RAS 3184

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

'01 JUL -2 P4:57

Before the Atomic Safety and Licensing Board

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

In the Matter of	)	
	)	
PRIVATE FUEL STORAGE L.L.C.	)	Docket No. 72-22
	)	
(Private Fuel Storage Facility)	)	ASLBP No. 97-732-02-ISFSI

APPLICANT'S MOTION FOR SUMMARY DISPOSITION OF CONTENTION SUWA B – RAILROAD ALIGNMENT ALTERNATIVES

Applicant Private Fuel Storage, L.L.C. ("Applicant" or "PFS") moves for summary disposition of Southern Utah Wilderness Alliance ("SUWA") Contention B—Railroad Alignment Alternatives ("SUWA B") pursuant to 10 C.F.R. § 2.749. Summary disposition is warranted on the grounds that there exists no genuine issue as to any material fact relevant to the contention and PFS is entitled to a decision as a matter of law. This motion is supported by a statement of material facts, the declarations of John Donnell, Douglas Hayes, and Susan Davis, and excerpts from the transcript of the deposition of Jim Catlin.

I. STATEMENT OF THE ISSUE

Contention SUWA B, as admitted, asserts that:

> 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.

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 (1999). The contention was admitted insofar

Template = SECY-041

SECY-02

"[a]s it seeks to explore the question of alignment alternatives to the proposed placement of the Low Junction rail spur." LBP-99-3, 49 NRC at 53; see also, CLI-99-10, 49 NRC at 326-7.

SUWA asserts that the North Cedar Mountains area ("NCMA") should be designated as wilderness under the Wilderness Act of 1964. Contentions at 2.[1] SUWA defines the NCMA as a roadless area just west of Skull Valley and just south of Interstate 80 and the Union Pacific mainline railroad. See id. at 3; id. Exhibit 2 (map). The PFS Low rail line will run north to south across the far eastern portion of the area, separating a sliver of land approximately one-half to three-quarters of a mile wide and less than three miles long from the remainder of the area, which is approximately five miles wide and seven miles long. See id.; Declaration of Douglas Hayes, Exhibits 2 and 4. The PFS Low rail line would allegedly "irreversibly impair the wilderness character of the North Cedar Mountains." Contentions at 4. Thus, SUWA claims that PFS has failed to adequately consider alternatives to the Low rail line that would protect the wilderness character of the NCMA and preserve for Congress the opportunity to designate the area as wilderness. Id. at 5-6.[2]

II. LEGAL BASIS

A. Summary Disposition

The legal standards relevant to summary disposition have been set forth previously. See, e.g., Private Fuel Storage, L.L.C. (Independent Fuel Storage Installation), LBP-99-23, 49 NRC 485, 491 (1999); Applicant's Motion For Summary Disposition of Utah Contention C – Failure to Demonstrate Compliance With NRC Dose Limits, (April

[1] Southern Utah Wilderness Alliance's Contentions Regarding Private Fuel Storage Facility License Application (the Low Rail Spur) (Nov. 18, 1998) ("Contentions").

[2] The scope of Contention SUWA B does not include PFS's assessment of the environmental impacts of the Low Corridor rail line, in that SUWA attempted to raise that challenge in Contention SUWA A which was rejected by the Licensing Board. LBP-99-3, 49 NRC at 53, 54. Thus, SUWA should not be permitted to allege new impacts arising from the Low Corridor line or the inadequacy of PFS's analysis of impacts in response to this motion.

21, 1999), at 4-16. SUWA may file affidavits purporting to contain expert opinions in opposition to this motion and therefore the legal requirements concerning such, id. at 10-15, will be particularly relevant here.[3] These requirements include 1) demonstration that the affiant is an expert, and 2) an explanation of facts and reasons in the affidavit supporting the affiant's expert's opinion.[4] An affidavit made on "information and belief" is insufficient,[5] as are mere unsupported conclusions.[6] As the Supreme Court has held, reliable expert opinion must be based on "more than subjective belief or unsupported speculation." Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 590 (1993). Applicant demonstrates that it is entitled to summary disposition of SUWA B below.

B. The National Environmental Policy Act (NEPA)

1. Environmental Impact Statement

NEPA and the NRC regulations promulgated thereunder require that an Environmental Impact Statement (EIS) describe the potential impacts of a proposed action on the environment and discuss any reasonable alternatives to the action. 10 C.F.R. § 51.71(d). The discussion of environmental impacts should be sufficient "to enable the decision-maker to take a 'hard look' at environmental factors and make a reasoned decision." Louisiana Energy Services, L.P. (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 88 (1998) (citations omitted). An EIS is prepared under a " rule of reason" standard. Id. at 97. Thus, impacts are discussed in proportion to their significance. See 10 C.F.R. §§ 51.29(a)(2) and (3), 51.45(a)(1). Insignificant impacts need receive little or no treatment

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[3] SUWA may also file affidavits of lay witnesses. Such affidavits must be based on the personal knowledge of the witness. Fed. R. Evid. 602.

[4] See Mid-State Fertilizer Co. v. Exchange Nat'l Bank, 877 F.2d 1333, 1339 (7th Cir. 1989); Carolina Power & Light Company (Shearon Harris Nuclear Plant, Units 1 and 2), LBP-84-7, 19 NRC 432, 447 (1984).

[5] Columbia Pictures Indus., Inc. v. Professional Real Estate Investors, Inc., 944 F.2d 1525, 1529 (9th Cir. 1991), aff'd on other grounds, 508 U.S. 49 (1993).

[6] Public Service Company of New Hampshire (Seabrook Station, Units 1 and 2), LBP-83-32A, 17 NRC 1170, 1177 (1983); Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), LBP-99-35, 50 NRC 180, 194 (1999).

in the DEIS. See 10 C.F.R. § 51.29(a)(3). "Remote and speculative" impacts need not be discussed. Limerick Ecology Action v. NRC, 869 F.2d 719, 739 (3d Cir. 1989). In addition to the DEIS, the environmental record in this proceeding also includes material filed with this motion. See Allied-General Nuclear Services (Barnwell Nuclear Fuel Plant Separations Facility), ALAB-296, 2 NRC 671, 680 (1975).

2. Analysis of Alternatives

An EIS must look at "alternatives available for reducing or avoiding adverse environmental effects." 10 C.F.R. § 51.71(d). The "rule of reason" guides "both the choice of alternatives as well as the extent to which the [EIS] must discuss each alternative." City of Carmel-by-the-Sea v. DOT, 123 F.3d 1142, 1155 (9th Cir. 1997). Thus, the discussion "must consider not every possible alternative, but every reasonable alternative." Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), CLI-91-02, 33 NRC 61, 71 (1991) (first emphasis added). Hence, NEPA does not require the consideration of alternatives that are impractical, Airport Neighbors Alliance v. United States, 90 F.3d 426, 432 (10th Cir. 1996), that present unique problems, or that cause extraordinary costs, Communities, Inc. v. Busey, 956 F.2d 619, 627 (6th Cir. 1992). Nor does NEPA require the consideration of speculative "alternatives which could only be implemented after significant changes in governmental policy or legislation." Sacramento Municipal Utility District (Rancho Seco Nuclear Generating Station), CLI-93-3, 37 NRC 135, 145 (1993). Nor does NEPA require the consideration of alternatives that "are not significantly distinguishable from alternatives actually considered." Headwaters, Inc. v. BLM, 914 F.2d 1174, 1181 (9th Cir. 1990), reh'g en banc denied, 940 F.2d 435 (1991). "[A]n agency's consideration of alternatives is sufficient if it considers an appropriate range of alternatives, even if it does not consider every available alternative." Id. Moreover, NEPA does not require the selection of the most environmentally benign alternative if "other values outweigh the environmental costs." Claiborne, CLI-98-3, 47

NRC at 88 (quoting Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350 (1989)).

C. The Wilderness Act and the Federal Land Policy and Management Act

Under the Federal Land Policy and Management Act of 1976 ("FLPMA"), the Secretary of the Interior is the federal official responsible for reviewing BLM land for potential designation as wilderness. The Secretary is to review "those roadless areas of five thousand acres or more . . . of the public lands, identified . . . as having wilderness characteristics described in the Wilderness Act"[7] and report to the President on "the suitability or nonsuitability of each such area . . . for preservation as wilderness." 43 U.S.C. § 1782(a).[8] The President must then advise Congress of those areas he recommends be designated as wilderness, but Congress must make the final designation by passing a statute. 43 U.S.C. § 1782(b). FLPMA requires the Secretary to maintain an inventory of BLM lands and "their resource and other values." 43 U.S.C. § 1711(a). The Secretary has claimed continuing authority under this provision to evaluate lands for potential wilderness designation. Babbitt, supra note 8, 37 F.3d at 1207.

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[7] The Wilderness Act of Sept. 3, 1964, imposes similar requirements and processes for areas within national forests, national parks, national wildlife refuges, and national game ranges. 16 U.S.C. §§ 1131 *et seq.* Further, the Wilderness Act characterizes a wilderness as an area "which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) . . . and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value." 16 U.S.C. § 1311(c). The third criterion is whether the area includes at least 5,000 acres of land. 16 U.S.C. § 1311(c)(3).

[8] The Secretary's review process has involved:

> (1) the "inventory' phase, consisting of (a) an "initial inventory" to identify "wilderness inventory units," which were defined as roadless areas of 5000 acres or more that may have wilderness characteristics, and (b) an "intensive inventory" of these units to determine whether the units possessed wilderness characteristics and, if so, designation of the units as "wilderness study areas" ("WSAs"); (2) the "study" phase, during which WSAs were studied to determine whether the lands were suitable for designation as wilderness; and (3) the "reporting" phase, consisting of the Secretary's recommendations to the President and the President's recommendations to Congress.

Utah v. Babbitt, 137 F.3d 1193, 1198 (10th Cir. 1998) (citations omitted).

Therefore, because the proposed Low rail line would cut off the far easternmost portion of SUWA's NCMA and reduce it to an area of less than 5,000 acres, it would legally preclude that portion of the area from being designated as wilderness. See 43 U.S.C. § 1782(a); 16 U.S.C. § 1311(c)(3).[9] The rail line would not, however, preclude the remainder of the NCMA from being designated as wilderness, in that the area would be larger than 5,000 acres and human imprints outside potential wilderness areas, e.g., roads and railroads, are not considered in their evaluation.[10] Bureau of Land Management, Wilderness Inventory and Study Procedures, H-6310-1 (Jan. 10, 2001) at 13, 16-17 (attached as Exhibit E).

III. PFS IS ENTITLED TO SUMMARY DISPOSITION OF SUWA B

PFS is entitled to summary disposition of SUWA B because there remains no genuine issue as to any material fact relevant to the contention and PFS is entitled to a decision as a matter of law.

A. BLM Has Rejected the North Cedar Mountains as Wilderness

In 1980, BLM considered the North Cedar Mountains[11] for designation as wilderness as part of its inventory of lands in Utah and rejected it after the "intensive inventory"

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[9] As shown below, however, since BLM has considered the NCMA for designation as wilderness and rejected it, the impact of the PFS rail line even on the easternmost portion of the area is moot and should not be the basis for evaluating NEPA alternatives. See section III.A., infra.

[10] Indeed, if roads and railroads outside potential wilderness areas were considered, the presence of I-80 and the Union Pacific mainline immediately to the north of the NCMA would preclude its designation as wilderness straightaway and the impact of the PFS rail line would be immaterial. SUWA's position on this issue has been inconsistent. SUWA originally asserted that the PFS rail line would adversely affect the suitability of the entire NCMA for wilderness designation, not just the far easternmost portion. Southern Utah Wilderness Alliance's Request for Hearing and Petition to Intervene (Nov. 18, 1998) ("Petition") at 8; Intervenor Southern Utah Wilderness Alliance's Responses to the Applicant's First Set of Interrogatories and Requests for Production of Documents (May 28, 1999) at 3. SUWA witness Jim Catlin maintained this position in his deposition as well, until asked about the presence of I-80 and the Union Pacific, at which point he reversed himself and conceded that a rail line outside an area would not preclude its designation as wilderness. Compare Deposition of James C. Catlin (Apr. 24, 2001) ("Catlin Dep.," relevant excerpts attached as Exhibit D) at 42-50 with id. at 51-53, 55-58; see also id. at 70-72, 93-94, 106-07.

[11] The North Cedar Mountains land unit BLM considered (Inventory Unit No. UT-020-087) was not identical to SUWA's NCMA, in that the BLM unit included some land that is southwest of (just outside) the NCMA. Nevertheless, the NCMA lies almost entirely, if not entirely, within the BLM unit. Compare Contentions Exh. 2 (map) with BLM Intensive Wilderness Inventory, Final Decision on Wilderness Study

Footnote continued on next page

stage of that process. 45 Fed. Reg. 75,602, 75,603-04 (1980). BLM reasoned and concluded:

> The lack of "outstanding" potential, or opportunity for solitude and/or primitive and unconfined recreational experience should drop [the North Cedar Mountains area] from further wilderness inventory consideration. Man's imprints are substantially noticeable within the unit. Natural screening contributes little to hide or enclose man and his contrasting influences. Recreation opportunities exist but all are encumbered by man's developments.

BLM 1980 Inv., supra note 11. Since then, the use of the NCMA has not been restricted on the basis of any potential to be designated as wilderness; i.e., BLM dropped it from control under the Wilderness Interim Management Policy. 45 Fed. Reg. at 75,603-04.[12] That BLM decision was not protested and became final on December 15, 1980. See 45 Fed. Reg. 86,558 (1980); 46 Fed. Reg. 15,332 (1981).[13]

Since 1980, SUWA and others have attempted to have BLM lands in Utah re-evaluated and designated as wilderness with little success. Every year since 1989, a bill has been introduced in Congress to designate lands in Utah (including the Cedar Mountains adjacent to the NCMA to the south, but - significantly - not the NCMA) as wilderness. See Babbitt, 137 F.3d at 1199 n.4; H.R. 1613, 107th Cong. (2001). The bill has never passed. See Babbitt, 137 F.3d at 1199 n.4; SUWA Web Page.[14]

Footnote continued from previous page

Areas, Utah (November 1980) ("BLM 1980 Inv."), relevant excerpts attached as Exhibit F (map) (Exhibit F was also filed as Exhibit 2 of Applicant's Answer to Petition to Intervene and Contentions of Southern Utah Wilderness Alliance (Dec. 1, 1998)).

[12] See Babbitt, 137 F.3d at 1198 & n.2; 43 U.S.C. §§ 1782(a) and (c) (restrictions on land use apply only to those lands "identified during the inventory [required by FLPMA] as having wilderness characteristics").

[13] The NCMA was one of 176 intensive inventory units evaluated in Utah. BLM 1980 Inv. The BLM decisions regarding 61 areas were protested, but the decision about this area was not. Decision on Protests to Final Wilderness Inventory Decision, 46 Fed. Reg. 15,332 (1981).

[14] http://www.suwa.org/ARWA/HR1732S861.html (attached as Exhibit G); see also, e.g., Dan Harrie, Hatch's Lost Power Makes Hansen Utah's Point Man in Congress, Salt Lake Tribune (June 10, 2001) (quoting Rep. James Hansen (R-UT), "Look at all the things that don't go through because I don't want them through, . . . I mean, take the Southern Utah Wilderness Alliance [SUWA] wilderness bill -- I don't see why they take the time to introduce it.")

In 1998, SUWA surveyed BLM lands in Utah again and proposed (without having them included in the federal bill) that, inter alia, the NCMA be designated as wilderness. Petition at 3, 5. From 1996 to 1999, BLM reinventoried over 15 million acres of its lands in Utah. BLM 1999 Inv., Introduction.[15] It did so specifically to determine whether any land had been improperly rejected as wilderness during the 1980 inventory. Id. The 1999 inventory reexamined the wilderness suitability of all the lands covered in bills pending in Congress in 1995 and 1997 (i.e., the bill that is now H.R. 1613), but did not include the NCMA. Id. As a result of the reinventory, BLM is considering expanding some Wilderness Study Areas (WSAs) in Utah, including the Cedar Mountain WSA, which is adjacent to the NCMA to the south. 64 Fed. Reg. 13,439 (1999). Again, significantly, expansion of the Cedar Mountain WSA further north to include the NCMA was not proposed because the developed area of Hastings Pass lies between the Cedar Mountain WSA and the NCMA. BLM 1999 Inv., Cedar Mountains.[16]

In sum, the responsible federal agency, BLM, rejected the North Cedar Mountains as wilderness over 20 years ago. Despite the efforts of SUWA and others since then to have more land in Utah designated as wilderness, and despite BLM's reinventory of its lands in Utah as recently as two years ago, BLM has not changed its decision. Nor has Congress shown an inclination to designate Utah lands as wilderness directly. Therefore, while the proposed Low rail line alignment would legally preclude the far easternmost portion of the NCMA from being designated as wilderness, because BLM has already rejected the NCMA as a whole, the potential impact of the rail line is essentially moot. Speculation that sometime in the future BLM might change its decision or Congress might directly designate the NCMA as wilderness is no basis for evaluating alternatives under NEPA. Rancho Seco, CLI-93-3, 37 NRC at 145-46. Thus, the fact that the PFS

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[15] Utah Wilderness Inventory, BLM (1999) ("1999 BLM Inv.") <http://www.access.gpo.gov/blm/utah>.

[16] <http//www.access.gpo.gov/blm/utah/pdf/nw4.pdf.>

rail line crosses the NCMA should be no factor in evaluating the environmental impacts of rail line alignment alternatives.[17]

B. PFS Has Considered Reasonable Alternatives to the Low Rail Line

In satisfaction of NEPA's requirements, PFS has considered reasonable alternatives for the alignment of the rail line to the PFSF.[18] Specifically, PFS has considered: 1) the proposed Low Corridor alignment, 2) an alignment approximately three-quarters of a mile east of the proposed Low Corridor alignment, immediately to the east of SUWA's NCMA ("the west Skull Valley alternative"), 3) an alignment running down the center of Skull Valley from the Union Pacific mainline to the Private Fuel Storage Facility ("PFSF") (the "central Skull Valley alternative"), and 4) four alignments running down the east side of Skull Valley, along Skull Valley Road ("the east Skull Valley alternatives"). Declaration of John Donnell (June 28, 2001) ¶ 5. These alignments constitute reasonable alternatives for transporting spent fuel by rail to the PFSF. Furthermore, because it creates the least environmental impact and has the lowest the cost, the proposed Low Corridor alignment is the preferable alternative.

1. The Proposed Low Corridor Alignment

The proposed Low Corridor rail line is described in sections 3.2.1.5 and 4.4 and Figure 3.2-2 of the PFS Environmental Report (ER) and section 2.1.1.3 of the DEIS. See also Declaration of Douglas Hayes (June 28, 2001) ¶¶ 5-7. The rail line will connect the PFSF directly to the Union Pacific mainline railroad at Low Junction, Utah. The single

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[17] Under the logic of SUWA's contention, if it or any other organization or individual believes that a tract of land qualifies and should be designated as wilderness, than nothing can be done to that land until Congress acts. Such is clearly not the intent of the FLPMA or the Wilderness Act and is directly contrary to provisions of those statutes where, as here, the federal agency charged with making recommendations to Congress for the designation of wilderness areas has determined that the area in question does not qualify for such designation. Once BLM drops an area from further wilderness consideration, it is no longer subject to the land use restrictions imposed by FLPMA during BLM's review. See 45 Fed. Reg. at 75,603-04.

[18] The Board may reach a conclusion on an issue based on evidence submitted to it with this motion even if the information is not contained within the DEIS itself. In that instance the DEIS would be "deemed amended pro tanto" without need for formal redrafting. See Barnwell, ALAB-296, 2 NRC at 680.

track line will be approximately 32 miles long and will run from the mainline on the south side of Interstate 80 at Low Junction. From the mainline at Low, the rail line will proceed southeast parallel to Interstate 80 for approximately 3 miles, then turn south along the western side of Skull Valley for approximately 26 miles, and then turn east for approximately 3 miles to the PFSF. Associated sidings will be located either at the PFSF or near Low Junction. ER at 3.2-6, 4.4-1. While the rail line will be operated within a 40-foot wide corridor that will serve in part as a fire buffer, no access road will exist along the railroad. DEIS at 2-14. As discussed above, the Low rail line would cut across the far easternmost portion of the NCMA, isolating a portion of the NCMA one-half to three-quarters of a mile wide and less than three miles long. See Hayes Dec., Exhibits 2 and 4.

2. The West Skull Valley Alternative

PFS has considered a rail alignment that follows the proposed Low Corridor alignment, but at the point where the current alignment turns south to cross part of the NCMA, this west Skull Valley alternative alignment continues southeast for approximately three-quarters of a mile and then turns south, passing just to the east of the NCMA. Donnell Dec. ¶ 11; Hayes Dec. ¶¶ 8, 10. Because this alignment does not cross the NCMA, it would not legally bar any part of the NCMA from consideration for potential designation as wilderness (assuming arguendo that the NCMA is suitable at all, see section III.A, supra). See note 7, supra.

Nevertheless, in order to avoid the NCMA, this alternative would have to be carefully routed 1) between the NCMA and a parcel of State-owned land at the north end of the NCMA and 2) between the NCMA and the large mudflat (i.e., wetland) occupying central Skull Valley at the south end of the NCMA. Hayes Dec. ¶ 11; id. Exhibits 2 and 4. Because of the State's vehement opposition to this project, it is not credible for PFS to plan a rail line alternative that would run through State-owned land. See Rancho Seco,

CLI-93-3, 37 NRC at 145-46. Furthermore, because of the presence of the mudflat in central Skull Valley and the impacts that would result to it, PFS could not route this alternative farther to the east (assuming PFS could first get through the State-owned land). See section III.B.3, infra; Declaration of Susan Davis (June 28, 2001) ¶¶ 6, 11.

Thus, this alternative must follow a narrow corridor just to the east of the NCMA. This constrained route follows undulating terrain, which would require more "cutting and filling" of earth to build the rail line than would be necessary to build the Low Corridor line. Hayes Dec. ¶¶ 12, 18, 20. It would require PFS to emplace 560,000 cu. yds. of fill material, in the form of berms up to 20 feet high, of which approximately 260,000 cu. yds. would have to be imported to the construction site. Id. ¶¶ 20-21. This would increase the cost of the alternative by $5 million, i.e., by between 15-25 percent of the cost of the proposed Low Corridor line.[19] Donnell Dec. ¶¶ 13-16.

