



OFFICE OF THE
GENERAL COUNSEL

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 18, 2002

Michael C. Farrar, Chairman
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dr. Peter S. Lam
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dr. Jerry Kline
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

In the Matter of
Private Fuel Storage L.L.C.
(Independent Spent Fuel Storage Installation)
Docket No. 72-22-ISFSI

Dear Administrative Judges:

In accordance with the filing requirements discussed during the prehearing conference of January 17, 2002, enclosed please find the following documents:

1. "NRC Staff's Outline of Proposed Key Determinations For Contention SUWA B (Rail Line Alignment Alternatives)";
2. "Preface to NRC Staff Testimony of Britta N. Laub, Kenneth E. McFarland, Alice B. Stephenson, and Gregory P. Zimmerman Concerning Contention SUWA B (Rail Line Alignment Alternatives)";
3. "NRC Staff Testimony of Britta N. Laub, Kenneth E. McFarland, Alice B. Stephenson, and Gregory P. Zimmerman Concerning Contention SUWA B (Rail Line Alignment Alternatives)," with their attached statements of professional qualifications ("Staff SUWA B Testimony");
4. NRC Staff's Proposed Exhibit "G", entitled "Alternative rail route/alignment near the northern end of the Cedar Mountains," which is Figure 2.16 (page 2-50) in NUREG-1714, "Final Environmental Impact Statement for the Construction and Operation of an Independent Spent Fuel Storage Installation on the Reservation of the Skull Valley Band of Goshute Indians and the Related Transportation Facility in

Tooele County, Utah," dated December 2001, a copy of which has previously been served upon the Licensing Board and the parties;

5. NRC Staff's Proposed Exhibit "H", which is a letter dated May 8, 2001, from G. Carpenter, Bureau of Land Management, to S. Bloch, Southern Utah Wilderness Alliance, and the attachment thereto ("BLM Evaluation of Externally Generated Proposals that Suggest an Area of Public Land has Wilderness Characteristics"). Proposed Exhibit H was previously served on the Licensing Board and the parties as Exhibit B to the "NRC Staff's Response to Applicant's Motion for Summary Disposition of Contention SUWA B -- Railroad Alignment Alternatives," dated July 19, 2001 (an electronic version of Exhibit "H" is not available at this time); and
6. NRC Staff's Proposed Exhibits J through O, which are pictures of the area near the Low Corridor rail line proposed by Private Fuel Storage. These photographs are not available in electronic form.

The Staff intends to file one additional exhibit (Exhibit "I") in connection with this testimony, which shows the "Proposed PFS Railroad Project Photo Locations" (*i.e.*, the locations where the photographs in Staff Exhibits "J" - "O" were taken). Unfortunately, photocopies of this exhibit are not available at this time due to logistical difficulties. Copies of this proposed exhibit will be served upon the Licensing Board and parties in the near future.

Sincerely,

Robert M. Weisman

Robert M. Weisman
Sherwin E. Turk
Counsel for NRC Staff

Enclosures: As stated
cc w/Encls.: Service List

March 18, 2002

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
PRIVATE FUEL STORAGE, L.L.C.)	Docket No. 72-22-ISFSI
)	
(Independent Spent)	
Fuel Storage Installation))	

NRC STAFF'S OUTLINE OF PROPOSED KEY DETERMINATIONS
FOR CONTENTION SUWA B (RAIL LINE ALIGNMENT ALTERNATIVES)

I. Alternatives Considered

- A. In addition to the Applicant's proposed Low Corridor rail line, as documented in FEIS § 2.2.4.2, the Staff considered three types of rail alternatives. Each was found to involve adverse environmental impacts exceeding those of the Low Corridor rail line or engineering problems, and did not warrant further consideration.
1. Alternatives originating north of Interstate-80 would involve an unresolved problem in how to cross the interstate to reach the site of the proposed PFSF to the south.
 2. An alternative originating east of the Stansbury Mountains would result in construction impacts to wetlands, houses, ranches, and traffic along the Skull Valley Road in the eastern portion of Skull Valley, as well as substantial excavation at the north end of the Stansbury Mountains.
 3. The west valley rail alternative would result in increased excavation and cut and fill activities, and does not provide any benefit with respect to the preservation of wilderness characteristics in the North Cedar Mountains area designated by SUWA, in that this area is lacking in wilderness characteristics.
- B. SUWA has generally described an alternative running "two miles to the east" of the proposed Low Corridor rail line. This alternative appears to run through mud flats that begin about one mile east of the proposed Low Corridor rail line. The SUWA alternative requires even more imported fill material than the west valley rail alternative.
- C. With respect to "fire buffer" alternatives, the proposed rail line, through its separate components of raised elevation, ballast area, sub-ballast area, and control of invasive, noxious weeds, may serve as a "fire buffer," although a specific "fire buffer" has not been identified as part of the proposed Low Corridor rail line. An evaluation of "fire buffer" alternatives is not required.

- D. The Staff presented its evaluation of the matters raised in this contention in section 2.2.4.2 and Chapter 5 of the FEIS, issued in December 2001, and in the Staff's testimony. The Staff concluded that the FEIS developed and analyzed a meaningful range of alternatives to the Low Corridor rail line, and that no identified rail line alternative would preserve any wilderness character or potential wilderness designation of the North Cedar Mountains because that area does not contain wilderness values or characteristics.

II. Cut and Fill Issues

- A. The cut and fill quantities necessary to construct the Low Corridor Rail Line are about 885,000 cubic yards of excavation and about 630,000 cubic yards of embankment, which results in a net amount of approximately 255,000 cubic yards of extra fill material.
- B. The cut and fill quantities necessary to construct the west valley alternative include about 560,000 cubic yards less of cut material than would be needed for fill. After accounting for the excess fill material obtained by excavation of the remaining portions of the Low Corridor rail line, the Staff's analysis shows that this alternative would require as much as 340,000 cubic yards of fill that would need to be brought in from another location -- amounting to approximately 34,000 truck loads of imported material.
- C. SUWA's proposed alternative to the east of the west valley alternative would pass through an area of the mud flats, and would require placement of over 500,000 cubic yards of imported fill material, i.e., approximately 1.5 times more imported fill material than the west valley alternative.

III. Wilderness Issues:

- A. The North Cedar Mountains, especially the eastern area traversed by the proposed rail line, already shows the impact of man through motorcycle and off highway vehicle paths, livestock (sheep and cattle) trails and grazing. Vegetation in these areas includes areas that have been seeded by man as well as cheatgrass (an invasive, non-native species). The areas has experienced numerous wildfires and associated fire rehabilitation projects.
- B. The North Cedar Mountains contains no wilderness or wilderness study area designation and lacks the necessary values to warrant designation as a wilderness study area. Further, because it shows the impact of man, it lacks wilderness values or characteristics.
- C. There are no major differences in the current condition between the proposed Low Corridor rail line and the west valley rail alternative with respect to wilderness characteristics, due to their close proximity to each other.

IV. Range of Alternatives

- A. The Staff has considered a range of reasonable alternatives to the proposed Low Corridor rail line, and has adequately considered the environmental impacts of each alternative considered. No further evaluation is required.

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PRIVATE FUEL STORAGE, L.L.C.)	Docket No. 72-22-ISFSI
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(Independent Spent)	
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PREFACE TO NRC STAFF'S TESTIMONY OF
BRITTA N. LAUB, KENNETH E. MCFARLAND,
ALICE B. STEPHENSON AND GREGORY P. ZIMMERMAN
CONCERNING CONTENTION SUWA B (RAIL LINE ALIGNMENT ALTERNATIVES)

The NRC Staff ("Staff") is filing the joint testimony of Britta N. Laub, Kenneth E. McFarland, Alice B. Stephenson, and Gregory P. Zimmerman, concerning the issues in Contention SUWA B.

Britta N. Laub is an Outdoor Recreation Planner for the Department of the Interior ("DOI"), Bureau of Land Management ("BLM"), Salt Lake Field Office ("SLFO"), Salt Lake City, Utah. She has experience with respect to the management of recreation uses, visual resources, and wilderness characteristics. She assisted in the Staff's analysis of the potential environmental impacts with respect to such matters related to the construction and operation of the transportation facilities associated with the Private Fuel Storage Facility, as set forth in the "Final Environmental Impact Statement for the Construction and Operation of an Independent Spent Fuel Storage Installation on the Reservation of the Skull Valley Band of Goshute Indians and the Related Transportation Facility in Tooele County, Utah," NUREG-1714, dated December 2001 ("FEIS"). Together with Alice B. Stephenson (*infra*), she took a number of photographs of areas discussed in the Staff's testimony, which are proffered as exhibits herewith.

Kenneth E. McFarland is a Principal Engineer at Washington Infrastructure Services, Inc., San Ramon, California, which is a third party contractor to the U.S. Surface Transportation Board, a Cooperating Federal Agency on the FEIS. Mr. McFarland assisted in the Staff's analysis of the

earthwork ("cut and fill") necessary for construction and operation of the transportation facilities associated with the PFS Facility and alternatives to such transportation facilities.

Alice B. Stephenson is an Environmental Specialist for the BLM Salt Lake Field Office in Salt Lake City, Utah, with experience in the evaluation of BLM land use plans and amendments thereto, and issuance of right-of-way grants. She assisted the Staff's analysis of the potential environmental impacts of construction and operation of the transportation facilities associated with the proposed PFS Facility, as set forth in the FEIS, and participated with Britta Laub (*supra*) in photographing various areas discussed in the Staff's testimony.

Gregory P. Zimmerman is the Leader of the Environmental Impact Analysis Group, Environmental Sciences Division, Oak Ridge National Laboratory ("ORNL"), Oak Ridge, Tennessee. Mr. Zimmerman participated in preparation of the FEIS and supervised ORNL team's FEIS evaluation. Mr. Zimmerman assisted the Staff in its analysis of the potential environmental impacts of construction and operation of the transportation facilities associated with the proposed PFS Facility, and in its consideration of alternatives thereto.

The Staff's testimony describes PFS's proposed Low Corridor rail line, a range of reasonable alternatives to that rail line (including a west valley rail alternative and an alternative suggested by the Southern Utah Wilderness Alliance ("SUWA")), and the potential environmental impacts of the proposed rail line and alternatives thereto, including wilderness and cut and fill issues. As discussed in the testimony and the FEIS, the Staff has determined that the potential environmental impacts of the Low Corridor rail line would be small. Further, the Staff has determined that each of the rail line alternatives that were considered involve adverse environmental impacts which exceed those of the proposed Low Corridor rail line, would not preserve any wilderness character or potential wilderness designation of the North Cedar Mountains because that area does not contain wilderness values or characteristics, and do not warrant further consideration.

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NRC STAFF TESTIMONY OF
BRITTA N. LAUB, KENNETH E. McFARLAND, ALICE B. STEPHENSON, AND
GREGORY P. ZIMMERMAN CONCERNING CONTENTION SUWA B
(RAIL LINE ALIGNMENT ALTERNATIVES)

Q1. Please state your names, occupations, and by whom you are employed.

A1(a). My name is Britta N. Laub ("BNL"). I am employed as a Outdoor Recreation Planner for the Department of the Interior ("DOI"), Bureau of Land Management ("BLM"), Salt Lake Field Office ("SLFO"). I am providing this testimony under an agreement between the NRC Staff ("Staff") and the BLM, SLFO. A statement of my professional qualifications is attached hereto.

A1(b). My name is Kenneth E. McFarland. ("KEM"). I am employed as a principal engineer with Washington Infrastructure Services, Inc. ("WIS") in San Ramon, California. I am providing this testimony under an agreement between the NRC Staff and the U.S. Surface Transportation Board ("STB"), and a third party contractor agreement between the STB and WIS. A statement of my professional qualifications is attached hereto.

A1(c). My name is Alice B. Stephenson ("ABS"). I am employed as an Environmental Specialist for the Department of the Interior ("DOI"), Bureau of Land Management ("BLM"), Salt Lake Field Office ("SLFO"). I am providing this testimony under an agreement between the NRC Staff and the BLM, SLFO. A statement of my professional qualifications is attached hereto.

A1(d). My name is Gregory P. Zimmerman ("GPZ"). I am employed as Leader of the Environmental Impact Analysis Group, in the Environmental Sciences Division, at the Oak Ridge National Laboratory ("ORNL"), in Oak Ridge, Tennessee. I am employed by the University of Tennessee - Battelle Memorial Institute ("UT-Battelle"), which manages and operates the ORNL facilities for the U.S. Department of Energy. I am providing this testimony under a technical assistance contract between the NRC Staff and ORNL. A statement of my professional qualifications is attached hereto.

Q2. Please describe your current responsibilities.

A2(a). (BNL) I serve as the lead Outdoor Recreation Planner for the SLFO. I am the team lead for the management and development of two special recreation management areas. I am also responsible for processing applications for special recreation permits. This includes application review, completion of National Environmental Policy Act ("NEPA") requirements, preparation of records of decision, permit issuance, monitoring, bonding and post use reporting. I provide analyses of impacts resulting from recreation and off-highway vehicle use; information regarding visual resource management and wilderness characteristics; information concerning requirements and mitigation measures for incorporation into field office NEPA documents; and determinations of NEPA adequacy, as needed, in support of recreation and wilderness program projects. As part of my responsibilities, I am currently serving as the BLM representative for recreation, visual, and wilderness resource programs for the proposed rail line facilities in Skull Valley, Utah, associated with the Independent Spent Fuel Storage Installation ("ISFSI") proposed by Private Fuel Storage, L.L.C. ("PFS" or "Applicant") to be constructed and operated on the Reservation of the Skull Valley Band of Goshute Indians, located in Skull Valley, Utah ("the proposed PFS Facility").

A2(b). (KEM) I serve as the Principal Engineer for all heavy and light rail projects out of the San Ramon, California office for Washington Infrastructure Services, Inc. As part of my responsibilities, I am currently serving as the principal engineer on behalf of the STB for evaluating

engineering issues for the proposed rail line facilities in Skull Valley, Utah, associated with the proposed PFS Facility.

