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NUCLEAR REGULATORY COMMISSION

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BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

In the Matter of:	)	Docket No. 72-22-ISFSI
PRIVATE FUEL STORAGE, LLC	)	ASLBP No. 97-732-02-ISFSI
(Independent Spent Fuel	)	
Storage Installation)	)	February 28, 2001

STATE OF UTAH'S OBJECTIONS AND RESPONSE TO  
APPLICANT'S SIXTH SET OF DISCOVERY REQUESTS  
TO INTERVENOR STATE OF UTAH

The State responds to Applicant's February 15, 2001 Sixth Set of Discovery Requests, which relate to Utah Contentions O (hydrology), V (transportation), W (flooding at the intermodal transfer facility site), Z (no action alternative), AA (range of alternatives), and DD (ecology and species). The State and the Applicant have agreed that the party responding to Requests for Admissions and Interrogatories, during the formal discovery period, may have eight working days in which to timely file a response.

GENERAL OBJECTIONS

These objections apply to the State of Utah's responses to all of the Applicant's Fifth Set of Discovery Requests.

1. The State of Utah objects to the Applicant's instructions and definitions on the grounds and to the extent that they request or purport to impose upon the State any obligation to respond in manner or scope beyond the requirements set forth in 10 CFR §§ 2.740, 2.741 and 2.742.

2. The State of Utah objects to Applicant's Request for Production of

Documents to the extent that it requests discovery of information or documents protected under the attorney-client privilege, the attorney work-product doctrine and limitations on discovery of trial preparation materials and experts' knowledge or opinions set forth in 10 CFR § 2.740 or other protection provided by law. The State has provided PFS with a Privilege Log which identifies all documents subject to these privileges and protections and which the State reserves the right to supplement.

## I. GENERAL INTERROGATORIES

**General Interrogatory No. 1.** State the name, business address, and job title of each person who was consulted and/or who supplied information for responding to interrogatories, requests for admissions and requests for the production of documents. Specifically note for which interrogatories, requests for admissions and requests for production each such person was consulted and/or supplied information.

If the information or opinions of anyone who was consulted in connection with your response to an interrogatory or request for admission differs from your written answer to the discovery request, please describe in detail the differing information or opinions, and indicate why such differing information or opinions are not your official position as expressed in your written answer to the request.

RESPONSE TO GENERAL INTERROGATORY NO. 1: The persons listed below were consulted and/or supplied information in responding to the discovery requests for Applicant's Sixth Set of Requests. Their declarations supporting State's responses to this set of discovery are attached hereto.

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**General Discovery Requests**  
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In response to whether the information or opinions of anyone who was consulted  
in connection with the State's response to an interrogatory or request for admission differs

from the State's written answer to the discovery request, the State is unaware of any such difference among those consulted.

## II. UTAH CONTENTION O— HYDROLOGY

### A. Interrogatories -- Utah O

INTERROGATORY 8 - UTAH O. Identify and fully explain each specific respect, including the scientific and technical bases therefor, in which the State claims that Section 4.2 (and any other relevant sections) of the Draft Environmental Impact Statement (DEIS) is deficient in assessing:

- a. Contaminant pathways from the sewer/wastewater system; routine facility operations; and construction activities.
- b. The potential for overflow and effluent characteristics of the detention pond.
- c. The potential for groundwater and surface water contamination.
- d. The effects of PFS water usage on other well users and the aquifer.
- e. The potential for contamination of down gradient hydrological resources.

RESPONSE TO INTERROGATORY 8 - UTAH O. The State objects to Interrogatory 8(a) - 8(e) as being at least five separate interrogatories, not one interrogatory, and the State responds to them as five separate interrogatories. Pursuant to Board Order LBP-98-7, 42 NRC 147, 245, no more than 10 interrogatories, "including all discrete subparts" may be filed without leave of the Board. PFS has exceeded the number of allowed interrogatories. Accordingly, the State considers that PFS has now propounded on the State twelve separate interrogatories specific to Utah O, and if PFS propounds additional interrogatories on the State without leave of the Board, the State will refuse to answer them.

The State also objects to Interrogatory 8 as being repetitive. In its Motion to Compel the State to more fully answer Interrogatories 2, 3, 4, and 6 for Utah O, PFS

requested more information regarding six different subjects:

1. Specific contaminants from specifically noted site locations;
2. The contaminant means for entering each pathway;
3. Technical/scientific basis for the State's contention;
4. The likelihood that each contaminant would enter surface water and groundwater including the technical basis for probability conclusions;
5. Specific surface water bodies that could be contaminated; and
6. The measurable or adverse downgradient hydrologic resources impacts.

Because Applicant's Interrogatory 8 is very similar to those above-described interrogatories already asked by Applicant and already answered by the State, the State incorporates by reference its responses described in the State's Supplemental Response to Applicant's Second Set of Discovery Requests for Utah Contention O (November 22, 1999) ("State's Suppl. Response - Utah O"). These prior responses directly address and answer the questions in Interrogatory 8. Without waiver of these objections, the State responds as follows.

**a. Contaminant Pathways from the Sewer/wastewater System; Routine Facility Operations; and Construction Activities.**

The DEIS is deficient in assessing the above-described contaminant pathways in the following respects.

**1. Sewer/Wastewater Disposal**

The ultimate fate and quality of the wastewater discharge is critical to determining

whether or not the system will significantly impact the environment, or present a pathway of contaminant exposure to humans, *i.e.*, will the contaminants in the wastewater end up untreated in the groundwater table due to high infiltration soil; will it resurface untreated due to “low infiltration capacity;” or will it properly treat the effluent before it either enters the groundwater or resurfaces? The DEIS fails in three respects: 1) it fails to conclude where the wastewater will end up; 2) assuming the DEIS addressed the ultimate fate and quality of the wastewater, it fails to conclude that each wastestream placed in the sewer system will be adequately treated by the system before the waste reaches a pathway to the environment; and 3) it fails to substantiate that the many hazardous substances stored or used onsite will not be introduced, intentionally or unintentionally, into the septic system during its forty years of operation.

First, the DEIS fails to conclude where the wastewaters will ultimately end up; it only predicts where it will not end up (the groundwater). Without adequate site specific geologic or environmental engineering data or support, the DEIS merely concludes that the wastewater discharge “may never reach the groundwater” due to an assumed “relatively low infiltration capacity.” DEIS at 4-12. If the effluent does not reach groundwater, and if it does not resurface, then where are forty years of discharge ending up? The DEIS fails to speculate. Once the ultimate fate of the wastewater is determined, then the pathways of concern, *e.g.*, groundwater or surface exposure, can be better analyzed.

Specific pathways for contaminant migration from the sewer/wastewater system will depend upon the design and construction of the system, and the DEIS does not describe the specific system design and construction, *i.e.*, the general description of PFS’s

wastewater system precludes anything other than a general response. There are two general pathways of concern. The first is the migration of the sewer/wastewater discharge through the vadose zone to the groundwater, and then the resurfacing of the water, most likely by pumping of the groundwater to the surface for domestic or other use. The second general pathway of concern is resurfacing of the wastewater above the leachfield, e.g, if the leachfield is unable to accept the quantity of wastewater discharged, the contaminants breach the surface untreated. The “low infiltration” of the soil’s capacity suggests the wastewater may pool near the surface where it may come into contact with humans and the environment. Contamination of the groundwater could also preclude or impair future use of a state owned resource.

Whether the system will adequately treat the different contaminants in the wastewater before the wastewater reaches its ultimate destination depends entirely on the ultimate destination (*see* discussion *supra*), the organic and inorganic contaminants in the wastestream, and the “treatment” which the system intends to utilize. The DEIS fails to adequately address any of these three factors. Therefore, it cannot reach a conclusion that the system will adequately treat the wastewater, and not surprisingly, the DEIS does not reach this conclusion.

A system which adequately treats simple organic matter will not adequately treat complex organics, dissolved metals, waste solvents, or radioactive compounds which could potentially enter the wastestream. The DEIS is deficient in that it implies without technical support that discharging the wastewater into the sewer system will somehow result in all contaminants in the wastestream being adequately treated. The State contends

that it is impossible to assure prevention of employees from intentionally or unintentionally placing pollutants or contaminants into the sewer systems during its forty year life.

## 2. Facility Operations

Specific pathways for contaminant migration from routine facility operations will depend upon the type of activity taking place. Until specific activities are described by PFS in detail, specific pathways cannot be determined. However, general pathways associated with routine industrial type activities include the spilling and releasing of hazardous substances and hazardous wastes which are used or generated at the facility. Those spills and releases can result from numerous different activities, including accidents during transfers or use of the substance or waste; leaking tanks or storage containers; leaking piping; unauthorized disposal, etc. Once the substance or waste comes in contact with surface soils, the contaminant can also contaminate surface waters, and infiltrate into the subsurface. Subsurface releases may migrate to the groundwater where they may be pumped to the surface via wells, or resurface downgradient as springs or seeps. See response to subsection "A." (sewer/wastewater disposal) supra. While on the surface, humans or wildlife may be exposed to the released substance or waste.

As discussed above, the DEIS is deficient because it does not adequately describe the transport and ultimate fate of spills and releases of chemical compounds and materials. It merely surmises that "a large spill would be required to adversely impact groundwater quality at the site because the groundwater table is approximately 38 M (125 ft) below ground surface and soil retention would holdup the liquid." DEIS 4-9. No specific

analyses or modeling has been done to support this claim. The DEIS does not conclude that large spills will not occur, only that it would take a large spill to really contaminate the environment. Also, cumulative small spills may have an effect similar to that of a large spill. In addition, the conclusion that spills will not migrate downward over time into the groundwater does not address the flushing of spills and releases into the subsurface by the infiltration of rainwaters or flood waters, or that chemical compounds contained in the spilled materials will not dissolve into infiltrating waters and be carried to the surface or groundwater.

### **3. Construction Activities**

Specific pathways for contaminant migration from the construction activities will depend upon the specific construction activity taking place. Because the DEIS does not describe the construction activities in detail, a detailed response regarding pathways cannot be determined until PFS provides a detailed description of construction activities.

The DEIS focuses on the berm which will reportedly be built upgradient of the facility with the purpose of diverting stormwaters during and after construction. Rainwater falling within the facility, along with any spills and releases of hazardous substances and hazardous wastes within the facility area, will reportedly be drained, flushed, or directed downgradient into a retention pond.