In addition, because the berms would block access to the land and the use of roads to the west, this alternative would have other environmental impacts beyond those that would result from the proposed Low Corridor line. Davis Dec. ¶¶ 8-9. They include interference with roads, cutting off part of the NCMA for wildlife and cattle grazing, a greater visual impact, and potential interference with the fighting of wildfires in the NCMA. Davis Dec. ¶¶ 8-9. Other environmental impacts, such as noise, impacts on flora and fauna, air pollution, and other resource consumption would be small and similar to those of the proposed Low Corridor alignment. Id. ¶¶ 6-7; see also Catlin Dep. at 86-90. Thus, the environmental impacts and the cost of the west Skull Valley alternative would be greater than those of the Low Corridor line. Hence the alternative would be inferior to the proposed route.

[19] The exact cost of the rail line is PFS proprietary information. Affidavit of John D. Parkyn (May 15, 2000) (filed in conjunction with testimony on Contention Utah E—Financial Assurance).

3. The Central Skull Valley Alternative

PFS also considered potential rail alignments that would run from the Union Pacific down the center of Skull Valley to the PFSF. Donnell Dec. ¶ 5. These alignments would have required the construction of a bridge over I-80, as the Union Pacific mainline runs along the north side of the highway at that point. See id. ¶ 7 (I-80 is south of the Union Pacific mainline until they reach Low Junction). Crossing I-80 would result in additional costs, complexity, and environmental impacts. Id. These alignments would also cross a large mudflat that occupies most of northern-central Skull Valley and that qualifies as a wetland under section 404 of the Clean Water Act. Davis Dec. ¶ 11. Thus, using these alignments would require a permit from the Army Corps of Engineers. Id. The Corps of Engineers, however, will not grant a permit to alter wetlands where project alternatives exist that do not require alteration of wetlands. 40 C.F.R. § 230.10(a). Here, alternatives to a central Skull Valley alignment clearly exist and thus it is doubtful that PFS would be able to obtain permission to use these alignments. In any event, even if building a rail line through central Skull Valley were permissible, because of its impacts on wetlands, its environmental impacts would be greater than those of the Low Corridor alignment. Davis Dec. ¶ 13. Other environmental impacts, such as noise, visual impact, air pollution, and resource consumption would be small and similar to those of the Low Corridor alternative. Id. ¶ 12.

4. The East Skull Valley Alternatives

PFS also considered rail line alignments that would have begun at various points along the Union Pacific mainline north of the east side of Skull Valley and continued south, down the east side of the valley, along the east side of Skull Valley Road, to the Skull Valley Reservation before turning west toward the PFSF. Donnell Dec. ¶ 5; DEIS at 2.2-42. The east side alternatives are constrained by the location of the Union Pacific mainline in that it runs on the north-side of I-80 from Salt Lake City until reaching Low Junction on the west side of Skull Valley. Donnell Dec. ¶ 7. Crossing I-80 would result

in additional costs, complexity, and environmental impacts. Id. ¶¶ 7-8. In addition, running the rail line parallel to Skull Valley Road would result in impacts to wetlands at Horseshoe Springs, existing houses and ranches along the road, and traffic on the road. Id. ¶ 9. Other environmental impacts, such as air pollution, and resource consumption would be small and similar to those of the Low Corridor alternative. Davis Dec. ¶ 15. Therefore, these alternatives were rejected as inferior to the proposed Low Corridor alignment. Donnell Dec. ¶ 10.

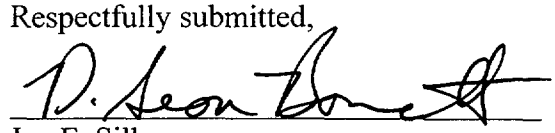
5. The Low Corridor Alignment is a Suitable Alternative to Choose

As discussed above, PFS has considered the range of reasonable alternative rail line alignments available for transporting spent nuclear fuel from the Union Pacific mainline to the PFSF. Of the potential alternatives, the proposed Low Corridor alignment has the least environmental impact. The fact that the proposed alignment crosses a small part of SUWA's NCMA does not alter that conclusion, since BLM rejected the area for potential designation as wilderness over 20 years ago and neither it nor Congress has shown any inclination to change that decision. Furthermore, even if the NCMA were suitable for wilderness designation, the Low Corridor rail alignment would only disqualify the far easternmost portion of the area. Changing the rail alignment to avoid the small affected part of the NCMA would result in additional concrete adverse environmental impacts and costs that would outweigh the value of preserving the small area as wilderness. Therefore, it is reasonable for PFS to locate the rail line as proposed. Thus, PFS has met NEPA's requirements for evaluating potential rail line alternatives for the PFSF.

IV. CONCLUSION

For the foregoing reasons, the Board should grant PFS summary disposition of Contention SUWA B.

Respectfully submitted,



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Dated: June 29, 2001

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
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PRIVATE FUEL STORAGE L.L.C.	)	Docket No. 72-22
	)	
(Private Fuel Storage Facility)	)	ASLBP No. 97-732-02-ISFSI

STATEMENT OF MATERIAL FACTS ON WHICH NO GENUINE DISPUTE EXISTS

Applicant submits, in support of its motion for summary disposition of SUWA B, this statement of material facts as to which the Applicant contends there is no genuine issue to be heard.

A. Contention

1. Contention SUWA B as admitted by the Licensing Board states:

> 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.

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 (1999). The contention was admitted so far "as it seeks to explore the question of alignment alternatives to the proposed placement of the Low Junction rail spur." LBP-99-3, 49 NRC at 53.

2. In June 2000, the NRC Staff issued NUREG-1714, "Draft 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 on Tooele County, Utah" ("DEIS").

B. The North Cedar Mountains Area

3. The North Cedar Mountains area (NCMA), which SUWA asserts should be designated as wilderness, lies in the northern Cedar Mountains, just south of Interstate 80 and the Union Pacific mainline railroad. The area is roughly 5.5 miles wide and 7 miles long. Southern Utah Wilderness Alliance's Contentions Regarding Private Fuel Storage Facility License Application (the Low Rail Spur) (Nov. 18, 1998) ("Contentions"), Exh. 2 (map).

4. In 1980, BLM, the federal agency responsible for reviewing lands for potential designation as wilderness, inventoried the North Cedar Mountains and concluded that they were not suitable for wilderness designation. 45 Fed. Reg. 75,602, 75,603-04 (1980).

5. Since 1980, SUWA and others have sought to have land designated as wilderness in Utah. BLM has reconsidered of some of its Utah wilderness decisions, but has show no inclination to reconsider its decision regarding the North Cedar Mountains. Nor has Congress shown an inclination to designate the North Cedar Mountains as wilderness directly. See Utah v. Babbitt, 137 F.3d 1193, 1199 n.4 (10th Cir. 1998); SUWA web page <http://www.suwa.org/ARWA/HR1732S861.html>; BLM 1999 Inv., supra note 15.

C. The Proposed Low Corridor Rail Line

6. The proposed Low Corridor rail line would connect the Private Fuel Storage Facility (PFSF) directly to the Union Pacific mainline railroad at Low Junc-

tion, Utah. The single track line will be approximately 32 miles long and will run from the mainline at Low Junction south to the PFSF. Donnell Dec. ¶ 4.

7. The proposed Low Corridor rail line would traverse the far eastern edge of the NCMA, isolating a portion approximately one-half to three-quarters of a mile wide and less than three miles long, whereas the entire NCMA is approximately 5.5 miles wide by 7 miles long. Donnell Dec. ¶ 11; Hayes Dec. ¶ 8 (Exhibits 2 and 4).

8. The railroad siding for the proposed PFS rail line from Low Junction, would have a surplus of cut material at the Low Pass siding area of approximately 300,000 cubic yards. As proposed, this material would be added to the natural contours around the siding and stabilized with vegetation. Hayes Dec. ¶ 21.

9. In terms of earthwork (i.e., cut and fill) and ignoring the first mile of corridor which will generate a surplus of cut material at Low Junction, the remaining 31 mile length of the proposed Low Corridor rail line alignment has a balance, that is material removed to level the rail road bed ("cut") approximately equals material added ("fill"). Hayes Dec. ¶ 12.

D. The West Skull Valley Alternative

10. PFS has considered an alternative rail line alignment on the west side of Skull Valley that that does not cross the NCMA but rather passes just to the east of it. Donnell Dec. ¶ 5; Hayes Dec., Exhibits 2 and 4. The alternative rail line would be about 2,000 to 3,000 feet east of the alignment of the proposed rail line for about 6.5 miles. Hayes Dec. ¶ 10.

11. The route of the west Skull Valley alternative is constrained by two narrow gaps on BLM land through which it must pass. The first gap is at the northern end of the alternative alignment; it must pass east of the NCMA but stay west of the parcel of land owned by the State of Utah. The second gap is along the southern part of the alternative alignment; it must not go too far east to avoid

the large mud flat (i.e., wetland) in the middle of Skull Valley before rejoining the proposed rail line alignment. Hayes Dec. ¶ 11; id. Exhibits 2 and 4.

12. The maximum grade of the PFS rail line (other than at sidings) is 1.5%. Maximum rail line grade is set based on the best fit of locomotive tractive effort and horsepower. The 1.5% maximum grade is set to enable PFS trains to move at a reasonable speed. Hayes Dec. ¶ 7.

13. The route of the west Skull Valley alternative follows undulating terrain such that the railroad bed requires the use of a significant amount of fill material to maintain the 1.5% maximum grade limit on PFS trains. Hayes Dec. ¶¶ 13-15, 17-19. Total net fill material required over the 6.5 mile length of the alternative rail alignment is 560,000 cubic yards. Id. ¶ 20.

14. The surplus of cut material from the Low Pass siding area of approximately 300,000 cubic yards could be used for fill on the alternative rail line. The balance of any material not coming from the Low Pass siding area would need to be imported from an offsite location; i.e., about 260,000 cubic yards. Hayes Dec. ¶ 21.

15. As a result of the higher fill requirements the alternative alignment would be significantly more expensive than the proposed Low Corridor alignment. This alternative would increase costs by 15 to 25% by adding $5 million dollars for the fill alone ignoring additional cost impacts for other material and related installation effects. Donnell Dec. ¶¶ 13-16.

16. The environmental impacts of the west Skull Valley alternative would be higher than the impacts of the proposed Low Corridor rail line because of the need to use more fill material and because the alternative would have to be built on a raised railroad bed as much as 20 feet high. Donnell Dec. ¶ 17; Davis Dec. ¶¶ 8-9. The raised railroad bed would have a visual impact and could interfere with the access to roads, grazing, or the fighting of wildfires in the North Cedar Mountains. Id.

17. Aside from the impacts of the fill material and the raised railroad bed, the proposed Low Corridor line and the west Skull Valley alternative would have similar (small) environmental impacts. Davis Dec. ¶¶ 6-7.

E. The Central Skull Valley Alternatives

18. PFS has considered railroad alignment alternatives that would pass down the center of Skull Valley from the Union Pacific mainline south to the PFSF. Donnell Dec. ¶ 5. The central valley alternatives are constrained by the location of the Union Pacific mainline in that it runs on the north-side of I-80 from Salt Lake City until reaching Low Junction on the west side of Skull Valley. See id. ¶ 7.

19. The northern end of Skull Valley is covered by mudflats and adjacent wetlands, which provides a specialized habitat for a variety of shorebirds and other animals. All of the mudflat habitat is classified and protected as waters of the United States under section 404 of the Clean Water Act. Davis Dec. ¶ 11.

20. A center of the valley route would require the mudflats to be bisected by a rail line, disrupting the habitat and requiring fill. Davis Dec. ¶ 11. It is improbable that PFS would obtain a Army Corps of Engineers permit to fill long tracts of the mid-valley mudflats when alternatives on the east and west side of Skull Valley are feasible and would not impact any wetlands or waters of the United States. Id.; 33 C.F.R. §§ 330.4(a) and (e).

21. Other than the impact on wetlands and the need to cross I-80, the central Skull Valley alternative and the proposed Low Corridor rail line would have similar (small) environmental impacts. Davis Dec. ¶ 12.

F. The East Skull Valley Alternatives

22. PFS considered railroad alignments parallel to Skull Valley Road on the east side of Skull Valley as potential alternatives to the currently proposed Low

Corridor alignment. Donnell Dec. ¶ 5. The east side alternatives are constrained by the location of the Union Pacific mainline in that it runs on the north-side of I-80 from Salt Lake City until reaching Low Junction on the west side of Skull Valley. Id. ¶ 7.

23. The existing underpasses under I-80 in Skull Valley would provide insufficient clearance for a train carrying a loaded spent fuel cask. Donnell Dec. ¶ 7.

24. Other alternatives to allow an alignment along the east side of the valley would require either constructing a rail bridge over I-80 or a making rock cut through the northern Stansbury Mountains. Both of these options involve substantially increased construction costs and add complexity to the project, which in turn add unnecessary technical and business risks to the project. Donnell Dec. ¶ 8.

25. The east Skull Valley alternative would likely impact by proximity the wetlands near Horseshoe Springs. Compared to the proposed alignment from Low Junction that requires only obtaining a right of way from BLM, an alignment along Skull Valley Road would require right of way agreements also with other land-owners along the road, particularly private and State of Utah interests. Donnell Dec. ¶ 9. Bridge construction over I-80 or a rock cut would also add environmental impacts. Id. ¶ 8. Finally, the east side alternative would also have impacts on existing houses and ranches and traffic on Skull Valley Road. Id. ¶ 9.

26. Other than the impacts set forth in paragraphs 24 and 25, the east Skull Valley alternative and the proposed Low Corridor alignment would have similar (small) environmental impacts. Davis Dec. ¶ 15.

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
	)	
(Private Fuel Storage Facility)	)	ASLBP No. 97-732-02-ISFSI

CERTIFICATE OF SERVICE

I hereby certify that copies of Applicant's Motion For Summary Disposition of Contention SUWA B – Railroad Alignment Alternatives were served on the persons listed below (unless otherwise noted) by electronic mail with conforming copies by U.S. mail, first class postage prepaid, this 29th day of June 2001.

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(Original and two copies)

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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
	)	
(Private Fuel Storage Facility)	)	ASLBP No. 97-732-02-ISFSI

EXHIBITS FOR APPLICANT'S MOTION FOR SUMMARY DISPOSITION OF SUWA B

Tab No.	Subject
A	Declaration of John Donnell
B	Declaration of Douglas Hayes
C	Declaration of Susan Hayes
D	Excerpts from Deposition of Jim Catlin
E	Excerpts from BLM Wilderness Inventory and Study Procedures
F	Excerpts from BLM Intensive Wilderness Inventory Utah 1980
G	Excerpts from SUWA Web Page

Exhibit A

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
	)	
(Private Fuel Storage Facility)	)	ASLBP No. 97-732-02-ISFSI

DECLARATION OF JOHN DONNELL

John Donnell states as follows under penalties of perjury:

A. Background

1. I am Project Director for Private Fuel Storage, L.L.C. ("PFS"). In my capacity as Project Director, I am responsible for the execution and integration of the legal and technical activities of the Private Fuel Storage Facility ("PFSF") project. I am providing this affidavit in support of a motion for summary disposition of Contention [Southern Utah Wilderness Alliance] SUWA B (SUWA B) in the above captioned proceeding to assess potential alternative alignments for the Low Corridor rail line. My professional and educational experience is summarized in the curriculum vitae attached as Exhibit 1 to this Declaration.

2. As Project Director of PFS, I am knowledgeable about PFS's plan for the construction and operation of a railroad from the proposed PFSF storage site to an interconnection with the Union Pacific Railroad at Low Junction, in Utah. I am also knowledgeable of the alternative alignments for a rail line servicing the storage facility that PFS has considered.

B. Contention

3. Contention SUWA B asserts that

> 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 Mountain—which it crosses.

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 (1999). The contention was admitted so far "as it seeks to explore the question of alignment alternatives to the proposed placement of the Low Junction rail spur." LBP-99-3, 49 NRC at 53.

C. Low Junction Rail Spur Alternate Alignments

4. The proposed Low Corridor rail line is described in sections 3.2.1.5 and 4.4 and Figure 3.2-2 of the PFS Environmental Report (ER). The rail line will be constructed to connect the PFSF directly to the Union Pacific mainline railroad at Low Junction, Utah. The single track line will be approximately 32 miles long and will run from the mainline on the south side of Interstate 80 at Low. From the mainline at Low, the rail line will proceed southeast parallel to Interstate 80 for approximately 3 miles, then turn south along the western side of Skull Valley for approximately 26 miles, and then turn east for approximately 3 miles to the PFSF. Associated sidings will be located at Low Junction. ER at 3.2-6.

5. PFS evaluated rail line alignment alternatives to the Low Corridor rail line that run south from the Union Pacific mainline (which runs west from Salt Lake City across the north end of Skull Valley) to the PFSF. As part of a comprehensive study of transportation alternatives in 1998 and in previous versions of the PFSF ER, PFS considered railroad alignments parallel to Skull Valley Road on the east side of Skull Valley as potential alternatives to the currently proposed Low Corridor alignment. PFS rejected the alternatives in favor of the Low Corridor route because of the Low Corridor's lesser environmental impact and lower cost, and the alternatives' impracticability. PFS also considered briefly a potential alignment down the center of Skull Valley, but rejected

it because of the significant environmental impacts it would have, as discussed in the accompanying Declaration of Susan Davis. In response to Contention SUWA B, PFS also considered in more detail an alignment just east of SUWA's North Cedar Mountain (NCM) area that would preserve the roadless character of that area and preserve, for all of the area, the hypothetical potential for its designation as wilderness. PFS rejects that alternative because of its greater environmental impact and higher costs. Each alternative and the reasons for rejecting it are summarized below.

1. Alignment in the Center of Skull Valley

6. A rail line from the Union Pacific mainline to the PFSF faces a fundamental constraint that it must run down either the west side or the east side of the valley. Alignments down the middle of the valley would cross the large mid-valley mud flat, which is a wetland as defined under the Clean Water Act § 404. As discussed in the accompanying Declaration of Susan Davis ¶ 11, it is doubtful that PFS could obtain an Army Corps of Engineers permit to fill relatively large tracts of the mid-valley wetland, when east and west side alternatives are feasible and do not impact a wetland. As such, mid-valley rail line alignments are not practicable alternatives to the Low Corridor rail line alignment.

2. Alignment on the East Side of Skull Valley Along Skull Valley Road

7. PFS considered alternative rail alignments along Skull Valley Road on the east side of Skull Valley in its 1998 transportation study and earlier versions of its ER. PFSF Transportation Study (SWEC 1998), §3.3; ER Rev. 0, § 4.4. The east side alternatives are constrained by the location of the Union Pacific mainline in that it runs on the north-side of I-80 from Salt Lake City until reaching Low Junction on the west side of Skull Valley. Id. at 35. The existing underpasses under I-80 in Skull Valley are relatively low and would only provide 7 inches of clearance for a loaded spent fuel cask. Id. In contrast, State of Utah and private railroad standards would require closer to eight feet of clearance without a waiver. Id. PFS concluded that obtaining such a waiver was

infeasible based on discussion with the railroad that indicated the clearance requirements were non-negotiable. Id. at 39. Union Pacific would only issue an "impaired clearance" to PFS, assuming that PFS would take all liability for any user of the rail line section subject to an impaired clearance. Id.

8. Other alternatives to allow an alignment along the east side of the valley would require either constructing a rail bridge over I-80 or a making rock cut through the northern Stansbury Mountains from an acceptable access point to the Union Pacific mainline railroad in the adjacent Tooele Valley. Both of these options involve substantially increased construction costs and add complexity to the project. Id. at 49, 56. Such complexity adds unnecessary technical and business risks to the rail line construction project. Id. at 62. An additional consideration is that bridge construction or a rock cut would also add environmental impacts. Id. at 51, 56.

9. If an alternative rail spur alignment on the east side of Skull Valley could be constructed to cross I-80, the rail line would be run parallel to the existing Skull Valley road along the east side of the road until crossing it near the Reservation to run about two miles west to the PFSF. DEIS § 2.2.4.2. Construction along such an alignment would likely impact by proximity the wetlands near Horseshoe Springs. Id. Compared to the proposed alignment from Low Junction that requires only obtaining a right of way from BLM, an alignment along Skull Valley Road would require right of way agreements also with other land-owners along the road, particularly private and State of Utah interests. Id. As the DEIS concluded, construction of a rail line on the eastern side of Skull Valley need not be considered in further detail due to the likelihood for any such construction to directly impact wetlands, existing houses and ranches, or traffic on Skull Valley Road. Id.

10. Based on these considerations, a rail route on the eastern side of Skull Valley is inferior to the proposed Low Corridor route.

3. Alignment on the West Side of Skull Valley East of SUWA's North Cedar Mountains Area

11. The proposed Low Corridor rail line would run from the Union Pacific main line, near Low Junction, Utah to the PFSF, which would be located approximately 25 miles to the south on the Skull Valley Indian Reservation. From Low Junction, the rail line will proceed southeast, parallel to I-80, for approximately 3 miles, then turn south along the western side of Skull Valley for approximately 26 miles, and then turn east for approximately 3 miles to the PFSF for a total track length of about 32 miles. The NCM area, which SUWA purports is suitable for consideration as wilderness, is located at the northern end of the Cedar Mountains, just west of Skull Valley and just south of I-80. It is a rough polygon about 5.5 miles wide by 7 miles long. The proposed rail line would run through the far eastern edge of this area for less than three miles. See Hayes Dec. ¶ 8 (Exhibits). As discussed in the accompanying Declaration of Douglas Hayes ¶ 10, the alternate alignment would run 2,000 to 3,000 feet further east than the proposed alignment in order to avoid the NCM area. The alternative alignment would rejoin the proposed alignment to the south of the NCM area, after a total distance of about six miles.

