13, 2007, the Nuclear Regulatory Commission has raised many of the same issues regarding deficiencies in DOE's EISs as addressed by Lincoln County herein. Lincoln County is concerned however, that NRC appears to largely overlook and/or does not understand the significant impacts that the proposed Caliente rail alignment will have on private and public property uses, particularly public land grazing. The Board of Lincoln County Commissioners is committed to working with DOE and NRC to ensure that comprehensive and accurate NEPA analyses are undertaken to support major federal decisions regarding the Yucca Mountain Repository System.

In the event that DOE is unwilling or unable to commit to the numerous mitigation measures identified within this comprehensive comment letter and its Exhibits, Lincoln County may seek to prevent construction and operation of the proposed Caliente rail alignment. Further, Lincoln County is concerned that despite DOE efforts to mitigate impacts, many unavoidable adverse impacts, both anticipated and unanticipated, may yet result. Given this, Lincoln County encourages DOE to reconsider the Record of Decision to use mostly rail within Nevada and to consider transportation of spent nuclear fuel and other high-level radioactive waste by truck across existing highways as a means to minimize said unavoidable adverse impacts within Nevada.

Sincerely,

Ronda Hombeck
Chairman

cc:
Affected Units of Local Government
Nevada Agency for Nuclear Projects
Nevada Congressional Delegation

Part I. Lincoln County, Nevada Comments to Draft Supplemental 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-S1D) ("Repository DSEIS")

A. DOE's Statement of Purpose and Need Does Not Adequately Describe the Decisions Requiring NEPA Compliance Under the Repository DSEIS

General Comments

The 2006 decision (see Page 1-4 of Repository DSEIS) by DOE to use a transportation aging and disposal canister (TAD) to transport (by rail), age and dispose of commercial spent nuclear fuel has not been the subject of analysis as required by NEPA. Hence, the Purpose and Need statement in the Repository SEIS must be expanded to include providing DOE with the information it needs to support a decision to implement a rail-dependent TAD-based repository system.

Specific Comments

1. Page 1-3, Section 1 - The text here states DOE needs to ship the majority of spent nuclear fuel by rail based on its decision to select the mostly rail scenario.

Recommendation: The Repository DSEIS must update the analysis regarding this decision in light of new information contained in the Rail Corridor and Rail Alignment EISs. The Repository EIS must discuss why DOE will no longer consider rail to Caliente with intermodal and truck from there to Yucca Mountain as a means to avoid or minimize environmental impacts.

2. Page 1-6, Section 1.3 - The Caliente-Chalk Mountain rail corridor, also previously analyzed in the Yucca Mountain FEIS, was previously rejected by DOE on the grounds that it would conflict with the mission of the U.S. Air Force. DOE has not updated information concerning the Caliente-Chalk Mountain rail corridor in this Nevada Rail Corridor SEIS. What actions did DOE take to verify this conflict still exists? The environmental information should have been updated like it was for the other corridors and this could have been restated if it is still the case.

Recommendation: The SEIS must include an update of information regarding the nature of inmitigable specific conflicts between the rail alignment and the Nevada Testing and Training Range (NTTR).

B. DOE Has Not Sufficiently Identified or Analyzed Alternatives

General Comments

In violation of NEPA, no alternatives to the Proposed Action (other than No Action) are analyzed in the DSEIS. Given that the Proposed Action analyzed in the Repository DSEIS includes implementation of a rail-dependent TAD-based repository system,

alternatives to the Proposed Action including implementation of mostly legal-weight truck, a mostly overweight truck, or rail to truck intermodal dependent TAD-based repository systems (among other possible alternatives) should have been analyzed fully in the DSEIS. As a decision-support document, the DSEIS must be sufficient to fully inform DOE in making decisions which consider the possibility that either a rail-dependent repository system may be or become infeasible and/or a TAD-based repository system may be or become infeasible. Because Congress has directed DOE to pursue development of the repository at Yucca Mountain, DOE must provide adequate NEPA analysis of all alternatives which might ultimately be required to be implemented to comply with the congressional directive. DOE has limited its ability to comply with that requirement. Alternatives, including a mostly legal-weight truck, a mostly overweight truck, or rail to truck intermodal dependent TAD-based repository systems (among other possible alternatives) must be analyzed in detail within the Repository SEIS.

Specific Comment

1. Page 2-1, Chapter 2 – Pursuant to NEPA, this chapter needs to describe any “connected actions” to the repository as such. Given DOE’s decision for mostly rail -- and the fact that a TAD-based system is rail dependent -- the rail required to serve the Yucca Mountain site is a connected action to construction and operation of the repository.

Recommendation: The SEIS must include a description of the Proposed Action (to determine a rail alignment) described in the Rail Alignment EIS as a “connected action” to the repository and same should be analyzed in the Repository SEIS.

C. Environmental Impacts Have Not Been Fully or Properly Analyzed by DOE

General Comment

The Repository DSEIS fails to fully disclose potential repository system impacts. For example, the DSEIS analyzes radiological health impacts through atmospheric pathways only in those locales and to the extent thought by DOE to be required by NRC and fails to disclose similar potential effects to populations living with the region surrounding Yucca Mountain that may also be affected by implementation of a implement rail-dependent TAD-based repository system.

Specific Comments

1. Chapter 5, Pages 5-3, 5-10 and 5-24 – The definition of *reasonably maximally exposed individual* included here applies only to groundwater transport and omits atmospheric transport pathways. However, the Repository DSEIS does not provide any justification for failing to assess population doses from inhalation resulting from the volcanic eruption modeling case atmospheric pathway. A separate definition of *reasonably maximally exposed individual* related assessment of exposure consequences is needed for atmospheric pathways, particularly associated with volcanic eruption scenarios.

Recommendation: The SEIS should include and analyze exposure consequences for different definitions of *reasonably maximally exposed individual* specifically defined for atmospheric as well as groundwater pathways. This should include, without limitation, atmospheric transport pathways associated with the Volcanic Eruption Modeling Case. The SEIS should include a population dose related to exposure/inhalation from the volcanic eruption modeling case atmospheric pathway, similar to that provided for gaseous release of Carbon 14 on Page 5-31 of the DSEIS.

2. Page 5-25, Section 5.5 – The definition of *reasonably maximally exposed individual* appears to be based upon climatological data found in the Repository FEIS (see Figure 3-3, Page 3-16). This data includes wind rose plots at 10 and 60 meters. The use of these data is inappropriate for use with Volcanic Eruption Modeling Case in which a volcanic plume would be at much greater heights where prevailing wind direction and speeds may be quite different than those at 10 and 60 meters.

Recommendation: The Volcanic Eruption Modeling Case presented in the SEIS should be based upon prevailing wind direction and speed data at an elevation commensurate with the height of the expected plume, which most certainly is greater than 10 to 60 meters.

3. Page F-42, Section F.4.2.1.2 – The text here indicates that members of the public would receive a radiation dose from exposure pathways for the contaminated ash layer. The DSEIS fails to consider inhalation prior to deposition on land surface and related acute and latent cancer risk.

Recommendation: The SEIS should consider the consequences of inhalation of radioisotopes prior to deposition on the land surface in further analysis of the Volcanic Eruption Modeling Case. The SEIS should present the mean inhalation dose immediately following volcanic eruption and prior to ash deposition. The analysis of the Volcanic Eruption Modeling Case in the SEIS should consider the full range of impacts for purposes of NEPA.

4. Page 6-1, Section 6 - DOE concludes that the Mina rail corridor warrants further study to determine an alignment for the construction and operation of a railroad based on its conclusion that a Mina route would entail less construction and hence fewer environmental impacts. Yet land use conflicts presently prevent the Mina route from being implemented, as DOE has noted in the Rail Alignment DEIS, the Mina route would require passage across Indian lands, which is not feasible in light of an April 17, 2007 resolution passed by the Walker River Paiute Tribal Council. Since the existence of such land use conflicts apparently does not disqualify alternative routes from being considered, the DOE should analyze in detail specific alternative alignments in the Caliente Corridor such as the Caliente-Chalk Mountain alignment, as well as some of the other eliminated corridors. Conversely, if such land use conflicts are a criterion in eliminating the

continued study of other corridors and alignments, Mina also should have also been eliminated from inclusion for detailed analysis in the Rail Alignment EIS, in light of the April 17, 2007 resolution passed by the Walker River Paiute Tribal Council.

Recommendation: The Repository SEIS and Rail Alignment EIS must provide a consistent treatment of land use conflicts between alternatives carried forward for detailed analysis and those eliminated from detailed analysis. Either both the Mina rail corridor and the Caliente-Chalk Mountain corridor should have been carried forward for detailed analysis or neither of them should have been carried forward for detailed analysis in the Rail Alignment EIS.

5. Page 6-5, Section 6.1.6 – The text here indicates that “impacts from the use of overweight trucks for shipments of spent nuclear fuel would be similar to the impacts from the use of legal-weight trucks”. This is simply not true. Overweight trucks, weighing as much as 35,000 pounds or 17.5 tons more than legal-weight trucks would cause more damage to highway surfaces and structures than legal-weight trucks. The laws of physics dictate that the severity of accidents involving over-weight trucks will be greater than for legal-weight trucks. Overweight trucks will also require greater degrees of permitting and inspection, an added cost to state government. The equipment required to handle overweight trucks following breakdown or an accident will be different than that required for legal weight trucks. The specialized nature of such required equipment will dictate, if not available locally, longer timeframes for vehicle recovery.

Recommendation: The Repository SEIS must accurately disclose and assess the greater degree of impact which will be associated with use of overweight trucks. Alternative measures to mitigate impacts associated with the use of overweight trucks must be described in Chapter 9 of the SEIS.

6. Page 6-11, Section 6.3 – The comparison of total anticipated truck and rail spent fuel and high-level radioactive waste transport miles with total miles of truck and rail transport in the U.S. is meaningless.

Recommendation: For only those routes likely to be used for shipments of spent nuclear fuel (SNF) and high-level radioactive waste (HLW), the SEIS should include a comparison of total existing truck and rail shipments versus DOE-planned truck and rail shipments.

D. The DOE Has Failed to Commit to Best Management Practices

General Comment

DOE has inappropriately mixed the use of “best management practices” (BMPs) and mitigation. BMPs that DOE is committed to implement should have been described in Chapter 2, Proposed Action and No-Action Alternatives of the Repository DSEIS.

Having identified those specific BMPs which it will commit to implement, the analysis of impacts in Chapters 4.5.6 and 7 of the DSEIS should disclose impacts resulting “after” implementation of those BMPs. Mitigation are those actions designed to avoid, minimize, reduce, rectify or compensate for impacts resulting from implementation of the Proposed Action (including any BMP’s DOE has committed to as a part of the Proposed Action) and alternatives. Based upon information contained with the DSEIS, it is not possible to know which, if any, BMPs DOE is committed to implementing as a part of the Proposed Action and which were considered *a priori* in analyzing impacts resulting from said action.

As a result, the DSEIS cannot and does not disclose the actual impacts that will result from the Proposed Action, as required by NEPA.

E. DOE’s Identification and Analysis of Relevant and Reasonable Mitigation Measures is Incomplete

General Comment

Chapter 9 of the DSEIS does not specifically identify reasonable measures to mitigate impacts identified in Chapters 4.5.6 and 7. Table 9-1 lists BMPs, which as discussed above are not mitigation. The DSEIS indicates that DOE is “evaluating the preparation of a Mitigation Action Plan that identifies specific commitments for mitigation of adverse environmental impacts due to the Proposed Action.” The DSEIS further states, “The Mitigation Action Plan would incorporate all practicable measures to avoid or minimize adverse environmental and health impacts that could result from the Proposed Action...” NEPA implementing regulations require that all practicable measures to avoid, minimize, rectify, reduce or eliminate, or compensate for impacts be identified in the DSEIS, including those that may be outside the jurisdiction of DOE to implement. (40 C.F.R. § 1508.20. NEPA regulations further prohibit DOE from eliminating certain alternatives for mitigation from disclosure because they are unlikely to be adopted or enforced by DOE. *Id.* § 1502.14(c). The SEIS must include disclosure of a comprehensive suite of possible measures to mitigate impacts of the Proposed Action and any action alternatives, including impacts associated with national and Nevada transportation. *Id.* § 1502.14(f). The expected contribution of each identified measure with regard to mitigation of impacts must be described in the SEIS.

Specific Comments

1. Page 9-5, Section 9.2.2, Table 9-1 – Reasonable alternatives for mitigation should have been discussed here with detail provided for those that DOE is prepared to commit to and describe in a subsequent Mitigation Action Plan.

2. Page 9-6, Section 9.2.3 – Nye County is not the only unit of local government potentially impacted by the Yucca Mountain repository system (which includes transportation); Lincoln county clearly will be affected by transportation of nuclear waste to Yucca Mountain if the Caliente Corridor is adopted, and may also be affected by radiological releases caused by volcanic eruptions. The community of Rachel, located in

Lincoln County, lies only 65 miles (and downwind) of Yucca Mountain -- much closer than Las Vegas is to the proposed repository site.

Recommendation: Because direct rail to Yucca Mountain is a connected action to the repository, a similar section providing the perspectives of Lincoln County should be included in the SEIS.

3. Page 9-7, Section 9.3 -- Lincoln County's comments to the Rail Corridor SEIS (DOE/EIS-0250F-S2D) and Rail Alignment DEIS (DOE/EIS-0369D) are incorporated here by reference.

Part II. Lincoln County, Nevada Comments to Draft Supplemental Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High Level Nuclear Waste at Yucca Mountain, Nye County, Nevada--Nevada Rail Transportation Corridor, (DOE/EIS-0250F-S2D) ("Rail Corridor DSEIS")

A. DOE's Statement of Purpose and Need does not Adequately Describe the Decisions Requiring NEPA Compliance Under each of the NEPA Documents

Specific Comments

1. Page 1-1, Section 1.1 -- The following sentence, found in the Repository EIS, must also be included in the Rail Corridor EIS, "DOE has prepared this *Draft Supplemental Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High Level Nuclear Waste at Yucca Mountain, Nye County, Nevada--Nevada Rail Transportation Corridor*. (DOE/EIS-0250F-S2D) ("Rail Corridor DSEIS") to assist the U.S. Nuclear Regulatory Commission (NRC) in adopting, to the maximum extent practicable, any environmental impact statement (EIS) prepared pursuant to Section 114(f) of the *Nuclear Waste Policy Act*, as amended (NWPA, 42 U.S.C. 10101 et seq.)

2. Page 1-5, Section 1.3 and Page 2-1, Section 2-2 -- The DSEIS notes on Page 1-6 that Air Force opposition and land-use complexities were sufficient reasons for eliminating the Caliente-Chalk Mountain Route and the Carlin Route, respectively from further detailed NEPA analysis. In stark contrast, DOE has not eliminated the Mina corridor from detailed consideration despite the fact that the Walker River Paiute Tribe formally opposes shipment of SNF and HLW across Tribal lands. The DOE's application of opposition and land use conflict criteria to decisions regarding whether to carry alternatives forward for detailed analysis appears to have been inconsistently applied to the Mina and Caliente-Chalk Mountain routes.

Recommendation: For reasons of consistency, the DOE should either eliminate both the Mina and Chalk Mountain routes from detailed analysis or carry both the Mina and Chalk Mountain routes forward for detailed analysis. Absent such consistency, the SEIS will not be an adequate decision-support document.

3. Page 1-10, Section 1.4 -- Lincoln County also requested cooperating agency status, but the DOE has never responded to this request. The DSEIS does not fully disclose the extent of parties seeking cooperating agency status or the DOE reasons for denying said status.

Recommendation: The Rail Corridor SEIS must disclose all parties seeking cooperating agency status and the DOE's reasons for not granting said status.

B. DOE Has Not Provided a Complete Description of the Proposed Action

Specific Comments

1. Page 2-10, Section 2.2.5.1 -- The text here indicates that UPRR trains would utilize existing mainline routes to arrive in Nevada to access either the Caliente or Mina routes. The DSEIS is silent on the issue of whether any improvements to the existing UPRR mainline system would be required to accommodate SNF/HLW shipments, which may be significantly heavier than most common freight currently shipped along the UPRR mainline.

Recommendation: The SEIS must identify utilization and any required upgrades of the existing UPRR mainline routes as a connected action. The impacts of said connected action must be disclosed within the SEIS.

C. The "No Action" Alternative is Inappropriately Defined by DOE

Specific Comment

1. Page 2-11, Section 2.3 -- The No Action here is erroneously described as "... DOE would not construct and operate a railroad within the Mina rail corridor from Wabaska to Yucca Mountain." However, since Congress has directed DOE to proceed with the Yucca Mountain geologic repository, DOE will have to transport SNF/HLW to the site if it is licensed by the NRC. In the absence of the Mina rail corridor, No Action involves any one or a combination of the following alternative actions: 1) shipping waste along a rail alignment constructed and operated within the Caliente rail corridor; 2) transporting waste using existing rail to an intermodal point in Nevada then shipping the fuel by legal and/or overweight truck to Yucca Mountain; and 3) use of legal and/or overweight trucks to transport waste from reactor sites to Yucca Mountain. Given that DOE must ship SNF/HLW to Yucca Mountain, No Action does not simply mean not choosing the Mina rail corridor.

Recommendation: The description of the No Action alternative in the SEIS must be expanded to include the alternative means of transporting SNF/HLW to Yucca Mountain remaining available to DOE as an alternative to use of the Mina rail corridor. The analysis of impacts associated with such an expanded No Action alternative must be fully disclosed in Chapter 4 of the SEIS.

D. DOE Has Not Fully or Properly Analyzed Environmental Impacts

General Comments

Language is used throughout both the Rail Corridor DSEIS and Rail Alignment DEIS that leaves substantive issues surrounding the scope of the impacts open to dramatic and unbounded changes subsequent to these documents being finalized. This language includes phrases such as "as necessary", "when practicable", "generally", etc. DOE repeatedly analyzes the impacts based on a minimum expressed, but then DOE presents a caveat to this minimum with this type of language. One glaring example is DOE's analysis of the private parcels that would be impacted by transportation of nuclear waste. DOE states "While the nominal width of the rail line construction right-of-way would be 300 meters (1,000 feet), DOE would reduce the area of disturbance in some areas to minimize impacts to private land." This non-committal language is entirely uninformative and useless, and therefore the impacts should be analyzed based on the maximum amount of disturbance.

Furthermore, it is unclear who will decide what is necessary, reasonable, practicable, etc. In areas of private lands, will the State of Nevada, counties and cities have a say? In areas of public lands will the managing agency such as BLM determine what is reasonable, necessary or practicable? Or will DOE or their contractor have the authority to decide this for themselves?

DOE only analyzes the operations impacts for 50 years. Why is there no analysis of the subsequent abandonment/decommissioning of the railroad? What about ongoing impacts if the shared use option is implemented? Will that shared use be discontinued after 50 years?

Recommendation: The DOE must provide specific information concerning specific impacts that may be caused by specific plans, and must provide substantive answers to each of the questions posed in the above two paragraphs.

Part III. Lincoln County, Nevada Comments to Draft Environmental Impact Statement for a Rail Alignment for the Construction and Operation of a Railroad in Nevada to a Geologic Repository at Yucca Mountain, Nye County, Nevada (DOE/EIS-0369D) ("Rail Alignment DEIS")

A. DOE's Statement of Purpose and Need does not Adequately Describe the Decisions Requiring NEPA Compliance Under each of the NEPA Documents

Specific Comments

1. Page 1-1, Section 1.1 – The following sentence, found in the Repository EIS, must be included in the Rail Alignment EIS, "DOE has prepared this Draft Environmental Impact Statement for a Rail Alignment for the Construction and Operation of a Railroad in

Nevada to a Geologic Repository at Yucca Mountain, Nye County, Nevada (DOE/EIS-0369D) ("Rail Alignment DEIS") to assist the U.S. Nuclear Regulatory Commission (NRC) in adopting, to the maximum extent practicable, any environmental impact statement (EIS) prepared pursuant to Section 114(f) of the Nuclear Waste Policy Act, as amended (NWPA, 42 U.S.C. 10101 et seq.)

2. Page 1-10, Section 1.5.1.1 – Reference to and reliance upon the BLM's Draft EIS Resource Management Plan is inappropriate as the plan is not yet in effect. Rather, the Caliente Rail Alignment alternatives must be analyzed against the existing BLM land use plan guidance found in the Caliente MFP and related amendments.

Recommendation: The EIS should indicate that the BLM's Caliente MFP and related amendments are the guiding land use plan for portions of the Caliente Rail Alignment.

3. Page 1-12, Section 1.5.1.2 – The DEIS does not provide sufficient information on the process and timing for Surface Transportation Board (STB) licensing of the selected rail alignment and whether said process fits into DOE's timeline for rail line.

Recommendation: The EIS should provide a detailed description of the process and timing of the STB licensing of the rail alignment.

5. Page 1-14, Section 1.6 – The last bullet in this section indicates that DOE intends to use the Rail Alignment EIS to, among other aspects of the Proposed Action, "determine what mitigation measures to implement." However, for the EIS to fulfill this purpose, it must (1) identify and describe reasonable measures to mitigate impacts (consistent with the Fives means of mitigation identified by CEQ's regulations, 40 C.F.R. §1508.20; (2) evaluate the environmental impacts of implementing alternative measures identified to mitigate rail construction and operational impacts; and (3) evaluate the expected benefit that implementation of alternative mitigation measures will have with regard to avoiding, minimizing, rectifying, reducing or compensating impacts. Only after these analyses have been completed and offered for public review as a component of a NEPA document, can DOE be in a position to "determine what mitigation measures to implement" in a manner consistent with NEPA. These specific requirements are not met with the very limited description of mitigation provided in Chapter 4, Chapter 7 or elsewhere in the DEIS.

Recommendation: The EIS must 1) identify and describe reasonable measures to mitigate impacts (consistent with the Fives means of mitigation identified by CEQ regulations; 2) evaluate the environmental impacts of implementing alternative measures identified to mitigate rail construction and operational impacts; and 3) evaluate the expected benefit that implementation of alternative mitigation measures will have with regard to avoiding, minimizing, rectifying, reducing or compensating impacts.

6. Page 1-18, Table 1-1 – DOE's arbitrary approach to eliminating alternatives from detailed study is illuminated in the description here of the decision to eliminate from detailed analysis alternative segments that would avoid Garden Valley due to "feasibility and cost" issues. The Mina route certainly has "feasibility" issues (due to Tribal opposition) but was not eliminated from detailed analysis. This is inconsistent approach to selecting alternatives for detailed analysis must be rectified. Either the Mina route should be eliminated from detailed consideration or the Garden Valley route should be similarly analyzed.

Recommendation: The EIS must explicitly state and consistently apply the criteria used for selecting for detailed evaluation alternatives rail routes (i.e. Mina, Caliente-Chalk Mountain) and alternative segments within alignments.

7. Pages 1-19 through 1-22. DOE discusses (Page 1-19) how DOE and BLM solicited comments from grazing permittees, and cites RCT's 2005 report under DIRS (173845). It indicates that grazing permittees included "...suggested measures DOE could consider to mitigate potential impacts." The DOE response summary indicates that the Caliente Corridor was chosen "...in part to minimize private land-use conflicts", that the EIS analyzes impacts to ranching, and that detailed maps have been provided showing grazing allotments.

DOE further states (on Page 1-22) that "more than 200 commenters indicated that the Rail Alignment EIS should address how ranchers and miners would be compensated for loss of grazing...rights, either financially or through granting of new grazing rights in other areas." The DOE response summary states that "DOE developed a series of mitigation measures to avoid, minimize, rectify, reduce, or compensate for potential impacts associated with construction and operation of the proposed railroad. DOE and BLM solicited comments on potential mitigation measures from grazing permittees along the rail alignment and considered these comments when developing mitigation measures. Chapter 7 describes potential mitigation measures."

However, Table 1-1 appears to omit key comments to the scope of the EIS provided to DOE. For example, Lincoln County is aware that the by letter dated May 4, 2007 the Humboldt River Basin Water Authority (HRBWA) recommend that in response to the April 15, 2007 action by the Walker River Tribal Council to formally oppose transportation of nuclear waste across its Reservation that DOE note in the DEIS "that the Mina rail corridor was no longer being carried forward for detailed analysis in the rail alignment EIS; and that DOE intends to address the Mina rail corridor in the forthcoming rail alignment EIS as an alternative considered but eliminated from detailed analysis". This critical and timely comment to the scope of the Rail Alignment EIS submitted by HRBWA is not summarized or responded to by DOE in Table 1-1.

Moreover, DOE's response summary does not say anything with regard to recommended mitigation actions identified by the 2005 RCI report, nor does it reference Chapter 7, which discusses mitigation. Were the mitigation measures discussed in the RCI 2005 report (DIRS 173845) included as part of the comments on potential mitigation

measures? If so, what are the reasons for not including them within Chapter 7? Nothing within this Chapter indicates that the DOE considered the concerns of grazing permittees. The specific purpose of the 2005 RCI study, conducted under contract with the BLM, was to present these concerns and identify a baseline set of appropriate mitigations. This document was provided to DOE and cited within this DEIS, yet none of the mitigation measures it suggested have been incorporated.

Conflicts with public land-use are not but must be fully addressed and minimized. There are very few mitigation actions listed under land-use conflicts as a result of construction, and none with regard to operations. Some public land uses such as grazing are associated with private property. Grazing stockwater rights held on public lands are considered private property rights under Nevada Water Law. Water base property is considered to be private property under the Taylor Grazing Act. Was any consideration given to minimizing or mitigating the impacts to these private property rights? There is no section within Table 7-2. Potential Measures to Mitigate... for land-use. This is a blatant omission.

In order to identify and convey appropriate mitigation measures, the DOE must provide more than corridor mapping with the allotments included. Permittees must know if the DOE intends to fence the right-of-way, the typical cross-section of the right-of-way, and the operational details of the rail including the anticipated number of trains, train speeds, and maintenance practices. They should be informed of design and construction details such as cut and fill heights, an anticipated construction schedule within their allotment, the locations of wells, haul roads, construction camps, etc. Without such information, grazing permittees cannot have provided DOE and BLM with fully informed or useful comments in response to those agencies' solicitations. But it appears that none of this information was provided while the DOE and BLM were soliciting comments. On behalf of Lincoln County, RCI contacted DOE prior to the release of the DEIS in an attempt to garner some of this information prior to discussing needed mitigation measures with permittees in Lincoln County. DOE did not provide this information at that time.

Recommendations:

(A) Full Disclosure. DOE must:

1. address each of the issues and questions raised above.
2. disclose whether this map atlas was available to permittees at the time BLM and DOE solicited comments from permittees.
3. disclose what changes, if any, resulted from meetings with permittees and since development of this atlas.
4. include an appendix which describes in detail the solicitation of and nature of comments received by BLM and DOE from grazing permittees.

(B) Mitigation Measures: The following mitigation measures must be included in Chapter 7 of the FEIS:

1. Maintenance of existing fencing. The Caliente Rail Corridor will cross existing pasture and allotment fences. Sections of the fence will need to be removed to allow for construction activities. Once there is a hole in the fence it is ineffective. Therefore, the integrity of the pasture or allotment is lost, livestock will trespass onto other allotments or be lost. Without some form of mitigation this would render many allotments useless until construction is complete (4-10 years).

2. Right-of-way fencing. As discussed above, once a fence has a hole it becomes ineffective. The operational right-of-way will result in a permanent hole in every allotment or pasture fence that it crosses unless some form of mitigation is completed. Typically railroads will fence the right-of-way and the into allotment or pasture fences to ensure no holes are left. If the right-of-way was fenced it would have to be done in such a manner as to allow wildlife crossing while preventing a breach from livestock.

3. In-road cattle guards, and gates at exiting fence crossings. Access road(s) associated with the rail would provide another means by which livestock could cross through existing fences. If the right-of-way is not fenced, or if the access roads are outside of such a fence, then the only way to prevent a breach is to install a cattle guard or gates. Cattle guards are preferred as they require less maintenance, and minimize the chance of passers-by leaving gates open. It is standard practice to install a gate next to each cattle guard in order to allow passage of livestock when needed or for access by large or tracked equipment in order to prevent damage to the cattle guard.

4. Relocation of Existing Infrastructure. Corals, chutes and other infrastructure that would be directly within the construction or operations corridor would have to be relocated, or else they would be completely lost.

5. Livestock and wildlife crossings or underpasses. The rail and associated access road(s) will severely impact movement of livestock, wildlife and wild horses. The likelihood of collision increases with the height of the cuts and fills, and the number of obstacles such as roads, fences, and sidings. Train speed is also a major factor associated with collisions. If the right-of-way is fenced it will be imperative to construct the fence to wildlife specifications. Crossings, most likely underpasses, will need to be constructed to maintain free, safe movement of livestock, wildlife, and wild horses. Without adequate crossings livestock could lose access to portions of the impacted allotments. This would have a significant impact on the allotment grazing system and could well result in the loss of AUMs. The specifications for the underpasses will need to be coordinated with allotment permittees and appropriate agency personnel. If the right-of-way is not fenced, at-grade crossings consisting of earthen ramps would be required in areas of cut and fill. If these mitigation actions are not taken there will be significant detrimental effects to livestock operators, wildlife and wild horses along the entire corridor.

6. Water rights and water base property. Water rights held by grazing permittees are considered to be private property rights under State of Nevada Water Law. Those allotments that are water based have an added layer of private property ownership under

the Taylor Grazing Act. As such, potential impacts must be mitigated. Direct impacts may result from construction or operation of the rail; however, significant indirect impacts could occur as a result of pumping by DOE for construction water. DOE should be responsible for contracting an impartial third-party representative to monitor all existing privately held water rights or water base properties. Monitoring should be conducted prior to construction, and continue until groundwater pumping is complete.

7. Relocation of all water sources, stockwaters and wildlife guzzlers within a mile of the construction right-of-way. Livestock, wildlife and wild horses tend to congregate around water sources given the dry, hot nature of the environment. Any water sources, including stockwaters and guzzlers within a mile of the rail will result in a higher probability of train collisions with livestock, wildlife and wild horses. Appropriate rail crossings will also be needed near water sources. DOE should coordinate with grazing permittees and appropriate agency personnel to discuss the relocation of any water sources within a mile of the proposed rail, and the need for rail crossings in these areas. Without mitigation there will be significant impacts to livestock, wildlife and wild horses due to a loss of, or danger associated with water accessibility.

8. Protect existing waterlines. The proposed Caliente Rail Corridor will cross a multitude of existing waterlines used for grazing operations. Many of these lines are used to convey water to which the permittee holds water rights or that serve as base property for the allotment. As such, the water is considered private property. These lines will need to be maintained during construction and operations of the rail. Permittees must be allowed to perform routine maintenance on these pipelines over the life of the rail. If these pipelines were severed, there would be a significant impact to grazing operations.

9. Reimbursement for lost livestock. Regardless of whether the rail is fenced, livestock will be lost due to train collisions. Fencing with proper maintenance, appropriate crossing structures, and relocation of water sources that are within a mile of the track would be the most effective means of minimizing this loss. Reduced train speeds would also help to reduce livestock collisions. In addition, Nevada is an open-range state and any loss of livestock due to train operations must be reimbursed.

10. Reimbursement for lost or deferred AUMs and capital costs. There is a high probability that grazing on some allotments will be infeasible during construction of the rail. If grazing is allowed, construction activities likely will have a significant impact on operations due to disturbance, limited access, and restricted or altered livestock movement and utilization patterns. Construction will result in a temporary loss of forage, which may result in a long-term loss of forage if not properly restored. The operational footprint will result in a long-term loss of forage, primarily in key grazing areas of gentle terrain and key forage species. Permittees will incur increased operational and capital costs to reshape their grazing operations around a new obstruction. Interim Grazing Management Plans will need to be developed for impacted allotments during construction, and new or revised Allotment Management Plans will be necessary once rail operations begin to enable the permittee to cope and keep operating with the modified

and restricted circumstances. Without some form of mitigation for impacts, many grazing operations will be simply infeasible.

11. Maintenance of fence and waterline maintenance trail crossings. Many allotments possess waterlines and fence lines with associated maintenance trails. These trails are critical to allotment operations. The CRC would cross many of these trails, and have a profound impact on operations unless they are properly mitigated and crossings are provided.

