UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-01-39

ATOMIC SAFETY AND LICENSING BOARD

RAS 3692 **DOCKETED 12/26/01**

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Before Administrative Judges:

Michael C. Farrar, Chairman
Dr. Jerry R. Kline
Dr. Peter S. Lam

In the Matter of	Docket No. 72-22-ISFSI
PRIVATE FUEL STORAGE, LLC	ASLBP No. 97-732-02-ISFSI
(Independent Spent Fuel Storage Installation)	December 26, 2001

MEMORANDUM AND ORDER
(Ruling on Applicant's Motion for Summary Disposition of Part A of "Contention Utah L, Geotechnical" and on Related Matters)

Introduction and Summary

The State of Utah has been opposing the plans of a consortium of electric utility companies, called Private Fuel Storage, LLC (PFS, or the applicant), to construct within the State's borders, on the reservation of the Skull Valley Band of the Goshute Indians, an above-ground facility for the temporary storage of spent fuel from nuclear power plants.[1] The State's many challenges to PFS's application for a Nuclear Regulatory Commission license have, in this forum, taken the form of the "contentions" -- allegations of safety and environmental inadequacies in the planned PFS facility -- called for by the NRC's rules.

[1] As those familiar with the area know, the facility would be located some fifty miles southwest of Salt Lake City, between Tooele and the Dugway Proving Grounds.

Although several of the State's contentions have already been the subject of a full evidentiary hearing,[2] or are destined for such a hearing (see footnotes 10 and 35, below), a large number have previously been rejected by this Licensing Board [3] on a variety of grounds. Some were dismissed at the outset for such reasons as not providing necessary supporting documentation, not raising issues litigable in this forum, and/or not furnishing sufficient justification for being filed outside established time periods.[4]

Other contentions, although initially admitted as appropriate to litigate, were later dismissed by this Board on "summary disposition," a procedure invoked when there are no significant factual disputes about a matter and controlling legal principles warrant resolving it without the formal presentation of evidence at a trial. As to those issues, the applicant was able to convince us that no evidentiary hearing was necessary to determine that the State's claims lacked merit. [5]

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[2] A hearing was conducted in mid-2000 on the merits of several contentions involving financial assurance and emergency planning. A partial initial decision was issued on the latter. LBP-00-35, 52 NRC 364 (2000), petition for review denied, CLI-01-09, 53 NRC 232 (2001). Later developments have left the financial assurance issues yet to be decided.

[3] To this point, the Licensing Board assigned to this proceeding has been chaired by Chief Administrative Judge G. Paul Bollwerk, III. Pursuant to, and as detailed in, a December 19, 2001, Notice of Reconstitution, responsibilities for the completion of the case are being split between that original board, chaired by Chief Judge Bollwerk, and this second board, chaired by Judge Michael C. Farrar (with both boards having the same technical members, Judges Jerry R. Kline and Peter S. Lam). Unless the context demands otherwise or we so indicate, references herein to "this Board" or "the Licensing Board" are not intended to distinguish between rulings made by the original board and by this second Board, for there is no lack of continuity in our respective roles.

[4] We do not pause in this opinion to recite this Board's many prior decisions involving rulings on the initial admissibility of contentions (as referred to in the text above) or on summary disposition of contentions previously admitted (see next paragraph of text). We note simply that there have been some 40 such decisions, involving some 120 contentions.

[5] In other instances, after discovery of additional facts bearing on particular claims, the State withdrew contentions on the grounds that its concerns had been satisfied.

The applicant now urges us to take similar action by ruling summarily in its favor on another State claim, the one embodied in so-called Part A of "Contention Utah L, Geotechnical". By this claim,[6] the State has been asserting that, contrary to the standard mandate long imposed by the Commission on the facilities it licenses, [7] the facility is not properly designed to withstand the potential risk of earthquakes. In that connection, proper design usually involves predicting what type or level of seismic event should be anticipated and guarded against. See, for example, Consolidated Edison Co. of New York (Indian Point Station Units 1, 2 & 3) and Public Service Co. of New Hampshire (Seabrook Station, Units 1 & 2), ALAB-561, 10 NRC 410, 411 (1979)(dissenting opinion).

Although the applicant has put forward a number of undisputed facts that the State does not contest, we nonetheless decline to grant summary disposition to PFS on Part A of Contention Utah L. For the State's countervailing presentation -- including information provided by the State's array of experts on seismology and related topics -- raises a genuine dispute about a number of other key factual matters, including the ultimate factual conclusions we should draw from underlying technical facts.

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[6] This Memorandum and Order directly involves only "Part A" of the State's geotechnical contention. "Part B," challenging the applicant's request for an exemption from certain regulatory requirements, proceeded initially in a somewhat different direction, but has more recently become part of the matters before us. See LBP-01-03, 53 NRC 84 (January, 2001), affirmed and remanded for further proceedings, CLI-01-12, 53 NRC 459 (June, 2001).

A motion for summary disposition of Part B was filed by PFS on November 9, 2001, and responses were filed on December 7, 2001. In the wake of our recent ruling on a Part B discovery dispute (unpublished order, November 21, 2001), we gave the State until seven days after that discovery is completed -- but no later than December 21 -- to amend its Part B responses based on the additional discovery allowed. Thus, we should soon be able to rule on the Part B summary disposition motion, likely applying the same principles set out in this opinion to the particular circumstances presented there.

[7] See 10 C.F.R. Part 50, Appendix A, General Design Criterion 2; 10 CFR Part 100, Appendix A; 10 C.F.R. § 72.102; Virginia Electric & Power Co. (North Anna Power Station, Units 1, 2, 3 & 4), ALAB-256, 1 NRC 10, 12-13 (1975).

In ruling in the State's favor at this preliminary juncture, we express no opinion, of course, about what the evidence will later establish or what the eventual result will be. We simply rule that there is sufficient dispute between the parties that the controversy must go to a trial for resolution.

In this opinion, [8] we also rule on related matters involving the scope of the State's geotechnical contention. We resolve those matters essentially in the State's favor, finding that the underlying issues are so inextricably intertwined that we will (1) reject PFS's suggestion that we carve out some aspects as inappropriate for hearing and (2) allow the State to add a new, late-arising challenge ("Contention Utah QQ"). In light of these rulings, the hearing [9] will encompass the full range of the State's currently-expressed geotechnical concerns.[10]

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[8] The body of this opinion consists of four main parts -- A: The Pending Matters and The Conflicting Positions (pp. 5-9); B: The Governing Legal Standards (pp. 10-19); C: The Resulting Rulings (pp. 20-34); and D: The Upcoming Hearing (pp. 35-37). Those are followed by our Order (p. 38).

[9] The evidentiary hearing on this issue, and on other matters not summarily resolved (see fns. 35 and 36, below), is currently scheduled to begin in Salt Lake City on Monday, April 8, 2002, and was anticipated to last three weeks.

[10] Among the other matters to be considered at that trial is the State's "Contention Utah K," claiming that the facility has not been properly designed to withstand potential "credible accidents," including those caused by aircraft. The Commission has recently handed down an important ruling guiding our consideration of one of the standards applicable to that subject. CLI-01-22, 54 NRC __ (November 14, 2001), affirming LBP-01-09, 53 NRC 416 (May, 2001).

For our part, we issued earlier this month an opinion indicating that the State's recently-proffered "terrorism" contention (Contention Utah RR), based on the events of September 11, may not under existing rules be made the subject of our hearing. LBP- 01-37, 54 NRC ___ (December 13, 2001). See also CLI-01-22, 54 NRC ___,___ (slip op. p. 2), fn. 3 (which refers also to the State's petition to the Commission to suspend any further proceedings herein). Recognizing that the Commission has been heavily involved in reviewing its policies in the aftermath of the terrorist events, we referred our "Utah RR" ruling to the Commission for immediate review. LBP-01-37, 54 NRC at ___ (slip op., p. 14). Having done so, we are in position to obtain the benefit of any early guidance the Commission is able to provide on this score, as it analyzes the overarching question of how best to protect the public in the post-9/11 world.

PART A:

THE PENDING MATTERS

AND

THE CONFLICTING POSITIONS

In this licensing proceeding under 10 C.F.R. Part 72 for an independent spent fuel storage installation (ISFSI), the matters now before us all revolve around Contention Utah L, Geotechnical, framed by the State (in a supplemental petition timely filed in November 1997) as follows (footnote omitted):

> The Applicant has not demonstrated the suitability of the proposed ISFSI site because the License Application and [Safety Analysis Report] do not adequately address site and subsurface investigations necessary to determine geologic conditions, potential seismicity, ground motion, soil stability and foundation loading.

As will be discussed (see pp. 10-13, below), a party has to submit a "basis" for each contention. Here, the State in fact submitted four bases to support Contention L. [11] These bases embrace the following issues: (1) surface faulting; (2) ground motion; (3) characterization of subsurface soils, including (a) subsurface investigations, (b) sampling and analysis, and (c) physical property testing for engineering analysis; and (4) soil stability and foundation loading.