12. As discussed in the accompanying Declaration of Douglas Hayes ¶ 12, in terms of earthwork (i.e., cut and fill), and ignoring the initial cut at Low for the mainline rail connection, the remaining length (31 miles) of the proposed Low Corridor 32-mile rail line alignment has a net material balance; that is material removed to level the railroad bed ("cut") approximately equals material added ("fill"). The mainline cut at Low will locally "spoil" approximately 300,000 cubic yards of soil. The alternative alignment, however, is built on fill for most of its six mile length, driven by the constraints of available BLM land for rail corridor through two narrow gaps near the northern and southern ends of the alternative alignment. The gaps lie between the eastern edge of the SUWA's NCM area and either the western edge of a parcel of land owned by the State of Utah at the northern end or the western edge of the large mid-valley mudflat (i.e., wetlands) at the southern end. These narrow gaps operate as constraints and limit

the ability of the alternative rail line alignment to follow the natural contours of the land. As the proposed rail line alignment lacks these constraints, it follows natural contours to balance the amount of cut and fill needed. In contrast, the alternative alignment would require a total of about 560,000 cubic yards of fill.

13. As a result of the higher fill requirements described in the accompanying Declaration of Douglas Hayes, the alternative alignment would be significantly more expensive than the proposed Low Corridor alignment. PFS has previously testified in this proceeding to the estimated cost of the proposed rail line. Pre-filed Testimony of Joseph F. Gase and George L. Takacs, IV on PFSF Construction Costs, June 21, 2000 (inserted into PFS Hearing Record Transcript at 1681). This alternative would increase costs by 15 to 25% by adding $5 million dollars for the fill alone ignoring additional cost impacts for other material and related installation effects.

14. The anticipated construction work effort would include large quantities of earth expected to be moved to level the railroad bed (cut and fill), the amount of additional material needed for ballast and subballast for the increased length of the rail line and potentially the number and size of drainage structures. The cost of this work effort is then estimated based on the typical costs of labor and materials to accomplish it. Only the additional cost of fill material has been evaluated, which gives a rough, but low, estimate of the costs associated with the alternative alignment. The proposed PFS rail line alignment balances the expected amount of cut and fill needed along the rail line ignoring the "spoil" pile at Low. This minimizes hauling cut and fill as any cut material is soon used nearby as fill. The change to the alternative alignment significantly unbalances the amounts, as fill is needed along the six miles of alternative alignment; and, therefore, there is a significant impact on rail line construction costs. Not only would there be additional labor and material to accomplish the additional work effort, but also additional costs would be incurred to obtain and haul in additional fill material.

15. Under the proposed rail line alignment, excess cut material would generated for the siding that is constructed near the Union Pacific mainline. As discussed

in the accompanying Hayes Declaration, this excess cut material, about 300,000 cubic yards, could be used as fill for the alternative rail alignment, but more would be needed. For the cost estimate, PFS assumes an additional 260,000 cubic yards of suitable fill can be found within 50 miles of the rail line construction site. If this assumption is not accurate, costs for constructing the alternative rail line alignment would be higher.

16. The cost of the alternative rail alignment using a Salt Lake City costing basis was estimated as follows.

	Description of Work	Volume of Soil (in cubic yards)	Estimated Cost
A.	Load, haul & dump from Low stockpile (avg. distance of 10 miles each way)	300,000	$697,100
B.	Buy, load, haul & dump (avg. distance of 50 miles each way)	260,000	$3,120,000
C.	Place & compact soil (including water)	560,000	$1,632,400
Total Evaluated Cost			Approximately $5,000,000

Assumptions:

1. Trucks used are assumed to be bottom dump trailers with a piggyback, 33 ton capacity (1.85 ton/cu. yd.)

2. Estimate includes only the significant costs of obtaining additional fill material. Other costs relating to longer track length and associated construction activities would increase the estimated cost.

3. Costs per cubic yard are assumed to be; for task A, $2.30, for task B, $12.00, and for task C, $3.00.

17. As discussed in the attached declaration of Susan Davis ¶¶ 8-9, the additional fill required to construct the alternative rail line alignment results in more

environmental impact than the proposed Low Corridor alignment. The berms required for the alternative alignment potentially have increased impacts on wildlife, cattle grazing, visual resources and wildfire fighting capability compared to the proposed alignment.

18. Considering the additional construction costs and the additional environmental impact, the alternative railroad alignment is an inferior option compared to the proposed Low Corridor rail line.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on June 28, 2001

John Donnell

Donnell Exhibit 1

JOHN L. DONNELL — Project Manager

EXPERIENCE SUMMARY

Mr. Donnell has 21 years of experience in nuclear project management and engineering. Currently, he is Project Manager for the Private Fuel Storage Facility project. The project is sponsored by a consortium of eleven utilities to develop a central interim storage facility for commercial spent nuclear fuel. In addition, he is the Project Manager for plant modifications work at the Prairie Island Nuclear Generating Plant for Northern States Power Company. His duties as Project Manager includes overall project direction, estimating, contract administration, controlling project costs, and scope change control.

He is also coordinating the corporate Stone and Webster Spent Independent Spent Fuel Storage Installation (ISFSI) Program and supporting all initiatives in this focus area of the power sector. In this capacity, he is responsible for project scoping, staffing, providing estimates, recommending spent fuel storage technology selection, and interfacing with client staff as well as state and federal agencies to support corporate goals for all spent fuel storage projects.

RELEVANT PROJECT EXPERIENCE

Private Fuel Storage LLC, Private Fuel Storage Facility - As Project Manager, responsible for the engineering, design, budget and schedule control for the project. Project scope includes production of all necessary federal licensing documents for submission to the NRC for this first of a kind private fuel storage facility supporting multiple nuclear utilities. The effort also includes site selection and characterization, preliminary facility engineering and design, and related facility and transportation infrastructures. The licensing documents are in compliance with the requirements of 10 CFR Part 72. Detailed engineering and design will follow the licensing effort for the storage facility, support buildings, and transportation system.

Northern States Power Goodhue County ISFSI, Prairie Island Nuclear Generating Plant - As Project Manager, responsible for overall project direction to support the site characterization study, engineering and design, and licensing for this offsite ISFSI. The licensing documents are in compliance with the requirements of 10 CFR Part 72. Duties included:

- Providing support and attending the public forum meetings.
- Participating in the site selection process and ISFSI conceptual design.
- Supervising the development of a storage technology assessment.
- Supervising the development of a storage technology bid specification.
- Supervising the development of the Minnesota State Application for Site Certificate.

He also supervised the development of the NRC License Application, inlcuding the preparation of the Safety Analysis Report (SAR), Environmental Report (ER), Emergency Plan (EP), and Security Plan (SP).

Northern States Power, Prairie Island Nuclear Generating Plant ISFSI - As Project Manager and Project Engineer, he was responsible for this project from the preparation of the license application through site operation. Project scope included:

- Generation of federal licensing documents for submission to the NRC. This effort provided the utility with a draft SAR, ER, technical specifications, and decommissioning plan.
- Engineering and design, including site selection, geotechnical studies, security system, cask monitoring system, radiation monitoring system, perimeter shielding berm, facility support

services, road access, cask transporter design review, and procurement support.

He also supervised the auxiliary building crane trolley upgrade to single-failure-proof. This project replaced the existing crane trolley with a single-failure-proof trolley operation to support the movement of the 125-ton spent fuel storage casks within the plant.

Northern States Power Company, Prairie Island Nuclear Generating Plant - As Project Manager, responsible for the overall day-to-day management of all Stone & Webster project activity at this power plant and interface with the utility management team, including departmental and project team members. Programmatic interfaces to the client project team were developed to utilize the best and most appropriate resources from both organizations. Individual task assignments include the development of more than thirty conceptual engineering studies, execution of the engineering and design for more than seventy-four modification tasks , and the preparation of Design Basis Documents.

Portland General Electric Company, Trojan Nuclear Plant - As Project Manager, responsible for all work performed by Stone & Webster at this power plant. Work included:

- Reviewing the decommissioning plan prior to submission to the NRC.
- Performing a facilities review to establish bid evaluation criteria to be used to select the storage technology vendor for an onsite ISFSI.
- Supporting the vendor selection process.
- Preparing a technical report identifying the available storage technologies, operational characteristics, and the implementation of a risk management program for the spent fuel project.
- Performing an evaluation to develop the strategy necessary to terminate the Part 50 License with the loaded ISFSI onsite.

EDUCATION

B.S., Electrical Engineering - University of Toledo

ASME Short Course Program - ASME Boiler & Pressure Vessel Code: Section III, Divisions 1 & 2, Quality Assurance for Design and Inspection of Nuclear Power Plant Components

LICENSES AND REGISTRATIONS

Professional Engineer - Colorado, Ohio, Minnesota

Exhibit B

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
	)	
(Private Fuel Storage Facility)	)	ASLBP No. 97-732-02-ISFSI

DECLARATION OF DOUGLAS HAYES

Douglas Hayes states as follows under penalties of perjury:

A. Background

1. I am currently employed by Stone & Webster, Inc. - a Shaw Group Company as a Civil Design Engineer. I am providing this declaration in support of a motion for summary disposition of Contention [Southern Utah Wilderness Alliance] SUWA B (SUWA B) in the above captioned proceeding to evaluate a potential alternative alignment for the Low Corridor rail line on the west side of Skull Valley and to show that the alternative will have more environmental impacts and will cost more than the currently proposed Low Corridor alignment.

2. My professional and educational experience is summarized in the curriculum vitae attached as Exhibit 1 to this declaration. I have extensive experience with civil engineering and design requirements of site and corridor development. My experience with Stone & Webster include access and site road design of asphalt, concrete and gravel roads, including earthwork, structural and drainage considerations; railroad loading, unloading and transportation for heavy and light rail; and site development on a variety of projects. I have more than 40 years experience in surveying and engineering civil projects. Prior to joining Stone & Webster, I worked for the U.S. Geological Survey in the Rocky Mountain Region for eight years performing geodetic surveys. I also worked

for consulting engineering firms in Colorado for ten years on various surveying and civil engineering projects. I owned and operated my own surveying business in Colorado for approximately two years.

3. I am Lead Railroad Design Engineer on the PFS project. I am responsible for the layout and development of construction drawings and railroad construction specifications for the new railroad alignment from the proposed PFSF storage site to a interconnect with the Union Pacific Railroad at Low Junction, in Utah.

B. Contention

4. Contention SUWA B asserts that

> 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 Mountain—which it crosses.

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 (1999). The contention was admitted so far "as it seeks to explore the question of alignment alternatives to the proposed placement of the Low Junction rail spur." LBP-99-3, 49 NRC at 53.

C. The Low Corridor Rail Line

5. The proposed Low Corridor rail line is described in sections 3.2.1.5 and 4.4 and Figure 3.2-2 of the PFS Environmental Report (ER). The rail line will be constructed to connect the PFSF directly to the Union Pacific mainline railroad at Low Junction, Utah. The single track line will be approximately 32 miles long and will run from the mainline on the south side of Interstate 80 at Low. From the mainline at Low, the rail line will proceed southeast parallel to Interstate 80 for approximately 3 miles, then turn south along the western side of Skull Valley for approximately 26 miles, and then turn east for approximately 3 miles to the PFSF. Associated sidings will be located at the PFSF and near Low Junction. ER at 3.2-6,.

6. The rail line will be built using conventional construction practices. A 200-foot wide right-of-way for construction of the rail line would temporarily remove or disturb about 776 acres of greasewood and desert shrub/salt brush habitat. A 200-foot wide corridor is necessary to operate the rail line to the PFSF site. ER at 3.2-6. The approximately 40-foot wide railroad ballast and sub-ballast within the corridor will be maintained free of vegetation to provide a buffer zone to reduce the potential for range fires that might be started by the railroad. The elevation of the rail line will be close to grade so as to facilitate its crossing by emergency fire vehicles. Id. at 4.4-13. After construction 621 acres of land will be actively revegetated with appropriate naturally occurring species and restored to its prior condition; thus, approximately 155 acres of land will be permanently altered by the rail line. Id. at 4.4-1.

7. At the siding next to the Union Pacific mainline at Low Junction, the maximum acceptable railroad grade (i.e., slope) is 0.4% and zero grade is the preferred condition. This requirement is to minimize effort and risk during train switching operations and to ensure that cars uncoupled from their locomotive can be held by setting their brakes. The rest of the rail line cannot have a grade that exceeds 1.5%. Maximum rail line grade is set based on the best fit of locomotive tractive effort and horsepower. For example to start a PFSF train on the maximum 1.5% grade requires two locomotives weighing in excess of 100 tons each, which would convert to 1,500 hp locomotives. However to move this same train on a 1.5% uphill grade at 25 MPH requires a minimum of 5,200 horsepower. The 1.5% maximum grade is set to enable PFS trains to move at a reasonable speed.

8. The alternative alignment on the west side of Skull Valley has been laid out using the same typical track section as the proposed alignment, no more than 40 feet wide at the top of the subgrade, 24 feet wide at the top of subballast, and 10.5 feet wide at the top of the ballast section. The same design basis for the proposed alignment in the horizontal and vertical direction (for example, a minimum horizontal curvature of 3 degrees, (1,908 ft. radius) and vertical grade changes using the same rate of change as the

proposed alignment), have been used to create the alternate alignment. Drawing DY-SK-19-A is attached as Exhibit 2 and is an overall alignment plan that shows both the proposed alignment and the alternate alignment. Drawing DY-SK-20-A, Exhibit 3, shows cross sections along the alignment and graphically indicates the amount of cut or fill at various Stations. Exhibit 4 is another map providing an overview of the rail alignments and the region around the NCMA.

D. The North Cedar Mountains Area

9. The North Cedar Mountain (NCM), which SUWA purports is suitable for consideration as wilderness, is located at the northern end of the Cedar Mountains. Caitlin 2d Decl. (Dec. 8, 1998). It is a rough polygon about 5.5 miles wide by 7 miles long. The proposed rail line would run through the eastern edge of the NCM area traversing a small segment at most a half mile wide and four miles long. See Exhibits 2 and 4.

E. Alternative Alignments for the Low Corridor Rail Spur Along the West Side of Skull Valley but Further East of North Cedar Mountains

10. PFS considered an alternative alignment that does not cross the NCM area but rather passes just to the east of it. See Exhibits 2 and 4. The alternative follows the proposed Low Corridor rail line parallel to I-80 for about three miles, but at the curve south would turn less sharply so the alternative rail line would proceed more to the east than the proposed rail line. After proceeding southeast for about two miles, the alternative rail line would curve south just east of the eastern edge of the NCM area (which is bounded by a jeep road) and just west of a parcel of land owned by the State of Utah. The alternative rail line would parallel the eastern edge of the NCM area (the jeep road) for about three miles. At that point, the edge of the NCM area turns southwest and so would the alternative rail line alignment. After a mile heading southwest, the alternative alignment would rejoin the proposed alignment somewhat south and east of

the NCM area. The net result is the alternative rail line would be about 2,000 to 3,000 feet east of the alignment of the proposed rail line for about 6.5 miles.

11. Pushing the horizontal alignment of the Low Corridor rail line about 2,000 to 3,000 feet east presents challenges in that its location is constrained by two narrow gaps on BLM land through which it must pass that are not encountered by the alignment as it is currently proposed. The first gap is at the northern end of the alternative alignment; it must pass east of the NCM area but stay west of the parcel of land owned by the State of Utah. The second gap is at the southern end of the alternative alignment; it must not go too far east to avoid the large mud flat (i.e., wetland) in the middle of Skull Valley before rejoining the proposed rail line alignment.

12. In terms of earthwork (i.e., cut and fill) and ignoring the first mile of corridor which will generate a large "spoil" pile at Low Junction, the remaining 31 mile length of the proposed Low Corridor rail line alignment has a balance, that is material removed to level the rail road bed ("cut") approximately equals material added ("fill"). On the other hand, because of its constrained location, the alternative alignment heads over terrain that falls at a steeper grade than the maximum acceptable grade for the PFS rail line. Thus, the alternative alignment requires additional fill material to maintain a grade that is manageable by the PFS trains as it threads its way through the two narrow gaps. See Table 1 for a summary of the grades along the alternative alignment.

13. The first challenge starts when the proposed rail line curves south away from paralleling I-80. The hill in this area slopes down toward the east at a sharper grade than the maximum permissible grade of the rail line. The proposed route avoids this problem by making a sharper curve so the rail line runs more toward the southwest and can follow the contours of the land. The alternative, on the other hand, must go more to the southeast to avoid the NCM area. Along the first two miles of the alternative alignment, the elevation of the ground decreases about 175 feet, which is approximately the theoretical maximum grade the rail line could descend. In fact, the rail line is constrained from decreasing elevation that rapidly due to the hill's naturally undulating

contour; only an average grade of about 1.33% can be achieved compared to a maximum permissible of 1.5%. To account for this contour, the alternative alignment requires fill throughout almost all of its two mile length. In fact, the construction requires the rail line to be built on a berm varying in height up to 20 feet. Only over a few hundred feet is any cut (i.e., removal of earth) is required over the two mile descent.

14. This challenge is made more complex as that the rail line must thread the narrow gap between the jeep road that bounds the NCM area and the land owned by the State of Utah near the northeastern corner of the NCM area as shown in Exhibits 2 and 4. The proposed rail line avoids this challenge by staying further west of the State land and following the hill's natural contours. The alternative alignment is constrained to pass through a gap that is quite narrow and restricting for a railroad corridor. The gap between the jeep road and the western boundary of the State land at the point where the alternative alignment would enter the gap is approximately 500 feet wide.[1] Since the elevation of the alternative alignment is still about 15 feet above the ground at this point (because of the need to maintain steady descents, which average about 1.33% in grade), there must be fill added to construct a berm about 20 feet high. This amount of fill requires a right of way (ROW) of approximately 300 feet wide, to allow the earthen berm to be self-supporting, plus 50 feet on each side of the ROW for temporary construction easement. The rail line must be laid out with a total ROW width of 400 feet to fit through a gap that may be no more than 450 feet wide.

15. Running a rail line through the gap between the jeep road and the State land imposes vertical constraints as well as tight horizontal constraints. In addition to constraints on horizontal alignment requiring the rail line to fit through a gap with as little as 50 feet of margin, the vertical alignment of the alternative decreases about 175 feet along its first two miles. As the average grade that can be achieved is about 1.33%, the

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[1] The 500 foot distance is scaled from 1"=2,000' USGS 7 ½ Min. Topographic Map with a margin of error approaching 10%.

rail line only descends about 160 feet. Consequently, the rail line would be built at the top of an earthen berm that would be constructed on what is naturally a hill sloping downward to the east. The alternative rail line would be about 17 feet above the uphill side and closer to 25 feet above the downhill side. The roughly two story berm where the alternative rail line crosses the jeep road here, as the road turns away from the NCM area, is an imposing obstacle to use of the jeep road. Approximately 1,100 feet of the jeep road will have to be realigned horizontally and vertically to make a crossing at this location. Approximately 450 feet in a northeasterly direction and approximately 650 feet in a southerly and westerly direction. The maximum vertical grade used for the jeep road relocation would be 6%. Because of the location of the jeep road, its relocation would require approval from the State of Utah. The proposed alignment avoids this problem as it follows the hill contours; where the proposed alignment crosses the jeep road further south, the crossings can be at existing grade.

16. The second challenge is presented by another narrow gap at the southern end of the alternative railroad alignment, where the alternative alignment stops paralleling the jeep road. At that point, the jeep road turns west, as the portion of SUWA's NCM area that would be cut off by the proposed PFS rail line alignment ends. The alternative alignment is then free to rejoin the proposed alignment and continue south to the PFSF. The narrow gap is created because the alternative alignment runs within two tenths of a mile of the western edge of the large mud flats that cover the center of Skull Valley. In other words, the alternative alignment must run between the jeep road and the mudflats.

17. At this point, the elevation of the proposed rail line alignment is approximately 100 feet higher than the alternative alignment. Under ideal topography, this requires a minimum of 6,700 feet to get to the proposed rail line alignment elevation at the maximum permissible grade of 1.5%. However, the actual topography is undulating and the alternative rail line alignment follows the hill contour with a steady 1% rise for 6,000 feet. Following the hill contour minimizes the amount of fill needed

and minimizes the impacts of this alternative alignment. Over the last mile the alternative rail line first falls and then rises with the bumpy hill contour at the maximum grade of 1.5 %, finally rising at 0.26% for the last 800 feet to match up with the proposed rail line alignment. Even incorporating the maximum rate of rising and falling in rail line elevation over the last mile, considerable fill is still required to build earthen berms as high as 20 feet over the last mile to avoid exceeding the maximum allowable grade.

18. In order to produce a workable horizontal alignment, as described above, the total length of the realignment turns out to be approximately 6 miles. This reflects following the topography as much as possible while threading the narrow corridors near the northern and southern ends of the alternative alignment section. Because of the constraints caused by these narrow corridors and their associated elevations, the great majority of the six miles is built on fill. See Table 1.

19. Conservatively, to minimize any potential for water to damage the railroad bed, the alternative railroad alignment maintains a vertical alignment approximately 3 to 5 feet above flat grade. This height is considered as a minimum in order to engineer a suitable base for the railroad bed. The impact of this conservatism is to slightly increase the amount of fill as more fill is required in a few spots (where the railroad would run across flat grade) to maintain this height. This increase is small since most of the alternative alignment is built on fill anyway. Where fill is required to maintain grade in the first place, which is over the course of most of the alternative alignment, no extra fill is required for this function.

20. Ignoring the "spoil" pile (300,000 cy.) at Low Junction in the first mile, the proposed remaining Low Corridor 31-mile railroad alignment has a balance of earth work, that is material cut approximately equals fill. The alternative railroad alignment, over its 6-mile length, requires a net of approximately 560,000 cubic yards of fill. This means that 560,000 cubic yards of fill material would need to be imported from another location to build the alternative. The Low Junction "spoil" pile could be used for 56% of the required fill. After laying out the route of the rail line, all earthwork calculations

were developed from 3D digital models using the Inroads computer program. This program is commonly used by civil engineers for the purpose of designing linear features, such as roads and railroads, along with site grading and drainage.

21. The railroad siding for the PFS rail line constructed at Low Junction as under the current proposal, would have a surplus of cut material at the Low Pass siding area of approximately 300,000 cubic yards. As proposed, this material would be added to the natural contours around the siding and stabilized with vegetation. If the alternative rail line alignment were built instead, the surplus cut material could be used for fill on the alternative rail line. This would require stockpiling the 300,000 cubic yards of material, protecting the pile to control fugitive dust emissions, and require moving the material 3 to 9 miles from the Low Pass siding area to the locations needing the fill, which would make the alternative more expensive. In addition, the balance of any material not coming from the Low Pass siding area would need to be imported from an offsite location; i.e., about 260,000 cubic yards. This would increase the cost of the alternative further. The cost estimate below does not consider the delay and disruption for hauling the fill used for the alternative and so is probably an underestimate.