As discussed above, the DEIS does not describe the transport or fate of the hazardous substances, hazardous wastes, and pollutants which may be released at the facility. The presence of these spills or releases on the surface presents pathways of exposure to humans and the environment through direct exposure and ingestion. The most

likely destination of substances that are released to, or leach into, the subsurface is the groundwater directly under the facility. Direct exposure and ingestion of groundwater produced from wells downgradient of the facility, even hundreds of years in the future, are the likely pathways of exposure. Any pond or pooling of water in the desert will attract and expose wildlife to the contaminated water. In addition, the pond will create a hydraulic head which promotes infiltration of the pond water into the subsurface and to the groundwater under the site. The DEIS does not adequately address all of the above pathways because it fails to conclude the ultimate fate and quality of the contaminants or waste, and to reach a conclusion that the humans, wildlife, or their habitat, will not be adversely affected by the contaminants.

The value of groundwater in a desert environment is very high, and future uses of the Skull Valley depend upon the proper use and conservation of the local water resource. Until the DEIS can demonstrate it is not possible for spills and releases (big or small) to reach the groundwater prior to natural degradation of the compounds in question, or demonstrate that groundwater in the Skull Valley downgradient of the facility will never be used, then the DEIS is deficient in these respects. Conclusory statements that small spills probably will not migrate to the current depth of the groundwater based upon assumed subsurface conditions are insufficient.

**b. The Potential for Overflow and Effluent Characteristics of the Detention Pond**

The State interprets “b.” as two separate, unrelated interrogatories: one pertaining to “overflow” and one pertaining to “effluent characteristics.” Each is addressed

separately.

### **1. Overflow.**

The DEIS fails to demonstrate that the model selected by PFS is appropriate for the Skull Valley region and environment, and that the model's assumptions are sufficiently conservative to protect the human environment. The DEIS does not adequately address the potential for overflow because the storm analyses in the revised SER may not be a sufficiently conservative method. The Kirpich (1964) method, referred to by the DEIS, has shown to underrepresent  $t_c$  values in Australian Basins (Maidment, 1992). Also the Kirpich method is empirical, based on the formula, and was developed for small agricultural drainage basins, which is not appropriate for a large desert basin like Skull Valley. The choice of storm models can have a dramatic effect on the predicted storm and runoff. Therefore, the assumptions upon which the model is based should be sufficiently conservative to protect the human environment. The DEIS fails to address whether the model is conservative, liberal, or even appropriate for Skull Valley.

### **2. Effluent Characteristics.**

Interrogatory 8b asks about the characteristics of the "effluent." The question is inconsistent with the DEIS because the DEIS does not describe an effluent from the pond. In fact, the DEIS describes the facility as a "zero release facility, thus, no effluents are expected." DEIS 4-10. If there will be effluent from the pond, then the DEIS is deficient for failing to describe what the effluent will be, does not indicate where the effluent will be discharged, the permitting requirements, if any, for the discharge, and of course, the possible exposure to or ingestion by humans or wildlife to this effluent.

To the extent this interrogatory is seeking information regarding the influent to the pond, the State incorporates by reference its responses to subsections “a,” “d,” and “e.”

**c. The Potential for Groundwater and Surface Water Contamination.**

In response to “c,” the State incorporates by reference its responses to subsections “a,” “d,” and “e,” and its prior responses in State’s Suppl. Response - Utah O.

**d. The Effects of PFS Water Usage on Other Well Users and the Aquifer.**

The State objects to subpart “d” as being ambiguous in the below-described respects. Without waiver of that objection, the State bases its response to Interrogatory 8d on one possible interpretation of the ambiguous words or phrases.

**1. Ambiguities of Interrogatory 8 Subsection “d.”**

It is unclear whether the term “water usage” in the interrogatory means the volume of water consumed by PFS in its project (eg, volumes per day), the specific use to which PFS puts the water (eg, domestic use, construction, dust control), or both. For purposes of this response the State interprets the phrase “water usage” to mean both the volume consumed and the use to which it is proposed to be put.

The term “aquifer” has many meanings, including groundwater in general; the unconfined aquifer closest to the surface; the numerous confined, semi-confined, and unconfined aquifers under a site; or a specific water-bearing formation or horizon. One generally accepted definition is “a saturated bed, formation, or group of formations which yields water in sufficient quantity to be economically useful.” See *Groundwater and Wells*, 2<sup>nd</sup> Edition, F.G. Driscoll, at 61. PFS’s reference to “the” aquifer implies it may be seeking information regarding a specific water-bearing formation. However, it is

ambiguous because it does not identify by name or description a specific water-bearing formation or interval under the site or in the Skull Valley. The State responds to Interrogatory 8d using the above definition of aquifer in its broadest sense, *i.e.*, any and all saturated formations under the site or in the valley which may yield sufficient quantities of water. This interpretation does not necessarily include subsurface moisture located in the vadose zone, or “perched” saturated zones located above the first laterally extensive saturated zone..

The interrogatory is ambiguous because it does not define the scope of “effects,” *e.g.*, hydrologic effects, use and development effects, etc. Similar to other desert areas in Utah, the availability of local water resources in the Skull Valley is the primary factor affecting the use, development, and enjoyment of the valley. For this reason the State interprets “effects” to include economic use, development, and enjoyment of the Skull Valley area.

The interrogatory is also ambiguous because it does not state whether it refers to short term (lifetime of PFS facility) or long term (post PFS facility) “effects.” The State is concerned about both the short and long term effects to the Skull Valley and the people who live there now, and in the future. Utahns must continue to live in Skull Valley long after PFS ceases to exist. Impacts to wells which have yet to be drilled, or may never be drilled because the water resources have been permanently extracted or impaired, are of substantial concern to the State. Therefore, the State interprets “effects” to include short and long term effects to the future use and enjoyment of the Skull Valley.

## 2. Failure to Quantify Extraction and Recharge of the Aquifer

The State interprets the word “effects” to mean measurable changes to water quality and water quantity. The State believes “effects” to water quality and water quantity can only be determined if there is baseline information available by which future water quality and quantity can be compared, and a method for predicting how the PFS activities may induce measurable changes. The DEIS is deficient in failing to quantify the current characteristics (quantity and quality) of the aquifer, and its present use and development. Without knowing what is presently there and how it is presently being used, the DEIS cannot properly reach a conclusion that the use of the aquifer by PFS, alone or in conjunction with other users, will not adversely affect the present and future use, development, enjoyment, and environmental condition of the Skull Valley area,

Whether or not an “effect” on a resource is *material* depends upon, among other things, the scarcity of the resource and its use. Much of Utah is a desert. Water volume and water quality are often the limiting factors in determining what *sustainable* uses an area can support. The water resources in most of the State are already over appropriated, *i.e.*, there are more claims to the water resources than available water. Any water use evaluation must include an evaluation of the importance of the water resource to the present and future use of the area. The DEIS fails to adequately address the current use of water in the area and the Skull Valley; the future potential and likely uses of the area and the Skull Valley; and how the use of water by the proposed facility may impair or affect those current and future uses, *i.e.*, will use of water by the facility effectively preclude other current or future uses, such as domestic, agricultural, ranching, etc., in the area or the

Skull Valley.

The DEIS concludes: "It is very likely that little aquifer recharge occurs on the site or elsewhere near the center of the Skull Valley because of low annual precipitation and because surficial and near surface deposits are silt and clay that have low permeability and inhibit downward percolation of water." DEIS 4-7. To the extent this is the DEIS's attempt to quantify the recharge to the groundwater resources in and around the facility, then the conclusion is that there is no recharge. As a result of this non-existent recharge, groundwater which is extracted will not be replaced by nature in the foreseeable future. Therefore, groundwater pumped to the surface will, by definition, exceed the amount being re-charged and the groundwater resource is being permanently depleted. Once the groundwater resource is depleted, Skull Valley will no longer have any source of local water. There are various examples in the western United States of groundwater resources being utilized for various purposes, only to have the resource completely extracted, and the areas effectively left without any local supply. Put another way, will permanent removal of water from the basin by the PFS facility, alone and in combination with other current users, preclude or impair future use of the valley for generations to come? The DEIS does not attempt to quantify the current and future use of water in the basin, let alone compare that usage to that proposed by PFS. Even if "the aquifer" can support all current water uses in the area and in the Skull Valley during the period the facility is operational, the question remains whether water use by PFS may so deplete the aquifer that some or all future uses of the Skull Valley may be precluded. The DEIS fails to address this issue or to include any data or information regarding the effect of water use by the facility on the

long term availability of water resources in the Skull Valley and effects on the potential future uses of Skull Valley. Because the water resources within the Skull Valley basin are interrelated, the State has a keen interest in preserving and properly managing the local water resources within the proposed PFS facility boundaries, in the area surrounding the proposed PFS facility; and in the Skull Valley as a whole.

The DEIS is deficient because it fails to quantify the direct, indirect, and cumulative water usage within the facility boundaries, outside the boundaries of the facility but within the area surrounding the facility, and in the Skull Valley basin as a whole. It does not quantify 1) the recharge in “the aquifer” or 2) the total extraction from the aquifer by all water users in these three areas. Because recharge and extraction information is absent, the Staff cannot properly determine if there are sufficient groundwater resources under the site or the reservation, in the area surrounding the reservation, or in the Skull Valley basin to support all water users for the period PFS intends to operate the facility and thereafter.

Finally, the DEIS fails to address how PFS intends to obtain the necessary water either from proposed production wells, the reservation wells, or sources outside the reservation. The DEIS appears to conclude that there is enough water in the Skull Valley basin to satisfy its needs through a new appropriation right, or from others with existing superior rights. The appropriation of water in any Utah basin is controlled by Utah law, Title 73, including Chapters 3 and 4. The DEIS is deficient in failing to present any support for its conclusion that PFS will be able to obtain the legal right to appropriate water from onsite production wells, reservation wells, or from private sources located

outside the reservation. It ignores the fact the reservation is subject to the same appropriation system as the rest of the water users in the basin.

Acquiring water from those with existing appropriation rights may or may not conflict with the terms of their appropriation rights, *i.e.*, water appropriated for one use may not necessarily be transferable to another use or to another person without State authority. Simply put, the DEIS fails to present sufficient information to reach its conclusion that PFS will be able to acquire through legal means enough water from new or existing sources to satisfy its requirements.

