

September 3, 1999

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

NRC STAFF'S RESPONSE TO STATE OF UTAH'S REQUEST  
FOR ADMISSION OF LATE-FILED SECOND AMENDED UTAH CONTENTION Q

INTRODUCTION

Pursuant to the Atomic Safety and Licensing Board's "Order (Schedule for Responses to Request for Admission of Late-Filed Second Amended Contention Utah Q)" (Order), dated August 23, 1999 and 10 C.F.R. § 2.714(c), the staff of the Nuclear Regulatory Commission (Staff) hereby files its response to the "State of Utah's Request For Admission of Late-Filed Second Amended Utah Contention Q," (Second Late-Filed Contention Q) filed August 20, 1999. For the reasons set forth below, the State's Second Late-Filed Contention Q should be rejected.

BACKGROUND

The State of Utah's original proposed Contention Q ("Adequacy of the ISFSI Design to Prevent Accidents") asserted that "[t]he Applicant has failed to adequately identify and assess potential accidents, and, therefore, the Applicant is unable to determine the adequacy of the ISFSI design to prevent accidents and mitigate the consequences of accidents as required by 10 C.F.R. § 72.24(d)(2)." Utah Contention Q at 114. The basis for this contention addressed the accident analysis of a cask drop event discussed in the Safety Analysis Report (SAR) filed by Private Fuel

Storage, L.L.C. ("PFS" or "Applicant"). See SAR § 8.2.6. The Board rejected this contention in its initial ruling on contentions. See *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 195 (1998).

On July 22, 1999, the State submitted its first Late-Filed Contention Q. In support of that contention, the State relied upon a recently issued document, Interim Staff Guidance-12 (ISG-12), which discusses various deficiencies the Staff identified in a Lawrence Livermore National Laboratories (LLNL) report. See Late-Filed Contention Q at 1. The State asserted that the Applicant relied on the LLNL Report in its analysis and that a new analysis is required in light of ISG-12. *Id.* at 2, 9. The Staff and Applicant responded to the State's Late-Filed Contention Q, asserting that the contention failed to satisfy the Commission's requirements for late-filed contentions and failed to satisfy the Commission's contention requirements in 10 C.F.R. § 2.714.<sup>1</sup> In their responses, the Staff and Applicant asserted, among other things, that Holtec had submitted an analysis in response to ISG-12 on June 8, 1999. See Staff's Response at 11-12; Applicant's Response at 7-9. On August 18, 1999, the State withdrew its contention on the basis that the issue set forth therein had become moot as a result of the Applicant's "endorsement" of Holtec's revised analysis in response to ISG-12.<sup>2</sup>

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<sup>1</sup> See "NRC Staff's Response to State of Utah's Request for Admission of Late-Filed Amended Utah Contention Q" (Staff's Response), dated August 5, 1999; "Applicant's Response to State of Utah's Request for Admission of Late-Filed Amended Utah Contention Q" (Applicant's Response), dated August 6, 1999.

<sup>2</sup> See "State of Utah's Reply to Applicant's and NRC Staff's Responses to Amended Contention Q and Notice of Withdrawal of Amended Contention Q," dated August 18, 1999, at 1.

On August 20, 1999, the State submitted its Second Late-Filed Contention Q, in which the State challenges the adequacy of Holtec's cask stability analysis. This contention states:

The Applicant has failed to adequately identify and assess potential accidents involving impacts to fuel cladding. In particular, the Applicant has failed to take into consideration (a) compounded embrittlement and thinning of the zircalloy cladding, and (b) the dynamic effects of a cask drop accident. Therefore, the Applicant is unable to determine the adequacy of the ISFSI design to prevent accidents and mitigate the consequences of accidents as required by 10 CFR 72.24(d)(2).

Second Late-Filed Contention at 6. For the reasons set forth below, the Staff submits that this late-filed contention should be rejected.

#### DISCUSSION

A. Utah's Late-Filed Second Amended Contention Q Is Not Admissible.

The Staff submits that the State has not set forth an admissible contention in accordance with the Commission's regulations in 10 C.F.R. § 2.714. Specifically, the issues raised by the State most appropriately should be raised in the generic rulemaking proceedings on the Holtec HI-STORM cask system rather than in this individual ISFSI proceeding. *See PFS, LBP-98-7, 47 NRC at 186* (the Commission's regulatory scheme establishes "a separate cask design approval process under rulemaking procedures and cask design approval prior to licensing of the PFS facility."). In this regard, the State repeatedly cites the Holtec analysis as the basis for its contention, stating that its new contention "addresses the State's concern that the Holtec analysis is inadequate to satisfy the NRC's regulations."<sup>3</sup> At the same time, however, the State recognizes