A2(c). (ABS) I am responsible for coordination and implementation of National Environmental Policy Act ("NEPA") reviews, involving preparation and/or review of environmental assessments and environmental impact statements, and providing policy and program direction for implementation of existing office land use plans. I provide guidance on the NEPA process, including document preparation, and content requirements. I provide analytical and technical review of all environmental assessments and environmental impact statements. I also maintain current land use plans and assure that all proposed projects, both BLM and third party, are within the scope of the current plan. I monitor all steps for completing land use plan amendments. I provide guidance and expertise on all planning matters, including the relationship between NEPA and the Federal Land Policy Management Act ("FLPMA"). As part of my responsibilities, I am currently serving as the BLM Project Leader, Environmental Planning and Review, for the proposed rail line facilities in Skull Valley, Utah, associated with the proposed PFS Facility.

A2(d). (GPZ) As Group Leader, I supervise a group of twelve research staff members and additional administrative support personnel. My group conducts reviews of proposed Federal projects and evaluates the potential environmental impacts thereof. I am responsible for providing technical direction and supervision to the members of my group. As part of my responsibilities, I am currently serving as ORNL's project leader in providing assistance to the NRC staff in the environmental review of the proposed PFS Facility in Skull Valley, Utah, and its associated rail line facilities.

Q3. Please explain what your duties have been in connection with the NRC Staff's review of the PFS license application for the proposed PFS Facility?

A3(a). (BNL) As part of my official responsibilities, I assisted the NRC Staff in its evaluation of the potential environmental impacts related to the Applicant's proposed construction and operation of the transportation facilities, and alternatives to those facilities, associated with the proposed PFS Facility. Further, I assisted in the preparation of the Staff's "Final Environmental Impact Statement for the Construction and Operation of an Independent Spent Fuel Storage Installation on the Reservation of the Skull Valley Band of Goshute Indians and the Related Transportation Facility in Tooele County, Utah," NUREG-1714, issued in December 2001 ("FEIS"). In addition, I assisted the NRC Staff in preparing the "NRC Staff's Response to Applicant's Motion for Summary Disposition of SUWA Contention B (Railroad Alignment Alternatives)," dated July 19, 2001, and the NRC Staff's responses to the January 29, 2002, discovery request from the Southern Utah Wilderness Alliance ("SUWA"), directed to the Staff. In particular, I assisted in evaluating the effects that PFS's proposed Low Corridor rail line might have on potential recreation, visual, and wilderness issues in the area through which it passes, as well as such issues with respect to rail line alternatives.

A3(b). (KEM) At the request of STB, I independently reviewed and verified the amount of cut and fill necessary to construct both the Applicant's proposed Low Corridor rail line and the "West Skull Valley Alternative" that has been developed by the Applicant in response to SUWA's contention (referred to herein and in the FEIS as the "west valley rail alternative"). In addition, I have reviewed the engineering issues associated with rail line alternatives originating north of Interstate 80 ("I-80"), and the quantities of excavation and embankment ("cut and fill") materials associated with a rail line alternative suggested by SUWA, that would lie approximately two miles to the east of the Applicant's proposed Low Corridor rail line.

A3(c). (ABS) As part of my official responsibilities, I assisted the NRC Staff in its evaluation of the potential environmental impacts related to the Applicant's proposed construction and operation of the transportation facilities, and alternatives to those facilities, associated with the

proposed PFS Facility in Skull Valley, Utah. Further, I assisted in the preparation of the Staff's "Draft Environmental Impact Statement for the Construction and Operation of an Independent Spent Fuel Storage Facility on the Reservation of the Skull Valley Band of Goshute Indians and the Related Transportation Facility in Tooele County, Utah," NUREG-1714, issued in June 2000 ("DEIS"), and the FEIS issued in December 2001. In addition, I assisted the NRC Staff in preparing the "NRC Staff's Response to Applicant's Motion for Summary Disposition of SUWA Contention B (Railroad Alignment Alternatives)," dated July 19, 2001, and the NRC Staff's responses to the January 29, 2002, discovery request from SUWA directed to the Staff. In particular, I assisted in evaluating the environmental effects that PFS's proposed Low Corridor rail line might have in the area through which it passes, as well as the environmental impacts of rail line alternatives.

A3(d). (GPZ) As part of my official responsibilities, I assisted the NRC Staff in its evaluation of the potential environmental impacts related to the Applicant's construction and operation of the proposed PFS Facility and its associated transportation facilities. Further, I assisted in the preparation of the Staff's DEIS, issued in June 2000, and the Staff's FEIS, issued in December 2001. In addition, I assisted the NRC Staff in preparing the "NRC Staff's Response to Applicant's Motion for Summary Disposition of SUWA Contention B (Railroad Alignment Alternatives)," dated July 19, 2001, and the NRC Staff's responses to the January 29, 2002, discovery request from SUWA directed to the Staff.

Q4. What is the purpose of this testimony?

A4. The purpose of this testimony is to provide the Staff's views concerning Contention SUWA B, regarding railroad alignment alternatives. In particular, the following issues are addressed herein: (a) unresolved problems regarding crossing I-80 for alternatives originating north of I-80 in Skull Valley; (b) impacts to wetlands, houses, ranches and traffic, and excavation impacts, of alternatives originating south of I-80 and east of the Stansbury Mountains; (c) impacts to a portion of the North Cedar Mountains resulting from the proposed Low Corridor rail line and

the west valley rail alternative; and (d) the amount of cut and fill necessary to construct the Low Corridor rail line and the west valley rail alternative.

Q5. Are you familiar with Contention SUWA B?

A5. Yes. Contention SUWA B, as admitted by the Licensing Board in LBP-99-3, states as follows:

The License Application Amendment fails to develop and analyze a meaningful range of alternatives to the Low Corridor Rail Spur and the associated fire buffer zone that will preserve the wilderness character and the potential wilderness designation of a tract of roadless Bureau of Land Management (BLM) land — the North Cedar Mountains — which it crosses.

More specifically, the Licensing Board indicated that this contention was admitted insofar as "it seeks to explore the question of alignment alternatives to the proposed placement of the Applicant's proposed Low rail spur," and whether consideration should be given by PFS and the Staff to "alternative rail routes that might prove more environmentally benign than PFS's chosen route." *See Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-99-3, 49 NRC 40, 53, *aff'd*, CLI-99-10, 49 NRC 318, 327 (1999).

Q6. Did SUWA make any assertions regarding railroad alignment alternatives in its basis for SUWA Contention B?

A6. Yes. SUWA, in the contention's basis section (at 5), specifically asserted as follows:

SUWA incorporates as a basis for this Contention, the basis stated for Contention A. As was demonstrated in Contention A, despite the wilderness character of the North Cedar Mountains and its potential designation as wilderness pursuant to the Wilderness Act of 1964, PFS has failed to adequately develop and analyze a meaningful range of alternatives to the Low Rail Spur and the associated fire buffer zone on this roadless [area] and the alignment of these proposed projects that will protect the wilderness character of the North Cedar Mountains and will preserve, for Congress, the opportunity to designate the area as wilderness pursuant to the Wilderness Act of 1964.

In an affidavit submitted in support of the proposed contention, SUWA also stated that:

[a]n alternative alignment to the proposed rail spur that avoided the North Cedar Mountains roadless area, exhibit "2", and/or ran two miles to the east of the current alignment (avoiding sensitive wetlands, etc.) would have less impact on the wilderness character of the North Cedar Mountain roadless area is identified by exhibit "2" attached to SUWA's petition to intervene.

Q7. Subsequent to the filing of this contention, has the Staff issued its environmental evaluation of the proposed PFS Facility and its associated transportation facilities?

A7. (GPZ) Yes. Contention SUWA B was filed in November 1998. In June 2000, the Staff and three cooperating federal agencies (BLM, STB, and the Bureau of Indian Affairs ("BIA")) published their DEIS for the proposed PFS Facility and associated transportation facilities; and, in December 2001, the Staff and cooperating agencies published their FEIS for the proposed PFS Facility and associated transportation facilities.

Q8. Please describe the process in which the Staff considers alternatives to a proposed action under the National Environmental Policy Act ("NEPA")?

A8. (GPZ) The Commission's duties under NEPA are discussed in 10 C.F.R. Part 51. In accordance with those provisions, an applicant for an ISFSI under 10 C.F.R. Part 72 must file an environmental report. The Staff then conducts an environmental scoping process, after which it issues a draft EIS. The draft EIS includes a preliminary analysis that considers and weighs the environmental effects of the proposed action; the environmental impacts of alternatives to the proposed action; and alternatives available for reduction or avoiding adverse environmental effects. Following the receipt of comments on the draft EIS, the Staff issues a final EIS based on a review of information provided by the applicant, information provided by commentors on the draft EIS, and other information and analysis obtained by the Staff. The final EIS includes a response to comments received on the draft EIS, and may include a modification of alternatives and/or the development and evaluation of alternatives which were not previously given serious consideration.

Q9. Did the Staff follow this process, described in 10 C.F.R. Part 51, in connection with its evaluation of the proposed PFS Facility and its associated transportation facilities?

A9. (GPZ) Yes. This process was followed by the Staff in connection with the application for a license to construct and operate the proposed PFS Facility and its associated transportation facilities, resulting in publication of the DEIS and the FEIS, in June 2000 and December 2001, respectively.

Q10. In the DEIS and FEIS, did the Staff and cooperating agencies consider the issues raised by SUWA in Contention SUWA B?

A10. (GPZ) Yes. The issues raised by SUWA in this contention are addressed in Chapter 2 of the DEIS and FEIS. The DEIS discussed a range of alternatives to the proposed Low Corridor rail line, not including the west valley rail alternative (which was later discussed in the "Applicant's Motion for Summary Disposition of Contention SUWA B – Railroad Alignment Alternatives," dated June 29, 2001, and the Licensing Board's decision in *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-01-34, 54 NRC 293 (2001)). The FEIS addressed the west valley rail alternative, in addition to the alternatives considered in the DEIS.

Q11. Please describe Skull Valley and the existing transportation facilities in or near Skull Valley.

A11. (GPZ) Skull Valley is a topographical valley located approximately 50 miles west of Salt Lake City, Utah, and about 22 miles east of the Great Salt Lake Desert. As shown in Figure 1.1 of the FEIS, Skull Valley is bounded on the east by the Stansbury Mountains and on the west by the Cedar Mountains. The northern end of Skull Valley lies just south of the Great Salt Lake. The valley is generally about 10 miles wide (east-to-west), although the width varies at different latitudes, and is about 30 miles long (north-to-south).

The peaks in the Stansbury Mountains rise to an elevation of up to 11,000 feet (above mean sea level), while the peaks of the Cedar Mountains rise to elevations of approximately 7,700 feet.

The proposed project area within Skull Valley is shown in Figure 1.2 of the FEIS. The floor of Skull Valley at the location of the proposed PFS Facility is at an elevation of approximately 4,450 to 4,490 feet above mean sea level.

Existing transportation facilities in or near Skull Valley are limited to a single rail line and a few paved roadways. As shown in Figure 1.2 of the FEIS, Interstate 80, running in a generally east-west direction, lies at the northern end of Skull Valley, approximately 25 miles north of the proposed location of the proposed PFS Facility. The Union Pacific main rail line, also running in a generally east-west direction, similarly lies at the northern end of Skull Valley to the north of I-80, except where the rail line passes under (and south of) the interstate near the proposed Low (or Skunk Ridge) rail siding to the west of Skull Valley. In addition, a spur from the Union Pacific main line also passes under (and south) of I-80 in the valley to the east of the Stansbury Mountains.

A two-lane, paved road (identified as "Skull Valley Road" in Figure 1.2 of the FEIS) runs in a generally north-south direction in the eastern portion of the valley, passing approximately 2 miles east of the proposed PFS Facility. Approximately 10 miles southeast of the proposed PFS Facility, a two-lane, paved road enters Skull Valley from the east, crossing Johnson Pass in the Stansbury Mountains, near Terra, Utah, as shown in Figure 1.2 of the FEIS. The only other paved roadway access into Skull Valley enters the valley from the south, through Dugway, and connects with Skull Valley Road (as shown in Figure 1.2 of the FEIS). Other roads or trails in Skull Valley consist of unimproved roads and trails used by off-highway vehicles ("OHVs").

I. Description of Proposed Low Corridor Rail Line And Alternatives

Q12. Please describe the location of the proposed rail line.

A12. (GPZ) The proposed Low Corridor rail line would run approximately 32 miles from the Union Pacific main rail line in a generally southerly direction toward the proposed PFS Facility. The specific location of the proposed rail line is described in detail in Section 2.1.1.3 (pages 2-14

and 2-15) of the FEIS. The specific route and alignment is shown in Figure 1.2 (page 1-3) of the FEIS. The proposed rail line would originate just south of I-80 near Low, Utah, at the northern end of the Cedar Mountains. The proposed right-of-way for the new rail line generally follows the 4380-foot elevation (above mean sea level) topographical contour along the eastern foot of the Cedar Mountains, which lies on the western side of Skull Valley; thus, the proposed Low Corridor rail line would run along the western side of Skull Valley.

Q13. Please describe the proposed Low Corridor rail line.

A13. (GPZ, ABS) The specific details of the proposed rail line are described in Section 2.1.1.3 (pages 2-14 and 2-15) of the FEIS, and are depicted in cross-section in Figure 2.5 (page 2-17) of the FEIS. As described in Section 2.1.1.3 (pages 2-14 and 2-15) of the FEIS, the right-of-way would be 200 feet wide, within which the rail bed (during operation of the rail line) would be 40 feet wide. This 40-foot width would contain a 17-foot wide area filled with ballast (*i.e.*, 2-inch maximum sized rock for use as base material for the cross-ties and rails).