Upon review of the contention and its supporting bases, we admitted it into the proceeding. LBP-98-7, 47 NRC 142, 253, reconsideration granted in part and denied in part on other grounds, LPB-98-10, 47 NRC 288, aff'd on other grounds, CLI-98-13,48 NRC 26 (1998). The parties then conducted extensive discovery of the facts and expert opinions underlying each other's positions.

We did not allow into the proceeding the bulk of two additional contentions (Utah EE and GG) belatedly submitted by the State in December 1997 in an attempt to raise further concerns

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[11] See "State of Utah's Contentions on the Construction and Operating License Application . . .", pp. 80-95 (November 23, 1997).

about the facility's seismic design parameters. Contention Utah EE -- "Failure to Demonstrate Cask-Pad Stability During Seismic Event" -- questioned, among other things, the adequacy of PFS's analysis regarding the site-specific seismic stability of one of the two PFS-designated cask systems to be used at the facility, namely the Holtec HI-STORM 100 system. The similarly-titled Contention Utah GG asserted that PFS has failed to demonstrate that the other cask system, the so-called TranStor system, will remain stable during a seismic event. We largely denied admission of these contentions in April 1998, based on a combination of reasons including late filing, but did admit one portion (paragraph 5) of Contention Utah GG as revised. LBP-98-7, 47 NRC at 206-09, 210-11, 257. [12]

For similar reasons, we later rejected Contention Utah JJ, dealing with the assertedly inadequate PFS analysis of the implications of "possible co-seismic rupture" involving the Stansbury Fault and other faults. We found that the State should have acted faster than it did after receiving the information that triggered this contention. LBP-00-16, 51 NRC 320 (2000).

1. Motion for Summary Disposition. The principal matter now pending before us is the applicant's motion for summary disposition of Utah's original geotechnical contention. As noted above, that contention challenges the adequacy of PFS's site and subsurface investigations necessary to determine geologic conditions, potential seismicity, ground motion, soil stability, and foundation loading.

PFS filed its summary disposition motion on December 30, 2000, after discovery was completed. In arguing that no genuine issue of material fact exists, PFS pointed, among other

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[12] Later, the State withdrew the limited aspect of Contention Utah GG that we had admitted, because PFS had, in its seventeenth amendment to its license application, removed reference to the TranStor cask system. " . . . Request to Withdraw Contention . . .", September 14, 2000, granted October 6, 2000. In withdrawing, however, the State indicated that the "cask sliding analysis" shortcomings allegedly applicable to the TranStor casks also bore on the Holtec casks, and urged the NRC Staff to "require PFS to perform a more complete analysis" to address its concerns. As we discuss below (p. 30), the circumstances surrounding Contention GG's late filing, partial admission, and eventual withdrawal have some continued significance.

things, to its having performed since the contention was filed extensive geotechnical studies and investigations that it claims address all of the State's concerns. In support of that position, PFS submitted a "Statement of Material Facts on Which No Genuine Dispute Exists" (December 30, 2000) [hereinafter PFS Undisputed Facts], along with the supporting affidavits of several of its experts: Kevin J. Coppersmith, Robert R. Youngs, John C. Clark, and Paul J. Trudeau. [13] PFS also relied upon certain admissions contained in the deposition testimony of several State witnesses.[14]

In its January 30, 2001, response, the State urged us not to grant summary disposition. To that end, the State included a statement of the material facts that it contends are in dispute, and provided several supporting affidavits from its experts: M. Lee Allison, Walter J. Arabasz, Steven F. Bartlett and Farhang Ostadan.[15] The State also relied on portions of the deposition testimony of several PFS experts.

For its part, the NRC staff supports the PFS motion, perceiving no remaining genuine issues of material fact. Its January 30 filing urged that the undisputed facts demonstrate that the issues previously raised by the State have been resolved. In support of its position, the

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[13] See PFS Dispositive Motion Exh. A, Declaration of Dr. Kevin J. Coppersmith [hereinafter Coppersmith Decl.]; id. Exh. B, Declaration of John Clark [hereinafter Clark Decl.]; id. Exh. C, Declaration of Dr. Robert Y.[sic] Youngs [hereinafter Youngs Decl.]; id. Exh. D, Declaration of Paul Trudeau [hereinafter Trudeau Decl.].

[14] See PFS Dispositive Motion Exh. E, Excerpts from Deposition of Dr. Walter J. Arabasz [hereinafter Arabasz Dep.]; id. Exh. F., Deposition of Barry J. Solomon; id. Exh. G, Excerpts from the Deposition of Dr. M. Lee Allison; id. Exh. H, Excerpts from Deposition of Dr. Steven F. Bartlett and Dr. Farhang Ostadan.

[15] See State Response Exh. 1, Declaration of Dr. M. Lee Allison [hereinafter Allison Decl.]; id. Exh. 2, Declaration of Dr. Walter J. Arabasz [hereinafter Arabasz Decl.]; id. Exh. 3 Declaration of Dr. Steven F. Bartlett [hereinafter Bartlett Decl.]; id. Exh. 4, Declaration of Dr. Farhang Ostadan [hereinafter Ostadan Decl.].

staff submitted the affidavits of John Stamatakos and Goodluck I. Ofoegbu, both of the Southwest Research Institute (SwRI).[16]

2. Motion to Strike. Although the matter then appeared ripe for decision, new pleadings have been filed intermittently throughout the remainder of this year. The first came within ten days when, on February 9, PFS filed a motion to strike portions of the State's response to the PFS motion for summary disposition. PFS argues that the State was improperly attempting in its response to raise issues beyond the scope of admitted Contention Utah L; PFS finds specific fault with portions of the State's Disputed and Relevant Material Facts, portions of the Arabasz Declaration and Bartlett Declaration, and nearly all of the Ostadan Declaration.

The State responded to PFS's motion to strike on February 20, arguing that the motion not only lacked merit but also was, in reality, an impermissible reply to the State's response to the summary disposition motion. For its part, the NRC Staff's response agreed with PFS that the portions of the State's materials cited by the applicant should be stricken as beyond the scope of Contention Utah L.

3. Motions to Admit and to Modify Late-Filed Contention. While the Board was involved in deciding numerous other matters in this case (see LBP-01-13, 53 NRC 319 (March 30, 2001) and LBP-01-19, 53 NRC 416 (May 31, 2001)), the controversy over seismic matters soon became more complex with the filing, on May 16, of the State's motion to add Contention Utah QQ, dealing with assertedly late-breaking seismic matters involving revised calculations submitted by the applicant. See State of Utah's Request for Admission of Late-Filed Contention Utah QQ (Seismic Stability). The staff and the applicant both responded on May 30, arguing that the contention should not be admitted into the proceeding. The applicant believed the contention faulty on both substantive and timeliness grounds. For its part, the staff thought

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[16] See "NRC Staff Response . . .", unnumbered attach. 1, Affidavit of John Stamatakos; id., unnumbered attach. 2, Affidavit of Goodluck I. Ofoegbu.

that the contention's substance was sufficiently well presented but, like the applicant, argued that good cause for its belatedness did not exist because similar matters could have been raised earlier. In fact, so goes the argument, the State had been rebuffed previously for raising the same matters in untimely fashion.

Less than three weeks later, while that motion was pending, the State requested on June 19 that it be allowed to modify the basis of pending Contention Utah QQ to reflect recent filings that the applicant had made. On July 3, the applicant opposed this modification request, but the NRC staff thought that the proposed modification reflected, at least in part, a legitimate approach.

A similar development occurred less than two months later when, on August 23, the State filed a second request to modify the basis of pending Contention Utah QQ, again noting that the applicant had filed a new calculation, which the State wished to challenge. The responses filed on September 7 followed the previous pattern, i.e., the applicant opposed the request while the NRC Staff believed that it was in part valid.

The applicant's September 11 response triggered yet another set of papers when Utah moved, on September 12, to strike Exhibit 1 of that response on the grounds that it (1) incorporated an illegitimate attempt to avoid the rules limiting the length of briefs and (2) contained untrue material. The staff and the applicant, in September 24 filings, indicated their belief that the State's motion to strike was not well taken.

PART B:

THE GOVERNING LEGAL STANDARDS

All the above Contention Utah L "Part A" matters concerning the seismology of the proposed site are now ready for decision. Review of the legal standards governing our decision begins with the NRC's specific rules regarding the filing of contentions and of supporting bases for those contentions. It is necessary to begin there because -- even though the principal matter before us is whether summary disposition is appropriate here -- we also have pending a motion to add a contention, and two motions to amend its stated bases.