22. The alternative rail line alignment would increase the costs of constructing the rail line by as much as $5 million, driven primarily by the costs of additional effort associated with the need for more fill. This cost would include loading, hauling, and installing the fill from the Low "spoil" pile and procuring, loading , hauling, and installing additional fill (260,000 cy) from a location within 50 miles of the alternate route.

I declare under penalties of perjury that the foregoing is true and correct.

Executed on June 28, 2001.

Douglas Hayes

TABLE 1

SUMMARY OF PROFILE OF ALTERNATIVE RAIL LINE SEGMENTS

Distance from Low Junction where each grade change starts (feet to the nearest hundred)	Grade of Climb [negative number is falling grade]	Length of segment that is the distance the grade is maintained (feet to the nearest hundred)	Berm height over this segment (to the closest 5 foot increment) [negative height indicates a cut]
14,400	-1.11%	3100	0 to 15 feet
17,500	-1.5%	3700	15 to 20 to 0 feet
21,200	-1.34%	7200	0 to –5 to 0 to 20 to 5 feet
28,400	+0.34%	1900	5 to 0 to 5 feet
30,300	-0.66%	2700	5 to 10 to 5 feet
33,000	+0.56%	1800	5 to 10 feet
34,800	flat	2200	10 to 0 feet
37,000	+0.99%	6000	0 to 10 to 0 feet
43,000	-1.5%	1500	0 to 10 feet
44,500	+1.5%	3200	10 to 20 feet
47,700	+0.26%	800	20 to 0 feet

Hayes Exhibit 1

Experience Summary

Mr. Hayes is a Civil Design Engineer in the Denver office of Stone & Webster Inc. He joined Stone & Webster in 1980 and is responsible for civil engineering and design requirements of site and corridor development. His assignments include access and site road design of asphalt, concrete and gravel roads, including earthwork, structural and drainage considerations, railroad loading, unloading and transportation for heavy and light rail and site development on a variety of projects. He has more than 40 years experience in surveying and engineering civil projects. Prior to joining Stone & Webster, Mr. Hayes worked for the U.S. Geological Survey in the Rocky Mountain Region for eight years performing geodetic surveys. Mr. Hayes also worked for consulting engineering firms in Colorado for ten years on various surveying and civil engineering projects. He owned and operated his own surveying business in Colorado for approximately two years.

Education

Industrial Engineering – (Course Work – No Degree) Fresno City College, Fresno, California

Licenses, Registrations, and Certifications

Certified Engineering Technician - 1968
Registered Land Surveyor - Colorado - 1971

Experience History

STONE & WEBSTER ENGINEERING CORPORATION, DENVER, COLORADO
(JUN 1980 - PRESENT)

Private Fuels Storage Facility, Skull Valley, Utah
(May 2000 - Present)

As Lead Railroad Design Engineer responsible for the layout and development of construction drawings and railroad construction specifications for the new railroad alignment from the proposed PFSF storage site to a interconnect with the Union Pacific Railroad at Low Pass, in Utah. Comprising a total length of approximately 32 miles and maximum vertical grades of 1.5%.

Great River Energy, Pleasant Valley Station, Minn.
(Jan 2000 - May 2000)

As Lead Civil Design Engineer responsible for the layout and development of construction drawings for a new peaking power station located in Minnesota. Developed site access road, on site roads, grading and drainage including calculations and construction specifications.

Monticello, Martin Lake and Big Brown Stations, Texas Utilities
(Jun 1996 - Jan 2000)

As Lead Civil Design Engineer developed bypass and unloading loop for switching fuel delivery from existing 14 car lignite trains to proposed 140 car Powder River Basin coal trains for the three generating stations. Provided cost studies, traction studies and unloading time line studies for unloading 140 car unit coal trains at the three stations. The projects included railroad plans, site plans, calculations, drainage and realignment of existing roads, including the crossing of Interstate 45 with a new rail line.

Monticello - North Interchange, Texas, Utilities
(Apr 1996 - Jan 1997)

As Lead Civil Design Engineer responsible for the layout and development of construction drawings for approximate 2 mile spur track connecting Southern Pacific Railroad with existing TU track to allow receiving Western coal unit trains at Monticello Station. Project includes construction drawings, construction specifications, grading and drainage.

Northern States Power Company, Mescalero, New Mexico
(Feb 1996 - Apr 1996)

As Lead Civil Design Engineer provided conceptual railroad routing from existing SP mainline to several sites under consideration for independent spent fuel storage site on or near the Mescalero Indian Reservation in New Mexico. The railroad spur was to accommodate heavy rail loads having grades of 2% $\pm$ over lengths of 2 to 10 miles and considered grading and drainage.

Northern States Power Company, Goodhue County, Minnesota
(Nov 1995 - Feb 1996)

As Lead Civil Design Engineer developed rail spur of approximately 2 miles from existing CTX mainline to independent spent fuel storage site for Prairie Island Nuclear Generation Plant. Mr. Hayes performed the necessary alignment, grading and drainage calculations and produced design drawings for submission to the NRC.

Stanton Station, Ash Haul Rosa, United Power Association
(May 1995 - Oct 1995)

As Lead Civil Design Engineer, Mr. Hayes was responsible for the final design and grading of an Ash loading loop road and Ash Haul Road capable of handling CAT 773B off highway trucks. The loaded gross weight of this vehicle is approximately 186,000 lbs with approximately 125,000 lbs on the rear axle. The design period was 20 years, and the design included crossing of 2 existing railroad spurs, 13 buried utilities, the design of a concrete road crossing at an existing main access road to an adjacent power plant. The design also included the surface drainage features along the haul road alignment.

Hampton Corners Mine Site, Akzo Nobel Salt, Inc.
(Dec 1994 - May 1995)

As Lead Civil Design Engineer, Mr. Hayes was responsible for the conceptual layout and design of the surface facilities of a new salt mine and processing facility. His area of responsibility included roads and access, site grading, railroad access, loading and car storage for 100 car unit trains, surface runoff detention highway access improvements and building, parking, working and storage pad development. All design and drawings for the site work was created using AutoCad and ADCADD.

Tesla Hydroelectric Project, City of Colorado Springs
(Jun 1994 - Dec 1994

As Lead Civil Design Engineer, Mr. Hayes was responsible for development of an AutoCad, AdCADD final design of a 15 acre regulating reservoir and approximately 0.85 mi of access and maintenance roads in a mountainous area. The grading design includes a balanced earthwork scheme for the 250,000 cubic yards of earthwork excavation.

Banfield LRT System Improvements, Tri-County Metropolitan Transportation District of Oregon
(Nov 1993 - Jun 1994)

As Lead Civil Design Engineer, Mr. Hayes' responsibilities include design of two and one-half miles of double tracking for an existing light rail transit system mainline. The work includes preparing horizontal and vertical alignments using AutoCad and preparing special trackwork details. He is also responsible for design of an expansion to an existing maintenance and storage yard.

Three - 750 MW Coal-Fired, Navajo Generating Station, Salt River Project
(Aug 1993 - Oct 1993)

As Lead Civil Design Engineer, Mr. Hayes supervised final design of site preparation for the addition of scrubbers to the three - 750 MW coal-fired Navajo Generating Station. The work included modifying one mile of Arizona State Highway 98, upgrading three existing intersections, and adding one new

intersection. The work also included site grading and layout and design of on-site plant roads. He was responsible for coordinating and interfacing with the Arizona Department of Transportation

Thompson Falls Hydroelectric Project, Montana Power Company
(May 1993 - Aug 1993)

As Lead Civil Design Engineer, Mr. Hayes supervised final design of an Intergraph CAD grading, dredging, drainage design for a new 50 MW powerhouse at Thompson Falls Hydroelectric Plant. Grading included removal of 100,000 cubic yards of rock excavation, including one-quarter mile of river channel tailrace excavation, using a current diversion dike. Tailrace excavation was accomplished using a moving rockfill work pad.

Keahole Combined Cycle Project Company, Hawaiian Electric Light Company
(Jan 1993 - Apr 1993)

As Civil Design Engineer, Mr. Hayes provided final design of an Intergraph CAD grading and drainage design for a two-unit expansion of the existing Keahole power plant site. Design included site grading, site roads, and site drainage, including storm water detention and stormwater reinjection.

NO_x Abatement Project, Idaho National Engineering Laboratory
(Sep 1992 - Dec 1992)

As Civil Design Supervisor, Mr. Hayes supervised final design of an AutoCad grading, excavation, and draining design for a NO_x abatement process at an existing site, including grading, excavation, utility relocation, emergency fire access, and ammonia storage on a very congested area of Idaho National Engineering Laboratory.

Rosario Dominicana, Dominican Republic
(Jun 1992 - Aug 1992)

As Civil Design Supervisor, Mr. Hayes supervised preliminary design of an 85 million metric tonne per year tailings reservoir, decant reservoir, drainage diversion system, drainage capture and treatment system, and drainage capture around a planned, expanded open pit mining operation. The total area was 1241 hectors with drainage to handle 14.5 million cubic meters of annual runoff. All design and drawings were produced using Microstation, Version 4.0, and Inroads/Insite, Version 4.

Pathfinder Combined Cycle Expansion, Northern States Power Company
(Apr 1992 - Jun 1992)

As Civil Design Supervisor, Mr. Hayes supervised final design of an Intergraph CAD grading and drainage design for a combined cycle facility on the existing Pathfinder generation site. All civil design and construction drawings were produced using Microstation, Version 4.0. and Inroads/Insite, Version 4.0. They included site grading, drainage, road improvements, contractors parking and laydown, and wetlands improvement areas.

Prairie Island Nuclear Generation Plant, Northern States Power Company
(Feb 1992 - Apr 1993)

As Civil Design Supervisor, Mr. Hayes supervised Intergraph CAD civil design of an independent spent fuel storage installation site at Prairie Island Nuclear Plant. The design included grading and drainage, 18-foot high, earth protection berms, spent fuel cask transport vehicle access road, security fencing, and drainage from the site to existing off-site drainage facilities.

Healy Clean Coal Project, Alaska Industrial Development and Export Authority
(Aug 1991 - Feb 1992)

As Civil Design Supervisor, Mr. Hayes supervised final design of an Intergraph CAD grading and drainage site design for a second unit at the Healy Power Plant site. The design included excavation, grading and drainage, bottom ash settling pond, fly ash haul road, new access road, and plant parking lot.

Thompson Falls Hydroelectric Project, Montana Power Company
(Oct 1991 - Apr 1992)

As Civil Engineer, Mr. Hayes performed Intergraph CAD grading and quantity development for a detailed cost analysis of a proposed 50 MW second powerhouse at Thompson Falls Power Plant. All civil design and drawings were produced on an Intergraph 32C workstation, using Intergraph's Insite/Inroads civil design program. Work consisted of intake excavation, tailrace excavation, cofferdam quantities, powerhouse excavation, access road, and development of powerhouse concrete quantities.

Miscellaneous Architect/Engineer Services, Lowry Air Force Base
(Jun 1991 - Oct 1991)

As Civil Design Supervisor, Mr. Hayes coordinated mapping, surveying, CAD design, and manual design drafting of a relief storm sewer line approximately two miles in length for a portion of Lowry Air Force Base.

Engineering Design Services, Department of Defense
(Jun 1991 - Oct 1991)

As Civil Design Supervisor, Mr. Hayes supervised final design of Intergraph CAD grading and drainage design of a site for a 17,000 square foot warehouse addition. Design included grading and drainage, excavation of old landfill trash under structure, concrete access road design, asphalt POV parking, and vehicle staging area.

Public Utility District No. 2 of Grant County, Washington
(Mar 1991 - Apr 1991)

As Civil Design Supervisor, Mr. Hayes used Intergraph's site design program and Interview 32C workstation to three-dimensionally model a hydro turbine blade from manufacturer's supplied information. He was responsible for extracting cross sections at specific locations to analyze potential surface wear problems of in-service blades.

Steamboat Hills Geothermal, Yankee-Caithness Joint Venture
(Dec 1990 - May 1991)

As Civil Design Supervisor, Mr. Hayes supervised Intergraph CAD civil design of the site work for a geothermal site near Reno, Nevada. All design and drawings were produced on Intergraph Interview 32C workstation, using Microstation and Inroads/Insite software packages.

Bradley Lake Hydroelectric Project, Alaska Energy Authority
(Dec 1990 - Apr 1991)

As Civil Design Supervisor, Mr. Hayes supervised Intergraph CAD civil design of a rehabilitation contract, including waterfowl nesting area, fish rearing area, and construction camp rehabilitation.

Engineering Design Services, Department of Defense
(Sep 1990 - Dec 1990)

As Civil Design Supervisor, Mr. Hayes supervised Intergraph CAD grading and drainage design of two warehouse sites. One was a general purpose warehouse of approximately 101,000 square feet, and the other was a warehouse addition of approximately 17,000 square feet. Design included grading and drainage, new road design, tank road relocation, and parking.

Thousand Springs Project Unit No. 1, Great Basin Energy
(Jan 1990 - Aug 1990)

As Civil Design Supervisor, Mr. Hayes supervised Intergraph CAD civil design of the site work for a coal-fired power plant site near Wells, Nevada. All design and drawings were produced on Intergraph Interview 32C workstation using Microstation and Inroads software packages. Design included grading and drainage for a 160 acre plant site, 14-mile main access road, five miles of plant site roads, 14 mile railroad spur for unit train delivery of coal, evaporation ponds, and ash disposal area.

Colorado River Water Supply, Unocal
(Sep 1989 - Nov 1989)

As Civil Design Supervisor, Mr. Hayes supervised Intergraph CAD grading and drainage design of a 14-acre site to accommodate two settling ponds, site access road, and electrical substation. In addition two 5-acre sites located at an existing oil shale processing plant site were designed to accommodate mobile water filter units, access road, backwash pond, and surge basin.

Denver International Airport, City and County of Denver
(Dec 1988 - Aug 1989)

As Lead Civil Engineer, Mr. Hayes was responsible for civil design of Runway 8L-26R site preparation for the new Denver International Airport. The area designed included the main terminal and parking area, a three concourse configuration apron area, Ramp Taxiways K, M and Q, Parallel Taxiway J, Crossfield Taxiways XT-5, XT-4, and XT-H, along with Runway 8L-26R and Parallel Taxiway 3. All design and drawings were done on a VAX 8550 Intergraph CAD system using ESP software. Earthwork volume calculations generated by the Intergraph system were checked using a 80386 PC with DCA V10 software. All construction drawings were translated using a VAX based OCTAL translator to an Autotrol Series 5000 Apollo system per client requirements.

Additionally, Mr. Hayes provided a mass earthwork balance for the entire Phase I Airport Project

(approximately 20 square miles), which included six runways, all associated taxiways, maintenance and support area, terminal area, and concourse-apron area. The total earthwork volume for Phase 1 is approximately 113,000,000 cubic yards.

Teberebie Goldfield Ltd.
(Jul 1988 - Nov 1988)

As Civil Design Supervisor, Mr. Hayes supervised Intergraph CAD civil design of a new open pit gold mining operation in Ghana, Africa. The design included location and grading for a 19-unit family housing area and mess hall. Also included was location and grading of separate sites for an administration and office building with a helicopter landing pad, a maintenance facility, and grading for a 5000 metric ton per day ore crushing plant. In addition, 6200 meters of 9-meter wide access roads and 1600 meters of 24-meter wide heavy vehicle maintenance and ore hauling road was designed using Intergraph's ESP package.

Southern Pacific Railroad Spur, Lower Colorado River Authority
(Nov 1987 - May 1988)

As Lead Civil Engineer, Mr. Hayes was responsible for civil effort of a five route alignment study and CAD-produced preliminary civil design of two twenty-mile rail alignments connecting the Southern Pacific main line near La Grange, Texas with an existing rail unloading loop at Fayette Power Plant.

Salton Sea Unit 3 Geothermal Power Project, Unocal
(Mar 1987 - Nov 1987)

As Civil Design Supervisor, Mr. Hayes was responsible for civil design of the plant site for a geothermal power plant. Site drawings for this project were produced on the Intergraph CAD System.

Bear Canyon Geothermal Power Project, Freeport
(Jun 1986 - Jan 1987)

As Civil Design Supervisor, Mr. Hayes was responsible for civil design of the plant site for a geothermal power plant, including site grading, site drainage, and site access. Design of this plant site was created on the CAD system utilizing IGDS, digital terrain modeling, and earthwork software.

Land Base Mapping, City of Aurora, Colorado
(Jan 1987 - Feb 1987)

As Civil Design Supervisor, Mr. Hayes was responsible for a test project creating CAD-produced base maps for the Public Works Department. Input data was client-supplied recorded subdivision plats and engineering drawings. The graphics files were created using customized Land Base Mapping software to produce a series of base maps for various public works departments.

Land Base Mapping, Salt River Project
(Nov 1986 - Dec 1986)

As Civil Design Supervisor, Mr. Hayes was responsible for creating Intergraph CAD files from client-supplied planimetric mapping, including recorded subdivision plats, quarter-section assessor's maps,

address and street name plats, city street maps, and aerial photography. Graphics files were created using customized Land Base Mapping software to produce a series of base maps for various utility uses.

Assessor's Mapping, Town of Winchester, Connecticut
(Apr 1986 - Aug 1986)

As Civil Design Supervisor, Mr. Hayes was responsible for creating Intergraph CAD files from a combination of stero-digitized data and planimetric base maps to produce assessor maps in and around Winchester, Connecticut.

Cloverdale-Geysers Road Improvement, Central California Power Agency
(Sep 1985 - Apr 1986)

As Civil Design Engineer, Mr. Hayes was responsible for civil design of highway improvements to two and one-half miles of existing Sonoma County Highway to eliminate substandard alignment conditions.

Ramsey/Washington Waste to Energy Project, Northern States Power Company
(Jan 1985 - Aug 1985)

As Civil Design Engineer, Mr. Hayes was responsible for civil engineering design of a plant site for a refuse derived fuel processing plant. The design included site access and on site roadways capable of handling 500 trucks per day, site grading, and site drainage. The design for this job was developed on Intergraph CAD using IGDS graphics.

Coldwater Creek Geothermal Power Plant, Central California Power Agency
(Mar 1984 - Jan 1985)

As Civil Design Engineer, Mr. Hayes was responsible for civil engineering design of a 13-acre plant site for a geothermal power plant, including site grading, site drainage, and site access. Approximately one-half of the civil drawings on this job were developed on the CALMA CAD System.

Aidlin Geothermal Project, Geothermal Resources International
(Jul 1984 - Sep 1984)

As Civil Design Engineer, Mr. Hayes was responsible for civil engineering design of a 3-acre plant site for a 12.5 MW geothermal power plant in a mountainous region of California, including site grading, site drainage, and site access.

Fluid Gas Desulfurization Retrofit Project, Wyodak
(Feb 1984 - May 1984)

As Civil Design Engineer, Mr. Hayes was responsible for civil engineering design of site modifications to an existing plant site to accommodate installation of a flue gas scrubber, including new roads, site grading, and site drainage.

Salem Station, Montana Power Company
(Nov 1983 - Jan 1984)

As Design Engineer, Mr. Hayes was responsible for supervision of preliminary civil engineering design of nine miles of railroad and the relocation of approximately one-half mile of county road.

Biomass Combined Cycle Power Plant, OPC Bio-Energy Corporation
(Jun 1983 - Jul 1983)

As Design Engineer, Mr. Hayes was responsible for supervision of civil engineering design of the plant site and main access road.

Sage Point, Dugout Canyon Project, SUNEDCO
(Oct 1982 - Jan 1983)

As Lead Civil Engineer, Mr. Hayes was responsible for supervision of the preliminary civil engineering design of twelve miles of railroad, railroad loading loop, and site grading of central facilities area. He also supervised preparation of the plant area, raw coal and clean coal storage areas, two mine portal areas, and one portal area being capable of supporting facilities for miners and equipment to mine 6.7 million tons of coal per year. In addition, he was responsible for preliminary design of 16 miles of main access and maintenance roads to service portal areas and refuge disposal areas.

Western Fuels Project
(Jun 1980 - Jan 1983)

As Design Engineer, Mr. Hayes was responsible for supervision of civil engineering design of three and one-half miles of overland conveyor pad and maintenance road, site grading around transfer buildings, site grading of slot coal storage area, and civil design of 35 miles of electric railroad, railroad loading loop, and maintenance facility area.

Sacramento Municipal Utility District Geothermal Project
(Jun 1980 - Jun 1981)

As Design Engineer, Mr. Hayes was responsible for design of the main access road approximately two miles long through a mountainous region.

Southeast Project, Public Service Company of Colorado
(Jun 1980 - Apr 1982)

As Design Engineer, Mr. Hayes was responsible for supervision of civil engineering functions of the plant site and a 2-mile railroad unloading loop, access roads, etc.

Hayes Exhibit 2

0599602-DY-SK-19

N.T.S.