As stated in Section 2.1.1.3 of the FEIS, the disturbed portion of the 200-foot right-of-way would be revegetated. Section 5.4.1.1 of the FEIS describes the revegetation plan, the type of plants being considered, and the high fire tolerance of such plants. Section 5.4.2.1 of the FEIS describes how the revegetated rail corridor would be required to follow BLM's fire management plan for Skull Valley. That same section of the FEIS also describes how the Applicant would be required to use herbicides to control noxious weeds and other non-native species within the rail corridor. In accordance with standard operating practices, the 17-foot wide ballast area would be expected to be kept completely clear of vegetation (thereby providing the core of a fire break region). Finally, Section 5.8.4 of the FEIS discusses the occurrence and potential for wildfires in Skull Valley, and describes the measures that would be taken (1) to allow the revegetated rail corridor to function as a green strip to prevent the spread of wildfires, and (2) to include rail crossings, as appropriate,

to minimize the potential for the elevated railbed to adversely impact any fire-fighting efforts in Skull Valley.

In this regard, it should be noted that Contention SUWA B uses the term "associated fire buffer" in conjunction with the Low Corridor rail line, although that term has not been used by the Applicant in its description of the proposed rail line. Rather, the proposed rail line incorporates certain fire-resistant elements, including a raised elevation, rock ballast, control of invasive, noxious weeds, and partial right-of-way revegetation with fire-resistant vegetation. In sum, construction of the rail line would include elements that may serve as a "fire buffer," consisting of the 17-foot wide area of rock ballast that would be cleared of vegetation, the surrounding area filled with sub-ballast (occupying a 34-foot width, including the 17-foot wide ballast area), and such additional portions of the 200-foot wide right-of-way that are cleared during construction of the rail line and then revegetated with fire-resistant vegetation. See FEIS, §§ 5.4.2.1 (page 5-19) and 5.8.4 (page 5-74).

Q14. How would the proposed Low Corridor rail line be constructed?

A14. (ABS, GPZ) As described above, the proposed right-of-way for the rail line would be approximately 32 miles long and 200 feet wide. An additional "temporary use area" of 50 feet on each side of the 200-foot permanent right-of-way would also be needed for topsoil stockpiles and other construction uses. The bed for the new rail line would be approximately 40 feet wide. The rail bed would be composed of a standard 4 foot 8.5 inch gauge single track, a 17-foot wide layer of ballast material, which rests on a 34 foot wide layer of sub-ballast material, and a 3 foot wide cleared area on each side of the sub-ballast. Any of the remaining right-of-way which is disturbed during construction would be revegetated using the native seed mix recommended by the BLM. The top of the completed rail line would be approximately 4.5 feet above the surrounding terrain.

The rail line would cross 32 arroyos (*i.e.*, gullies or gulches cut by ephemeral streams) at which drainage culverts designed to address flooding would be installed. The rail line would cross

two improved gravel roads, as well as seven dirt roads and/or OHV trails. At-grade crossings would be constructed so as not to impair travel on these roads and trails.

The rail line would not be fenced, and no access roads along the rail line would be provided. Access for maintenance purposes would be accomplished by existing roads in the area and by railroad (*i.e.*, hi-rail) vehicles moving along the track.

Q15. Did the Staff consider alternative alignments to the Applicant's proposed Low Corridor Rail Line alignment?

A15. (GPZ) Yes.

Q16. Please identify each alignment alternative that the Staff considered in the FEIS.

A16. (GPZ) As described in Section 2.2.4.2 (pages 2-47 to 2-51) of the FEIS, the Staff considered three rail alignment alternatives: (1) a new rail line originating from somewhere along the existing Union Pacific main rail line at the northern end of Skull Valley and north of I-80, (2) a new rail line originating from an existing rail line east of the Stansbury Mountains, to the east of Skull Valley, and (3) a "west valley rail alternative" that would follow the alignment of the Applicant's Low Corridor rail line, except for a segment about 6.5 miles in length, where it would deviate about 2000 to 3000 feet to the east of the proposed Low Corridor rail line so as to avoid an area that has been described by SUWA as the "North Cedar Mountains Area" ("NCMA"). The first two of these alternatives included consideration of a rail alignment in the eastern portion of Skull Valley, parallel to the route of the existing Skull Valley Road. The west valley rail alternative and the proposed Low Corridor rail line are shown on a map submitted with this testimony (Staff Exhibit "G").

II. Evaluation of the Proposed Low Corridor Rail Line

A. Overall Evaluation

Q17. Does the Staff's FEIS address the environmental impacts of the proposed Low Corridor rail line route?

A17. (GPZ) Yes. Chapter 5 of the FEIS addresses the environmental impacts of the proposed Low Corridor rail line (as well as other alternatives, including the proposed Intermodal Transfer Facility near Timpie, Utah).

Q18. What environmental impacts does the Staff's EIS identify with respect to the proposed Low Corridor rail line?

A18. (GPZ) Chapter 5 of the FEIS describes the potential environmental impacts from the construction and operation of the proposed Low Corridor rail line. Chapter 5 of the FEIS sets forth the NRC Staff's evaluation of the impacts in the areas of geology, minerals and soils; water resources; air quality; ecological resources; socioeconomic and community resources; cultural resources; human health impacts of transporting spent nuclear fuel; noise; visual qualities; recreation; and wildfires. In addition, Section 5.9 (page 5-74) of the FEIS discusses the environmental impacts of decommissioning the proposed rail line.

As set forth in the FEIS, the NRC Staff concluded that the potential environmental impacts in the aforementioned areas would be small, except for the areas of (1) water resources (small to moderate impacts from flooding), (2) air quality (small to moderate impacts from dust generated during construction near I-80), (3) socioeconomics (small to moderate land use impacts to holders of grazing allotments and to wildlife use of watering resources within the project area), (4) cultural resources (small to moderate impacts to portions of eight important historic properties), and (5) scenic qualities (moderate impacts to recreational viewers and possibly to residents of Skull Valley).

Q19. Do you agree with the assessment of impacts from the Low Corridor rail line, presented in the FEIS?

A19. (GPZ) Yes. The FEIS presents a fair and accurate assessment of the potential impacts of the Low Corridor rail line. This conclusion is based upon my own review of the Low Corridor rail line; my expertise as Leader of the Environmental Impact Analysis Group at ORNL;

my personal involvement and interaction with the experts and specialists who conducted the respective assessments and evaluations in each resource category and who documented their findings and conclusions for presentation in the FEIS; my experience with the preparation and findings of other environmental impact statements; and my participation and interaction with NRC Staff and the staffs of the three Cooperating Federal Agencies (BLM, BIA and STB) during preparation of the DEIS and the FEIS.

B. Earthwork ("Cut and Fill") Evaluation

Q20. Has the NRC Staff considered the earthwork (excavation and embankment, or "cut and fill") necessary for the proposed Low Corridor rail line?

A20. (KEM) Yes. I performed that review at the request of the STB, acting in its role as a Cooperating Federal Agency with respect to the proposed PFS Facility.

Q21. What information did you review with respect to the Applicant's proposed Low Corridor rail line?

A21. (KEM) I have reviewed various documents and drawings pertaining to the Low Corridor rail line. In particular, I reviewed the following documents:

- [PFS] Application For Construction and Operation Authority, Vol. 1 &2, January 5, 2000.
- Clarification - Low Rail Corridor Alignment, John L. Donnell, Project Director, Private Fuel Storage, December 4, 2001.
- Applicant's Motion for Summary Disposition of Contention SUWA B, June 29, 2001.
- Final EIS, Section 2.2.4, "Transportation Options."

Q22. Please describe the rail alignment for the Low Corridor rail line that you analyzed for cut and fill considerations.

A22. (KEM) I analyzed the proposed Low Corridor rail line, from its point of origin where it connects to the Union Pacific Railroad mainline at Low Junction, Utah, to its terminus at the PFS Facility. This single track rail line will be approximately 32 miles in length. Beginning at Low, the

rail line will run along the south side of I-80 for approximately 3 miles. It will then turn south along the western side of Skull Valley near the base of the Cedar Mountains for approximately 26 miles, where it will then turn west for approximately 3 miles to the proposed PFS Facility. Associated sidings will be located at Low and at the proposed PFS Facility. This rail alignment is described in more detail in the discussion above.

Q23. Did the results of your analysis of the necessary cut and fill agree with the analysis presented by PFS to the STB, in its Application For Construction and Operation Authority of January 2000, which is described in the FEIS?

A23. (KEM) Yes.

Q24. Based on your analysis, what are the earthwork quantities needed to construct the Low Corridor rail line?

A24. (KEM) Specifically, the earthwork quantities are approximately 885,000 cubic yards of excavation (cut) and approximately 630,000 cubic yards of embankment (fill). This results in approximately 255,000 cubic yards of extra cut material. The Applicant has proposed to place this excess material in the areas adjacent to the new rail line, as additional embankment.

Q25. What was the Applicant's stated goal in aligning the Low Corridor rail line as it did?

A25. (KEM) The Low Corridor rail line was laid out in a manner that attempted to balance cut and fill throughout its length, while maintaining grades not to exceed 1.5 percent.

C. Wilderness Evaluation

Q26. What defines "wilderness characteristics"?

A26. (BNL, ABS) The Wilderness Act of 1964 defines "wilderness characteristics." Specifically, four wilderness characteristics are defined in the Wilderness Act: (1) size (contains at least 5,000 acres); (2) naturalness (affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable); (3) outstanding opportunities for solitude or a primitive

and unconfined type of recreation; and (4) may contain supplemental values (ecological, geological, or other features of scientific, educational, scenic, or historical value). For an area to possess "wilderness characteristics" under the Wilderness Act, it must satisfy all of the first three of these criteria; satisfaction of the fourth criterion, standing alone, is not sufficient.

Q27. Please identify the location of the area described by SUWA as the "North Cedar Mountains Area."

A27. (BNL, ABS, GPZ) The North Cedar Mountains Area ("NCMA") is an area identified and designated as such by SUWA on certain maps provided by SUWA in its "Exhibit 2," attached to SUWA's contentions. Based on my review of those maps, I understand that the area referred to by SUWA as the "NCMA" lies at the northern end of the Cedar Mountains, and encompasses an irregular area approximately 7 miles long (north to south) by 5 miles wide (east to west). The "NCMA" lies to the north of the existing Cedar Mountain Wilderness Study Area, which is an area designated as such and defined by the BLM. The "NCMA" is also shown on Staff Exhibit "G".

Q28. Has the BLM made a determination as to whether the area referred to by SUWA as the "North Cedar Mountains Area," possesses wilderness characteristics?

A28. (BNL, ABS) The BLM has made a determination that the "NMCA" does not possess wilderness characteristics. The North Cedar Mountains (UT-020-087), were inventoried by BLM in 1979 for wilderness characteristics. The area met the Wilderness Act's size requirement of containing at least 5,000 acres. However, the area was found to lack each of the other three wilderness characteristics. Specifically, the area was found to lack (1) naturalness (affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable); (2) outstanding opportunities for solitude or a primitive and unconfined type recreation; and (3) supplemental values (ecological, geological, or other features of scientific, educational, scenic, or historical value). Based on the wilderness characteristics analysis, the BLM recommended that the North Cedar Mountains not be designated a wilderness study area. This determination was

documented in "The North Cedar Mountains Intensive Inventory File," UT-020-087, dated March 20, 1980.

Q29. Please describe any further BLM determinations with respect to whether the North Cedar Mountains have wilderness characteristics.

A29. (BNL, ABS) Pursuant to BLM Manual H-6310-1 ("Wilderness Inventory Handbook" or "WIH"), on April 11, 2001, SUWA submitted a proposal to the BLM, suggesting that the proposal contained "supplemental and new information" which would cause the BLM to revisit the 1980 North Cedar Mountains wilderness determination.

The BLM considered SUWA's April 2001 proposal, in accordance with the BLM Wilderness Inventory Handbook. Pursuant to the WIH, proposals must contain the following: (1) A map identifying specific boundaries, (2) a detailed narrative that describes the suggested wilderness characteristics of the area, and (3) photographic documentation. The SUWA proposal contained the required components as outlined in the WIH; however, the proposal did not describe or present information which significantly differed from information in prior inventories conducted by the BLM regarding the wilderness values of the area. Rather, the SUWA submission primarily disagreed with the prior (1979-1980) BLM wilderness inventory, but did not provide significant new information that would change the BLM's 1980 intensive inventory determination and did not provide information to support a re-evaluation of the area.

Accordingly, a determination was made on May 7, 2001 by the BLM Salt Lake Field Office Manager that the material provided by SUWA did not constitute significantly different information to warrant further review of the North Cedar Mountains wilderness values at that time. See Letter to S. Bloch, SUWA, from G. Carpenter, BLM, dated May 8, 2001 (Staff Exhibit "H"). This determination is not an appealable decision. To date, SUWA has not submitted additional North Cedar Mountain proposals to the BLM.

Q30. Does the FEIS address the characteristics of the area referred to by SUWA as the "NCMA" where the proposed Low Corridor rail line crosses it?

A30. (BNL, ABS, GPZ) Yes. Section 2.2.4.2 (page 2-49) of the FEIS describes the natural and wilderness characteristics of the "NCMA." The FEIS describes the characteristics of the "NCMA" as follows:

the North Cedar Mountains contain no wilderness or wilderness study designation and contain no wilderness values or characteristics. In 1980, BLM considered the northern portion of the Cedar Mountains for designation as wilderness during its Utah land inventory process. The area was found to lack naturalness (i.e., it did not fit the attributes of being affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable); outstanding opportunities for solitude or a primitive and unconfined type recreation; and supplemental values (i.e., ecological, geological, or other features of scientific, educational, scenic, or historical value).

Q31. Do you agree with the foregoing assessment in the FEIS?

A31. (BNL, ABS) Yes.

Q32. Please summarize the basis for this conclusion in the FEIS.

A32. (BNL, ABS) This conclusion was based on the following considerations. The North Cedar Mountains, especially the eastern area traversed by the proposed rail line, already shows the impact of man through numerous motorcycle paths, livestock (both sheep and cattle) trails and grazing, and other extensions of routes used primarily by OHVs, including a route running north-south parallel to the proposed Low Corridor rail line corridor. Vegetation is primarily perennial and annual grasses, including intermediate wheatgrass seeding, and cheatgrass, which is an invasive, non-native species. Desert and semi-desert shrub communities may occur in the lower elevations. Vegetation in any given portion may consist of a mosaic of varying combinations of species, or be limited to monotypic stands of one of the species. Numerous wildfires have occurred in the area as well as associated fire rehabilitation projects.