Finally, assuming PFS can acquire a legal right to appropriate water from onsite wells, the DEIS properly concludes that there is “not sufficient information available concerning the water producing characteristics of the central valley area to refine a potential groundwater availability analysis.” DEIS 4-9. A single pump test described by PFS cannot adequately predict whether one or more production wells can be successfully installed, developed, and operated at the facility, and the ability of that well(s) to continue to produce for the expected lifetime of the facility. In order to obtain well yield information, more than one well should be installed, *e.g.*, a pump well and two observational (monitoring) piezometers, to obtain the necessary aquifer characteristics and coefficients. At a minimum, a geologic description and geophysical log, *e.g.*, electric logs, of each borehole should be prepared and potential water-bearing horizons identified; wells installed in the boreholes and screened in the potential geologic horizons; each well developed and various pump and slug tests conducted to determine the aquifer characteristics (*e.g.*, hydraulic conductivity and storage properties) and the hydraulic head

drawdown for each water-bearing horizon under both normal and maximum pumping.<sup>1</sup> If the well(s) produce unambiguous aquifer characteristics, a groundwater model may then be implemented to allow predictions as to the future performance of the wells. If the data cannot support a reliable model of the water-bearing horizon then PFS should recognize that the well(s) may, or may not, provide adequate volumes of water for the facility under the various pumping scenarios, and therefore, it cannot depend on these wells to fulfill its needs except possibly in combination with other sources. The DEIS is deficient for failing to recognize that there are no sufficient site-specific aquifer data to reach any conclusion regarding the viability of an onsite production well. It states that a short duration test was performed on a small diameter well with a “test interval” of approximately eight meters. The DEIS then states PFS performed an analysis which assumed a production well with an interval four times longer (33 meters) without any description of whether such a viable water-bearing horizon actually existed under the site. The DEIS also states that PFS assumes storage characteristics rather than collecting actual site data. Actual, not assumed, aquifer data which pertain to a known, not a theoretical, water-bearing zone are necessary to reach reliable conclusions regarding the ability of a well to produce adequate volumes of water for the lifetime of the facility.

### **3. Failure to Adequately Address Possible Effects on Water Quality.**

The above-described reasons for quantifying proposed water extraction and the

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<sup>1</sup> Maximum pump rates will depend upon the highest pump volume anticipated over the lifetime of the facility. If the well(s) will be used for emergency purposes, e.g., fire suppression, the well must be able to maintain that maximum pump rate for the duration of an expected worst case emergency without running dry.

existing recharge also apply to water quality, and are incorporated by reference here, *i.e.*, in general the DEIS fails to present any baseline water quality information by which the State or PFS can properly analyze and predict whether the proposed facility will adversely affect the current or future water quality (and uses) in the area of the facility, in the area surrounding the facility, and in the Skull Valley basin.

The DEIS fails to adequately address the information currently available regarding water quality in the area and in the Skull Valley; whether a baseline study of the water quality is necessary to reach a conclusion whether PFS's facility will affect the water quality in the area and the Valley; whether the current water quality information is sufficient to constitute that baseline or whether additional information is necessary; and if more information is necessary, what quantity and type of information. Information regarding water quality should include the chemical constituents of concern (*eg* complete chemical analyses), the quality of water necessary for different uses to which the water may be put, and the current and future uses of the water resources in the Skull Valley (*eg*, domestic use, livestock, agricultural, wildlife, etc.). In addition, the types of water quality parameters required by law in the United States can be found in, among numerous other statutes, the federal Water Pollution Prevention and Control Act, 33 U.S.C. 1251 *et seq.*, and related regulations.

The DEIS fails to adequately address the need, or lack thereof, to monitor water quality at or near the proposed facility, for the purpose of determining if the facility is in fact affecting water quality. Various types of hazardous waste treatment, storage and disposal facilities must have extensive groundwater monitoring systems. Even corner

gasoline service stations are required to have some type of groundwater monitoring systems to comply with their release detection requirements. Therefore, it is difficult to understand how a DEIS for a proposed billion dollar nuclear waste storage facility fails to address the need for groundwater monitoring.

**e. The Potential for Contamination of Downgradient Hydrological Resources.**

The State incorporates by reference its responses to sections a, b, c, and d *supra*. In summary, the DEIS is deficient in that it does not address the current use of water resources in the Skull Valley, the cumulative impacts of the PFS facility in combination with existing sources of contamination to hydrological resources over the lifetime of the facility and after the facility no longer exists.

**B. Document Requests – Utah O**

DOCUMENT REQUEST NO. 1 - UTAH O. All documents, data or other information related to the claims made by the State within the scope of Utah O that the hydrological impact of the PFS facility has been inadequately considered in the PFS Environmental Report or the DEIS.

RESPONSE TO DOCUMENT REQUEST NO. 1 - UTAH O. To the extent that the State has not already produced documents responsive to this request, they will be made available.

**III. UTAH CONTENTION V— TRANSPORTATION**

**A. Requests for Admission – Utah V**

REQUEST FOR ADMISSION NO. 1 - UTAH V: Do you admit that the weight limit imposed, under the American Association of Railroads Interchange Rules, on rail cars operating on railroad tracks within the United States is based on the number of axles possessed by the car and the size of the axle journal?

RESPONSE TO REQUEST FOR ADMISSION NO. 1 - UTAH V: Admitted.

REQUEST FOR ADMISSION NO. 2 - UTAH V: Do you admit that the rail cars used by PFS will have either six or eight axles?

RESPONSE TO REQUEST FOR ADMISSION NO. 2 - UTAH V: Admitted that PFS has acknowledged that its rail cars will have either six or eight axles.

REQUEST FOR ADMISSION NO. 3 - UTAH V: Do you admit that American Association of Railroads' Interchange Rules allow for a six axle car weighing as much as 472,500 pounds to be operated under controlled conditions?

RESPONSE TO REQUEST FOR ADMISSION NO. 3 - UTAH V: Admitted

REQUEST FOR ADMISSION NO. 4 - UTAH V: Do you admit that the weight referred to in the previous interrogatory is not actually a "limit," but in fact a "capacity guideline?"

RESPONSE TO REQUEST FOR ADMISSION NO. 4 - UTAH V: Admitted

**B. Interrogatories - Utah V**

INTERROGATORY NO. 2 - UTAH V: Identify and fully explain each specific respect, including the scientific and technical bases therefor, in which the State claims that the Draft Environmental Impact Statement does not adequately consider the weight of the loaded shipping casks in determining the environmental impacts of transporting spent nuclear fuel to the PFS facility.

RESPONSE TO INTERROGATORY NO. 2 - UTAH V: The DEIS does not consider a range of issues regarding the environmental impact of transporting irradiated fuel. In order to accommodate a heavy cask, such as the HI-STAR 100, the Applicant has had to design special rail cars with 3 or 4 axle trolleys. That is, the additional weight of the car requires additional axles. These additional axles have transportation implications. The special rail cars will have a higher center of gravity, which means that slower speeds will be

required around turns; slower speeds imply an increase in the incident free rate of exposure.

Higher and larger cars have implications for specific reactor bays; some reactor bays cannot accommodate these larger cars. This in turn means that these reactors will require movement of the cask out of the fuel pool area to the closest rail location which could be several feet or several miles away. The DEIS does not evaluate potential exposure due to this additional handling, either to the handlers or to the general population; the DEIS does not give this aspect a “hard look” but glosses over these details or does not mention them at all. Nor are the interchange requirements between rail companies, “the controlled conditions,” or the accident rates for these heavy cars discussed in the DEIS.

Trains carrying HI-STAR 100 transportation casks will require special clearance from railroad owners before proceeding to Skull Valley; railroad engineers will determine if a given train can proceed on a given track, and whether special operating conditions are required. The DEIS did not consider the environmental impacts associated with potential special operating conditions that may be required by railroad owners for heavy loads. These conditions may include the required use of spacer cars to distribute weight, or different axle configurations, or a combination of both. The DEIS does not discuss the impacts of changes in route and or time in transit that could result: either could result in an increase in probability of an accident or in non-incident exposure. It also did not discuss whether environmental impacts would be different for a train with casks on railcars separated by spacer cars than for a train without spacers between railcars carrying casks.

The DEIS also failed to discuss the implications for radiation exposure resulting from the greater-than-normal railroad car weight and height. Changes in weight and height will change accident probability and/or consequences, since one severe accident scenario involves bridge collapse.

**C. Document Requests - Utah V**

DOCUMENT REQUEST NO. 1 - UTAH V: All documents, data or other information related to the claims made by the State within the scope of Utah V that the weight of the loaded shipping casks has been inadequately considered (in the PFS Environmental Report or the DEIS) in determining the environmental impacts of transporting spent nuclear fuel to the PFS facility.

RESPONSE TO DOCUMENT REQUEST NO. 1 - UTAH V: To the extent that the State has not already produced documents responsive to this request, they will be made available.

**IV. UTAH CONTENTION W-- FLOODING AT THE INTERMODAL TRANSFER POINT**

**A. Interrogatories - Utah W**

INTERROGATORY NO. 1 - UTAH W: Identify and fully explain each specific respect, including the scientific and technical bases therefor, in which the State claims that Sections 5.2.1.2 and 5.2.2.2 (and any other relevant sections) of the Draft Environmental Impact Statement inadequately discuss the potential for and impact of flooding at the Intermodal Transfer Point during construction and operation.

RESPONSE TO INTERROGATORY NO. 1 - UTAH W:

Several significant factors that could contribute to flooding at the intermodal transfer facility area have been ignored by both PFS and the Staff in its DEIS. These factors were brought to PFS's and the Staff's attention in earlier discovery. The State's

response to PFS interrogatories relating to Utah N (flooding at Rowley Junction) raising similar issues to this interrogatory provides extensive information relating to the potential for flooding at the ITF area. The State incorporates by reference State of Utah's Fourth Supplemental Response to Applicant's First Set of Formal Discovery Requests (May 21, 1999) ("State's 4<sup>th</sup> Discovery Response") into its answer to this interrogatory.