I-80

R 9 W

T 1 N

T 1 S

BASE LINE

26 35 2 11 14 23 26 35

28 33 4 9 16 21 28 33

27 34 3 10 15 22 27 34

REALIGNMENT OF JEEP ROAD (1400')

STATE LAND

MUD FLAT

MUD FLAT

262+00

217+00

171+00

397+00

457+00

ALTERNATE ALIGNMENT

JEEP ROAD

PROPOSED ALIGNMENT

JEEP ROAD

QA CATEGORY III

ALIGNMENT PLAN

PRIVATE FUEL STORAGE FACILITY
PRIVATE FUEL STORAGE, LLC
STONE & WEBSTER INC. - A SHAW GROUP COMPANY
DENVER, COLORADO

DRAWING NUMBER 0599602-DY-SK-19-A

REVISION	DESCRIPTION
A	DECLARATION EXHIBIT

DESIGN BY D. HAYES | DRAWN BY D. HAYES | CHK'D BY J. HUNT | DSGN CHK'D BY J. HUNT | SHEET NO. 0599602 | FILE NO. PFSDYSK19.DGN

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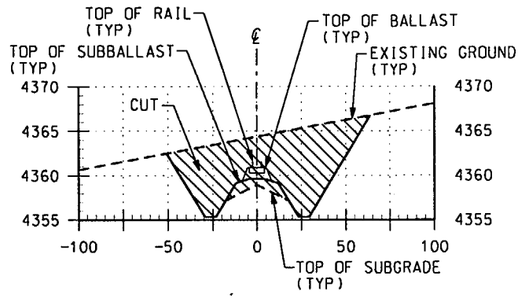
Hayes Exhibit 3

0599602-DY-SK-20



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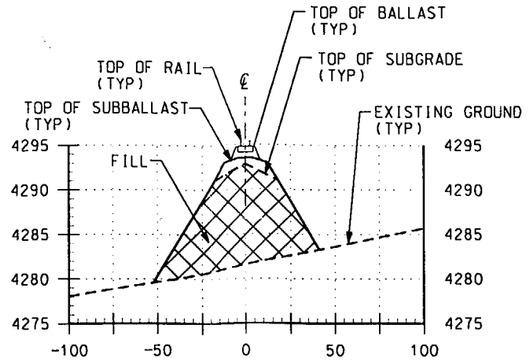

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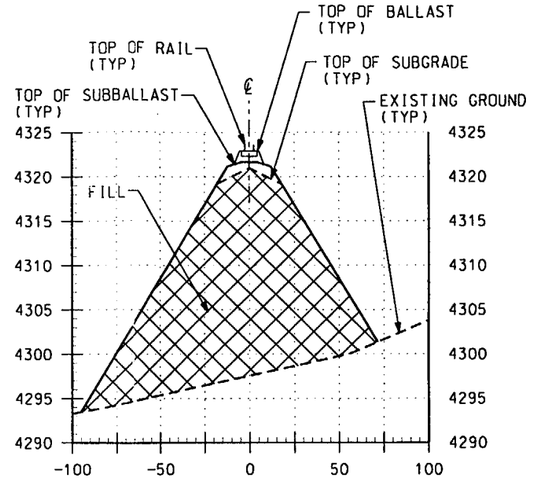

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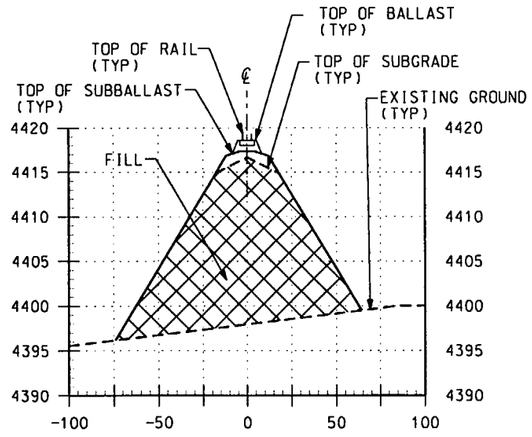

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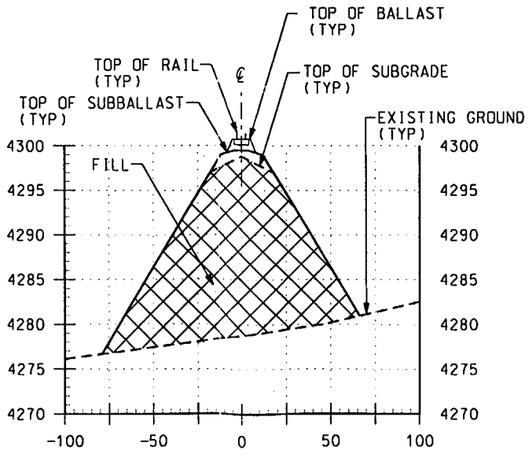

262+00

QA CATEGORY III

ALTERNATE ALIGNMENT SECTIONS

PRIVATE FUEL STORAGE FACILITY
PRIVATE FUEL STORAGE, LLC
STONE & WEBSTER INC. - A SHAW GROUP COMPANY
DENVER, COLORADO

DRAWING NUMBER 0599602-DY-SK-20-A

REVISION	DESCRIPTION
A	DECLARATION EXHIBIT

DESIGN BY D. HAYES | DRAWN BY D. HAYES | CHK'D BY J. HUNT | JOB NO. 0599602 | FILE NO. PFSDYSK20.DGN

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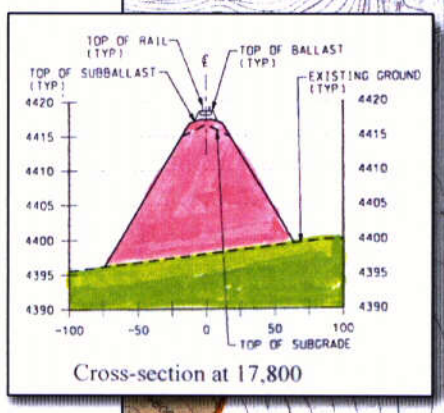
Hayes Exhibit 4

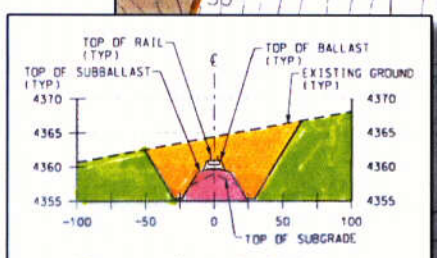
KEY

- Mud Flats
- State Owned Land
- Railroad Bed Fill
- SUWA Proposed Wilderness
- Railroad Bed Cut
- Natural Elevation
- Proposed Low Corridor
- Alternative Alignment Cuts
- Alternative Alignment Fill
- Unimproved Road

1 mile
1 km



Cross-section at 17,800



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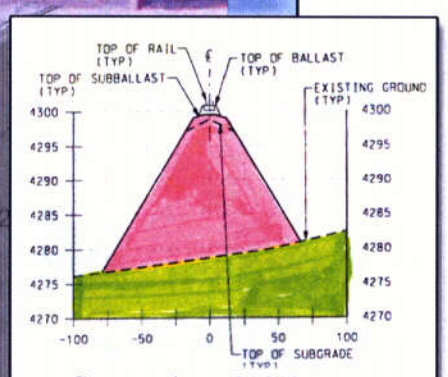
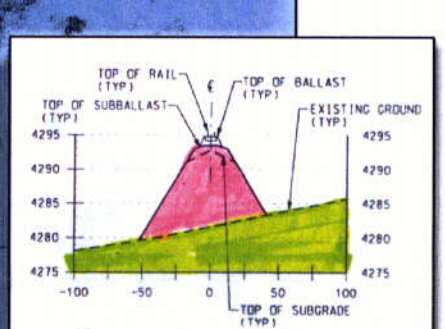
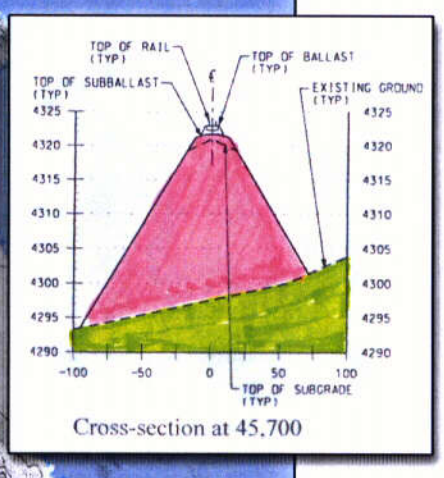


Cross-section at 26,200



Cross-section at 39,700



Cross-section at 45,700

C01

Exhibit C

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
	)	
(Private Fuel Storage Facility)	)	ASLBP No. 97-732-02-ISFSI

DECLARATION OF SUSAN DAVIS

Susan Davis states as follows under penalties of perjury:

A. Background

1. I am currently employed by Stone & Webster, Inc. - a Shaw Group Company, as an Senior Environmental Scientist. I am providing this declaration in support of a motion for summary disposition of Contention [Southern Utah Wilderness Alliance] SUWA B (SUWA B) in the above captioned proceeding to evaluate potential alternative alignments for the Low Corridor rail line and their environmental impacts and to show that the alternatives will have more environmental impacts than the currently proposed alignment for the rail line.

2. My professional and educational experience is summarized in the curriculum vitae attached as Exhibit 1 to this declaration. I have extensive experience in environmental research and consulting, including providing environmental assessments for several types of construction projects, such as dams, spent fuel storage facilities, combustion turbine power plants, and pipelines and transmission lines. Environmental resource areas I have analyzed for these projects include wetlands, wildlife habitat, rare species assessments, and visual resources.

3. I have conducted studies analyzing environmental impacts associated with the PFSF since September of 1996, including vegetation, wildlife, threatened and endangered species. Specifically, I have assessed the impacts of PFS transportation options, including those on vegetation, wildlife, threatened and endangered species

(raptors). I am familiar with the portions of the PFS Environmental Report (ER) and the NRC Draft Environmental Impact Statement (DEIS) relevant to PFS rail transportation options. I have visited the proposed Low rail corridor and the western side of Skull Valley, Utah in the course of my work.

B. Contention

4. Contention SUWA B asserts that:

> 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.

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 (1999). The contention was admitted so far "as it seeks to explore the question of alignment alternatives to the proposed placement of the Low Junction rail spur." LBP-99-3, 49 NRC at 53.

C. Environmental Impacts of Potential Alternative Alignments for the Low Corridor Rail Line Alignment

5. PFS has considered a range of alternative alignments to the Low Corridor rail line that do not cross SUWA's North Cedar Mountains (NCM) area. See accompanying Declaration of John Donnell (June 29, 2001), ¶ 5. PFS has considered a railroad alignment just east of the NCM area that would preserve the roadless character of that area, a potential alignment down the center of Skull Valley, and alignments parallel to Skull Valley Road on the east side of Skull Valley. I have evaluated the environmental impacts of the alternatives and have found that they would be greater that the impacts of the proposed Low Corridor alignment.

1. West Skull Valley Alternative

6. First, PFS has considered an alternative alignment on the west side of Skull Valley, just to the east of SUWA's NCM area, about one-half to three-quarters of a mile to the east of the proposed alignment. Declaration of John Donnell (June 29, 2001), ¶

11; Declaration of Douglas Hayes (June 29, 2001), ¶ 10. Both the proposed and the alternative alignments traverse virtually identical habitat, as both are primarily greasewood vegetation, intermixed with cheatgrass. Both alignments pass near mudflats in the lower elevations in Skull Valley to the east. The impacts of the two alignments on ecological resources generally, see DEIS § 5.4, are likely to be similar because of their proximity to each other. Any effects on the wildlife that uses the mudflats, and neighboring uplands, is likely to be the same for both alignments (other than the impacts of the railroad bed required to build the alternative discussed below), due to the alignments' proximity and continued avoidance of the mudflat habitat itself, although, the alternative alignment comes closer to the mudflats than the proposed alignment. The rail line is not expected to result in habitat fragmentation; DEIS §§ 5.4.1.2, 5.4.2.2; and neither the proposed nor alternative alignment would impact biodiversity. The revegetation following construction of the rail line and the firebreak created by the rail line are expected to improve, not detract from the surrounding ecosystem. DEIS §§ 5.4.1.1, 5.4.2.1.

7. Because of their similar design and operation, Hayes Dec. ¶ 8, and location, the proposed Low Corridor alignment and the west Skull Valley alternative alignment would have similar (small) impacts on water resources, DEIS § 5.2, air quality, id. § 5.3, socioeconomic and community resources (other than the impacts of the railroad bed outlined below), id. § 5.5, cultural resources, id. § 5.6, and recreation (other than the impacts of the railroad bed), id. § 5.8.3. As there will be no maintenance roads paralleling the proposed rail line or the alternative, no increase in access to the NCM area is expected and no increase in recreational use of or intrusion into the area is expected. Id. § 2.1.1.3. Since either railroad alignment would use the same train configuration, the proposed alignment and the west Skull Valley alternative would have similar (small) impacts in terms of human health, id. § 5.7, and noise, id. § 5.8.1.

8. The alternative alignment results in more significant environmental impacts primarily due to the need for about 560,000 cubic yards of fill along its six mile length. Hayes Dec. ¶ 20. This additional fill produces a railroad bed as high as

twenty feet along the alternative rail line alignment. Id. ¶ 17. This railroad bed creates obstacles where the alternative rail line crosses jeep trails. Id. ¶ 15. The railroad bed will cut off the lower elevations of the NCM area from Skull Valley for wildlife and cattle grazing. See DEIS at 5-24. The railroad bed will create a greater visual impact especially when viewed from lower elevations to the east (although the DEIS determined that the visual impact of the proposed alignment would also be "moderate" both from the Cedar Mountains to the west and from the Goshute Reservation to the east, DEIS at 5-56). By contrast, the proposed alignment follows the natural contour of the land and thus does not require the use of a high and obstructing railroad bed. Hayes Dec. ¶¶ 12-15.

9. The railroad bed could also restrict access for fire fighters combating wildfires in the NCM area. See DEIS § 5.8.4. The proposed alignment, by contrast, will be constructed at grade where possible to more easily provide access across the rail line. Id. § 2.1.1.3. Such wildfires pose a hazard to natural vegetation directly and indirectly as foreign invasive species like cheatgrass typically revegetate the area following a wild fire. Id. § 5.8.4. The plan for the proposed alignment promotes native species of vegetation to mitigate potential environmental impacts on vegetative resources from its construction. Id. §§ 5.4.1.1 and 5.4.5. To the extent the railroad bed of the alternative rail line alignment would inhibit fighting wild fires it would have a greater negative impact than the proposed alignment.

10. Therefore, for the reasons discussed above, the alternative rail line just to the east of SUWA's NCM area would have greater environmental impacts than the proposed Low Corridor rail line.

2. Central Skull Valley Alternative

11. PFS also considered alternative alignments for the Low Corridor rail line that would run down the center of Skull Valley. Donnell Dec. ¶ 6. The northern end of Skull Valley is covered by mudflats and adjacent wetlands, which provides a specialized habitat for a variety of shorebirds and other animals. A center of the valley route would require the mudflats to be bisected by a rail line, disrupting the

habitat and requiring fill. All of the mudflat habitat is classified and protected as waters of the United States under section 404 of the Clean Water Act, because of their hydrologic connection to the Great Salt Lake. It is improbable that PFS would obtain a Army Corps of Engineers permit to fill long tracts of the mid-valley mudflats when alternatives on the east and west side of Skull Valley are feasible and would not impact any wetlands or waters of the United States. 33 C.F.R. §§ 330.4(a) and (e). Alignment down the middle of the valley would only be feasible once the rail line was south of the mid-valley mud flats, which is over ten miles south of the NCM area.

12. Because of their similar design and operation, Hayes Dec. ¶ 8, the proposed Low Corridor alignment and the central Skull Valley alternative alignment would have similar (small) impacts on geology, minerals and soils, DEIS § 5.1, water resources (other than wetlands as described above), id. § 5.2, air quality, id. § 5.3, socioeconomic and community resources, id. § 5.5, cultural resources, id. § 5.6, and recreation, id. § 5.8.3. As either railroad alignment would use the same train configuration, the proposed alignment and the central Skull Valley alternative would have similar (small) impacts in terms of human health, id. § 5.7, and noise, id. § 5.8.1. As the proposed Low Corridor alignment would have a moderate impact on some scenic qualities both to its east and to its west, id. § 5.8.2, this alternative would be expected to have similar impacts.

13. Based on the significant amount of waters of the United States and wetland that would need to be filled to construct a rail line in the center of Skull Valley, this alternative alignment would have greater environmental impacts than the proposed Low Corridor alignment.

3. East Skull Valley Alternative

14. PFS considered alternative rail alignments along Skull Valley Road on the east side of Skull Valley in its 1998 transportation study and earlier versions of its ER. PFSF Transportation Study (SWEC 1998), §3.3; ER Rev. 0, § 4.4. As discussed in the transportation study and the ER, the eastern Skull Valley alternatives would

have environmental impacts that the proposed Low Corridor alignment would not. See Donnell Dec. ¶¶ 7-10.

15. The proposed Low Corridor alignment and the eastern Skull Valley alternative alignments would have similar (small) impacts on geology, minerals and soils, DEIS § 5.1, water resources (other than wetlands, Donnell Dec. ¶ 9), DEIS § 5.2 and air quality, id. § 5.3. As either railroad alignment would use the same train configuration, the proposed alignment and the alternatives would have similar (small) impacts on human health. Id. § 5.7.

16. Based on the additional environmental impacts cited in paragraph 14 above, the eastern Skull Valley alignment alternatives are environmentally inferior to the proposed Low Corridor alignment.

4. Conclusion

17. The greater environmental impacts of the alternative rail line alignments described above make them environmentally inferior to the proposed Low Corridor alignment.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on June 28, 2001.

Susan Davis

Davis Exhibit 1

Experience Summary

Ms. Davis has six years of experience in environmental research and consulting preparing environmental impact assessments for a variety of infrastructure development projects. She has had responsibility for preparation of impact assessments of the following resource areas: wetlands, forests, other vegetation, wildlife, fisheries and state and federally listed threatened and endangered species. She has prepared impact assessments for sites in mountain, desert, coastal, and marine environments.

Ms. Davis was responsible for field data collection, impact analysis, and preparation of sections of Environmental Resource Reports evaluating impacts of construction and operation of natural gas pipelines on wetlands, vegetation, wildlife, fisheries, and threatened and endangered species. These reports were submitted to the Federal Energy Regulatory Commission (FERC) as part of an Application for a Certificate of Public Convenience and Necessity and to state agencies as part of the permitting of state regulated activities. Ms. Davis has participated in alternatives analysis for new natural gas pipeline routing, including performing wetland function and value assessments.

On behalf of the FERC, Ms. Davis has prepared terrestrial resource and endangered species sections of Environmental Assessments (EA's) and Environmental Impact Assessments (EIS's) for relicensing or compliance actions on a dozen hydroelectric projects located throughout the U.S. Ms. Davis also prepared biological assessments for Section 7 consultation under the Endangered Species Act.

Ms. Davis has been responsible for evaluating ecological impacts of construction and operation of two interim spent fuel storage installations (ISFSI's) and preparing an Environmental Report for submittal to the Nuclear Regulatory Commission (NRC). She developed breadth of understanding of the scope of submittals required by the NRC for two very different (private vs. commercial) types of projects in different states (Utah vs. Minnesota) with different biological communities.

Other environmental permitting experience includes assisting in the preparation of Environmental Notification Forms (ENF's), Draft Environmental Impact Reports (DEIR's), Army Corps of Engineers Section 404 permit applications, and applications for Water Quality Certification (WQC) for public and private clients. She has also been responsible for the preparation of Notice of Intents (NOIs) for state wetlands permits for construction bridge repair construction projects.

Ms. Davis's field work experience includes wetland delineations, wildlife habitat evaluations, and wetland function and value assessments using the Corps of Engineers Highway Methodology and Vermont ANR methodology. She also participated in rare species surveys for reptiles, amphibians and insects. This field work was performed to support state and federal permit applications for proposed natural gas pipelines and compressor stations. Additional field work

includes site visits for relicensing hydropower projects on behalf of FERC and transportation corridor evaluation studies for a nuclear spent fuel facility.

Education

B.S., Wildlife Management - Univ. of New Hampshire - 1995

Training

OSHA 40 hour HAZWOPER training, Institute for Environmental Education - December 1997
Annual 8 Hour Refresher
OSHA 8 Hour Supervisor training, April 1998
FERC Environmental Report Preparation Course, Washington D.C. - 1996

Experience History

STONE & WEBSTER ENGINEERING CORPORATION, BOSTON, MASSACHUSETTS -1995 TO PRESENT

Sumpter Combustion Power Plant, Sumpter Township, Michigan
First Energy Corporation (May 2000 to Present)

Responsible for the wetland permitting for this simple cycle combustion turbine power plant. Conducted wetland delineations using the Army Corps Methodology for the 15 acre site, adjacent transmission corridor, and bisecting stream. Coordinated with the Michigan Department of Environmental Quality to prepare, submit and obtain approval for a Joint (State of Michigan and Army Corps) wetland permit. Attended and presented the project at public meetings.

Designed a 1 acre wetland replication area to provide mitigation for filled wetlands. Created finished and sub-grade designs along with planting plans for both the wetland replication area and stormwater detention basins. Oversaw the implementation of these plans and the actual construction of the wetland.

Stony Brook Pipeline Project, Hampden County, MA (October 1996 to January 1997; April 1997 to January 1998; September 2000 to Present)
Massachusetts Municipal Wholesale Electric Company (MMWEC)

As part of the Alternatives Analysis to be submitted to the Army Corps of Engineers, Ms. Davis performed a Wetland Functions and Values Assessment of three potential corridors for a 24-inch proposed natural gas pipeline. The Assessment criteria were based on the Army Corps of Engineers Highway Methodology and included the use of MassGIS data layers, NWI maps, Soil

Survey maps, USGS topographic maps, and state records. Key issues of the Alternatives Analysis were minimizing forest fragmentation and wetland impact.

Ms. Davis also prepared portions of the ENF and the Draft Environmental Impact Report (DEIR) for submittal to the MEPA Unit. She prepared and reviewed sections relating to fisheries, wildlife, and threatened and endangered species. She also participated in threatened and endangered reptile, amphibian, and insect surveys and wildlife habitat assessments along the proposed pipeline route to satisfy MEPA requirements.

Conducted wetland delineations for 5.6 miles of pipeline to satisfy MEPA and ACOE requirements. Provided response to comments on the DEIR and prepared the Final EIR.

Confidential Client (March 2000 to May 2000), Siting Study

Assessed numerous sites to determine preferred locations of potential gas-fired power plants. The sites were assessed for impacts to wetlands, residential areas, visual resources, recreational areas, geological conditions, and other exclusionary factors.

Confidential Client (September 1999 to March 2000), Siting Study

Assessed over 60 potential sites to determine preferred locations of potential gas-fired power plants. The sites were assessed for impacts to wetlands, residential areas, visual resources, recreational areas, geological conditions, and other exclusionary factors.

Private Fuel Storage Facility, Tooele County, UT (September 1996 to Present)
Private Fuel Storage L.L.C.

Evaluated ecological resources of a proposed site for an interim spent fuel storage facility. Developed an Environmental Report and associated documents for submittal to the NRC. Assessed impacts to vegetation, wildlife, threatened and endangered species, and sensitive areas following NUREG 1567. Researched existing conditions through consultation with federal and state agencies and local experts, summarized existing studies and literature, and participated in site visits. Conducted an on-site environmental assessment of fuel transportation options on wildlife, vegetation, endangered species, and raptors in the project area. Conducted wildlife and endangered species surveys for the transportation corridor and site. Responded to and resolved State and NRC comments and Requests for Additional Information.