1. Filing Contentions. In the course of this proceeding, we have had numerous occasions to set out the rules that govern the filing of contentions and the supporting documentation they must have to be admitted into the proceeding. In a nutshell, the Commission's rules in this regard are strict; their very specific language leaves little doubt about their requirements (10 CFR § 2.714(b)(2)):

> Each contention must consist of a specific statement of the issue of law or fact to be raised or controverted. In addition, the petitioner shall provide the following information with respect to each contention:
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> (i) A brief explanation of the bases of the contention.
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> (ii) A concise statement of the alleged facts or expert opinion which support the contention and on which the petitioner intends to rely in proving the contention at the hearing, together with references to those specific sources and documents of which the petitioner is aware and on which the petitioner intends to rely to establish those facts or expert opinion.
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> (iii) Sufficient information (which may include information pursuant to paragraphs (b)(2)(i) and (ii) of this section) to show that a genuine dispute exists with the applicant on a material issue of law or fact. This showing must include references to the specific portions of the application (including the applicant's environmental

> report and safety report) that the petitioner disputes and the supporting reasons for each dispute, or, if the petitioner believes that the application fails to contain information on a relevant matter as required by law, the identification of each failure and the supporting reasons for the petitioner's belief. On issues arising under the National Environmental Policy Act, the petitioner shall file contentions based on the applicant's environmental report.

Lest there be any mistake, the rules go on to prescribe that a Board shall "refuse to admit a contention if . . . the contention and supporting material fail to satisfy the requirements" quoted above. 10 CFR § 2.714(d)(2)(i).

Thus, where federal courts permit considerably less-detailed "notice pleading," the Commission requires far more to plead a contention. This was not always the case (see, for example, Houston Lighting and Power Co. (Allen's Creek Nuclear Generating Station, Unit 1), ALAB-590, 11 NRC 542 (1980)), but it has been the rule since 1989 -- and, as will be seen below, that revised rule serves a number of valid purposes.

In view of the significance the contentions pleading rule plays in putting our current issues in context, we think it worthwhile to set out in full the thorough history and explanation the Commission provided about the purposes of that rule in Duke Energy Corp. (Oconee Nuclear Sation Units 1, 2 & 3), CLI-99-11, 49 NRC 328, 334-35 (1999)(emphasis added):

> Our strict contention rule serves multiple interests. First, it focuses the hearing process on real disputes susceptible of resolution in an adjudication. For example, a petitioner may not demand an adjudicatory hearing to attack generic NRC requirements or regulations, or to express generalized grievances about NRC policies. See North Atlantic Energy Services Corp. (Seabrook Station, Unit 1), CLI-99-6, 49 NRC 201, 217 n.8 (1999); Philadelphia Electric Co. (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20-21 (1974). Second, the rule's requirement of detailed pleadings puts other parties in the proceeding on notice of the Petitioners' specific grievances and thus gives them a good idea of the claims they will be either supporting or opposing. Finally, the rule helps to ensure that full adjudicatory hearings are triggered only by those able to proffer at least some minimal factual and legal foundation in support of their contentions.

> In 1989 the Commission toughened its contention rule in a conscious effort to raise the threshold bar for an admissible contention and ensure that only intervenors with genuine and particularized concerns participate in NRC hearings. See Final Rule, Contentions, 54 Fed. Reg. at 33,168. By raising the admission standards for contentions, the Commission intended to obviate serious hearing delays caused in the past by poorly defined or supported contentions. At the time, hearings often were "delayed by months and even years of prehearing conferences, negotiations, and rulings on motions for summary disposition." Yankee Atomic Electric Co. (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 248 n.7 (1996) (citing Carolina Power and Light Co. (Shearon Harris Nuclear Power Plant), LBP-85-5, 21 NRC 410 (1985), where 500 contentions were submitted, 60 were admitted, and only 10 were actually litigated after a period of 2½ years of negotiations).
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> Prior to the contention rule revisions, licensing boards had admitted and litigated numerous contentions that appeared to be based on little more than speculation. Indeed, in practice, intervenors could meet the rule's requirements merely "by copying contentions from another proceeding involving another reactor." Proposed Rule, Contentions, 51 Fed. Reg. 24,365, 24,366 (July 3, 1986). Admitted intervenors often had negligible knowledge of nuclear power issues and, in fact, no direct case to present, but instead attempted to unearth a case through cross-examination. See Cotter, Nuclear Licensing: Innovation Through Evolution in Administrative Hearings, 34 Admin. L. Rev. 497, 505, 508 (1982). Congress therefore called upon the Commission to make "fundamental changes" in its public hearing process to ensure that "hearings serve the purpose for which they are intended: to adjudicate genuine, substantive safety and environmental issues placed in contention by qualified intervenors." H.R. Rep. No. 97-177, at 151 (1981).
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> The 1989 revisions to the contention rule thus insist upon "some factual basis" for an admitted contention. 54 Fed. Reg. at 33,171. The intervenor must "be able to identify some facts at the time it proposes a contention to indicate that a dispute exists between it and the applicant on a material issue." Id. These requirements are intended to "preclude a contention from being admitted where an intervenor has no facts to support its position and [instead] contemplates using discovery or cross-examination as a fishing expedition which might produce relevant supporting facts." Id. Although in quasi-formal adjudications like license renewal an intervenor may still use the discovery process to develop his case and help prove an admitted contention, contentions shall not be admitted if at the outset they are not described with reasonable specificity or are not supported by "some alleged fact or facts" demonstrating a genuine material dispute. Id. at 33,170.

The Commission concluded by stating that it wanted entertained only “contentions that are material and supported by reasonably specific factual and legal allegations.” 49 NRC at 335.

As may be seen, then, the Commission has made it clear that those who want to participate in its proceedings, and thereby to force an applicant for a license to bear the heavy

burden of such a proceeding, must themselves carry a heavy initial burden. It is not sufficient to show up on the Commission's doorstep, as it were, with generalized complaints about a proposed facility or action. Instead, complaints must be stated with great specificity, a basis for them must be put forward, and indeed at a very early stage one who wishes to participate in the proceeding must go so far as to describe in general terms the nature of the evidence that will be put forward.

If a contention is not filed on time, its proponent faces an even greater burden. In those instances, the rules prescribe a balancing test which considers five key factors (10 CFR § 2.714(a)(1)):

> (i) Good cause, if any, for failure to file on time.
> (ii) The availability of other means whereby the petitioner's interest will be protected.
> (iii) The extent to which the petitioner's participation may reasonably be expected to assist in developing a sound record.
> (iv) The extent to which the petitioner's interest will be represented by existing parties.
> (v) The extent to which the petitioner's participation will broaden the issues or delay the proceeding.

As the parties well know, we have had numerous occasions to apply these rules during prior phases of this proceeding. In doing so earlier this year we observed (LBP-01-13 (p. 8, above), 53 NRC at 324-25)(emphasis added):

> In evaluating the admissibility of a late-filed contention, the first and foremost factor in this appraisal is whether good cause exists that will excuse the late-filing of the contention. See Commonwealth Edison Co. (Braidwood Nuclear Power Station, Units 1 and 2), CLI-86-8, 23 NRC 241, 244 (1986). And relative to our evaluation of that factor here, as we have noted previously . . ., the good cause element has two components that impact on our assessment of the timeliness of a contention's filing: (1) when was sufficient information reasonably available to support the submission of the late-filed contention; and (2) once the information was available, how long did it take for the contention admission request to be prepared and filed. See . . . LBP-99-3, 49 NRC 40, 46-48 (assessing late-filing factors relative to petition to intervene), aff'd, CLI-99-10, 49 NRC 318 (1999).

> Moreover, relative to the four other factors, in the absence of good cause there must be a compelling showing on the four remaining elements, of which factors two and four -- availability of other means to protect the petitioner's interest and extent of representation of petitioner's interests by other parties -- are to be given less weight than factors three and five -- assistance in developing a strong record and broadening the issues/delaying the proceeding. See Braidwood, CLI-86-8, 23 NRC at 244-45.

Additionally, as we have noted recently, even if these factors support admission, the contention itself must be admissible under the standards established in 10 C.F.R. § 2.714(b)(2), (d)(2) and the Commission's case law. See LBP-01-37 (fn. 10, above), 54 NRC ___, ___ (slip op. at 9) (December 13, 2001).

To recap the standards set out above: the Commission has adopted strict rules about pleading contentions, and those rules serve an important purpose. Those rules are intended to make sure that those who are admitted into the Commission's proceedings are serious, and are prepared to make a valuable contribution.

2. Conducting Discovery. Given the role it plays in our decision today, we need address only briefly the standards applicable to next phase of the proceedings, the discovery process. From an intervenor's point of view, discovery provides the opportunity to put more flesh on the bones of its contentions and the bases that it was able to state at the outset. [17] Just as during the entire course of the proceeding an applicant is permitted to adjust its filings in response to staff inquiries and to additional information it obtains (as has often been done here, see footnotes 30 and 34, below), an intervenor will be utilizing the discovery process to adjust the strategic approach it is taking to the prosecution of its contention.

That is to say, providing "a brief explanation" (10 CFR § 2.714(b)(2)(i)) of the bases for contentions plays an important function in determining whether that contention is a substantial

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[17] As the Commission indicated (p. 12, above), even though an unsupported contention cannot be admitted on the contemplation that discovery will lend it some support, where sufficient support has already been provided, an intervenor may of course "use the discovery process to develop his case and help prove an admitted contention." 49 NRC at 335.

one that can be admitted into the proceeding. But once the stated bases demonstrate that a contention is to be taken seriously, any number of later developments will also guide and control just how that contention does or does not move into the actual hearing process. For example, much might be learned by an intervenor that would lend further support to its view about the issues after contentions are filed. This mirrors what happens when, in response to NRC staff scrutiny or other developments, much is often added by the applicant to support the application's documentation and reasoning after a matter is first noticed for hearing.