Within Chapter 7 there is nothing that discusses the process by which mitigation measures will be determined, and carried through. This information is critical to disclose. How will mitigation actions be determined and carried out? What is the role of cooperating agencies, affected entities and their representatives in this process?

Recommendation: Chapter 7 of the EIS must describe in detail the process by which mitigation measures will be selected by DOE for inclusion in the ROD and Mitigation Action Plan and will be subsequently implemented. The role of cooperating agencies and impacted parties in this process must be described. All of the foregoing factors must be addressed and mitigated.

B. DOE Has Not Provided a Complete Description of the Proposed Action, Nor Fully Assessed Less Harmful Alternatives and Mitigation Measures

General Comment

The range of alternatives analyzed by DOE in the DEIS is not sufficient to adequately provide options which serve to avoid or significantly minimize impacts (taking) of private property.

Recommendation: As a means to avoid or minimize impacts to private property in Meadow Valley the following Modified Eccles-Antelope Valley alignment alternative should be analyzed in detail in the EIS:

Segment 1: Connect to Eccles alignment southeast of Meadow Valley at approximate elevation of 4,900 feet, continue west to Indian Cove and cross over Highway 93 with a bridge at approximate elevation 4,700 feet, continue roughly west to elevation 4,841 feet, start tunnel at this elevation going west to elevation 4976 feet, grade 1.5 percent to Antelope Valley to elevation 5,095 feet.

Segment 2: Antelope Valley to Dry Lake Valley has four different route options that could be explored. Two routes connecting to the DOE route that presently goes over Bennett Springs Pass, and two routes that go into Dry Lake Valley. One of these would require a tunnel.

General Comment

The description of the Proposed Action is inadequate with regard to the manner in which DOE plans to secure access to the extensive number of private parcels the Caliente rail alignment must cross. It is entirely unclear whether DOE intends to acquire easements or right-of-way for the temporary construction and permanent rail alignment disturbance area only or whether DOE will acquire each entire parcel across which the alignment crosses. In addition, it is not clear whether DOE will only acquire access from willing sellers or whether DOE will pursue condemnation as an alternative to secure needed access to private parcels. The manner in which DOE intends to secure access to private property is critical to the evaluation of impacts to private property as well as the feasibility of the alignment itself. If DOE intends to only acquire access from willing owners, the FEIS must recognize that one refusal could render an alternative infeasible. Alternatively, if DOE intends, as needed, to secure access through condemnation, the FEIS must disclose this as condemnation proceedings could represent a financial hardship on private property owners faced with the prospect of a prolonged court battle with DOE over access rights. The DEIS is utterly silent on these important aspects of the Proposed Action and related disclosure of impacts (and related mitigation).

Specific Comments

1. Page 2-1, Section 2.1 – The description of the Proposed Action here is inappropriately narrow and the resultant analysis of impacts of the Proposed Action in chapters 4 and 5 and the identification and evaluation of mitigation in Chapter 7 of the DEIS is insufficient.

Recommendation: The description of the Proposed Action in the EIS should be expanded from that contained in the second paragraph of Page 2-1 to include the following: "Under the Proposed Action ... DOE would determine a rail alignment within the Caliente rail corridor, decide where to construct certain proposed railroad operations support facilities; decide whether to restrict use of the rail line to DOE trains, or whether to allow common carriers to operate over the line; determine what mitigation measures to implement and would construct, operate, and potentially abandon a railroad for the shipment of ...". The analysis of potential direct, indirect and cumulative impacts in chapters 4 and 5 and identification and evaluation of reasonable mitigation measures in Chapter 7 of the EIS should address the full extent of decisions to be made by DOE as defined by said expanded Proposed Action.

2. Page 2-2 - DOE appears to prefer implementation of the Shared-Use Option, however, there is no explanation given as to what benefits shared-use affords DOE.

Recommendation: The EIS should disclose those factors which DOE believes warrants selection and implementation of the Shared-Use Option (for example as a way to offset operating and maintenance costs of the Railroad).

3. Page 2-2 - DOE's preference of the Shared-Use Option would need to resolve the following issues: (1) what is the maximum speed for commercial trains; (2) need for set-out track for bad order cars; (3) number of commercial siding and location of these sidings; (4) determine the need for remote controlled power operated switches at sidings?

Recommendations: The EIS should provide additional detail on the following:

- 1) Commercial trains need to be able to go the designed speed of sixty miles per hour.
- 2) There should be a set-out track each passing siding for bad order cars.
- 3) The number of commercial customers have to determine the number of commercial siding(s) and locations of said sidings.
- 4) Each end of each passing siding needs to have remote controlled power operated switches, this will expedite train movement.

4. Page 2-2 - DOE's nuclear spent fuel waste train would be delayed if a commercial train was in a passing siding with an attached commercial siding. According to the DEIS the next passing siding would be 25 miles away, causing significant delay for the waste train.

Recommendations: To reduce time in transit for nuclear waste shipments, the EIS should consider an alternative of placing passing sidings every ten miles.

5. Page 2-3, Section 2.2 - Property over which access would be obtained for operation of the proposed railroad. In most cases, the width of the operations right-of-way would be less than that of the construction right-of-way (nominally 61 meters [200 feet] on either side of the rail line centerline, for a total width of 122 meters [400 feet]). The width could vary at specific locations to accommodate, for example, access and maintenance roads and drainage structures. The operations right-of-way would also include the locations of operations support facilities (such as the Staging Yard). There is no mention of minimizing this right-of-way in areas of private parcels. Therefore, it must be assumed that this is the operations right-of-way in all areas, including areas with private property.

Recommendations: The EIS should clarify whether or not DOE will minimize its ROW in areas of private parcels. A map showing ROW widths across or in the immediate vicinity of all private parcels should be provided in the EIS.

6. Page 2-5, Section 2.2 - DOE states that the construction right-of-way would vary in order to avoid areas such as "sensitive environmental features. Lands formerly inside the construction right-of-way but not included in the operations right-of-way would be reclaimed (restored to natural conditions), as appropriate." However, the entire length of the Corridor is a "sensitive" area given the fragile nature of the environment and limited and unpredictable moisture. Why would impacts only be minimized in specific areas such as on private parcels or sensitive environmental features? DOE should look to minimize impacts to all land.

Recommendations:

- 1) The EIS should describe who would be the responsible party for defining the final ROW width to be employed for crossing both private and public lands.
- 2) The EIS should fully analyze an alternative wherein all areas of ROW are minimized (not just in specific areas such as on private parcels or sensitive environmental features) as a means to substantially avoid or minimize environmental impacts.
- 3) The EIS should define what dictates the success of restoring to natural conditions.
- 4) BMPs should be expanded to include the following:
 - a. The amount of disturbance should be minimized across the entire project area, and limits should be thoroughly marked with construction fencing.
 - b. Restoration objectives that set measures for success should be established prior to any construction activities.
 - c. Revegetation should include the use of adapted plant species, since native plant species are often extremely difficult to establish, and may require more than 2-3 years to establish, if it is possible to do so at all.
 - d. Temporary irrigation may be required to ensure germination and seedling establishment.
- 3) The EIS should identify water requirements associated with temporary irrigation required to achieve seed germination and seedling establishment.

7. Page 2-5, Section 2.2 - DOE uses 2005 construction figures in the DEIS. These figures are seriously outdated.

Recommendations: The EIS should provide inflation factors needed to estimate the construction costs in 2011 or 2012 dollars.

8. Page 2-6, Figure 2-3 - Shows the typical construction and operations right-of-way. New access roads to wells and quarry sites outside of the construction ROW add significantly to disturbance. The construction ROW is noted to vary to avoid sensitive features. The construction ROW should be held to an absolute minimum for the entire length of the Corridor given the fragile nature of the area. The operations right-of-way is said to be "minimized to the extent possible"; however, there are access roads on both sides of the rail, and as shown in Figure 2-37 on page 2-73, the roads are each on their own elevated roadbed separate from the raised rail bed. This adds significant cost and operational width along the entire Corridor due to increased excavation, fill, water conditioning and compaction. Unless there is strong justification for going beyond standard railway design, new access roads and well pads should be held to a minimum and the limits clearly defined to prevent increased disturbance. All areas should be fully reclaimed.

Recommendations:

- 1) The EIS should disclose whether temporary roads would be reclaimed.

2) As a means to minimize impacts, a single access road built along the rail and on the same raised bed as the rail tracks should be analyzed and utilized.

9. Pages 2-7 and 2-8, Section 2.2 - Discusses how DOE has refined the design of the railroad to avoid sensitive areas and reduce potential impacts, for example by "...limiting the project's footprint." The project's footprint has not been limited to the extent practical. There is no need for access roads on either side of the rail, and absolutely no apparent need to place access roads on their own raised roadbed rather than on a common raised bed with the rail. The revised alignment has not minimized impacts to ranchers, and in some cases the chosen alignment has resulted in more impacts.

Recommendation: There should only be one access road, and it should share a common raised bed with the rail.

10. Page 2-7, Section 2.2, 2nd paragraph - The text here states "DOE has developed potential mitigation measures as a step toward reducing the environmental impacts of the project". Reducing environmental impacts is one of only five methods of mitigation recognized by CEQ. Has DOE not proposed any mitigation to avoid, minimize, rectify or compensate for impacts? The DEIS description of the Proposed Action provides no commitment by DOE to provide Payments Equal to Taxes (PETT) as required by the NWPA, as amended.

Recommendations:

1) Chapter 2 and Chapter 7 of the EIS must include a broad range of mitigation measures including those other than reducing impacts. The description of the Proposed Action in the EIS must also describe DOE plans to compensate for the direct or indirect loss of use of private property.

2) The EIS must include as a component of the Proposed Action a commitment by DOE to provide PETT to the State of Nevada and appropriate local governments.

11. Page 2-8, Section 2.2 - Lists a series of "practicable" design and engineering steps taken to limit impacts.

Bullet 3 - Discusses limiting the area of disturbance yet the Proposed Action Caliente Rail line does not appear to do so.

Recommendations:

1) The footprint described in the EIS should be minimized across the entire project area and Corridor length, not just in "sensitive" areas.

2) The definition/delineation of "Sensitive" areas in the EIS should include vegetation such as white sage, riparian areas, wetlands and any water sources (particularly those within one mile on either side of the rail) including natural springs, manmade stockwaters and manmade wildlife guzzlers.

Bullet 4 - Discusses reducing the potential for erosion. The potential for erosion is increased by having two access roads, and six road bed slopes rather than the two that would be required if the access roads were shared with the rail bed.

Recommendation: The EIS should analyze the use of a single access road along the rail line.

Bullet 11 - Discusses locating surface waters and in final design minimizing impacts or mitigating impacts. This must include all stockwaters, and wildlife guzzlers.

Recommendations:

1) All affected waters within a mile of the construction corridor should be moved as deemed necessary by the impacted grazing Permittee and/or management agency.

2) Relocation should be coordinated with the owner and/or pertinent agency.

3) The DOE should be responsible for costs of compliance with all established State water law and regulations and fees required to relocate points of diversion and/or place of use for impacted waters sources.

12. Page 2-8, Section 2.2 - The DEIS states, "DOE wants to minimize potential impacts to wetlands". Due the existence of wetlands in and near the site, the proposed staging yard located at Indian Cove does not accomplish this.

Recommendation: The EIS should consider alternatives for staging yards which truly avoid or minimize impacts to wetlands and private property including possible sites in Dry Lake Valley.

It should be noted that, contrary to the DOE's belief that the proposed Indian Cove staging area is located within the City of Caliente, as evidenced in the improper location of the City of Caliente boundary shown in Figure 2-45 on Page 2-95, the Indian Cove staging area actually lies within the jurisdictional limits of unincorporated Lincoln County and not within the City of Caliente. (Oral Communication with Greg Barlow, Lincoln County District Attorney, November 30, 2007.)

13. Page 2-10, Section 2.2.1, Table 2-3 - Alignment access roads—are these located entirely within the construction and operation right-of-ways?

Recommendation: The EIS should clarify whether all access roads (both to access areas of construction and to access the operating rail line) are within the construction and operation right-of-ways.

14. Page 2-10, Section 2.2.1, Table 2-3 - Construction camps—who will determine final placement? Will local jurisdictions have input?

Recommendation: The EIS should describe the role of various parties in final selection of locations for construction camps and should include a role for local government.

15. Page 2-11, Table 2-4 - DOE's estimates a very small number of cask cars will comprise the train. A total of 9,500 cask cars must be delivered to Yucca Mountain. The fewer the number of cask cars per train, the more train shipments will be needed, which in turn will require more train crews, increased maintenance and inspection, increased fuel, and greater costs.

Recommendation: The EIS should consider the use of longer nuclear waste trains to minimize costs and related rail traffic.

16. Page 2-16, Figure 2-5 – Shows a map depicting facilities and construction camps.

The Eccles interchange yard is within the Clover Creek drainage, in an area where previous flooding has resulted in significant damage to the UP mainline. The amount of fill required in the floodplain may result in increased impacts to Caliente downstream. It is not prudent or advisable to construct rails within flood prone areas, particularly given the nature of the cargo.

The Indian Cove option -- which in fact is located in Lincoln County and not Caliente -- would result in additional fill of wetlands, and impaired views along US 93. Locating a staging facility in a tight canyon area and floodplain coupled with the adjacent location to US 93 could pose security concerns, a concern that may be compounded due to the close proximity of the City of Caliente.

Both the Eccles or Indian Cove staging yard alternatives would have impacts on the Peck Grazing Allotment primarily due to loss of forage, access and added disturbance. The first construction camp would be located near the Peck and Panaca Cattle Allotments and would result in increased disturbance and potential for vandalism or harassment of livestock. The second construction camp would be located on the boundary of the Rattlesnake Allotment and the Thorley Use Area with the primary access road through the Oak Springs Allotment. All three Allotments would experience increased disturbance, loss of forage and potential for vandalism and harassment of livestock. In addition, access may be restricted due to increased traffic. The Rattlesnake Road is a key access way for these Allotments and the livestock operations contained within them.

Recommendation: The EIS should include a commitment by DOE and a description of how DOE would coordinate with the permittees ahead of any construction activities to determine how to minimize or mitigate these impacts.

17. Page 2-17, Figure 2-6 – Shows a map depicting a construction camp in White River Valley. The construction camp could have profound effects on the Sunnyside Allotment. Increased disturbance, restricted access and potential for vandalism and harassment of livestock are concerns. No access road is currently depicted. Depending on the road that is chosen, it could have significant impact on cattle distribution and use patterns. Access could segregate the critical forage areas within the Allotment from the water resources. DOE should coordinate with the Permittee ahead of any construction activities in order to discuss how to minimize or mitigate these impacts.

Recommendation: The EIS should include a commitment by DOE and a description of how DOE would coordinate with the permittees ahead of any construction activities to determine how to minimize or mitigate these impacts.

18. Page 2-19, Figure 2-7 – Shows a map depicting construction camp in Garden Valley. The construction camp could have profound effects on the Cottonwood, Pine Creek and Bateman Wash Allotments. Increased disturbance, restricted access and potential for vandalism and harassment of livestock are concerns. The Cherry Creek Road is a critical access way for livestock operation in the area. The Uhade family operates a six-allotment complex headquartered out of the Bateman Wash Allotment. Increased traffic or restricted access in this area would have a profound effect on their operations. DOE should coordinate with the Permittees ahead of any construction activities in order to discuss how to minimize or mitigate impacts.

Recommendations:

1) The EIS should analyze an alternate location for the construction camp in Garden Valley.

2) The EIS should include a commitment by DOE and a description of how DOE would coordinate with the permittees ahead of any construction activities to determine how to minimize or mitigate these impacts.

19. Page 2-27, Section 2.2 - Restrictions due to weight for operating cask cars on the railroad need to be included in the EIS.

Recommendation: DOE should adopt the Restrictions used by the Union Pacific Railroad for the cask car weight. These restrictions for Allowable Gross Weight System Map Restrictions due to weight are: Cask cars must be separated from locomotive and from each shipment by one empty car, maximum speed 40 miles per hour. Depending on the route there may be speed restrictions for various bridges.

20. Page 2-39, Section 2.2.2 - Discussion of construction timing and timeline. The longer construction continues, the more impacts the resources and land users will experience. The construction schedule results in disturbance along the entire length of the Corridor from the start of construction. Any disturbed areas that are not revegetated promptly will result in the establishment of invasive and noxious weeds. Management of these weeds would result in a significant project cost increase.

Recommendation: The EIS must consider the extent to which a prolonged construction schedule may serve to exacerbate impacts to the environment.

21. Page 2-39, Section 2.2.2 - It is stated that the drilling of wells will take less than a year. However, the time needed to obtain water permits for these wells isn't included on the schedule and will result in a longer construction schedule.

Recommendation: The EIS should provide a realistic estimate of the time required to secure necessary water permits from the State of Nevada, including the resolution of likely legal challenges to actions by the Nevada State Engineer regarding granting of said permits.

22. Page 2-39, Section 2.2.2 - Extensive geotechnical exploration will take place along the Corridor, yet this activity is not listed on the schedule. Neither does the DEIS describe how drill rigs will access remote areas or whether rail access roads will need to be built for exploration purposes. Geotechnical exploration will result in the disturbance of vegetation, soils, and livestock operations.

Recommendation: The EIS needs to include the following steps to be taken to minimize these impacts:

- Minimization of disturbed areas
- Reclamation of disturbed areas
- Use of existing roads and avoid pioneering new roads
- Steam-clean all equipment to reduce the chances of spreading noxious weed.
- Proper disposal of any waste materials.
- Coordination with all grazing Permittees prior to the start of work.

23. Page 2-42, Figure 2-21 - Well location 4 would be near the boundary of the Rattlesnake Allotment and Thorley Use Area. The Rattlesnake Allotment is a water base allotment, and the Thorley Use Area is eligible for reinstatement for a partial water base under the Ely Rule.

Well locations 5, 6 and 7 are within the Timber Mountain Allotment. These well locations would be in the vicinity of several wells and springs used for stockwater. The Permittee has indicated a desire for a new well within the Allotment for mitigation.

Rather than abandoning the wells, there may be an opportunity to use the well for stockwater and provide mitigation for the loss of forage with the allotments. All grazing allotment Permittees should be consulted prior to drilling in order to minimize or mitigate impacts due to disturbance and water withdrawal.

Well locations 8 and 9 are located in the McCutcheon Springs and Sand Springs Allotments respectively. The Permittee in the McCutcheon Springs Allotment has indicated a desire for a new stockwater to the south of the track to mitigate for disturbance to cattle movement to and from the primary Allotment water source to the north. The Sand Springs Allotment is a water base allotment with an intricate series of pipes and stockwaters.

Recommendations:

- 1) The EIS should discuss and evaluate the alternative of using the wells for stockwater rather than abandoning them, and provide mitigation for the loss of forage with the allotments.
- 2) All grazing allotment Permittees should be consulted prior to drilling in order to minimize or mitigate impacts due to disturbance and water withdrawal.

24. Page 2-44, Section 2.2.2.2 - Discusses construction camps including dimensions, and layout. Each camp will be fenced with employed guards, have a wastewater treatment facility, and require a new well. New access roads may be installed and existing roads will be improved with gravel surfacing. All workers would receive "cultural and biological sensitivity and protection training" to minimize potential harm to cultural and biological sites.

The DOE must disclose whether guards will enforce behavior outside of camps to help alleviate concerns of vandalizing and harassment of livestock or wildlife; whether workers will be confined to camps during down time; and if not, it must assess the potential impacts on the roads and the community of workers' activities during leisure time.

Recommendations:

- 1) The EIS should include a commitment to increase police or security in remote areas to prevent vandalizing of infrastructure or harassment of livestock.
- 2) "Sensitivity and protection training" should include discussions regarding wildlife, and livestock harassment and issues associated with ranching operations, spread of noxious weeds, and difficulty establishing native vegetation in disturbed areas. Rules should be established to safeguard current residences, property and animals. Any violations of these rules should result in stiff penalties.

25. Page 2-47, Section 2.2.2.2 - Discusses abandonment and reclamation of construction camps. What does "...reclaiming the land by returning it to as natural a state as practicable" entail? A revegetation plan, including parameters for successful

reclamation, must be established ahead of any work. Revegetation should not be limited to native plants alone. Seeding should include adapted species. Due to the unpredictable precipitation in the area and desert environment, temporary irrigation of reclaimed areas should not be deemed "impacticable". In fact, temporary revegetation may well be the only means of establishing a permanent plant community on fully disturbed sites.

Recommendation: The description of BMDs and/or mitigation should be expanded to include the above-mentioned measures.

26(a). Page 2-47, Section 2.2.2.3 - Discusses the layout of access roads on either side of the rail and providing increased access. Roads would serve a dual purpose as fire breaks and provide emergency response. There is no need for an access road on both sides of the alignment, especially if the elevated roadbeds are separate from the raised rail bed as shown in Figure 2-37, page 2-73. This results in more disturbed area, increases the potential for invasive species, increases the potential for erosion, and makes it more difficult for livestock and wildlife to cross. This arrangement will also result in the need for more cattle guards where the rail crosses existing fences, culverts where the rail crosses existing streams and drainages, and more issues associated with current water and utility crossings. Overall, the costs will be dramatically increased.

Recommendation: The EIS should include analysis of the access road being built only along one side of the rail line as an alternative means to minimize impacts.

26(b). Will the DOE provide crossings for all county roads, and existing trails identified by alignment Permittees as critical to operations, or will the individual need to travel to the next crossing? Will livestock crossings or underpasses be installed in areas of excess cut and fill? Access to allotments and free movement of livestock is of the utmost importance to grazing operations and general land management.

Recommendation: The EIS must include a commitment by DOE to coordinate with land users and management agencies during the design stage to ensure proper access and livestock or wildlife movement issues are addressed.

26(c). DOE discusses how BLM would monitor recreational use of these access roads. BLM can't monitor the current road system given their present workload, staff limitations and budget. Increased OHV use could result in considerable negative impacts across the landscape and to livestock operators.

Recommendation: The EIS should include a commitment by DOE to fund additional rangers to monitor improper OHV use in the rail project area.

26(d). DOE states that roads would not be maintained after construction is complete. Roads may become a fire and/or safety hazard if not maintained as a result of

establishment of flammable vegetation, or washouts. Invasive species must be aggressively managed and noxious weeds controlled. The lack of maintenance may result in insufficient access by fire equipment.

Recommendation: The EIS should include a commitment by DOE to maintain any road if it is to be used as a primary means of access, especially if all existing trails and roads are not equipped with crossings.

26(e). Will the access roads be viewed as a security liability? Any travel restriction on these access roads could result in significant negative impacts to land management agencies and land users. The Union Pacific alignment in Lincoln County has recently been locked off due to Homeland Security concerns. Will this rail follow suit given the nature of the freight?

Recommendation: The EIS must disclose the potential/likelihood that public use of access roads will be restricted due to Homeland Security issues.

27. Page 2-47, Section 2.2.2.3 - Access roads without bridges would limit emergency response in case of derailments in inclement weather. This would cause considerable delay to re-rail operations and restoration of the roadbed.

Recommendation: DOE should consider access road bridges to facilitate off-track maintenance of track and roadbed, with distance between proposed passing sidings. This would result in less train delay.

28(a). Pages 2-48 to 2-49, Section 2.2.2.4.1 - DOE assumed that it would obtain all required water from groundwater from new supply wells both within and outside of the construction right-of-way. The DOE would apply to the State of Nevada for construction water, and may approach other owners or municipalities to obtain additional water.

Applying for this many (150-176) new wells will likely result in significant delays to the start of the project. Will water be applied for to carry out temporary irrigation for seeding and revegetation efforts?

Recommendation: The EIS should include an analysis of the use of existing sources of water as an alternative to applying for new water rights.

28(b). Only wells outside of the construction right-of-way have been identified.

Recommendations:

1) Well locations within the right-of-way should be identified in the EIS in order to determine their impacts on the environment and current users.

2) Rather than "closing" or abandoning wells, allow Permittees to use the wells as a means to help offset the disturbance to their grazing systems and livestock operations.

28(c). DOE states that all water from wells will be piped to lined reservoirs in the construction corridor. Some wells will be maintained for operations, while others will be "closed" in accordance with Nevada State Law. New well pads, access roads, and reservoirs will increase disturbance of native vegetation as will water exploration activities. Disturbances must be kept to a minimum, as the primary BMP and means of mitigation through either avoidance or minimization. Why can't standpipes replace reservoirs in an effort to minimize the disturbance area? The use of above-ground storage tanks with standpipes would reduce the level of disturbance and conserve water by minimizing leakage and evaporation.

Recommendation: The EIS should analyze the use of above-ground water storage tanks with standpipes to reduce the level of disturbance and conserve water by minimizing leakage and evaporation.

28(d). DOE states that reservoirs and well pads would be "reclaimed accordingly". "Reclaimed accordingly" is very ambiguous. Site-specific reclamation plans must be developed for each unique habitat along the length of the Corridor before construction begins. These plans should include a monitoring protocol and targets to identify successful reclamation. Reclamation plans should be publicly reviewed and commented upon, or included as part of the EIS.

Recommendation: The EIS should include a commitment by DOE to prepare site specific reclamation plans to include a monitoring protocol and targets to identify successful reclamation.

29. Page 2-52, Section 2.2.2.4.2 - Under the Caliente Implementing Alternative, the Department would obtain ballast from two potential sources: existing commercial quarries or new quarries developed along the proposed rail alignment. Ultimately, the option utilized would depend on the alternative segments selected. If DOE selected the Caliente alternative segment, the Department anticipates it would obtain ballast needed for the entire rail line from new quarries developed along the rail alignment. However, if DOE selected the Eccles alternative segment, there would not be a suitable quarry location available along this portion of the rail alignment and the Department would obtain ballast from an existing commercial quarry. DOE should limit the impacts and disturbance under the Caliente alternative segment by utilizing existing commercial quarries.

Recommendation: The EIS should analyze the alternative wherein the impacts and disturbance under the Caliente alternative segment are minimized by utilizing existing commercial quarries.

30. Pages 2-52 to 2-54, and 2-64, Section 2.2.2.4.2 and Figure 2-24 - Discusses ballast quarries and shows the ballast quarry site north of Caliente. This quarry would impact approximately 400 acres as shown in Table 2-16, and requires 5.4 kilometers of new road. Does that calculation include disturbances associated with the required rail sidings, and conveyor belts? Disturbances must be kept to a minimum. A site-specific reclamation plan for the pit and access road should be developed, reviewed, and approved by the State of Nevada, prior to the start of construction. The quarry itself and associated plant are located in an area that experience flash flooding. Excess sediment generated from the operation could affect US 93 and downstream wetlands unless appropriate measures are taken to assure protection from flash flood.

Recommendations:

1) The EIS should include a commitment by DOE to develop a site-specific reclamation plan for the pit and access road, to be reviewed and approved by the State of Nevada prior to the start of construction.

2) Measures to protect US 93 and downstream wetlands from quarry related flash flooding should be included in the EIS.

31. Page 2-52, Section 2.2.2.4.2 - Ballast specifications and a gradation table need to be provided by DOE.

Recommendation: DOE should utilize Union Pacific Railroad specifications for ballast specifications and gradation table as the basis for rail design and environmental impact analysis.

32. Page 2-65, Section 2.2.2.4.3 - This entire section is vague and ambiguous. There is no discussion relative to location, abandonment, or restoration of borrow sites. All borrow sites should be identified prior to construction. Impacts should be discussed with pertinent agencies and land users. Critical forage areas for wildlife, wild horses and livestock should be avoided. Placing excess fill along embankments will result in a larger permanent footprint, and is not consistent with BMPs identified in the other sections of the report. Site-specific reclamation plans should be developed for each borrow site prior to any construction.

Recommendation: The above-mentioned issues need to be addressed in an expanded Section 2.2.2.4.3.

33. Page 2-66, Section 2.2.2.4.4 - DOE proposes to place concrete ties on two foot centers along the entire length of the railroad to provide the surface and restraint for the rail. This is inconsistent with current UPRR construction standards along the mainline.

Recommendation: To enhance safety, DOE needs to change the tie spacing to 19.6 inches on center to increase the restraint or holding power on the continuous welded rail. The resultant change in number of concrete ties needs to be assessed in the EIS.

34. Page 2-66, Section 2.2.2.4.4 - DOE needs to identify a rail section due to the weight of the cask cars.

Recommendation: To encourage maximum system safety, DOE should consider and analyze use of 141 lb. rail section due to the weight of the cask cars.

35. Page 2-66, Section 2.2.2.4.5 - Discussion of bridge steel and concrete, particularly with regard to portable concrete batch plants. Batch plants will result in disturbance of more area. All areas should be identified prior to construction and analyzed for impacts. Reclamation plans should be developed for each plant site prior to construction.

Recommendations:

- 1) BMPs such as contained concrete washout should be included in the EIS.
- 2) The EIS should disclose whether SWPPPs and/or air permits will be required for concrete batch plants.

36. Page 2-66, Section 2.2.2.4.5 - The bridges that will be constructed by a DOE Contractor will need a Design Cooper Rating. This rating is the rated capacity of the bridge.

Recommendation: To encourage system safety, the recommended Cooper Rating for bridges is a minimum E80. The DOE selected Cooper Rating should be disclosed in the EIS.

37. Page 2-67, Figure 2-34 - Shows a typical sub-ballast borrow site. This figure is a gross oversimplification. It will be difficult to keep these borrow sites within the construction right-of-way. No new access roads should be established if all borrow sites are located within the construction right-of-way. Deeper inert soils will not suffice as sufficient growth medium during revegetation.

Recommendation: The EIS should provide information to answer the following questions:

- 1) Will each borrow pit be limited to an area of 0.016 square kilometers?
- 2) How deep will pits be?
- 3) How will holes be filled or closed when the pits are abandoned?
- 4) Will "topsoil" be stripped and stockpiled for restoration/revegetation activities?
- 5) How will spoils be handled when the borrow sites are abandoned?
- 6) What is the purpose of settling ponds?

- 7) Will these ponds be lined?
- 8) How will sanitary waste be handled?

38. Pages 2-66 to 2-69, Section 2.2.2.5 - Discusses bridge, culvert and grade crossing construction. Do the lengths calculated in Table 2-20 take into consideration the extra culvert length required to cross under both access roads, as shown in Figure 2-37 on page 2-73? Having two access roads on separate raised roadbeds will greatly increase costs of culverts and the level of disturbance to accommodate the required fill.

Recommendation: The EIS should include information sufficient to answer the following questions:

- 1) Does DOE plan on providing bridges for the rail only, or will the access roads on either side have bridges as well? If so has this been accounted for in the calculation in Table 2-20? If not, how is emergency equipment supposed to access the rail in case of emergency, such as flood events?
- 2) Have livestock or wildlife underpasses been considered at all? These devices can serve a dual purpose for livestock, wildlife and wild horse movement as well as for drainage.

39. Page 2-72, Section 2.2.2.5 - Discussion of existing road crossings. There are a multitude of roads, and trails used for access to public lands. In addition, many existing roads and trails are critical to livestock and land management operations. Any restriction on road crossings due to security or other issues would be detrimental to these uses.

Recommendation: The EIS should disclose whether BLM and local authorities are committed and financially able to take on such a large task such as road and trail planning for the proposed rail corridor given current staffing and budget constraints. Essentially this is an unfunded mandate for a large portion of work to maintain roads and enforce travel along these roads.

40. Page 2-73, Figure 2-37 - Shows the cross-section of typical rail and roadbed design. The typical cross-section shows three elevated access ways within the operations right-of-way. One is for the rail, and two are for the access roadways on either side of the rail. This formation presents the following problems:

- Increases overall disturbance area and operations footprint. This is in direct conflict with the most important BMP and mitigation action, avoidance and minimization of disturbance.
- Problems associated with crossing this configuration by wildlife, wild horses and livestock are greatly increased.
- Road and trail crossings, culverts, underpasses, and bridges become more extensive.
- Overall cost increases due to:
 - o The increased need for earthwork, cut, fill and borrow.

- Increased lengths on culverts.
- Increased number of required cattle guards when passing through existing fences.
- Increased length of protective conduits for existing pipelines and utilities.
- Increased maintenance requirements
- Increased difficulty accessing the rail with equipment if the road is not immediately adjacent to the rail.
- Increased area requiring costly reclamation, and slopes that provide potential sediment source.