The Staff in its DEIS describes the existing elevation of the intermodal transfer facility ("ITF") project area as between 4220 and 4225 feet, and designates the higher 4225 figure as the elevation at which the ITF itself would be designed (DEIS at 5-7, l. 11-12), all of which closely follows the Applicant's ER (ER at 4.3-9, Rev. 7). Both the DEIS and ER report that the historic high of the Great Salt Lake occurred at 4211.85 feet in 1986, and that the Great Salt Lake Planning Project Draft Analysis of Proposed Management Alternatives, issued by the Utah Department of Natural Resources in January 1999, designated the flood plain of the lake at 4212 feet for planning purposes and 4217 feet as the extent of the lake's floodplain. *Id.* However, neither has evaluated the final elevation of the ITF after it has been graded and constructed. The ITF is unlikely to remain as high as 4225 feet after construction, and could be graded to 4220 feet in elevation or less. The grading will apparently not involve the use of any borrow material and will consist solely of stripping to level the area. *Sæ e.g.*, ER; PFS's Preliminary Plan of Development, Right of Way application, Intermodal Transfer Point, submitted to the BLM (Nov. 22, 1999). The ITF is to be built on a slight rise with mudflats adjacent on the east and west sides and approximately three miles from the shoreline of the largest inland lake in the western United States. Neither PFS nor NRC has evaluated the flooding potential

of locating so near to a large closed basin lake where a lake rise of just a few feet can have significant consequences when severe weather or seismic events occur.

In its earlier response, incorporated by reference *supra*, the State estimated at least two feet of seiche combined with seven feet of wave height could result along the lake shores during storms in very wet years. State's 4<sup>th</sup> Discovery Response at 2. If the lake were to reach its 1986/87 historic high of 4212 feet during such a storm, structures at an elevation of just 4221 feet could be inundated.

Moreover, neither PFS nor the Staff considered the possibility of seismically generated flooding at the ITF, nor that this area, like the ISFSI site itself, is located in the seismically active basin and range region of the United States. More than 12 feet of seiche generated by earthquake-induced flooding could inundate structures as high as 4224 feet and submerge lower elevations if the lake were at its historic high. *Id.* A large earthquake generated by any one of several regional faults could reasonably cause considerably larger seiche.

Further, tectonic subsidence resulting from an earthquake could be several feet, thereby causing structures located as close to the shoreline as the proposed ITF to be inundated. *Id.* at 3. Additionally, neither PFS nor the Staff evaluated the potential for flooding at the ITF area caused by earthquake generated seiche in combination with subsidence. Indeed, an earthquake resulting from movement along a nearby fault could cause very significant subsidence along the lake shore as well as seiche.

Finally, neither PFS nor the NRC Staff evaluated flooding at the ITF area resulting from co-seismic rupture of the Stansbury fault with the East and/or West faults causing

subsidence and substantial seiche.

**B. Document Requests - Utah W**

DOCUMENT REQUEST NO. 1 - UTAH W: All documents, data or other information related to the claims made by the State in Utah W that the potential for and impact of flooding at the Intermodal Transfer Point has been inadequately considered in the PFS Environmental Report or the DEIS.

RESPONSE TO DOCUMENT REQUEST NO. 1 - UTAH W:

The State incorporates by reference the documents listed in its May 21, 1999 discovery response to Utah N. To the extent that the State has not already produced documents responsive to this request, they will be made available.

**V. UTAH CONTENTION Z-- NO ACTION ALTERNATIVE**

**A. Requests for Admission - Utah Z**

REQUEST FOR ADMISSION NO. 1 - UTAH Z: Do you admit that the DEIS identifies the "no action" alternative as leaving spent nuclear fuel "near facility" at individual reactors until a permanent repository is ready?

RESPONSE TO REQUEST FOR ADMISSION NO. 1 - UTAH Z: Admitted.

REQUEST FOR ADMISSION NO. 2 - UTAH Z: Do you admit that the DEIS has selected an appropriate "no action" alternative?

RESPONSE TO REQUEST FOR ADMISSION NO. 2 - UTAH Z: Admitted.

REQUEST FOR ADMISSION NO. 3 - UTAH Z: Do you admit that the DEIS discusses the advantages and disadvantages of the no-action alternative?

RESPONSE TO REQUEST FOR ADMISSION NO. 3 - UTAH Z: Admitted in part, denied in part. It is admitted that some advantages and disadvantages of the no-action alternative are discussed in the DEIS; however, the discussion is not complete. See

response to Interrogatory Nos. 4 through 7 infra.

REQUEST FOR ADMISSION NO. 4 - UTAH Z: Do you admit that the DEIS discusses the advantages of not transporting spent fuel rods to the PFSF?

RESPONSE TO REQUEST FOR ADMISSION NO. 4 - UTAH Z: Admitted in part, denied in part. It is admitted that some advantages of not transporting spent nuclear fuel rods to the PFSF are discussed in the DEIS, but the discussion is not complete or fairly balanced. See response to Interrogatory Nos. 4 and 5 below.

REQUEST FOR ADMISSION NO. 5 - UTAH Z: Do you admit that the DEIS discusses the risk of accidents from cask handling and related activities?

RESPONSE TO REQUEST FOR ADMISSION NO. 5 - UTAH Z: Admitted in part, denied in part. It is admitted that some risk of accidents from cask handling and related activities are discussed in the DEIS, but the discussion is not complete or fairly balanced. See response to Interrogatory No. 6 below.

REQUEST FOR ADMISSION NO. 6 - UTAH Z: Do you admit that the DEIS does not contain the following statement: "The construction of additional onsite ISFSIs at plant sites will result in more sites disturbed and greater environmental impact than constructing one site in a remote, desert environment?"

RESPONSE TO REQUEST FOR ADMISSION NO. 6 - UTAH Z: Admitted.

REQUEST FOR ADMISSION NO. 7 - UTAH Z: Do you admit that the DEIS discusses the NRC's conclusion that the storage of spent fuel at reactor sites will not have a significant incremental effect on the quality of the human environment?

RESPONSE TO REQUEST FOR ADMISSION NO. 7 - UTAH Z: Admitted.

**B. Interrogatories - Utah Z**

INTERROGATORY NO. 4 - UTAH Z: Identify and fully explain each advantage and disadvantage of the no-action alternative that the State claims is not discussed in the DEIS and describe fully the scientific, technical or other bases for each such claimed advantage or disadvantage.

RESPONSE TO INTERROGATORY NO. 4 - UTAH Z: The discussion of the no-action alternative is inadequate because it fails to discuss a number of advantages of on-site storage of spent nuclear power plant fuel. These include the following:

First, if shipment of spent nuclear fuel is postponed until a final repository is ready to receive the fuel, radioactivity levels in the fuel will have declined. For example, Cobalt-60 resides on the exterior of fuel assemblies and is a strong gamma emitter. Co-60 has a five-plus year half-life; therefore, in 20 half-lives, the Co-60 inventory will decline by a factor of one million. This greatly reduces radiation exposures in a potential accident, and also handling exposures by nuclear workers. Similarly, Cs-137, Ru-106 and other radionuclides would significantly decay during prolonged storage at reactors. This will significantly reduce occupational and public doses during transportation, under both normal and accident conditions. See State of Utah Comments on Transportation Sections in DEIS on Proposed PFS Facility, NUREG-1714 (September 20, 2000) at 14-16. See also State of Nevada Contractor Comments on the Yucca Mountain Draft EIS: Memorandum concerning RISKIND and RADTRAN Calculations (February 14, 2000) at 2-3 (located at [www.state.nv.us/nucwaste/eis/yucca/rwmarail1.pdf](http://www.state.nv.us/nucwaste/eis/yucca/rwmarail1.pdf)); Memorandum concerning Comment Summary - Yucca Mountain Draft EIS, Expanded Version (January 21, 2000) at 20-21 (located at [www.state.nv.us/nucwaste/eis/yucca/rwmaymeis.pdf](http://www.state.nv.us/nucwaste/eis/yucca/rwmaymeis.pdf)).

Second, if fuel is stored on-site until a final repository is ready, the number of fuel handling operations required would be reduced by two or three, thus reducing occupational exposures under normal and accident conditions. If fuel is shipped directly to a repository, it will not need to be handled on arrival at the PFS facility and/or the PFS intermodal transfer facility, or handled on departure from the PFS facility to the repository.

Third, if fuel is stored on-site until a final repository is ready, then only one shipment must be arranged in order to get a fuel assembly to the repository, rather than two shipments spaced apart in time. This will reduce the number of managerial actions required to ship spent nuclear fuel, and thereby reduce the potential for accidents and long delays caused by human error in coordinating shipments.

Fourth, implementation of the no-action alternative would involve continued storage of spent nuclear fuel at facilities already committed to that activity, and avoid construction of a new and enormous storage facility. Operating nuclear reactors will continue to store spent nuclear fuel on-site regardless of whether the PFS facility is constructed. If an existing site is already committed to spent nuclear fuel storage, it is a better use of resources to maintain all of the fuel at the sites where it is now, rather than building a new facility to house just some of it. For instance, PFS member Xcel Energy (formerly Northern States Power) already has a large dry storage ISFSI at the Praire Island nuclear plant. In addition, PFS member, Southern California Edison Company has already committed to constructing dry cask storage at its San Onofre plant. Another PFS member, Southern Nuclear Operating Company has already built a dry cask storage facility at the Hatch Plant. It would conserve resources to continue to use these facilities to their full

capacity and eliminate environmental impacts from construction of a new facility.

Fifth, on-site ISFSIs are also likely to be safer than the PFS facility with respect to their vulnerability to crashes of military aircraft and missiles. Although some reactor sites may be in the paths of commercial aircraft, we can think of none that are located below airspace designated as a military operating area or adjacent to testing and bombing ranges as is the PFS facility. Analysis conducted by contractors for the U.S. Department of Energy for the Yucca Mountain DEIS details the methodology used in calculating air crash probability and consequences for at-reactor ISFSIs. P.R. Davis, L. Strenge, J. Mishima, Final Accident Analysis for Continued Storage, Jason Technologies Corp., Las Vegas, Nevada (Rev. 0, 1998) (244118). Their work shows that a commercial jet engine would not penetrate a storage cask, and therefore the radiological consequences are minimal. This is not the case for F-16 jets, MK-84 bombs, or cruise missiles that would fly over and near the proposed facility in Skull Valley. Neither the probability nor consequences of jettisoned MK-84 bombs or jet engines on PFS storage casks is addressed in the DEIS. In fact, the NRC Staff is still in the process of evaluating the vulnerability of the PFS facility to impacts of military activity.

INTERROGATORY NO. 5 - UTAH Z: Identify and fully explain each advantage of not transporting spent fuel rods to the PFSF that the State claims is not discussed in the DEIS and describe fully the scientific, technical or other bases for each such claimed advantage.

RESPONSE TO INTERROGATORY NO. 5 - UTAH Z: *See* Response to Interrogatory No. 4 *supra*.

INTERROGATORY NO. 6 - UTAH Z: Identify and fully explain each risk from cask handling accidents and related activities that the State claims

is not discussed (or is not adequately discussed) in the DEIS and describe fully the scientific, technical or other bases for each such claimed risk.