Of course, discovery also plays a limiting role. An applicant can use that process to pin down an intervenor's experts, gaining from them, for example, concessions that their theories do not take them as far as first thought, or that deficiencies perceived in the applicant's original analyses have been remedied by further studies or investigations. Indeed, PFS's attempt to win summarily here is in no small part quite properly based on the discovery it has conducted.

3. Moving for Summary Disposition. Once discovery is completed, it may be appropriate for an applicant to file motions for summary disposition as to certain contentions. We say "may" be appropriate because it should be clear to our practitioners that not every matter or contention lends itself to summary disposition. Summary disposition is a useful tool for resolving in short order those contentions that, after discovery is completed, are shown by undisputed facts to have nothing to commend them. But it is not a tool for trying to convince a Licensing Board to decide, on written submissions, genuine issues of material fact that warrant resolution at a hearing.

In that regard, the basic standards for summary disposition, which we have drawn upon many times in this proceeding and recently reiterated, bear repeating here:

> In an NRC proceeding, a party is entitled to summary disposition if the presiding officer determines that there exists "no genuine issue as to any material fact and that the moving party is entitled to a decision as a matter of law." 10 C.F.R. § 2.749(d). When reviewing a motion for summary disposition, the Commission

> has used standards similar to those used by the federal courts when ruling on motions for summary judgment under Rule 56 of the Federal Rules of Civil Procedure. See Advanced Medical Systems, Inc. (One Factory Row, Geneva, Ohio 44041), CLI-93-22, 38 NRC 98, 102-03 (1993).
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> Consistent with Rule 56, the moving party bears the initial burden of showing that no genuine issue as to any material fact exists, which the party must do by a required statement of material facts and any supporting documentation submitted with the requisite motion. See Private Fuel Storage L.L.C. (Independent Spent Fuel Storage Installation) LBP-99-32,50 NRC 155, 158 (1999). The opposing party must counter each adequately supported material fact with its own statement of material facts in dispute and supporting documentation, or the facts will be deemed admitted. See CLI-93-22, 38 NRC at 102-03. When responding, the opposing party may not rely upon mere allegations or denials but must submit "specific facts showing that there is a genuine issue of fact." [footnote omitted] 10 C.F.R. §2.749(b).

LBP-01-30, 54 NRC 231, 235 (October 30, 2001).

In addition to those basic principles about summary disposition, there are corollary tenets that become crucial here -- the nature of the guidelines that control rulings on summary judgment in federal court (and, by accepted analogy and routine practice, similar rulings on summary disposition here) when opinions of competing experts differ.

As commentators and practitioners know, differences among experts may occur at different factual levels: either about disputed baseline observations, or about the ultimate facts or inferences to be drawn even where baseline facts may be uncontested. Or, as the Supreme Court has put the distinction, there are at one level "predicate" facts (also called "evidentiary" or "basic" facts) and at another level "ultimate" facts, both subject to dispute.[18]

With this distinction in mind, even a cursory review of the analogous federal case law governing summary judgment under the Federal Rules of Civil Procedure demonstrates that, when presented with conflicting expert opinion, trial courts are reticent to grant summary judgment. See, e.g., Hudson Riverkeeper Fund v. Atlantic Richfield Co., 138 F. Supp. 2d 482,

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[18] Mullins Coal Co. v. Director, OWCP, 484 US 135, 158 n. 30 (1987) (quoting from County Court of Ulster County v. Allen, 442 US 140, 156 (1979)).

488-89 (S.D.N.Y. 2001), and cases cited therein. When ruling on summary judgment, trial courts have indicated it is not their function to untangle the expert affidavits and decide "which experts are more correct." Norfolk Southern Corp. v. Oberly, 632 F. Supp. 1225, 1243 (D. Del. 1986), aff'd on other grounds, 822 F.2d 388 (3d Cir. 1987). Of course, trial courts facing conflicting expert opinion must focus on each opinion's "principles and methodology" to ensure that it is sufficiently grounded in a factual basis. Kannankeril v. Terminix International, 128 F.3d 802, 807 (3d Cir. 1997). [19] But the weighing of the expert conclusions should be left to a trial, where the trier of fact will have the benefit of cross-examination to assist its evaluation. Ibid.

The force of the above holdings applies to NRC Licensing Boards even though -- unlike federal district court judges in cases where a jury is to be the ultimate fact-finder -- we have a dual role, ruling on summary disposition motions and then ourselves becoming the trier of fact. But this does not mean we should -- or readily could -- combine both functions in one step whenever one party or another seeks to have us rule summarily. For, as has been seen, underlying the courts' reluctance to act summarily in the face of competing expert testimony is the notion that the trial process itself -- which allows for vigorous inquiry of witnesses and probing for a basis for drawing inferences and finding ultimate facts -- can go a long way toward illuminating the disputes and the strengths and weaknesses of the competing experts' opinions. Thus, in Daubert (fn. 19, above), the Supreme Court stressed the value of "vigorous cross-examination" by the parties in exposing shaky opinions (509 U.S. at 596); in our hearings, questioning not only by the parties but also by the Board can likewise prove to be decisive in enabling us to render a sound decision (see p. 36, below).

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[19] In this regard, the Supreme Court, in a case that came up on summary judgment, has established "gatekeeping" standards to ensure that only opinions presented by recognized experts in the field and properly grounded in scientifically sound methodology are accepted by the trial courts. Daubert v. Merrill Dow Pharmaceuticals, 509 US 579 (1993). See also Kumho Tire Co. v. Carmichael, 526 US 136, 151-52 (1999), indicating that the Daubert factors are flexible ones and the gatekeeping inquiry must be tied to the facts of a particular case.

Our views on these matters are not only in keeping with federal court practice but, we think, also fully consistent with Commission policy. Although the Commission supports the efficiencies that can be gained by granting summary disposition in appropriate cases,[20] it has also expressed concerns about overuse of summary practice. Statement of Policy on Conduct of Adjudicatory Proceedings, CLI-98-12, 48 NRC 18, 20-21 (1998); cf. 10 C.F.R. § 2.749(a) (cited by this Board the other day in LBP-01-38, 54 NRC ___, ___(slip op. p. 7), fn. 3 (December 19, 2001)). In context, we think that what the Commission disfavors is the commitment of time, and energy, and resources -- by witnesses, counsel, and Board members -- to the consideration of summary disposition motions that have no chance of success because they involve complex factual/opinion disputes that patently can be resolved only in a hearing.

This view is in keeping with the commentary recently published in connection with the pending proposal to change the NRC's Rules of Practice. There, in response to public comments on its 1998 Policy Statement, the Commission pointed out that, while there are times at which filing summary disposition motions is appropriate, a judicious approach is required:

> There may be times in the proceeding when these motions should not be entertained because consideration of the motions would unduly delay or complicate proceedings by distracting responding parties from addressing other pending issues. Moreover, there may be situations in which the time required to consider summary disposition motions and responses and to issue a ruling on these motions will substantially exceed the time needed to complete the hearing and record on the issues. The licensing board is in a good position to determine when the use of summary disposition would be appropriate and would not delay the ultimate resolution of issues and the Commission will provide the boards the flexibility to make that determination in most proceedings.

66 Fed. Reg. 19610, 19615 (April 16, 2001).

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[20] As do we. See, for example, Allen's Creek (p. 11, above), 11 NRC at 552-53 (concurring opinion), and a number of earlier decisions in this proceeding (see p. 2, above).

In light of all the foregoing, we think the Commission would agree there are issues so complex that we should not embark on an extended quest to resolve them by summary disposition. Rather, particularly as the time for the hearing grows near, it would be much better to conserve and redirect energy and resources -- the parties' and ours -- from summary disposition practice [21] to careful management of and preparation for the hearing process itself, so that the goals of efficiency, effectiveness, and fairness can most readily be met.[22]

To that end, we spell out, in a companion unpublished opinion also issued today, certain steps to be taken to help achieve those goals as the parties and we prepare for our upcoming hearing. For now, we turn in Part C to the task of applying the governing legal standards just discussed to the matters before us.

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[21] We recognize that our analysis begs the question of how to determine in advance which issues are so complex that an effort to obtain summary disposition will almost certainly fail. We can, of course, conserve Board resources simply by ruling peremptorily after all the moving and opposing documents are in. But we cannot so readily accomplish the Commission's purpose of avoiding also the parties' misallocation of their efforts. If this concern arises again here (see issues discussed under "Future Discovery," pp. 33-34, below) or elsewhere, an appropriate case-management tool might be the convening of a post-discovery conference at which informal discussion of the issues could make clear which ones seem ill-suited for summary handling. This tentative conclusion would not preclude the filing of a summary disposition motion, but it would provide fair warning to the movant that its efforts were likely to be in vain.