Maine Yankee Nuclear Facility (May to July 1999)

Conducted wetland delineations using the Army Corps methodology along the coastline of the facility. Prepared terrestrial resource sections of the Maine Site Location of Development and Maine Natural Resource Protection Act permits.

Eastern Shores Natural Gas, Corridor Projects, Delaware (March 1998-September 1998)

Conducted wetland delineations and wildlife habitat assessments for two corridors in Delaware. Prepared Resource Report 3, Fish and Wildlife of the FERC Application for a Certificate of Public Convenience and Necessity for these corridors. Consulted with state, local, and federal agencies regarding impacts to wildlife, fisheries, threatened and endangered species, and wetlands.

Eastern Shores Natural Gas, Corridor Projects, Delaware and Pennsylvania (May 1998 to December 1998)

Prepared Resource Report 3, Fish and Wildlife of the FERC Application for a Certificate of Public Convenience and Necessity for two corridors in Delaware and Pennsylvania. Consulted with state, local, and federal agencies regarding impacts to wildlife, fisheries, threatened and endangered species, and wetlands.

Braintree/Weymouth Tunnel and Intermediate Pump Station (June 1997 to January 1998)
Massachusetts Water Resources Authority

Ms. Davis is responsible for preparing applications and securing federal and state environmental permits for construction of a proposed sewage pumping facility in Quincy, Massachusetts. The permits include Wetlands Conservation Board Notice of Intents (NOI) and an Army Corps of Engineers' Section 404 Dredge and Fill Permit.

Longfellow Bridge Remedial Repair Project, Boston/Cambridge, MA (October 1996 to November 1997)
Metropolitan District Commission

Ms. Davis is responsible for all environmental permitting issues addressed on state and local levels. Ms. Davis has prepared NOIs for submittal to the Boston and Cambridge Conservation Commissions and made a public presentation on the proposed project at public meetings. The NOIs included analysis based on the Riverfront Protection Act and the DEP Stormwater Management Guidelines. Other state and federal agencies have also been consulted throughout this project.

Interim Spent Fuel Storage Installation, Goodhue County, MN (March 1996 to June 1996)
Northern States Power

Participated in the evaluation of ecological resources for development of Environmental Report and associated documents for permitting an ISFSI with the NRC. Assessed impacts to vegetation, wildlife, threatened and endangered species, wetlands and sensitive areas. Calculated total wetland and rare community acreages within 5 miles of the site, which included areas of Minnesota and Wisconsin, along the Mississippi River. Assessed locations of rare species within

a 5 mile radius of site based on the Minnesota and Wisconsin Natural Heritage Databases. Consulted with both the Minnesota and Wisconsin Department of Natural Resources as part of the preparation of this report.

Licensing and Compliance Support
Federal Energy Regulatory Commission (FERC) - Office of Hydro Licensing (July 1995 to Present)

Prepared Environmental Assessments (EA's) and Environmental Impact Statements (EIS's) on behalf of the FERC and in conformance with FERC's NEPA requirements for relicensing of hydroelectric plants in several states. Responsible for all aspects of terrestrial sections including construction and operational impact assessment and mitigation for the following resource areas: vegetation, wetlands, wildlife, and threatened and endangered species. Responsible for identifying key resource issues at each project, determining appropriate mitigation, and responding to agency and public comments on draft EA's and EIS's. Task assignments include:

Relicensing of Existing Licensed Projects:

Flagstaff Project EA, ME

Prepared the terrestrial resources section of the EA for this storage reservoir that is a part of the Kennebec River Basin system. Addressed agency comments on potential impacts and developed recommendations to minimize adverse impacts and enhance existing resources. Recommended enhancements include the development of a Loon Monitoring Plan, a Bald Eagle Management Plan, and instituting minimum drawdowns in spring and summer months for the enhancement and protection of wetland habitat and waterfowl nesting.

Kennebec River Basin EIS, ME

Revised the terrestrial resources section of this multi-project EIS following a new analysis of the removal of Edwards Dam and assisted in preparation of draft license orders. Key issues were the effects of dam removal on wildlife habitat, wetlands, and threatened and endangered species.

Haas-Kings Hydroelectric Project Biological Assessments, CA

Prepared Additional Information Requests to the license applicant regarding threatened and endangered species information to be used in the preparation of Biological Assessments under section 7 of the Endangered Species Act. Species of interest include the bald eagle, peregrine falcon, California red-legged frog, and valley elderberry longhorn beetle.

Mokelumne Hydroelectric Project EA and Biological Assessments, CA

Addressed comments of conservation groups, the utility, and state and federal agencies in preparing the impact analysis of the hydroelectric project on terrestrial resources. Identified

suitable enhancements for terrestrial resources and incorporated comments and information on terrestrial and threatened/endangered species resources into the comprehensive analysis portion of the EA where appropriate. Ms. Davis also prepared Additional Information Requests regarding threatened and endangered species information to be used in the preparation of Biological Assessments under section 7 of the Endangered Species Act. Ms. Davis prepared draft Biological Assessments for the bald eagle, peregrine falcon, California red-legged frog, valley elderberry longhorn beetle, and delta smelt.

Santa Ana Hydroelectric Projects EA, CA

Responsible for preparing terrestrial section of the EA for multiple projects in the Lytle Creek, Mill Creek, and Santa Ana River Basins. These projects are partially in the San Bernardino National Forest. Issues include effects of minimum flows on riparian habitat, wildlife, wetlands, and rare species. Prepared Additional Information Requests for threatened and endangered species surveys. Attended site visit and participated in public scoping meeting.

Waterloo-Seneca Falls Hydroelectric Project EA, NY

Prepared terrestrial and wetland portions of the impact assessment and provided recommendations including a minimum flow for the bypassed reach and a wetland monitoring plan to maintain a wetland that could be at risk during construction for dam repairs.

Beaver River Hydroelectric Project EA, NY

Prepared terrestrial resource impact assessment including effects of large potential impoundment fluctuations that could affect nesting waterfowl, denning furbearers, hibernating reptiles and amphibians, plant species composition, and wetlands.

Oswego River Hydroelectric Project EA, NY

Prepared terrestrial resource impact assessment and provided recommendations including installation of inflatable dam crests to limit impoundment fluctuations from flashboard breakage.

Compliance Actions on Existing Licensed or Exempt Projects:

Old Mill Hydroelectric Project EA for Surrender of Exemption, VA

Assessed the impacts on terrestrial resources of the removal of a small hydroelectric project which was damaged in a flood.

Consumers Power Au Sable, Muskegon, and Manistee Hydroelectric Projects Assessment of Land Management Plans (LMPs) and Biological Assessment of the Karner Blue Butterfly, MI

Assessed three river-based LMPs for technical adequacy including plans for: Bald Eagle Management, Buffer Zone Management, Wildlife and Forestry Management, Karner Blue Butterfly Management, and Indiana Bat Management. Also prepared a Biological Assessment for Karner Blue Butterfly pursuant to a formal section 7 consultation under the Endangered Species Act. The purpose of the Biological Assessment is to determine the effects of the proposed land management actions on this federally endangered species.

Pensacola Hydroelectric Project Compliance EA, OK

Prepared the terrestrial and threatened and endangered species sections for this compliance EA that assessed the impacts of a proposed impoundment level rule curve change. Key issues involved the effect of seasonal changes in impoundment water levels on a Japanese millet seeding program ordered under the existing license as mitigation for project impacts on waterfowl food and cover.

Summersville Hydroelectric Project, WV

Prepared the terrestrial and threatened and endangered species sections for this compliance EA that assessed the impacts of a new 9.6 mile electric transmission line.

Portland Natural Gas Transmission System, VT, NH, ME, MA (August 1995 to January 1997)
Consortium of companies

Prepared portions of the Environmental Report for an application for a FERC license for a new 240 mile natural gas pipeline stretching from the Canadian border in Vermont to Haverhill, Massachusetts. Produced a resource report on vegetation and wildlife, which included research and agency correspondence on fisheries, wildlife habitat, vegetative cover, threatened and endangered species, and wetlands resources for the states of Vermont, New Hampshire, Maine, and Massachusetts. Assisted in the coordinating of the final production of the approximately 1000 page document, including editing, QA/QC, layout, and printing.

Participated in wetland delineations in Vermont, performing function and value assessments using Vermont ANR methodology and recording locations and boundaries collecting data points using a Geographic Positioning System (GPS). Prepared functional analyses covering over 60 separate wetlands for the VT Water Quality Certificate application. Assisted in the preparation of the Threatened and Endangered Species Report. Also prepared text descriptions of wetlands and coordinated compilation of field data collected by three biological field survey crews.

LNG Facility, Wells, ME (May 1996)
Granite State Gas Transmission Co.

Conducted wetland function and value assessments using the Army Corps of Engineers Highway Methodology along a proposed access road and for a 80 acre site. Prepared the written functional assessments for use in the preparation of a wetland replication plan.

Tennessee Gas Pipeline Company, Beverly-Salem Colonial Delivery, Lynnfield, MA (August 1995 to October 1995)
Colonial Gas Company, Colonial Lateral Project

Prepared Environmental Notification Forms (ENF's) in accordance with Massachusetts Environmental Policy Act (MEPA) protocols for two natural gas pipeline projects.

Exhibit D

CONDENSED TRANSCRIPT

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	Docket No. 72-22
PRIVATE FUEL STORAGE, L.L.C.	)	ASLPB No. 97-732-02-ISFSI
-v-	)	
	)	Deposition of:
	)	**JAMES C. CATLIN**
(Private Fuel Storage Facility)	)	
Defendant.	)	(Utah Contention DD)

April 24, 2001 - 9:30 a.m.

Location: Parsons, Behle & Latimer
201 South Main, #1800
Salt Lake City, Utah 84111

Reporter: Diana Kent, RPR
Notary Public in and for the State of Utah

CitiCourt, LLC
THE REPORTING GROUP
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801.532.3441 TOLL FREE 877.532.3441 FAX 801.532.3414

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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Washington, D. C. 20555

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EXHIBITS

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April 24, 2001 9:30 a.m.

PROCEEDINGS

James C. Catlin,
called as a witness, having been duly sworn,
was examined and testified as follows:

EXAMINATION

BY MR. BARNETT:

Q. All right. Could you state your name for the record, please.

A. James C. Catlin.

Q. And I'm going to ask you a number of questions in the deposition. If at any time I ask you something that you don't understand or for whatever reason the question is unclear, please let me know so I can restate the question or explain what I mean.

What is your current position and employer?

A. I'm with the Wildlands Project and I run an office here in Utah called the Wild Utah Project. We provide conservation biology and computer mapping services to the conservation community in Utah.

Q. And is that your sole occupation right now?

A. Yes, it is.

Q. And how long have you been doing that?

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Management to find out their fire history in that area. So I wouldn't want to answer that question until I consulted those sources.

Q. But do you think that there are -- what measures would you see that they should take to reduce the fire hazard to an adequate level; do you know?

A. Well, I think inspecting the trains, stopping the train and inspecting it before it went on the spur to see if there's anything, and you do this with equipment to see if there's anything that might potentially issue a spark or cause a fire.

Q. What about the larger railroads running through the area, like the Union Pacific? If they came to you and said, 'What should we do to reduce the hazard of fire to an adequate level,' what would you suggest to them?

A. I would suggest the same protocol; that they inspect the train before it reaches hazardous areas, after it's been running to see if anything is heating, any of the potential working parts of a trailer are overheating. That's what I'd advise them. I'm not an expert in this area but I do know that there have been rail caused fires in the west desert right near this area. So I don't know when or how much. That's research that I would have to look into.

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Q. Now, getting back to the Interrogatory response here, the answer talks about the rail configuration detrimentally injuring the wilderness characteristics of the North Cedar Mountain. If you are talking about -- hypothetically you are talking about a rail line that did not intersect the region, something that was, just say hypothetically, it was --

A. Outside?

Q. -- near by, but outside.

A. Okay.

Q. And aside from the issue of the introduction of foreign species and the potential for fire, is there anything else that you would see, any other way that you would see that the rail line and the trains would injure the wilderness characteristics of the region?

A. It would or could potentially promote conflicting uses in the area. It could aggravate off-road use in the area by providing a high quality vehicle access route and encourage more off road vehicle use throughout candidate wilderness areas in that neck of the wood.

Q. And that would be potentially through a road that was built adjacent to the railroad?

A. I would guess possibly.

Q. If such a road were not built, let's say

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they decided to build the railroad without such a thing, what impact would you see then?

A. It would be less. You mean what impact from just trains themselves?

Q. Just the trains and the rails and the trains?

A. And the potential construction of it?

Q. Right. Right.

A. Well, it might affect those wilderness activities that relate to wildlife. And those are hunting and observation, scientific study. If it somehow changed the plant community through one process -- I mentioned earlier that fire is one of the bigger ones that can cause changes. Things that lead to large scale changes in the plant community will also lead to changes in the wildlife community. And that indirectly affects people. We are either dependent or have need for recreation activities related to that or in the candidate wilderness area.

Q. Is there anything else that you would see that the rail line would do in addition to the impact on the plant communities?

A. It would change the scenic value and certainly would bring an urban presence, a rail line presence to that whole area. For this time not only are

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the candidate wilderness areas natural, but so is the valley itself. And that would be a major change. Except for a highway that doesn't receive a great deal of use, a few ranches, and a small community in the southern end, that valley really is almost completely natural. The reason it isn't a candidate wilderness area is because of a few vehicle tracks that have made individual areas too small. But most of the land the rail line crosses is, in itself, wild. And that would change. That would change the experience of people outside the candidate area and inside, having new industrial use in this area.

Q. Do you believe that roads or railroads or industrial uses that are outside the boundary of the area itself would have a negative impact on the area as far as its suitability for designation as wilderness?

A. If it crosses the area, definitely. If it cuts across and removes part of the area, it definitely will. If the management of the railroad, and this has been a concern that we have had, even though the wilderness area is not a requirement for military operating activities in the west desert, the military has been very good about not putting in new roads, not requesting permanent communication sites. Even so, the potential for wilderness is impacted any time a new

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development is nearby because the people that promote that development want to make certain there's the least possible restrictions on the lands surrounding their development for one reason or another. So there's a political history of opposition to wilderness areas, not because there is necessarily a direct cause and effect relationship. But it's seen that less restriction, less protection for areas is something that is best to promote the business in the area.

Q. Aside from the issue of potential future development, in other words development other than just the railroad itself, if the railroad were built outside the boundary of the North Cedar Mountains, would you see that having a negative impact on the suitability of the North Cedar Mountains itself as a wilderness area?

A. It could. And the most highly likely scenario is it would help encourage and establish ongoing increased motorized recreation in the area. If that happens, it is very hard politically to undo that established use.

Q. And would that be people coming into an area through a road? Assuming that there's no road built, assuming it is just a railroad, what impact would you see that having on the suitability of the area itself?

A. Just the railroad?

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Q. Just the railroad. Built hypothetically outside the boundary of the area per se, of the North Cedar Mountains per se.

A. Well, I would think that I would want to ask some questions before I answered this about what it takes to operate the railroad in terms of communication and in terms of long-term support of the area, and how the railroad operation and the people who are running it feel that a nearby wilderness would impact their operation. They may, and this is what I don't know, they may say that we prefer it not being wilderness because it may impede our operation of this line. That's a question I can't answer and they can. So I would want to know more about the operation of the railroad and whether they would perceive it politically best if that is not designated wilderness. If the promoter, if the advocate of this proposal went to an elected official in Utah and said, "We oppose wilderness in this area," that's a significant effect on the potential candidacy of that area. So I would want to know where they stand on that. If they advocate wilderness and say, "We will build a railroad and advocate wilderness," that would be nice. But we don't know what will happen.

Q. Let's say hypothetically they built the

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railroad outside the boundary of the area per se and didn't say anything in opposition to any wilderness proposal anywhere in the region. Would you still say that the rail line would have a negative effect on the suitability of the North Cedar Mountains for designation as wilderness?

A. Silence might be interpreted by the Tooele County government as opposition to wilderness. It is hard to say. We found in some of the areas where, for example, we had gone to great extent to have buffers around potential pot ash mines, around other mines in the area, still strong opposition to wilderness is echoed by that company through the county commission. And the county commission becomes the advocate of that. So silence in this case may not be enough to overcome political opposition that exists for wilderness in the area. So it's a very -- I can't actually say how this is going to play out. This is a complete unknown and this is total conjecture.

But the political ramifications of an industrial site near a wilderness area is not good for the increased likelihood of its designation, regardless of what that is.

Q. Well, okay. All right. But aside from the political aspect of it, and aside from companies or

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county governments trying to influence the BLM process, just from the perspective of BLM looking at the area for the characteristics it typically evaluates when determining whether or not an area should be designated as wilderness or potential wilderness, do you believe that building a rail line outside of the boundaries of the North Cedar Mountains would have a negative impact on its suitability?

A. The agency, too, might be affected by it because their decisions are strongly politically based. Even though they are supposed to be based on --

Q. Setting aside the political question for a moment. Just looking at it from a physical question of what is in the area, looking at or under the requirements that they use to determine whether or not an area should be set aside for wilderness, looking strictly at those requirements, looking at the area itself, do you think a rail line or any industrial development, for that matter, outside the boundaries of the area would have a negative impact on the suitability of the area for designation as wilderness?

A. For the reasons I mentioned, it is highly likely. And the decision to designate wilderness is rarely based solely on the natural values that are there and the need to protect them. It is usually, and almost

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always, a political decision. And it is based on the relationship of other lands nearby and what people want and see in those areas. It is very much a political decision. So if the rail line does change the political character of that argument or discussion, yes, it will affect it.

Q. Now, you talk about what people want to do with an area. Are you talking about people potentially wanting to develop an area that is being proposed as wilderness or are you talking about people wanting to develop the area adjacent to that, sort of outside the proposed wilderness area but still close to it?

A. It comes in a broad spectrum. It is both inside and outside. And in some cases there are some communities who want to retain the wild, natural heritage they have. And this is the case with the folks in Deep Creek Mountains. And they are really very protective of the wildlands out there and protecting them. Other folks are looking at I-80 as an industrial corridor for a whole number of things and that is yet an unknown as to what other things are planned for that region in addition to toxic waste incinerators and so on.

What does the military have planned north of the area in all of these are factors that will lead to

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increased potential development, maybe even a small city rising out of the area near the freeway where the industrial activity is going on? All of those things potentially will impact the future of the area.

Q. Well, you mention Interstate 80 and the hazardous waste incinerator. You are aware that there's a hazardous waste incinerator to the northwest of the area.

A. Right.

Q. Are you aware that there's also a low level radioactive waste site, Envirocare, to the northwest of the area?

A. Yes.

Q. And you are aware, obviously, that Interstate 80 runs to the north of the area?

A. Yes.

Q. And a Union Pacific rail line runs to the north of the area.

A. And north of the freeway, yes.

Q. Yes. Given that development to date, do you believe that it's likely that the North Cedar Mountains would be set aside as wilderness?

A. Each new development decreases that likelihood. And I can't forecast it but if you add one more thing, it makes it less likely, yeah.

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Q. All right. Let me introduce another exhibit here.

(EXHIBIT-3 WAS MARKED.)

Q. Exhibit No. 3. This is "BLM Intensive Wilderness Inventory, Final Decision on Wilderness Study Areas, Utah, November, 1980." Have you ever seen this?

A. Yes.

Q. Are you familiar with what it says?

A. Yes. The copy is almost illegible.

Q. I apologize for the copy. It is not very good. But you understand that in 1980, BLM decided that the North Cedar Mountains were not worthy of further wilderness inventory and review?

A. Correct.

Q. Given that decision, and the development that currently exists around the area, do you believe that it is likely that this region could be designated as wilderness in the future?

A. Yes. The area to the south is on the short list of areas that is going to be designated. It is supported by the county. It is supported by the Congressional --

Q. When you are talking about the area to the south, you mean the Cedar Mountains?

A. Adjacent.

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Q. Is the Cedar Mountains a current wilderness study area?

A. Yes.

Q. We are talking about the North Cedar Mountains here, right?

A. Correct.

Q. Do you believe, given the fact that BLM considered and rejected the area twenty years ago, that it is likely that they would reverse that decision, given the development that has taken place in the intervening twenty years?

A. Yes. I think that -- not in this administration. But I think that potentially it is possible for them to look at this. And that's why I wish I had that 202 book here, to look over that.

But there are other areas that we have identified, some of which are near developed areas that the BLM says have wilderness characteristics, some of which have a high level of conflicting use. A good example is the Black Ridge down near LaVerkin. It is just next to highway Interstate 15. There's off-road vehicle activities going on, there's communication sites on parts of it, there's private land in holdings in it, there's water developments, a number of activities. In spite of all of those -- and the new home developments

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that are going in next to it. But BLM found that area qualified for wilderness and would recommend it as a wilderness study area.

Why is that different? Well, what is different is that - and this is also a matter of record - there were a number of administrative appeals filed over candidate areas in Utah. In order to submit an appeal - and I was one of the people responsible for writing these administrative appeals - you had to do extensive field work on candidate areas and then prepare a rather exhaustive argument that really brought in new information and overcame the general tendency of the agency to prevail or to be the source of information. So we had an uphill fight in looking at these areas.

Now, we had very limited resources. Compared with what we had today, there were probably only three or four people in the state who were paid to work on environmental issues, and only one or two of them to work on the 22 million acres of BLM lands that are out there. Today we are much better situated in terms of technology, in terms of better maps, in terms of more support for doing inventory work. So with limited resources we appealed a few select areas. This is not one we appealed. But in the ones where we did appeal, we raised those arguments and many times we

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prevailed. I argued that if we filed an appeal on this one and had the resources to do it, this would be a wilderness study area today.

Q. Are there specific aspects of the BLM findings that you take issue with?

A. Well, let's read through it again and see what we have here, if we can read it. "The cumulative effect of man" something "and some large impacts are considerably evident within the relatively small unit."

MS. WALKER: What does the first sentence say?

THE WITNESS: "The unit contains 10,080 acres of --" I can't see it.

MR. BARNETT: That's a description of the size.

MS. WALKER: But the "Naturalness"?

MR. BARNETT: It says "Naturalness", and then the second paragraph they say, "Some interior hillsides are untrammeled by man and affected by the forces of nature. However, because of the openness and exposure to other imprints, a feeling of sublime naturalness is lacking."