RESPONSE TO INTERROGATORY NO. 6 - UTAH Z: The DEIS does not explicitly consider the decreased incident-free dose to cask handlers that would occur under a delayed transportation campaign from reactors to a geologic repository under the No-Action Alternative. Table 9-1 of the DEIS shows that the incident-free dose to workers will be smaller under the No-Action Alternative (at 9-33); however, the discussion is incomplete in two respects. First, the DEIS does not explicitly address the significant dose savings for handlers that would be achieved if the fuel were allowed to cool before transport off-site. Instead, the discussion is about handling the fuel immediately, on-site. Second, the DEIS does not acknowledge that radiation doses caused by accidental releases during handling and/or transportation would be lower if fuel is allowed to cool on-site before being shipped to a geologic repository sometime in the future and would pose less of a health risk to cask handlers.

INTERROGATORY NO. 7 - UTAH Z: Identify and fully explain each aspect of storing spent fuel near the reactors that the State claims is not discussed (or is not adequately discussed) in the DEIS and describe fully the scientific, technical or other bases for each such claim.

RESPONSE TO INTERROGATORY NO. 7 - UTAH Z: *See* Response to Interrogatory 4 supra. In addition, the State provides the following information:

The DEIS presents the no-action alternative in a biased manner, by claiming and emphasizing disadvantages without justifying them. The entire thrust of the DEIS is that the no-action alternative is unrealistic and unworthy of consideration. Therefore, the advantages of the no-action alternative are not given any detailed or serious consideration.

The bias of the DEIS can first be seen in Section 6.7, entitled “Potential Impacts of the No-Action Alternative.” This section starts by repeating, in bullet form, three “consequences” that PFS’s ER asserts could be caused by the no-action alternative. To summarize, these alleged consequences are (1) increased probability of shutdown of operating reactors due to lack of spent nuclear fuel storage capacity and consequent loss of power generation; (2) delays in reactor decommissioning activities due to inability to remove spent nuclear fuel from sites in a timely manner, resulting in continued expenses for storage of spent nuclear fuel at permanently shut down reactors; and (3) the need to construct additional at-reactor sites. DEIS at 6-43. The DEIS does not state whether NRC Staff agrees with these assertions, nor does the DEIS provide any support for them. By re-stating the PFS assertions uncritically, the DEIS gives the message that the consequences of the no-action alternative are so unacceptable (and so likely) that they are not worth considering.

One looks in vain elsewhere in the DEIS for any confirmation of the realism of the three consequences cited in the beginning of Section 6.7. There is no discussion of the relevance of specific reactor storage situations to the PFS proposal. The DEIS does not address whether nuclear utilities would in fact use the PFS facility if available. Thus, the purported disadvantage of at-reactor storage may occur regardless of whether the PFS facility is built. Thus, environmental consequences are compounded by the PFS facility, not avoided as purported by the DEIS.

The most severe of the three consequences is the first one: loss of spent nuclear

fuel storage space leading to loss of power generation. This assertion is repeated in Section 9.4.1.5, where the DEIS presents its conclusions regarding the impacts of the no-action alternative (“[s]ome power reactor licensees . . . because of physical constraints (e.g., insufficient land) may have to terminate operations prior to the expiration of their reactor licenses if their available spent fuel storage capacity is filled”). Nowhere in the DEIS is there any analysis of the probability or scope of premature shutdown due to lack of adequate spent nuclear fuel storage space. An analysis of this factor would require a discussion of acreage available at each site, the suitability of the sites for dry storage ISFSIs, available storage options (e.g., re-racking) at each site, the estimated additional storage capacity required to prevent premature shutdown at each site, the time frame in which additional storage capacity is required to prevent premature shutdown at each site, the energy generation lost at each site due to premature shutdown, and the available unused energy generation capacity at other reactors. However, no information is provided.

In fact, it is a matter of pure common sense that a reactor site of several hundred to several thousand acres would have an area of a half-acre to an acre suitable for an ISFSI. As the DOE recognizes in the Yucca Mountain EIS’s discussion of the no-action alternative of long-term on-site storage, “[t]he land required for a storage facility typically would be a few acres, a small percentage of the land available at current sites” and operation of an ISFSI would require no more land than the reactor site currently occupied. DOE/EIS-0250D, Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca

Mountain, Nye County, Nevada, Vol. 1 at 7-22 (July 1999) (“Yucca Mt. DEIS”). In addition, at the time it issued the PFS DEIS, the NRC Staff recognized in the DEIS, it has issued fifteen licenses for at-reactor ISFSIs and an additional fifteen to twenty were anticipated. PFS DEIS at 1-7. The fact that the Staff considered it necessary to prepare only an Environmental Assessment for the eight site specific licenses demonstrates that these ISFSIs posed no significant environmental difficulties. Moreover, the NRC does not identify any case in which an ISFSI license has been denied because of siting or other practical considerations. Additionally, all Part 50 licensees, who would presumably be affected by premature shutdown, “have a general license for at-reactor dry cask storage at an onsite ISFSI.” DEIS at 1-7. Hence, premature shutdown could be avoided.

Nor does the DEIS provide support for the second asserted consequence in Section 6.7: delays in reactor decommissioning due to the inability to remove spent nuclear fuel from sites in a timely manner, thus lengthening the time that spent nuclear fuel must be stored on-site. This argument can be broken down into two claims: first, that delays in spent nuclear fuel removal from reactor sites will impede the release of reactor sites to a “green fields” condition; second, it is disadvantageous or environmentally harmful for spent nuclear fuel to remain on-site for lengthy periods.

In making the first claim, the DEIS ignores the fact that the NRC views decommissioning of a reactor and continued spent nuclear fuel storage as two separate and independent operations. *Sæ* NUREG-0586, Final Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities at 2-5 (NRC: August 1988). Issues relating to the storage of spent nuclear fuel are handled in separate licensing proceedings,

without any particular relationship to decommissioning of the reactor itself. See Yankee Atomic Electric Co. (Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 79-80 (1996), *rev'd on other grounds*, CLI-96-7, 43 NRC 235 (1996).

In making the second claim, the DEIS ignores two important facts: first, as the Commission pointed out in CLI-96-7, in the GEIS for decommissioning of nuclear facilities, the Commission avoided making a generic finding that the benefit of early release of reactor sites under the DECON decommissioning alternative always outweighs the benefit of the dose savings achieved by the SAFSTOR alternative.<sup>2</sup> In addition, the Commission pointed out that “[t]he fact that a very small portion of the 2000-acre site may not be releasable does not preclude the release of the *overwhelming remainder* of the site.” Yankee Atomic Electric Co. (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 252 (1996) (emphasis added). Thus, in the Yankee case, the Commission treated as inconsequential the fact that a small portion of the site would be used for spent nuclear fuel storage following the decommissioning of the reactor. The DEIS improperly fails to reflect the Commission’s viewpoint on the relative unimportance of not releasing a very small fraction of a large reactor site.

The third asserted consequence in Section 6.7, need to construct additional at-reactor ISFSIs to handle the anticipated need for spent nuclear fuel, is totally unsupported. The DEIS fails to assess which specific reactor sites will forego construction of an at-

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<sup>2</sup> Thus, in the Yankee decommissioning case, the Commission rejected an intervenor’s contention which argued that the unavailability of spent nuclear fuel disposal facilities in the near future would “render illusory” the early site release advantage of the DECON alternative. Yankee, CLI-96-7, 43 NRC, 235, 251.

reactor ISFSI in favor of the proposed PFS facility. Many utilities have already or will construct dry storage ISFSIs regardless of whether the PFS facility is built. In fact, fifteen are currently operating and NRC anticipates an additional fifteen to twenty ISFSI applications in the near future. DEIS at 1-7. Other than PFS members, the DEIS does not identify any other utilities that would consider using the PFS site. Construction at the PFS site will not eliminate the purported construction impacts even at PFS member reactor sites. As discussed in Response to Interrogatory 4 supra, PFS members, Xcel Energy and Southern Nuclear Operating Company already have constructed dry storage ISFSIs. Additionally, another PFS member, Southern California Edison Company, has committed to constructing and operating a dry storage ISFSI. Two other PFS members, Consolidated Edison Company of New York and GPU Nuclear Corporation have sold or committed to sell all their operating reactors. The Genoa FuelTech, Inc. reactor is shutdown and the advantages of decommissioning its shutdown reactor and releasing a substantial portion of the site would compensate for construction impacts of a small ISFSI. Moreover, any at-reactor construction impacts that may actually be avoided by constructing the proposed PFS facility only alters the location of the construction impacts. Construction must be carried out in either case, whether it is in Skull Valley or at a nuclear reactor site.

Instead of supporting the likelihood or realism of the three PFS-asserted consequences, the DEIS merely repeats them and then invokes them menacingly throughout the DEIS. For instance, at page 6-43 the Staff asserts that “[w]hile the cooperating agencies recognize that many environmental impacts could result from

shutting down nuclear power reactors, a full evaluation of these potential environmental impacts (such as generation of additional air pollution from replacement sources of electricity) is beyond the scope of this DEIS.” Thus, the DEIS completely skips over the rather important question of how likely these shutdowns are, and instead raises vague specters about their terrible consequences.

The NRC Staff seems to be borrowing a page from the Yucca Mountain DEIS, in which the DOE identifies long-term on-site storage as the no-action alternative, and then rejects it as not a “viable alternative.” Yucca Mt. DEIS, Vol. 1 at 2-1, 2-59. In that case, the DOE provides an extensive discussion of why the no-action alternative is not a realistic option, chiefly because the agency was directed by Congress under the Nuclear Waste Policy Act to come up with a repository instead of long-term storage. In the case of the PFS facility, there is no such congressional directive. The comparison between the no-action and proposed action alternatives is a comparison of identical technologies, with the difference that the PFS alternative involves shipment off-site to a centralized facility. To the objective observer, given the question of whether it is better to move something dangerous for temporary storage purposes or leave it where it is, the obvious answer is to leave it where it is unless there is some danger or infeasibility involved. In other words, the only reason the PFS facility could naturally be “preferred” is if the status quo alternative were not safe or feasible. The DEIS never makes any attempt to compare the two alternatives in a meaningful way. There is no analysis of the alleged barriers to on-site storage. There is no recognition of the fact that on-site storage involves fewer handling operations of the spent nuclear fuel than transportation to the PFS facility. There is no

mention of the fact that occupational and public doses will be lowered if Cobalt-60 levels are allowed to decay over time during on-site storage. There is no attempt to qualify the significance of the alleged barriers to on-site storage, or the weight given to any of the limited factors that *were* considered in Section 9.4.3. Instead, Section 9.4.3 makes a simplistic and unsupported assertion that the Staff found the overall benefits of the proposed PFS facility to outweigh their disadvantages. Thus, the DEIS does not contain the concise, descriptive, and accurate comparison of alternatives that is required by NEPA.