[22] See Statement of Policy on Conduct of Licensing Proceedings, CLI-81-8, 13 NRC 452 (1981), and Statement of Policy on Conduct of Adjudicatory Proceedings, CLI-98-12, 48 NRC 18 (1998), both urging licensing boards to use all available tools for producing an informed adjudicatory record in a reasonable, disciplined time frame while providing a fair hearing process.

PART C:

THE RESULTING RULINGS

The above principles help guide our course here. In this portion of our opinion, we set forth our decision on each of the pending matters.

Applicant's Motion for Summary Disposition. Although the State concedes that some of the facts put forward by the applicant as undisputed do indeed fit into that category, the State is contesting a great many others. In doing so, it has brought forward a number of experts who appear at this stage to be qualified and competent and who have provided in lengthy affidavits their views challenging the applicant's case in a number of important respects.

In our view, denials of summary disposition for complex issues need not be burdened or delayed with extended discussion of each sub-issue presented by the moving party. Rather, at most all that is needed is the exposition of sufficient genuine dispute about the facts in material areas to illustrate why, overall, summary action is unavailable. [23] To show that there remains controversy requiring a hearing to resolve, we discuss each of the first three bases the State offered in support of its contention. [24]

1. The first basis supplied for the State's contention challenges the adequacy of the PFS investigation in identifying capable faults that could produce "greater vibratory ground

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[23] To be sure, there might be instances in which the grant of partial summary disposition would be appropriate to consider, and when doing so a more complete review of all the facts would be in order. But as we noted the other day herein, "the Board has considerable latitude in determining the extent to which it will grant what is essentially partial summary disposition." LBP-01-38 (p. 18, above), 54 NRC at ___ (slip op., p. 7)(December 19, 2001). In light of our views about the interrelated nature of the geotechnical issues (see p. 27, below), this is not an instance in which partial resolution now would further our ability to reach a sound, thorough final decision.

[24] The fourth basis appears to have been left essentially undefended by the State. We will discuss its status at the prehearing teleconference we intend to convene in mid-January to plan further the course that will take us to the hearing.

motion than that for which the facility is designed" or "faults beneath the storage area" that may pose a threat of surface rupture, factors that must be accommodated in facility siting and design. See PFS Undisputed Fact 1. PFS asserts, however, that the various technical reports that it has prepared alleviate any concerns alleged by the State in Basis 1 of the contention. In reaching its conclusions, PFS has had several reports (including versions in 1996, 1998, and February 1999) prepared by its contractor Geomatrix, all of which allegedly comprehensively analyze both the ground motion hazard and the surface displacement hazard based on previously identified and newly discovered faults. See PFS Dispositive Motion at 5. PFS also asserts that the reports correspond to the requirements of Regulatory Guide 1.165 and the Standard Review Plan for evaluating vibratory ground motion and surface fault displacement. See PFS Undisputed Fact 5. Overall, PFS stresses that its evaluations utilize a "multidisciplinary, multiple indicator approach to triangulate and corroborate results." Ibid.

In support of its position, PFS has submitted the expert testimony of Kevin J. Coppersmith and John C. Clark. Dr. Coppersmith is a former employee of Geomatrix Consultants, the contractor responsible for production of the studies evaluating surface faulting at the ISFSI site. Dr. Coppersmith's particular experience relates to the "evaluation of faults to determine their potential for being seismogenic and for evaluating surface faulting hazards." Coppersmith Decl. at 1; see also id. Exh. 1, Curriculum Vitae for Kevin J. Coppersmith. For his part, Mr. Clark is Vice President of another PFS consultant, Bay Geophysical, which supplemented the Geomatrix reports by its evaluation of faults at the site. Mr. Clark has expertise in the area of collection and interpretation of seismic reflection data, and performed the interpretation of the seismic reflection data in conjunction with Geomatrix for the PFS site. See Clark Decl. at 1-4; see also id. Exh. 1, John C. Clark Curriculum Vitae.

The State, however, challenges the PFS data by way of its expert witness, M. Lee Allison. Dr. Allison holds a doctorate in geology, and possesses over 25 years experience in geological policy management, research, exploration, and consulting. He has been designated as the State's expert for interpreting PFS seismic reflection data, an area of expertise that he gained from his employment as an exploration geologist for the oil industry and as a senior geologist at the University of Utah Research Institute. He is currently the State Geologist for the State of Kansas, and held that same position for the State of Utah from 1989 to 1999. See Allison Decl. at 1.

The State claims that the PFS seismic analysis is inadequate in that, in ways identified by Dr. Allison, it ignores or overlooks other faults in the collected data and fails to use an integrated or comprehensive approach to evaluate the vibratory ground motion and surface fault displacement. These failures in the PFS investigations, the State asserts, cause the site to be mischaracterized. See State Response at 5-7; Allison Decl. at 2.

2. In Basis # 2, the State raised specific questions as to the sufficiency of the PFS determination of ground motion for the site, namely the failure to take into account "spatial variations in ground motion amplitude and duration because of near surface traces of potentially capable faults" (as contemplated in the methodology promulgated by Sommerville et al.). PFS says that the issue has been mooted by the incorporation of its subsequent study evaluating the near surface effects of potentially capable faults, utilizing the Sommerville approach, in both the probabilistic and deterministic seismic hazard analysis. See PFS Dispositive Motion at 9-10.

In support of its motion, PFS has submitted the affidavit of Robert R. Youngs, a principal engineer with Geomatrix Consultants, the PFS contractor that performed the Sommerville analysis. Dr. Youngs has 25 years of professional consulting experience in the analysis of seismic hazards, particularly in the area of characterization of earthquake ground motions as

well as in performing probabilistic and deterministic analyses to develop seismic design criteria for ground shaking and fault displacement. See Youngs Decl. at 1; id. Exh. 1, Youngs Curriculum Vitae.

The State challenges the PFS mootness assertion by arguing that, contrary to PFS's apparent thinking, the contention's criticism of the faulting analysis is not limited to the Sommerville methodology. In this vein, the State points out that PFS has not analyzed conflicting shear wave velocity data for the uppermost soil layer. See State Response at 12. In support of its assertion that the PFS seismic wave velocity data and analysis are inadequate, the State has proffered the expertise of Walter J. Arabasz, whose career has focused primarily on earthquake hazard analysis covering Utah and the Intermountain West.

Dr. Arabasz is currently a research professor of geology and geophysics at the University of Utah, as well as Director of the University's Seismograph Stations. In addition, he has since 1977 provided professional consulting services for earthquake hazard evaluations for "dams, nuclear facilities, and other critical structures." He also has had major involvement in the assessment of vibratory ground motion hazards for the proposed spent fuel repository at Yucca Mountain. See Arabasz Decl. at 1.

According to Dr. Arabasz, PFS has not conducted a fully deterministic seismic analysis as required by 10 C.F.R. § 72.102(f)(1) and 10 C.F.R. Part 100, Appendix A. He argues that the PFS deterministic analysis is invalid because, although PFS has submitted two analyses labeled as deterministic, it has utilized a hybrid methodology which incorporates probabilistic elements and leaves uncertainties in the calculations. See State Disputed Facts at 3; Arabasz Dep. at 45-48. A valid deterministic analysis is essential, he says, because it is a "benchmark" to which results of a probabilistic seismic hazard analysis can be compared. If the deterministic analysis was invalid or inadequate to begin with, according to Dr. Arabasz, it cannot be used to

compare the conservatism of the PFS probabilistic hazard assessment results. See Arabasz Decl. at 2.

3. Included in the third basis for Contention Utah L is a subpart a, "subsurface investigations," which now embraces the issue of the soil-cement mixture that PFS proposes to use in Layer 1 of the soil under the storage pad area. PFS claims that this mixture will provide an adequate safety factor protecting against sliding of the casks. See PFS Undisputed Facts at 10; SAR at 2.6-61 to 2.6-62. In support, PFS has proffered the affidavit of Paul Trudeau, a Senior Lead Engineer at Stone & Webster, with twenty-eight years of experience in geotechnical engineering. Mr. Trudeau has been designated by Stone & Webster as the Division Computer Coordinator and as the division specialist in cross hole seismic velocity surveys. He has performed work at fossil fuel and nuclear power plants around the country, where his responsibility was to perform geotechnical investigations, prepare geotechnical analyses, and develop geotechnical design criteria. Mr. Trudeau's areas of concentration on this project are the investigation and analysis of soils -- relating to settlement, load bearing capacity, and stability of foundations -- as well as the performance of computer-aided analyses of soil behavior. See Trudeau Decl. At 1-2; id. Exh. 1, Trudeau Curriculum Vitae.

On the other hand, the State argues that the PFS soil-cement analysis is inadequate because PFS has not provided any calculations or field-testing to demonstrate the safety of the "untried" soil-cement mixture. Its concern is highlighted by the fact that the entire soil-cement concept was given cursory treatment, appearing then on only one page of the Safety Analysis Report (which it did not believe "adequate to describe the anticipated properties of the material," on which further studies were to be performed at a later time). See State Response at 15. In addition, the State notes its concern that PFS has not considered other design deficiency possibilities inherent in the soil cement, such as its performance under torsional forces, its

permeability, and the impact of shrinkage in the event the mixture is subject to extreme environmental conditions. See id. at 16.