Recommendation: The EIS should fully analyze construction and use of a single access road along the rail line as a means to minimize environmental impacts. The configuration should consist of a single access road immediately adjacent to the rail on a shared raised bed. This would result in the reduction of the current cross section width of 61 meters by at least a third. Such an analysis should compare the impacts of a single access road (in terms of the bulleted items listed above) against the impacts associated with a dual access road.

41. Pages 2-74 to 2-77, Section 2.2.2.6 - Discussion of rail roadbed construction. Discusses the required clearing of previously undisturbed land, and removing and stockpiling topsoil were needed. Within the project area there are few areas that contain what might be typically considered topsoil; however, the upper layers of the soils located along much of the right-of-way is the only soil that is a feasible growth medium.

Recommendations:

- 1) The EIS should describe that stripping and stockpiling of topsoil would be required along the entire rail corridor, not at select locations only.
- 2) The EIS should identify who would determine where soils stripping and stockpiling occurs?

42. DOE states that "...in most cases..." borrow and disposal sites would be inside the construction right-of-way. The "...in most cases..." is in contrast to Section 2.2.4.3, page 2-65 which states that "...the Department would obtain sub-ballast primarily from materials excavated during rail roadbed construction and from borrow sites established inside the rail line construction right-of-way."

Recommendation: The EIS should resolve this inconsistency between Sections 2.2.2.6 and 2.2.4.3.

43. In Table 2-24 on Page 2-74 it is not clear how quantities are calculated. Is a set of plans already developed? Do these calculations take into account all sidings, excavation of construction water reservoirs and borrow pits, construction of one raised rail and two raised road beds?

Recommendation: The EIS should provide additional detail as required to answer the aforementioned questions regarding Table 2-24.

44. Page 2-76, Figure 2-38 - Shows a cross section of a representative cut and fill. This figure should incorporate the typical access road on either side of the rail in order to be accurate. 2:1 cut and fill slopes are relatively steep, especially in "alluvium soils". These slopes will require special BMPs to stabilize slopes from potential erosion, and benches may not be sufficient. The flatter the slope, the greater the chance of revegetation success. 2:1 and steeper gradients present much greater risk of failure unless slopes utilize rip rap or the likes. No other BMPs are discussed within this section.

Recommendation: The EIS should analyze utilization of cut and fill with less than 2:1 slopes (i.e. 3:1) as an alternative to enhance the likelihood of success of slope stabilization and revegetation.

45. Page 2-77, Section 2.2.2.8 - All siding locations should be located, and shown within the EIS as those areas will have greater environmental impacts due to expanded footprints and increased disturbance of native vegetation and soils. Locations should avoid sensitive areas and critical forage or habitat. Low rolling earthenwork berms will result in more disturbances.

Recommendation: The EIS should include a commitment by DOE to develop a site-specific reclamation plan prior to construction of any sidings or masking berms.

46. Page 2-77, Section 2.2.2.8 - Siding spacing on most of the territory from Salt Lake City, Utah to Caliente, Nevada for Union Pacific Railroad is five miles. In the event that a bad order car has to be set out, in some cases it would have to be moved at restricted speed for 12.5 miles. This could result in considerable delay for transporting the nuclear waste fuel to the repository.

Recommendation: To minimize anticipated delays of shipments in or near populated or environmentally sensitive areas, DOE should space sidings every 10 miles.

47. Page 2-80, Section 2.2.2.10 - This section states, "DOE will construct the railroad in accordance with BLM rights-of-way". "DOE would conduct reclamation inventories and develop site-specific restoration plans prior to construction." These inventories and site-specific restoration plans should be subject to public and scientific review and comment. What expertise does DOE have in dealing with these matters, and who will ensure proper restoration actions are taken? Who will determine and carry out monitoring programs and determine reclamation success? Will reclamation success be assured?

Recommendations:

- 1) The EIS should suggest that these reclamation inventories and site-specific restoration plans be subject to public and scientific review and comment.
- 2) The EIS should discuss who will ensure proper restoration actions are taken.
- 3) The EIS should describe how reclamation success will be assessed and assured.

48. The "Caliente Rail Corridor Construction Plan" prepared by a DOE subcontractor and referenced elsewhere in the chapter lists more in-depth restoration procedures than does the DEIS; however, many of the items listed by the subcontractor were not incorporated into the DEIS, nor was the report referenced in this section. Why were the subcontractor's recommendations not incorporated into the DEIS?

Recommendation: The EIS should include an expanded discussion of restoration procedures based largely upon information contained in the "Caliente Rail Corridor Construction Plan".

49. Page 2-82, Section 2.2.3.1.1. DOE says that, in accordance with U.S.D.O.T. regulations, rail cars containing spent nuclear fuel or high-level radioactive waste cases will be moved within 48 hours after arriving at the Staging Yard. However, the DOE fails to note that there is very likely to be spent nuclear fuel or high-level radioactive waste sitting in the Staging Yard *virtually continuously for a period of 50 years*. Consequently, the proposed Staging Yard qualifies as a Monitored Retrievable Storage ("MRS") installation requiring a license that meet the terms of NRC's regulations under 10 C.F.R. Part 72. As the NRC has stated, an MRS can "serve primarily as a warehouse operation, limited solely to accepting, sorting and later transshipping" casks of waste. 1995 WL 509710, June 16, 1995. These are precisely the functions that the proposed Staging Area would serve. Accordingly, the DOE must acknowledge and disclose that the proposed Staging Area, wherever located, will require a license pursuant to 10 C.F.R. Part 72.

50. Page 2-85, Section 2.2.3.2.1 - Discusses railroad maintenance including weed and brush control. The EIS should disclose who will determine the need and requirements for weed and brush control. Weed control will need to be conducted in any disturbed area, not solely within the operations right-of-way. This section of the EIS should include a description of reclamation area monitoring and remediation.

Recommendation: The EIS should include commitments by DOE for maintaining all access road crossings; all pipeline, fence line and utility crossings; and as associated infrastructure such as cattle guards, within their right-of-way.

51. Page 2-85, Section 2.2.3.2 - DOE should have a written plan for track inspections and the number of track inspectors needed for these inspections. Ultrasonic rail testing (performed annually) to detect internal flows, such as cracks in the rail, needs to be done

more frequently. DOE proposes that all maintenance will be performed using on-rail vehicles or trains.

Recommendation: Ultrasonic rail testing should be done in 90-120 day intervals. The number of track inspectors needs to be determined by DOE and should be reported in the EIS. DOE may want to consider a plan similar to Union Pacific Railroads Track Inspection Plan. Recommend all maintenance that can be done with off-track machines, be accomplished with off-track machines, this will reduce on-track maintenance time and train delay.

52. Page 2-86, Section 2.2.3.2 - The spacing of wheel bearing detectors and dragging equipment detectors is not identified in the DEIS.

Recommendation: To enhance rail system safety, wheel bearing detectors and dragging equipment detectors should be placed at 20 mile intervals. The spacing of wheel bearing detectors and dragging equipment detectors should be identified in the EIS.

53. Page 2-86, Section 2.2.3.2.2 - DOE does not have a stated plan for locomotive failure on-line or a plan to handle/repair cask cars that fail on-line.

Recommendation: An Action Plan for locomotive failure on-line and an Action Plan to repair cask cars that fails on-line need to be provided by DOE as an Appendix to the EIS.

54. Page 2-95, Figure 2-45 - The figure shows the Caliente-Indian Cove Staging Yard option being located within the City of Caliente. The City limits are incorrectly depicted in Figure 2-45. The Caliente-Indian Cove Staging Yard option is not located within the Caliente city limits but within unincorporated Lincoln County.

Recommendation: Figure 2-45 (and other similar figures in the DEIS) should be corrected in the EIS regarding the location of the Caliente City limits. The description of existing conditions (i.e. land use) and environmental impacts (i.e. land use and socioeconomic) regarding location of the Indian Cove option should be corrected in the EIS to reflect the location of the site outside the Caliente City limits.

55. Page 2-109, Section 2.2.6.1 - There needs to be a tracking device mounted on all cask rail cars and/or casks to track all nuclear fuel shipments from point of origin to point of destination.

Recommendation: The EIS needs to describe how DOE intends to track all nuclear fuel shipments from point of origin to point of destination. The EIS should analyze the use of Radio Frequency Identification (RFID) tags as one alternative for cask and/or cask rail car tracking.

56. Page 2-110, Section 2.2.6.2 - DOE needs to have control of all train movement during transportation of nuclear spent fuel.

Recommendation: A centralized traffic center should be established and analyzed in the EIS to remotely control switches at passing sidings. Passing sidings also need to have set-out tracks for bad-order cars.

57. Page 2-115, Table 2-30 - The footnote to this table indicates that DOE has not identified a preference for the Staging Yard location. The purpose of the NEPA analysis is to assist the responsible federal agency in making action decisions. The DEIS provides no insight as to why DOE has been unable to identify a preference for a Staging Yard location.

Recommendation: The EIS should identify DOE's preference for a Staging Yard location and if that is not possible, describe what additional engineering and/or environmental studies will be required to reach such a decision.

58. Page C-7, Section C.3.1 - This Section begins with a discussion of how the Department of Energy (DOE) used computer modeling to consider multiple routes within the area of the Caliente Rail Corridor. This may work well from an engineering standpoint but it reveals nothing about the land use conflicts and natural resources that would be impacted by each respective route. The DOE needs to consider more than just topography when selecting a rail corridor alternative. Reports commissioned by the BLM⁷ and Lincoln County⁸ identify many of the impacts associated with the Caliente Rail Corridor and many of its alternative segments. The DOE should take these reports into consideration when selecting a final rail alignment. The data contained in these reports may also justify re-examination of alignments that were discarded in the past for various reasons.

Recommendations:

1) The analysis of impacts by DOE in the DEIS and by BLM and Lincoln County referenced above should be considered by DOE in identifying additional alternative alignment segments for further detailed analysis in as supplemental DEIS.

2) The conclusion regarding the DOE Preferred Alternative in the DEIS should be reconsidered and verified through consideration of comments to the DEIS, the availability of new information and supplemental analysis that DOE may complete.

59. Page C-7, Table C-1 - This table shows the design standard for the rail as 60 miles per hour with a maximum operating train speed of 50 miles per hour. Is this representative of the actual operational speed of the rail cars? If the trains carrying nuclear waste must travel at a lower speed then the track has been over-designed. By reducing the maximum operating speed of the rail to 40 miles per hour could allow a large number of alignment options (for example having greater slope or greater curvature) to be considered that could potentially reduce the impacts to Lincoln County.

Recommendation: The DOE must verify the required maximum design speed for the rail alignment and should consider alternative alignments which may be feasible if the required maximum design speed is less than 60 miles per hour.

60. Page C-8, Section C.3.1 - Below Table C-1 is a list of the environmental and land use features considered by the DOE during route selection. "Private lands" are listed as a factor, however private property rights, including water rights and grazing related base property rights were not considered, nor were existing land use conflicts.

Recommendation: The range of potential alternative alignments should be reconsidered by including as additional screening criteria private property rights, including water rights and grazing related base property rights.

61. Page C-14, Table C-2 - The table says that the Garden Valley 6 Alternative was eliminated because engineering criteria were not met. There should be more specific information as to how the route failed to meet these criteria. If the design speed wasn't 60 mph would it fail the engineering criteria? This route and variations of it reduce land use conflicts.

Recommendation: The DOE should include more specific information in the EIS as to why the Garden Valley 6 Alternative alignment was eliminated.

62. Page C-21, Table C-5 - The computer based design criteria may have overlooked or not included costs associated with the tunnels or the 10 mile up-grade feasibility.

Recommendation: The design criteria used to determine the route to be used to haul nuclear waste needs to be defined better in the EIS. If use of tunneling or 10 miles of maximum uphill grade were used the costs would be less expensive if the route was shorter. This alternative should be analyzed fully in the EIS.

63. Page C-37, Section C.5.1 - This Section states, "by reducing fill, the water demand for embankment compaction would also be reduced." Does this result in an imbalance between cut and fill, and if so what will be done with the left over "cut" material? Leaving this material on site will greatly increase the amount of land disturbance caused

⁷ Resource Concepts, Inc., Proposed Yucca Mountain Corridor Affected Grazing Permits. Prepared for Bureau of Land Management, Carson City, Nevada, 2005.

⁸ Robison/Sealer, Resource Concepts, Inc. and L&H Consulting, Proposed DOE Caliente Rail Corridor Lincoln County, Nevada: Analysis of Impacts and Alternatives with Recommended Mitigation. Prepared for Board of Lincoln County Commissioners, Volumes I and II, November 30, 2007.

by rail construction. Any leftover cut material should be removed from the site and either stockpiled or disposed of at an appropriate location.

Recommendation: The EIS should disclose how excess cut materials will be managed to minimize environmental impacts.

64. Section C.5.1 also discusses how the alignment was refined using aerial mapping and computer modeling. The approach does not take into consideration land use impacts. Many impacts could be avoided or reduced by adjusting the rail alignment to follow grazing allotment and pasture boundaries rather than cutting through the middle of established use areas. Simple adjustments could be made to avoid water features or other areas of critical importance to land users could also aid in reducing the many impacts caused by the rail alignment.

Recommendations:

- 1) The analysis of impacts by DOE in the DEIS and by BLM and Lincoln County referenced above should be considered by DOE in identifying additional alternative alignment segments for further detailed analysis in as supplemental DEIS.
- 2) The conclusion regarding the DOE Preferred Alternative in the DEIS should be reconsidered and verified through consideration of comments to the DEIS, the availability of new information and supplemental analysis that DOE may complete.

C. DOE's Description of the Affected Environment is Incomplete and Inaccurate

Specific Comments

1. Page 3-2, Section 3.1 – The DEIS does not describe how the selection of resource areas for which environmental and existing conditions data was compiled was made by DOE. There appear to be several relevant topics missing. What role did scoping play to inform the DOE selection of resource topics to be included?

Recommendations:

- 1) The EIS should describe the process whereby DOE selected the resource topics for which environmental setting and existing conditions are described.
- 2) The description of affected environment in the EIS and related environmental impact analysis should be expanded to specifically include the following resource areas among others that may have been identified during scoping: institutional uncertainty (i.e. Mina Route and Walker River Paiute Tribe); state and local revenues; community attributes and various social characteristics at the county/community level.

2. Page 3-3, Table 3-1 – The DEIS failed to describe the locations and characteristics of base private property through which grazing permittees have established commensurability as a condition to utilization of public lands for grazing.

Recommendation: The EIS should describe the locations and characteristics of base private property through which grazing permittees have established commensurability as a condition to utilization of public lands for grazing and related impacts to the use and/or value of said properties resulting from potential rail alignment related losses in AUMs.

3. Page 3-3, Table 3-1 – The region of influence for the majority of the resources considered in the review of affected environment is limited to "the nominal width of the construction right-of-way." This limited scope of analysis is inappropriate for characterizing the affected environment for Land Use and Ownership and Biological Resources. These resources will be affected to a much greater degree than is indicated by this DEIS. The restricted nature of the Affected Environment analysis is carried throughout the entire document and results in inadequate analysis of impacts, and insufficient mitigation. The DOE should re-evaluate the region of influence (ROI) for the resources mentioned in order to accurately assess the environmental impacts of the proposed rail alignment.

Recommendations:

- 1) The ROI for Land Use and Ownership should be expanded to the entire unit of land (i.e. parcel or allotment) disturbed by the rail, either as a private property parcel or a BLM public land grazing allotment.
- 2) The ROI for mobile biological resources such as wildlife should be expanded to include the habitat area intersected by the rail alignment.

4. Page 3-2, Table 3-1 – Given the significance of the Walker River Paiute Tribe's changing position regarding opposition to transport of SNE/HLW across Reservation lands, Institutional Uncertainty should have been considered as a component of the environmental setting and existing conditions analyzed in the DEIS. State of Nevada and local government fiscal conditions should also have been described. The DEIS did not describe existing social conditions within Lincoln County (such as existing crime rates, existing rates of substance abuse, existing characteristics of communities such as cohesion, familiarity, sense of security, etc.). Consequently, impacts to none of these important social indicators is analyzed in chapters 4 and 5. Valued characteristics of the social fabric of rural communities in the County may be at risk due to Yucca Mountain repository system development and operation. Chapter 7 of the EIS must identify feasible measures to mitigate potentially significant impacts to key social characteristics in Lincoln County.

Recommendation: The EIS must include a description of existing social conditions within Lincoln County (such as existing crime rates, existing rates of substance abuse, existing characteristics of communities such as cohesion, familiarity, sense of security, etc.). Impacts to these important social indicators must be analyzed in chapters 4 and 5 and measures to mitigate said impacts identified and evaluated in Chapter 7.

5. Page 3-3, Table 3-1 – The political boundaries for Lincoln, Nye and Esmeralda counties are not synonymous with air basins. A more appropriate definition of air basins within the study area would have been hydrographic basins defined by the Nevada State Engineer within which air quality conditions will tend to be similar and/or confined.

Recommendation: A justification for the selection of county boundaries versus hydrographic boundaries for air quality impact analysis is required in the EIS.

6. Page 3-7, Section 3.2.1.1 - DOE states that the region of influence for the physical setting includes all areas that would be directly or indirectly affected by the construction and operation of the rail. However, the region of influence is described in most cases as the "nominal width of the rail line construction right-of-way".

Recommendation: The ROI for physical setting should be expanded to include areas of potential direct and indirect impact outside of the nominal width of the construction ROW. As detailed in numerous specific comments contained in this comment document, the region of influence, and adverse impacts, extends well beyond the physical limits of construction.

7. Page 3-15, Section 3.2.1.2.2.2 – This section of the DEIS says nothing about proven or potential mineral reserves as such may bear upon future mining and demand for commercially available rail service in the area.

Recommendation: The SEIS should disclose information regarding proven mineral reserves or potential for mining in the area.

8. Page 3-17, Section 3.2.1.2.3 – The description of the amount of prime farmland soils within the Caliente rail alignment construction ROW as a percentage of the total of all such soils in Nye and Lincoln counties is not a useful comparison. More appropriate would be a description of the amount of prime farmland soils within the Caliente rail alignment construction ROW as a percentage of the total of all soils which are located on private land and as such are developable.

Recommendation: The EIS should include a description of the amount of prime farmland soils within the Caliente rail alignment construction ROW as a percentage of the total of all soils which are located on private land and as such are developable.

9. Pages 3-38 and 30-39, Sections 3.2.2.2.1 and 3.2.2.2.2 – The most current version of the Lincoln County Master Plan is dated December 2006. The DOE has used a City of Caliente master plan which is 18 years old. Use by DOE of dated land use planning information in the DEIS has resulted in mischaracterization of impacts in chapters 4 and 5. For example, the DEIS fails to recognize that two planned-use developments located in the southeastern and southwestern corners of Lincoln County will add in excess of

400,000 new residents to the County during the 50-year emplacement period for the Yucca Mountain repository. Already, planned development in southern Lincoln County is affecting County land-use planning in other areas of the County. At the County's request BLM has agreed to sell 866 acres in the Alamo area, 638 of which will be for residential development of up to 1,900 dwelling units. The County is also developing the 228-acre Alamo Industrial Park. In the past few years, the City of Caliente has developed the Meadow Valley Industrial Park, rail access to which may conflict with or may be enhanced by DOE-planned rail improvements in the area. Pursuant to the Lincoln County Conservation, Recreation and Development Act of 2004, Lincoln County is working with BLM to identify 90,000 acres of public land to be transferred by BLM to private and local government public uses during the next 30-50 years. The Caliente rail alignment alternatives pass through or near to areas of BLM land the County has identified for disposal/transfer. None of this evolving land use in Lincoln County is reflected in the DEIS. Having been designated, pursuant to the Nuclear Waste Policy Act, as amended, by the Secretary of Energy as Affected Unit of Local Government, Lincoln County has prepared in excess of 83 reports describing existing conditions and potential repository system impacts in Lincoln County. During preparation of the DEIS, DOE staff did not contact Lincoln County Repository Oversight Program staff to identify or obtain County-specific reports. None of these reference documents appear to have been utilized by DOE in preparing the DEIS.

Recommendation: The EIS must use the most current versions of county land use plans and other documents available, particularly those developed through Lincoln County's comprehensive DOE-funded Yucca Mountain repository oversight and independent impact alleviation planning program. The EIS must account for planned land uses and related increases in population, demand for outdoor recreation, increased traffic and other changes in baseline conditions which will attend planned land uses.

10. Page 3-20, Section 3.2.1.3.1.2 – The description of mineral resources in the DEIS is incomplete. Pozzolon, a mineral that could be used as a concrete hardening agent in the fabrication of concrete sites and in concrete and shotcrete that might be used in construction of the repository, is located in commercial quantities in Lincoln County near the rail alignment.

Recommendation: The EIS should include the description of commercial pozzolon deposits and active mining for same in the Lincoln County portion of the project area.

11. Page 3-36, Section 3.2.2.1 - DOE is only considering land use impacts (such as grazing) within the construction ROW and even makes a point of saying how conservative this method is. In truth the Caliente Rail Alignment cuts through allotments and pastures completely disrupting grazing patterns and water access. The issues cannot be evaluated by only considering the construction ROW.

Recommendation: The ROI for impacts to land use must be expanded to include the entirety of grazing allotments, private parcels and grazing related water-based water sources potentially directly or indirectly impacted.

12. Page 3-229, Section 3.2.7.2.2 - DOE states that field surveys for wildlife were conducted within the construction ROW. This survey is incredibly limited and provides no real data. The wildlife species of concern for this area are mobile and impacts will be spread much farther than the construction ROW. Wildlife movement across the rail will be especially impacted due to the size and construction of the access roads and rail roadbed.

Recommendation: The ROI for biological resources - wildlife should be expanded within the EIS.

13. Page 3-17, Section 3.2.1.2.3 - Prime farmland soils are limited in Nevada due to the arid environment and limited irrigation. The DOE is considering these soils only because the Farmland Protection Policy Act protects them. There are other valuable soils, such as highly productive rangeland soils that are not protected under this Act but are important to Nevada. These can be mapped as "highly productive range soils" in the NRCS soil data viewer. Lincoln County believes the extent of "highly productive range soils" likely exceeds the acreages of prime farmland soils in the County.

Recommendations:

- 1) The EIS should disclose the acreages and locations of "highly productive range soils" within the ROI.
- 2) DOE should seek to minimize impacts to said soils.
- 3) Impacts to said soils should be disclosed in Chapter 4 of the EIS.

14. Page 3-24, Section 3.2.1.3.3.3 - DOE states that there are no prime farmland soils along Garden Valley Alternative 8 but Figure 3-8, Page 3-25 suggests otherwise.

Recommendation: The presence or absence of prime farmland soils along the Garden Valley Alternative 8 should be verified in the EIS.

15. Page 3-62 - 3-64, Figures 3-27 through 3-29 - The figures depicting stockwater sources and pipelines are incomplete. Please see the 2005 *Proposed Yucca Mountain Corridor - Affected Grazing Permitees* report (Resource Concepts, Inc., 2005), prepared for the BLM (pages 14 and 15) for updated information provided by the respective permittees.

⁹ Ibid. Resource Concepts, Inc. 2005.

Recommendation: Complete information regarding stockwater sources and pipelines should be incorporated into the EIS. This more complete information should be factored into revised impact analyses to be provided in Chapter 4 of the EIS.

16. Pages 3-71 and 3-72, Table 3-7 - The listing of impacted stockwater sources and pipelines within the 1000 ft. construction right-of-way (ROW) is inaccurate. Errors are as follows:

Ely Springs Allotment:	5 pipelines are crossed (table shows 2)
Wilson Creek Allotment:	One well is also within the 1000 ft. ROW
Needles Allotment:	1 pipeline crossed, one well in ROW (table shows no impacts)
Pine Creek Allotment:	GV1, 2, and 3 cross the pipeline (table shows only GV2). GV8 intersects a spring.
Cottonwood Allotment:	OMITTED FROM TABLE. One pipeline is crossed by all Garden Valley Alternatives.
Sand Springs Allotment:	Six pipelines are crossed (table says 2)

Recommendation: Complete information regarding stockwater sources and pipelines should be incorporated into the EIS. This more complete information should be factored into revised impact analyses to be provided in Chapter 4 of the EIS.

17. Page 3-115, Section 3.2.4.2 - This section is inappropriately limited to NAAQS criteria pollutants and as a result does not fully disclose all air quality conditions which may be impacted by the Proposed Action. For example, the DEIS fails to address baseline CO₂ emissions in the study area and contributions of such emissions to CO₂ concentrations in the atmosphere or related existing greenhouse gas trends and issues.

Recommendation: The description of existing air quality conditions must be expanded in the FEIS to pollutants in addition to NAAQS criteria pollutants. For example, baseline CO₂ emissions in the study area and contributions of such emissions to CO₂ concentrations in the atmosphere or related existing greenhouse gas trends and issues must be fully described in the EIS.

18. Page 3-136, Section 3.2.5.2.5 - Sections 3.2.5.2.1.1 and 3.2.5.2.1.2 page 3-130 - Talk about how stream data from the USGS is incomplete for rural Nevada. Section 3.2.5.2.4 page 3-135 talks about how FEMA flood data is only 45% complete for the rail alignment. If these national data sets are incomplete for the area, DOE should also consider that the national spring data might be incomplete. Further, Page 3-137 of Section 3.2.5.3.1.1 suggests the Indian Cove Staging Yard would be located in the 100-year floodplain of Meadow Valley Wash. A 100-year flood has a 1% chance of happening every year and can occur in successive years if there is enough precipitation.

Further, in light of the potential effects of global climate change, the likelihood of a 100-year storm may well increase.

Recommendation: The EIS should disclose other areas of potential or known incomplete data such as national spring data. The EIS should provide information on historic flood frequency, intensity and duration for all locations where project features will be located within the 100-year floodplain.

19. Page 3-137, Section 3.2.5.3.1.1 – Beginning here and in following sections of Chapters 3 and 4, the text describes various surface waters as “waters of the United States”. As only EPA and the Corps of Engineers can make this jurisdictional determination, and given that most, if not all of the surface water features have not been considered yet by either agency, the text should in all appropriate cases be revised to describe these as “potentially or potential jurisdictional waters of the United States”.

Recommendation: As appropriate, all references in the DEIS to “waters of the United States” should be revised to “potentially or potential waters of the United States”.

20. Page 3-169, Section 3.2.6.1 - DOE used a screening distance of one mile on either side of the rail alignment to locate wells. Paragraph 4 states: “DOE used the same distance criteria to identify whether there could be damage to, or loss of use of, an existing well that fell within the rail roadbed or was disturbed during construction activities.” This is inconsistent with the 1000 ft. ROW used to identify impacted stockwater sources and pipelines in Section 3.2.2.5.1, which addresses stockwaters on BLM land.

Recommendation: If DOE identifies a well within one mile of the alignment as “damaged” or unusable, DOE should also be responsible for mitigation or avoidance.

21. There are 45 wells, springs, or reservoirs, and 21 troughs attached to pipelines which as permitted points of diversion are also considered stockwater sources, within one mile of the Caliente rail alignment from Common Segment 1 to the western Lincoln County border. This excludes stockwater impacts on the Caliente and Eccles Alternatives and does not include isolated troughs, tanks, or other stockwaters that could not be considered as a source (Resource Concepts, Inc., 2005). This same report prepared for the BLM includes descriptions of these impacts and the associated maps.

Recommendation: Complete information regarding stockwater sources and pipelines should be incorporated into the EIS. This more complete information should be factored into revised impact analyses to be provided in Chapter 4 of the EIS.

22. Page 3-180, Figures 3-77 and 3-78 – The figures showing existing and proposed wells within one mile of the railroad alignment or new proposed wells are incomplete. Two wells are missing from the Timber Mountain Allotment and four are missing from the Sunnyside Allotment. One well is also missing from the Garden Valley Alternatives map.

Recommendation: Complete information regarding stockwater sources and pipelines should be incorporated into the EIS. This more complete information should be factored into revised impact analyses to be provided in Chapter 4 of the EIS.

23. Page 3-212, Section 3.2.7.1.1 – The geographic extent of impacts to mobile biological resources will be much larger than the construction footprint because migration routes could be impacted as well as movement within and between habitat areas. Secondly, in the Great Basin and Mojave Desert environments the damage that will be done to plant life during the construction phase will not be short term.

Recommendation: The ROI for biological resources – wildlife should be expanded within the EIS.

24. Page 3-214, Section 3.2.7.2.1 - DOE states that although undisturbed areas of winterfat (*Krascheninnikovia lanata*) are present within the ROW, they are uncommon. The fact that these areas do not dominate the landscape should make it possible to avoid impacting them. BLM alignment permittees have pointed out several important winterfat areas along the proposed rail alignment. The rail alignment passes along benches and valley bottoms, which are typical habitats for winterfat. Inter Mountain Basins Mixed Salt Desert Scrub, which makes up 33.59% of Common Segment 1, 77.37% of Common Segment 2, and 70.19% of GY1 (see tables 3-48 and 3-49 pages 3-232 and 3-233) contains winterfat as a co-dominant species. Inter-mountain Basins Semi Desert Shrub Steppe also contains winterfat as a characteristic species and makes up an additional percentage of the route coverage. Full descriptions of these vegetation types are available in the RE-GAP vegetation mapping legend. Winterfat is highly nutritious and is valued as a winter protein source for both livestock and wildlife use.

Recommendations:

1) Section 3.2.7.2.1 of the EIS should be expanded to denote the significance of winterfat and disclose its likely/actual locations along the rail alignment alternatives.

2) The EIS should disclose steps DOE will take to avoid impacting areas containing winterfat and should be prepared to implement thorough and diligent revegetation efforts to standards approved by the BLM and the scientific community familiar with this desert environment.

25. Page 3-223, Section 3.2.7.2.1.1 – The railroad will provide a vector for spreading existing weeds along the rail corridor and will also provide an entry point for new noxious and invasive weeds entering Nevada from other parts of the country.

Recommendations:

1) The EIS should address the potential for rail operating equipment to serve as a means for spread of new noxious and invasive weeds in Nevada.

2) The EIS should include a commitment by DOE to implement an aggressive weed control and eradication program which specifically includes the rail operating equipment traveling to and from Nevada.

26. Page 3-244, Section 3.2.7.3.3.1 - The Ute Ladies' tresses orchid has the potential to occur in the alignment ROW. While there is no designated critical habitat for this species within the one-mile study area, the orchid is associated with moist soil conditions such as those found around perennial stream or washes, spring-fed stream channels or wetland. This type of habitat is found in Meadow Valley Wash between Panaca and Caliente, which will be impacted by the proposed rail alignment. Other important species such as the southwestern willow flycatcher (endangered) and the yellow-billed cuckoo (federal candidate species) rely on wetland and riparian habitat as well as do the southwestern load and the meadow valley speckled dace (state protected).

Recommendation: The EIS should specifically acknowledge that wet habitat areas are crucial to maintaining biological diversity and should be protected and avoided.

27. Pages 3-279 through 3-298, Section 3.2.9, Socioeconomics - In Lincoln County's November 8, 2002 letter to DOE containing comments to the Yucca Mountain FEIS, the County points out that the Yucca Mountain FEIS continues to fail to reflect the best available information on local socioeconomic conditions in Lincoln County communities (Lincoln County also raised this issue in extensive written comments to the scope of the Yucca Mountain EIS and in written comments to the Yucca Mountain DEIS). Section 3.2.9.2 of the Rail Alignment DEIS "used the Yucca Mountain FEIS as a basic source of data, and supplemented that data where possible with current community-level data for Lincoln, Nye and Esmeralda Counties". Despite the claim that "current community-level data" has been utilized, Lincoln County finds that DOE has again, as it did in preparing the Yucca Mountain FEIS, failed to utilize the best available information to describe existing socioeconomic conditions in Lincoln County. As a consequence, analyses of socioeconomic impact in Chapter 4 of the Rail Alignment DEIS do not adequately disclose potential impacts.