A. Well, they are in error for a number of reasons. And this is something we found in other areas, too, so this is not an inconsistent pattern. But the

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impacts they talk about constitute a small fraction of the area and they are on the periphery. So if you drew boundaries that exclude, for example, and this is the big thing that our wilderness work did is we excluded this vehicle route up through one of the major canyons here. And in doing so, you still have a unit that is still over 5000 acres but it removes the major impact route that they talk about.

The hill climbing and other activities they are talking about occupy a tiny percent of the whole unit. I haven't done this analysis but we certainly could. And most of the area, more than 90 percent, is completely natural. And it is a rugged area of a number of incised canyons and ridge tops and buttes and overlooks of different -- some of them are pinion juniper forested, juniper forested, some are open tree/shrub slopes, and there are barren areas. Some have rugged and scenic outcrops and geologic formations. But if you were out there and I put you in the middle of this area, you could hike for most of a day and not see a single impact.

Q. All right. What if you were not in the middle of the area? What if you were more toward the outer region, outer portion of the area?

A. The boundary of the unit, of course, is a

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vehicle route that has been maintained and sees regular use. And that's an impact. Occasionally you will see where people have a car camped beside it or where off-road vehicles have done some small hill climbing, particularly on the north side of it. Outside the unit, north of there, there's a communications site closer to the freeway in that area. You will see additional camping and activities in that area, too, some of which overlap the candidate area. But the impacts you will see, none of which are significant in themselves in the area --

Q. You are talking strictly within the interior?

A. Right. And those near the edge are few in number and are often within what would be a managed buffer that the agency puts to designate a wilderness area. Once an area is designated, the agency says that the lands that we will protect as wilderness are not right at the edge of a vehicle route but have a setback and they could be 30 feet, could be 100 feet, depending on certain requirements and depending on rights of way and other things. So many of these small impacts that occur along the edge of the area would fall within a buffer and therefore not be in a wilderness area.

Q. Now, do you think that -- BLM here talks

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about, "Because of the openness and exposure to other imprints a feeling of sublime naturalness is lacking." You think that is an incorrect statement regarding this area?

A. Yes. Because if you look at the cumulative impact of human imprints in an area, you would expect that if you were standing on one imprint and there were, as BLM claims, a lot of other imprints, then a majority of the area would have a feeling of being unnatural. You would see the imprints.

Q. What if you were standing on the north side of the area and you were looking out to the north and you saw Interstate 80 or the Union Pacific railroad?

A. Right. Outside impacts do not or are not considered in naturalness. And there's a long legislative history about that. A good example that our Congressional delegation supports of that is the wilderness areas right in the mountains. Almost all the mountains on the Wasatch Front that face the city are designated wilderness areas. They have thousands of airline flights that come right over them landing in the airport. They have highways and a city right there. So all that goes on in the city can be seen from Mt. Olympus and Twin Peaks and Lone Peak. Outside sites and sounds do not disqualify an area.

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Q. So by that explanation, you would say that if the PFS railroad were built outside the area, it would not have a negative impact on the area or disqualify the area?

A. On outside sights and sounds, it wouldn't. But it would reach a political nature of a discussion and it would change conflicting uses in the area. That would have an effect. The outside sounds, a train going by and the sight of a train going by, no. But the increased off-road vehicle use that may occur, the change in political character the company may bring or others may bring to the discussion because now the train is there, that may change the character of it.

One of the reasons that we have wilderness in the Wasatch Front is because local government supports wilderness there to protect watershed, protect the quality of life. The town of Alta is a very strong supporter of wilderness in that area. That is an important political factor that weighs in to why those areas today are protected. And you can't ignore those when you look at these areas and their potential.

Q. Getting back to the BLM findings here, I would just like to discuss them with you a little further. The next paragraph says, "Twenty-seven impacts or activities were identified; a cumulative

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network of over 11 miles of 'ways' were recorded within the unit's boundaries. Lee's Canyon 'way' follows a drainage and cuts a six mile path through the southeast end of the North Cedars, impacting in its course the 5,000 acre parcel making up that end of the unit. Other impacts along this access route include quarries, livestock trails, and motorcycle paths." Is that an accurate statement?

A. That does not reflect the wilderness proposal that we have put together. That reflects -- and this is characteristic of many of the inventory problems. BLM intentionally included impacts inside their study area in order to disqualify a larger area. If you drew a boundary around the quarries, if you drew a boundary around those impacts of Lee's Canyon, which we did, you would then remove all of the significant impacts and would have still a sizable area that equalizes. So the important thing is that many of these impacts are not in our proposal that we are looking at and do not describe the wilderness character of the lands that we are talking about.

Q. There's a map here on the last page of Exhibit 3 that is the North Cedar Mountain area as evaluated by BLM. And hold on to that for a second and then I'd like to introduce another exhibit.

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(Discussion off the record.)

Q. I'd like to introduce Exhibit 4.

(EXHIBIT 4-WAS MARKED.)

Q. These are documents that we received from SUWA in discovery and we have labeled them mostly in the lower right-hand corner, SUWA 0001 through SUWA 0056, just to identify and make it easier to identify the pages.

MS. WALKER: Excuse me, Shawn, if you have this then you don't need the 202 book, since this is the 202 book?

MR. BARNETT: If we could be certain that this is the entirety of it that is relevant to the North Cedar Mountains, then that's true. But if there is material in that book that is relevant to the North Cedar Mountains that is not in here, then we'd like to get it.

MS. WALKER: Can do.

Q. (By Mr. Barnett) Now, if you look at page 011, there's a map.

A. Yes.

Q. Entitled Cedar Mountains North.

A. Yes.

Q. Are you familiar with that map?

MS. WALKER: I'm sorry. I didn't hear.

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the whole book. We only have the section here that talks about the area to the south.

Q. So you believe the reason the BLM didn't look at the North Cedar Mountains, one reason was it wasn't on the Citizens Wilderness Proposal.

A. Right.

Q. Is there any other reason that they --

A. Yes. They inventoried large blocks of land where they had new acquisitions. And that was in the Book Cliffs and the Pilot Range in the west desert. In this case, the Bureau of Land Management, to give them credit, had exchanged lands with the railroad company. So they had blocked off large, natural areas. So they were looking at those. These were new public lands that had not been considered before. Those are the two criteria.

Q. Do you know why the North Cedar Mountains was not included in the Citizens Wilderness Proposal?

A. I don't know if it is or isn't. I'd like to check on that, so I can't answer that question right now.

Q. Let's turn back to the 1980 BLM assessment, which is Exhibit 3, again. In addition to the impacts, they are talking about outstanding opportunities and supplemental values. And the first subcategory in

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outstanding opportunities is solitude.

A. Right.

Q. And the BLM said, "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. The lower, outside portions of the unit lack outstanding opportunities for solitude due to the sparse vegetative cover, relative open terrain, and the cumulative effect of many impacts in the unit. Feelings of isolation are seldom complemented by winding canyons. Vegetation canopies and screening are lacking, and therefore do not aid in an outstanding feeling of solitude." Would you disagree with that statement?

A. Yes.

Q. Why is that?

A. Well, first of all, the agency here is using a criteria that was discredited in IBLA appeals that we filed. Where the BLM said that solitude is not just, or does not require confinement by topography or vegetation in order to occur. The agency here and now today, in the current inventories that they have done, recognize that scenic vistas and wide open spaces are equally as valuable and give the opportunity for solitude. But on

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top of that --

Q. Well, when they are talking about, take for example scenic vistas and wide open spaces, if you add a vista or an open space where you were looking onto an interstate highway, would that be considered an opportunity for solitude?

A. Because it faces to the east and west, yes. You can find places where you can have that experience and not see the freeway.

Q. But if you were in a place where you could see the freeway, would that be considered an opportunity for solitude?

A. Yes. Because you are away from the urban controlled environment, the human controlled environment. So you can even have a feeling of solitude in that situation where there are outside sights and sounds. And that is clearly the case in the wilderness areas next to Salt Lake which, many of them, you have either noises from the canyons as vehicles are going up and down them or overflights or sights and sounds of the city or the ski developments or helicopter skiing. A lot of activity. And yet people still find those areas do qualify. In fact, our delegation agreed that they do qualify as wilderness.

So part of the dilemma is that the criteria,

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in order for an area to qualify for wilderness study, it has to meet the size, which it does. It has to possess the naturalness, which they say it doesn't. And then it has to have one other thing; either wilderness quality activities or wilderness quality solitude. And they argue here it doesn't have the solitude. But I would argue that this area, if you compared it to the area to the south, you could find the same solitude in this area that you find in the area to the south that did qualify. It has the same topographic features, the same kinds of vegetative screening and incised canyons and ridge tops. So you would be hard-pressed, if I plunked you blind-folded into one or the other, to tell the difference. And one has, the BLM says, solitude; and the other one, the BLM says doesn't. So there's an inconsistency on how they applied this criteria.

Q. The second category of outstanding opportunities that BLM evaluates is Primitive and Unconfined Recreation. And the BLM stated that, "Opportunities for a primitive and unconfined type of recreation which exists in the North Cedars are hunting, horseback riding, hiking, wildlife observation, and sightseeing. Those opportunities are not considered 'outstanding' by the wilderness inventory teams. Wildlife populations and numbers are few. Terrain for

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Mountains area just to the east?
A. Yes. I have been pretty much through the area, all of which is described as the route that the rail line would go through. So I have been along almost all of that route.
Q. What about just to the east of that, to the east of the proposed route for the rail line?
A. I have been less in that area, but mostly on the eastern flank. So if you think of the drainage as reaching a bottom point, I have been everywhere but in the very center.
Q. All right. Now earlier you talked about the potential for environmental impacts in the North Cedar Mountains from the PFS railroad. What knowledge do you have of the potential for environmental impacts within Skull Valley from the PFS railroad, either if it were built in its currently proposed location or if it were moved further to the east?
A. Well, recapping some of the things or restating some of the things I have said, they could potentially provide high quality vehicle access routes that lead to staging points and camping grounds for increased motor vehicle activities in the area. It could lead to a change in water flow, surface water flow, during certain storm events that may change the

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emergence of native plants. It could also affect the fire regime and the relationship of human activities, grazing, fire, and exotic species propagation.
Q. When you say "fire regime", what do you mean by that?
A. Native plant communities have always had a certain amount of fire in them but they are low in intensity and infrequent. These days with high grazing use, exotic species that carry more fuel, fire the fuel, we are seeing a different kind of fire cycle that is destructive to the native plant community and everything that depends on it. That is an impact that I think is probably the most problematic that relates to the rail line and routes and fire barriers that may be put up for it.
Q. Now, is that related to the introduction of foreign species that you were talking about earlier?
A. Yes.
Q. Now, if the rail line location were moved to the east, outside of the North Cedar Mountains area and went down Skull Valley, the eastern side of Skull Valley but outside the North Cedar Mountains area, would that have a similar effect in terms of potential for introduction of foreign species?
A. It would still have quite an effect not only

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for this area but the area to the south, yes. And the impact would occur -- the naturalness of the area, of course, is impacted if the rail line goes directly through it. But the impacts to the roadless area will occur even if those things occur outside the wilderness area. And the most impacting would be the structures that include a fire barrier on each side of the rail line and a high speed access line in addition to the rail line. So those kinds of things would lead to far more impacts than just a rail line itself.
(A break was taken.)
Q. You just talked about the potential impacts that the PFS railroad would have on Skull Valley if it were moved somewhat to the east outside the North Cedar Mountains area, and you talked about the potential for traffic on a road, and you talked about the potential introduction of foreign species and what that effect would be. Is there anything else you would see, any other impacts that you would see that it would have on the Skull Valley area?
A. When a new road is put in, it often changes grazing management. A rancher will use the area differently. It might lead to increased grazing where little was there before. A good example of that is where you put in a good road they are able to truck

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water to a site where they didn't before. And so that trucked water site, a new one if it is developed, becomes an even higher impacted area. So indirectly -- this is yet another impact that occurs when you put a new road into an area. And I don't know if that will happen here or not. That is the kind of analysis I haven't done yet on this.
It may also affect some of the wetlands. I have not done an inventory but I believe in the southern part of the area, near where the track loops over to the reservation, there may be either some relic or extinct riparian wetland areas there. And that, again, is an analysis I haven't done. But from sort of oral communication with BLM and other people who have been in this area, they have indicated there might be something interesting there. I don't know at this point. It is unknown.
Q. Hypothetically if a railroad were built without an accompanying road, if it was just a railroad itself, what impacts in addition to the ones you have already discussed would you see it having in Skull Valley?
A. Well, did I mention how it would change the storm water flow because it would cut off many of the small meanders and usually through a few culverts?

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Q. You mentioned that with respect to its current location, yes. You think that would also be a potential if moved out --

A. Yes. I think it would be in another location as well, yes.

Q. Is there anything else you see, any other impacts you see?

A. Frequently these rail lines come with continued application of herbicides or chemicals that may affect pollinators, may affect native plant communities in the area. Any time that you use these chemicals, particularly to eradicate what are called weeds, you often hit untargeted species, native plants. And in doing so, you create an opportunity for more exotic plants to come in. So the use of chemicals to control plants or insects in the area is also a potential impact of the area.

Q. Is that an impact that would apply both to Skull Valley and to the North Cedar Mountains?

A. It would apply along the rail route. The chemical impacts will apply along the railroad.

Q. I meant hypothetically if the line was located where it is now, or if it was moved to the east outside the North Cedar Mountains area?

A. I think it would be equally the same for

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both, both inside where it is now proposed and other locations.

Q. What knowledge do you have of the sensitivity of wetlands to environmental impacts from the railroad? You mentioned the possibility of a wetland existing in Skull Valley.

A. Yes. One of the first things that happens when ranching comes to a valley -- if you can imagine the nature of the Great Basin area 12,000 years ago. Interestingly, in the Great Basin we know more about the history of plant communities and their evolution than we know almost anywhere else in North America. And the reason for this is the pack rat, which also may occur in this area, another scientific resource that is a critical thing for paleobotanists who are trying to reconstruct past ecosystems. These are layered dens and nests that have literally thousands of years of pollen, encapsulated in pack rat dung, and it's like a layered paper, document. You undo a page at a time. And each page has in it captured pollen that can be identified under a microscope of the plants of that area. It tells you not only what is there but also tells you the relative abundance of it. And it tells you, to a certain degree, the change in weather cycles and other things.

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The potential change in this area to the wetlands is that to a certain degree it may prevent us from bringing back the natural conditions that may have been there pre-settlement times. It may cause additional recharge and use disturbances to the area that prevents the reestablishment of these. Pre-settlement times, these valleys often had enormous wetland areas. Almost all the water today is diverted before it reaches the bottom of these valleys.

Q. Is that true in Skull Valley?

A. Skull Valley, there's a great deal of diversion that occurs for the ranching community and agriculture there.

Q. Where does this diversion take place?

A. Usually as the streams emit from the mountain sides on each side, and in the case of Skull Valley there's a number of wells which further depress the water table, making or leading to the extinction of surface water and to these areas.

Q. Does a diversion of water take place on the west side of Skull Valley?

A. Mostly on the west side. The wells were found throughout the valley. There's a long line of them on the east side and then they go further to the west in the southern part of the valley. And these

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wells, too, also impact these riparian areas. So what I'm saying is even if you don't find one today, there may be a prehistoric riparian area that has potential of being reestablished should we change management options for water in that area today. And a new rail line, a new industrial use, a new use of water in the area may make that harder to reestablish the natural health of that area to what it was before.

Q. Do you mean harder in a physical sense or harder in a political sense in that it would represent the progress of development, so to speak?

A. In this case, both. It would make it politically more difficult and it would make it physically more difficult because it is likely that it would be or the project itself would change the recharge characteristics and also lead to increased or continued water drawn out in the wells and surface water in the area.

Q. And you mentioned past riparian areas. What about current wetlands; hypothetically, if one were to pick a route for a railroad that went across a wetland, what would the impact be of an existing wetland?

A. Well, if it physically crossed it - because wetlands are often very, very small where surface water comes out of the ground, and the riparian vegetation

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patch associated with it can be very, very small - it might completely cover it physically. And you would completely lose that. It may be possible, since they are so small, to route around them or go at the edge of them. I haven't done this analysis, either. I can't tell you just how or whether there are these relic riparian areas there at this time or not. I haven't done that analysis.

Q. In the course of the work that you have done, have you ever specifically looked at the environmental impacts caused by railroads in the sense that one might look at impacts if one were preparing an environmental impact statement or environmental assessment?

A. Yes. I looked at the railroad line that was proposed for power lines at the Kaparowitz roadbed in the '70s. I looked at rail lines for the IPP power plant that was proposed in the southern San Rafael swell, salt wash site. And I have looked at the past rail lines that were constructed; for example, the one that is in our sand ridge or near our sand ridge unit serves as the border of our sand ridge unit south of Delta, we investigated how rail lines influence the naturalness of the area. And it turned out to be a management asset. I shouldn't say this, but the rail

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line lies between the highway and the candidate wilderness area with very few vehicle crossing opportunities. And as a result, it offers a barrier that keeps out many vehicles from going into the area. This rail line is not in that same situation. But in that particular case, the rail line did not diminish the wilderness character of the adjacent lands next to it.

Q. How is the PFS rail line different than the rail line you just discussed?

A. Well, part of it is unknown. The fire barriers on each side are different. Potential roadway beside the railroad, in this case there was a highway that was outside the area. The rail line has not been maintained with chemicals and has not seen a lot of use.

Q. This is the rail line you discussed that serves as a barrier?

A. Yes. So I'd say its low use and low maintenance of it is one of the factors that makes it less of an impact.

Q. Are you familiar with the PFS rail line proposal in terms of how often it would be used?

A. I'm not, no.

Q. Do you know what the size of the trains would be that use the rail line?

A. I saw a picture of the size of the highway

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vehicles, the special loading trucks.

Q. I meant in terms of the number of cars of the train, the length of cars of the trains.

A. No. I haven't seen that.

Q. Are you familiar with the process by which rail lines are constructed?

A. Some of the rudimentary civil engineering aspects of it, as with highways. I'm not intimately familiar, no. But I have some general sense of it.

Q. And are you knowledgeable of the cost of building a railroad and the factors that affect the cost of building a railroad?

A. I'm not. In a general sense I know certain kinds of land forms and certain kinds of construction cost more. But only in a very general, vague sense.

Q. Okay. And what is your knowledge of the requirements for routing a railroad in terms of what makes a potential route suitable or unsuitable for building a railroad there?

A. Again, my familiarity or my knowledge of this is related to more of what is a good road bed for either motor vehicles or railroad. So it's more structural in nature.

Q. And how would you describe that? What makes an area more suitable or less suitable for building a

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roadbed?

A. Well, your base material and the soil type underneath it and the relative precipitation that affects the stability of that soil are critical factors in ensuring that you have a stable roadbed for the rail line or highway, either.

Q. Are you familiar with the effect of the topology of the land on the feasibility of routing railroads?

A. Yes. Railroads are much more sensitive than roads to that. There's only a certain slope that is allowed for a rail line, particularly for heavy loads. But I would say that that's not a factor affecting this decision.

Q. And why would you say that?

A. The area where the rail line is proposed and east of there is quite flat.

Q. You said earlier that you had reviewed the draft environmental impact statement for the PFS project.

A. Yes.

Q. Have you reviewed the section that discusses the environmental impacts of the PFS railroad proposal?

A. Some of those. Would it be useful to open that document and go through it?

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and it abuts the same mine which, as far as I know, is mostly on the south side of the road at this time. So I can't or I would have to say I have no evidence that shows that the BLM removed this area from-wilderness study area because of some potential development in the area.

Q. And you say "this area" and you are referring to the north side?

A. The North Cedar Mountains.

Q. Okay. In your view, or in SUWA's view, would it be desirable for PFS to relocate the rail line so as to cause environmental impacts above and beyond those it would cause in its current location?

A. I personally would say yes. I think it would be good to relocate.

Q. So as to cause additional impacts beyond those --

A. Beyond those?

Q. Yes.

A. Well, I'm at a loss to your statement. Maybe you better explain it.

Q. Hypothetically if PFS were to change the location of its rail line, do you believe it would be desirable for PFS to choose a new location for the rail line that caused environmental impacts in addition to or

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above and beyond those it would cause in its current location?

A. I don't know if I can answer the question because I don't know of any other route that would cause more environmental impacts than the one now chosen.

Q. Hypothetically if such a route did exist, do you believe that that would be a desirable route?

A. I don't believe it exists, so it's hard for me to conjecture on a hypothetical question which I don't think exists.

Q. So you are saying you don't have an opinion as to the total level of environmental impacts caused by the PFS railroad, whether it is in its current location or whether it moves to a different location?

A. Well, I think a different location would have lower impacts than this one.

Q. And do you view that as a good thing because the impacts are lower or would be lower?

A. Yes.

Q. And talking about environmental impacts now in a general sense, setting aside for a moment the question of potential wilderness designation of the North Cedar Mountains, if you consider potential alternative locations for the PFS railroad, say it would be moved to the east so as to take it out of the North

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Cedar Mountains area, how would, in your view, the environmental impacts of such alternative locations differ from the current location?

A. One is it would not directly impact the candidate wilderness area. It would not cross it. So there would be -- definitely this is a significant impact that would disqualify that part of the area from wilderness. So since it would be outside the unit, that physical impact would not be inside, and that's definitely a difference.

Q. Is there anything else that you see would be different?

A. A lot depends on parallel roads to the railroad and potential fire management on these barriers on each side, and vehicle access to those.

Q. Assuming they would be the same, wherever was chosen or the design of the railroad itself would not change. All we would do would be to move it from its current planned location to some location outside of the North Cedar Mountains.

A. Well, maybe more or less, let me lay out a potential scenario. Most rail lines where there's high use have a vehicle route beside it. It's been usually on one side or the other. Not both. It is rarely on both. If it is on the east side of the railroad tracks,

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and the railroad tracks are high enough with a cross section to prevent most vehicles from crossing, and there's not opportunities to cross, then it will or there would be fewer impacts to the candidate area because of off-road vehicle use.

If, on the other hand, the vehicle route that supports the rail line is on the west side of it, it will lead to more impacts to the area even though the rail line and the road is outside the candidate wilderness area. So it depends on a cross section of the rail line and how it affects off-road vehicle and public use of the area. It depends on location of the support road that is next to it. It depends also on the fire barrier and how that is managed and the vehicle access that that also allows.