As support for its position that PFS's soil-cement concept has not been established to offer the requisite resistance to seismic loads, the State has proffered the affidavit of Steven F. Bartlett. Dr. Bartlett is currently an Assistant Professor in the Civil and Environmental Engineering Department at the University of Utah, where he teaches courses in geotechnical engineering and conducts research. He had earlier been employed by the Utah Department of Transportation, as well as several consulting firms, applying his expertise and knowledge in geotechnical engineering, earthquake engineering, geoenvironmental engineering, applied statistics, and project management. See Bartlett Decl. at 1. Dr. Bartlett provides considerable detail in support of the assertion that the PFS evaluation cannot withstand scrutiny because inadequate evaluation has been done regarding a number of factors affecting the performance of soil cement, which could affect stability of casks at the ISFSI. Id. at 3-7. [25]

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[25] Similar expert disputes exist with respect to the other subparts of Basis # 3. As both the examples below make clear, the experts on the two sides are in disagreement:

With regard to subpart b, "sampling and analysis," the State asserts that the soil sampling remains insufficient. Based on the declaration of Dr. Bartlett, the State argues that PFS has not performed adequate testing to ascertain soil conditions as described in Regulatory Guide 1.132. For example, the State claims that PFS has not sampled the soil with the correct density of spacing, nor did it use continuous soil sampling. See State Response at 18-19. For its part, PFS asserts, by way of the affidavit of Paul Trudeau, that since the initial filing of the SAR, the number of tests it has performed has dramatically increased (e.g., the number of undisturbed samples increased from 9 to 33, and the number of triaxial shear strength tests has gone from 2 to 17). See PFS Dispositive Motion at 15-16.

With regard to subpart c, "physical property testing," the State asserts that PFS has not explained how its data was used in the design basis, nor has it "adequately or accurately" assessed ground motion from potential earthquakes. See State Response at 23. In support, the State proffers the affidavit of Dr. Farhang Ostadan, a civil engineer and consultant in soil dynamics and geotechnical earthquake engineering. See Ostadan Decl. at 1. As the State sees it, the major concern with regard to the PFS analysis is that PFS has segmented its investigations and failed to integrate its analysis adequately. See id. at 2. PFS provides its own detailed technical analysis, largely intended to establish that work performed later overcame the perceived deficiencies. PFS Dispositive Motion at 26-29.

As can be seen from each of the above examples, the State's experts have presented a serious, documented, response to the applicant's claims, sufficiently plausible to create doubt about the outcome. The State's presentation may or may not prevail at the hearing -- but that is not the test now. Notwithstanding the applicant's best efforts to present its evidence in a favorable light, the State has -- under the applicable summary disposition principles regarding competing experts and opinions (see pp. 16-17, above) as well as the requirement that all reasonable inferences must be drawn in the State's favor (see LBP-99-35, 50 NRC 180, 194 (1999)) -- surely succeeded in establishing that there is a sufficient genuine dispute as to material facts (and opinions) such that a hearing must be held. Accordingly, the applicant's motion for summary disposition must be denied.[26]

Applicant's Motion to Strike. As we reviewed the material that led us to that decision, it became clear that we should reject the applicant's invitation, by way of its motion to strike, to go line-by-line through the State's arguments and supporting affidavits to see what portions of its presentation fit neatly within the corners of the originally-stated bases. As would be expected of an issue as complex as geotechnical, matters not clearly articulated in an original basis statement might nonetheless emerge as the proceeding moves along -- and all parties, with full notice to each other, refine their approaches (see pp. 14-15, above, and fn. 30, below) -- and become quite relevant to a full comprehension of that basis, and of the underlying contention.

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[26] In reaching this conclusion, we note that, although the applicant believes its experts are better qualified than the State's, and that their opinions are better grounded, the applicant does not appear to be arguing that the background of the State's affiants is inadequate to qualify them as experts, or that their opinions rely on methodology so unscientific that they would fail the Daubert gatekeeping test (see fn. 19, above). The relative weight to be accorded the opinions of the competing experts will, then, be determined at the hearing, as we appraise their qualifications more fully and examine the merits of the views presented there and the force of their underpinnings.

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Looked at another way, the State's presentation, like that of the applicant, attempts to present the whole of a coherent argument, and striking words and lines would eliminate not just those parts, but much of the comprehension of the whole. Along this line, our review of the hundreds of pages of expert affidavits and related documents in front of us demonstrates how inextricably intertwined are the issues, and sub-issues, involving geological conditions and facility design -- what is learned and developed about one subject influences how another is viewed. To attempt to separate them artificially at this stage, in a matter this complex, would create too great a risk that the upcoming hearing would not look completely at the issues.

This is not to say that motions to strike, or similar requests, have no place in our proceedings. There will be times when it will be clear that matter is extraneous to the thrust of the contention and should be stricken (or rejected at the outset).[27] What must be recognized here, however, is that the interdependence of so many of the facts and opinions cautions against artificially trying to separate them, then finding at the hearing that stricken matter would have been most helpful to reaching a decision on the merits. Accordingly, we deny the PFS motion to strike.

State's Motion to Admit Late-Filed Contention. As noted earlier (p. 8, above), the State put forward a new contention, labeled Utah QQ and entitled "Seismic Stability," based on revised calculations submitted by PFS. The contention itself provides:

> PFS's site specific investigations, laboratory analyses, characterization of seismic loading, and design calculations, including redesign of soil cement, [fn.] fail to demonstrate that a) the newly revised probabilistic seismic hazard design basis ground motions have been correctly and consistently applied to the Canister Transfer Building ("CTB"), storage pads, and their foundations; b) PFS's general design approach, including the redesign of soil cement, for the CTB, storage pads, or storage casks can safety withstand the effects of earthquakes; and c) the foundation design of the CTB, storage pads, and the underlying soils, or the stability

[27] See, for example, the situation described in Public Service Co. of New Hampshire (Seabrook Station, Units 1 & 2), ALAB-899, 28 NRC 93 (1988).

> of the storage casks, are adequate to safely withstand the newly reyised probabilistic seismic hazard design basis ground motions. 10 CFR §§ 72.102(c), (d); 72.122(b).
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> [fn.] PFS uses the term "soil cement" but the more correct term is "cement-treated soil." See Mitchell Dec. ¶ 12. The use of the term "soil cement" in this filing does not imply the State accepts that PFS will, in fact, use soil cement.

That contention is, of course, "late" in the sense that it was not filed within 30 days of the 1997 notice that triggered the initial opportunity to participate. The State urges, however, that "good cause" for its belated presentation arises from the applicant's having revised its calculations about the level of ground motion that needed to be designed against, which led to its amending, for the twenty-second time, its license application. The amended application, we are told, now includes a "new proposal to use soil cement around" the Canister Transfer Building (CTB) and revising "the use of soil cement under and around the storage pads." State Request at 15.

The State proffered what appeared to be an impressive package when it sought admission of Contention Utah QQ. The 20-page request includes the Contention set out above, followed by a "Basis" presentation that appears to run a dozen pages. [28]

The basis begins with a review of the applicant's actions and position, then turns to a description of four State concerns alleging that "the revised design is unsupportable and creates significant safety concerns." State Request at 8. Those four concerns cover the following areas: (1) application of the new design basis ground motion to the CTB and its foundation system; (2) application of the new design basis ground motion to the storage casks and the storage pads; (3) survivability and durability of cement-treated soil for the redesigned

[28] It appears that the statement of basis runs from the middle of page 3 through the middle of page 15, but regardless of how the documentation is labeled, its content is comprehensive.

CTB and storage pad foundation systems; [29] and (4) overestimation of the sliding resistance provided by the clayey-silt and silty-clay underlying the CTB and storage pads.

In each of these areas, the State presents its concern, provides references to the applicant's position, and cites one of three multi-page "declarations" submitted by its experts, whose credentials appear impressive. In addition to attaching copies of those declarations, the State provides and relies upon copies of the twelve-page "summary" of the changes reflected in the applicant's license amendment # 22, as well as the NRC staff's two-page letter response informing the applicant of the missing information which would be needed to permit the staff to complete its review of the amendment.

We would have thought that, upon reading the Contention Utah QQ package, both lay and professional observers would have quickly formed the conclusion that it presents essentially what the Commission had in mind in creating its current strict contentions pleading rule. The staff agreed, accepting the contention as well-pled (but challenging it on untimeliness grounds).