Further, the following activities have occurred in the North Cedar Mountains subsequent to the 1980 wilderness intensive inventory: (1) Township 1 South (T.1S), Range 9 West (R.9W.), sections 3 and 4 have been drill seeded as part of an emergency fire rehabilitation project for both the Redlam and Tooele fires (1983, 1984); (2) T.1N., R.9W., section 33 was drill seeded as part of an emergency fire rehabilitation project for a wild land fire which occurred in 1983; (3) T.1S, R.9W., section 13 now has occurrences of non-native vegetation due to an emergency fire rehabilitation project; (4) T.1S, R.9W., section 29 now has a wildlife guzzler (a water catchment system providing drinking water for wildlife) and maintenance route in it; and (5) several mining claims now exist within the North Cedar Mountains.

Q33. Are you personally familiar with the natural state of the North Cedar Mountains?

A33. (BNL, ABS) Yes. We have observed various features in the North Cedar Mountains in the course of performing our official duties over the course of our employment with the BLM. In addition, in the course of preparing this testimony, we traveled to the North Cedar Mountains on February 28, 2002, and took a number of photographs, which show certain features that are discussed in our testimony below. These photographs are identified as Staff Exhibits "J" - "O", below. The location from which each photograph was taken is identified on Staff Exhibit "I", and on each individual photograph. The description of each photograph also identifies the direction of the view shown from the identified location.

Q34. Does the proposed Low Corridor rail line cross the area which SUWA designates as the "NCMA"?

A34. (GPZ) Yes, the Low Corridor rail line crosses the "NCMA" boundary, as designated in the maps provided by SUWA. The alignment of the proposed Low Corridor rail line with respect to the "NCMA" is shown in Figure 2.16 (page 2-50) of the FEIS. The proposed Low Corridor rail line alignment is also depicted on Staff Exhibit "G". The proposed rail line would intersect the

easternmost edge of the "NCMA," and would separate a parcel that is about 2.5 miles long (north to south) by 0.4 mile wide (east to west), from the remainder of the "NCMA".

Q35. Does the Low Corridor rail line cross any areas possessing wilderness characteristics?

A35. (BNL, ABS) No.

Q36. What is the basis for this conclusion?

A36. (BNL, ABS) The areas of the "NCMA" that the Low Corridor rail line crosses do not satisfy the second and third required elements in the Wilderness Act, identified above.

Q37. Please explain your conclusion that, with respect to the Wilderness Act's second criterion, the "NCMA" lacks "naturalness" (*i.e.*, affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable)?

A37. (BNL, ABS) The imprint of man's work is substantially noticeable in the North Cedar Mountains. The cumulative effect of many minor and some large impacts are considerably evident within this relatively small unit. Some interior hillsides are untrammelled by man and are affected by the forces of nature. However, because of the openness and exposure to other imprints, a feeling of sublime naturalness is lacking. Therefore, the area lacks the necessary condition of "naturalness."

Specifically, during BLM's 1979 intensive inventory and evaluation of this area, 27 impacts or activities were identified; and a cumulative network of over 11 miles of "ways" (man-made routes) were recorded within the unit's boundaries. One of these, Lee's Canyon way, follows a drainage and cuts a six-mile path through the southeast end of the "NCMA," impacting in its course the 5,000 acre parcel making up that end of the unit. Other activities along this access route include quarries, livestock trails, motorcycle paths, heavy sheep grazing, and other minor extensions of ways used primarily by OHVs.

Other imprints of man's work are demonstrated mainly around the perimeter of the unit. These are impacts that may be relatively small in scale, but are considerably large in their effect upon the quality of a once untouched ecosystem. Ways, sheep pens, man made dikes for water improvements and storage, borrow pits, and much off-road vehicle traffic is quite noticeable from unit borders and adjacent unit hillsides. Topographic features do conceal certain spots of naturalness from these affected areas within more centralized locations of the unit. However, even from within this screened environment, man's works are often evident due to outside influences and activities that occasionally penetrate into the unit.

The recent photographs which we have taken depict the current state of the area. For example, Staff Exhibit "J" (Photo 71) shows the terrain looking south from the road boundary of the "NCMA," which is representative of the eastern bench of the Cedar Mountains. The picture shows evidence of livestock use, noxious weeds, and cheatgrass invasion. (Cheatgrass is an invasive, non-native species.) Several other photographs show examples of "ways," as follows. Staff Exhibit "K" (Photo 74), looking east, shows a view of vehicle tracks 20 feet south and parallel to a road, within the "NCMA." Staff Exhibit "L" (Photo 75), looking west from the north boundary road of the "NCMA," is another representative photo showing the condition of the bench areas; it also shows new routes being established south of the main road. Staff Exhibit "M" (Photo 76), looking south, shows an OHV route running north-south inside the "NCMA," approximately 1/4 mile west of the main road. Similarly, Staff Exhibit "N" (Photo 79), looking west into the "NCMA," shows tracks made by OHVs. Also, Staff Exhibit "O" (Photo 85), in section 10 looking west, shows an access road to reach private land.

Collectively, these photographs show that current conditions in this area are consistent with the BLM's original determination regarding lack of naturalness. Thus, the "NCMA" identified by SUWA lacks the condition of "naturalness" required for it to be designated as a "wilderness area."

Q38. With respect to the Wilderness Act's third criterion, please explain your view that the "NCMA" lacks "outstanding opportunities for solitude or a primitive and unconfined type of recreation"?

A38. (BNL, ABS) Limited portions of the "NCMA" may meet this criterion, but only in part. With respect to solitude, the upper elevations and inner portion of the unit provide scattered opportunities for solitude. Occasional vegetative covering, mountainous topography, and lack of penetrating roads, are evident. However, the lower, outside portions of the unit (including the area near the proposed Low Corridor rail line) lack outstanding opportunities for solitude, due to the sparse vegetative cover, relative open terrain and the cumulative effect of many impacts in the unit.

Certain opportunities for a primitive and unconfined type of recreation exist in the North Cedar Mountains, in the form of hunting, horseback riding, hiking, wildlife observation and sightseeing. However, in and of themselves, these opportunities may not be described as "outstanding," based on the following considerations. Wildlife populations and numbers are few. Terrain for hiking and horseback riding is not unique in nature and does not provide outstanding potential for these recreation types. Also, sightseeing is encumbered by the many outside activities and interior impacts of man.

Q39. With respect to the Wilderness Act's fourth criterion, does the "NCMA" contain any "supplemental values" (ecological, geological, or other features of scientific, educational, scenic, or historical value)?

A39. (BNL, ABS) Rock windows, sawtooth ridges and small caves carved in cliffs and terraces are common throughout the northern section of the unit. These are displays cut by either the Bonneville or Provo levels of ancient Lake Bonneville, and are considered to be typical geological formations, common to the Bonneville Basin, and characteristic to all 14 units (including the "NCMA" unit), for which an intensive inventory was performed in the Salt Lake District. Thus, these geological features are not unique to the NCMA and are not particularly significant.

Modern history, too, has left its imprint upon the unit. Hastings Pass, which is located between the two Cedar Mountain units (*i.e.*, the "NCMA" and the existing Cedar Mountains Wilderness Study Area) was once the route taken by a number of pioneers attempting to shorten their journey to California. Those interested in historical trail interpretation might find this portion of the Hastings Cutoff somewhat intriguing. The Hastings Cutoff is discussed in FEIS § 5.6.1.1, and has been treated in accordance with the National Historic Preservation Act. The Hastings Cutoff does have some supplemental values, but is south of the "NCMA," is not included in SUWA's proposal, and, therefore, does not add "supplemental value" to SUWA's proposed area.

Mining operations have been digging Aragonite (a mineral CaCO_3) along the south end of the unit since 1895. Old buildings, pits, and assorted prospects remain as a legacy to past ambitions. While the modern historical imprints and mining operation imprints have some supplemental value, they also reflect the presence of man in the area.

In sum, any supplemental values in the "NCMA," in the absence of satisfaction of the two wilderness criteria described above, are not sufficient to warrant consideration of the "NCMA" for wilderness designation.

Q40. What is your conclusion as to whether the "NCMA" contains wilderness characteristics?

A40. (BNL, ABS) The "NCMA," where the proposed Low Corridor rail line crosses it, lacks naturalness and lacks outstanding opportunities for solitude or a primitive and unconfined type recreation, as previously determined by the BLM. Therefore, it lacks wilderness values or characteristics necessary for it to be designated as a wilderness study area.

D. "Fire Buffer" Evaluation

Q41. In Contention SUWA B, SUWA asserted that there has been a failure to "develop and analyze a meaningful range of alternatives" to the "fire buffer zone" that is "associated" with the Low Corridor rail line (SUWA Contentions at 5). Did the Staff consider any such alternatives?

A41. (ABS, GPZ) As set forth above, construction of the rail line would include elements that may serve as a "fire buffer," consisting of the 17-foot wide area of rock ballast that would be cleared of vegetation, the surrounding area filled with sub-ballast, and such additional portions of the 200-foot wide right-of-way that are cleared during construction of the rail line and then revegetated with fire-resistant vegetation. The Staff did not consider alternatives to these elements with respect to establishing a fire buffer zone independently from the consideration of the alternative rail routes with which the fire buffer would be associated.

Q42. Did the Staff consider minimizing the width of the right-of-way relative to either the proposed alignment or any alternative alignment in order to reduce the impacts to the area?

A42. (GPZ) No. The 200-foot wide right-of-way, as described in Section 2.1.1.3 (page 2-14) of the FEIS, is intended to accommodate the construction vehicles and workforce necessary to construct the 40-foot wide rail bed. Inasmuch as the staffs of the Cooperating Federal Agencies have determined that the rail alignment alternatives (including the west valley rail alternative) would not result in any significant reduction in impacts to the alleged wilderness characteristics of the adjacent land when compared to the Applicant's proposed Low Corridor rail alignment (see FEIS, page 2-51), it is not apparent how any modifications to the proposed right-of-way could reduce impacts to the alleged wilderness character of the North Cedar Mountains.

Q43. Do you believe that the Staff's consideration of a 200-foot wide right-of-way was appropriate?

A43. (APS, GPZ) Yes. The width of the right-of-way would be specified in the BLM's right-of-way grant. By evaluating the largest potential width in the FEIS, all potential impacts would be identified. Accordingly, while the final grant may specify a right-of-way width equal to or less than the width proposed by PFS, any adverse impacts would be no greater than the impacts considered in the FEIS.

II. Evaluation of Alternatives Originating North of Interstate-80

Q44. Please describe the NRC Staff's evaluation of an alternative new rail line to the proposed PFS Facility, that would originate from the existing Union Pacific main rail line at the northern end of Skull Valley and north of I-80, to the east of the proposed Low Corridor rail line.

A44. (GPZ) The Staff's evaluation of this alternative is set forth in Section 2.2.4.2 of the FEIS, at page 2-47. Building a new rail line from any location in the northern portion of Skull Valley other than Skunk Ridge would involve the construction of a new rail siding north of I-80, thereby creating an unresolved problem as to how the rail line would be able to cross the interstate to reach the Reservation to the south, as there is no existing rail line crossing the interstate in such areas. Also, construction of a new rail line in the eastern portion of Skull Valley, parallel to Skull Valley Road, would create the likelihood for construction activity to directly impact wetlands (at Horseshoe Springs), existing houses and ranches, and traffic on Skull Valley Road. This alternative was determined not to be superior to the proposed Low Corridor rail line.

Q45. Please describe the problem of crossing I-80.

A45. (KEM) Since the Union Pacific Railroad mainline is on the opposite side of I-80 from the proposed PFS Facility, a grade separation would be required to extend a new alternative rail line to the south, if a connection were made to the Union Pacific mainline anywhere east of Low. This could be accomplished in either of two ways: (1) I-80 could be raised and bridged over the new alternative rail line, or (2) the alternative line could cross over I-80 using a bridge. (Lowering the rail line to pass under I-80, or vice versa, is not a practicable solution because of the level of the water table in that area.)

To construct a highway overpass of a rail line, approximately 3600 feet of I-80 would have to be reconstructed to pass it over the alternative rail line, in addition to the construction of a four lane 50 foot span bridge. This would require extensive detours of a major interstate highway while an overpass structure was being built. Alternatively, in order to construct a rail line that passes

over the highway, a very long distance would be needed to raise the rail line over the highway, because the maximum railroad grade can be no more than 1.5 percent. Where topography is relatively flat, approximately 4800 feet of rail line track would need to be built at a 1.5 percent grade to obtain sufficient clearances to cross over I-80.

Q46. What is your conclusion with respect to a new alternative rail line to the proposed PFS Facility, originating from somewhere along the existing Union Pacific main rail line at the northern end of Skull Valley and north of I-80?

A46. (GPZ, KEM) Such an alternative involves an unresolved problem in how to cross I-80 to reach the Reservation to the south, and would entail significant environmental impacts beyond those involved in the Low Corridor rail line. Accordingly, no further evaluation of such an alternative is warranted.

III. Evaluation of Alternatives Originating East of the Stansbury Mountains

Q47. Please describe the Staff's evaluation of an alternative new rail line to the proposed PFS Facility, originating from an existing rail line east of the Stansbury Mountains?

A47. (GPZ) The Staff's evaluation of this alternative is set forth in Section 2.2.4.2 of the FEIS, at page 2-47. A new rail line originating east of the Stansbury Mountains (*i.e.*, alternative No. 2, above) would require a new rail corridor around the northern end of these mountains (*i.e.*, between the mountains and I-80), which would then continue south along Skull Valley Road. This option would result in significant construction impacts to the wetlands, houses, ranches, and traffic along Skull Valley Road, as well as substantial excavation at the northern end of the Stansbury Mountains because of the proximity of the mountains to the interstate at this location. In addition, operation of the rail line close to existing wetlands, houses, and ranches in Skull Valley would result in operational impacts that exceed the impacts of operating the Low Corridor rail line.