For example, Section 3.2.9.3.1 of the DEIS states "Lincoln County's employment has been declining after growth during the 1980's". In fact, data compiled by the University of Nevada Center for Economic Development indicates that total employment in Lincoln County has been increasing during the past five years and in 2005 reached levels comparable to the 1980s. Similar trend data is available from the State of Nevada, Department of Employment, Training and Rehabilitation.¹⁰

¹⁰ <http://www.dnreap.org/PNR/EAP/Report#3>;
https://www.irc.nv.gov/workforce.com/admin/hotlinked/Publications/2190_Small_County_Ind_Emp_2007.pdf

With regard to projected values for population, employment and economic variables as depicted in Table 3-60, the DEIS fails to reflect the fact that the Coyote Springs project alone in southwestern Lincoln County will add in excess of 250,000 persons to Lincoln County population during the next 40 years. Table 3-60 also fails to reflect the fact that the BLM has in the past four years (and since completion by DOE of the Yucca Mountain FEIS) sold to private developers in excess of 13,500 acres in southeastern Lincoln County for mixed-use development which over the next 40 years is estimated to add another 100,000 persons to the Lincoln County population. Table 3-60 of the DEIS also fails to capture development by the City of Caliente of the Meadow Valley Industrial Park and by Lincoln County of the Alamo Industrial Park, both of which will encourage growth in projected employment levels in the County. Despite DOE claim that it has utilized community-specific information, in fact, key socioeconomic variables have been estimated using an input-output model (REMI-based Policy Insight) which is wholly incapable of accurately depicting existing and anticipated conditions in rural but rapidly-changing Lincoln County.

Section 3.2.9.3.4.2 does not even mention the Pahrangat Valley school facilities, including a high school and elementary school. This section provides no insight as to current capacities of existing school facilities or existing fiscal conditions and trends for the Lincoln County School District, as said facilities and fiscal capacity may be impacted by Caliente rail alignment construction and operations. In fact, a recent environmental assessment prepared by BLM's Ely Field Office regarding the sale of public land in the Alamo area for industrial and residential development concludes that school facilities in the Alamo area are nearing capacity and with Lincoln County planned development in the area will require expansion. Accordingly, Chapter 4 of the Rail Alignment DEIS should reflect that any construction and operations related school enrollment in the Alamo area would exacerbate current planned demands on school facilities and fiscal resources.

Section 3.2.9.3.4.3 does not describe the extent to which all-volunteer fire departments in Lincoln County have personnel which are currently trained to respond to incidents/accidents involving SNF/HLW and the extent to which said departments have equipment required to safely respond to said incidents/accidents. This section also does not describe any plans (or lack thereof) to secure training and equipment required to respond to incidents/accidents involving SNF/HLW. These issues were not discussed in personnel communications included as the source for information in this section of the DEIS (DIRS-174971 and DIRS 17973). It does not appear that DOE even contacted any of the current fire chiefs for the volunteer fire departments. Various reports prepared by Lincoln County as a component of its Yucca Mountain repository oversight program describe the extent to which volunteer fire departments and other emergency first responders including emergency medical services in Lincoln County are not adequately trained or equipped to respond to the myriad of hazardous materials being transported by

rail and truck through the County currently, let alone possible shipments of SNH/LW.^{11,12}

Section 3.2.9 fails to address the characteristics of tourism as a significant component of the Lincoln County economy. Consequently, Chapter 4 of the DEIS misses entirely any disclosure of potential impacts to tourism in Lincoln County. Reports prepared by Lincoln County as a component of its Yucca Mountain repository oversight program describe the extent to which tourism is important to the County and how development and operation of the Yucca Mountain repository system may impact tourism. Although DOE was advised of the availability of said reports and the documents has been available electronically on the Lincoln County repository oversight program and LSN websites for a few years, none of the information in said documents was considered by DOE in preparation of the DEIS. Lincoln County is characterized by an abundance of outdoor recreational opportunities such as camping, fishing, hunting, water skiing, off-highway vehicle use, hiking, rock hounding, camping and backpacking. There are five state parks in Lincoln County—Spring Valley State Park, Echo Canyon State Recreation Area, Cathedral Gorge State Park, Kershaw-Ryan State Park, and Beaver Dam State Park. There are also two federally designated wildlife areas—the Desert National Wildlife Range and the Panamint National Wildlife Refuge. Nearly 300,000 persons annually visit the state parks and other outdoor recreation venues in Lincoln County. In 1988, a Nevada Division of State Parks survey of state park visitors ascertained that each visitor to the five state parks in Lincoln County spent an average of \$7.60 per day in Lincoln County.¹³ Adjusted for inflation this amount would be approximately \$16.00 in 2007. A decline in visitation may harm sales to local businesses, particularly gasoline and retail sales.¹⁴

Recommendation: To enable the NEPA required "hard look" at potential impacts of the Caliente Rail Alignment to Lincoln County, DOE must more accurately and comprehensively describe existing and projected socioeconomic conditions for Lincoln County. DOE should review and where appropriate, utilize the best available information regarding socioeconomic characteristics in Lincoln County, including the many reports prepared by the County through its DOE-funded Repository Oversight Program.

28. Page 3-284, Section 3.2.9.3.1.1 – This section of the EIS fails to discuss lifestyle (custom and culture) impacts on those who live on or near or use the land along the

¹¹ Inertech Services Corporation, *In Search of Equity: A Preliminary Assessment of the Impacts of Developing and Operating the Yucca Mountain Repository on Lincoln County and the City of Caliente, Nevada*, Prepared for the Lincoln County Board of Commissioners and the Caliente City Council, December 2001.

¹² Inertech Consultants, Inc., *Radiological Emergency Response in Small Communities: A Report on Capabilities and Constraints*, June 1989.

¹³ Inertech Services Corporation, *Tourism Impacts of Three Mile Island Other Adverse Events: Implications for Lincoln County and Other Rural Counties Bisected by Radioactive Wastes Located for Yucca Mountain*, Prepared for JCCIA/C, October 1993.

¹⁴ Inertech Services Corporation, *The Yucca Mountain High-Level Radioactive Waste Repository and Lincoln County: Characterization of Socioeconomic Impacts and Framework for Assessment of Effects*, Submitted to the Joint City/County Impact Alleviation Committee, October 12, 1994.

Caliente rail corridor. Most of these people have been living on or using the land for generations, and their ties to the land are not just economic, but integral to their culture, life style and very identities. Even a slight impact will permanently reduce or alter the land use in these cases. Their relation to the land and their values are not driven by a desire for wealth or fame, but rather an innate desire to preserve and build upon a tradition and legacy that will be carried on by family members and others – a tradition of hard work and sacrifice and will not only strengthen not only their own family members but the county, state and nation for generations to come.

Recommendations:

(1) The DEIS, which is currently devoid of any assessment of the impact of the rail alignment on culture and lifestyle considerations, must be revised to address this issue.

(2) Every effort should be made to obtain BLM land rather than private ground for DOE rail operations. Purchase or replacement of existing private farm ground will terminate long term farming operations thus weakening the fragile local agricultural community/economy. Generations of local farm families have worked and sacrificed to improve these farms into successful operations. Every effort must be made to protect the individual farmer, which will protect the local farm economy and culture. The DEIS analysis of the direct and indirect impacts to existing farms in Lincoln County is wholly inadequate.

(3) The DOE must include in the EIS a complete analysis of the direct, indirect and cumulative social and economic impacts of the proposed rail alignment on existing farms in Lincoln County.

D. Environmental Impacts Have Not Been Fully or Properly Analyzed by DOE

General Comments

1. Language is used throughout both the Rail Corridor DSEIS and Rail Alignment DEIS leaves substantive issues surrounding the scope of the impacts open to dramatic and unbounded changes subsequent to these documents being finalized. This language includes phrases such as "as necessary", "when practicable", "generally", etc. DOE repeatedly analyzes the impacts based on a minimum expressed, but then DOE presents a caveat to this minimum with this type of language. One glaring example is DOE's analysis of the private parcels impacted. DOE states "While the nominal width of the rail line construction right-of-way would be 300 meters (1,000 feet), DOE would reduce the area of disturbance in some areas to minimize impacts to private land." This non-committal language is useless and therefore the impacts should be analyzed based on the maximum amount of disturbance.

Furthermore, it is unclear as to who will decide what is necessary, reasonable, practicable, etc. In areas of private lands, will the State of Nevada, counties and cities have a say? In areas of public lands will the managing agency such as BLM determine what is reasonable, necessary or practicable? Or will DOE or their contractor have the authority to decide this for themselves?

DOE only analyzes the operations impacts for 50 years. Why is there no analysis of the subsequent abandonment/decommissioning of the railroad? What about ongoing impacts if the shared use option is implemented? Will that shared use be discontinued after 50 years?

Recommendation: The EIS must provide substantive answers to each of the questions posed in the above two paragraphs.

2. There is no section on Construction Access Roads (i.e. those that are not contained within the construction right-of-way); however, the Caliente Corridor Construction Plan shows them. The DEIS should contain a section on this so that environmental impacts away from the Corridor can be addressed. The roads shown in the Caliente Corridor Construction Plan would also impact areas and several grazing allotments that aren't directly impacted by the Rail Corridor itself, and would add to impacts of some of the areas and allotments along the corridor.

There is no discussion regarding how the DOE plans to maintain existing infrastructure other than utilities.

Recommendation: Discussion/analysis of each of the items listed below must be included in the EIS:

1) Specifically in regard to existing grazing operations, there is no discussion as to how the DOE will address stockwaters or water base property that will be directly impacted by the rail. Stockwaters are considered private property under State of Nevada Water Law, and water base property is considered such under state and federal law per the Taylor Grazing Act. In addition, conveyance structures such as pipelines will be crossed by the rail, yet no mention is made as to how these items will be addressed during construction or operation of the rail.

2) Another major issue is in regard to right-of-way fencing. DOE does not state if the right-of-way will be fenced, nor is there any discussion regarding the Corridor crossing existing fences. The decision to fence or not to fence the rail will have a major influence over the actual impacts that grazing Permittees will realize. This decision will have an even bigger impact with regard to the mitigation actions that will be required to keep the impacted grazing allotments functional. Existing fences will be rendered non-functional once they are breached for construction or operational purposes.

It will be difficult to maintain a functional fence during construction. Functional fencing is imperative to grazing operations on public land. If construction is anticipated to take 4-10 years, the results could be detrimental to grazing Permittees, and costly for the DOE. Some sort of system for maintaining functional fencing during construction must be described in the EIS.

If the right-of-way was fenced, then existing fences would maintain their integrity after construction is complete. Livestock crossings and/or underpasses would have to be installed in order to maintain the functionality of existing grazing allotments.

If the right-of-way was not fenced then cattle guards would need to be installed along access roads and in the rail itself in order to maintain the integrity of the fence. An in-rail cattle guard would have to be specially designed, and would likely be a costly item. Unless the integrity of these fences is maintained the existing allotments will be rendered obsolete. Each of the aforementioned issues must be addressed in the EIS.

3. The DEIS fails to consider any environmental or socioeconomic impacts associated with possible decommissioning of the Caliente rail alignment (construction and transportation related with removal of rail, demolition of support facilities and reclamation of roadbed) and related support facilities (all of which are included as a component of the Proposed Action). The DEIS also fails to consider any impacts that construction, operation and decommissioning of the Caliente rail alignment would have on the social fabric of Lincoln County such as crime rates, substance abuse, community cohesion, resident sense of security and political divisiveness, among other characteristics.

Recommendation: The EIS must include an analysis of the environmental or socioeconomic impacts associated with possible decommissioning of the Caliente rail alignment. The EIS must also consider any impacts that construction, operation and decommissioning of the Caliente rail alignment would have on the social fabric of Lincoln County such as crime rates, substance abuse, community cohesion, resident sense of security and political divisiveness, among other characteristics.

Specific Comments

1. Page 4-3, Section 4.1.2 - DOE states that it "could" implement measures to mitigate impacts after final design, regulatory compliance, and BMPs. Here and in many other places in the document, DOE says that they "could" mitigate but never that they will mitigate. There will be considerable disturbance that cannot be avoided or minimized with BMP implementation. The DOE must be responsible for mitigating these impacts both to public land and to private property rights.

Recommendation: The DOE must include commitments to mitigate impacts and identify mitigation measures.

2. Page 4-4, Section 4.1.2 – The text here states that for the analysis of aesthetic resources it was not possible to quantify impacts and DOE provides a qualitative assessment of potential impacts. This is not true. DOE should have completed a Seen Area Analysis of the Proposed Action which would have enabled quantification of the gross area and percentage of area within each basin in Lincoln County from which the rail line and related facilities would have been visible. That information would have provided a quantitative basis for reaching conclusions about the significance of the rail system as a new feature on the landscape within Lincoln County.

Recommendation: The DOE must include a Seen Area Analysis in Chapter 4, which would provide a basis for estimating and disclosing the percentage of area within each basin in Lincoln County from which the rail line and related facilities will be visible. Seen Area Analyses are standard practice in these types of environmental assessments and should have been undertaken for such an important project. Most recently, the BLM ELY Field Office has included a Seen Area Analysis in its April 2007 Draft Environmental Impact Statement for the White Pine Energy Station.

3. Page 4-5, Section 4.1.3 - DOE concluded that, although public perception regarding the proposed geologic repository and transportation of spent nuclear fuel and high-level radioactive waste could be measured, there is no valid method to translate these perceptions into quantifiable economic impacts. This is simply not true. Lincoln County itself has sponsored research utilizing DOE-funded Yucca Mountain oversight funding that evaluates stigma induced economic impacts to the County's tourism-sector from SNF/HLLW transportation incidents/accidents.¹⁵ In another study of property values near the Rocky Flats Nuclear Weapons Plant survey respondents wanted extraordinary distances between themselves and the plant itself. Denver metropolitan area respondents said that the "closest distance to Rocky Flats" they would consider was a mean distance of 21 miles and a median distance of 15 miles. Sixteen percent of the respondents would consider a house in the affected community without a discount. Forty-six percent would not trade distance and/or discounts of any size as compensation for a house located within six miles of Rocky Flats.¹⁶ A sample of Boston area housing prices between 1975 and 1992 found that the distance to superfund sites significantly impacted residential prices.¹⁷

¹⁵ Intertech Services Corporation, *Tourism Impacts of Three Mile Island Other Adverse Events: Implications for Lincoln County and Other Rural Counties Dissected by Radioactive Wastes Intended for Yucca Mountain*, Prepared for JCCIA/C, October 1993.

¹⁶ Hansberger, Wayne L. *The Effects of the Rocky Flats Nuclear Weapons Plant on Neighboring Property Values*, *mod.*

¹⁷ Grande, Inshore & Jenkins-Smith, Hank. *Nuclear Waste Transportation and Residential Property Values: Estimating the Effects of Transient Perceived Risks*. University of New Mexico, Albuquerque, NM, June 1999.

A study of property values along a nuclear transportation route in South Carolina, also found reductions in property values associated with proximity to the transportation route.¹⁸

Studies also indicate that it is the perception of risk that matters, even when public perceptions differ from those of expert opinion. The greater the perceived risk, the greater the expectation of harm due to the disamenity, and the greater the diminution of property values, regardless of expert opinions. Thus, while information matters, it is the translation of information into the public expectations associated with the disamenity that appears to affect housing prices.¹⁹

In a recent New Mexico court case (*City of Santa Fe v. Kornis*) the prospect of public fears of radioactive waste shipments was found to be sufficient to warrant damages. In this case, the City of Santa Fe argued that there was no loss of value to property that was adjoining property that was being purchased for the construction of a highway to transport nuclear waste to the Waste Isolation Pilot Project (WIPP) site near Carlsbad.²⁰

Congress has also recognized the unusual status of communities along nuclear waste shipment routes and the potential for stigma to significantly impact property values. H.R. 1270 (105th Congress), the Interim Nuclear Waste Storage Bill, was amended by the House Commerce Committee to require compensation for land owners if the transport of the waste could be shown to have devalued their properties by at least 20%. Loss of value of 20% or more would require compensation, while losses of 50% or more would require DOE to purchase the affected property. Although this provision was deleted from the bill prior to its passage by the House of Representatives, its initial inclusion signals a recognition on the part of at least some in Congress of the potential for stigma induced impacts, particularly those involving devaluation of real property.

According to DOE, researchers in the social sciences have not found a way to reliably forecast linkages between perceptions or attitudes reported in surveys and actual future behavior. DOE concludes that at best, only a qualitative assessment is possible about what broad outcomes seem most likely. The Yucca Mountain FEIS did identify some studies that report, at least temporarily, a small relative decline in residential property values might result from the designation of transportation corridors in urban areas. What efforts did DOE put into developing valid methods? Considering the scope of this project and the number of years it has been under development, it would stand to reason that DOE would have committed appropriate resources to studying these types of impacts. If no valid method exists to forecast linkages, what plan does DOE have for mitigating impacts as they occur? What parties will be involved in creating said mitigation plan?

¹⁸ Grande, Inshore & Jenkins-Smith, Hank. *Nuclear Waste Transportation and Residential Property Values: Estimating the Effects of Transient Perceived Risks*. University of New Mexico, Albuquerque, NM, June 1999.

¹⁹ *Ibid.*

²⁰ Hansberger, Wayne L. *The Effects of the Rocky Flats Nuclear Weapons Plant on Neighboring Property Values*, *mod.*

The DEIS notes that an independent economic impact study (DERS 172307-Riddell, Boyett, and Scherer 2003, all) conducted since DOE completed the Yucca Mountain FEIS examined, among other things, the social costs of perceived risk to Nevada households living near transportation routes. The study developed such an estimate in terms of households having a willingness to accept compensation for different levels of perceived risk and a willingness to pay to avoid risk. The results of the study as reported in the DEIS indicated that during the first year of transport, net job losses (and associated drop in residential real estate demand and decreases in gross state product) in relation to the baseline would occur in response to people moving to protect themselves from transport risk. The DEIS says, however, that the initial impact would be offset rapidly, as the population shifted to a more risk-tolerant base. This seems to assume that rural areas are able to recover from loss of jobs and real estate demand as quickly as urban areas may recover. Lincoln County for example covers 10,600 sq. miles but its total population in 2006 was only 3,987²¹. Its population density is less than 1 person per square mile, making it one of the most sparsely populated counties in the country. DOE's assumptions are completely unrealistic in such a setting. Due to the short time period available for comment, we were not able to review the cited study in depth. However, if the aforementioned study did not analyze each county and city independently, it is not very useful in determining the impacts to the areas most vulnerable to slight changes and slowest to recover (rural areas). Was any analysis done regarding the likelihood of not only a decrease in demand for real estate but also the likelihood of the relocation of existing citizens and the associated impacts therewith?

The DEIS asserts that while stigmatization of southern Nevada can be envisioned under some scenarios, it is not inevitable or numerically predictable and that any such stigmatization would likely be an after-effect of unpredictable future events, such as serious accidents, which might not occur. The DEIS states therefore, DOE did not attempt to quantify any potential for impacts from risk perceptions or stigma in this Rail Alignment EIS. However, given the importance of this issue, DOE should have included scenarios to analyze the potential affects based on representative events.

These are potentially serious and significant impacts that must be seriously analyzed by DOE.

Recommendations:

- 1) The EIS must more fully consider the impacts from perceived risk and stigma including a description of efforts by DOE to analyze same, expected impacts and methods to mitigate related impacts.
- 2) The EIS should include an analysis of not only a decrease in demand for real estate but also the likelihood of the relocation (out-migration) of existing citizens and the associated impacts (including economic and fiscal) therewith.

²¹ Nevada State Demographer, Population Projections for Nevada Counties and Cities, Carson City, Nevada, June 2006.

4. Page 4-7, Section 4.2.1.2.1.1 - DOE estimates that roughly 25 acres will be disturbed at each construction camp site. This estimate does not take into consideration the impact that off-duty personnel will have on the rangelands. It would be very hard, if not impossible to contain 360 people and all their construction machinery (summary page S-38) on 25 acres. Off Highway Vehicle and foot trails will be developed which will have an immediate impact on the area of land that is disturbed and will continue to impact the rangelands after the camps are closed (erosion). Off-duty work crew recreation on adjacent public lands could lead to destruction of private property and harassment of livestock.

Recommendations:

- 1) The EIS should include an analysis of the potential impacts from worker related recreation on public lands in the vicinity of construction work camps.
- 2) The "Sensitivity and protection training", referred to in Section 2.2.2.2, page 2-44 of Volume 1, should include discussions regarding wildlife, and livestock harassment and issues associated with ranching operations, spread of noxious weeds, and difficulty establishing native and adapted vegetation in disturbed areas. Rules should be established to safeguard current residences, property and animals. Any violations of these rules should result in stiff penalties.

5. Page 4-8, Section 4.2.1.2.1.1 - DOE states that after construction is completed, disturbed areas will be re-contoured, covered with reserved topsoil, and "to the extent practical, revegetated." This is much too vague. Who will make the decision regarding what is practical? Practical from an economic standpoint would be no revegetation at all. Accountability must be built into the mitigation process in order for it to be effective.

Recommendation: The EIS should identify who would have responsibility for making the decision regarding what is practical revegetation.

6. Page 4-11, Section 4.2.1.2.1.3 - DOE should have analyzed how and if the corridor placement would disrupt irrigation of prime farmland not directly within the right-of-way (particularly irrigated parcels bisected by the rail line). If such disruption would occur, this acreage of the entire disrupted parcel should be included in the acreage calculation of directly impacted prime farmland. DOE refers to 200 acres of Prime Farmland along the Caliente Common Segment 1, as "relatively isolated area in Lincoln and Nye Counties and at present is not being used for agricultural purposes." Prime farmland that is not is being used for grazing may still qualify under the Farmland Protection Policy, depending on the NRCS District Conservationist's decision.

Recommendations:

- 1) The EIS must include the entire acreage of any irrigated parcel of prime farmland crossed by the rail line in the acreage calculation of directly impacted prime farmland.

2) The EIS should note that Prime farmland that is not being used for grazing may still qualify under the Farmland Protection Policy, depending on the NRCS District Conservationist's decision.

7. Page 4-13, Section 4.2.1.2.1 - In this Section the DOE states: "Soil disturbance from construction activities along either alternative segment would result in localized impacts from the loss of topsoil and an increase in the potential for erosion. However, these impacts would be temporary and would be reduced through a combination of erosion control measures." This statement is another example of the DOE understating the impacts of the Caliente Rail Alignment. The impacts associated with the loss of topsoil cannot be referred to as temporary. Even if all topsoil is reserved and re-applied to the disturbed sites, the soil structure, which is important for moisture retention and erosion control, could take several decades to stabilize. The DOE must be prepared to implement careful restoration of disturbed sites and to monitor restoration sites during the life of the project. By writing off these impacts as "short term" the DOE is not taking responsibility for the impacts of the proposed action.

Recommendation: DOE must accurately distinguish between short-term and long-term impacts with respect to soil/vegetation disturbance and reclamation, and recognize that the impacts discussed above are long-term impacts. DOE must disclose these impacts and implement appropriate restoration measures.

8. Page 4-32, Section 4.2.1.5 - DOE states: "With the exception of topsoil loss, the overall impacts would be small because of the best management practices or mitigation measures DOE would implement. There would be a potential for increased erosion because relatively undisturbed land would be extensively graded. Impacts related to soil erosion or loss of topsoil would be small, because implementation of best management practices would effectively reduce the potential for increased erosion and sedimentation that could occur during construction activities. In addition, soil disturbance would be distributed throughout several counties, reducing the concentration of increased soil erosion."

In section 4.1.2, page 4-4 DOE defines a "small" impact as follows: "Small: For the issue, environmental effects would not be detectable or would be so minor that they would neither destabilize nor noticeably alter any important attribute of the resource."

Any area disturbed by the railroad will in all probability remain in a disturbed state for the next 50 to 100 years. The effects will be obvious and in no way minor. Loss of topsoil will destabilize the resource by changing infiltration rates. Loss of topsoil also means the loss of a stable plant community, which supports chemical weathering and soil formation, making recovery an even longer process. These impacts are not "small," nor will BMP implementation reduce the impacts enough to consider them "small".

Recommendation: The EIS must present an improved analysis of the temporal consequences of construction of the rail line on soils and vegetation. The DOE must

accurately state the impacts of the rail, and must be prepared to implement environmentally responsible restoration and mitigation practices.

9. Page 4-40, Section 4.2.2.1.1 - The DEIS indicates DOE does not anticipate potential land-use conflicts in relation to future county projects and planning. . . . Possible future residential clustering near the Caliente alternative segment within or north of the city may be deemed an incompatible land use due to train noise. DOE recognizes that future land use conflicts very well may exist. This is particularly true given the amount of new development occurring in this area as well as the substantial land and water holdings of a prominent housing developer in this area.

Recommendation: The EIS should better reflect the nature and magnitude of future county projects and planning that may be impacted by the rail line.

10. Page 4-41, Section 4.2.2.1.2 - The DEIS notes that while the nominal width of the rail line construction right-of-way would be 300 meters (1,000 feet) . . . along the Caliente alternative segment, the area of disturbance would be 31 meters (100 feet). Is this an assurance that at no place along the Caliente alternative segment will the area of disturbance for the construction right-of-way exceed 31 meters? If not, what is the significance?

The DEIS indicates the Caliente alternative segment construction right-of-way would encompass or cross 32 parcels. Utilizing the operations right-of-way width as defined in Section 2.2, the Caliente alternative segment would impact 58 private parcels.²² Since the operations right-of-way is not ever mentioned to be less in areas across private land, it must be assumed that this is the actual area of impact.

Recommendations:

1) The EIS should include a clear commitment by DOE that both the construction and operation right-of-way width along the Caliente alternative segment would be limited to 100 feet.

2) As a means to avoid or minimize environmental impacts, the EIS should fully analyze an alternative wherein the construction and operation right-of-way width along the entire Caliente alternative segment would be limited to 100 feet.

11. Page 4-44, Section 4.2.2.3.2, second paragraph - DOE calculated potential loss of animal unit months (AUMs) as the proportion of land within each grazing allotment that would be crossed by the footprint of the rail line construction right-of-way and support facilities divided by the average square kilometers per permitted AUM in the entire allotment. DOE states that it did not consider site-specific allotment characteristics in calculating the loss. Nevertheless, the result is highly misleading and deceptive. DOE could have reported only the proportion of the allotment that would have been crossed by

²² Ibid. Robison/Sealer, 2007.

the footprint in square kilometers and that would have been a statement of fact. However, to convert the square kilometers of land into a certain number of AUMs by the method utilized and represent that as the AUMs that would be lost is a misleading and completely invalid conclusion. The method used is an oversimplification that has no relation to site specific AUMs that will actually be lost. For example, the average square kilometers per AUM factor averages all land in the allotment into the equation. That includes inaccessible, rocky, and non-productive mountain top land. The rail alignment traverses valley bottoms and gently sloping fans with the highest productivity such as white sage and other highly palatable plant species. The method DOE used understates the actual loss. The BLM has existing production survey data, or approved methods for production surveys, to determine the forage production in the right-of-way.

Moreover, the rail alignment will in some cases limit the accessibility of the livestock to forage outside the right-of-way. In those cases, forage will be lost above and beyond the production in the right-of-way. The DOE calculation of potential loss of animal unit months should be deleted from the DEIS as it is grossly oversimplified, erroneous, incomplete, and misleading.

A major construction impact not mentioned is the breaching of allotment boundary and pasture fences crossed by the rail. These fences will be taken down for a substantial distance to allow for unimpeded access for rail construction. While the fences are down, livestock grazing on both sides will be able to cross the downed fence and move out of their paddock as they wish. This will create chaos in the grazing regimens of the associated allotments.

Recommendations:

1) The DOE should provide a more accurate estimate of the AUMs which may actually be lost based upon use and/or application of existing BLM forage production survey data, or approved methods for production surveys, to determine the actual forage production in the right-of-way.

2) The DOE calculation of potential loss of animal unit months presented in the DEIS should be deleted as it is grossly oversimplified, erroneous, incomplete, and misleading.

3) The DOE must consider the impacts of breach of allotment boundary or pasture fences. Appropriate measures to mitigate such impacts must be identified.

12. Page 4-45 Section 4.2.2.3.2 (Alternative Segments at the Interface with UP Mainline). DOE estimates AUM loss and tallies the number of impacted stockwater sources for each segment. Once again the AUM numbers create the false impression of a very limited impact. In addition, the following errors were found relating to stockwater impacts in Tables 4-24 and 4-25 (page 4-63)

Common segment 1 crosses 7 pipelines (the table shows 3)

Common segment 2 crosses 5 pipelines in Lincoln County alone (the table shows 2 total)
 GVA crosses 2 pipelines (the table shows 1)
 GVA crosses 2 pipelines (the table shows 1)

Recommendation: The data in Tables 4-24 and Table 4-25 should be corrected and the analysis of impacts adjusted accordingly.

13. Page 4-44, Section 4.2.2.3.2 - DOE addresses livestock access to water and forage by saying "Generally, livestock would learn these new routes and acclimate to and cross the rail line in most areas." This is highly misleading. Livestock must be re-trained to access their usual water sources. This will cost money either in livestock deaths or additional employee time for the permittee. DOE should be prepared to compensate the affected parties. This paragraph also states that the BLM and DOE would review with the affected allotment permittees the need to restore fences.

Recommendations:

1) DOE must compensate the affected parties concerning livestock deaths or additional employee time required to "train" livestock to use new water sources.

2) All impacts and mitigations should be reviewed with the permittee and BLM, however the DOE should be prepared to restore all impacted fences.

14. Page 4-44, Section 4.2.2.3.2 - Paragraph seven states that DOE will sleeve pipelines in a casing pipe under the railroad bed to protect them and keep them operational. It is important that this be done in a timely manner so that water continues to flow to the associated troughs during construction.

Recommendation: The EIS should disclose that sleeving of pipelines in a casing pipe under the railroad bed may result in temporary loss of water. The EIS should describe methods to mitigate such temporary losses of water.

15. Page 4-59, Section 4.2.2.3 - The public and in some cases private land surrounding the rail alignment will experience increased OHV traffic as a result of access and construction roads. While the DOE might not maintain these roads for the purpose of public access, they will almost certainly be used in any event. Increased use of public lands is not necessarily a bad thing if the BLM has enough personnel to monitor and control use, however this puts additional strain on an agency that is already stretched. Increased access to public lands will in some cases mean increased access to isolated private land holdings and with it the increased potential of impacts to private property. These impacts have not been adequately disclosed in the DEIS.

Recommendation: DOE must assess and disclose impacts to public and private property to result from enhanced access into currently inaccessible areas.

16. Page 4-59, Section 4.2.2.3 – The DEIS indicates that land-use and ownership impacts would occur before or during the railroad construction phase. Further, the DEIS notes the operations right-of-way would be generally narrower than the construction right-of-way along most of the rail alignment, and some of the land could therefore be returned to its previous uses. Again, this seems to indicate that there will be some areas in which the operations right-of-way will exceed the width of the construction right-of-way.

Recommendation: If this is not the case, language in the EIS needs to be clarified by removing the word "generally". However, if it is true that in some instances the operations right-of-way will exceed the width of the construction right-of-way the additional impacts to land use and ownership must be clearly identified and quantified so appropriate mitigation can occur.

17. Page 4-59, Section 4.2.2.3 – The third paragraph under "Operational Impacts" grossly underestimates the impacts of the railroad on the overall grazing allotments and the associated grazing operations. There are a few allotments where the general description of impacts given by the DOE is fairly accurate, but the majority are impacted far more severely. Some operations will be devastated to the point where they will be put out of business.²³ Obviously this is a much greater impact than indicated by the DOE's statement that the rail could require some livestock adjustment, and that generally livestock could acclimate to crossing the rail. It constitutes a gross deficiency in the application of NEPA policy and procedures to fail to accurately present the full range of impacts to these grazing allotments and the associated livestock industry.

Similarly, at page 4-61, Section 4.2.25, the DOE, in summarizing land use impacts, states: "Because the land would be restored after the construction phase and the operations right-of-way would be smaller than the construction right-of-way, long term impacts to grazing allotments would be small." Previous comments in this chapter have pointed out the erroneous nature of the DOE's ADU loss estimates. In addition, the DOE has failed to evaluate the true impacts of the rail alignment in the areas of stockwater access, livestock movement, forage access and many others. The DOE does not come close to evaluating the full impact of the railroad. Several ranchers may be put out of business; the rail will seriously hamper many others. This is much more than the "small" impact the DOE refers to. This DEIS presents incomplete and inaccurate data. The DOE must make an accurate assessment of the impacts to land use posed by this rail alignment, and prepare appropriate mitigation to ensure that these land use enterprises, which are vital to the custom, culture and economy of Lincoln County, remain viable during the construction and operation of the rail.

Recommendation: The EIS must do a far better job of disclosing the extent of possible impacts to range livestock operations by the Caliente Rail Alignment alternatives. Representatives of the N-4 State Grazing Board, Lincoln County and other regional experts on the range livestock industry should be consulted to develop an enhanced and more accurate portrayal of impacts.