This conclusion was not shared by the applicant, which argues that portions of the contention are insufficient to show that a genuine dispute exists on a material issue of law or fact, or fail to meet the Commission's requirements for specificity and materiality, or are too speculative in nature. But we are not at all persuaded, at this pleading stage, by the applicant's arguments in this regard. Indeed, to the extent those arguments rely upon the applicant's experts' opinions, they are essentially another effort (compare pp. 15, 26, above) to induce us to rule prematurely on the merits of the issues. On that score, our colleagues put it well the

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[29] The third concern goes on to include five sub-topics: (a) overstressing and cracking due to dynamic bending, torsional, and beam shear stress; (b) delamination or debonding along a cement-treated soil lift interface; (c) shrinkage cracking due to drying and curing; (d) cracking due to vehicle loads; and (e) long-term performance of cement-treated soil over a 40 year period.

other day in Duke Cogema Stone & Webster (Savannah River Mixed Oxide Fuel Fabrication Facility), LBP-01-35, 54 NRC ___,___ (slip op. p. 33)(December 6, 2001): "the determination of whether a contention is admissible is not concerned with the ultimate outcome of the merits dispute . . . . rather, the determination at the contention admissibility stage is concerned only with whether a real, meaningful controversy is presented and adequately supported."

In the final analysis, we do not think this even a close case. To the contrary, Contention Utah QQ could serve as a model for how an intervenor might go about complying with all the requirements of the contentions pleading rule. It meets the terms of the rule itself (see pp. 10-11, above) and serves the purposes the Commission had for adopting that rule (see pp. 11-12, above). Rather than finding the contention deficient, then, we find it to be exemplary. In this instance, a well-pled contention was forthcoming; as we see it, the Commission's rigorous contentions pleading rule (as enforced from the beginning by this Board) thus served its purpose -- and no purpose is served by refusing to recognize it.

This leaves the timeliness issue, which boils down to a claim by the staff and applicant that -- whatever might be learned from the applicant's newer investigations and changing analyses -- the points the State is now presenting could have been uncovered and presented, albeit in a different context, long ago in connection with prior investigations and initial analyses. Indeed, it is pointed out, the State's efforts to raise these claims were rejected by this Board as untimely at a much earlier stage of this proceeding (see fn. 12, above).

This untimeliness argument, unlike the challenge to the way the contention was pleaded, does have something to commend it. But not enough. As we see it, the applicant's two new investigations, conducted by two new contractors and providing two new and different analyses of ground motion and at least two new approaches to anti-seismic design and construction, have yielded something in addition -- an entirely new face on the earlier

documentation which the State had before it, and an entirely new light by which we view this contention, compared to those presented earlier. [30]

In that new light, [31] we need not further delay the inclusion of this contention into the proceeding by analyzing in painstaking detail each aspect of what was available before, and comparing it to what is available now. It is now abundantly clear that we cannot do justice to what underlies Contention Utah L -- or to what underlies the contemplated facility -- if we reject the newly-proffered Contention Utah QQ. Specifically, there is enormous interaction and interdependence -- in both the physical and the litigation worlds -- among the various concerns each embraces.

Accordingly, applying the standard test for late-filed contentions (see pp. 13-14, above) in the new circumstances presented, the paramount "good cause" criterion has been met by the State's timely response to the applicant's license amendment which triggered the "new look" at the seismic-related design parameters. As to the other four factors, taken together they also weigh in the State's favor.

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[30] We of course do not intend, by citing the applicant's conduct of additional investigations and its filing of numerous license application amendments, any criticism of those actions. Indeed, PFS should be given credit for seemingly doing its utmost to analyze and support all aspects of its project on a continuing basis. At the same time, those opposing the project must in fairness be afforded some modicum of similar leeway to adjust their approaches as their knowledge basis, too, increases over time.

In this respect, our proceedings are very unlike typical litigation, which ordinarily focuses on assessing responsibility for an event or series of events that occurred in the past. In contrast to that type of fixed focus, our proceedings involve challenges to a moving target -- an application that is frequently upgraded to reflect new developments or to respond to new questions. The flexibility to be accorded the parties here must often, then, be greater than that which might be afforded in other types of litigation.

[31] In these changed circumstances, our decision neither (1) undercuts the validity under the then-existing circumstances of the action Chief Judge Bollwerk's Board earlier took on a similar contention nor (2) violates the "law of the case" doctrine.

Specifically, as to the less significant factors two and four (see p. 14, above) there is no other means for the State to protect its interests (other than the usual staff review, which in this context is not considered as an alternative to the hearing process) and no other party presenting similar arguments. In contrast, there is every indication, from the specific thoroughness with which the State presented Contention Utah QQ and its underlying basis, that it "may reasonably be expected to assist in developing a sound record" on this contention within the meaning of the more important factor three, which weighs heavily here in that the record to be created is needed for our overall decision-making process (see p. 31, above).

Finally, as to factor five, while the inclusion of this contention will to a degree "broaden the issues", we do not see it as having a significant impact relative to delay of this proceeding. In reaching this conclusion, we are of course heavily influenced by the fact that we have now determined that there will be a hearing on other geotechnical issues. [32] Were this the first we had heard of any geotechnical issue, allowing Contention Utah QQ to be heard would dramatically broaden the issues and have the potential for delay so as to make this factor weigh heavily against the State. But in our situation, we anticipate that discovery on this matter will not delay the start of the April 2002 hearings (see p. 34, below) and we would expect the extra hearing time needed to be relatively small. In any event, a weighing of the requisite late-filing factors swings the balance well in favor of admitting Contention Utah QQ.

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[32] We note that on a different question -- whether early Commission review of an issue was appropriate -- the Commission earlier this month reminded litigants that "increased litigation burden" from adding a contention does not constitute "immediate and serious irreparable impact" within the meaning of 10 C.F.R. § 2.786(g), the interlocutory review rule, particularly when there are "already admitted several other contentions on which a hearing is anticipated." Connecticut Yankee Atomic Power Co. (Haddam Neck Plant License Termination Plan), CLI-01-25, 54 NRC ___, ___ (slip op., p. 5)(December 5, 2001). To be sure, the procedural issue the Commission faced in Haddam Neck was quite different from the one we face here. But our reliance here on the pendency of related substantive issues (when considering whether a *hearing will be unduly broadened*) finds a measure of additional support in the Commission's recognition that such pendency can be an important factor in analyzing an analogous issue (whether a *party will be unduly burdened*).

Other Matters. Our rulings above leave us several other matters to speak to:

1. *Amendment of Bases*. Having admitted Contention Utah QQ, we need devote little attention to the State's motions to amend the bases that accompanied that contention when it was first presented. For reasons of completeness similar to those we spelled out earlier, we grant the motions.

2. *Restatement of Geotechnical Issue*. In light of (1) our rulings today, (2) the time that has elapsed and the events that have taken place since Contention Utah L was first filed, and (3) the complexity of the issues, we think it timely now that a unified geotechnical contention be prepared. By that we mean a statement that combines, in a single document, the thrust of Contentions Utah L (Part A) and Utah QQ in a manner that will help all to prepare in more orderly fashion for the upcoming hearing. Given the stage of the proceedings, that statement need not track the contentions pleading rule precisely but should draw upon key elements of that rule as appropriate for current purposes. To that end, and recognizing the parties' proven ability to collaborate on similar matters, we direct the applicant and the State to prepare jointly by January 17, 2002 a statement, of the nature described above, that will serve to frame the upcoming hearing. To the extent that their best efforts are not completely successful and reach an impasse, we stand ready to resolve any remaining issues about the statement's content.

3. *Motion to Strike*. In keeping with the limited role of motions to strike (see pp. 26-27, above), we deny the State's motion to strike Exhibit 1 of the applicant's September 11 brief. As we viewed that exhibit, we think it did serve a purpose different from the brief itself (to which the page limitations apply) and we chose to evaluate it for what it is worth rather than disregard it.

4. *Future Discovery*. With Contention Utah QQ now admitted, the parties are entitled to begin discovery, which may be less extensive a process than usual because that contention emerged during the course of discovery on related matters. As the parties know, it has long

been planned that the discovery process would about now be launched on other issues, triggered by the Staff's scheduled issuance at this time of two documents: (1) a Supplemental Safety Evaluation Report on Contention Utah L, and (2) the Final Environmental Impact Statement. [33] Although some adjustments may be necessary, the discovery schedule for those issues can also serve generally to guide discovery on Contention Utah QQ. In that regard, we ask the parties to confer in an effort to reach agreement on a specific discovery schedule for Contention Utah QQ in time to present it to us in the contemplated mid-January teleconference (see fn. 24, above) for ratification (following resolution of any disagreements that may then exist).

With respect to the substance of the discovery process, we urge the parties to conserve their resources -- which will be subject to many demands in the time before the hearing -- by working in concert to resolve any disputes that might arise without calling for Board intervention. Given the fact-driven nature of many discovery disputes and the nearness of the hearing date, any disputes that do require our attention will likely be settled not by written opinion but by conference call that seeks common-sense solutions along the lines of the Board's November 21 decision on the Contention Utah L, Part B discovery dispute (see fn. 6, above). Again, the parties are welcome to fashion such solutions themselves, without our assistance.

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[33] Under the general schedule guiding this proceeding, those documents were anticipated to be issued on December 21, 2001. We and the parties have recently been advised by the NRC staff that, owing to the need to "redact certain information in light of recent security concerns," that schedule must be altered slightly (letter from Robert M. Weisman, December 18, 2001). Thus, while an unredacted version of the supplemental SER was still made available to the concerned parties on December 21, the unredacted version of the FEIS will not be ready until December 31 (the redacted versions of each, we are told, will be published around January 11, 2002).