Q48. What is your conclusion with respect to an alternative new rail line to the PFS Facility, originating from an existing rail line east of the Stansbury Mountains?

Q48. (GPZ) Based upon its significant impacts to wetlands, houses, ranches and traffic, and significant excavation impacts, no further evaluation of this alternative is warranted.

IV. Evaluation of West Valley Alternative

Q49. Did the Staff consider an alignment that would originate at Low (Skunk Ridge), but which would not traverse the "NCMA"?

A49. Yes. As described in Section 2.2.4.2 (pages 2-47 to 2-51) of the FEIS, the Staff considered a "west valley rail alternative" that would follow the alignment of the Applicant's Low Rail Line, except for a segment of about 6.5 miles where it would deviate to the east to avoid the area referred to by SUWA as the "NCMA."

Q50. Please describe the Staff's understanding of the west valley rail alternative.

A50. (KEM, GPZ) The west valley rail alternative was first presented in the attachments to the Applicant's Motion for Summary Disposition of Contention SUWA B, filed on June 29, 2001. This rail alignment is similar to the Low Corridor rail line with the following exception. At the point where the rail line curves away from I-80, the curvature would turn less sharply so this alternate would move more to the east, away from the Cedar Mountains, than the proposed Low Corridor rail line. After proceeding southeast for about 2 miles, the alternate rail line would curve south for about 3 miles, then southwest for one mile to a point where it would rejoin the proposed Low Corridor rail line alignment. The result is an alternate alignment 2000 to 3000 feet east of the proposed Low Corridor rail line alignment for a length of about 6.5 miles. This alternate avoids the area referred to by SUWA as the "NCMA" and the mud flats that lie further to the east.

Q51. Please identify the environmental impacts that are associated with the west valley rail alternative, as discussed in the FEIS.

A51. (GPZ) Section 2.2.4.2 (page 2-49) of the FEIS describes the potential environmental impacts of the west valley rail alternative. The alignment of the west valley rail alternative would follow undulating terrain and, over most of its 6.5 mile length, would be constructed on land with an elevation approximately 100 to 150 feet lower than the Applicant's proposed Low Corridor rail line alignment. The west valley rail alternative would have to be built almost entirely on fill material because of the constraint imposed by a 1.5 percent grade limitation due to locomotive braking and safety considerations. The rail bed of the west valley alternative route would therefore have to be built to elevations up to 20 feet above existing grade levels. This raised rail bed would have a visual impact and could interfere with the access to existing roads and grazing allotments, the movement of wildlife, and the fighting of wildfires in the Cedar Mountains and in the western portion of Skull Valley. These impacts would exceed the impacts of the proposed Low Corridor rail line.

In addition, as discussed in more detail below, the Applicant has estimated that the west valley rail alternative would require the emplacement of approximately 560,000 cubic yards of fill material and raised rail bed, of which about 260,000 cubic yards would have to be imported to the construction site from other locations.

Q52. Has the Staff reviewed the Applicant's cut and fill analysis for the west valley rail alternative?

A52. (KEM) Yes. At the request of STB, acting in its role as a Cooperating Federal Agency with respect to the proposed PFS Facility, I reviewed the plan, profile and cross sections shown in the Applicant's Motion for Summary Disposition of Contention SUWA B, dated June 29, 2001.

Q53. Based on your analysis, do you agree with the Applicant's conclusions regarding the quantities of cut and fill necessary to construct the west valley alternative shown in the Applicant's Motion for Summary Disposition of Contention SUWA B?

A53. (KEM) Yes.

Q54. What are the quantities of cut and fill necessary to construct the west valley rail alternative?

A54. (KEM) For the portion of the west valley rail alternative that deviates from the proposed Low Corridor rail line, the Applicant's analysis shows that the amount of material excavated (cut) is about 560,000 cubic yards less than the amount of material that would be needed for use as embankment (fill) material. As stated above, there would be approximately 255,000 cubic yards of excess material that is excavated for the Low Corridor rail line. However, if the 6.5 mile length of the Low corridor rail line that is bypassed by the west valley alternative is deleted from the earthwork analysis, there would be a net loss of approximately 40,000 cubic yards of such excess excavated material. Assuming that the remaining excess cut material is available for use as fill for the west valley alternative, as much as 340,000 cubic yards of additional material would need to be brought into the site from another location in order to construct this alternative. Importation of this fill material would be very expensive, and would require on the order of 34,000 truck trips along I-80 and local roadways to bring this material to the site. In addition, the source of this fill material would need to be identified, and could result in separate environmental impacts. These impacts would exceed the cut and fill impacts of the proposed Low Corridor rail line.

Q55. Do you agree with the Applicant's conclusion that the west valley rail alternative would result in greater earthwork impacts than the proposed Low Corridor rail line?

A55. (KEM) Yes, greater earthwork impacts will occur if the west valley alternate rail alignment were to be used. The PFS site is located at an elevation of about 4480 ft (ranging from 4450 ft to 4490 ft), as described in the FEIS (page 2-3). As stated above, the Low Corridor rail line generally follows the 4380 ft elevation (generally ranging between elevations of 4360 ft to 4410 ft). In contrast, the west valley alternative would dip from an elevation of about 4410 ft to about 4260 ft, before rising to rejoin the Low Corridor rail line at an elevation of 4360 ft. It would continue to rise gradually from there to about the 4480 ft elevation where the line enters the proposed PFS site.

Thus, the west valley alternate rail alignment would drop to grade elevations as much as 130 feet lower in elevation in some places than the proposed Low Corridor rail line alignment, because this alternate alignment more closely approaches the valley floor. The result is that this alternate alignment must drop down and then proceed back up to tie back into the proposed alignment. This causes the profile grade to be placed on embankments in excess of 20 feet in three locations totaling about 5500 feet in length. By comparison, the embankments for the Low Corridor rail line have a maximum height of about 10 to 12 feet. The embankments would be constructed with a 3 : 1 slope, which means that as the embankment becomes higher, the footprint of the rail line, or area directly impacted, becomes greater. Inasmuch as the west valley rail alternative would require larger earthwork emplacements than the Low Corridor rail line, as described above, it would have much greater environmental impacts than the Low Corridor rail line.

Q56. Did you identify any possible modifications to the west valley rail alternative that could reduce the amount of cut and fill while still avoiding the proposed "NCMA"?

A56. (KEM) Yes. I considered modifying the profile grade line to try to obtain a more balanced condition between excavation and embankment. The result was a reduction in embankment of about 50,000 cubic yards. This would still leave a fill requirement of over 500,000 cubic yards. In addition, the profile grade I selected contained about 9,000 feet more of rail at the maximum grade allowed of 1.5 percent than was described by the Applicant in the west valley rail alternative. This increase in the amount of rail line at the maximum 1.5 percent grade would result in increased operating costs because the trains would need to run for a longer time under load up these grades.

Q57. Does the west valley rail alternative cross areas possessing wilderness characteristics?

A57. (BNL, ABS) No.

Q58. How do the proposed Low Corridor rail line and the west valley rail alternative compare, with respect to wilderness characteristics?

A58. (BNL, ABS) There are native greasewood stands near the west valley rail alternative that tend to lend that area an aspect of naturalness that the Low Corridor rail line lacks. Both areas have single-track motorcycle trails, although there are more motorcycle trails and motorcycle use on the west valley rail alternative. On balance, however, there do not appear to be any significant differences in the current condition between the proposed Low Corridor rail line route and the west valley rail alternative, with respect to wilderness characteristics, due to the close proximity of these two routes. As set forth in the FEIS in Section 2.2.4.2, the impacts to wilderness values from the proposed Low Corridor rail line do not differ significantly from the impacts expected from the west valley rail alternative; this is due to the fact that none of the areas located near the two routes, including the area referred to by SUWA as the "NCMA," have any wilderness or wilderness study area designation, and do not contain wilderness values or characteristics.

Q59. What conclusion was reached by the Staff regarding the environmental impacts of the west valley rail alternative?

A59. (GPZ) Section 2.2.4.2 (pages 2-47 and 2-51) of the FEIS discusses the Staff's conclusions about the west valley rail alternative. The west valley rail alternative was eliminated from detailed evaluation because the Staff concluded that the environmental impacts from this alternative's increased excavation and rail bed fill requirements would exceed the impacts of the Applicant's proposed Low Corridor rail line. In addition, the FEIS concludes that the west valley rail alternative would not result in any significant reduction in impacts to recreation or wilderness characteristics of the adjacent land, when compared to the proposed Low Corridor rail line. Therefore, with respect to the potential environmental impacts, the west valley rail alternative offers no obvious advantage over the Applicant's proposed Low Corridor rail line.

Q60. Do you agree with the assessment in the FEIS regarding the alternative rail alignments?

A60. (BNL, ABS, GPZ) Yes.

Q61. What is the basis of your conclusion in this regard?

A61. (BNL, ABS, GPZ) This conclusion is based upon the observation that each of the alternatives to the proposed Low Corridor rail line possesses some negative characteristic (from the perspective of presenting or creating potentially adverse environmental impacts) which causes it to appear less desirable than the Applicant's proposed Low Corridor rail line. That is, each of the alternatives appears to offer a set of adverse environmental impacts and would offer no advantage over the Applicant's proposed rail line, as addressed in detail in Chapter 5 of the FEIS.

V. SUWA Alternative

Q62. Has SUWA identified any rail alignment alternative not discussed above?

A62. (ABS, GPZ) Yes. In the "Second Declaration of Jim Catlin for Petitioner [SUWA]" ("Catlin Declaration"), attached to the "Reply of [SUWA] to Staff and Applicant Responses to SUWA's Petition to Intervene, Request for Hearing and Contentions," dated December 8, 1998, SUWA generally described an alternative that might run "two miles to the east" of the proposed Low Corridor rail line (*Id.*, ¶ 9). In the absence of additional information, such an alternative would appear to run through the mud flats that begin approximately one mile to the east of the proposed Low Corridor rail line, as is indicated on Staff Exhibit "G". Such an alternative would appear to pass through lands that are owned, managed, or held in trust by the State of Utah. While a question exists as whether the State would allow such lands to be used by PFS for a rail line to its proposed Facility, the Staff has considered the cut and fill implications associated with that alternative without regard to the issue of whether PFS would be granted permission to utilize those areas.

Q63. Assuming that this is the area intended by SUWA, what would be the effect of such an alternative with respect to cut and fill considerations?

A63. (KEM) The entire length through the area of the mud flats would require placement on imported fill material. In contrast, very little, if any, cut would be required in this area. As a result, construction of this alternative would probably require in excess of 500,000 cubic yards of imported fill material.

Q64. How would these cut and fill effects compare to those associated with the west valley rail alternative?

A64. (KEM) The west valley rail alternative would require as much as 340,000 cubic yards of fill to be imported to the site. This other alternative, located two miles east of the west valley alternative, would require approximately 1.5 times that amount, or approximately 500,000 cubic yards.

Q65. What is your conclusion with respect to this additional SUWA alternative?

A65. (KEM) Inasmuch as other alternatives could be constructed with either less imported fill (e.g., the west valley alternative) or no imported fill at all (e.g., the Low Corridor rail line), this additional alternative proposed by SUWA would result in greater adverse impacts than such other alternatives, and does not appear to warrant further consideration.

VI. Overall Conclusion

Q66. Please summarize your views with respect to the concerns raised in Contention SUWA B.

A66. As more fully described above, in Section 2.2.4.2 (page 2-47) of the FEIS, the Staff considered and analyzed two alternative rail alignments (both on the eastern side of Skull Valley, away from the Cedar Mountains), in addition its consideration of the Low Corridor rail line. In addition, section 2.2.4.2 (pages 2-49 to 2-51) of the FEIS documents the Staff's consideration and

analysis of the west valley alternative, an alternative rail alignment that would completely avoid the area referred to by SUWA as the "North Cedar Mountains Area."

As discussed in Section 2.2.4.2 (page 2-49) of the FEIS, BLM has concluded, for the reasons described above, that the area described by SUWA as the "North Cedar Mountain Area" contains no wilderness values or characteristics. Because the area lacks such values or characteristics, no alternatives need to be developed to avoid or minimize the potential for adverse impacts to such asserted values or characteristics.

In sum, the Staff has considered and evaluated a range of alternatives to the proposed Low Corridor rail line, and has adequately described the environmental impacts of each alternative considered. In addition, the FEIS considered alternative rail alignments and the concern expressed by SUWA with respect to the alleged wilderness character and potential wilderness designation of the "North Cedar Mountains Area," and appropriately concluded that a rail alternative that avoids such area would not be environmentally preferable to the Low Corridor rail line.

Q67. Has the Staff considered an appropriate range of reasonable alternatives to the proposed Low Corridor rail line?

A67. Yes. The FEIS addresses an appropriate range of reasonable alternatives to the proposed Low Corridor rail line. Although an almost infinite range of routes and alignments could be hypothesized over every part of Skull Valley, we believe the range of alternatives evaluated in the FEIS and discussed above considers all such types of alternatives.

Q68. Does this conclude your testimony?

A68. Yes.

Britta N. Laub
Statement of Professional Qualifications

EDUCATION

B.S. Parks and Recreation Management, University of Utah, 1993
USDI, Bureau of Land Management Training Courses

PROFESSIONAL EXPERIENCE

Outdoor Recreation Planner

1992 - present

Salt Lake Field Office
Bureau of Land Management
Division of Non-Renewable Resources
U.S. Department of the Interior
2370 South 2300 West, Salt Lake City, UT 84119

Duties and Responsibilities:

Serve as the recreation team lead. Includes directing workload of two outdoor recreation planners, recreation technician, and maintaining current workload assignments. Communicate with State Office recreation and wilderness specialists, provide input into SLFO budget proposals, responsible for reporting workload accomplishments and programming workload requirements. Serve as the team lead for two special recreation management areas. Facilitate projects at these areas, communicate status of projects with interested parties/partners, maintain current and pursue new partnerships specific to these areas, and oversee budget (contributed funds and BLM funding) for both projects.