18. Page 4-69, Section 4.2.3.2.1 – The text here indicates that the "short-term level of impact to the visual setting from this contrast would be small to large, and would decrease with the re-establishment of vegetation". This is not an accurate conclusion. In fact, the visual contrast will remain long after construction has been completed, in spite of best efforts to revegetate. In this and valley bottoms of the region across which the rail line will cross, post-revegetation plant densities and species composition will be significantly different from pre-construction conditions and will be permanently distinguishable from undisturbed areas.

Recommendation: The conclusion in the DEIS regarding visual impacts to the land surface in revegetated areas which states "short-term level of impact to the visual setting from this contrast would be small to large, and would decrease with the re-establishment of vegetation" needs to be reconsidered and restated in the EIS to disclose that said effects will be long-lasting and distinguishable from great distances, especially when viewed from higher elevations.

19. Page 4-81, Figure 4-3 – The photo-simulation here understates the visual impacts because it was shot on a cloud-covered day and is not at all representative of the typical view at this location. With over 300 days of sunshine, the photo-simulation should have been produced using a cloud-free day in which the track and construction camp would have been depicted as a far more dominant feature in the landscape.

Recommendation: The photo-simulation in Figure 4-3 should be replaced in the EIS by a simulation using a photograph of existing conditions shot on a sunny, cloud-free day. The conclusions regarding Figure 4-3 should be revised in the EIS to reflect the significance of the rail line and construction camp as a dominant feature on the landscape based upon said revised photo-simulation.

20. Page 4-87, Section 4.2.3.3.1 – DOE states that grade-separated crossings are structures familiar to motorists and would not draw attention away from the surrounding landscape. However, these are not common structures in rural Nevada (in fact there are none in Lincoln County), which increases their visibility to motorists.

Recommendation: The EIS should reconsider the conclusion that grade-separated crossings are structures familiar to motorists and would not draw attention away from the surrounding landscape.

²³ Ibid. Robison-Sealer, 2007.

21. Page 4-95, Section 4.2.4 – This section of the DEIS fails to disclose the impacts that rail construction, operations and abandonment would have on production of CO₂ and the incremental impact that such emissions would have on concentrations of greenhouse gas in the atmosphere and related contributions to global warming. As a consequence, Chapter 7 provides no discussion of measures to mitigate production of CO₂ and related increased concentrations of greenhouse gas in the atmosphere.

Recommendation: The EIS must disclose the impacts that rail construction, operations and abandonment would have on production of CO₂ and the incremental impact that such emissions would have on concentrations of greenhouse gas in the atmosphere and related contributions to global warming. Chapter 7 of the EIS should describe measures to mitigate production of CO₂ and related increased concentrations of greenhouse gas in the atmosphere.

22. Pages 4-125 and 4-126, Section 4.2.5.2.1.1 - DOE plans to alter drainage channels to limit the number of culverts needed. DOE acknowledges that this will result in higher flow volumes at culverts and more potential for erosion. However this is not just an issue for bridge and culvert construction. Altering runoff patterns can cause major problems during high runoff events. Re-routing these streams could lead to downstream entrenchment and sedimentation during storm events, and could alter vegetation patterns that have developed from current water dispersion channels.

Recommendation: DOE should keep channel realignment to a minimum and engineer all constructed channels to minimize erosion.

23. Page 4-134, Section 4.2.5.1.6 - DOE states: "Although DOE would generally design rail line features to accommodate 100-year floods, the final design process could also consider a range of flood frequencies and include a cost-benefit analysis in the selection of a design frequency..." No corners should be cut when it comes to safely transporting nuclear waste. 100-year storm events can occur more than once within a decade and should be planned for. Public safety is more important than the potential cost advantages of building the rail line to a lower standard.

Recommendation: DOE should assume a conservative flood frequency, magnitude and duration scenario in designing structures in flood zones.

24. Page 4-135, Section 4.2.5.2.1.7 -- DOE states that springs within the construction right-of-way would be avoided as much as possible during construction activities, which would result in a "small" construction impact to springs. However, many springs which do not fall within the construction right-of-way would be adversely impacted per the DOE "Basis of assessing adverse impact" (Table 4-54, page 4-124). Many of these springs will experience greatly reduced functionality based on their proximity to the rail.

These indirect impacts could result in adverse affects to personal property in the form of livestock, which are dependent on the affected springs.

Page 4-137, Section 4.2.5.2.2.2, also deals with this issue, where DOE states that there are six springs within the region on influence of the Caliente Common Segment 1. All of these springs would fall at least 1000 ft. outside the construction ROW; therefore, there should be no impact to these springs. It is important to note however, that spring access by wildlife and livestock will be reduced due to isolation caused by the rail. This is an impact and should not be discounted.

Recommendation: The EIS must consider the indirect consequences of rail construction and operation on springs located outside the construction ROW. This topic has not been adequately addressed within the DEIS.

25. Page 4-135, Section 4.2.5.2.2.1 - The total area of wetlands within 30 meters (100 ft.) of the rail line (the area delineated by DOE) would be 0.28 square kilometers (68 acres). DOE plans to disturb at least 68 acres of wetland along the proposed rail alignment. All of these wetlands occur within the Panaca Valley hydrologic basin. This would result in a loss of 3% of the North American arid west emergent marsh vegetation type within the Panaca Valley basin, as defined by the RE-GAP vegetation data. The fact that no other marsh habitat is mapped along the Caliente Corridor highlights the importance of protecting this habitat where it does exist. These limited wet areas are vital to maintaining biological diversity throughout Nevada. DOE should consider an alternative route that avoids wetland habitat. In doing so, the DOE could also design this alternative to avoid the private land conflicts that plague the Caliente Alternative Segment.

The following sections also deal with this issue:

Page 4-144, Section 4.2.5.2.3.2 - Indian Cove Wetland Fill. 47 acres of wetland to be filled for the Indian Cove Staging Yard.

Page 4-146, Section 4.2.5.2.4 - Quarry CA-8B Wetland Fill. 22 acres of wetland filled for the quarry siding.

Recommendation: The EIS should fully analyze alternatives to the Indian Cove Staging Area location which serve to avoid or minimize impacts to wetlands and private property. Alternatives might include a site in Dry Lake Valley or in Caliente on city-owned land near the City's existing wastewater treatment facility.

26. Page 4-138, Section 4.2.5.2.2.3 - Construction Camp 4 is located in a critical area for the Cottonwood Allotment; directly adjacent or even on top of the Carpenter Spring Pipeline, a base property water right; a pasture fence, and three critical stockwater sources. The Carpenter Spring pipeline is a certified water right and a private property right. Twenty-five percent of the grazing allowance for this Allotment (Animal Unit Month or AUM) is attached to the pipeline and spring. Damage to the pipeline is not only destruction of private property but could also result in a substantial loss of AUMs. The

pipeline is currently buried at a shallow depth so that it is protected from livestock and frost damage but is accessible for maintenance. This depth will not be sufficient to protect the pipeline from heavy machinery traffic and construction camp activities. Construction activities and activities of off-duty personnel would also have a damaging effect on the high concentration of allotment infrastructure near the planned camp. DOE should relocate the camp to a better location, in coordination with the affected permittee or permittees.

Recommendation: The EIS should identify and fully analyze alternative locations for Construction Camp 4 as a means to avoid or minimize adverse impacts to existing permitted grazing use and infrastructure within the Cottonwood Allotment.

27. Page 4-143, Section 4.2.5.2.3.1 – The first sentence of this section does not accurately describe the subject building and leaves a possible impression that it might be unused or vacant. This is incorrect.

Recommendation: The first sentence of Section 4.2.5.2.3.1 should be revised in the EIS as follows, "The Interchange Yard on the Caliente alternative segment would be in the City of Caliente, directly across from the City of Caliente administrative complex which houses City offices, a public library, Community College of Southern Nevada classrooms, meeting rooms and a senior center."

28. Page 4-151, Section 4.2.6 - Lincoln County Water Impacts. The demand for development of water resources in Lincoln County may affect the construction and fifty year operation of the Caliente rail alignment. Consider the following statistics:

- Meadow Valley
51 High Production Water Wells (500-1000gph) are currently in operation in Meadow Valley.
 - At least 8 additional agriculture wells are planned in the Indian Cove area.
 - The City of Caliente in planning to drill an additional 6 city wells in the next 10 years.
 - Construction of the DOE rail line will require 6 wells in the Indian Cove area circa 2012.
 - Proposed well total = 20
 - Other water applications are on file with the State Water Engineer.
- An unknown number of domestic wells are in the Meadow Valley area and impacts to these are not considered by DOE in the DEIS.

Lincoln County
An additional 82 high producing water wells are proposed by Lincoln County/Vidler, SNWA, and Virgin Valley Water District to be drilled in Lincoln County. An inventory of water wells, both domestic and high producing, in operation and proposed, needs to be included in the FEIS.

DOE Caliente rail line construction and operation
The construction and operation of the DOE rail line may faller due to water filing time lines and insufficient water resources due to water demand in the next 10 years.

Recommendation: The EIS must provide a far more comprehensive evaluation of the cumulative demand for and impacts to water resources from the Proposed Action, past and present actions and reasonably foreseeable future actions.

29. Page 4-151, Section 4.2.6.1 – The text here states that DOE may acquire water needed to construct and operate the rail line and related facilities from municipalities and existing water-rights holders. The State Engineer has previously ruled that provision of water to DOE for purposes of developing and operating a system to dispose of radioactive waste is not in the public interest (said beneficial use being illegal under Nevada law) and has ruled against previous water applications made by DOE. A municipality or other existing water-right holder may have to go before the Nevada State Engineer to obtain permission to change the manner of beneficial use (say municipal, irrigation or stockwater to industrial) and/or the place of beneficial use from a current irrigated field or community to a location along the rail alignment to supply water for the construction and operation of the rail system. The State Engineer is likely to deny both such requests for changes. The DEIS does not adequately describe the Nevada State Engineer process which might apply to use by DOE of municipal or existing private water as a basis for evaluating whether said alternatives are feasible and what the impacts of utilizing said sources of water might be.

Recommendation: The EIS should describe the Nevada State Engineer process which might apply to use by DOE of municipal or existing private water as a basis for evaluating whether said alternatives are feasible and what the impacts of utilizing said sources of water might be

30. Page 4-153, First Bullet – the text here states that the analysis in Section 4.2.6 includes evaluation of the potential impacts of groundwater use on "springs and groundwater seeps" yet there is no detailed disclosure of the impacts of DOE's proposed groundwater use on springs and groundwater seeps in Section 4.2.6. The locations of these resources are not even described in Chapter 3, Affected Environment.

Recommendation: The analysis in Section 4.2.6 of the EIS needs to be expanded to specifically address in quantitative terms (i.e. reduction in flow rates, reduction in water quality, restriction of access to), the impacts of DOE proposed groundwater use on springs and groundwater seeps. Chapter 7 of the EIS must identify and evaluate alternative measures to mitigate impacts to springs and groundwater seeps.

31. Page 4-155, Section 4.2.6.2.1 – The DEIS here implies that impacts from groundwater pumping on existing rights may be avoided or minimized because of uncertainty regarding the degree of over-commitment and/or pumping of existing rights in certain hydrographic basins. Such an approach to impact analysis disregards Nevada water law which requires the Nevada State Engineer to protect existing water rights.

Recommendation: In order to present a bounded analysis of impacts associated with DOE use of groundwater, the EIS must assume that apparently "overcommitted" basins are in fact overcommitted and that all existing groundwater rights are in fact being put to beneficial use or would be put to beneficial at the same time DOE intended to pump its new wells. The analyses of impacts to existing water rights in the EIS should account for these worst-case assumptions.

32. Page 4-161, Section 4.2.6.2.1 – The text here states, "DOE currently plans that wells not needed for operation of the rail line or for quarries would be abandoned in compliance with State of Nevada regulations, and the well sites and temporary access roads would be reclaimed in accordance with applicable requirements." The DOE should consult with permittees and the BLM prior to well abandonment in order to determine if the wells could be used to offset any of the damage to livestock distribution caused by the rail alignment. If so, any applicable wells should be turned over to the appropriate permittee for use as a stockwater source.

Recommendation: The EIS should include a commitment by DOE to determine if the wells no longer required for rail construction or operation could be leased to grazing permittees and used to offset any of the damage to livestock distribution caused by the rail alignment. The feasibility of this possible mitigation should be evaluated in the EIS.

33. Page 4-161, Section 4.2.6.2.1 – It is unclear whether the analysis of impacts from pumping new DOE wells was based upon one or two wells being installed on each drilling pad. The apparent effect of a single well on each pad would be to spread the pumping impacts over a larger area, although, depending upon pumping rates, the impact at each well site might be reduced. Alternatively, location of two wells at each drill pad would heighten the impact of pumping in proximity to each drill pad, but might reduce the aerial extent of pumping impacts.

Recommendation: The EIS should clearly specify whether the analysis of groundwater pumping impacts in the DEIS was based upon an assumption of one or two wells located at each drill pad site. If the analysis was based on location of a single well at each site, analysis of the impacts of two wells being located at each drill pad should be provided in the EIS.

34. Page 4-162, Section 4.2.6.1 – The analysis of groundwater consumptive use by DOE does not appear to have accounted for evaporation from temporary water-storage reservoirs. Disclosure of this information is important to any decision by DOE over the choice of temporary water-storage techniques to be employed.

Recommendation: The EIS should disclose the amount of pumped groundwater to be lost to evaporation through the use of temporary water-storage reservoirs. Chapter 7 should describe mitigation measures to avoid or minimize evaporative losses of pumped groundwater.

35. Page 4-162, Section 4.2.6.1 – The suggested mitigation measures described at the bottom of this page (and more particularly in Section 4.2.6.2.2.1 and 4.2.6.2.2.11) are not described in Table 7-2, Potential Measures to Mitigate... Here and elsewhere, the DEIS describes options for mitigation of impacts which have not been included in Table 7-2.

Recommendation: All possible mitigation measures (not BMPs) identified in Chapters 4 and 5 of the DEIS should be incorporated into an expanded Table 7-2 in the EIS.

36. Page 4-171, Section 4.2.6.2.2.2 - DOE proposed wells Pan V 9 through 16 are all located in the hills surrounding Bennett Spring. DOE states: "Assuming proposed base case average groundwater withdrawal rates at each proposed new well location, analysis results indicate that with the exception of proposed well location Pan V7/Pan V8, there would be no impacts to existing wells or springs near Common Segment 1 from pumping at the proposed well locations." The concurrent use of these wells may have a much greater impact than the isolated use of one well at a time. The DOE should be prepared to use alternative well locations if the analysis completed to this point proves to be faulty, and Bennett Spring (which is privately owned) experiences any impacts.

Recommendation: The EIS should clearly indicate whether groundwater modeling considered the combined effects of pumping new wells simultaneously. The results of modeling the drawdown effects of simultaneously pumping wells in the Bennett Spring area and for similar pumping situations along the rail corridor should be presented in the EIS.

37. Page 4-184, Section 4.2.7.1 - DOE states: "Although the Department would minimize the use of the area between the edge of the construction footprint and the outside edge of the construction right-of-way, DOE took a conservative approach and analyzed the short-term impacts to biological resources within this area. This approach overstates impacts as DOE would likely not disturb a large portion of this area."

This is a completely ridiculous statement and once again demonstrates how the DOE has consistently underestimated the impacts of the proposed rail alignment. In the harsh

desert environment where the disturbance of biological resources would take place, very few if any impacts can be considered "short-term". Because of the low rates of seed germination and seedling survival, disturbance caused by heavy machinery traffic or soil removal will most likely remain beyond the 50-year lifespan of the project. DOE must implement realistic and long-term mitigation measures and implement post-restoration monitoring to ensure that re-vegetation with appropriate species is successful. Without these efforts scarring from railroad construction will become a permanent blemish on the landscape, and could contribute to erosion, invasive weed establishment, and forage and habitat loss.

Recommendation: The EIS must present an improved analysis of the temporal consequences of construction of the rail line on soils and vegetation. The DOE must accurately state the impacts of the rail, and must be prepared to implement environmentally responsible restoration and mitigation practices.

38. Page 4-185, Section 4.2.7.1 - The last paragraph of this section states, "DOE concluded from the groundwater impact analysis that project-related groundwater withdrawals would not result in changes to water levels at springs..." However, as previously noted, Chapter 3 did not adequately identify or disclose the locations of all springs and seeps in the vicinity of proposed new wells, thus it is likely that DOE has not fully considered impacts to such features. The analysis in Section 4.2.6 is focused almost entirely upon existing wells with no specific analysis of impacts to individual springs provided. Section 4.2.6 provides no description at all of potential impacts to seeps. Consequently, the aforementioned statement in Section 4.2.7.1 is unfounded.

Recommendation: The EIS must provide a more complete disclosure of potential impacts to individual springs and seeps. Any potential impacts to springs and seeps should be considered for related impacts to biological resources.

39. Page 4-186, Section 4.2.7.1.3 - The DEIS inappropriately limits the analysis of impacts to T&E species to one of a qualitative nature. DOE is required to quantify an estimate of take (acres of lost habitat and/or numbers of animals killed) for inclusion in any Biological Assessment provided to the U.S. Fish and Wildlife Service to comply with Endangered Species Act Section 7 consultation requirements. The Service and (the Bureau of Land Management) typically prefer that Section 7 consultation and preparation of the related Biological Assessment occur concurrent with NEPA compliance. These quantitative estimates of take prepared for the Biological Assessment should have also been presented in the DEIS.

Recommendation: The EIS should include quantitative estimates of take of Threatened and Endangered species resulting from implementation of the Proposed Action and action alternatives.

40. Page 4-187, Table 4-70 - DOE dismisses any impact to non-wetland vegetation due to the relative abundance of the affected vegetation types within the Great Basin and Mojave deserts. This perspective does not take into consideration locally important vegetation types such as winterfat (*Krascheninnikovia lanata*). This low shrub has very high protein value, similar to alfalfa hay, and is prized as winter forage for both wildlife and livestock. In addition, winterfat can be exceedingly difficult to re-establish on a site once it has been disturbed. Revegetation efforts require diligence and often several years to complete. Winterfat is a common resident of valley bottoms and benches and is a co-dominant species in two of the vegetation types identified in Table 4-70, Inter-Mountain Basins Mixed Salt Desert Scrub, and Inter-Mountain Basins Semi-Desert Shrub Steppe. These vegetation types make up substantial percentages of the disturbed vegetation along the Caliente rail alignment.

The DOE should make every effort to avoid placing the rail alignment and associated camps, wells, and access road in valley bottoms or benches where substantial populations of winterfat are known to exist. In the event that disturbance of these high value rangelands is unavoidable, the DOE should be prepared to fully implement revegetation of these areas to standards approved by the USDA Agricultural Research Service and the BLM.

Recommendations:

1) The EIS should include mapping to identify known locations of locally important vegetation types such as winterfat (*Krascheninnikovia lanata*).

2) The EIS should identify and fully analyze alternatives which seek to avoid or minimize impacts to locally important vegetation types such as winterfat (*Krascheninnikovia lanata*).

41. Page 4-193, Section 4.2.7.2.1.1 - DOE plans to implement BMPs to prevent the spread or establishment of noxious weeds in disturbed areas along the rail alignment. Railroads are well-documented vectors for the spread of noxious and invasive weeds. Even areas that are not disturbed by the construction of the rail are at risk due to their close proximity to it. The DOE must implement BMPs to control the establishment of weedy species throughout both the construction and operational phases. The rail provides not only an opportunity for the spread of existing weed populations, but also a vector for the introduction of new or unknown weed species from other parts of the country. Should any new weed species be found that are not currently established in southern Nevada, the DOE must act quickly, using state and BLM approved eradication methods, to stop its spread or establishment.

Recommendations:

1) The DOE should address the potential for rail operating equipment to serve as a means for spread of new noxious and invasive weeds in Nevada.

2) The DOE should include a commitment to implement an aggressive weed control and eradication program which specifically includes the rail operating equipment traveling to and from Nevada.

42. Page 4-193, Section 4.2.7.2.1.2 - Disruption of wildlife movement patterns and access to forage will be greater than necessary due to the width and uneven topography of the rail alignment cross-section. The DOE has failed to minimize the rail footprint and has also failed to include plans for wildlife underpasses in the BMDs and mitigations outlined in this document.

Recommendation: The DOE should identify and evaluate the feasibility and environmental impact/benefit of alternatives for minimization of the rail footprint and options for allowing wildlife movement across the rail alignment (i.e. underpasses).

43. Page 4-194, Section 4.2.7.2.1.3 - The conclusion that there is no suitable breeding habitat for the southwestern willow flycatcher within the construction right-of-way is incorrect. A baseline ecological assessment of the Meadow Valley Wash²⁴ prepared as a component of the Draft Southeastern Lincoln County Habitat Conservation Plan²⁵ identified existing suitable flycatcher habitat within 150 feet east of the abandoned rail roadbed and within the construction right-of-way north of the City of Caliente (beginning approximately 1,400 feet north of the Caliente Hot Springs Motel). Existing suitable southwest flycatcher habitat was also mapped within 200 feet of the abandoned rail roadbed and within the construction right-of-way near the entrance to the Caliente Youth Training Center.

Recommendation: The DOE should consider the results of the Meadow Valley Wash Baseline Ecological Assessment (Bio-West, 2004 and Bio-West, 2005) regarding any conclusions about the existence of existing suitable habitat for southwestern willow flycatcher within the construction right-of-way. Chapter 7 should describe measures to mitigate potential impacts to southwestern willow flycatcher.

44. Page 4-243, Section 4.2.8.2 - DOE states: "The results of this assessment reflect the uncertainty about the exact details of construction activities that would be planned." If the DOE is uncertain about the details of the proposed rail construction, how can they be certain about the impacts?

²⁴ Bio-West, Inc. Meadow Valley Wash Baseline Ecological Assessment: Atlas of Comprehensive Vegetation Typing and Southwestern Willow Flycatcher Habitat Images. Prepared for Lincoln County, Nevada, November 2004.

²⁵ Bio-West, Inc. Meadow Valley Wash Final Baseline Ecological Assessment. Prepared for Lincoln County, Nevada, March 2005.

²⁶ Entry Inc. Draft Southeastern Lincoln County Habitat Conservation Plan. Prepared for the Board of Lincoln County Commissioners, October 2007.

Recommendation: The DOE must clearly identify presently uncertain facets of the proposed action and disclose areas of analysis which are presently not possible due to uncertainty. The DOE should further disclose areas of presently uncertain project definition will require subsequent NEPA compliance in advance of either granting of rail related ROW by BLM and/or construction of the proposed rail system.

45. Page 4-263, Section 4.2.9.1 - The DEIS does not provide any estimates of the Payments Equal to Taxes (PETT) and other tax revenues that may accrue to Lincoln County and the City of Caliente as a result of the Caliente Rail Implementing Alternative. This source of revenue could be very significant for Lincoln County and the City of Caliente. Further, because DOE is required by law to provide Lincoln County and the City of Caliente with PETT payments (see NHPA, as amended), payment of PETT should be described in Chapter 2 of the FEIS as a component of the Proposed Action and any action alternative.

Recommendation: The DOE must include an estimate of the PETT and other tax revenues which may accrue to Lincoln County and the City of Caliente as a result of construction and operation of the Caliente Rail Implementing Alternative. Applicable taxes which must be considered include Ad Valorem Tax (property tax), County Optional Sales tax, Real Property Transfer Tax, RR Centrally Assessed Tax, Local School Support Tax, Basic City-County Relief Tax, Supplemental City-County Relief Tax, Lodging (room) Tax, County RTC Motor Fuel Tax, County Motor Vehicle Fuel Tax.

46. Page 4-264, Section 4.2.9.1.2 - Because the baseline information used by DOE is inaccurate (see comments to Section 3.2.9), the analysis of impacts in the DEIS to population and housing is not accurate.

Recommendation: The EIS should present new estimates of impacts to population and housing based upon current and accurate baseline conditions in Lincoln County.

47. Page 4-265, Section 4.2.9.2 - The DEIS assumes that impacts to housing and community services would be largely avoided or minimized due to the provision by DOE of up to 12 temporary construction camps. However, the DEIS, neither in Chapter 2 or in Chapter 4, provides any indication of how DOE intends to compel the equivalent 1,100 full-time construction workers to reside in such camps. If DOE is not able to guarantee that workers will reside in temporary construction camps, the analysis of worker related impacts must assume (for bounded analysis purposes) that said workers will seek to reside in existing communities.

Recommendation: Chapter 2 of the EIS must provide a basis/mechanism by which the majority of construction workers will be compelled to reside with DOE provided construction camps. Absent the disclosure of such a mechanism within the DEIS, the

analysis of worker related impacts in Chapters 4 and 5 of the FEIS must assume (for purposes of disclosing impacts of a bounded analysis) that said workers reside in existing communities.

48. Page 4-265, Section 4.2.9.2.1 – The DEIS fails to consider the indirect impact to existing employers in the vicinity of the Caliente Rail Alignment who may find it difficult to retain existing employees leaving to seek employment on the Proposed Action.

Recommendation: The EIS should disclose the potential for existing employers in the vicinity of the Caliente Rail Alignment to retain existing employees who leave to seek employment on the Proposed Action. Said analysis should frame this potential indirect impact in terms of the possible wage differential between existing wages paid in Lincoln County to those wages to likely be offered to workers employed in construction and operation of the DOE rail line. Chapter 7 of the EIS should identify measures to mitigate the indirect impact to existing employers who find it difficult to retain existing employees.

49. Page 4-266, Table 4-101 – The DEIS (nor related source documents) do not define what is meant by "State and local government spending". Is this a fiscal benefit (in terms of new tax revenues) or the fiscal impact associated with the new employment in Lincoln County?

Recommendation: The EIS must define what is meant by "State and local spending" in Table 4-101 and elsewhere. The EIS must disclose the estimated amounts of new non-PETT tax revenue which may accrue to Lincoln County, the City of Caliente, the Lincoln County School District and other units of local government in Lincoln County as a result of the direct and indirect economic activity associated with construction and operation of the rail line. In addition, the EIS must disclose DOE estimates of required PETT payments to Lincoln County and the City of Caliente (and other units of local government in the County).

50. Page 4-267, Table 4-101 – Table 4-101 highlights the inequitable distribution of benefits and costs associated with construction and operation of the Caliente rail alignment between Lincoln and Clark counties. In 2010, Clark County will accrue five times the level of Gross Regional Product as Lincoln County while only have to incur State and local spending at a rate three times greater than Lincoln County. During operations (Page 4-277, Table 4-107) the situation is even worse with Clark County Gross Regional Product being 8.7 times State and local spending while for Lincoln County, Gross Regional Product is only 4.5 times State and local spending. DOE's original intent in seeking rural routes to transport SNF/HLW was to minimize shipments of said materials through and related public health risk within the Las Vegas Valley. This transfer of risk from urban to rural areas coupled with the disparity in distribution of

economic benefit results in the inequitable allocation of economic benefits and public health risks. Clark County gets the greatest share of economic benefit and largely (if not entirely) avoids the environmental and public health consequences of the rail line. The DEIS says nothing to disclose these important dimensions of socioeconomic impact. Further, Chapter 7 provides no measures by which the inequitable distribution of economic benefits, environmental costs and public health risk between Clark and Lincoln County might be mitigated.

Recommendation: The EIS must disclose the nature and magnitude of the inequitable distribution of Caliente Rail Alignment construction and operations related economic and fiscal benefits, environmental costs and public health risk. Chapter 7 of the FEIS must identify and evaluate measures to mitigate the inequitable distribution of Caliente Rail Alignment construction and operations related economic and fiscal benefits, environmental costs and public health risk. One example might be setting aside procurements for vendors located within U.S. Small Business Administration designated HubZone Areas, which Lincoln County is.

51. Page 4-269, Section 4.2.9.2.1 – DOE claims to have quantified the amount of animal unit months lost in accordance with BLM standards, and even gives a thorough list of factors influencing AUM determination (forage quality and quantity, season of use, water, topography, soil, climate, etc.). In truth the DOE used none of these factors to determine AUM loss, choosing instead to dramatically oversimplify the process by determining AUM based on the percentage of the allotment physically removed from use by the rail corridor. In the final paragraph of page 4-269, DOE even goes so far as to classify their assessment of a total loss to the ranching economy of both Lincoln and Nye Counties (\$57,000/year) as a conservative estimate. It has been noted several times in the preceding comments that the DOE's AUM calculation is erroneous and misleading, however loss of AUMs, even if calculated correctly, is not the biggest impact to the ranching economies of the affected counties. It will be virtually impossible to move bands of sheep over the rail corridor as it has been designed; pasture rotational systems which have required a great deal of labor and financial dedication on the part of the permittee will be destroyed; water sources and areas of high-quality forage will be isolated. These impacts, which in some cases could render infeasible some ranching operations, which were brought to the attention of the DOE by the BLM²⁷ and have been completely disregarded. Mitigation will not solve all of these issues but it will lessen the impacts in many cases and allow the permittees, who have invested their lives in these lands for generations, to continue doing business in the affected counties.

Recommendations:

1) The DOE should provide a more accurate estimate of the AUMs which may actually be lost based upon use and/or application of existing BLM forage production survey data, or approved methods for production surveys, to determine the actual forage production in the right-of-way.

²⁷ Ibid. Resource Concepts, Inc. 2005.

2) The DOE calculation of potential loss of animal unit months presented in the DEIS should be deleted as it is grossly oversimplified, erroneous, incomplete, and misleading.

3) The DOE must consider the impacts of breach of allotment boundary or pasture fences. Appropriate measures to mitigate such impacts must be identified.

52. Page 4-270, Table 4-102 – It is not at all clear that BLM would reduce active grazing preference commensurate with rail alignment related loss of acreage within grazing allotments.

Recommendation: The DOE should disclose to what extent BLM would reduce active grazing preference commensurate with rail alignment related loss of acreage within each potentially impacted grazing allotment.

53. Page 4-270, Bottom of Page – It is not clear how redrawing of boundaries of grazing allotments would mitigate lost AUMs.

Recommendation: The DOE should discuss other measures to mitigate losses of AUMs (also addressed elsewhere in these comments) including among other alternatives, improved livestock distribution through fencing or development of water sources and re-seeding of previously seeded areas and new seedlings to increase forage production.

54. Page 4-273, Section 4.2.9.2.3.1 – The assumption that all of the accident and injury cases would be treated at existing facilities in Nye County is wrong and serves to underestimate potential impacts in Lincoln County. Most rail alignment related accident and injury cases in Lincoln County would be responded to by Lincoln County Ambulance and transported to medical facilities, including those in Lincoln County.

Recommendation: The assumption regarding treatment of rail alignment related accident and injury victims being treated in Nye County must be removed. The DOE must fully analyze potential impacts to emergency medical services in Lincoln County.

55. Page 4-273, Section 4.2.9.2.3.2 – The DEIS analysis of impacts to education in Lincoln County while disclosing that as many as 21 new students would result from direct construction impacts does not address indirect impacts on student loading. Further, the conclusion that “Any small increase in the number of children could be accommodated by the school systems which have student-to-teacher ratios that are comparable to the national average.” is useless. Would the resultant ratios in impacted schools now be worse than the national average? Would they be worse than individual school district goals and policies? The analysis says nothing about the capacity of existing potentially impacted school facilities, and completely ignores the fact that the

resulting increase in student-teacher ratios will adversely affect Lincoln County, its students and its teachers. The relevant issue for purposes of NEPA analysis is whether the proposed action will have an adverse impact on the County -- not what is happening in the rest of the country..

Recommendation: The analysis by DOE of impacts to educational services in Lincoln County must reflect actual existing and anticipated conditions (between 2010 and 2014 and beyond) to offer any semblance of an accurate disclosure of rail alignment related impacts.

56. Page 4-274, Section 4.2.9.2.3.4 – The analysis of law enforcement impacts in the DEIS is woefully inadequate. Basing conclusions on “the low crime rate in the counties” is entirely inappropriate. Transient construction workers will likely have higher incidences of crime than the existing population in Lincoln County. Information on rates of crime for other large construction projects is readily available and should have been used by DOE in preparation of the DEIS. In addition to responding to civil and domestic issues requiring law enforcement, Lincoln County law enforcement will respond to all rail alignment construction worker related criminal calls within the County. Persons will be held within the Lincoln County jail, yet no discussion of the capacity of the jail or expected rail alignment construction and operation impacts to inmate population are provided in the DEIS.