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<sup>3</sup> Second Amended Contention Q at 2 n.2. The contention's basis further relies extensively upon Holtec's analysis. *See, e.g.,* Second Late-Filed Contention at 6, 7, 8, 9, 10 n.3, 13 n.6, 14, and 15.

that the Holtec analysis is subject to consideration in the Commission's generic certification proceeding for the Holtec cask -- and states that it has already challenged the Holtec cask stability analysis in the HI-STAR proceeding and will have an opportunity to do so in the HI-STORM proceeding. Second Late-Filed Contention at 14. Significantly, the State has not described or asserted that the issues pertaining to the Holtec analysis have any specific, non-generic effect on the proposed PFS facility that would warrant their consideration as part of this individual proceeding, rather than in the generic proceeding on the Holtec cask system. Since the State seeks to litigate a generic cask matter that is about to be considered in rulemaking, the contention is inadmissible.<sup>4</sup> See PFS, LBP-98-7, 47 NRC at 179.

Further, regarding the issue of the use of irradiated material properties, the State asserts that contrary to the NRC Staff's ISG-12 guidance, "there is no indication in the HI-STORM TSAR that Holtec took into account the effects of the irradiation and consequent embrittlement of the zirconium alloy used in the cladding." Late-Filed Amended Contention Q, at 7-8 (emphasis added). The Holtec revised analysis, however, does take into account the irradiated properties of the cladding material. The revised analysis states, "[t]he material properties used in the non-linear analysis are those for irradiated Zircalloy and are obtained from [the LLNL Report]." HI-STORM TSAR Rev. 7 at 3.5-3. Therefore, the State does not set forth a genuine material dispute with the Applicant concerning this issue.

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<sup>4</sup> The State claims that it has tried to raise the issue "in every way possible." Late-Filed Contention Q at 14. Thus, it seems likely that the State will seek to raise it again in the HI-STORM rulemaking proceeding.

Moreover, as a basis for this assertion, the State relies on NRC Information Notice 98-29 (IN 98-29) to show that thinning of the zircalloy cladding in high burnup fuel would lead to a 25% reduction in g force to cause cladding failure.<sup>5</sup> Second Late-Filed Contention Q, at 8. As calculated by Dr. Resnikoff, a reduction of 25% in g force would result in cladding failure at 50.81 g's. *Id.* The State's calculations are not of any material significance, however, because the Holtec design limit of 45 g's is less than Dr. Resnikoff's calculation of cladding failure of 50.81 g's. *See Rev. 7, HI-STORM TSAR, at 3.5-1 ("limiting the HI-STORM 100 System to a maximum deceleration of 45g's . . . ensures that fuel rod cladding integrity is maintained").* *See PFS, LBP-98-7, 47 NRC at 179-80 (alleged error or deficiency must have some bearing on the outcome of the proceeding as to entitle the petitioner to relief); see 10 C.F.R. § 2.714(d)(2)(ii).*

Finally, the State asserts that "the cask maximum lift height of 10 and 18 inches imply that vertical drops greater than these amounts would result in damage to the canister or interior contents." Second Late-Filed Contention, at 11 (emphasis added). This is speculation and fails to set forth an admissible issue. Further, this matter is repeated from the State's original Contention Q, wherein the State asserted that the Applicant must address lifting accidents at the ITP or during transport, where significant damage could occur during an accident. This matter should be rejected on the grounds that (1) transportation issues, including activities at the ITP, are outside of the scope of this Part 72 proceeding, and (2) during transportation and at the ITP, a

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<sup>5</sup> As the Board has recognized, in circumstances in which a document is used to provide support for a contention, the Board should critically review the document to ensure that it actually does supply a basis for the condition. *PFS, LBP-98-7, 47 NRC 142, 181 (1998).*

transportation cask, rather than a storage cask, will be used. 10 C.F.R. § 72.73(c)(1); *PFS*, LBP-99-34, slip op. at 17-18 (Aug. 30, 1999); *PFS*, LBP-98-7, 47 NRC at 195 n.17.

B. The State Has Failed to Satisfy the Late-Filing Standards in 10 C.F.R. § 2.714.

1. The State Lacks Good Cause For the Late Filing of Significant Portions of This Contention.<sup>6</sup>

The State asserts that it has good cause for the late filing of its contention because it first became aware of the Applicant's intent to revise its license application (to rely on the revised Holtec cask stability analysis) upon reading the Applicant's August 6, 1999, response to the State's first Late-Filed Contention Q.<sup>7</sup> Second Late-Filed Contention Q at 12. However, in evaluating good cause for the late filing of a contention that is asserted to be based on a recently issued document, the extent to which the contention could have been raised prior to the document's availability must be considered. *See PFS*, LBP-98-29, 48 NRC 286, 292 (1998). In light of this requirement, the State's assertion of good cause must be rejected, at least in part. Here, the State could have raised two of the three issues it relies on in support of its contention in advance of the availability of the Holtec cask stability analysis: (1) the Applicant's alleged failure to consider the dynamic effects of a cask drop accident, and (2) the Applicant's alleged failure to consider lifting accidents during transport or at the ITP. Therefore, good cause does

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<sup>6</sup> The Staff has previously set forth the legal standards for late-filed contentions, which are incorporated herein by reference. *See, e.g.*, Staff's Response, dated August 5, 1999 at 3-4.