Process applications for special recreation permits. Includes public contact, review, completion of National Environmental Policy Act (NEPA) requirements, decision record, issuance, monitoring, bonding and post use report. Provide recreation, off-highway vehicle, visual resource management and wilderness information, requirements, and mitigation measures into field office NEPA documents. Prepare categorical exclusions, environmental assessments, and determination of NEPA adequacy's as needed in support of recreation and wilderness program projects.

Wilderness Coordinator

05/1999-09/1999

Utah State Office
Bureau of Land Management
Division of Natural Resources, Environmental and Planning Group
U.S. Department of the Interior
324 S. State, Salt Lake City, UT 84145

Temporary assignment, lasting about one year, to the Utah Statewide Wilderness Study Area (WSA) Planning Team. The planning project was statewide effort to prepare a statewide environmental impact statement (EIS) and multiple plan amendments to consider the establishment of new wilderness study areas. Compiled field data for assigned locations and the application of that information in the NEPA/planning process.

Kenneth E. McFarland, P.E.
Statement of Professional Qualifications

Principal Engineer, Washington Infrastructure Services, Inc., San Ramon, California.

Education:

M.S., Civil Engineering, San Jose State University, 1974
B.S., Civil Engineering, University of Washington, 1964

Registrations:

Professional Engineer (Civil), California, #18111 (1968)
Professional Engineer (Civil), Arkansas, #9189 (1997)
Professional Engineer (Civil), District of Columbia, #6969 (1975)
Professional Engineer (Civil), Louisiana, #27036 (1996)
Professional Engineer (Civil), Maryland, #9621 (1975)
Professional Engineer (Civil), Massachusetts, #38608 (1995)
Professional Engineer (Civil), Oregon, #10121 (1979)
Professional Engineer (Civil), Pennsylvania, #PE-042879-R (1992)
Professional Engineer (Civil), Utah, #93-263322-2202 (1994)
Professional Engineer (Civil), Virginia, #7909 (1975)
Professional Engineer (Civil), Washington, #17995 (1979)
Professional Engineer (Civil), Nevada, #13911 (1999)

Qualifications:

Mr. McFarland has 36 years of civil engineering experience 32 years of which have been spent on rail, transit, and water resources projects. His experience includes trackwork and alignment design, civil engineering design, cost estimating, engineering supervision, survey control, contract administration and construction management activities.

Experience:

Rail Projects

Terminal 18 Redevelopment Project Seattle, Washington	1999 to present
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As part of the design/build team, was the project engineer responsible for all track-related design for new intermodal container transfer facility and associated trackwork. Included was final design and construction support for completion of drawings and specifications for over 90,000 feet of track, 86 turnouts and 4600 feet of at-grade crossings. Responsible for preparation of as-built drawings and coordination with mainline railroads

Tasman Drive and North First Street Girder Rail Replacement Project
Santa Clara County, California

1998

Project manager responsible for design of the removal and replacement of 1,000 feet of embedded girder rail including six turnouts and three diamond crossings in a street intersection for the new light rail system.

Double Track Support Services.
Union Pacific Railroad, California

1997 - 1998

Project manager for the design of five grade crossings in the cities of Fremont and Newark, California. This project included street crossing plans and profiles, drainage plans and details and utilities coordination. Mr. McFarland was also responsible for traffic detour plans, pavement striping and obtaining permits.

Red Hill Fuel Tunnel Rail System Study.
United States Navy, Hawaii

1997

Project manager responsible for inspecting, repairing and recommending alternatives, as well as preparing the report for this underground 3.5-mile-long, narrow gauge rail system. This project included inspecting the track, switches, equipment, drainage system and tunnel lining. Mr. McFarland prepared repair and replacement methods along with a capital cost estimate.

Santa Fe Railway Southern California Commuter Project
Burlington Northern Santa Fe (BNSF) (formerly the Atchison Topeka & Santa Fe Railway Company), California.

1991-1997

Project engineer responsible for preparing preliminary and final design of track capacity expansion projects on 37 miles of the BNSF mainline between San Bernardino and Los Angeles via Riverside and Fullerton, to introduce commuter rail service on the existing freight line. There were 16 individual projects involved in the expansion. Projects include double-tracking and triple-tracking of sections on the existing line with the addition of track crossovers at strategic locations. The scope of work included design of alignment, earthwork, grading, bridges, retaining structures, and drainage for the track modifications.

Union Pacific Railroad Mainline Relocation
Kennecott Utah Copper Co., Utah.

1992-1996

Project manager responsible for preliminary and final engineering design for the realignment and abandonment of ten miles of double track Union Pacific main line. The relocation enabled Kennecott to modify one of its tailings dams at the Bingham Canyon Mine. The project consisted of track design involving 10 miles of double mainline track, sidings, storage and rail car transfer yard, embankments, bridges, culverts, utilities, and the abandonment and salvage of the existing rail and ties.

Tasman and Vasona Corridor Light Rail Transit Projects
Santa Clara County Transportation Agency, California.

1991-present

Civil engineer responsible for all trackwork design for these light rail extensions. The projects included trackwork plan and profile drawings, detail drawings including rubberized and concrete grade crossings, special trackwork drawings, and development of all procurement and installation drawings for 14 miles of extensions, including the maintenance and storage yard expansions.

Colton Grade Separation
Burlington Northern Sante Fe (BNSF), California.

1996

Project manager responsible for preliminary design of the grade separation of the BNSF and Union Pacific (formerly Southern Pacific) double track mainlines at Colton, California. The project included design and cost estimates for two miles of relocated double track, crossovers, three bridges, retained earth walls, drainage and utility relocations.

Pacific Northwest Rail Corridor Study
Washington State Department of Transportation (WSDOT)
Washington, Oregon and British Columbia.

1995-present

Project engineer responsible for conceptual layouts for track improvements along the corridor to allow for the addition of 120 mph passenger trains on the existing freight tracks. The project involved field reconnaissance, track layouts and estimates.

Yucca Mountain Project Rail System; Nevada.

1996

Principal engineer for this study to determine the feasibility of transporting 3,000 MTU's of Spent Nuclear Fuel to the proposed Yucca Mountain High Level Radioactive Waste Repository site from an existing rail mainline. The study included development and analysis of four potential rail corridors and alternatives within each corridor. The four routes ranged in distance from 100 to 338 miles.

ESSA Railroad Technical Feasibility Study
Exportadora de Sal, S.A. de C.V., Mexico.

1996

Project engineer for the rail operations and engineering components of a feasibility study assessing the requirements to design and construct a 160 kilometer long purpose-built rail line to transport harvested salt from the reclaiming site to a proposed new ocean transfer terminal. Included were capital cost estimates for track and structures.

Railway Operating Plan and Operating Contract
Minera Alumbrera, Limited, Buenos Aires, Argentina.

1997-1998

Project engineer for the railway operations, engineering, and rolling stock planning connected with development of a major copper mine in northwestern Argentina. Responsibilities included design of two rail yards, development of resource requirements, schedules, costs, and contract terms using dedicated equipment on existing trackage to haul 600,000 - 700,000 net metric tons

of copper concentrate annually over an 860 km rail route from a slurry dewatering plant to a marine export transfer terminal.

Robe River Railroad Project; Australia.

1971

Civil engineer responsible for the design of 100 miles of new railroad from an ore handling facility on the coast to an iron mine located inland. The project involved horizontal and vertical alignment including locating bridges and culverts, earthwork, turnarounds, sidings, all subgrade and track details, aerial topography, cross-sections, and layouts of drawings.

Riverton-Shobon Rail Study

1988

Fremont County Association of Governments, Wyoming.

Civil engineer responsible for field review and inventory of 26 miles of the single track Riverton-Shobon Rail Line for determination of abandonment. An examination of the extent and condition of trackway including rail, ties, ballast, turnouts, bridges, and crossings was included in the project.

Riverside-Orange County Commuter Rail Study

1989-1990

Riverside County Transportation Commission/Atchison Topeka & Santa Fe Railway Company, California.

Project engineer responsible for conceptual layout, design, and cost estimating for progressive track and signal expansions and upgrading. The project was designed to accommodate new commuter rail services on the existing Santa Fe freight mainline between San Bernardino and Los Angeles and between Irvine and Fullerton.

San Diego-Oceanside Commuter Rail Study

1988-1989

San Diego Association of Governments, California.

Civil engineer, participated in a study to conduct advance planning for commuter rail service. The project included establishing passenger station locations, operations plans including schedules and rolling stock and maintenance requirements, and determining track and signal improvements.

Los Angeles-Santa Barbara Rail Corridor Study

1988-1989

Southern California Association of Governments, California.

Civil engineer responsible for time savings studies and track improvement design for an intercity rail service planning study on a 103-mile-long system. The project included ten stations to determine the feasibility of introducing commuter rail service on the existing Southern Pacific line between the two cities.

Sacramento Regional Transit Double Track Design

1990

Sacramento Regional Transit, California.

Civil engineer responsible for layout and design of trackwork for a 4.5-mile light rail double track. The project included preparation of estimates, specifications and design drawings.

Texas High Speed Rail Study

1988

Houston METRO, Texas.

Civil engineer responsible for conceptual alternative alignment studies of existing track infrastructure to the extent of interim improvements required to meet high speed rail design criteria.

Washington Metropolitan Area Rapid Transit Project 1973-1975
Washington Metropolitan Area Rapid Transit, District of Columbia.

Assistant resident engineer, involved in augered tieback-jackpile operations, cut and cover station construction, engineer's estimates for claims and changes, and contractor negotiations.

Water Resources

A. J. Wiley Hydroelectric Project; Idaho. 1987-1990

Project engineer for the design and layout of various alternatives for a feasibility study. The project was an 80 MW hydraulic power plant and dam across the Snake river. The study included review of geologic reports, layouts, capital cost estimates, power, studies and coordination with all ongoing environmental studies.

Allegheny Lock & Dam No. 3 1988-1992
Pennsylvania.

Project manager for the preliminary design of a 10.5 MW low head power plant be constructed adjacent to an existing lock and dam on the Allegheny River. The design included power studies, model studies of the dam crest gates, power plant and river navigation all in conjunction with the US Army Corps of Engineers, capital cost estimates and coordination with all ongoing environmental studies.

Wise Hydroelectric Project 1985-1987
Pacific Gas & Electric Company, California.

Consultant responsible for all civil design work for the 2.7 MW Wise 2 Hydroelectric Power Plant including a three-mile-long penstock. Included were development of basic design criteria, plant layout, preparation of construction drawings and specifications, and assistance in solving field problems during construction.

Quincy Chute Hydroelectric Project 1982-1985
Grant County Public Utilities District #1, Washington.

Project engineer responsible for all civil design for a 9.4 MW power plant, including intake structure, penstock, semi-underground powerhouse, and tailrace. Mr. McFarland also participated in the conceptual design of the fish diversion facilities for the Priest Rapids Dam and Power Plant in Washington.

Palm Desert Stormwater System 1981-1982

Coachella Valley County Water District, California.

Project engineer responsible for all civil design for a five-mile-long concrete lined flood control channel (25,000 cfs capacity). Also included were two earth debris basin dams, four concrete bridges, local drainage inlets, and utility relocations.

Setif Irrigation Project
Government of Algeria, Algeria.

1977-1978

Engineering group supervisor responsible for design and specifications for a 50,000 hectare irrigation pipeline distribution system in Algeria. Location, layout, sizing, determination of type of pipe, pressure reducing stations, and estimates were involved.

Palm Desert Flood Control Study
Coachella Valley County Water District, California.

1976-1977

Engineering supervisor involved with the preparation of a flood control study in Southern California, including preliminary design, field reconnaissance, estimate review, supervision of drawing preparation, and preparation of report narrative.

San Bernardino Water Transmission Pipeline Project
San Bernardino Valley Municipal Water District, California.

1972-1974

Engineering supervisor responsible for horizontal and vertical layout of a 78-inch diameter, 12-mile-long water transmission line in San Bernardino, California. The project included preparation of design drawings, specifications, right-of-way acquisition, survey control, and location and design of appurtenances.

Tailings Disposal System; Canada.

1971

Engineer responsible for coordination and preparation of contract design drawings and specifications for a 300 million-ton tailings disposal system in Canada.

San Bernardino Water Transmission Pipeline Project
San Bernardino Valley Water District, California.

1970

Engineer responsible for a 250-square-mile groundwater basin recharge network computer analysis including research of historical data.

Irrigation Master Plan Study
Government of Turkey, Turkey.

1969

Engineer responsible for determination of land classifications and irrigation requirements.

Comanche Dam Project
East Bay Municipal Utilities District, California.

1968

Engineer responsible for design and layout of an 80-foot-deep slurry trench cutoff as part of the Comanche Dam Project in California.

Elevenmile Canyon Pipeline Project 1966
Cities of Aurora and Colorado Springs, Colorado.

Engineer responsible for design and layout of a six-mile-long, 36-inch-diameter water transmission pipeline.

Dam Safety Study Reports 1966
Various Clients, California, Oregon, Washington.

Engineer responsible for preparation of various dam safety study reports as required by the Federal Energy Regulatory Commission.

Fredericksen Engineering, Inc. 1971-1972
Firestone Tire Wastewater Project; California.

Project engineer responsible for design and specifications for an industrial wastewater collection and treatment system for a Firestone Tire manufacturing plant in Salinas, California. The project included collection piping, a pumping station, a clarification facility, sludge drying beds and evaporation ponds.

Miscellaneous

Robert J. Costa & Associates. 1978-1981

Project engineer, with complete responsibility for subdivision development work in Contra Costa County, California, including tentative map preparation, improvement plans, final maps, and cost estimates. Mr. McFarland coordinated soils investigations and surveying, and attended meetings with various governmental agencies.

Affiliations:

American Railway Engineering and Maintenance-of-Way Association
U.S. Committee on Large Dams

Alice B. Stephenson
Statement of Professional Qualifications

EDUCATION

B.S. Economics, Colorado State University, 1971
USDI, Bureau of Land Management Training Courses

PROFESSIONAL EXPERIENCE

ENVIRONMENTAL SPECIALIST

1989 - present

Salt Lake Field Office
Bureau of Land Management
U.S. Department of the Interior
2370 South 2300 West, Salt Lake City, UT 84119

Duties and Responsibilities:

Responsibilities include coordination and implementation of National Environmental Policy Act (NEPA) reviews, involving preparation and/or review of Environmental Assessments (EAs) and Environmental Impact Statements (EISs) and providing policy and program direction for implementation of existing office land use plans.