Recommendation: The DOE must assess the expected frequency of rail alignment related calls to which the Lincoln County Sheriff's Office will be expected to respond; the impacts to existing Lincoln County jail capacity and related measure to mitigate said impacts. Related impacts to the Alamo and Pioche Justice Courts and the District Court should be disclosed.

57. Page 4-276, Section 4.2.9.2.4.2 – This section fails to disclose the impact of delays at the single at-grade UPRR mainline crossing in Caliente attributed to operation by DOE of the Interchange Yard in the community. UPRR trains entering the Interchange Yard may block the single crossing while accomplishing switching and car coupling/decoupling activities. The UPRR mainline crossing may also be blocked by DOE locomotives arriving or departing the Interchange Yard in downtown Caliente.

Recommendation: The DOE must assess the traffic delays associated with UPRR and DOE trains accessing the Interchange Yard in downtown Caliente during both construction and operations phases of the Caliente rail alignment.

58. Page 4-281, Section 4.2.9.3.3.3 – Chapter 3 of DEIS fails to disclose that existing volunteer fire departments in Caliente and other Lincoln County communities are not adequately trained or equipped to handle the myriad of existing rail shipments of hazardous materials through their area and are not adequately trained or equipped to

respond to the planned DOE shipments of SNF/HLW through the area. Subsequently, this section of the DEIS fails to disclose the impacts to existing volunteer fire departments that will require both training and equipment to be able to adequately provide emergency first response to rail incidents/accidents involving shipments of SNF/HLW.

Recommendation: The DOE must disclose that existing volunteer fire departments in Caliente and other Lincoln County communities are not adequately trained or equipped to handle the myriad of existing rail shipments of hazardous materials through their area and are not adequately trained or equipped to respond to the planned DOE shipments of SNF/HLW through the area. In addition, the DOE must disclose the impacts to existing volunteer fire departments that will require both training and equipment to be able to adequately provide emergency first response to rail incidents/accidents involving shipments of SNF/HLW. This analysis should describe training requirements and impacts to volunteers and related recruitment issues; equipment requirements and related costs to local government.

59. Page 4-302, Third Bullet – The DEIS fails to consider the radiological health impacts of construction related re-suspension and inhalation of radionuclides deposited along the Caliente rail alignment during above-ground nuclear weapons testing.

Recommendation: The DOE must consider the radiological health impacts of construction related re-suspension and inhalation of radionuclides deposited along the Caliente rail alignment during above-ground nuclear weapons testing.

60. Page 4-308, Section 4.2.10.2.2.2 – Lincoln County believes the estimates of the proximity of the closest residents to the Staging Yard locations at Indian Cove and Upland may be underestimated. In addition, the DEIS fails to analyze the operations radiological impacts to the public from the Interchange Yard in downtown Caliente. UPRR dedicated trains carrying SNF/HLW will arrive at the Interchange Yard, decouple from the SNF/HLW cask, buffer and security cars which will then be met by the DOE locomotive which will couple to the SNF/HLW cask, buffer and security cars and move same to the Staging Yard.

Recommendation: The DOE should provide verified estimates of the proximity of the closest residents to the Staging Yard locations at Indian Cove and Upland. In addition, the DOE must analyze the operations radiological impacts to the public from operation of the Interchange Yard in downtown Caliente

61. Page 5-19, Section 5.2.2.1.1 - Disturbance of Physical Resources. These impacts are grossly understated by presenting them in relative, incremental terms. For example, DOE states, "the proposed railroad would disturb only a small percentage of land in the Caliente rail alignment cumulative impacts region of influence." This is an absurd and meaningless way to characterize or assess impacts. The fact that the acres disturbed are a

small percentage of the region of influence is irrelevant. What matters is the absolute disturbance to the absolute number of acres. If one were to assess impacts based on the percentage the railroad project's acreage uses out of the entire Great Basin and Mojave Deserts, one would conclude that the project is so insignificant that an EIS is not even necessary.

The same logic is applied in the last sentence of this section. DOE states, "Given the large amount of land potentially available for development of existing and reasonably foreseeable projects, and the small percentage of potentially available land required for the proposed railroad, overall cumulative impacts to physical setting in the Caliente rail alignment region of influence would be small." What does the large amount of land available and the small percentage of available land required have to do with an impact analysis? The relevant inquiry is the amount of land disturbed and the consequences of that disturbance to existing land uses.

Recommendation: The DOE must consider impacts in the context of the amount of land disturbed and the consequences of that disturbance to existing land uses.

62. Page 5-20, Section 5.2.2.1.1 - Land Use Changes. The entire discussion is skewed by the designation of an unrealistically small region of influence for Land Use and Ownership which causes understatement of the impacts, including cumulative impacts. The region of influence for the grazing land use should be the entire grazing allotment because the entire allotment will be impacted and disrupted by the presence of a railroad and all its features. See comments for Chapter 3, page 3-3, Table 3-1.

In the last sentence of the penultimate paragraph of this section, the DOE states, "...this disturbance could also result in indirect effects beyond the direct disturbance area". That is a gross understatement considering the major impacts the railroad would impose on entire allotments. See comments for Chapter 4, Environmental Impacts. Therefore, the last sentence in the last paragraph, "...cumulative impacts from land-use changes would be small", is incorrect.

Recommendation: The ROI for impacts to land use must be expanded to include the entirety of grazing allotments, private parcels and grazing related water-based water sources potentially directly or indirectly impacted.

63. Page 5-21, Section 5.2.2.2.2 - Existing or Potential Land-Use Conflicts. The last sentence in the Section states that the cumulative impacts related to grazing conflicts would be small. This is false. See the public land grazing analysis in Resource Concepts, Inc. et al., 2007. An entire series of impacts to grazing allotments is contained within a Resource Concepts, Inc. 2005 report that the DOE cites within this DEIS. In addition, Chapter 1 states that over 200 comments were received during scoping regarding impacts to grazing and mining operations. Did the DOE consider the impacts discussed in the 2005 report? Did the DOE conduct any sort of integrated impact analysis in response to the 200+ comments received? If so, who conducted the analysis and what is their

technical expertise in the area of grazing management on public lands? None of this information is presented.

Recommendations:

- 1) The DOE must address each of the issues and questions raised in the paragraph above.
- 2) The DOE should disclose whether this map atlas was available to permittees at the time BLM and solicited comments from permittees.
- 3) The DOE should disclose what changes, if any, resulted from meetings with permittees and since development of this atlas?
- 4) The DOE should include an appendix which describes in detail the solicitation of and nature of comments received by BLM and DOE from grazing permittees.

64. Page 5-26, Section 5.2.2.3 - Aesthetic Resources. The statement is made that cumulative impacts to aesthetic resources would primarily result from modifications to natural viewsheds. Impacts would also result from modification to two basic qualities of the local culture - love of isolation and tranquility. The isolation and tranquility along the rail alignment immediately after Meadow Valley Wash would be forever and unavoidably altered. These intrinsic values are important to the local community and those who visit the area to enjoy the outdoor environment it provides. The impacts on these values must be analyzed and addressed under NEPA.

Recommendation: The DOE should address the impacts to changes in isolation and tranquility that will result along the rail alignment.

65. Page 5-28, Section 5.2.2.5 - Surface-Water Resources. Springs are a surface-water resource. They are impacted by the railroad and should be addressed in this Section and they are not. See related comments on Chapter 4, Environmental Impacts.

Recommendation: The DOE must include an assessment of the cumulative impact to springs.

66. Page 5-28, Section 5.2.2.5.1 - Changes in Drainage, Infiltration Rates, and Flood Control. The risk of combining washes and drainages is understated. See related comments on Chapter 4, Environmental Impacts.

Recommendation: The EIS must include an assessment of the cumulative impacts to drainage, infiltration rates, and flood control.

67. Page 5-29, Section 5.2.2.6 - Groundwater Resources. Given the existing situation of limited and sometimes insufficient perennial yields in the 19 hydrographic areas in question, DOE should put more emphasis on purchasing the necessary water from existing water rights owned by other parties, and less emphasis on drilling new wells. To

the extent they could avoid drilling new wells, the long-term use of groundwater in these arid areas would be reduced. For further pertinent points, see the related comments on Chapters 2, 3, 4, and 7.

Recommendation: The DOE must provide an expanded assessment of the cumulative impacts of purifying groundwater from the 19 affected hydrographic basins.

68. Page 5-32, Section 5.2.2.7.1 - Habitat Loss and Fragmentation. The last sentence states, "Cumulative impacts due to habitat loss and fragmentation would be small to moderate through the construction and operations phases throughout the Caliente rail alignment region of influence." The preceding discussion provides generalities and basic ecological theory. No information is provided to establish that the cumulative impacts would be small to moderate for the railroad.

Recommendation: The discussion of cumulative impacts to habitat loss and fragmentation must be expanded to consider trends in habitat loss and fragmentation and must quantify the acreage losses in habitat from past, present and reasonably foreseeable future actions from a direct and fragmentation perspective. Acres of disturbance for most of the past, present and reasonably foreseeable future actions is readily available in ROW applications and other NEPA documents.

69. Page 5-33, Section 5.2.2.7.2 - Invasive Species and Noxious Weeds. Nothing is presented to establish the assertion that cumulative impacts would be small. Railroads are notorious for serving as sources to introduce and spread invasive species and noxious weeds.

Recommendation: The EIS must include information to substantiate the conclusion that cumulative impacts would be small for invasive species and noxious weeds.

70. Page 5-35, Section 5.2.2.7.4 - Wildfires. The last paragraph states, "...the proposed railroad project...would likely implement appropriate fire-avoidance strategies in consultation with the BLM." That stops far short of a commitment to implement fire avoidance strategies. Nothing stated inspires confidence that cumulative impacts from wildfires would be small as stated. Railroads are known to be a major source of ignition for wildfires. The area around the Caliente rail corridor has not traditionally experienced problems with catastrophic wildfires. As a result, and due to the fragile desert ecosystem, little is known with regard to fire rehabilitation, and successful restoration has proven extremely difficult. As such, fire avoidance and suppression is of paramount importance, otherwise catastrophic wildfires with far-reaching implications could become a standard.

Recommendation: The EIS needs to include a commitment by DOE to adopt fire-avoidance specific BMPs, the nature of which should be described in Chapter 7.

71. Page 5-35, Section 5.2.2.8.1 - Railroad Noise. DOE states that noise associated with rail activities is part of the existing environment in the City of Caliente, and that wayside noise and horn sounding is common. This is true, however the cumulative impacts of the Union Pacific rail operation, Yucca Mountain train traffic, and potential commercial shipments along the Caliente Rail Corridor are not addressed. This small, quiet town would experience a dramatic increase in the level of noise and vibration caused by rail traffic.

Recommendation: The EIS should include analysis of the cumulative impacts of existing and anticipated Union Pacific mainline rail operation, Yucca Mountain train traffic, and potential commercial shipments in the vicinity of the City of Caliente and along the Caliente Rail Corridor as appropriate.

72. Page 5-36, Section 5.2.2.9 - DOE states that the economy in the cumulative impacts region of influence is changing from the traditional base of mineral development and livestock grazing to service, retirement, and tourism. This does not provide grounds to discount the importance of traditional land uses in Lincoln County. While livestock grazing may no longer support the majority of the economy of Lincoln County, its value remains substantial. Ranching is part of the heritage of the western states, and contributes to the economy by drawing tourists and retirees to the open spaces and rugged lifestyle associated with it. The Caliente Rail Corridor and the development associated with it could have strong adverse impacts on the ranching economy of Lincoln County; see Section 4 comments.²⁶ The loss of agricultural land in and around the more developed areas (such as the City of Caliente) only emphasizes the importance of protecting the more rural agricultural lands throughout the County. Traditional agricultural land use is important to the culture, values, and economy of Lincoln County. The DOE gives these considerations unduly short shrift. It must recognize these important considerations and make every effort to avoid or minimize the adverse impacts to this sector.

Recommendation: The analysis of cumulative impacts in the EIS must consider the important role that conversion of land from open space/agricultural uses (including range livestock enterprises) will have on the culture, values and economy of Lincoln County. The analysis should consider trends in private and public land conversion and changing uses.

73. Page F-15, Section R.3.4 - Here the text states, "It is extremely unlikely that a cask car will derail in a flood plain or wetland or in one of the washes that drains into a floodplain or wetland". In fact, such derailments have occurred in Lincoln County. Most recently, on January 14, 2005 flooding in the Clover Creek and Meadow Valley Wash drainages caused significant damage to over 100 miles of UPRR mainline track and related structures and resulted in derailment of a train south of Caliente. In the event similar flood damage were to occur and involve DOE shipments, DOE needs a plan to re-rail derailed cars and repair track in a timely fashion.

²⁶ *Ibid.*, Robinson/Seiler, 2007.

Recommendation: DOE should provide a 50 to 100 Year Plan that would identify how DOE would handle the possibility of a derailed cask car in a wetland or floodplain and the operations to re-rail the cask car. The weight of cask cars could be a possible issue with this activity. This information should be presented.

74. Page K-11, Section K.2.3 - Incidents such as broken rail, washouts, floods or derailments happen, DOE says, "the train would not stop en route to the repository". This statement needs to be explained.

Recommendation: A plan needs to be provided by DOE in the EIS that would ensure the environmental safety and health of the populace and all topography associated to the railroad and the nuclear waste being transported. In the event one of these scenarios would occur there needs to be a staging area for the trains.

E. DOE has Failed to Commit to Best Management Practices

1. Page 7-1, Introduction - Discusses how Chapter 2 and the Engineering and Site Evaluation Planning has reduced impacts. While Chapter 2 discusses some BMP and mitigation actions, they are very limited and general. For the most part Chapter 2 references Chapter 7. In some cases the engineering was in sharp contrast with listed BMPs. For example, two access roads parallel to the rail on raised roadbeds separate from the raised rail bed increase disturbance, the rail corridor footprint, and the potential for harmful environmental impacts such as noxious weeds and erosion. This appears to attributable to DOE not actually having committed to the BMPs included in Chapter 7 which are presented as "representative" or examples. In order to comply with NEPA DOE must clearly identify and commit to a set of BMPs which are included as part of the Proposed Action, the impacts of which are then accounted for in Chapter 4, Environmental Impacts. As currently written in the DEIS, it is not clear if the evaluation of impacts in Chapter 4 assumes all of the BMPs identified in Chapter 7 have been implemented.

Recommendation: The EIS must clearly identify those BMPs to which DOE has committed as a component of the Proposed Action and the analysis in Chapter 4 must evaluate the impacts of the Proposed Action assuming said BMPs are implemented.

2. Page 7-3, Section 7.2.3 - Discusses how each mitigation measure is linked with an identified impact. Mitigation would evolve with the project and could change or become more refined following the ROD. Narrowly defining mitigation as actions above what the "DOE is legally obligated to" falls well short of employing the five types of mitigation measures described in CEO's regulations. (avoidance, minimizing, rectifying, reducing or compensating). This leaves out policies and procedures that are not within written law. Where does the concept of "multiple use" fit into this? The BMPs discussed

in Table 7-1 must be included because those discussed in the Proposed Action are limited and very vague.

Recommendation: Any of the BMPs described in Chapter 7 that DOE does not commit to implement as a part of the Proposed Action should be removed from Table 7-1 and moved to Table 7-2 to be included as potential mitigation measures.

3. Pages 7-4 to 7-15, Table 7-1 – Provides a listing of representative BMPs and applicable requirements. “Representative BMPs” are typically very broad in scope and applicability. Due to the fragile nature of the desert environment along the Caliente Rail Corridor, many standard BMPs are likely to be highly ineffective. Specific measures must be taken to prevent significant environmental impacts, and such measures will need to be identified by professionals and scientists familiar with the area. However, neither this table, nor this chapter, discuss a means by which to identify and apply BMPs that are specific to the impacted sites. This is a major oversight that will result in extensive and significant environmental impacts if not resolved.

Page 7-4, Item 1 - “Prior to ground-breaking activities, collect data to plan for the restoration of disturbed areas and minimize impacts to sensitive habitats.”
Ground-breaking activities should include initial work such as water and geological exploration and surveying. Site-specific restoration plans should be developed and approved with input from regional revegetation experts, land users, and agencies for all areas, not just those that may provide habitat for sensitive species. The entire length of the Caliente Rail Corridor must be considered “sensitive habitat”.

Page 7-4, Item 2 - Discusses employee training. Employees should be trained on the fragility of the system they are working within, and what impacts construction as well as leisure time activities may have. Training should also focus on proper livestock husbandry practices and prevention of “taking” livestock and vandalism of infrastructure, which is considered private property. Penalties should also be developed for unacceptable worker behavior regarding construction and off-duty activities.

Page 7-5, Item 2 - Discusses how each contractor must prepare and submit SWPPPs. A SWPPP is a cookie-cutter form. Unless the contractor is well versed in erosion prevention the potential for environmental degradation remains high. Regardless of how SWPPPs are developed (by contractor, by project site, etc.) it will be a huge workload for the Nevada Department of Environmental Protection to process the applications, let alone handle compliance inspection. DOE should be required to provide funding to the State for additional staffing needs for processing SWPPPs and compliance inspections.

Page 7-6, Item 2 – Covers notification of emergency personnel of construction activities and schedules. The same should be done for residents, grazing allotment permittees, agency personnel, and land users.

Page 7-8, Item 2 – Discusses stockpiling topsoil as appropriate. What is considered topsoil, and who determines the “appropriateness” as to when to strip and stockpile. Stockpiles should be revegetated with adapted species to prevent erosion and weed establishment. Long-term storage can diminishes the quality of topsoil. It should be applied to treatment areas and planned treatments applied within a short timeframe.

Page 7-8, Item 3 – Discusses phasing of construction to limit ground disturbance, and identifying limits of disturbance. Phasing is preferred but extremely challenging considering the amount of water and geotechnical exploration needed in addition to the installation of the power line that is needed for construction camps. Limits of disturbance should be designated along the entire project using 4’ tall bright colored fencing such as wood lath snow fencing. Mapping and staking are insufficient, and have proven ineffective in the past. Contractors who work outside of marked limits should be removed from the project, and/or penalized accordingly.

Page 7-9, Item 1 – Discusses staging areas and stream/wash crossings. All stream and wash crossings should be stabilized, and equipped with proper site-specific BMPs. All construction and support equipment should be steam cleaned prior to entering the construction site, and periodically throughout construction to minimize the potential for the introduction or spread of invasive species and noxious weeds. This is a standard BMP that has been applied in many sensitive construction areas.

Page 7-9, Item 2 - Discussion of marking sensitive areas. All limits of disturbance, sensitive areas, staging areas, etc. should be delineated with 4’ high bright colored wood lath fencing. Flagging has been shown to be ineffective.

Page 7-9, Item 3 - Describes using a minimum-width rail line footprint when practicable. A minimum-width rail line footprint should be applied in all instances. Having two access roads on separate raised roadbeds does not accomplish this, nor does a shared-use rail that requires more sidings.

Page 7-10, Item 1 - Discusses inspecting equipment periodically for leaks. Equipment should be inspected for leaks prior to entering the project area, and prior to start-up at the beginning of each day’s construction. All leaks should be repaired before returning to construction activity. Protective pads should be used during equipment down time, and all contaminated soil immediately removed, contained and transported to an appropriate disposal site.

Page 7-10, Item 2 – Discusses use of grey water for dust suppression and soil compaction to minimize well use. Grey water as described in NAC 444.7616 cannot be disposed of in any means other than for underground irrigation as stated in NAC 444.837 and 8372.

Page 7-10, Item 3 – Discusses minimizing of groundwater use, and monitoring for impacts on existing water rights holders. Natural springs and waterways should also be monitored for effects. Monitoring efforts should be closely coordinated with grazing permittees and the BLM. Who will be conducting the monitoring? A neutral third party should conduct all monitoring activities, not the DOE.

Page 7-12, Item 4 – Discusses disposal of drill cuttings through land application. What does a "land application" entail? Drill cuttings should not be left on the existing ground surface as it is not a suitable growth medium. This activity should be coordinated with the BLM, grazing permittees, and the Nevada Department of Environmental Protection.

Page 7-14, Item 3 – Discusses control of noxious weeds with herbicides or other pest management techniques. Will this only apply to the operational right-of-way? A noxious weed inventory and monitoring program must be initiated and continued throughout the life of the rail for all areas disturbed during construction or operation of the rail. Invasive species, which are not listed as state or federal noxious species, should also be monitored.

Page 7-15, Item 1 – Describes removal of pavement on new quarry roads and regrade to previous contours. Restore quarry walls to a 3:1 grade and revegetate around quarry. All disturbed areas should be revegetated and monitored for invasive species and noxious weed establishment. Restored grades should not be steeper than 3:1, and walls should be terra-formed to establish a natural look. In addition, topsoil should be stockpiled and used for revegetation.

Recommendations:

- 1) The description of BMPs in the EIS should be expanded to make them more applicable to alternative site specific conditions which will be encountered along the rail alignment (as described in the above-listed comments to various BMPs).
- 2) The EIS must clearly identify those BMPs which DOE has committed to implement as a component of the Proposed Action and the analysis in Chapter 4 must evaluate the impacts of the Proposed Action assuming said BMPs are implemented.

F. DOE's Identification and Analysis of Relevant and Reasonable Mitigation Measures is Incomplete

General Comment
DOE has not taken the requisite hard look at impacts nor has it complied with NEPA requirements to lay out a full spectrum of appropriate mitigation. Throughout these

comments, Lincoln County has sought to provide DOE with suggested measures to mitigate impacts (for example on grazing permittees). In a comprehensive assessment of the potential impacts of the Yucca Mountain Repository System on Lincoln County, the County identified a wide variety of potential measures to mitigate identified impacts.²⁹ A summary of the recommendations for mitigation of impacts identified in Lincoln County's impact report follow and should also be considered by DOE for implementation:

Air Quality:

In addition to a commitment to avoid emissions associated with the transport of nuclear waste through Lincoln County, DOE could implement programs to off-set the additional unavoidable emissions. The goal of an off-set program would be to keep total emissions (both repository and non-repository) at or below current levels. Examples of such programs include:

- 1) Help for businesses and residences (existing and new) to control emissions at no additional cost to the property owners and tenants. This could include assistance with emissions control technology, and the purchase of more efficient appliances and education about techniques for improving efficiency.
- 2) Providing assistance to residents to insulate their homes, purchase more efficient appliances, and improve overall efficiency.
- 3) Assistance for local citizens with emissions control technology on their personal vehicles and general maintenance to reduce emissions with an emphasis on the "high emitters."
- 4) Assistance to County in paving dirt streets.
- 5) Assistance to County with landscaping of barren areas.
- 6) Reduction of non-repository vehicle trips through enhanced pedestrian and bicycle trails.

Groundwater:

- 1) If it is determined that withdrawing groundwater for construction and dust control will have a detrimental effect on ground water in Lincoln County, DOE should avoid this impact by trucking in the water from another more abundant source.
- 2) Provide funds to the communities of Alamo, Panaca, and Caliente to upgrade and improve their water systems including wells, pumping, and storage capabilities to off-set the additional demands that will be made by new permanent and temporary residents, servicing the staging yard and related facilities and construction camps, and servicing additional through traffic.
- 3) DOE should consider leasing unused water rights from existing right-holders rather than seeking new water permits and the construction and pumping of new wells.

²⁹ Intereach Services Corporation, *In Search of Equity: A Preliminary Assessment of the Impacts of Developing and Operating the Yucca Mountain Repository on Lincoln County and the City of Caliente, Nevada*, Prepared for the Lincoln County Board of Commissioners and the Caliente City Council, December 2001.

- Noise:**
- 1) Contractors should be required to use proven techniques to reduce noise in the surrounding environment during construction.
 - 2) Time of day restrictions on construction activity.
 - 3) Time of day restrictions on truck and locomotive operations involving operation of the staging yard.
 - 4) Other restrictions on truck operations, including idling and the use of air brakes in certain zones should be implemented to reduce noise impacts on local residents.
 - 5) Consider the strategic use of sound barriers to minimize the distance that noise will travel.
- Aesthetics:**
- 1) Design of the staging yard and related facilities and structures should blend with the natural environment and fit with the local architecture.
 - 2) Vegetation, such as native trees and shrubs, should be planted on berms around the intermodal facility to soften the visual impact.
 - 3) Protocol to minimize cuts and fills and areas that will be cleared of vegetation during construction.
- Radiation Exposure:**
- 1) For transportation and related facility workers, utmost care should be taken to ensure that radiation dose badges are being used correctly and workers receiving higher than acceptable levels of radiation should be reassigned to work in areas with less risk of exposure.
 - 2) If workers are regularly exceeding dose limits, DOE will need to reexamine procedures to reduce exposure.
 - 3) Doctors and medical staff in Lincoln County and the City of Caliente should be trained to identify radiation sickness and the hospital must have the capability to isolate patients and treat for radiation exposure.
 - 4) In order to avoid risk of exposure for the residents of Lincoln County, any staging yard, if constructed, should be sited at an appropriate distance from residential or public functions. DOE should further isolate the staging yard facility with physical barriers. Special care should be taken that children cannot climb fences or otherwise put themselves into close proximity of the staging yard.
 - 5) Limits should be placed on the number of casks allowed at the staging yard at any one time.
 - 6) Transportation protocols should be designed to ensure that the staging yard facility does not become a holding place in the event the repository is temporarily unable to accept additional casks. (i.e. departures of train shipments must be stopped at the place of origin, if the repository cannot accept casks.)
 - 7) Studies indicate that more than 90% of the risk of exposure to the population along the transportation corridors is during stops. As stop time increases so does the exposure to the population. This indicates that controls on the duration and location of stops are an important technique for reducing exposure to radiation. Stop times in populated areas should be minimized and designated safe stopping areas for rail transport should be isolated from communities.

- 8) Increased speeds were also found to reduce exposure. For train shipments, DOE needs to assess the trade-off between increased speeds to lower radiation exposure and the risk of an accident that increases with travel speed. The optimal operating speed should be determined and adhered to.
- 9) County and City officials should have independent oversight over the Federal radiation monitoring at the staging yard and along rail corridors. This includes funding for staff to perform independent monitoring and obtain and maintain necessary equipment.
- 10) In consultation with Lincoln County, DOE should design and implement a baseline epidemiological assessment and monitoring project in the County. Collection of baseline epidemiological data in the County should begin as soon after a DOE decision to construct the Caliente rail alignment or otherwise transport spent nuclear fuel and other high-level radioactive waste through Lincoln County is made. This would provide at least three years of pre-shipment baseline health conditions data for the County. Regardless of whether SNF/HLW is shipped through Lincoln County said baseline study and monitoring project should be implemented at least three years prior to initial receipt of radioactive waste at the Yucca Mountain site.
- 11) DOE should conduct a thorough baseline and cumulative assessment of radiation levels and exposure in Lincoln County. This baseline study should include risks from direct exposures from atmospheric tests, direct exposures from unconfined underground tests, risks from future migration of radioactivity deposited on the surface or underground at the NTS. The study should include the inventory and potential future releases of radioactive materials at the test site from all tests, the transport by air and water of radioactive material, the human exposure and uptake to radioactive material, and the expected health consequences of the exposures. Without this complete assessment of past exposures, risk, and health consequences, DOE cannot know that the Yucca Mountain repository is not increasing exposure levels to residents of Lincoln County.
- 12) DOE should execute advance agreements with Lincoln County regarding compensation that will automatically go into effect if background radiation levels exceed an agreed upon level. This "bright-line" approach assures residents of the County that they will be compensated for harm that may be inflicted on them and it reduces the likelihood of long drawn-out litigation between DOE and citizens in these communities.
- 13) A guarantee from DOE is required that it will bear the full cost of clean-up activities if radiation is detected in Lincoln County, using best available clean up techniques and equipment.
- 14) DOE should conduct an ecological risk assessment to determine the radiological risks to the wildlife and vegetation directly adjacent to the transportation corridors and the staging yard. This should be completed as part of the EIS for NEPA disclosure purposes.

Community Cohesion:

Literature indicates that trust, control, and self-determination are important to increased comfort levels with hazardous facilities. For example, in some European communities if they accept a repository they are then granted a greater degree of control over operations as well as local participation in decisions and monitoring functions.³⁰ To the degree that DOE implements greater local participation, this will mitigate negative impacts to community cohesion. Residents will have a much greater level of trust in fellow community members who are participating in decisions and monitoring the Yucca Mountain repository. Strains on community cohesion can be reduced if there are clear benefits to the community that are available to all residents. Suggested measures to mitigate possible impacts include:

- 1) DOE should continue to assist Lincoln County with funds to hire experts and conduct independent oversight during the characterization, construction, and emplacement phases of the repository.
- 2) DOE should continue to assist Lincoln County with funds to enable them to monitor the impacts of the repository on key socioeconomic indicators in Lincoln County, such as population, jobs, and income.
- 3) DOE should commit to compensation involving enhancement of community quality of life through investments such as community centers, public parks, public pools, or other facilities that are valued by the community.
- 4) DOE should provide significant unrestricted compensation for strains on community cohesion.

Political Divisiveness:

- 1) DOE should compensate the County for costs associated with special elections, and increased time that elected officials and local government employees may need to put towards issues pertaining to the repository. Compensation should be retroactive to the initial date at which impacts can be measured.
- 2) DOE should commit to providing compensation for any future litigation or costs incurred by the local governments or individual officials related to the exercise of their duties, pursuant to designation as an affected unit of local government.
- 3) DOE should provide significant unrestricted compensation for potential impacts related to political divisiveness.

Employment:

The following measures would help ensure that employment opportunities and benefits are maximized in Lincoln County:

- 1) A local job training program will enhance employment opportunities for residents of Lincoln County. The type of skills required for repository work as compared to the capabilities possessed by County workers will affect the chances of local

³⁰ Joint City/County Impact Alleviation Committee. (1990). *A Nevada Local Government Perspective of European Nuclear Waste Management*. Lincoln County and the City of Caliente, Nevada.

workers being used and in what capacity. These skills include management, engineering, craft, equipment operators, etc.

- 2) DOE could locate ancillary activities in the County. At peak employment, DOE anticipates requiring several hundred clerical/office workers to support site development/operations at Yucca Mountain and most of these are anticipated to be located in the Las Vegas area. Through the use of currently available data, transmission technologies (i.e. modems, internet access, etc), certain "back office" functions could be conducted at locations in Lincoln.³¹
- 3) There is an issue of whether the jobs available will be union or non-union positions. Because union hiring halls are typically located in metropolitan centers, rural workers often find it difficult to obtain union jobs. Consequently, if union labor is relied upon for Yucca Mountain work, employment opportunities for Lincoln County residents may be limited. DOE should implement hiring policy that gives Lincoln County residents a fair opportunity to apply for the available positions. Unions should be required to provide in-community based training programs.
- 4) DOE should commit to local procurement policies within the State of Nevada and for Lincoln County.
- 5) Due to the long distance between communities in Lincoln County and the repository, DOE should provide a busing program to bring Lincoln County residents in to the repository for work. If the Department of Defense were willing to once again allow access through Gate 700 (which is located near the northern edge of the NTS), Lincoln County workers would have relatively convenient access to the Yucca Mountain project.
- 6) Rachel's close proximity to these federal installations, closer than Las Vegas Valley, suggests the possibility of providing residential housing and services for those federal employees and contractors desiring an alternative to the long commute from the Las Vegas Valley.

Income:

- 1) Procurement policy that would increase purchases of goods and services from within Lincoln County would benefit businesses and their employees in Lincoln County and the City of Caliente.
- 2) Appropriate wage structures and salary compensation for employees of the repository. Yucca Mountain repository jobs utilize limited community capacity (i.e. housing, roads, water). If adequate salaries are not provided, opportunity costs to the community may be exacerbated.