<sup>7</sup> The Holtec analysis was submitted as Exhibit 5 to the Applicant's Response, dated August 6, 1999.

not exist with respect to the late filing of these two issues upon which Second Late Filed Contention Q is based.<sup>8</sup>

With respect to the first of these two issues, the State asserts that the Applicant has failed to consider the dynamic effects of a cask drop accident. Second-Late-Filed Contention Q at 7. The State contends that Holtec applies an "oversimplistic static analytical model, using fixed moments, forces, and accelerations." *Id.* at 8. The State's assertion challenges the LLNL simplified methodology -- which was recognized in ISG-12 to constitute a simplified approach. *See* ISG-12 at 1. Holtec, in both its new analysis and earlier TSAR discussion, relies on the LLNL Report's methodology. Significantly, however, while Holtec's new analysis accounted for the deficiencies in the LLNL methodology identified in ISG-12 by accounting for the weight of the fuel pellets and irradiated material properties, Holtec did not alter the static nature of the LLNL methodology, upon which both the new analysis and the prior Holtec TSAR were based.<sup>9</sup> Thus, the State could have raised the issue of the acceptability of Holtec's reliance on the LLNL analysis much earlier, when it submitted its timely Contention Q.

In addition, good cause is further eroded by the State's expert's (Dr. Resnikoff) longstanding awareness that the LLNL methodology is not a dynamic analysis. Thus, Dr. Resnikoff has previously stated:

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<sup>8</sup> The Staff does not argue that a third issue raised by the State, regarding compounded embrittlement and thinning of the zircalloy cladding, is excessively late.

<sup>9</sup> *Compare* Rev. 7, HI-STORM TSAR, at 3.5-1 - 3.5-2 (Holtec analysis uses the LLNL methodology and accounts for weight of fuel pellets), *with* Rev. 5, HI-STORM TSAR, at 3.5-1 (Holtec relies on the LLNL methodology). *See* Rev. 7, HI-STORM TSAR at 3.5-2.

I am aware that the fuel assembly weight is taken into account in the LLNL report and the Holtec SAR, but the loading is static, that is, the fuel weight is assumed to be evenly distributed along the cladding. The model is essentially a beam between two supports. But this model may not bound the physical situation. In a side impact, the cladding and the fuel are distinct beams. Under impact the fuel pellets would be expected to break their fixed configuration and strike the cladding with force. This dynamic loading is not considered in the LLNL report and may be important. It does not appear that NRC staff are querying Holtec and SNC about this important distinction between static and dynamic loading.<sup>10</sup>

Thus, the State does not have good cause for raising this issue late.

With respect to the second issue, good cause does not exist for the State's late assertion, in the basis for this contention, that the Applicant allegedly failed to consider lifting accidents during transport or at the ITP. In this regard, the State does not address the central issue of whether any difference exists between the initial Holtec TSAR and Holtec's submittal of June 8, 1999, so as to show there is good cause for filing this matter again. Further, this matter pertains solely to transportation matters and does not arise from the revised Holtec analysis; indeed, this issue was raised initially by the State as part of Utah Contention Q -- and has previously been rejected by the Board.<sup>11</sup> Therefore, the State has not shown good cause for seeking to re-assert this issue as part of its late-filed Second Amended Contention Q.

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<sup>10</sup> Letter from Marvin Resnikoff, Radioactive Waste Management Associates, to Mark Delligatti, NRC, dated December 31, 1998 (emphasis added). This letter was submitted as Exhibit 4 to the Staff's Response, dated August 5, 1999.

<sup>11</sup> See "State of Utah's Contentions on Construction and Operating License Application by Private Fuel Storage, LLC for an Independent Spent Fuel Storage Facility," dated November 23, 1997, at 115; PFS, LBP-98-7, 47 NRC at 195 & n.17.

2. The Other Late-Filing Factors Weight Against the Admission of Significant Portions of this Contention.

With respect to the four other factors specified in 10 C.F.R. § 2.714(a)(1), the Staff submits that those factors weigh against the admission of significant portions of Late-Filed Second Amended Contention Q. Regarding factors two and four, while the State's interest may not be represented by existing parties with respect to the issues raised in this contention, other means are available to protect the State's interest with respect to those issues. Significantly, the State will have an ample opportunity to comment extensively on the Staff's Safety Evaluation Report and proposed Certificate of Compliance for the HI-STORM cask during the current rulemaking process to amend 10 C.F.R. Part 72, Subpart K to add this cask to the list of casks acceptable for use by a general licensee. See 10 C.F.R. § 72.214.

