

August 5, 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 AMENDED UTAH CONTENTION Q

INTRODUCTION

Pursuant to 10 C.F.R. § 2.714(c), and the Atomic Safety and Licensing Board's "Order (Granting Filing Extension Motions and Setting Schedule For Responses to Request For Admission of Late-Filed Contention)" (Board Order), dated July 27, 1999, the staff of the Nuclear Regulatory Commission (Staff) hereby files its response to the "State of Utah's Request For Admission of Late-Filed Amended Utah Contention Q" (Late-Filed Contention Q), filed July 22, 1999. For the reasons set forth below, the State's Late-Filed Contention 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 Applicant's

accident analysis of a cask drop event. *See* SAR § 8.2.6. The Board rejected Utah Contention Q in its initial ruling on contentions, on the grounds that:

this contention and its supporting bases fail to establish with specificity any genuine material dispute; impermissibly challenge the Commission's regulations or rulemaking-associated generic determinations; lack materiality; lack adequate factual or expert opinion support; and/or fail properly to challenge the PFS application.

See Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 195 (1998). In addition, the Board found no basis for a portion of the contention pertaining to the Intermodal Transfer Point (ITP), stating that "the basis for the contention concerns purported accidents involving storage casks rather than shipping casks, the latter being the casks that would be handled at the ITP." *Id.* at 195 n.17.

On July 22, 1999, the State submitted Late-Filed Contention Q. In support of that contention, the State relies upon a recently issued document, Interim Staff Guidance-12 (ISG-12), entitled "Buckling of Irradiated Fuel Under Bottom End Drop Conditions," which discusses various deficiencies the Staff identified in a Lawrence Livermore National Laboratories (LLNL) report, UCID-21246. *See* Late-Filed Contention Q at 1. The State asserts that the Applicant relies on the LLNL Report in its analysis of potential accidents that may damage the integrity of the spent fuel cladding, and that a new analysis is required in light of ISG-12. *Id.* at 2, 9.

For the reasons set forth below, the Staff opposes the admission of late-filed Utah Contention Q.

DISCUSSION

A. Legal Standards for Late-Filed Contentions.

The criteria to be considered when determining the admissibility of a late-filed contention are set forth in 10 C.F.R. § 2.714(a)(1)(i)-(v).¹ It has long been held that the first factor, good cause for lateness, carries the most weight in the balancing test. *See State of New Jersey* (Department of Law and Public Safety's Requests Dated October 8, 1993), CLI-93-25, 38 NRC 289, 295 (1993). Further, in instances, such as here, where a contention purportedly is based on the existence of a document recently made publically available, an important consideration in assessing good cause for lateness is the extent to which the contention could have been submitted prior to the document's availability. *See Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-737, 18 NRC 168, 172 n.4 (1983); *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-29, 48 NRC 286, 292 (1998).

¹ The five factors are:

- (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.

10 C.F.R. § 2.714(a)(1).

In evaluating the five lateness factors, two factors -- the availability of other means to protect the petitioner's interest and the ability of other parties to represent the petitioner's interest -- are less important than the other factors, and are therefore entitled to less weight. *Texas Utilities Elec. Co.* (Comanche Peak Steam Elec. Station, Units 1 and 2), CLI-92-12, 36 NRC 62, 74 (1992). With respect to the third factor (the potential contribution to the development of a sound record), the petitioner is obliged to "set out with as much particularity as possible the precise issues it plans to cover, identify its potential witnesses, and summarize their proposed testimony." *Commonwealth Edison Co.* (Braidwood Nuclear Power Station, Units 1 and 2), CLI-86-8, 23 NRC 241, 246 (1986), quoting *Mississippi Power and Light Co.* (Grand Gulf Nuclear Station, Units 1 and 2), ALAB-704, 16 NRC 1725, 1730 (1982). In addition to the showing that a balancing of the five factors favors intervention, a petitioner must also meet the requirements for setting forth a valid contention. 10 C.F.R. § 2.714(d)(2).

B. The State Has Failed to Establish
Good Cause For the Late Filing of Contention Q.

The State contends that it has good cause for the late filing of its contention because the State's witness for this contention, Dr. Resnikoff, discovered ISG-12 within a reasonable time of its public issuance, and he and the State's attorneys have taken a reasonable amount of time to prepare the new contention. Late-Filed Contention Q at 6. Specifically, the State asserts that Dr. Resnikoff discovered the document on the NRC's web site on July 2, 1999, and that the State submitted the contention slightly more than a month after the document was made publicly available. *Id.*

These assertions do not demonstrate good cause for filing Contention Q late. First, the State does not provide the date when it first learned of the information detailed in ISG-12. Indeed, as set forth below, ISG-12 is based on the Staff's review of the LLNL document -- dated October 1987 --

and no reason has been shown that Dr. Resnikoff could not have assisted the State in formulating its original contention based on his own review of the LLNL report. In this regard, the record establishes that the State has been aware of issues closely related to ISG-12 for quite some time. Second, the State does not demonstrate that certain portions of its new contention are dependent upon the information contained in ISG-12, such that the State could not have raised the issues in the contention with any degree of specificity prior to the Staff's issuance of ISG-12.