Duties include providing guidance on the NEPA process, including document preparation, and content requirements. Provide analytical and technical review of all EAs and EISs, both in-house and third-party submissions. Maintain current land use plans and assures that all proposed projects, both BLM and third party, are within the scope of the current plan. Monitor all steps for completing land use plan amendments. Provide guidance and expertise on all planning matters, including relationship between NEPA and the Federal Land Policy Management Act (FLPMA). Keep current on CEQ Regulations, Department and Bureau policies/procedures, and various Acts, such as FLPMA, Endangered Species Act, National Historic Preservation Act, executive orders, and regulations governing BLM activities on public land.

REALTY SPECIALIST

1988-1989
and 1975-1985

Various offices of the Bureau of Land Management, including:

Salt Lake District Office, Salt Lake City, UT
Washington Office, Washington D.C.
Alaska State Office, Anchorage, AK
Rawlins District Office, Rawlins, WY
Craig District Office, Craig, CO
Las Vegas District Office, NV

Duties and Responsibilities:

Responsibilities included processing all types of lands cases, inventory and planning for the Bureau's Land Use Plans, and providing basic lands data to co-workers and public inquiries. Duties included preparing all required reports for lands cases, including EAs, land reports, classification decisions, final action decisions, and issuance of authorizations including right-of-way grants, special land use leases, and land use permits. Conducted field inspections of lands

involved in proposed actions, both internal and external generated. Prepared stipulations for mitigation of impacts. Gathered and presented basic lands data for input into land use plans and made recommendations to other resource specialists about lands issues.

PARALEGAL SPECIALIST/LAND LAW EXAMINER

1985-1988

Eastern States Office
Bureau of Land Management
U.S. Department of the Interior
Arlington, Virginia

Duties and Responsibilities:

Responsibilities included providing basic land ownership data to co-workers and public inquiries. Duties included reviewing and processing applications under the Color-of-Title Act, and reviewing land office records to determine land ownership.

Gregory P. Zimmerman
Statement of Professional Qualifications

Leader of the Environmental Impact Analysis Group, Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN.

Education:

M.S. Degree, Mechanical Engineering, University of Tennessee, Knoxville, 1977.

B.S. Degree, Mechanical Engineering, University of Tennessee, Knoxville, 1975.

Qualifications:

Mr. Zimmerman has over 20 years' experience at ORNL in risk and safety analyses, radioactive waste management, and environmental impact assessment. In 1988, he participated in the preparation of a Programmatic Environmental Impact Statement (EIS) for the U.S. Army's proposal to destroy the national stockpile of lethal chemical weapons, and in 1989, he assumed program management responsibility at ORNL for the preparation of eight site-specific EISs related to that U.S. Army program.

Mr. Zimmerman has provided assistance to the Department of Energy (DOE) and the Nuclear Regulatory Commission (NRC) in the completion of environmental impact assessments. In his involvement with those programs, Mr. Zimmerman has conducted accident analyses, exposure assessments, and dose analyses for facilities handling radioactive materials and wastes under the jurisdiction of both the DOE and the NRC.

In addition to his technical interests in risk assessment and accident analysis, Mr. Zimmerman has also developed a mathematical technique for blending census of population data with information about atmospherically dispersed pollutants in order to quantify the spatial distribution of potential human health impacts. This analytical technique has been successfully applied to the siting of hazardous facilities and has potential application to the investigation of issues related to environmental justice or environmental equity.

Employment History and Selected Projects:

January 1977 to Present — OAK RIDGE NATIONAL LABORATORY, Oak Ridge, TN.

In his program manager duties, Mr. Zimmerman is responsible for coordinating and supervising the technical progress of a multidisciplinary team of individuals who conduct environmental impact analyses and assessments for a variety of federal agencies. The program specializes in the preparation of environmental impact statements and assessments. His managerial responsibilities include the development of schedules, budgets, and work assignments, as well as technical oversight, quality control, preparation, and assembly of final project deliverables and documents.

In 1993, Mr. Zimmerman lead the ORNL effort to assist NRC with its review of the license application of Envirocare of Utah for an 11e.(2) byproduct disposal facility near Clive, Utah. He provided technical assistance to NRC and coordinated the preparation of the NRC's final EIS as part of this effort. In 1995, Mr. Zimmerman conducted a radiological and chemical accident analyses for NRC's relicensing of Nuclear Metals, Inc., in Concord, Mass. In 1994 to 1996, he

served as the ORNL Core Team leader for Performance Evaluations of fifteen potential DOE mixed, low-level (radioactive) waste disposal sites. This project was a coordinated effort between ORNL and Sandia National Laboratories.

Mr. Zimmerman is presently assisting the NRC with its environmental review of a license application for a commercial spent nuclear fuel storage facility proposed for Skull Valley, Utah.

September 1975 to December 1976 — UNIVERSITY OF TENNESSEE, Dept. of Mechanical Engineering, Knoxville, TN.

Under a graduate research assistantship, Mr. Zimmerman participated in nuclear safety studies involving heat and mass transfer in nuclear reactors cooled by liquid metals.

March 1971 to June 1974 — NASA (GEORGE C. MARSHALL SPACE FLIGHT CENTER), Huntsville, AL.

As part of his cooperative education experience, Mr. Zimmerman assisted with mission planning aspects of the U.S. Space Shuttle program, including payload packaging and scheduling, as well as in-flight operations and orbital mechanics & maneuvering.

Technical Specialties:

Project and Program Management	Environmental Impact Analyses
Risk and Accident Analyses	Nuclear Waste Management
Heat Transfer and Thermodynamics	Nuclear Weapons Effects
Scientific Programming (Computers)	

Professional/Academic Awards and Honors:

Member of Tau Beta Pi, the engineering honorary society.

Joel F. Bailey Award for academic achievement among engineering students
(University of Tennessee), 1975

Martin Marietta Energy Systems, Inc., *Significant Event Award*, July 1991.
UT-Battelle, *Significant Event Award*, October 2000.

Selected Publications:

(Project leader for) U.S. Nuclear Regulatory Commission, *Final Environmental Impact Statement for the Construction and Operation of an Independent Spent Fuel Storage Installation on the Reservation of the Skull Valley Band of Goshute Indians and the Related Transportation Facility in Tooele County, Utah (Volumes 1 and 2)*, NUREG-1714, U.S. Nuclear Regulatory Commission, Office of Nuclear Material Safety and Safeguards, Washington, D.C., December 2001.

K.S. Gant and G.P. Zimmerman, *Tooele Chemical Agent Disposal Facility: Review and Evaluation of Information for Updating the 1989 Final Environmental Impact Statement*, ORNL/TM-13542, Oak Ridge National Laboratory, Oak Ridge, Tenn., July 1999.

R.M. Reed and G.P. Zimmerman, "Analyses of Environmental Justice Concerns for the U.S. Army's Chemical Stockpile Disposal Program," proceedings of *Environmental Forum VII*, Denver, Colo., April 28 and 29, 1999, sponsored by the Program Manager for Chemical Demilitarization, Aberdeen Proving Ground, Md.

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G.P. Zimmerman, *Review and Evaluation of Updated Numerical Input Values for Determining Risks to Threatened and Endangered Species near the Umatilla Chemical Depot, Oregon*, prepared for the Program Manager for Chemical Demilitarization, Aberdeen Proving Ground, Md., by the Oak Ridge National Laboratory, Oak Ridge, Tenn., April 1997.

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(Project leader for) U.S. Department of the Army, *Revised Final Environmental Impact Statement for Disposal of Chemical Agents and Munitions Stored at Umatilla Depot Activity, Oregon*, Program Manager for Chemical Demilitarization, Aberdeen Proving Ground, Md., November 1996.

(Technical Core Team Leader for) U.S. Department of Energy, *Performance Evaluation of the Technical Capabilities of DOE Sites for Disposal of Mixed Low-Level Waste*, DOE/ID-10521 (Vols. 1, 2, and 3) and SAND96-0721 (Vols. 1, 2, and 3), prepared by Sandia National Laboratories, Albuquerque, New Mexico, March 1996.

J.D. Tauxe, D.W. Lee, J.C. Wang, and G.P. Zimmerman, "A Comparative Subsurface Transport Analysis for Radioactive Waste Disposal at Various DOE Sites," P95-79881, *Proceedings of the 1995 Fall Meeting of the American Geophysical Union*, San Francisco, Calif., December 11-15, 1995.

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(Among preparers for) *Chemical Stockpile Disposal Program Final Programmatic Environmental Impact Statement*, Vols. 1, 2, and 3, Program Executive Officer-Program Manager for Chemical Demilitarization, Aberdeen Proving Ground, MD, January 1988.

G.P. Zimmerman, *Better Understanding of Bubble Behavior in Liquid Environments: The Rise and Collapse of Large Vapor Bubbles*, Master's Thesis, University of Tennessee, Department of Mechanical Engineering, 1977.

STAFF EXHIBIT G

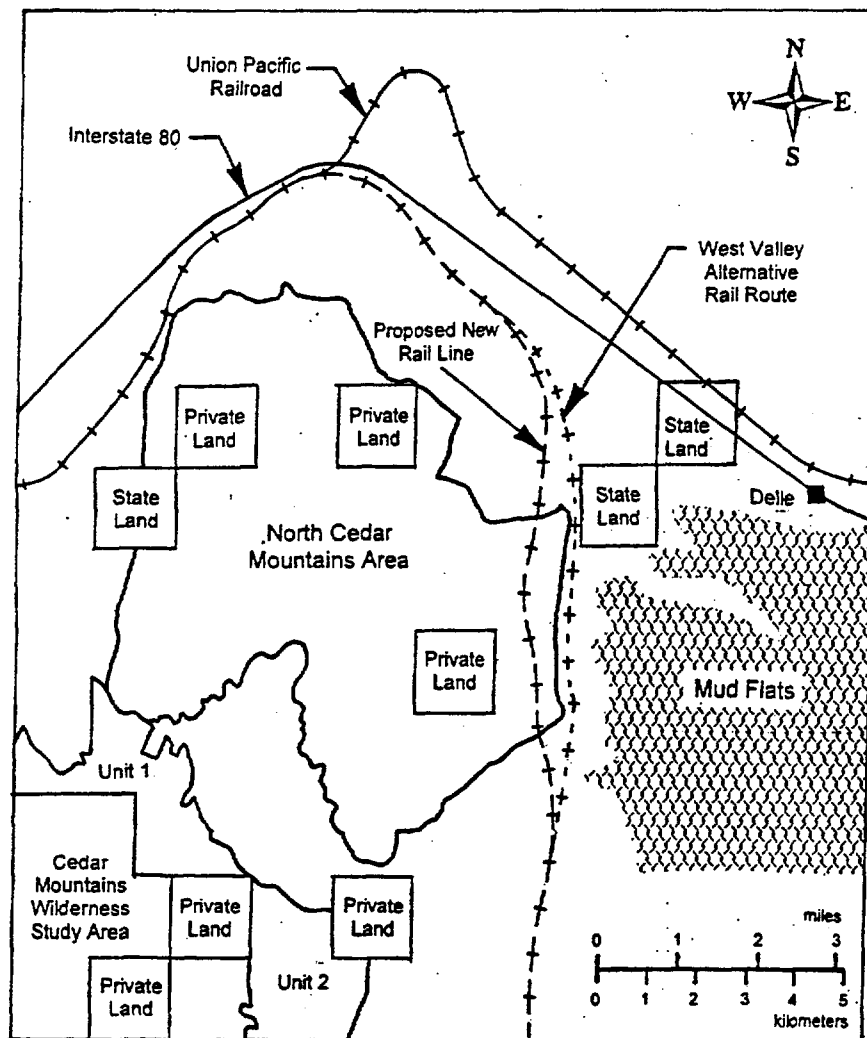


Figure 2.16. Alternative rail route/alignment near the northern end of the Cedar Mountains.

STAFF EXHIBIT H



IN REPLY REFER TO:

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Salt Lake Field Office
2370 South 2300 West
Salt Lake City, Utah 84119

8510
(UT-023)

MAY 8 2001

Certified Mail Number 7000 1670 0006 2991 2615
Return Receipt Requested

Stephen Bloch, Staff Attorney
Southern Utah Wilderness Alliance
1471 South 1100 East
Salt Lake City, Utah 84105

Dear Steve:

Thank you for providing the Salt Lake Field Office, BLM with your wilderness proposal and accompanying information for the North Cedar Mountains. I have carefully reviewed the submitted documentation and have determined that the information provided does not significantly differ from the information in prior BLM inventories regarding the wilderness values of the area. Therefore, the conclusion reached for this area in previous BLM inventories remains valid and no further review is warranted at this time.

Please contact me if you have any questions or concerns at (801) 977-4300.

Sincerely,

Glenn A. Carpenter
Field Office Manager

**BLM EVALUATION OF EXTERNALLY GENERATED PROPOSALS THAT SUGGEST
AN AREA OF PUBLIC LAND HAS WILDERNESS CHARACTERISTICS**

Proponent Name: Southern Utah Wilderness Alliance (SUWA)

Name of Area Identified By the Proponent: North Cedar Mountains

Brief Description of the Location in Relation to Existing WSAs or Areas Found to Have Wilderness Character in the Utah 1999 Wilderness Inventory: Although the proposal area is not contiguous to a WSA, SUWA claims it is contiguous to the Cedar Mountain WSA (see page 11 and 19, SUWA proposal). The proposal area is approximately one mile north of the Cedar Mountain WSA. The WSA and proposal area are separated by Hastings Pass, a road maintained by Tooele County; and BLM reinventory unit one (see attachment A and B, SUWA proposal).