Q. If there was no road built along with the rail line, if it was just the rail line itself, how would you see that the impact would differ between the current location and the location that was hypothetically moved to the east some distance to avoid the North Cedar Mountains area?

A. So in that scenario there's a rail line, no fire lanes, no roads, adjacent road.

Q. First just take the case with the rail line and the fire buffer but no road.

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A. I never do it alone. I always call on experts who are knowledgeable in this field who have worked in this area to draw from their experience and to offer their help in this. I don't usually make this determination by myself. It is usually supported by others.

Q. Okay. That's all I have.

FURTHER EXAMINATION

BY MR. BARNETT:

Q. I have one question based on that. You talked about the resources that were devoted to evaluating the lands in the state for potential designation as wilderness or suitability for wilderness designation. What sort of resources were spent in terms of people and hours on the North Cedar Mountains per se?

A. I haven't or we don't have a per unit list for each area. But my guess is that, looking at the field work, that there were approximately three days spent in the field and probably four more days spent preparing information, analyzing it, and making use of it and preparing the report. That's a rough estimate.

Q. Do you know how many people were involved in that?

A. I don't have the list here but I think it's

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between three and six different people involved. I don't have the file here. But based on my review of it, it's roughly in that area.

Q. Okay. That's all I have.

(Deposition was concluded.)

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Reporter's Certificate

STATE OF UTAH)
) ss.
COUNTY OF SALT LAKE)

I, DIANA KENT, Registered Professional Reporter and Notary Public in and for the State of Utah, do hereby certify:

That prior to being examined, the witness, James C. Catlin, had previously been duly sworn to tell the truth, the whole truth, and nothing but the truth;

That said deposition was taken down by me in stenotype on April 24, 2001, at the place therein named and thereafter pages 4 through 122 were reduced to transcription under my direction.

I further certify that after the said deposition was transcribed, a reading copy was sent to Mr Catlin for the witness to read and sign before a notary public, and return to me for filing with clerk of the said court.

I further certify that I am not of kin or otherwise associated with any of the parties to said cause of action and that I am not interested in the outcome thereof.

WITNESS MY HAND AND SEAL this 7th day of May, 2001.

DIANA KENT, RPR/CSR
Notary Public
Residing in Salt Lake County

My Commission Expires:
June 22, 2004

PAGE 124

DATE TAKEN: April 24, 2001
CASE: Private Fuel Storage

WITNESS CERTIFICATE PAGE

I, JAMES CATLIN, HEREBY DECLARE:
That I am the witness referred to in the foregoing testimony; that I have read the transcript and know the contents thereof; that with these corrections I have noted, this transcript truly and accurately reflects my testimony:

PAGE-LINE	CHANGE/CORRECTION	REASON
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I, JAMES CATLIN, HEREBY DECLARE UNDER THE PENALTIES OF PERJURY OF THE LAWS OF THE UNITED STATES OF AMERICA AND THE LAWS OF THE STATE OF UTAH THAT THE FOREGOING IS TRUE AND CORRECT.

JAMES CATLIN

DATED

SUBSCRIBED AND SWORN TO AT
THIS DAY OF ,

Notary Public.

Exhibit E

Form 1221-2
(June 1969)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

MANUAL TRANSMITTAL SHEET

Release
6-122

Date
1/10/2001

Subject

H-6310 - 1 - WILDERNESS INVENTORY AND STUDY PROCEDURES

1. Explanation of Material Transmitted: This transmit H-6310 -1 - WILDERNESS INVENTORY AND STUDY PROCEDURES, which is a handbook that provides the specific policy, general procedures, and guidance for wilderness inventories under the provisions of Section 201 of the Federal Land Policy and Management Act of 1976, (FLPMA) and the designation of Wilderness Study Areas under the provisions of Section 202 of the FLPMA.

2. Reports Required: None

3. Material Superseded: None

4. Filing Instructions:

INSERT:

H-6310-1

(Total: 26 sheets)

Sylvia V. Baca

Sylvia V. Baca
Acting Director, Bureau of Land Management

☆ U.S. GOVERNMENT PRINTING OFFICE: 1997-181-423/54180

WILDERNESS INVENTORY AND STUDY PROCEDURES

H-6310-1

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

(2) Caution should be used in assessing the effect on naturalness that relatively minor human impacts create. Some human works are acceptable in designated wilderness; similar impacts in a inventory area should not result in a conclusion that the area lacks naturalness. An overly pure approach to assessing naturalness must be avoided.

c. Outside Human Impacts. Human impacts outside the inventory area will not normally be considered in assessing naturalness of a area. However, if an outside impact of major significance exists, it should be noted in the overall inventory area description and evaluated for its direct affects on the inventory area. Human impacts outside the area should not automatically lead to a conclusion that a inventory area lacks wilderness characteristics.

3. Solitude or a Primitive and Unconfined Type of Recreation. Determine if the area". . . has outstanding opportunities for solitude or a primitive and unconfined type of recreation . . .." The word "or" in this sentence means that an area only has to possess one or the other. It does not have to possess outstanding opportunities for both elements, does not need to have outstanding opportunities on every acre. There must be outstanding opportunities somewhere in the area. When Inventory areas are contiguous to WSAs, evaluation of outstanding opportunities should consider and document whether Inventory areas have outstanding opportunities either on their own, or in combination with adjacent WSAs.

a. Outstanding Opportunities. The Wilderness Act does not specify what was intended by "solitude or a primitive and unconfined type of recreation." In most cases, the two opportunities could be expected to go hand-in-hand. However, the outstanding opportunity for solitude may be present in an area offering only limited primitive recreation potential. Also, an area may be so attractive for recreation use that it would be difficult to maintain opportunity for solitude; e.g. around water.

b. Each inventory area must be assessed on its own merits or in combination with an adjacent wildemess area or WSA as to whether an outstanding opportunity exists. There must be no comparison among areas. It is not permissible to use any type of rating system or scale, whether numerical, alphabetical, or qualitative (i.e., high-medium-low), in making the assessment. Good judgment must be used in determining that outstanding opportunities either do or do not exist in each area.

(iv) "Challenge" and "risk" are appropriate for consideration under this criterion. However, their presence is not necessary in order to conclude that an area does qualify under this criterion.

4. Supplemental Values.

a. Determine if the inventory area contains ". . . ecological, geological, or other features of scientific, educational, scenic, or historical value." The Wilderness Act states a wilderness "may also contain" these values. Supplemental values are not required for wilderness but their presence should be documented where they exist.

b. A finding that an area being inventoried lacks any or all of the supplemental values should not affect the determination of the existence of wilderness character.

C. Boundary Adjustments. Where substantially noticeable human caused impacts occur within an inventory area, reviewers should consider the opportunity to adjust the area boundary to exclude the human impacts. Minor human impacts normally will not require a boundary adjustment, but where there are several minor impacts, they should be evaluated as to their cumulative effect on the apparent naturalness of all or part of the area. Boundary adjustments should be made to identify the parts of the area that appear natural and parts that do not. When boundary adjustments are made, a decision must be made on whether the remaining portion of the area is of sufficient size to find that it has wilderness characteristics.

1. When multiple human impacts are considered to be substantially noticeable, caution must be used in relocating the boundary to define the part of the area found to have wilderness character. Natural portions of a area located between the individual human imprints should not be automatically excluded.

2. When the boundary of the area found to have wilderness character is adjusted due to human impacts, the boundary should, where possible, be located on the physical edge of the "imprint of man". In this case, the boundary must eliminate the "imprint of man" and as little adjacent land as necessary. The adjusted boundary must not be drawn on a "zone of influence" around the imprint for these reasons: (1) consistency between inventory teams in locating this "zone of influence" would be difficult to achieve, and (2) future impacts would in effect be able to encroach on a area creating a new "zone of influence."

3. Developed rights-of-way (ROW) are treated like other significant impacts. When a transmission line or other developed ROW is located within a area and the decision is made to eliminate its impact on naturalness from the remainder of the area, the boundary should be drawn on the edge of the ROW.

4. As a general rule, the boundary of a area is to be determined based on evaluation of the human impacts within the area. It should not be further constricted on the basis of opportunity for solitude or primitive and unconfined recreation. An area can have wilderness character even though every acre within the area does not meet the outstanding opportunity criterion. In unusual cases it may be appropriate to consider adjusting the boundary based on the outstanding opportunity criterion; for example:

a. When a narrow finger of roadless land extends outside the bulk of the area;

b. When land without wilderness characteristics penetrates the area in such a manner as to create narrow fingers of the area (e.g., cherrystem roads closely paralleling each other);

c. When extensive private inholdings create a very congested and narrow boundary area.

These situations are expected to rarely occur. Good judgment will be required in locating boundaries under such conditions so as to exclude only the minimum appropriate land. Boundary adjustments would not be necessary if the land in question possesses an outstanding opportunity for primitive and unconfined recreation.

D. Possibility of the Area Returning to a Natural Condition. An inventory area or portion of an inventory area in which human imprints are substantially noticeable, but which otherwise contains wilderness characteristics, may be further considered for designation as a WSA when it is reasonable to expect that human imprints will return or can be returned to a substantially unnoticeable level either by natural processes or by hand labor.

Exhibit F

BLM INTENSIVE WILDERNESS INVENTORY

FINAL DECISION on Wilderness Study Areas

UTAH

NOVEMBER 1980

UNIT NO. UT-020-087 WSA ACREAGE: 0

UNIT NAME: NORTH CEDAR MOUNTAINS UNIT ACREAGE: 16,089

1. AREA DESCRIPTION: Unit 087 is located in the north-central portion of Tooele County, Utah, approximately 58 miles east of Wendover and 60 miles west of Salt Lake City, via Interstate-80. Located at the northern end of the Cedar Mountain Range, Unit 087 is basically polygonal in shape. Dimensions vary, depending on directions measured, but approximates for general description are 5.5 miles wide and 7.0 miles long.

2. WILDERNESS CHARACTERISTICS:

A. STATUS: The unit contains [illegible] acres of public land and approximately 1,020 acres of private land. State land is not found in the unit.

B. NATURALNESS: The imprint of man's work is substantially noticeable in the North Cedar Mountains. The cumulative effect of man, both old and some large impacts are considerably evident within the relatively small unit.

Some interior hillsides are untrammeled by man and affected by the forces of nature. However, because of the openness and exposure to other imprints, a feeling of sublime naturalness is lacking.

Twenty-seven impacts or activities were identified; a cumulative network of over 11 miles of "ways" were recorded within the unit's boundaries. Lee's Canyon "way" follows a drainage and cuts a six-mile path through the southeast end of the North Cedars, impacting in its course the 5,000 acre parcel making up that end of the unit. Other imprints along this access route includes quarries, livestock trails, and motorcycle paths.

C. OUTSTANDING OPPORTUNITIES:

(1) 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. The lower, outside portions of the unit lack outstanding opportunities for solitude due to the sparse vegetative cover, relative open terrain and the cumulative effect of many impacts in the unit.

Feelings of isolation are seldom complimented by winding canyons. Vegetation canopies and screening are lacking, and therefore do not aid in an outstanding feeling of solitude.

(2) PRIMITIVE AND UNCONFINED RECREATION: Opportunities for a primitive and unconfined type of recreation which exist in the North Cedars are hunting, horseback riding, hiking, wildlife observation and sightseeing. However, these opportunities are not considered "outstanding" by the wilderness inventory teams. Wildlife populations and numbers are few. Terrain for hiking and horseback riding is not unique in nature and does not provide outstanding opportunities for these recreation types. Sightseeing is encumbered by many outside activities and interior impacts of man.

D. SUPPLEMENTAL VALUES: Rock windows, sawtooth ridges and small caves carved in cliffs and terraces are common throughout the northern section of the unit. These are all remnants, 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 undergoing intensive inventory on the Salt Lake District.

Modern history [illegible] today dividing the two Cedar Mountains units. Was once the route [illegible] a number of [illegible] journey to [illegible] interest [illegible] portion of the Hastings Cutoff somewhat intriguing.

Mining operations [illegible]

3. SUMMARY OF COMMENTS: No specific comments were received. [illegible] was given to this unit only by those who commented generally, listing all units by number and stating that these units should be considered for Wilderness Study Area designation.

4. DECISION: Dropped from further wilderness inventory and review.

5. RATIONALE FOR DECISION: Size and naturalness, to a degree, have placed this unit into the intensive inventory phase of the wilderness review. The lack of "outstanding" potential, or opportunity for solitude and/or a primitive and unconfined recreational experience should drop it from further wilderness inventory consideration. Man's imprints are substantially noticeable within the unit. Natural screening contributes little to hide or enclose man and his contrasting influences. Recreation opportunities exist but all are encumbered by man's developments.

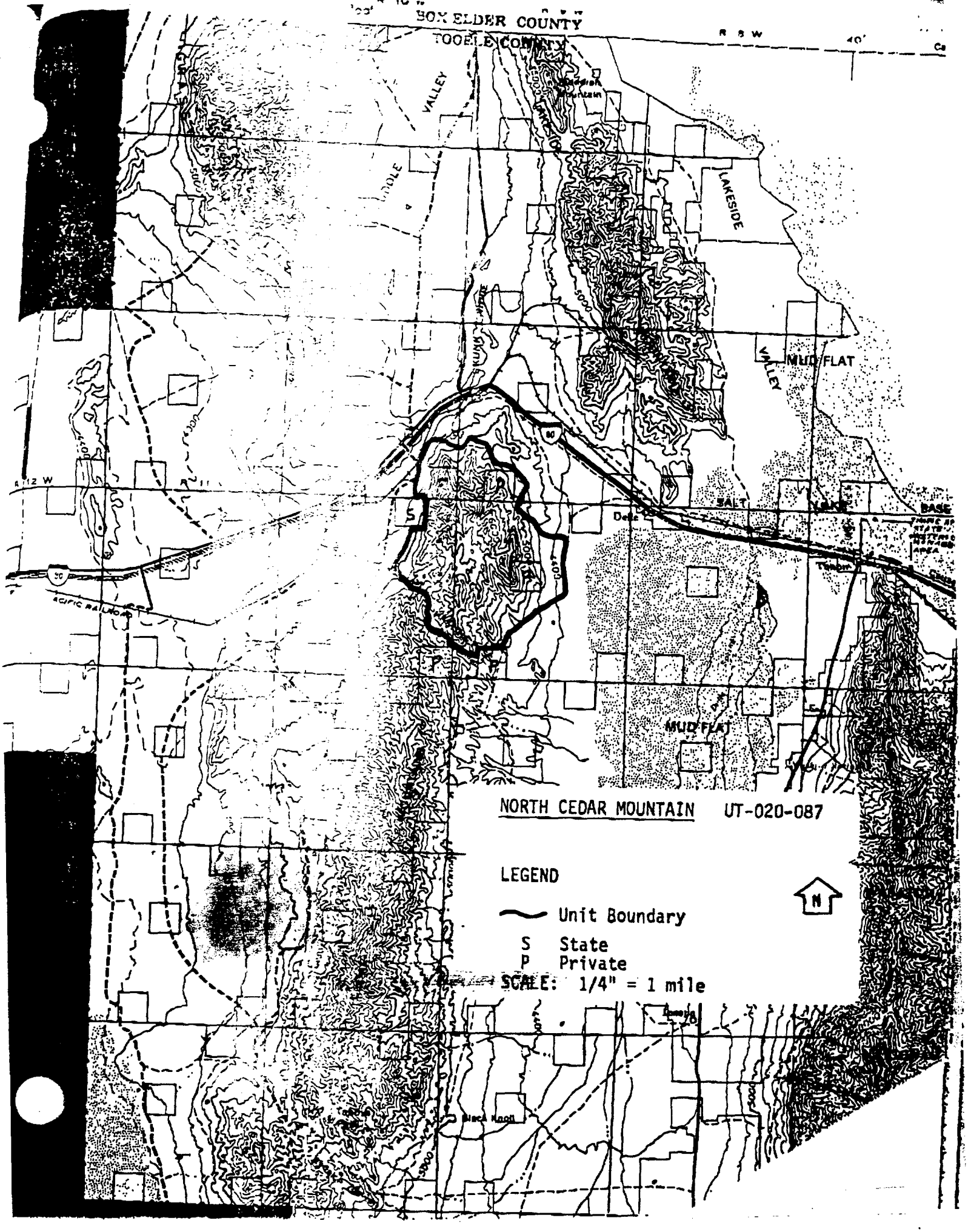
BOX ELDER COUNTY
TOOELE COUNTY
R 8 W
VALLEY
LAKESIDE
MUD FLAT
VALLEY
R 12 W
R 11
SALT
LAKE
BASE
Delle
PACIFIC RAILROAD
MUD FLAT
NORTH CEDAR MOUNTAIN UT-020-087
LEGEND
Unit Boundary
S State
P Private
SCALE: 1/4" = 1 mile
N

Exhibit G

America's Redrock Wilderness Bill: A Call to Action

- America's Redrock Wilderness Act is a bill to designate wilderness areas on those Utah BLM lands which were identified by the Utah Wilderness Coalition inventory as having wilderness qualities.

- The full text of the bills from the 105th Congress, the 106th Congress, and current information in the status of bills is available from the Library of Congress' "Thomas" web site: (H.R. 1500), (S. 773),(105th Congress) H.R. 1732, S. 861 (106th Congress). (Please note: The bill must be reintroduced in each new Congress, so the bill number changes).

- Current Congressional cosponsors of *America's Redrock Wilderness Act* are listed here. If your Representative or Senators are not on the list, please write and ask them to cosponsor *America's Redrock Wilderness Act*. If they are already on the list, please write to say thank you. For contact addresses and current Congressional positions on these bills, visit Project Vote Smart.

America's Redrock Wilderness Act in the 107th Congress.

America's Redrock Wilderness Act was re-introduced in both chambers of Congress on April 26, 2001, and we're excited and invigorated to announce RECORD NUMBERS of cosponsors upon introduction, beating the record we've set in every successive Congress! In his statement upon filing the bill, Sen. Richard Durbin (D-IL) said, "Passage of America's Red Rock Wilderness Act is essential to protect a national treasure for future generations of Americans. It provides wilderness protection for magnificent canyons, sheer red rock cliffs, spectacular vistas, and rock formations unlike any on this planet." And on the House side, House champion Rep. Maurice Hinchey (D-NY) re-introduced the bill for the fifth consecutive session by stating "The Redrock Wilderness is already owned by all of the people of the United States and should be considered a national treasure like the Grand Canyon or the Statue of Liberty. The terrain cannot bear much use or development and the treasures it holds are too rare and special to be exploited. These lands and the wildlife that inhabit them deserve the protection that permanent wilderness designation would offer."

History:

For more than twenty years Utah conservationists have been working to add the last great blocks of undeveloped, Bureau of Land Management (BLM)-administered public land in Utah to the National Wilderness Preservation System. These lands harbor some of the largest and finest desert roadless areas to be found anywhere in the world. They include the huge canyon systems of the Colorado, Green, San Juan, and Dolores rivers; the intimate slickrock narrows of the Escalante, Dirty Devil, Paria, and Virgin rivers; the vast table-lands and massive cliff-walls of the Kaiparowits Plateau, the Book Cliffs, and the Grand Staircase; and the isolated mountain ranges and desert riparian areas of Utah's Great Basin country.

Throughout southeastern Utah, proposed BLM wilderness areas surround and connect eight of Utah's nine national park, monument, and recreation areas. **These BLM lands easily equal their neighboring national parklands in scenic beauty, in opportunities for primitive recreation, and in ecological importance.** But unlike the parks, **most Utah BLM wildlands lack any form of long-**

term protection.

In 1985, after extensive field research by scores of citizen volunteers, Utah conservationists announced a "Citizens' Proposal" to protect over five million acres of BLM land in Utah within the National Wilderness Preservation System. In 1999, that Citizens' Proposal was updated after a data-intensive, two-year-long new inventory process. To date, more than 160 local and national environmental groups have endorsed the Citizens' Proposal by joining forces on the Utah Wilderness Coalition.

In 1989, the Citizens' Proposal was introduced into Congress as a bill, H.R. 1500, by former Utah Congressman Wayne Owens, and in 1993, was reintroduced as "America's Redrock Wilderness Act" by Representative Maurice Hinchey of New York. As an index of the nationwide support for America's Redrock Wilderness, in 1998 during the 105th Congress 136 members of the U.S. House of Representatives cosponsored the bill. In 1997, Senator Dick Durbin of Illinois introduced S. 773, the Senate version of America's Redrock Wilderness Act. America's Redrock Wilderness Act was was named **H.R 1732** in the House, and **S. 861** in the Senate in the 106th Congress.

Despite this promising start, the future of Utah's BLM wilderness is now gravely at risk. Among the threats are the 1866 Mining Act (R.S. 2477) and Utah Representative Jim Hansen's attacks on the Grand Staircase-Escalante National Monument. Please call or write your Representative and Senators and ask them to cosponsor America's Redrock Wilderness Act.

Frequently Asked Questions:

If you have a question which is not answered here, please contact us.

Who gave authority to introduce the Citizen's Wilderness Proposal as *America's Redrock Wilderness Act*?

Any member of Congress can introduce any wilderness proposal, regardless of whether the federal agency involved has any recommendation. The public at large can develop its own proposal for any member of Congress to introduce.

What happened to bill number H.R.1500?

Since a bill must be re-introduced to each new Congress, the same bill will not always have the same number. In 1999, Utah's anti-wilderness leader Jim Hansen (R-UT) reserved the number HR1500 for his own use. The whole story is in the SUWA Summer 1999 Newsletter: Hansen's High Jinks: The Purloined Bill Number and Other Sneaky Stuff

Since *America's Redrock Wilderness Act* is opposed by Utah's elected representatives and senators, why should I support it?

America's Redrock Wilderness Act was originally introduced by Utah representative Wayne Owens. A statewide poll conducted in 1997 by Wirthlin Worldwide showed that 9 out of 10 Utah residents believe they have a responsibility to preserve undeveloped lands for future generations. Utah's elected officials my represent general public opinion on other issues, but they are not representing Utah citizen's on the issue of wilderness. Utah's wildlands are Federal public lands that are owned in common by all citizens of the United States.. Citizens outside of Utah who love and treasure this amazing landscape have every right to demand its protection.