Interim Staff Guidance-12 discusses a particular methodology used to analyze fuel rod buckling following a cask bottom end drop accident. *See* ISG-12, attached to Late-Filed Contention Q as Exhibit 2. In particular, ISG-12 states that the methodology described in LLNL report UCID-21246, neglected the weight and stiffness of the fuel pellets. In ISG-12, the Staff indicated that it had calculated a buckling load using LLNL methodology, factoring into the equation the irradiated properties for the material and the weight of the fuel pellets. Using the most vulnerable fuel assembly (a 17x17 Westinghouse fuel assembly), the result was 13.86 g, rather than 82 g as had been calculated by LLNL. *See* ISG-12, at 1. In other words, the fuel assemblies might not be able to withstand as great an end drop force as had previously been anticipated. Accordingly, ISG-12 recommends that if the methodology used in the LLNL report is used to assess fuel integrity for the cask end drop accident, the analysis should include the weight of fuel pellets and irradiated material properties.²

² The Staff further observed, however, that the LLNL methodology is a simplified approach -- that is, there are several bounding assumptions in this approach which make the results unrealistically low for predicting cladding failure. ISG-12, at 2. The use of realistic methodology, which would not contain such a large margin to actual failure, may yield acceptable results, even taking into account fuel pellet weight and irradiated material properties. *See id.*

Notwithstanding the recent issuance of ISG-12, the State of Utah and its witness, Dr. Resnikoff have long been aware of the methodology detailed in the LLNL report, and they have expressed their concerns with the adequacy of the LLNL report over the past 17 months. First, by letter dated February 27, 1998, Dr. Resnikoff expressed his concerns regarding the LLNL report to the Director of the Spent Fuel Project Office.³ In his letter, Dr. Resnikoff stated that, "the most vulnerable fuel cannot withstand a 63 g force in the most adverse orientation (Holtec TSAR, p. 3.5-1) but a force considerably less." In particular, Dr. Resnikoff expressed concerns regarding irradiated material properties, such as cladding ductility and yield stress. Further, regarding the weight of the fuel pellets, Dr. Resnikoff stated that "LLNL's calculation for most vulnerable fuel also does not take into account the weight of the fuel itself, only the g force without the additional weight of the fuel." Thus, the State has been familiar with the LLNL report for at least the past 17 months, and has expressed particular concern with respect to the report's treatment of fuel pellet weight and irradiated material properties. ISG-12 concerns these same matters, the only difference being that ISG-12 addresses these matters as they pertain to the LLNL end drop analysis only.

Further, Dr. Resnikoff's concerns over fuel pellet weight and irradiated material properties of spent fuel have been the subject of ongoing correspondence between the State's witness and the Staff for the past year, following the Staff's receipt of Dr. Resnikoff's letter of February 1998. The Staff initially responded to Dr. Resnikoff's letter on November 19, 1998.⁴ At that time, approaching

³ See Letter from Marvin Resnikoff, Ph.D., Radioactive Waste Management Associates (RWMA), to Charles Haughney, NRC, dated February 27, 1998, attached hereto as Exhibit 1. Dr. Resnikoff's letter indicates that carbon copies were sent to Diane Curran and Connie Nakahara, attorneys for the State of Utah.

⁴ Letter from Mark S. Delligatti, NRC, to Dr. Marvin Resnikoff, RWMA, dated November 19, 1998, attached hereto as Exhibit 2.

the issue as a side drop concern, the Staff indicated its view that the LLNL report delineated "irradiated fuel cladding longitudinal tensile strength values" and "used the proper weight value in the analysis of the side drop orientation." Dr. Resnikoff responded by letter dated December 31, 1998, in which he stated that the NRC letter did not fully answer his concerns, and he expressed concerns that the LLNL report failed to consider the brittleness of irradiated fuel cladding and the effects of dynamic loading.⁵ The Staff responded to this communication by letter dated February 17, 1999, in which it invited Dr. Resnikoff to submit comments during the public comment period of the HI-STAR 100 storage cask 10 C.F.R. Part 72, Subpart K rulemaking process.⁶ On March 26, 1999, the State of Utah, with the assistance of Dr. Resnikoff, submitted comments on the proposed rule to add the Holtec HI-STAR 100 Cask System to the list of approved spent fuel storage casks under 10 C.F.R. Part 72.⁷ The State, in its comments, raised several issues pertaining to the cladding integrity of the fuel on impact. *See* Attachment to Exhibit 5 at 2-6. Therein, the State asserted that the LLNL report is deficient because it does not account for irradiation and embrittlement, which lower the impact resistance of the fuel assemblies. *See* Attachment to Exhibit 5 at 5. The State also took issue with LLNL's "assumption that the fuel within the cladding behaves as a rigid rod."

In sum, the issuance of ISG-12 did not provide the State with any information that it did not already have, or could not have reasonably discovered, and does not excuse the lateness of this late-

⁵ Letter from Marvin Resnikoff to Mark S. Delligatti, dated December 31, 1998, attached hereto as Exhibit 3.