Population:

Due to the unique nature of the repository, population impacts are difficult to forecast and should be monitored closely, with a commitment from DOE to provide adequate compensation if adverse impacts are detected. Population growth in Lincoln County communities will place an additional strain on government services, such as wastewater

³¹ Intertech Services Corporation. (1994b, October). *The 1993 Lincoln County Labor Market Survey and Update*. Prepared for the Board of Lincoln County Commissioners, the Caliente City Council, and the Joint City/County Impact Alleviation Committee.

treatment, water, public safety, roads, etc. These are services that the local governments are required to provide, although the repository is an involuntary project and may reduce the community's ability to provide services for desired projects. Mitigation, including compensation, for these additional demands are discussed under section 4.7: Local Government Finance. Conversely, if there is out-migration due to stigma effects, or if the population does not experience the anticipated growth, there will also be negative fiscal impacts because the County and City will need to absorb fixed tax supported outlays on a smaller population base. Mitigation, including compensation, under this scenario is discussed under Public Perception and Stigma.

Emergency Management:

Emergency management systems will need to be upgraded to handle additional accidents associated with increased traffic flow and population and to handle an emergency involving the release of radioactive material into the environment. Lincoln County must have the capability of handling this additional burden without compromising service to existing communities or to visitors and tourists. The following measures would serve to mitigate the effects of the additional burden:

- 1) Grants to upgrade current emergency response equipment to handle additional emergency situations (including fire and medical response capabilities) due to a larger population base and accidents associated with the construction and operation of a rail spur line, the staging yard and construction camps.
 - 2) Grants to purchase the necessary equipment to enable the County to provide early response to handle an incident involving the release of radioactive material into the environment and human contamination.
 - 3) Initial funding to expand the emergency response staff and continuing grants to maintain the additional staff.
 - 4) Funding to enable ongoing training for the emergency management personnel, and to cover special training for radioactive material and evacuation/crowd control training.
 - 5) A contingency for grants to cover additional staff time and equipment in the event of a radiological emergency.
 - 6) Cross training and reciprocal agreements with other impacted counties in Nevada.
 - 7) Grants and aid in developing and publicizing evacuation plans for Lincoln County communities. The evacuation plan should include route planning, emergency personnel coordination, public education, acquisition of emergency signal and communication equipment, acquisition of vehicles needed for evacuating students, hospital patients, elderly persons and others with special needs.
- In addition to financial support and training, DOE needs to take a proactive and positive role in helping Lincoln County with emergency planning for a radiological event. This includes:
- 1) Providing guidance for appropriate levels of community preparedness, training, equipment, and response procedures.

- 2) Clarifying responsibilities in response planning between the federal, state, and local governments, as well as between federal agencies, such as FEMA, DOE, and EPA.
- 3) Taking responsibility to ensure (perhaps through certification training) that the local governments have the necessary training and equipment to handle an accident involving a radiological release.

Back-up emergency help is at the present a long way off. Three hours is the minimum drive time for additional emergency personnel and equipment to arrive from Las Vegas. Under these circumstances, DOE needs to evaluate:

- 1) If there are upgrades to dirt roads or cut-through routes that could be established which would reduce the drive time between NTS, Las Vegas and Lincoln County communities. For example, improvements to Kane Springs Road.
- 2) A determination needs to be made as to which critical heavy or large equipment should be stored in Lincoln County so that personnel being flown in via small plane or helicopter would have the necessary equipment without the delay of waiting for trucks to arrive.
- 3) Strategically locating DOE emergency response capabilities along transport routes should be considered.

Emergency Medical:

Emergency medical systems will need to be upgraded to handle additional accidents associated with increased traffic flow and a larger population base. In addition, the Grover C. Dils Medical Center and community clinics will need to be able to handle an emergency involving the release of radioactive material into the environment and human contamination. The hospital and clinics must have the capability of handling this additional burden without compromising service to existing communities. The following would serve to mitigate the effects of the additional burden:

- 1) Funds to upgrade hospital facilities and to accommodate the additional demands for basic service.
- 2) Grants to hire additional staff to accommodate increased demands for basic services.
- 3) Funds to modify hospital facilities to provide the capability for radiological quarantine in the event that persons contaminated with radiation are admitted for initial treatment.
- 4) Funds to purchase equipment and supplies for use during a radiological event.
- 5) Funding to allow for ongoing training in radiological safety procedures and treatment for the hospital staff.
- 6) A contingency for grants to cover additional staff time in the event of a radiological emergency and to replace contaminated or outdated equipment.
- 7) Cross training and reciprocal agreements with other impacted counties in Nevada.
- 8) DOE should develop a standard of competency for radiological medical treatment and ensure that staff in communities along the transport corridors meet the minimum requirements (perhaps through certification training).

Schools:

- 1) DOE should provide the Lincoln County School District with funding to monitor for impacts and changes in student populations and demands due to the repository system.
- 2) DOE should reimburse the School District for the cost of educating additional students induced by repository system construction and operation.
- 3) DOE should commit in advance to provide funds to expand school facilities, purchase equipment, and hire additional staff if monitoring indicates that the school system is experiencing additional demands due to the repository system.

Streets:

- 1) Grants to cover additional maintenance and repair costs for local streets, due to the increased population base and additional repository related traffic.
- 2) Grants to cover additional safety mechanisms such as street lights and stop signs that may be necessary to accommodate increased traffic flows.
- 3) If heavy-haul or legal-weight trucks will be traveling over County maintained roads, DOE should provide the County resources to cover the additional costs for road maintenance.
- 4) Safety at existing and new railroad crossings would be enhanced if they were modified to reduce potential contact between cars and trains. If complete grade separation at existing crossings is not possible, railroad crossing and signals should be evaluated for possible enhancement and upgrading. A communication system between the railroad and the local emergency first responders should be enhanced.

Wastewater Treatment:

Repository system related population will put additional demands on the wastewater treatment facilities in the communities of Lincoln County. DOE should fund facility upgrades and expansions as necessary.

Local Oversight:

Funding for local oversight, as specified in Section 116(c) of the Nuclear Waste Policy Act, will need to continue for the duration of the repository program (construction, emplacement, pre-closure monitoring and decommissioning) for independent local oversight and monitoring.

Local Government Finance:

- 1) Grants to the local governments to cover the added cost of providing service and facilities for the new residents that locate in Lincoln County and the City of Caliente due to repository related jobs.
- 2) Grants to the local governments if repository related impacts (both standard and stigma induced) require additional staff.
- 3) Grants to the local government to enable establishment and staffing of a fiscal impact monitoring capability.

Rail Transportation Risk:

Implementation of the following mitigation measures would serve to avoid or minimize all potential impacts of the rail transport of nuclear waste along the existing rail corridor and on a new rail line and related facilities serving Yucca Mountain:

- 1) Establish and fund an organization to coordinate and plan for high level nuclear waste train movements through the rail corridor. This organization, which could be formed from an existing county organization such as the sheriff's department, would monitor, detect and react to potential sabotage in the corridor.
- 2) Before the rail shipments containing the nuclear waste begin and at regular intervals thereafter, a complete inspection of the rail corridor should be conducted and repairs made. The result of the existing "rugged" alignment with high quantity of curved track is a railroad that requires constant inspection of track for gage widening in the curves. The consequence of not maintaining proper gage is an increased potential risk of derailment.
- 3) DOE should evaluate additional safety measures and infrastructure safety standards for the rail transport (rather than relying on federal safety standards), because of the high consequence nature of a rail accident with spent nuclear fuel. DOE should be responsible for the costs of upgrading equipment and maintaining the additional safety standards for the duration of transport of the spent nuclear fuel.
- 4) The railroad lines, switching equipment, and lights should be inspected regularly for regular wear and repairs should be made promptly.
- 5) A system for detecting natural hazards, such as land slides and floods should be implemented. This could be a pilot train or pilot vehicle that would travel the rail corridor two to five miles ahead of the train carrying high level nuclear waste casks, or sensors and monitors on the tracks to warn of natural hazards.
- 6) Rail crossings should be grade separated.

Tourism:

- 1) Implement a comprehensive monitoring system to detect if there are negative impacts on tourism in Lincoln County due to the rail alignment and related facilities, the downwind location from the repository or the existence of the nuclear waste transport corridor. The monitoring system should be capable of detecting changes in tourism under no incident conditions as well as in the event of an incident/accident.
- 2) Set in place clear milestone impact thresholds at which predetermined mechanisms for compensating businesses affected by drop in tourism, both short term and long term would be implemented. The compensation package should address both no incident scenarios as well as incident/accident-related declines in tourism.
- 3) Grants to Lincoln County to fund a marketing campaign to attract additional tourists in the event that the repository system results in a drop in tourism.
- 4) DOE should provide funds for Lincoln County to develop and implement a contingency marketing plan in the event of a repository system related incident/accident that receives wide-spread media attention that causes a detrimental effect on tourism.

Economic Development:

Lincoln County has invested considerable resources in understanding and promoting economic development within the County. Each year, the County develops an updated comprehensive economic development strategy. DOE has a responsibility to ensure that the Yucca Mountain repository does not hinder or counter-act long-standing economic development programs sponsored by Lincoln County. Mitigation to offset adverse economic development impacts include:

- 1) DOE should encourage the use of Small Business Administration certified HubZone businesses located in Lincoln County for the purchase of services, finished products, and building materials that could be produced or obtained locally as required to construct and operate the repository system, including transportation.
- 2) The repository and supporting activities should not preclude the development of the vast resources in Lincoln County, including the many industrial minerals, such as Perlite, clays, soil additives, pumice, cinder, diatomite, fluorspar, pozzolan, gypsum, and zeolites. Fossil fuels have also been located in Nevada and Lincoln County has one of the largest known domestic oil reserves in the country. The potential for Nevada oil and gas production is significant. Opportunities to develop these resources should not be compromised by the repository system. DOE could establish satellite offices for DOE clerical and management functions in Lincoln County. In a 1998 survey question about employment opportunities at NTS or Yucca Mountain, survey respondents indicated that former household members would return to the area if employment opportunities were available. Based on this survey result, the total number of former household members from Lincoln County who might return to the area if there were employment opportunities was estimated to be 640 persons.³²
- 5) Rachel, in particular, could benefit from Yucca Mountain repository system employees that choose to live there due to the proximity to the facility. Rachel is approximately 70 miles northeast of Yucca Mountain. However, some potential residents may choose to live further away in other communities that have greater amenities. If DOE were to participate in a comprehensive development program for the Rachel area, in conjunction with providing housing and vanpools to the facility, the economic vitality of the region would be enhanced.
- 6) Funding for Lincoln County to market the area as a location choice to repository system support industries.

Real Property:

- 1) Establish pre-project property value data-base.
- 2) Monitor for changes in property values along the transportation corridor.
- 3) Monitor for changes in property values throughout the community.

³² Intertech Services Corporation, (1998, September). *The 1998 Lincoln County Labor Market Survey and Update*. Prepared for the Nevada Test Site Development Corporation and the Board of Lincoln County Commissioners.

- 4) Set in place clear impact threshold criteria that will trigger compensation to property owners and a mechanism for compensation.

In addition to mitigation identified in Lincoln County sponsored research, in preparing these comments the County has reviewed a variety of other rail construction related NEPA and STB decision documents and has identified therein numerous other measures which must be considered by DOE for implementation to mitigate impacts of construction, operation and decommissioning of the Caliente rail alignment and related facilities. Lincoln County recommends that DOE review mitigation described in the following documents for applicability to the Caliente rail alignment:

Dakota, Minnesota & Eastern Railroad Corporation Construction into the Powder River Basin, Final Environmental Impact Statement, Surface Transportation Board Finance Docket No. 33407, 11/19/01 [F] DM&E Final Environmental Impact Statement"
http://www.stb.dot.gov/stbenvironmental/key_cases_dme.html

San Jacinto Rail Limited and The Burlington Northern and Santa Fe Railway Company Construction and Operation of a Rail Line from the Boyport Loop in Harris County, Texas, Final Environmental Impact Statement, May 2003
http://www.stb.dot.gov/stbenvironmental/key_cases_bayport.html

Draft Environmental Impact Statement for Six County Association of Government's Proposed 43-Mile Rail Line in SanPete, Sevier and Juab Counties, Utah, June 2001.

Southwest Gulf Railroad Company- Construction and Operation Exemption, Medina County, TX; Draft Environmental Impact Statement, November 2004; Draft Supplemental Environmental Impact Statement, December 2006

Tongue River Railroad Company I, II, and III, STB Decision Document
[http://www.stb.dot.gov/decisions/readingroom.nsf/UNID/273F0B3FEA54D027D85257204067AC3E/\\$file/37356-Ch.4-8.pdf](http://www.stb.dot.gov/decisions/readingroom.nsf/UNID/273F0B3FEA54D027D85257204067AC3E/$file/37356-Ch.4-8.pdf)

Among numerous potentially applicable mitigation measures included in the aforementioned documents, Lincoln County believes that the following measures may be particularly effective in mitigating impacts of the Caliente rail alignment and related facilities and encourages DOE to commit to same (in addition to other mitigation measures described within this comment letter):

Grade Crossing/Warning Devices

1. DOE shall consult with appropriate Federal and State transportation agencies to determine the final design and other details of the grade-crossing protections and grade separations on the new rail line.
2. Implementation of all grade-crossing protections shall be subject to the review and approval of the Federal Rail Administration (FRA) and the Nevada Department of Transportation.

Emergency Response

1. At least one month prior to initiation of construction activities in the area, DOE shall provide the information described below, as well as any additional information, as appropriate, to each local emergency response organization or other similar body for communities within the project area regarding project-related construction and operation of both the new and existing rail line:
 - The schedule for construction throughout the project area, including the sequence of construction and reconstruction of public grade crossings and approximate schedule for these activities at each crossing.
 - Expected schedule for any changes in rail line operations along DOE's system, including when changes in train speeds and levels of traffic are anticipated to occur, and current and new train speeds and levels of rail traffic.
 - A toll-free number for the DOE's contact who shall be available to answer questions or attend meetings for the purpose of informing emergency-service providers about the project construction and operation.
 - Revisions to this information, including changes in construction schedule, as appropriate.
2. DOE shall consult with the Board of Lincoln County Commissioners and representatives of affected communities that so request, to coordinate train movements and emergency response and discuss the possible installation by DOE of a state-of-the-art electronic display board, or equivalent technology, such as a real time or Global Positioning System (GPS) train location monitoring system in the local emergency-response center of each community showing the location of trains and/or the position of grade crossing warning signals.
3. DOE shall coordinate with the Nevada Department of Transportation, counties, and affected communities to develop a program for installation of temporary notification signs or message boards on railroad property at public grade-crossings, determined by the State and/or County to warrant such measures, clearly advising motorists of the impending increase in train traffic and train speeds along its existing system and commencement of operations along its new rail line. The format and lettering of these signs shall comply with the U.S. Department of Transportation (DOT), Federal Highway Administration's Manual on Uniform Traffic Control Devices, and shall be in place no less than 30 days before, and 6 months after, completion of project-related construction and reconstruction activities in the area.
4. For each of the public grade-crossings on the new and existing rail line, DOE shall provide and maintain permanent signs prominently displaying both a toll-free telephone number and a unique grade crossing identification number in compliance with Federal Highway Regulations (23 CFR Part 655). The toll-free number shall be answered 24 hours per day by DOE's personnel. Where DOE's right-of-way is close to another rail carrier's crossing, Applicant shall coordinate with the other rail carrier to establish a procedure regarding reported accidents and grade crossing device malfunctions.
5. DOE shall consult with interested communities along its new rail line to identify alternative safety measures to eliminate the need to sound train horns in the community, in accordance with FRA's final rule on the *Use of Locomotive Horns at Highway-Rail*

Grade Crossings

1. DOE shall install reflective material on the back of all passive crossing warning devices, such as crossbucks, on the new and existing rail line. Reflective material shall be installed so that headlights from vehicles approaching the grade crossing on the opposite side of the rail line will strike the material and illuminate it to provide a continual illumination in the absence of a passing train and a flashing appearance when a train is passing due to the space between the rail cars.
2. To the extent practicable, DOE shall minimize trains blocking grade-crossings throughout its system.

Track Warning Devices and Track Infrastructure

1. DOE shall properly maintain its new and existing rail line. Maintenance shall include trimming vegetation on railroad property that obscures visibility of oncoming trains and assuring that rail, railroad ties, track fastenings, and ballast material are in good repair, and that warning devices operate properly and are legible.

Fire Prevention

1. Prior to initiating any construction activities related to this project, DOE shall, in consultation with the Natural Resource Conservation Service, local grazing organizations, appropriate Federal agencies, and local fire and emergency response departments, develop an adequate plan for fire prevention and suppression and subsequent land restoration, including natural habitats, during construction and operation of both the new rail line. To the extent practicable, DOE's plan shall ensure that all locomotives are equipped with functioning spark arresters on exhaust stacks and fire extinguishers suitable for flammable liquid fires and provide for the installation of low-spark brake shoes.

Miscellaneous

1. During project-related construction at grade-crossings, when practicable, DOE shall maintain at least one open lane of traffic at all times or provide for detours and associated signage, as appropriate, to allow for the quick passage of emergency and other vehicles.
2. In undertaking project-related construction activities, DOE shall use construction materials and safety practices recommended by the American Railway Engineering and Maintenance of Way Association (AREMA) and the recommended standards for track construction in the AREMA Manual for Railway Engineering. DOE shall maintain the track and provide for track inspection in compliance with AREMA and FRA requirements at 49 CFR 213.
3. DOE shall adhere to Federal Occupational Safety and Health Administration (OSHA), FRA, and State construction and operational safety regulations to minimize the potential for accidents.
4. DOE shall make Operation Lifesaver programs available to communities, schools, and other organizations located along the new and existing rail line.
5. DOE shall consult and coordinate with school districts regarding placement on railroad property of equipment to permit use of in-vehicle warning devices on school buses.
6. DOE shall assure that roadway approaches and rail line crossings for both new and existing grade crossings are constructed or re-constructed according to the standards of

the American Association of State Highway and Transportation Officials (AASHTO) design manual, applicable state rules, guidelines, or statutes, and the AREMA standards. The goal of grade crossing design should be to eliminate rough or humped crossings to the extent practicable.

Land Use

1. To provide access for the safe movement of farm equipment to fields and pastures which otherwise would have to operate on public highways, as a result of road closures following construction and during operation of DOE's rail yards, DOE shall provide or develop appropriate access to these fields and pastures. Alternatives for access could include development of frontage roads adjacent to yard boundaries, agreements for farmers to coordinate with the yard master to cross through the yard, if rail operations and safety conditions permit, or development of additional access roads.
2. Prior to initiation of construction or reconstruction activities related to this project, DOE shall establish Community Liaison(s) to consult with affected communities, farmers, ranchers, businesses, landowners, and agencies; develop cooperative solutions to local concerns; be available for public meetings; conduct periodic public outreach; and assist communities and other entities in establishing quiet zones. Such assistance may include coordination with FRA for identification of appropriate supplemental and alternative safety measures at grade crossings where quiet zones are desired, identifying potential sources of funding, providing assistance preparing funding applications and grant requests, and coordinating with representatives of potential lending organizations. The Community Liaison(s) shall have access to DOE's upper management. DOE shall provide the name and phone number of the Community Liaison(s) to County Commissioners and other appropriate local officials in each local jurisdiction through which the new rail line passes.
3. DOE shall provide its project-related reconstruction and construction schedule to affected farmers and ranchers to allow them to determine whether they should continue to crop or graze in right-of-way areas or discontinue such activities due to impending construction and reconstruction activities.
4. DOE's Community Liaison shall work with farmers and ranchers to remedy any damage to crops, pastures, or rangelands caused by DOE's project-related construction or reconstruction activities. The Community Liaison also shall have authority to provide information on anticipated train schedules to farmers and ranchers to facilitate movement of equipment or livestock from one side of the rail line to the other.
5. In negotiations with farmers and ranchers, DOE shall be guided by the Land Use Mitigation Policy and Plan negotiated between the DOE, the BLM, landowners, grazing permittees, appropriate state grazing boards and Lincoln County, which addresses at least the following areas of concern including compensation:
 - Direct and indirect land loss.
 - Displacement of capital improvements (wells, windmills, corrals, outbuildings, irrigation systems, etc.).
 - Noxious weed control.
 - Fencing.
 - Livestock casualty.
 - Fire prevention and suppression.

- Fire casualty.
- Construction-related impacts.

6. If construction activities cause damage to existing range improvements, the range improvements would be repaired using material that meets or exceeds the quality of the existing improvement. If damage occurs, the BLM and livestock operator would be notified immediately. If damage occurs during active livestock grazing, repairs would be made within 24 hours. In addition, where required, tortoise fencing would be approximately 18 to 24 inches high, consisting of welded mesh attached to small stakes so cattle should be able to move over it.

Residential

1. DOE's project-related construction vehicles, equipment, and workers shall not access work areas by crossing residential properties unless negotiated with and agreed to by the property owner.
2. In residential areas, DOE shall store its equipment and materials in established storage areas or on DOE's property to the extent practicable.
3. The Community Liaison shall work with affected landowners to appropriately redress any damage to the landowner's property caused by DOE's project related construction or reconstruction activities.

Business and Industrial

1. DOE's project-related construction vehicles, equipment, and workers shall not access work areas by crossing business or industrial areas, including parking areas or driveways, unless negotiated with, and agreed to by, the business owner.
2. In business and industrial areas, DOE's project-related equipment and materials shall be stored in established storage areas or on DOE's property. Parking of DOE's equipment, or vehicles, or storage of materials along driveways or in parking lots is prohibited unless agreed to by the property owner.
3. The Community Liaison shall work with affected businesses or industries to appropriately redress any damage to the business's property caused by DOE's project-related construction or reconstruction activities.
4. DOE shall insure that entrances and exits for businesses are not obstructed by project related construction activities, except as required to move equipment.

Noise and Vibration

1. DOE shall consult Lincoln County and with affected communities regarding DOE's project-related construction schedule, including the hours during which construction takes place, to minimize, to the extent practicable, construction-related noise disturbances in residential areas.
2. DOE shall ensure that curves are lubricated where doing so would reduce noise for residential or other noise sensitive receptors.
3. Prior to initiating project-related construction activities, DOE shall develop a Construction Noise and Vibration Control Plan (the Plan) to minimize construction noise and vibration along the rail line. DOE shall designate a noise control officer/engineer to develop the Plan, whose qualifications shall include at least five years' experience with major construction noise projects, and board certification membership with the Institute

of Noise Control Engineering or registration as a Professional Engineer in Mechanical Engineering or Civil Engineering.

4. DOE shall comply with FRA regulations (49 CFR Part 210) establishing decibel limits for train operations.
5. DOE shall consult with Lincoln County and interested communities in the vicinity of its new rail line to identify measures to eliminate the need to sound train horns consistent with FRA standards.
6. DOE shall regularly inspect rail car wheels to maintain wheels in good working order and minimize the development of wheel flats (areas where a round wheel becomes no longer round but has a flat section, leading to a clanking sound when a rail car passes).
7. DOE shall mitigate train wayside noise (locomotive engine and wheel/rail noise) for the noise-sensitive receptors along DOE's new rail line construction that fall within the 70 dBA Ldn noise contour for wayside noise, as specified below. With the written concurrence of the responsible local government(s), DOE shall mitigate wayside noise with building sound insulating treatments, including insulated windows.
- The design goal for noise mitigation shall be a 10 dBA noise reduction. The minimum noise reduction achieved shall be 5 dBA. Noise barrier performance shall be determined in accordance with ANSI S12.8-1987, *American National Standard Methods for Determination of Insertion Loss of Outdoor Noise Barriers*. Sound insulation performance shall be determined in accordance with ASTM 966-90, *Standard Guide for Field Measurements of Airborne Sound Insulation of Building Facades and Facade Elements*. Should noise mitigation be required at locations identified as containing structures that are potentially eligible for listing on the National Register of Historic Places, DOE shall consult with the appropriate State Historic Preservation Officer to assess effects and implement appropriate mitigation measures.
8. To minimize noise and vibration, DOE shall install and properly maintain rail and rail beds according to the AREMA standards and shall regularly maintain locomotives, keeping mufflers in good working order to control noise.

Monitoring and Enforcement

1. DOE shall provide funding to Lincoln County to enable it to independently monitor and where applicable, enforce implementation by DOE of all requirements of county-issued permits and mitigation of impacts to private and local-government resources in the County.
2. To ensure DOE's compliance with the environmental mitigation conditions agreed to by DOE and/or imposed by BLM or the STB, DOE shall submit to Lincoln County reports on a quarterly basis for the duration of the construction, operation and decommissioning oversight period (50-plus years) documenting the status of its mitigation implementation for each condition.

Noxious and Invasive Weeds

1. Prior to project approval, a site-specific weed survey and a weed risk assessment will be completed. Monitoring will be conducted for a period no shorter than the life of the permit or until bond release and monitoring reports are provided to BLM. If the spread of noxious weeds is noted, appropriated weed-control procedures will be determined in consultation with BLM personnel and would be in compliance with the appropriate BLM

handbook sections and applicable laws and regulations. All weed-control efforts on BLM-administered lands will be in compliance with BLM Handbook H-9011, H-9011-1 Chemical Pest Control, H-9014 Use of Biological Control Agents of Pests on Public Lands, and H-9015 Integrated Pest Management. Should chemical methods be approved, the DOE must submit a pesticide-use proposal to the authorized BLM officer 60 days prior to the planned application date. A pesticide application report must be submitted to the authorized BLM officer by the end of the fiscal year following the chemical application.

2. Prior to the entry of vehicles and equipment to a project area, areas of concern would be identified and flagged in the field by a weed scientist or qualified biologist. The flagging would alert personnel or participants to avoid areas of concern. These sites would be recorded using GPS or other BLM Ely Field Office-approved equipment and provided to the Field Office Weed Coordinator or designated contact person.
3. Prior to entering public lands, the contractor, operator, or permit holder would provide information and training regarding noxious-weed management and identification to all personnel who would be affiliated with the implementation and maintenance phases of the project. The importance of preventing the spread of weeds to untested areas and the importance of controlling existing populations of weeds would be explained.
4. To eliminate the transport of vehicle-borne weed seeds, roots, or rhizomes, all vehicles and heavy equipment would be free of soil and debris capable of transporting weed propagules. This would include all vehicles and equipment used for the completion, maintenance, inspection, or monitoring of ground-disturbing activities, for emergency fire suppression, or for authorized off-road driving. All such vehicles and equipment would be cleaned with power or high-pressure equipment prior to entering or leaving the work site or project area. Vehicles used for emergency fire suppression would be cleaned as a part of check-in and demobilization procedures. Cleaning efforts would concentrate on tracks, feet, and tires, and on the undercarriage. Special emphasis would be applied to axels, frames, cross-members, motor mounts, steps (on and underneath), running boards, and front bumper/bush guard assemblies. Vehicle cabs would be swept out, and refuse would be disposed of in waste receptacles. Cleaning sites would be recorded using GPS or other equipment and provided to the BLM Field Office weed coordinator or designated contact person.
5. To eliminate the introduction of noxious weed seeds, roots, or rhizomes, all interim and final seed mixes, hay, straw, hay/straw, or other organic products used for reclamation or stabilization activities, feed, or bedding would be certified free of plant species listed on the Nevada noxious weed list or specifically identified by the BLM Ely Field Office.
6. To eliminate the introduction of noxious weed seeds, roots, or rhizomes, all source sites such as borrow pits, fill sources, or gravel pits used to supply inorganic materials used for construction, maintenance, or reclamation would be inspected and found to be free of plant species listed on the Nevada noxious weed list or specifically identified by the BLM Ely Field Office. Inspections would be conducted by a weed scientist or qualified biologist.
7. Mixing of herbicides and rinsing of herbicide containers and spray equipment would be conducted only in areas that are a safe distance from environmentally sensitive areas

- and points of entry to bodies of water (e.g., storm drains, irrigation ditches, streams, lakes, or wells).
- 8. Methods used to accomplish weed- and insect-control objectives would consider seasonal distribution of large wildlife species.
- 9. No noxious weeds would be allowed on the site at the time of reclamation release. Any noxious weeds that become established would be controlled.

Specific Comments

1. Page 7-2, Section 7.2.1 - Discusses how the DOE must prepare a mitigation action plan if the DOE identifies mitigation commitments in the Record of Decision. A mitigation action plan is an absolute must, and it should be much more comprehensive than the list of mitigation measures included in Chapter 7.

Recommendation: The EIS must include a statement of recognition by DOE that mitigation of impacts will be required; that mitigation will be addressed in any subsequent ROD, including identification of mitigation measures which DOE is committed to implementing, and that a mitigation action plan will be prepared by DOE.

2. Page 7-3, Section 7.2.2 - Reiterates that the DOE would implement mitigation measures specified within the ROD, and adopt a monitoring and enforcement program where applicable for any mitigation. This appears to set up DOE to leave the mitigation measures out of the ROD all together. Who would be responsible for the monitoring and enforcement program? It should be an independent entity and not the DOE.

Recommendation: The EIS must include a statement of recognition by DOE that mitigation of impacts will be required; that mitigation will be addressed in any subsequent ROD, including identification of mitigation measures which DOE is committed to implementing, and that a mitigation action plan will be prepared by DOE.

3. Table 7-2, pages 7-16 to 7-18 - A listing of potential measures to mitigate potential environmental impacts. There are issues that must be mitigated. By using the word "potential" here it leaves a question regarding DOE's commitment to mitigate. Will DOE mitigate or not? What is the process for determining the appropriate level of mitigation? Who makes these decisions and who has a say in what is appropriate mitigation for a given impact? The fact that there is no discussion included in this section as to how mitigation actions will be decided is a significant omission. Public land users, private property owners, and affected units of local government should be allowed to view and comment on the process of determining mitigation.

Page 7-16, Item 2 - Discusses notifying mine lessees of construction activities and consult to determine how to minimize impacts. The same should be done with grazing allotment permittees, and in many instances it is more critical to do so.

Page 7-16, Item 3 - Describes minimize road closures and using media outlets to inform public of closures. Grazing allotment permittees, and sportsmen should be notified by additional means other than just public media outlets. Road closures must be minimized to the greatest extent possible. Permittees cannot be excluded from roads needed to manage their operations.

Page 7-17, Item 1 - Discusses mitigation for growth and spread of noxious weeds. All equipment should be steam cleaned prior to entering the construction area. This is more relevant as a BMP than a mitigation.

Page 7-17, Item 2 - Discusses conifer mortality. Salvaging and resorting damaged conifers is a mostly futile exercise in a desert environment. It is best to minimize disturbance to the area to avoid damage to the conifer.

Page 7-17, Item 3 - DOE discussed fencing and/or covering construction water reservoirs. Coordinate with local Nevada Department of Wildlife Specialists concerning minimizing the need for storage reservoirs.

Page 7-17, Item 6 - Discusses staffing construction camps with security personnel. Must occur in an effort to reduce vandalizing of private property and infrastructure as well as harassment of livestock, wildlife, and wild horses. Firearms in the possession of construction workers should be disallowed.

Page 7-17, Item 8 - Discusses equipping construction camps and areas with fire equipment. This should occur during operation of rail as well. Any fires started as a result of rail construction or operation should be revegetated at the DOE's expense. Any AUMs lost or suspended due to such fires should be reimbursed. DOE should coordinate with Nevada Division of Forestry regarding the fire issue, proper equipment, and opportunities to cooperate with NDF and BLM fire services regarding fire prevention and suppression needs.

Recommendations:

1) The description of mitigation measures in the EIS should be expanded to make them more applicable to alternative site specific conditions which will be encountered along the rail alignment (as described in the above-listed comments to various mitigation measures).

2) The EIS must include a statement of recognition by DOE that mitigation of impacts will be required; that mitigation will be addressed in any subsequent ROD, including identification of mitigation measures which DOE is committed to implementing, and that a mitigation action plan will be prepared by DOE.

G. Due to the Failure to Commit to BMP's and Inadequate Identification and Analysis of Reasonable Measures to Mitigate Impacts, DOE Has Inappropriately Characterized Many Impacts as Unavoidable

General Comment

1. Page 8-1, Section 8.1 - The Department of Energy (DOE) states that it could implement measures to mitigate impacts, and also mentions that unavoidable adverse impacts such as those could be viewed as having "disproportionately negative effects". This type of verbiage was apparently intended to limit the DOE's accountability when it comes to mitigation. The DOE then goes on to say that the "DOE could mitigate most potential impacts described in Chapter 4, but there would be some unavoidable impacts, for example, on the use of grazing land." There will indeed be some impacts caused by the rail alignment that will cause inmitigable impacts, however many of the impacts that DOE lists as "unavoidable" can be mitigated or reduced. Suggested mitigation measures, provided by the affected permittees, are included in reports prepared for the BLM³³ and for Lincoln County.³⁴ Many such measures are also identified in the preceding comments.