BLM Field Office: Salt Lake Field Office

Date of Submission: April 11, 2001

ANALYSIS OF EXTERNALLY GENERATED PROPOSAL

1. Does the submission include the required:
 - A. Map which identifies specific boundaries?
Yes X No
 - B. A detailed narrative that describes the suggested wilderness characteristics of the area?
Yes X No
 - C. Photographic documentation?
Yes X No
2. Does the proponent's submission describe how its information significantly differs from the information in prior inventories conducted by BLM regarding the wilderness values of the area?
Yes No X

Explanation: The proponent's submission primarily disagrees with a prior BLM wilderness inventory. The proponent repeatedly suggests that BLM's 1980 intensive inventory was flawed. Rationale given by proponent include: adjectives used in 1980 intensive inventory report (sublime), application of naturalness evaluation, outside sights and sounds evaluation, boundary selection, solitude test, assessment of outstanding opportunities for solitude and/or primitive and unconfined recreation, solitude determination, wording of intensive inventory summary, assessment methodology for outstanding opportunities for solitude, conclusions of outstanding opportunities, recreational qualities comparison, cultural resources discussion, or, virtually every aspect of the 1980 intensive inventory. Primarily, the proponent reinterprets the 1980 intensive inventory results by assuming the inventory should have been conducted according to the 2001 Wilderness Manual, a manual which was developed 21 years after the public comment period closed on the intensive inventory.

The proponent claims four items as new information. These are itemized in the following list, followed by BLM's response.

- 1.) Change of southern boundary from Hastings Pass to Lees Canyon. This is not new information. The BLM inventoried both canyons as part of the intensive inventory and found intrusions along both routes. In fact, the majority of intrusions lie north of Lees Canyon and include quarries, livestock trails, motorcycle paths, heavy sheep grazing, and other minor extensions of "ways" used primarily by 4X4 wheeled vehicles.
- 2.) Supplemental values, wild horses inhabiting the proposal area. This is not new information. In 1971, data was generated describing the distribution of wild horses within the SLFO. The Bureau recognized at that time that wild horses inhabited the North Cedar Mountains. Existence of wild horses within the area was also cited within the North Cedar Mountain intensive inventory file through reference to the Skull Valley-Lakeside Management Framework Plan Summary and Highlights (1976). The Skull Valley-Lakeside Management Framework Plan Summary and Highlights discusses the presence of wild horses on the Cedar Mountains within both the recreation and wild horse sections.
- 3.) Supplemental values, cultural resources within the area. Cultural resource inventories have been conducted after the time of the intensive inventory and sites have been found. The number of archaeological sites found in the area represent a ratio of approximately one site per hundred acres, which is not a high site density for the West Desert as a whole. This is new information, but is not significant.
- 4.) SUWA presents as new information the following paragraph (see page 16): "...because of its proximity to the Wasatch Front and Tooele Valley, the North Cedar Mountains have a particularly high value as an urban-interface non-motorized recreation area. The Wasatch Front and Tooele Valley have witnessed a remarkable explosion in urban population, a level that was not anticipated when the BLM's intensive inventory was completed." Anticipated and/or existing population numbers and proximity to urban centers were not factors used in the analysis of an areas wilderness characteristics. This is not applicable new information. The paragraph continues on to state "The BLM's Salt Lake Field Office has undertaken a role, as apart of its

multiple-use mission, of providing quality non-motorized recreation and wilderness experiences to the Wasatch Front; the reinventory and ultimate decision to designate this unit for wilderness study, would provide an excellent opportunity for BLM to continue this practice." While the SLFO appreciates SUWA's recognition of the Bureau's multiple-use mandate which includes opportunities for non-motorized, motorized and other forms of recreation use, the SLFO has not actively chosen one use which it has been tasked to manage, over another. Further, the SLFO does not cater to one population center, but rather treats all public land users as equals.

The following activities have occurred in the North Cedar Mountains subsequent to the 1980 intensive inventory:

- 1.) T.1S, R.9W. sec. 3 and 4 have been drill seeded as part of an emergency fire rehabilitation project for both the Redlam and Tooele fires (1983, 1984);
- 2.) T.1N., R.9W. sec. 33 was drill seeded as part of an emergency fire rehabilitation project for a wildland fire which occurred in 1983;
- 3.) T.1S, R.10W. sec. 13. Non-native vegetation occurring due to emergency fire rehabilitation project;
- 4.) T.1S., R.9W. sec. 29. Wildlife guzzler and maintenance route; and
- 5.) Several existing mining claims exist within the North Cedar Mountains.

In summary, the proponent has not provided significant new information that would change the 1980 intensive inventory determination. The proponent has not provided information to support a re-evaluation of the area. Aside from the lack of significant new information provided by the proponent, the SLFO has documentation on intrusions and developments within the unit which further supports the intensive inventory's determination.

3. Please describe all of the information, documentation, and evidence on which you relied to determine that the submission does or does not provide significantly different information, including but not limited to, the original inventory from 1979-1980 conducted pursuant to § 603 of the Federal Land Policy and Management Act (FLMPA), the 1996-1999 BLM reinventory, maps generated through planning or GIS data, any field observations, any applicable NEPA documentation, and any other relevant information.

North Cedar Mountain Intensive Inventory Unit, UT-020-087 file (1980);
1996-1999 BLM re-inventory map of Cedar Mountains;
Range Improvement Projects database (form 4120-8);
Skull Valley-Lakeside Management Framework Plan Summary and Highlights (1976);
Wilderness Inventory and Study Handbook, H-6310-1;
GIS coverage (map) of 1971 Wild Horse Distribution within the Salt Lake Field Office;

Conversation with Peter Ainsworth, SLFO Archaeologist (05-04-01);
Conversation with Kyle Hansen, SLFO Wild Horse and Burro Specialist (05-04-01);
Conversation with Michael G. Nelson, SLFO Acting Assistant Field Manager for Non-renewable Resources (05-03-01);
Conversation with Dan Washington, SLFO Natural Resources Specialist (05-03-01); and
Conversation with Kevin Edinger, SLFO Rangeland Management Specialist (05-03-01).

DETERMINATION

The material provided _____ does, X does not, constitute significantly different information to warrant further review at this time.

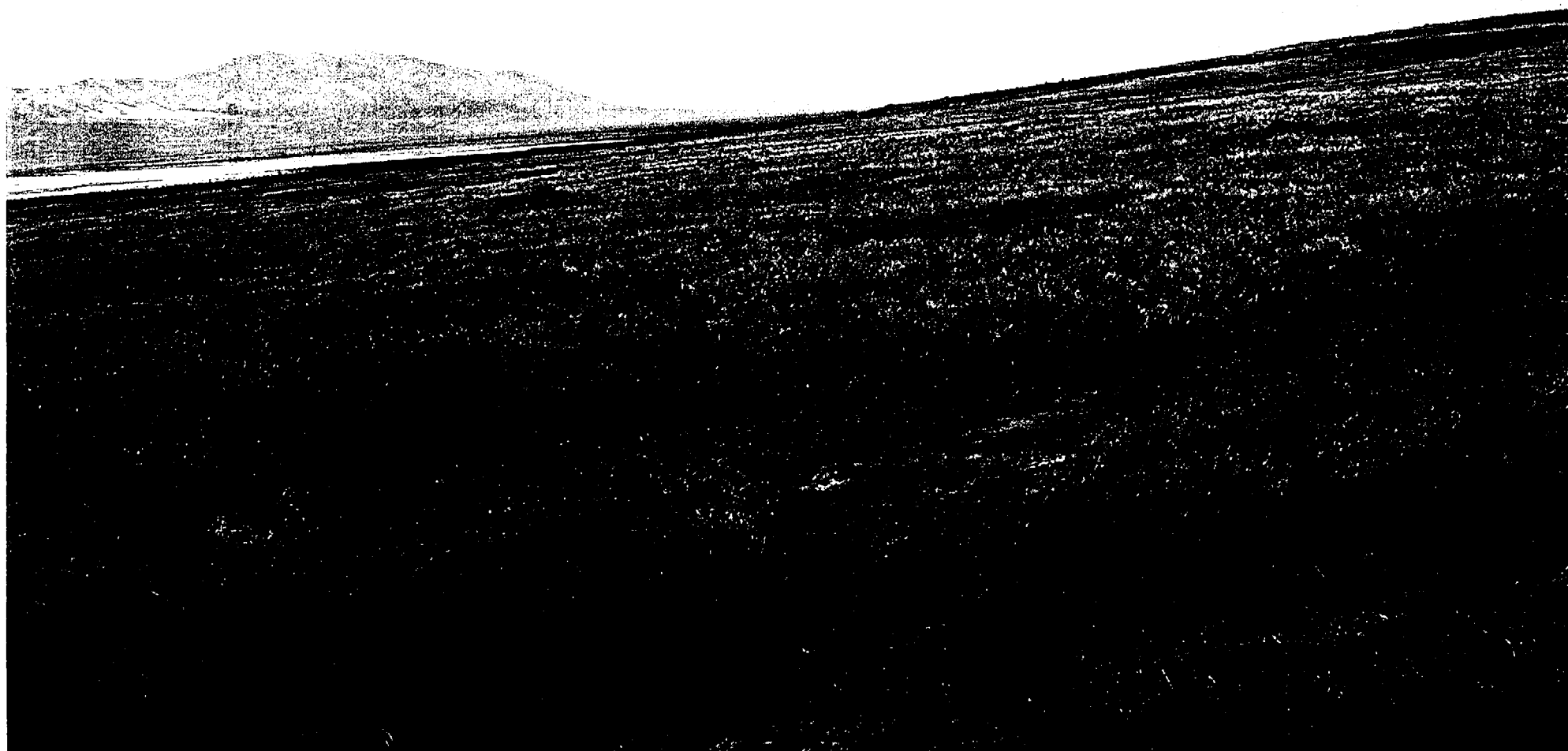
Steven Q. Carpenter
Field Office Manager

5/7/00
Date

The determination on this form is part of an interim step in the BLM's internal decision making process and does not constitute an appealable decision.

Point 1S, Photo 71

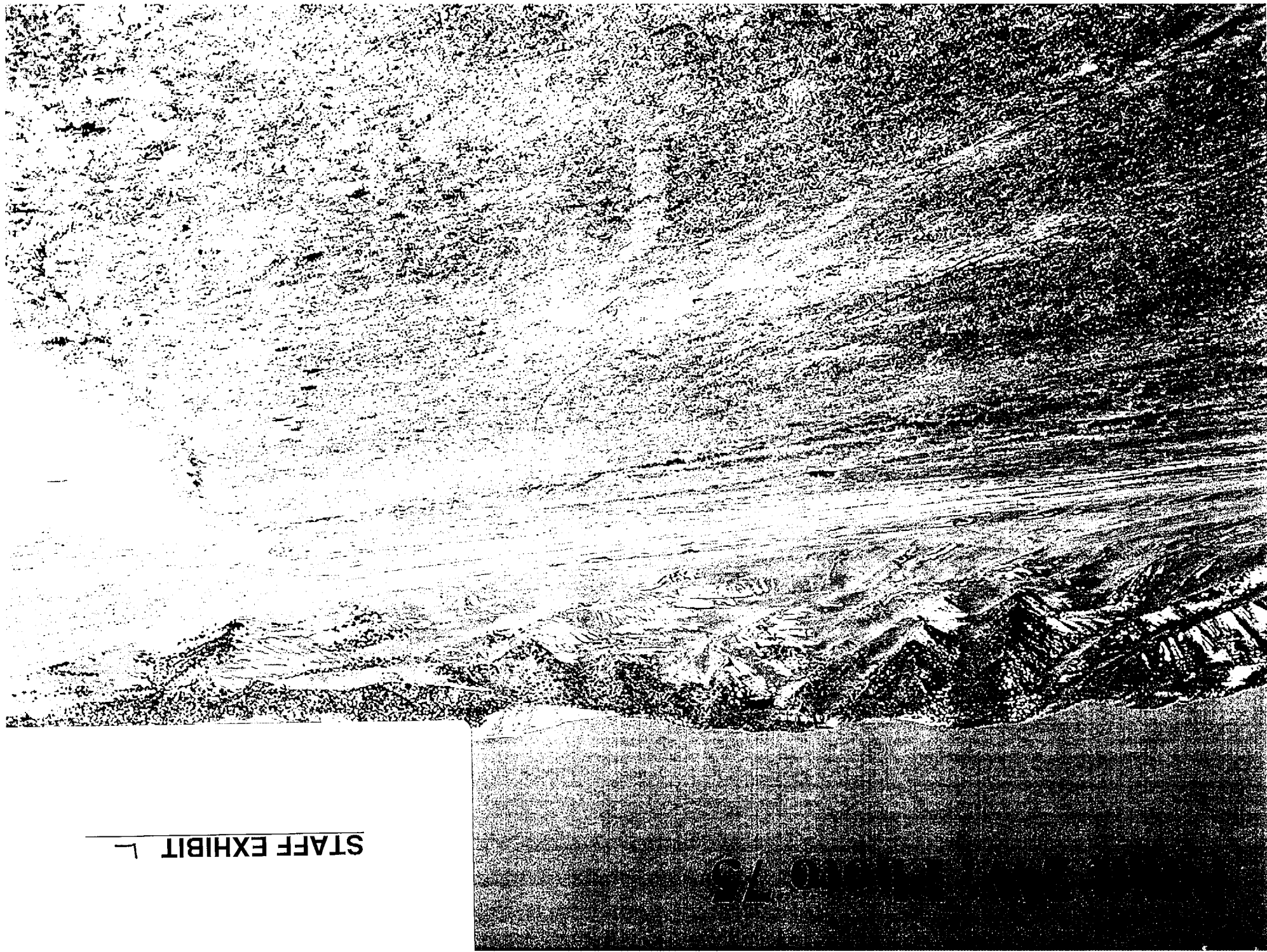
STAFF EXHIBIT J



Point 2E, Photo 74

STAFF EXHIBIT K





STAFF EXHIBIT 1

Point 3S, Photo 76

STAFF EXHIBIT M





Point SW, Photo 79

STAFF EXHIBIT N



STAFF EXHIBIT 0