**C. Document Requests— Utah Z**

DOCUMENT REQUEST NO. 1 - UTAH Z: All documents, data or other information related to the claims made by the State within the scope of Utah Z that the no action alternative has been inadequately considered in the PFS Environmental Report or the DEIS.

RESPONSE TO DOCUMENT REQUEST NO. 1 - UTAH Z: The study by Davis, Strenge, and Mishima, is available at [www.ymp.gov/documents/deisref/index.htm](http://www.ymp.gov/documents/deisref/index.htm). Additionally, *Spent Fuel Management Alternatives Available to Northern States Power Company Inc. and the Federal Government for the Prairie Island Nuclear Plant, Units 1 and 2*, January 2001 is available at [www.rw.doe.gov/nsp\\_report\\_01\\_09all.pdf](http://www.rw.doe.gov/nsp_report_01_09all.pdf). To the extent that the State has not already produced additional documents responsive to this request, they will be made available.

**VI. UTAH CONTENTION AA - RANGE OF ALTERNATIVES**

**A. Requests for Admission - Utah AA**

REQUEST FOR ADMISSION NO. 1 - UTAH AA: Do you admit that the DEIS discussed the site selection process used by PFS?

RESPONSE TO REQUEST FOR ADMISSION NO. 1 - UTAH AA: The State objects to this request because the DEIS speaks for itself.

REQUEST FOR ADMISSION NO. 2 - UTAH AA: Do you admit that the DEIS discussed the site selection criteria used by PFS?

RESPONSE TO REQUEST FOR ADMISSION NO. 2 - UTAH AA: The State objects to this request because the DEIS speaks for itself.

REQUEST FOR ADMISSION NO. 3 - UTAH AA: Do you admit that the DEIS discussed the candidate sites remaining at each point in the selection process?

RESPONSE TO REQUEST FOR ADMISSION NO. 3 - UTAH AA: The State objects to this request because the DEIS speaks for itself.

REQUEST FOR ADMISSION NO. 4 - UTAH AA: Do you admit that the requirements of 10 C.F.R. Part 72, Subpart E, apply to the site proposed in an application for a license pursuant to 10 C.F.R. Part 72?

RESPONSE TO REQUEST FOR ADMISSION NO. 4 - UTAH AA: The State objects to this request because it calls for a legal conclusion.

REQUEST FOR ADMISSION NO. 5 - UTAH AA: Do you admit that the requirements of 10 C.F.R. Part 72, Subpart E, do not apply to sites not proposed in an application for a license pursuant to 10 C.F.R. Part 72?

RESPONSE TO REQUEST FOR ADMISSION NO. 5 - UTAH AA: The State objects to this request because it calls for a legal conclusion.

REQUEST FOR ADMISSION NO. 6 - UTAH AA: Do you admit that the requirements of 10 C.F.R. Part 72, Subpart E, do not apply to the NRC Staff's DEIS?

RESPONSE TO REQUEST FOR ADMISSION NO. 6 - UTAH AA: The State objects to this request because it calls for a legal conclusion.

**B. Interrogatories - Utah AA**

INTERROGATORY NO. 4 - UTAH AA: Identify and fully explain each deficiency and omission that the State claims exists with respect to the DEIS discussion of the site selection process used by PFS and describe fully the scientific, technical or other bases for each such claimed deficiency or omission.

RESPONSE TO INTERROGATORY NO. 4 - UTAH AA: The State's answer to this interrogatory will depend in part upon the Applicant's responses to additional discovery requests the State has or soon will be submitting, as well as any other additional materials which we may discover prior to the submission of testimony on this issue. The State will update this response as we receive these materials and complete our analyses. Having said this, and in light of the materials the State currently has, the following set forth some of the problems with PFS's site selection process:

- Although the "Initial Screening" documents found at DEIS Exhibits F.1 through F.38 in some instances list reasons a site has been screened out, the reasons are often incomprehensible. Frequently there are no reasons at all given for rejection. See, e.g., Lado Ranch, Texas (DEIS, Exhibit F.28).
- See also responses to Interrogatories 5, 6, and 9. In particular, see the State's Response to Interrogatory No. 9 for additional information about the significance of PFS's inadequate justification of elimination of sites.

INTERROGATORY NO. 5 - UTAH AA: Identify and fully explain each deficiency and omission that the State claims exists with respect to the DEIS discussion of the site selection criteria used by PFS and describe fully the scientific, technical or other bases for each such claimed deficiency or omission.

RESPONSE TO INTERROGATORY NO. 5 - UTAH AA: The State's answer

to this interrogatory will depend in part upon the Applicant's responses to additional discovery requests the State has or soon will be submitting, as well as any other additional materials which we may discover prior to the submission of testimony on this issue. The State will update this response as we receive these materials and complete our analyses. Having said this, and in light of the materials the State currently has, the following set forth some of the problems with PFS's site selection criteria:

- Whether or not the site selection criteria are "deficient" depends upon the role they played in PFS's overall process of analyzing alternatives, e.g., how they were used, the quality and adequacy of the data supporting use of the criteria.
- Many of the criteria that apparently were used to eliminate a site appear to be related solely to making the project cheaper for PFS. See, e.g., DEIS exhibit F.2, where the Mescalero Reservation Ranch House Site was eliminated because PFS was "[u]nable to negotiate contract with Tribe." Since that document also indicates the governing body was on record as favoring the facility, it is reasonable to infer that this was simply a matter of price. It is not reasonable to eliminate a site from a DEIS evaluation simply because it may come at a greater cost to the Applicant.
- PFS's site selection process uses, as one starting point, DOE's site selection process for a monitored retrievable storage site. In many cases, the reasons for removing a site from DOE's further consideration are not stated, e.g., Tetlin Village, Arkansas (Reason for rejection: "DOE Applied Phase I 3/30/92 Denied 8/92"); Lower Brule Sioux, South Dakota (Reason for Rejection: "DOE Applied

Phase I 3/31/92, Inactive”). DEIS at F.25 and F.18 respectively. With no explanation of the reason these sites did not proceed further in DOE’s process, NRC and other participants cannot be assured that the reasons would not be irrelevant to PFS’s private proposal.

- See also responses to Interrogatories 4, 6 and 9.

INTERROGATORY NO. 6 - UTAH AA: Identify and fully explain each deficiency and omission that the State claims exists with respect to the DEIS discussion of the candidate sites remaining at each point in the site selection process and describe fully the scientific, technical or other bases for each such claimed deficiency or omission.

RESPONSE TO INTERROGATORY NO. 6 - UTAH AA: The State’s answer to this interrogatory will depend in part upon the Applicant’s responses to additional discovery requests the State has or soon will be submitting, as well as any other additional materials which we may discover prior to the submission of testimony on this issue. The State will update this response as we receive these materials and complete our analyses. Having said this, and in light of the materials the State currently has, the State responds that given PFS’s failure to give reasonable explanations for eliminating sites from its consideration at various points in the screening process, the State of Utah cannot accept any narrowing of the candidate sites at any point in the process.

- See also responses to Interrogatories 4, 5, and 9.

INTERROGATORY NO. 7 - UTAH AA: Identify and fully explain the basis for the State’s claim that 10 C.F.R. Part 72, Subpart E, siting evaluation criteria must be explicitly considered during the site selection process.

RESPONSE TO INTERROGATORY NO. 7 - UTAH AA: See response to

Interrogatories 8 and 9.

INTERROGATORY NO. 8 - UTAH AA: Identify and fully explain the basis for the State's claim that 10 C.F.R. Part 72, Subpart E, siting evaluation criteria apply to the NRC Staff's DEIS.

RESPONSE TO INTERROGATORY NO. 8 - UTAH AA: The DEIS must consider suitability of alternative sites for a Part 72 project. Although it may not legally require that the DEIS explicitly consider the factors listed in 10 C.F.R. part 72, Subpart E, that rule, as NRC's expression of site suitability, is clearly an excellent source of guidance for DEIS comparison criteria.

INTERROGATORY NO. 9 - UTAH AA: Identify and fully explain each deficiency and omission that the State claims exists with respect to the DEIS discussion of alternative sites, including any obviously superior sites, and describe fully the scientific, technical or other bases for each such claimed deficiency or omission, to include identifying specifically the range of alternatives to the proposed action that the State considers reasonable.

RESPONSE TO INTERROGATORY NO. 9 - UTAH AA: The State's answer to this interrogatory will depend in part upon the Applicant's responses to additional discovery requests the State has or soon will be submitting, as well as any other additional materials which we may discover prior to the submission of testimony on this issue. The State will update this response as we receive these materials and complete our analyses. Having said this, and in light of the materials the State currently has, the following set forth some of the problems with PFS's discussion of alternative sites:

- The heart of an adequate EIS is a fair comparison of reasonable alternatives. PFS has failed to fairly evaluate any reasonable alternative site. This failure could perhaps be excused if there is no reasonable alternative site, but the site selection

process described by PFS in the ER, and by the Staff in the DEIS, does not come close to establishing that. A site should be evaluated unless it is unreasonable to expect that the site could be used. It should not be sufficient, for example, to eliminate a site simply because it would come at a higher cost to PFS. The purpose of the DEIS is to determine the relative costs and benefits of alternatives. Costs in one area – e.g., costs to PFS – may very well be outweighed by other considerations in a fair comparison.

- Analysis of the Goshute “B” site does not constitute an evaluation of a reasonable alternative; it is essentially identical to the selected site.
- Further, analysis of the Goshute “B” site is inadequate because neither PFS nor the DEIS has evaluated whether some of the significant problems with the Goshute “A” site, e.g., seismic problems, are also present at the “B” site.
- See also responses to Interrogatories 4, 5, and 6.

**C. Document Requests— Utah AA**

DOCUMENT REQUEST NO. 1 - UTAH AA: All documents, data or other information related to the claims made by the State within the scope of Utah AA that the consideration or discussion of alternative sites and the site selection process in the PFS Environmental Report or the DEIS is inadequate.