PART D:

THE UPCOMING HEARING

As noted at the outset, the hearing is scheduled to begin in April of next year in Salt Lake City.[34] Given the complexity of the geotechnical issues (as well as of the "credible accidents" issue, with or without a "terrorism" component as explained in fn. 10, above), it is imperative that we and the parties make the best possible use of the intervening time to prepare for that hearing. In particular, if we are to hear and resolve the issues in an expeditious and fair manner, we will need more than the usual assistance of the parties. To that end, and as already noted (p. 19, above), we are today issuing a companion (unpublished) order establishing a set of measures and deadlines that will begin that process.

In concluding this opinion, we note that utilization of the strict contentions pleading rules embodied in NRC regulations, coupled with application of the summary disposition rules utilized in litigation generally, has generated an estimable result here. That is, we are headed to a hearing that will, fittingly, deal primarily with two threats of possible damage to the proposed facility that are of especial concern to the citizens of Utah and to the public at large: (1) the risk from airborne impacts that could arise in connection with existing U.S. military activities in the vicinity; and (2) the risk from seismic events. Chief Judge Bollwerk's extended, laborious efforts to get us to this advantageous point deserve mention and recognition.

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[34] Some might wonder why this portion of the hearing is being held over four years after the notice of opportunity for hearing was issued. But that notice was issued early in the process during which the NRC staff was to review the first-of-a-kind, and controversial, license application proffered by PFS, which has been amended at least 23 times, all or nearly all since the notice of hearing was issued and most recently on November 21, 2001. As a result, the extensive pre-hearing winnowing and discovery processes before this Board have taken place essentially concurrently with PFS's revisions of the application and the NRC staff's analysis of those revisions. For example, on November 13 the staff issued its Supplemental Safety Evaluation Report on aircraft crash hazards (see fn. 10, above), just released a similar document on geotechnical issues on December 21, and now anticipates producing its Final Environmental Impact Statement at the end of December (see fn. 33, above). All those documents are prerequisites to any final hearing taking place. As may be seen, then, the hearing processes themselves have not been the cause of any untoward delay.

This brings us back to where we started (see Section 1 of Part B, pp. 10-14 above). The Commission's contentions pleading rules ensure that only serious litigants, presenting serious concerns and able to marshal serious litigation support for them, will be able to proceed. Contentions that fairly overcome those preliminary hurdles, and which turn on facts and opinions about which there is ample dispute, deserve our full examination. With our denial of summary disposition and our other rulings herein, that type of examination will be given to the State's geotechnical contentions in the upcoming hearing.

Those of us charged with making crucial decisions in areas such as the scientifically-complex geotechnical realm look forward to that hearing as an occasion not only to allow the parties to test each other's claims -- in a manner that, as we have seen, cannot be done on summary disposition -- but also, building on the parties' questioning of each other, for the Board members to challenge the parties to justify their positions. In doing so, it provides us vital opportunities -- beyond what can be gleaned from parsing dense documents -- to plumb the depths of an expert's thinking, to test the reasons underlying an expert's own views and that expert's rejection of competing theories, to compare and contrast the views of different experts, and to gain greater familiarity with, and understanding of, the intricate theses which we are called upon to evaluate in the course of rendering a decision that can have profound ramifications.

The parties may now begin to prepare for that hearing.[35] For our part, we will be working to resolve the related matter to which we have referred, namely, the summary disposition motion regarding Part B of the seismic contention, which has just become ripe for decision (see fn. 6, above). [36]

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[35] As noted above (fn. 10), another matter needing extensive development at the hearing is Utah's Contention K on *potential accidents*. Issues that should take less time to develop at that hearing involve (1) the possible impact of the facility on the *peregrine falcon*, all that remains from Contention Utah W (see LBP-01-30, 54 NRC 231 (October 30, 2001)); and (2) the thoroughness of the consideration given to *rail-line alternatives*, as raised by the Southern Utah Wilderness Association in Contention SUWA B (see LBP-01-34, 54 NRC ___ (November 30, 2001), reconsideration denied, LBP-01-38, 54 NRC ___ (December 19, 2001)).

The hearing will not be considering one issue of possibly major import -- the adequacy of PFS's security plan, raised by State Contention Security-J -- because a relevant State law is undergoing constitutional challenge brought by the Skull Valley Band and the applicant in Utah's federal district court (Skull Valley Band of Goshute Indians v. Leavitt, Case No. 2:01CV00270C (D. Utah, filed April 19, 2001)). Last summer, we naturally deferred our consideration of the issue pending the outcome of that proceeding. LBP-01-20, 53 NRC 565 (June, 2001). (We have since been receiving regular status reports from the parties on the course of that litigation, in which the State is seeking summary judgment and the Court is awaiting an early January decision by the United States on filing an amicus curiae brief on behalf of the NRC. The next status report is due to us on December 28.)

[36] Summary disposition motions on three other matters remain to be decided. Two of the matters involve State contentions: Utah O, "*hydrology,*" and Utah W, "*other impacts*." The third matter involves a contention filed by Ohngo Gaudedah Devia (a group comprised in part of members of the Skull Valley Band of Goshute Indians), namely Contention OGD O, which raises *environmental justice* considerations.

For the foregoing reasons, it is this 26th day of December, 2001, ORDERED that:

1. The applicant's February 9 motion to strike is DENIED;
2. The applicant's motion for summary disposition of Part A of Contention Utah L is DENIED;
3. The State's motion to admit late-filed Contention Utah QQ is GRANTED;
4. The State's motions to modify the bases of Contention Utah QQ are GRANTED;
5. The State's September 12 motion to strike is DENIED;
6. The discovery design set out on pages 33-34 is ADOPTED; and
7. The parties are DIRECTED to undertake preparation of the "geotechnical contentions unification" document.

THE ATOMIC SAFETY
AND LICENSING BOARD

/RA/

Michael C. Farrar
ADMINISTRATIVE JUDGE

/RA/

Jerry R. Kline
ADMINISTRATIVE JUDGE

/RA/

Peter S. Lam
ADMINISTRATIVE JUDGE

Rockville, Maryland
December 26, 2001

Copies of this Memorandum and Order were sent this date by Internet e-mail transmission to counsel for (1) applicant PFS; (2) intervenors Skull Valley Band of Goshute Indians, OGD, Confederated Tribes of the Goshute Reservation, Southern Utah Wilderness Alliance, and the State of Utah; and (3) the NRC Staff.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing LB MEMORANDUM AND ORDER (LBP-01-39) have been served upon the following persons by deposit in the U.S. mail, first class, or through NRC internal distribution.

Office of Commission Appellate Adjudication
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Administrative Judge
Michael C. Farrar, Chairman
Atomic Safety and Licensing Board Panel
Mail Stop - T-3 F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Administrative Judge
Jerry R. Kline
Atomic Safety and Licensing Board Panel
Mail Stop - T-3 F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Administrative Judge
Peter S. Lam
Atomic Safety and Licensing Board Panel
Mail Stop - T-3 F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Sherwin E. Turk, Esquire
Catherine L. Marco, Esquire
Office of the General Counsel
Mail Stop - 0-15 D21
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Diane Curran, Esquire
Harmon, Curran, Spielberg & Eisenberg, L.L.P.
1726 M Street, NW, Suite 600
Washington, DC 20036

Joro Walker, Esquire
Director, Utah Office
Land and Water Fund of the Rockies
1473 South 1100 East, Suite F
Salt Lake City, UT 84105

Martin S. Kaufman, Esquire
Atlantic Legal Foundation
205 E. 42nd St.
New York, NY 10017

Denise Chancellor, Esquire
Assistant Attorney General
Utah Attorney General's Office
160 East 300 South, 5th Floor
P.O. Box 140873
Salt Lake City, UT 84114

Jay E. Silberg, Esquire
D. Sean Barnett, Esquire
Shaw Pittman
2300 N Street, NW
Washington, DC 20037-1128

John Paul Kennedy, Sr., Esquire
David W. Tufts, Esquire
Confederated Tribes of the Goshute Reservation and David Pete
Durham Jones & Pinegar
111 East Broadway, Suite 900
Salt Lake City, UT 84105

Richard Wilson
Department of Physics
Harvard University
Cambridge, MA 02138

Richard E. Condit, Esquire
Land and Water Fund of the Rockies
2260 Baseline Road, Suite 200
Boulder, CO 80302

Tim Vollmann, Esquire
3301-R Coors Road N.W., #302
Albuquerque, NM 87120

Paul C. EchoHawk, Esquire
ECHOHAWK LAW OFFICES
151 North 4th Avenue, Suite A
P.O. Box 6119
Pocatello, ID 83205-6119

Marlinda Moon, Chairman
Sammy Blackbear, Sr., Vice-Chairman
Miranda Wash, Secretary
Skull Valley Band of Goshute Indians
P.O. Box 511132
Salt Lake City, UT 84151-1132

[Original signed by Emile L. Julian]

Office of the Secretary of the Commission

Dated at Rockville, Maryland,
this 26th day of December 2001