Recommendation: The DOE should review the suggested mitigation measures with the permittees and should be prepared to fund mitigation that can reduce the impact of the rail corridor on the land users.

Specific Comments

1. Pages 8-2 and 8-3, Section 8.1.1.1 - Discusses unavoidable adverse impacts to physical setting, specifically with regard to cuts, fills and quarries altering topography and drainage patterns resulting in a loss of topsoil and potential for erosion. There would be some impacts to prime farmland due to isolation of farmed areas, and DOE has contacted NRCs to minimize these impacts due to the Farmland Protection Act. The Section also notes that compaction within the construction right-of-way could result in impacted revegetation rate and types. Changes in drainage patterns will also change vegetation distribution and characteristics. Impacts due to isolation of areas would also occur on grazing allotments and grazing complexes, yet no one has been contacted by DOE to help minimize that impact.

Compacted soil can be mitigated by a) minimizing the construction footprint, and b) ripping and tamping or dragging areas after construction as part of the restoration. Bigger concerns reside with loss of native species that have proven to be difficult to re-establish such as winterfat. Another major concern is the potential loss of suitable growth medium.

The Section contains no discussion with regard to loss of solitude, or lifestyle by ranchers living on the range, or the rural lifestyle of the citizens of Lincoln County.

³³ Ibid. Resource Concepts, Inc. 2005.

³⁴ Ibid. Robison/Sealer. 2007.

The Section classifies impacts on physical setting as small. This does not seem to match the DOE definition of a "small" impact - environmental effects would not be detectable or would be so minor that they would neither destabilize nor noticeably alter any important attribute of the resource. How is the physical setting not noticeably altered? Cuts and fills will alter aesthetic resources permanently, vegetation disturbance will be altered in the short term for sure, and likely over the long-term if restoration efforts aren't successful. Vegetation is likely to change regardless due to the alterations in drainage patterns. If invasive species or noxious weeds become present, the physical setting would be destabilized, and at a minimum the physical setting will be noticeably altered.

Recommendation: Measures to mitigate the aforementioned adverse unavoidable impacts exist and DOE should identify and address same in the EIS.

2. Pages 8-3 to 8-4, Section 8.1.1.2 - DOE here discusses unavoidable adverse impacts to land use and ownership as well as unavoidable long-term changes in land use. Specific statements that warrant comment are listed below:

a. Land would be managed as a right-of-way grant. "This would not pose a land-use conflict because the rights-of-way would not be in right-of-way avoidance areas."

This statement warrants clarification. Just because a right-of-way grant is awarded, it doesn't void the conflicts and impacts it creates for existing land users.

b. "The BLM could establish land management requirements that provide for multiple use, but land used for the proposed railroad and railroad construction and operations support facilities could limit certain other land uses."

If the rail construction and/or operations corridors are restricted beyond what is stated in this DEIS, there would be major impacts to nearly all land uses. These impacts would be much greater than those discussed in Chapter 4 of this DEIS. All limitations on the construction and operational rights-of-way must be stated within the DEIS. Any restrictions on these lands will significantly alter the impacts and required mitigation actions described within the DEIS. Future changes in the degree of restriction would invalidate many of the impacts contained within Chapter 4, particularly with regard to land-use impacts.

c. "The multiple use mandate set forth in the Federal Land Policy and Management Act would continue to apply to the public lands within the right-of-way, but railroad construction and operations could limit certain future land uses that pose a conflict."

What are the land uses that pose a conflict, and why can't they be identified now? If future restrictions are placed, then the impacts discussed in Chapter 4 become invalid. The land uses that may conflict with rail operations need to be disclosed within the EIS. Limiting future land uses invalidates the impacts presented in Chapter 4, as well as the mitigations identified in Chapter 7.

d. "Construction and operation of the proposed railroad...would directly impact grazing allotments by transecting parcels and potentially hindering access to forage and water resources. Other potential impacts include allotments being reduced in size and a reduced ability of livestock, wild horses and burros to range freely across grazing areas."

How will tortoise cross the rail and associated access road(s)? Construction and operations of the proposed railroad will hinder access to forage and water, will hinder the movement of livestock, wild horses, and wildlife, in addition to impacting private property rights associated with State Water Rights, and the Taylor Grazing Act. However, many of the impacts can be at least partially mitigated.³⁵ It is the responsibility of the DOE to make reasonable efforts to mitigate the impacts caused by the construction and operation of the Caliente rail corridor. If simple and reasonable mitigation efforts such as trough relocation and the construction of cattle crossings are not provided for under the current DOE Caliente rail corridor budget, then DOE must obtain the appropriate funding and make plans to implement these mitigations. The problem cannot be addressed by simply dismissing the impacts to current land uses as unavoidable or inmitigable. The impacts can and must be mitigated and the appropriate planning to accomplish this.

e. "Even with mitigation, some adverse impacts to the use of grazing land would be unavoidable."

This is a true statement. However, that does not mean that mitigation measures should be wholly disregarded as they are by their absence in Chapter 7.

f. "Construction and operation of the proposed railroad along the Caliente rail alignment would not displace existing or planned uses over a large area or conflict with land-use plans or goals. Therefore, any impacts to land use and ownership, although unavoidable, would be small."

This statement is blatantly false. The proposed alignment would impact over 20 grazing allotments, not counting those affected by associated construction activities away from the alignment. Grazing is a long time existing use that would experience large impacts. Each allotment has an existing grazing management system that would be highly affected by rail construction and operation, along with the existing Allotment Management Plans, which described the grazing management goals and objectives that are associated with the allotments. Impacts within each allotment would not be confined to the construction and operational right-of-way. The entire allotment will be affected due to changes in grazing patterns, feed and water accessibility, and the ability of the manager to move and disperse livestock throughout the allotment. The impacted allotments encompass more than 4 million acres or approximately 6,600 square miles. DOE's statement demonstrates the

Department's inadequate understanding of public land uses and management in the desert environment, as well as the long-term established land uses (such as grazing) and the very real impacts that this proposed action will have on the public land users and the environment. It also demonstrates that the DOE does not fully understand the impacts of the Proposed Action, let alone appropriate alternatives and mitigation measures.

Recommendation: DOE should reconsider the extent to which the above-described unavoidable adverse impacts are indeed unavoidable. Lincoln County believes many of the impacts described in the section as unavoidable can in fact be mitigated.

3. Page 8-6, Section 8.1.1.7 -Discusses unavoidable adverse impacts to biological resources. This Section states that overall impacts are small. There could be some predator/prey pattern alterations, and impacts to special status species.

This Section does not address the impacts to movement or migration corridors. This is a critical oversight. The rail cross-section as designed will hamper terrestrial wildlife movement. Movements for some species such as bighorn sheep could be completely lost with relatively few mortalities as younger animals learn travel and migration patterns from older animals. The federally listed desert tortoise will be impacted, likely by takes and also by extensive restriction of movement, particularly in crossing trails.

Special status species should include sage grouse, which have been petitioned for listing as an endangered species. The proposed alignment cuts through sage grouse habitat in White River Valley, and sage grouse would be directly affected by the alteration in predator/prey balance via raptor predation and nest predation by crows and ravens.

Desert bighorn sheep, mule deer, and sage grouse are all listed in the State Wildlife Action Plan, and the proposed alignment cuts through habitat of all three species.

Recommendation: DOE should reconsider the extent to which the above-described unavoidable adverse impacts are indeed unavoidable. Lincoln County believes many of the impacts described in the section as unavoidable can in fact be mitigated.

4. Page 8-7, Section 8.1.1.9 - Discusses unavoidable impacts to socioeconomics. The Section discusses how unavoidable impacts would be greatest with respect to economic concerns, but would be positive for the most part. Small impacts would be realized by mining, ranching and agriculture. Recall that DOE defines "small" as meaning effects that would be so minor that they would be undetectable or would not serve to destabilize or noticeably alter the affected resource (or in this case land use). The impacts to ranching would be anything but small. Nearly all of the operators who hold permits to allotments along the proposed corridor have indicated that there will be significant

³⁵Ibid, Robison-Seader, 2007.

negative impacts from the rail line, and some have indicated that they would go out of business altogether. There is also a loss of lifestyle associated with the communities that are largely based on farming and ranching, and the rural way of life. That was not addressed in this Section or this chapter.

Recommendation: DOE should reconsider the extent to which the above-described unavoidable adverse impacts are indeed unavoidable. Lincoln County believes many of the impacts described in the section as unavoidable can in fact be mitigated.

5. Page 8-13, Section 8.1.3.7 - Discusses irreversible and irretrievable commitment of biological resources. Discusses the loss of vegetation during operations and following abandonment if the rail bed was not reclaimed, or if former vegetation cover did not recover. It is likely that former vegetation cover will not recover due to construction operations regardless of reclamation. The same holds true for any vegetation cover that is potentially lost due to wildfire caused by construction or operation of the rail.

Recommendation: The EIS should disclose that, regardless of reclamation, former vegetation cover will likely not recover due to construction operations.

7. Page 8-13, Section 8.1.3.9 - Discusses irreversible and irretrievable commitment of socioeconomic resources. The Section states, "DOE did not identify any associated irreversible and irretrievable commitments of resources along the Caliente rail alignment." This is a gross oversight. There will be a loss of AUMs and associated monetary potential associated with lost grazing opportunity due to rail construction and operation. That is an irretrievable economic loss to ranchers and Lincoln County, as well as overhead costs associated with conditioning livestock to the new rail.

Recommendation: The discussion of irreversible and irretrievable commitments to socioeconomic resources of socioeconomic resources in the EIS should be expanded to discuss loss of AUMs and associated monetary potential associated with lost grazing opportunity due to rail construction and operation.

The following includes an analysis of the extent to which the DOE responded to the scoping comments of the Board of Lincoln County Commissioners in response to the Supplemental Yucca Mountain Rail Corridor and Rail Alignment EIS. Each scoping comment is printed in bold, and then followed by an assessment of the extent to which that comment was addressed by DOE in the October 2007 NEPA documents.

1) In describing each alternative, the EIS should indicate unique challenges, requirements, or costs, and if necessary, expand the categories used to evaluate transportation alternatives in the Repository FEIS. For example, according to the May 2006 letter from the Walker River Tribe, the Mina Route would require that DOE provide equipment and training for tribal emergency first responders or that DOE fulfill other similar obligations to cross the Walker River Indian Reservation. Such obligations should be described in detail and made a part of the alternative analyzed in the EIS.

The October 2007 NEPA documents do not appear to indicate "unique challenges" outside of the site specific information provided in terms of the areas studied for specific impacts. See, for example, the information in Land Use and Ownership and Aesthetic Resources contained in Volume III of DOE/EIS-0369D.

2) Both the Caliente and Mina routes are located in remote, rugged, and arid locations. The EIS should provide a more informative description and characterization of each route than what has been provided to date. For example, for each proposed route, the EIS should provide information on expected grades, difficult terrain such as mountains, and expected engineering challenges, and should include a sufficient number of photographs of representative or unique areas of each route to adequately characterize the routes. The EIS must consider the comparative contribution to accident risk associated with grades and difficult terrain.

Volume IV, Appendix C of EIS-0369D provides the most complete description of the engineering data used in analyzing the Caliente and Mina Corridors. Specifically, the EIS includes the primary engineering factors considered in the identification and analysis of Caliente and Mina alternative segments and common segments. Volume I, page 307 of 446 of EIS-0369D includes baseline information as to construction specifications required for the proposed rail corridors. Volume II, chapter 3.2.1 and 3.3.1 and Volume III, chapter 4.2.1 and 4.3.1 of EIS-0369D describe in detail the physical setting for both the Caliente and Mina Corridor. Notably, these descriptions of physical setting and engineering data do not specially provide the detailed information requested in the comment.

3) In order to fully disclose potential environmental impacts, the analysis of each route considered in the EIS must compare potential effects along the Union Pacific main lines necessitated by the selection of any given route. For example, the proposed Mina and Caliente corridors would connect to existing Union Pacific railroad tracks in different locations and on different Union Pacific lines, and would

thus affect existing rail corridors and adjacent land uses differently. A Caliente corridor route would utilize the Union Pacific main line that runs from Salt Lake City, Utah through southern Nevada (including Las Vegas) to southern California, while the Mina Route would connect to different Union Pacific main line tracks located in northern Nevada. This northern rail line links central California with Salt Lake City, and passes through Reno, Nevada. Amtrak also provides passenger service on the route through northern Nevada.

The October 2007 NEPA documents do not consider the potential impacts along the UP mainline necessitated by the selection of the Caliente or Mina corridor. In terms of impact assessment, the documents only provide detailed analysis of the regions in which the new rail spur will be constructed. The documents do not address impacts associated with shipping spent nuclear fuel or high-level waste on a Union Pacific mainline.

4) A decision by DOE to utilize either the Caliente or Mina route absent the analysis of the effects of their companion segments of the Union Pacific mainline (based on actual or likely railroad operations) could result in unanticipated and/or unmitigated impacts of transporting spent nuclear fuel and other high-level radioactive waste to Yucca Mountain. The potential environmental impacts of transporting waste on lines shared by passenger service must also be analyzed.

The October 2007 NEPA documents do not address this topic.

5) In the Repository FEIS and other documents, the DOE has artificially divided the analysis of potential transportation impacts between "National Transportation Impacts" and "Nevada Transportation Impacts." While this division makes some sense because the repository and any new rail line would be located within the state of Nevada, as discussed above, limiting the evaluation of each rail corridor to the state of Nevada may obscure potential differences between alternatives due to the different existing rail line that would be used. In order to fully disclose the differences between alternatives, the study area of each alternative should be expanded along the corresponding existing rail line, east to Utah and west to California, if appropriate.

The analysis of the proposed alternatives in the documents is not expanded to include, along the existing rail line, west into California and east into Utah. As previously noted, the detailed analysis does not extend beyond the area in which a new rail line and associated facilities would be constructed. See DOE/EIS-0250F-S1D, Volume II, Section G.11 for a limited discussion of state specific impacts.

6) The action alternatives must include a clearly defined "bounded" or "worst case" with regard to the maximum number of shipments of spent nuclear fuel and/or high-level radioactive waste which might be transported along the entire study route (including companion Union Pacific mainline segments) for both the Caliente and Mina alternatives.

The documents discuss approximately 9,500 total shipments containing casks of spent nuclear fuel and high-level waste over an operations period of 50 years. DOE/EIS-0369D, Summary, S-32. A search of the documents did not reveal a clearly defined "bounded" or "worst case scenario."

7) NEPA requires a discussion of all reasonable alternatives, including a "no-action" alternative. The Notice of Intent does not describe what the no-action alternative is. The EIS must present a reasonable no-action alternative for comparing alternatives and for providing a reasonable baseline from which to measure the potential impacts of the proposed action. Given that DOE has decided to go forward with the Yucca Mountain Project and radioactive waste must be moved to the site, the No Action alternative should not simply be a decision by DOE to not select the Caliente or Mina rail route, rather, the No Action alternative analyzed in the EIS should be the use of legal weight trucks, the only other currently available alternative (or default alternative) open to DOE.

Under the no-action alternative DOE would not construct a rail line in either the Caliente or Mina corridor. The rail alignment EIS states that "In the event that the DOE were not to select a rail alignment in the Caliente or Mina Corridor, the future course that it would pursue to meet its obligation under the NWPA is highly uncertain." DOE/EIS-0369D, Volume I, 2-114. None of the October 2007 NEPA documents analyzes the use of legal weight trucks as the available alternative to not using the Caliente or Mina corridors.

8) The EIS must discuss the reasons why any previously identified alternative routes for developing rail access across Nevada have been eliminated from detailed study. 40 C.F.R. § 1502.14(a). In its Record of Decision on Mode of Transportation and Nevada Rail Corridor for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, NV dated April 8, 2004 (69 Fed. Reg. 18,557), the DOE stated that it "does not consider the differences among the corridor alternatives to be sufficient to make any of them clearly environmentally preferable." The County encourages DOE to update (utilizing current environmental, land use and socioeconomic data) and distribute in draft form its comparative analysis of all previously considered rail routes through Nevada to Yucca Mountain. This reevaluation should serve as the basis upon which DOE moves forward with detailed NEPA analysis of the Mina and/or Caliente routes and/or justifies the elimination from detailed analysis in the EIS the Mina, Caliente or any other route previously considered by DOE.

The Rail Corridor SDEIS includes updated information regarding the Jean, Carlin, and Valley Modified corridors. DOE/EIS-0250F-S2D, Volume I, 5-1. This information is intended to update previous analysis of the affected environment of construction and operation of a rail line. However, this update does not provide explanation as to why these previously identified alternatives have been eliminated from detailed study.

9) The cumulative exposure risk and related acute and latent fatalities associated with incident-free and rail accident conditions for existing and future expected

numbers of shipments of non-radiological hazardous constituents and planned shipments of spent nuclear fuel and other high-level radioactive waste along the entire study route (including, as discussed above, companion Union Pacific mainline segments) for the Caliente and Mina alternatives.

The cumulative exposure risk and related acute and latent fatalities associated with incident-free and rail accident conditions for existing and future expected numbers of shipments of non-radiological hazardous constituents and planned shipments of spent nuclear fuel and other high-level radioactive waste are not addressed in the DOE NEPA documents.

10) Radiological exposure risk and related acute and latent mortality associated with incident-free and rail accident conditions to flora and fauna, including federally listed and other sensitive species along the entire study route (including companion Union Pacific mainline segments) for each alternative considered.

Radiological exposure risk associated with incident-free and rail accident conditions are not discussed as related to flora and fauna. DOE/EIS-0369D, 4.2.7, and 4.3.7 assesses impacts to Caliente and Mina corridors biological resources.

11) Socioeconomic consequences of incident-free and rail accident conditions including stigma-induced effects to community desirability as residential/business location choices; housing demand and prices; locally produced agricultural commodities; other products produced along the entire study route (including companion Union Pacific mainline segments) for each alternative considered.

Socioeconomic consequences of incident-free and rail accident conditions are not discussed in the documents. The documents discuss socioeconomic impacts to the regions associated with the Caliente and Mina corridors in terms of construction and operations. The documents do not distinguish between consequences associated with incident-free and rail accident conditions. DOE/EIS-0369D, 4.2.9, 4.3.9.

Stigma-induced effects to the region are likewise not included in the impact analysis. The DOE stated regarding stigma-induced effects that "A further complication is that people do not consistently act in accordance with negative perceptions; thus the connection between public perception of risk and future behavior would be uncertain speculative at best." Volume 3 4-4, 4-5, 4.1.3. EIS-0369D. While stigmatization of southern Nevada can be envisioned under some scenarios, it is not inevitable or numerically predictable. Any such stigmatization would likely be an aftereffect of unpredictable future events, such as serious accidents, which might not occur. Therefore, DOE did not attempt to quantify any potential for impacts from risk perceptions or stigma in this Rail Alignment EIS." ID at 4-5. However, as discussed in the preceding comments submitted by the County, DOE can not dismiss such an important issue in this cavalier fashion. A serious good faith analysis of these potential impacts must be undertaken.

12) Socioeconomic consequences of incident-free and rail accident conditions including stigma-induced effects to visitation and location desirability for various existing or potential state parks, wildlife management areas, river and stream corridors, lakes and other federal, state and local recreation sites proximate to and along the entire study route (including companion Union Pacific mainline segments) for each alternative considered.

The impacts addressed in this comment are not considered in the October 2007 NEPA documents.

13) Fiscal consequences of stigma-induced adverse impacts to ad valorem, sales and use tax revenues within each county and city along the entire study route (including companion Union Pacific mainline segments) for each alternative considered.

The impacts addressed in this comment are not considered in the October 2007 NEPA documents.

14) Incremental increase in accident hazard associated with shipments of nuclear waste or specialized requirements to provide emergency first response capabilities in communities along the entire study route (including companion Union Pacific mainline segments) for each alternative considered.

Volume III 4.2.9, "Socioeconomics," addresses impacts to the health care system during the railroad operations phase of the project. Impacts addressed include only those resulting from population increase. The section does not address emergency first response capabilities due to increase in accident hazards associated with shipments of nuclear waste. Estimates of "Annual Frequencies for Accident Severity Cases" are found at DOE/EIS-0250F-SID, Volume II, G.46. States and tribes and tribes have primary jurisdiction over accidents. DOE would provide technical advice when requested and access to teams that are experts in radiological monitoring. EIS does not indicate what the increase in emergency first response capabilities will need to be due to an increase in accident hazard associated with shipments of nuclear waste or specialized requirements to provide emergency first response capabilities along the shipment route. DOE/EIS-0250F-SID, Volume II, H.

15) In the event that DOE, as a condition of use of a rail route (i.e. crossing the Walker River Indian Reservation) or pursuant to Section 180(c) of the Nuclear Waste Policy Act, as amended, is required to provide training and equipment for emergency first responders, the EIS must evaluate the effective of these mitigation measures and the extent to which provision of these resources as a part of each action alternative will serve to reduce exposure hazard and consequence.

180(c) grants are addressed at DOE/EIS-0250F-SID, Volume II, H.7. The section does not evaluate the effect of these mitigation measures but simply states they will be provided under 180(c). It is not discussed as to how the grants will serve to reduce exposure hazard and consequence.

16) Specific details, including equipment, training, staffing, and costs, of emergency response requirements for all local jurisdictions to effectively respond to an incident/accident involving shipments of spent nuclear fuel or other high-level radioactive waste along the entire rail study route (including companion Union Pacific mainline segments) for each alternative considered.

The October 2007 NEPA documents do not address this topic.

17) Information on emergency response times along the entire rail study route (including companion Union Pacific mainline segments) for each alternative considered.

The October 2007 NEPA documents do not address this topic.

18) Identification of the number, approximate locations and environmental consequences of constructing and operating any rail sidings proposed for possible use by DOE or its contract carrier as safe parking areas for spent nuclear fuel and other high-level radioactive waste rail shipments along the entire rail study route (including companion Union Pacific mainline segments) for each alternative considered.

The October 2007 NEPA documents do not address this topic.

19) A comparative analysis of all analyzed routes with regard to sensitive populations such as children.

A key word search for "sensitive population" in the documents revealed one reference. The reference simply states that the National Ambient Air Quality Standards sets limits to protect public health including sensitive populations such as children. This reference is made in relation to the repository and not the rail line. DOE/EIS-0250F-SID, 4.1.2.

20) A comparative analysis of all analyzed routes with regard to the presence near the rail corridor of difficult to evacuate facilities such as schools, correctional institutions, hospitals, assisted living centers and home-bound persons.

This topic is not addressed in the October 2007 NEPA documents.

Exhibit C

Memorandum for the Heads of Federal Agencies
January 30, 2002

MEMORANDUM FOR THE HEADS OF FEDERAL AGENCIES
FROM: JAMES CONNADGHTON, Chair

SUBJECT: COOPERATING AGENCIES IN IMPLEMENTING THE PROCEDURAL
REQUIREMENTS OF THE NATIONAL ENVIRONMENTAL POLICY ACT

The purpose of this Memorandum is to ensure that all Federal agencies are actively considering designation of Federal and non-Federal cooperating agencies in the preparation of analyses and documentation required by the National Environmental Policy Act (NEPA), and to ensure that Federal agencies actively participate as cooperating agencies in other agency's NEPA processes. The CEQ regulations implementing the NEPA mandate that Federal agencies responsible for preparing NEPA analyses and documentation do so "in cooperation with State and local governments" and other agencies with jurisdiction by law or special expertise. (42 U.S.C. §§ 4331(a), 4332(2)).

Despite previous memoranda and guidance from CEQ, some agencies remain reluctant to engage other Federal and non-Federal agencies as a cooperating agency. In addition, some Federal agencies remain reluctant to assume the role of a cooperating agency, resulting in an inconsistent implementation of NEPA.

Studies regarding the efficiency, effectiveness, and value of NEPA analyses conclude that stakeholder involvement is important in ensuring decisionmakers have the environmental information necessary to make informed and timely decisions efficiently. Cooperating agency status is a major component of agency stakeholder involvement that neither enlarges nor diminishes the decision-making authority of any agency involved in the NEPA process. This memo does not expand regulations or responsibilities beyond those found in current laws and regulations, nor does it require an agency to provide financial assistance to a cooperating agency.

The benefits of enhanced cooperating agency participation in the preparation of NEPA analyses include: disclosing relevant information early in the analytical process; applying available technical expertise and staff support; avoiding duplication with other Federal, State, Tribal and local procedures; and establishing a mechanism for addressing intergovernmental issues. Other benefits of enhanced cooperating agency participation include fostering intra- and intergovernmental trust (e.g., partnerships at the community level) and a common understanding and appreciation for various governmental roles in the NEPA process, as well as enhancing agencies' ability to adopt environmental documents. It is incumbent on Federal agency officials to identify as early as practicable in the environmental planning process those Federal, State, Tribal and local government agencies that have jurisdiction by law and special expertise with respect to all reasonable alternatives or significant environmental, social or economic impacts associated with a proposed action that requires NEPA analysis.

The Federal agency responsible for the NEPA analysis should determine whether such agencies are interested and appear capable of assuming the responsibilities of becoming a cooperating agency under 40

C.F.R. § 1501.6. Whenever invited Federal, State, Tribal and local agencies elect not to become cooperating agencies, they should still be considered for inclusion in interdisciplinary teams engaged in the NEPA process and on distribution lists for review and comment on the NEPA documents. Federal agencies declining to accept cooperating agency status in whole or in part are obligated to respond to the request and provide a copy of their response to the Council. (40 C.F.R. § 1501.6(c)).

In order to assure that the NEPA process proceeds efficiently, agencies responsible for NEPA analysis are urged to set time limits, identify milestones, assign responsibilities for analysis and documentation, specify the scope and detail of the cooperating agency's contribution, and establish other appropriate ground-rules addressing issues such as availability of pre-decisional information. Agencies are encouraged in appropriate cases to consider documenting their expectations, roles and responsibilities (e.g., Memorandum of Agreement or correspondence).

Establishing such a relationship neither creates a requirement nor constitutes a presumption that a lead agency provides financial assistance to a cooperating agency.

Once cooperating agency status has been extended and accepted, circumstances may arise when it is appropriate for either the lead or cooperating agency to consider ending cooperating agency status. This Memorandum provides factors to consider when deciding whether to invite, accept or end cooperating agency status. These factors are neither intended to be all-inclusive nor a rote test. Each determination should be made on a case-by-case basis considering all relevant information and factors, including requirements imposed on State, Tribal and local governments by their governing statutes and authorities. We rely upon you to ensure the reasoned use of agency discretion and to articulate and document the bases for extending, declining or ending cooperating agency status. The basis and determination should be included in the administrative record.

CEQ regulations do not explicitly discuss cooperating agencies in the context of Environmental Assessments (EAs) because of the expectation that EAs will normally be brief, concise documents that would not warrant use of formal cooperating agency status. However, agencies do at times - particularly in the context of integrating compliance with other environmental review laws - develop EAs of greater length and complexity than those required under the CEQ regulations. While we continue to be concerned about needlessly lengthy EAs (that may, at times, indicate the need to prepare an Environmental Impact Statement (EIS)), we recognize that there are times when cooperating agencies will be useful in the context of EAs. For this reason, this guidance is recommended for preparing EAs. However, this guidance does not change the basic distinction between EISs and EAs set forth in the regulations or prior guidance.

To measure our progress in addressing the issue of cooperating agency status, by October 31, 2002 agencies of the Federal government responsible for preparing NEPA analyses (e.g., the lead agency) shall provide the first bi-annual report regarding all EISs and EAs begun during the six-month period between March 1, 2002 and August 31, 2002. This is a periodic reporting requirement with the next report covering the September 2002 - February 2003 period due on April 30, 2003. For EISs, the report shall identify: the title, potential cooperating agencies; agencies invited to participate as cooperating agencies; agencies that requested cooperating agency status; agencies which

accepted cooperating agency status; agencies whose cooperating agency status ended; and the current status of the EIS. A sample reporting form is at attachment 2. For EAs, the report shall provide the number of EAs and those involving cooperating agency(s) as described in attachment 2. States, Tribes, and units of local governments that have received authority by Federal law to assume the responsibilities for preparing NEPA analyses are encouraged to comply with these reporting requirements.

If you have any questions concerning this memorandum, please contact Horst G. Greczmiel, Associate Director for NEPA Oversight at 202-395-5750, Horst_Greczmiel@epa.gov, or 202-456-0753 (fax).

Attachment 1 Factors for Determining Whether to Invite, Decline or End Cooperating Agency Status

1. Jurisdiction by law (40 C.F.R. § 1508.15) – for example, agencies with the authority to grant permits for implementing the action federal agencies shall be a cooperating agency (1501.6); non-federal agencies may be invited (40 C.F.R. § 1508.5)]:
 - o Does the agency have the authority to approve a proposal or a portion of a proposal?
 - o Does the agency have the authority to veto a proposal or a portion of a proposal?
 - o Does the agency have the authority to finance a proposal or a portion of a proposal?
2. Special expertise (40 C.F.R. § 1508.26) – cooperating agency status for specific purposes linked to special expertise requires more than an interest in a proposed action [federal and non-federal agencies may be requested (40 C.F.R. §§ 1501.6 & 1508.5)]:
 - o Does the cooperating agency have the expertise needed to help the lead agency meet a statutory responsibility?
 - o Does the cooperating agency have the expertise developed to carry out an agency mission?
 - o Does the cooperating agency have the related program expertise or experience?
 - o Does the cooperating agency have the expertise regarding the proposed actions' relationship to the objectives of regional, State and local land use plans, policies and controls (1502.16(c))?
3. Do the agencies understand what cooperating agency status means and can they legally enter into an agreement to be a cooperating agency?
4. Can the cooperating agency participate during scoping and/or throughout the preparation of the analysis and documentation as necessary and meet milestones established for completing the process?
5. Can the cooperating agency, in a timely manner, aid in:
 - o identifying significant environmental issues (including aspects of the human environment (40 C.F.R. § 1508.14), including natural, social, economic, energy, urban quality, historic and cultural issues (40 C.F.R. § 1502.16))?
 - o eliminating minor issues from further study?
 - o identifying issues previously the subject of environmental review or study?
 - o identifying the proposed actions' relationship to the objectives of regional, State and local land use plans, policies and controls (1502.16(c))?
6. Can the cooperating agency assist in preparing portions of the review and analysis and resolving significant environmental issues to support scheduling and critical milestones?

(40 C.F.R. §§ 1501.1(d) and 1501.7)
7. Can the cooperating agency provide resources to support scheduling and critical milestones such as:
 - o personnel? Consider all forms of assistance (e.g., data gathering; surveying; compilation; research.
 - o expertise? This includes technical or subject matter expertise.
 - o funding? Examples include funding for personnel, travel and studies. Normally, the cooperating agency will provide the funding; to the extent available funds permit, the lead agency shall fund or include in budget requests funding for an analyses the lead agency requests from cooperating agencies. Alternatives to travel, such as telephonic or video conferencing, should be considered especially when funding constrains participation.
 - o models and databases? Consider consistency and compatibility with lead and other cooperating agencies' methodologies.
 - o facilities, equipment and other services? This type of support is especially relevant for smaller governmental entities with limited budgets.
8. Does the agency provide adequate lead-time for review and do the other agencies provide adequate time for review of documents, issues and analyses? For example, are either the lead or cooperating agencies unable or unwilling to consistently

participate in meetings in a timely fashion after adequate time for review of documents, issues and analyses?

9. Can the cooperating agency(s) accept the lead agency's final decision-making authority regarding the scope of the analysis, including authority to define the purpose and need for the proposed action? For example, is an agency unable or unwilling to develop information/analysis of alternatives they favor and disfavor?

10. Are the agency(s) able and willing to provide data and rationale underlying the analyses or assessment of alternatives?

11. Does the agency release predecisional information (including working drafts) in a manner that undermines or circumvents the agreement to work cooperatively before publishing draft or final analyses and documents? Disagreeing with the published draft or final analysis should not be a ground for ending cooperating status. Agencies must be alert to situations where state law requires release of information.

12. Does the agency consistently misrepresent the process or the findings presented in the analysis and documentation?

The factors provided for extending cooperating agency status are not intended to be all-inclusive. Moreover, satisfying all the factors is not required and satisfying one may be sufficient. Each determination should be made on a case-by-case basis considering all relevant information and factors.