RESPONSE TO DOCUMENT REQUEST NO. 1 - UTAH AA: To the extent that the State has not already produced documents responsive to this request, they will be made available.

VII. UTAH CONTENTION DD— ECOLOGY AND SPECIES

A. Requests for Admission— Utah DD

REQUEST FOR ADMISSION NO. 1 - UTAH DD: Do you admit that any survey for the presence of Skull Valley Pocket Gophers would also need to be conducted at an approved site prior to construction, even if it had been conducted prior to licensing?

RESPONSE TO REQUEST FOR ADMISSION NO. 1 - UTAH DD: Assuming that the “need” referred to is the need to determine whether there are Skull Valley Pocket Gophers on the facility site, ITF site, or transportation corridor at the time construction begins, the State agrees that an additional survey may need to be conducted in some circumstances, *e.g.*, where suitable habitat is found, and a population of gophers is found within a reasonable distance of the site. To the extent the “need” referred to is not as described above, the State objects to this request on the grounds that it is ambiguous.

REQUEST FOR ADMISSION NO. 2 - UTAH DD: Do you admit that Applicant has addressed how it will handle the presence of any gopher mounds within the proposed PFSF site?

RESPONSE TO REQUEST FOR ADMISSION NO. 2 - UTAH DD: The State acknowledges that Applicant has stated:

All appropriate protection and mitigation measures will be taken to mitigate construction effects on the pocket gopher.

ER, 4.1-7. The State is otherwise unaware of any information regarding the way in which the Applicant will handle the presence of gopher mounds, and thus denies this request.

REQUEST FOR ADMISSION NO. 3 - UTAH DD: Do you admit that populations of Pohl’s milkvetch and/or small spring parsley would benefit from a decrease in wildfires in Skull Valley?

RESPONSE TO REQUEST FOR ADMISSION NO. 3 - UTAH DD: Denied.

The State is unaware of any studies provided by the Applicant that would indicate how these species would or would not survive in the event of a wildfire. Some plant species are adapted to survive wildfire, while others are not. Pohl's milkvetch and small spring parsley both have physical attributes that may potentially protect them from impacts of a wildfire.

REQUEST FOR ADMISSION NO. 4 - UTAH DD: Do you admit that Applicant has indicated it will conduct another survey for the presence of Pohl's milkvetch and small spring parsley at the proposed site prior to the commencement of any construction?

RESPONSE TO REQUEST FOR ADMISSION NO. 4 - UTAH DD: Admitted that the Applicant has so indicated.

**B. Interrogatories -- Utah DD**

INTERROGATORY NO. 7 - UTAH DD: Identify fully and describe the impacts upon the food chain related to the following species that the State claims have not been assessed, including the State's scientific, technical, or other bases for each such claimed impact.

- a. Peregrine falcons nesting on the Timpie Springs Waterfowl Management Area.
- b. Private domestic animals (livestock).
- c. Bees.
- d. The domestic plant (farm produce) species in the area

RESPONSE TO INTERROGATORY NO. 7 - UTAH DD: The State objects to Interrogatory No. 7 as being four separate interrogatories. Pursuant to Board Order LBP-98-7 at 161 dated April 22, 1998, no more than 10 interrogatories, "including all discrete subparts" may be filed without leave of the Board. Thus, PFS has exceeded the number of allowed interrogatories for this contention. Notwithstanding these objections, the State responds as follows.

The ER and the DEIS discuss the radiation doses that may be received by birds

and other animals in close contact with the casks. The analysis ends at that point however, neither document addresses the transport of those affected birds off-site, or their impact on animals that are higher in the food chain, including the Peregrine Falcon. Because radiation in animals can be introduced and accumulated through eating affected prey, those impacts could be significant and should have been evaluated.

In addition, the project will result in an increased potential for wildfire as a result of additional railroad, truck, and other traffic. Given the nature of the vegetation in the area, a fire could cover large areas quickly. In addition to a potential direct impact to nesting habitat for raptors, wildfire destruction of habitat could impact available prey species for raptors, including the Peregrine Falcon.

The State at this time has no additional new information to add to its previous responses to Interrogatories Nos. 1, 5, and 6. See State's Objections and Response to Applicant's Second Set of Discovery Requests with respect to Groups II and III Contentions (June 28, 1999) ("State's Response 2<sup>nd</sup> Set") at 116-19, 123-26. The State has or soon will be submitting additional discovery relative to these matters, and will update this response as we receive these materials and complete our analyses.

INTERROGATORY NO. 8 - UTAH DD: Identify and fully describe each potential source of harm supporting the State's claim that rail construction or other project activities may damage wetlands and/or reduce populations of peregrine falcon prey species, including the State's scientific, technical, or other bases for such claimed harm.

RESPONSE TO INTERROGATORY NO. 8 - UTAH DD: See response to Interrogatory No. 7. The State of Utah at this time has no new information to add to its previous responses to Interrogatory No. 1. See State's Response 2<sup>nd</sup> Set at 116-19. The

State has or soon will be submitting additional discovery relative to these matters, and will update this response as we receive these materials and complete our analyses.

INTERROGATORY NO. 9 - UTAH DD: Identify fully each impact, within the scope of Contention Utah DD, that the State claims has not been addressed or evaluated by the Draft Environmental Impact Statement and describe fully the State's scientific, technical, regulatory or other bases for each such claimed impact.

RESPONSE TO INTERROGATORY NO. 9 - UTAH DD: See response to Interrogatory No. 7. The State at this time has no other new information to add to its previous responses to Interrogatories Nos. 1, 5, and 6. See State's Response 2<sup>nd</sup> Set at 116-19, 123-26. The State has or soon will be submitting additional discovery relative to these matters, and will update this response as we receive these materials and complete our analyses.

C. Document Requests - Utah DD

DOCUMENT REQUEST NO. 1 - UTAH DD: All documents or other information supporting or otherwise relating to the State's assertions in its responses to Interrogatory Nos. 7-9 above.

RESPONSE TO DOCUMENT REQUEST NO. 1 - UTAH DD: To the extent that the State has not already produced documents responsive to this request, they will be made available.

DOCUMENT REQUEST NO. 2 - UTAH DD: Any documents mentioned in Utah's prior discovery responses on Utah DD, but not produced to date.

RESPONSE TO DOCUMENT REQUEST NO. 2- UTAH DD: To the extent that the State has not already produced documents responsive to this request, they will be made available.

DOCUMENT REQUEST NO. 3 - UTAH DD: Annual Report of Tooele County Bee Inspection, 1997, by Vance Keel, and any subsequent Annual Report of Tooele County Bee Inspection.

RESPONSE TO DOCUMENT REQUEST NO. 3 - UTAH DD: These documents will be produced.

DOCUMENT REQUEST NO. 4 - UTAH DD: All documents, data or other information related to the claims made by the State that the discussion of the impact on ecology and species within the scope of Utah DD in the PFS Environmental Report or the DEIS is inadequate.

RESPONSE TO DOCUMENT REQUEST NO. 4 - UTAH DD: To the extent that the State has not already produced documents responsive to this request, they will be made available.

DATED this 28<sup>th</sup> day of February, 2001.

Respectfully submitted,



Denise Chancellor, Assistant Attorney General  
Fred G Nelson, Assistant Attorney General  
Connie Nakahara, Special Assistant Attorney General  
Diane Curran, Special Assistant Attorney General  
Laura Lockhart, Assistant Attorney General  
Attorneys for State of Utah  
Utah Attorney General's Office  
160 East 300 South, 5th Floor, P.O. Box 140873  
Salt Lake City, UT 84114-0873  
Telephone: (801) 366-0286, Fax: (801) 366-0292

CERTIFICATE OF SERVICE

I hereby certify that a copy STATE OF UTAH'S OBJECTIONS AND RESPONSE TO APPLICANT'S SIXTH SET OF DISCOVERY REQUESTS TO INTERVENOR STATE OF UTAH was served on the persons listed below by electronic mail (unless otherwise noted) with conforming copies by United States mail first class, this 28 th day of February, 2001:

Rulemaking & Adjudication Staff  
Secretary of the Commission  
U. S. Nuclear Regulatory Commission  
Washington D.C. 20555  
E-mail: hearingdocket@nrc.gov  
*(original and two copies)*

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Dr. Jerry R. Kline  
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Office of the Commission Appellate  
Adjudication  
Mail Stop: O14-G-15  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

James M. Cutchin  
Atomic Safety and Licensing Board Panel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001  
E-Mail: jmc3@nrc.gov  
(*electronic copy only*)



Denise Chancellor  
Assistant Attorney General  
State of Utah

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

DOCKETED  
USNRC

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

01 MAR -6 P12:37

In the Matter of:

PRIVATE FUEL STORAGE, LLC  
(Independent Spent Fuel  
Storage Installation)

)  
) Docket No. 72-22-ISFSI  
)  
) ASLBP No. 97-732-02-ISFSI  
)  
) February 28, 2001

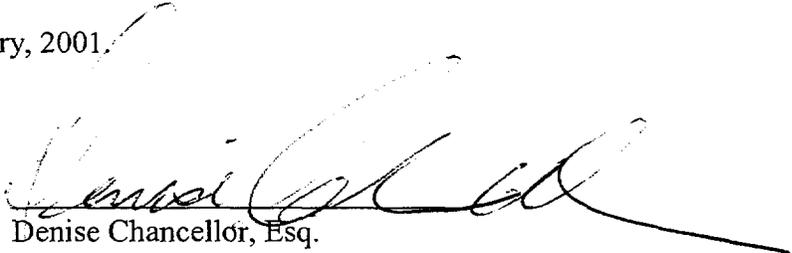
OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

**DECLARATION OF DENISE CHANCELLOR, ESQ.**

I, Denise Chancellor, Esq., hereby declare under penalty of perjury and pursuant to 28 U.S.C. § 1746, that the statements contained in State of Utah's Objections and Responses to Applicant's Sixth Set of Formal Discovery Requests to Intervenor State of Utah, dated February 15, 2001, relating to responses to General Discovery Requests are true and correct to the best of my knowledge, information and belief.

Dated this 28<sup>th</sup> day of February, 2001.