While the State asserts that "there is no other forum in which the State can challenge the adequacy of the PFS license application to provide this required information" (Second Amended Contention Q at 15), there is no basis in fact for this assertion. Here, PFS has proposed to use a cask that is to be certified for use generically in a separate Part 72 proceeding rather than a cask of its own design that lacks generic certification, and the State therefore has a full opportunity to challenge the cask's design. While the State asserts that generic rulemaking for the HI-STORM cask "is a very different kind of proceeding," that allows it to submit written comments but not to conduct discovery "or cross-examination of the applicant's [*i.e.*, Holtec] experts in a hearing" (*Id.*), this assertion fails to establish that no other means are available for it to raise these issues. On the contrary, it is well established that the "other means" factor recited in 10 C.F.R. § 2.714 does not require that the "other means" must be equivalent in each respect to an adjudicatory

proceeding. *See Florida Power & Light Co.* (St. Lucie Nuclear Power Plant, Unit No. 2), ALAB-420, 6 NRC 8, 23 (1977), *aff'd*, CLI-78-12, 7 NRC 939 (1978). In particular, the Staff submits that the existence of an ongoing rulemaking proceeding, wherein the State may submit written comments not limited to the constraints of 10 C.F.R. § 2.714, constitutes appropriate "other means" to protect the State's interests regarding generic cask design issues. *See Carolina Power and Light Co.* (Shearon Harris Nuclear Power Plant, Units 1, 2, 3 and 4), LBP-80-3, 11 NRC 106, 121-22 (1980) (the Commission's rulemaking proceeding is an available and appropriate "other means" to protect the petitioner's interest in matters relating to the subject of the rulemaking). Therefore, the State has available to it other means to protect its interests with respect to the matters raised in its contention.

With respect to factors three and five, while the State's participation may arguably contribute to the development of a sound record, the admission of this contention is certain to broaden the issues and commensurately delay the proceeding. First, there exist no other contentions in the proceeding related to deficiencies in the Holtec analysis. Thus, admission of this contention would broaden the issues in the proceeding. *See Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-99-6, 49 NRC 114, 119 (1999).

The admission of this new contention will also inevitably delay the proceeding. The State asserts that it would require the opportunity to conduct discovery into the basis for the Holtec analysis. *See Second Late-Filed Contention Q* at 16. Discovery against Holtec International would create additional procedural considerations (and resulting delay) particularly since Holtec International is not a party to the instant proceeding. Further, litigation of these issues would

likely involve additional testimony, cross-examination, and summary disposition filings, all of which would cause a delay in the proceeding.<sup>12</sup>

In sum, the Staff submits that the State has failed to establish good cause for the late filing of portions of Second Late-Filed Contention Q, particularly given the nature of two of the three issues raised in the State's contention, which are not dependent upon the Holtec analysis. Further, the Staff submits that the State's lack of good cause for filing this contention late has not been overcome by a "compelling" showing that the factors specified in 10 C.F.R. § 2.714(a)(1) favor of its admission. *State of New Jersey*, CLI-93-25, 38 NRC at 296. For these reasons, Second Late-Filed Contention Q should be rejected, at least with respect to two of the three issues raised by the State.

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<sup>12</sup> The State suggests that its contention could be placed in Phase II of the proceeding. *Id.* However, five contentions are already scheduled for Phase II litigation, on which discovery has already been conducted. While a limited discovery window of two months has been provided for Group II issues, the admission of a new contention would likely require an expansion of this period, which could further delay the schedule. Accordingly, since admission of this contention now will broaden the issues to be heard, and will likely cause delay in the completion of hearings, this factor weighs against the admission of Second Late-Filed Contention Q.

CONCLUSION

For the reasons set forth above, the State's Second Late-Filed Amended Contention Q should be rejected as failing to satisfy the Commission's requirements for the admission of contentions at 10 C.F.R. § 2.714, and for failing to satisfy the Commission's requirements for late-filed contentions.

Respectfully submitted,

*Catherine L. Marco*

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Counsel for NRC Staff

Dated at Rockville, Maryland  
this 3<sup>rd</sup> day of September 1999

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF'S RESPONSE TO STATE OF UTAH'S REQUEST FOR ADMISSION OF LATE-FILED SECOND AMENDED UTAH CONTENTION Q" in the above captioned proceeding have been served on the following through deposit in the Nuclear Regulatory Commission's internal mail system, or by deposit in the Nuclear Regulatory Commission's internal mail system, as indicated by an asterisk, with copies by electronic mail, or by deposit in the United States mail, first class, as indicated by double asterisk, with copies by electronic mail as indicated, this 3<sup>rd</sup> day of September, 1999.

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