By:

  
Denise Chancellor, Esq.  
Assistant Attorney General  
Utah Attorney General's Office

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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In the Matter of:	)	Docket No. 72-22-ISFSI
	)	
PRIVATE FUEL STORAGE, LLC	)	ASLBP No. 97-732-02-ISFSI
(Independent Spent Fuel	)	
Storage Installation)	)	February 27, 2001

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**DECLARATION OF DON OSTLER**

I, Don A. Ostler, hereby declare under penalty of perjury and pursuant to 28 U.S.C. § 1746, that the statements contained in State of Utah's Objections and Responses to Applicant's Sixth Set of Formal Discovery Requests to Intervenor State of Utah, dated February 15, 2001, relating to Utah Contention O, limited to responses regarding water quality in Interrogatory 8 subsections a., b. c. d. and e, are true and correct to the best of my knowledge, information and belief.

Dated this 27<sup>th</sup> day of February, 2001.

By:   
Don Ostler  
Director, Utah Division of Water Quality

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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In the Matter of:	)	Docket No. 72-22-ISFSI
	)	
PRIVATE FUEL STORAGE, LLC	)	ASLBP No. 97-732-02-ISFSI
(Independent Spent Fuel	)	
Storage Installation)	)	February 28, 2001

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**DECLARATION OF JOHN R. MANN**

I, John R. Mann, hereby declare under penalty of perjury and pursuant to 28 U.S.C. § 1746, that the statements contained in State of Utah's Objections and Responses to Applicant's Sixth Set of Formal Discovery Requests to Intervenor State of Utah, dated February 15, 2001, relating to Utah Contention O, limited to response to subsection "d" of Interrogatory 8, are true and correct to the best of my knowledge, information and belief.

Dated this 28<sup>th</sup> day of February, 2001.

By: John R. Mann  
  
Regional Engineer  
Utah Division of Water Rights

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

---

In the Matter of:

PRIVATE FUEL STORAGE, LLC  
(Independent Spent Fuel  
Storage Installation)

)  
) Docket No. 72-22-ISFSI  
)  
) ASLBP No. 97-732-02-ISFSI  
)  
) February 27, 2001

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**DECLARATION OF HELGE GABERT**

I, Helge Gabert, hereby declare under penalty of perjury and pursuant to 28 U.S.C. § 1746, that the statements contained in State of Utah's Objections and Responses to Applicant's Sixth Set of Formal Discovery Requests to Intervenor State of Utah, dated February 15, 2001, relating to Utah Contention O, limited to Interrogatory § subsection b. regarding "Overflow" are true and correct to the best of my knowledge, information and belief.

Dated this 27<sup>th</sup> day of February, 2001.

By: Helge Gabert

Helge Gabert  
Environmental Scientist/Hydrologist

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

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In the Matter of:	)	Docket No. 72-22-ISFSI
	)	
PRIVATE FUEL STORAGE, LLC	)	ASLBP No. 97-732-02-ISFSI
(Independent Spent Fuel	)	
Storage Installation)	)	February 27, 2001

**DECLARATION OF DR. MARVIN RESNIKOFF**

I, Dr. Marvin Resnikoff, hereby declare under penalty of perjury and pursuant to 28 U.S.C. § 1746, that the statements contained in State of Utah's Objections and Responses to Applicant's Sixth Set of Formal Discovery Requests to Intervenor State of Utah, dated February 15, 2001, relating to Utah Contentions V and Z, are true and correct to the best of my knowledge, information and belief.

Dated this 27<sup>th</sup> day of February, 2001.

By:



Marvin Resnikoff, PhD,  
Senior Associate  
Radioactive Waste Management Associates

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:

PRIVATE FUEL STORAGE, LLC  
(Independent Spent Fuel  
Storage Installation)

) Docket No. 72-22-ISFSI

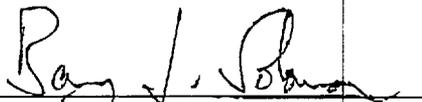
) ASLBP No. 97-732-02-ISFSI

) February 27, 2001

DECLARATION OF BARRY J. SOLOMON

I, Barry J. Solomon, hereby declare under penalty of perjury and pursuant to 28 U.S.C. § 1746, that the statements contained in State of Utah's Objections and Responses to Applicant's Sixth Set of Formal Discovery Requests to Intervenor State of Utah, dated February 15, 2001, with respect to Utah Contention W (flooding at the intermodal transfer facility), limited to geologic and earthquake hazards, and tectonic subsidence, are true and correct to the best of my knowledge, information and belief.

Executed this 27<sup>th</sup> day of February 2001.

By: 

Barry J. Solomon  
Senior Geologist  
Utah Geological Survey  
Utah Department of Natural Resources

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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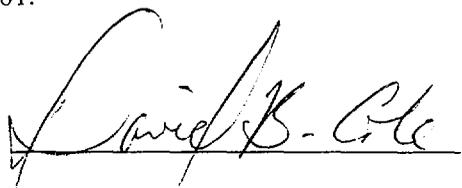
In the Matter of:	)	Docket No. 72-22-ISFSI
	)	
PRIVATE FUEL STORAGE, LLC	)	ASLBP No. 97-732-02-ISFSI
(Independent Spent Fuel	)	
Storage Installation)	)	February 27, 2001

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**DECLARATION OF DAVID B. COLE**

I, David B. Cole, hereby declare under penalty of perjury and pursuant to 28 U.S.C. § 1746, that the statements contained in State of Utah's Objections and Responses to Applicant's Sixth Set of Formal Discovery Requests to Intervenor State of Utah, dated February 15, 2001, with respect to Utah Contention W (flooding at the intermodal transfer facility), limited to calculations of storm seiche and wave height, are true and correct to the best of my knowledge, information and belief.

Executed this 27<sup>th</sup> day of February 2001.

By: 

David B. Cole  
Senior Engineer  
Utah Division of Water Resources  
Utah Department of Natural Resources

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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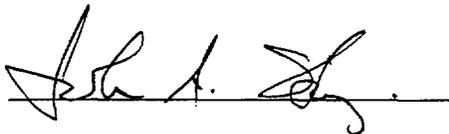
In the Matter of:	)	Docket No. 72-22-ISFSI
	)	
PRIVATE FUEL STORAGE, LLC	)	ASLBP No. 97-732-02-ISFSI
(Independent Spent Fuel	)	
Storage Installation)	)	February 27, 2001

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**DECLARATION OF JOHN A. HARJA**

I, John A. Harja, hereby declare under penalty of perjury and pursuant to 28 U.S.C. § 1746, that the statements contained in State of Utah's Objections and Responses to Applicant's Sixth Set of Formal Discovery Requests to Intervenor State of Utah, dated February 15, 2001, relating to Utah Contention AA, are true and correct to the best of my knowledge, information and belief.

Dated this 27<sup>th</sup> day of February, 2001.

By: 

John A. Harja, Esq.  
Manager of Legal Analysis.  
Utah Governor's Office of Planning and Budget

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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In the Matter of:	)	Docket No. 72-22-ISFSI
	)	
PRIVATE FUEL STORAGE, LLC	)	ASLBP No. 97-732-02-ISFSI
(Independent Spent Fuel	)	
Storage Installation)	)	February 23, 2001

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**DECLARATION OF DR. CHRIS S. CRNICH**

I, Dr. Chris S. Crnich, hereby declare under penalty of perjury and pursuant to 28 U.S.C. § 1746, that the statements contained in State of Utah's Objections and Responses to Applicant's Sixth Set of Formal Discovery Requests to Intervenor State of Utah, dated February 15, 2001, relating to Utah Contention DD, limited to the response to Interrogatory 7 (livestock, bees, and farm produce), and response to the document requests that relate to livestock, bees, and farm produce, are true and correct to the best of my knowledge, information and belief.

Dated this 23<sup>rd</sup> day of February, 2001.

By:



Chris S. Crnich, DVM  
Manager, Meat and Poultry Inspection Bureau  
Utah Department of Agriculture and Food

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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In the Matter of:	)	Docket No. 72-22-ISFSI
	)	
PRIVATE FUEL STORAGE, LLC	)	ASLBP No. 97-732-02-ISFSI
(Independent Spent Fuel	)	
Storage Installation)	)	February 27, 2001

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**DECLARATION OF MICHAEL F. CANNING**

I, Michael F. Canning, hereby declare under penalty of perjury and pursuant to 28 U.S.C. § 1746, that the statements contained in State of Utah's Objections and Responses to Applicant's Sixth Set of Formal Discovery Requests to Intervenor State of Utah, dated February 15, 2001, relating to Utah Contention DD, and limited to responses that relate to Skull Valley Pocket Gophers, are true and correct to the best of my knowledge, information and belief.

Dated this 27<sup>th</sup> day of February, 2001.

By: 

Michael F. Canning  
Conservation Data / GIS Coordinator  
Utah Division of Wildlife Resources  
Utah Department of Natural Resources

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

---

In the Matter of:	)	Docket No. 72-22-ISFSI
	)	
PRIVATE FUEL STORAGE, LLC	)	ASLBP No. 97-732-02-ISFSI
(Independent Spent Fuel	)	
Storage Installation)	)	February 27, 2001

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**DECLARATION OF DR. FRANK P. HOWE**

I, Dr. Frank P. Howe, hereby declare under penalty of perjury and pursuant to 28 U.S.C. § 1746, that the statements contained in State of Utah's Objections and Responses to Applicant's Sixth Set of Formal Discovery Requests to Intervenor State of Utah, dated February 15, 2001, relating to Utah Contention DD and limited to responses that relate to birds, are true and correct to the best of my knowledge, information and belief.

Dated this 27<sup>th</sup> day of February, 2001.

By:



Frank P. Howe, PhD  
Non-Game Avian Program Coordinator  
Utah Division of Wildlife Resources  
Utah Department of Natural Resources

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

---

In the Matter of:	)	Docket No. 72-22-ISFSI
	)	
PRIVATE FUEL STORAGE, LLC	)	ASLBP No. 97-732-02-ISFSI
(Independent Spent Fuel	)	
Storage Installation)	)	February 27, 2001

---

**DECLARATION OF MERTON A. FRANKLIN**

I, Merton A. Franklin, hereby declare under penalty of perjury and pursuant to 28 U.S.C. § 1746, that the statements contained in State of Utah's Objections and Responses to Applicant's Sixth Set of Formal Discovery Requests to Intervenor State of Utah, dated February 15, 2001, relating to Utah Contention DD, and limited to matters relating to Pohl's milkvetch, small spring parsley, and other plants, are true and correct to the best of my knowledge, information and belief.

Dated this 27<sup>th</sup> day of February, 2001.

By: Merton A. Franklin

Merton A. Franklin  
Botanist  
Utah Natural Heritage Program  
Utah Division of Wildlife Resources  
Utah Department of Natural Resources