⁶ Letter from Mark S. Delligatti to Marvin Resnikoff, dated February 17, 1999, attached hereto as Exhibit 4.

⁷ *See* Letter from Denise Chancellor, Assistant Attorney General, Office of the Attorney General, State of Utah to Secretary, NRC, dated March 26, 1999, attached hereto as Exhibit 5.

filed contention. The State has long been aware of the LLNL report, and has previously expressed concern to the Staff about deficiencies it perceived in the report. The state has not shown that it could not have formulated a contention expressing these concerns prior to July 1999. Accordingly, the State has not shown good cause for filing its contention late.⁸

Moreover, even assuming that the State could not have discovered the deficiencies in the LLNL methodology prior to the issuance of ISG-12, it is apparent that the State's contention is not wholly dependent upon the information contained in ISG-12 and, thus, some issues could have been raised earlier. Thus, Late-Filed Contention Q, apart from its discussion of the LLNL analysis, (a) appears to constitute a reply to the Applicant's argument, made in response to the State's original contention, that the canister could act as a replacement for the cladding, and (b) reasserts the State's original basis for its former Contention Q concerning lifting accidents during transport. *See Late-Filed Contention Q* at 4-6. This effort to reassert issues that were raised and resolved previously should be rejected. First, the basis for former Contention Q, like the entire contention, has already been rejected by the Licensing Board. *See LBP-98-7*, 47 NRC at 197 & n.17. The State does not explain how the defects in the LLNL methodology add anything new to that basis. Second, as to the State's apparent reply to the Applicant's argument that the canister could act as a replacement for cladding, the State had an opportunity to raise this matter previously upon receiving the Applicant's pleading, but did not pursue the issue at that time. The State's inclusion of this concern in its late-filed contention does not at all depend upon the Staff's issuance of ISG-12, concerning deficiencies

⁸ Indeed, the State in its Late-Filed Contention Q, states its belief that ISG-12 appears to have been issued "in response to the very issues raised by the State's contention." *See Late-Filed Contention Q* at 4 n.2. Regardless of the origin of the Staff's concerns identified in ISG-12, however, it is clear that the State's assertion undercuts its claim of good cause for lateness, in that it demonstrates the State has been aware of these issues for some time.

found in the LLNL methodology, and the State's delay in raising this matter is thus altogether unsupported by a showing of good cause.

Accordingly, for the reasons set forth above, the State has not established good cause for lateness with respect to its Late-Filed Contention Q.

C. The Other Late-Filing Factors Do Not Favor Admission of Contention Q

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 Late-Filed Contention Q. Regarding factors two and four, while State's interest may not be represented by existing parties with respect to the issues raised in Late-Filed Contention Q, other means are available to protect the State's interest with respect to the issues. The State will have an opportunity to comment on the Staff's Safety Evaluation Reports and Certificates of Compliance for the HI-STORM and TranStor casks during the rulemaking process to amend 10 C.F.R. Part 72, Subpart K to add these casks to the list of casks acceptable for use by a general licensee. *See* 10 C.F.R. §§ 72.214. Thus, the State does have another avenue to protect its interest with respect to the fuel rod buckling analyses.⁹

With respect to factor three, whether the State's participation may be expected to assist in developing a sound record, the State has identified Dr. Marvin Resnikoff, who supported the contention originally. Late-Filed Contention Q at 6. While such identification may have sufficed for the original Contention Q, which was timely filed, late-filed standards require more. Specifically, the State has not provided a summary of Dr. Resnikoff's expected testimony. Without

⁹ As the Licensing Board is aware, factors two and four carry less weight than the three other factors specified in the regulation. *See Commonwealth Edison Co.* (Braidwood Nuclear Power Station, Units 1 and 2), CLI-86-8, 23 NRC 241, 245 (1986); *Private Fuel Storage*, LBP-98-7, 47 NRC at 208.

a summary of what Dr. Resnikoff would testify to in support of this contention, this factor must be viewed as weighing against the contention's admission. See *Braidwood*, CLI-86-8, 23 NRC at 246; *Private Fuel Storage*, LBP-98-7, 47 NRC at 208-09.¹⁰

With respect to the fifth factor, the admission of this contention will broaden the issues and will commensurately delay the proceeding. First, inasmuch as original Contention Q has been eliminated from the proceeding in the Board's original ruling on contentions, there remain no other contentions related to the accident analysis of a cask drop that the State would seek to litigate. Thus, admission of this contention would broaden the issues in this proceeding and will inevitably delay the proceeding as well. See *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-99-6, 49 NRC 114, 119 (1999).

In sum, the Staff submits that the State has failed to establish good cause for the late filing of Contention Q, given the State's awareness over a year ago of the deficiencies with the LLNL methodology and the nature of the remainder of the issues raised in the State's contention, which are not dependent upon a discovery of deficiencies with the LLNL methodology. 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 its admission. *State of New Jersey*, CLI-93-25, 38 NRC at 296. For these reasons, late-filed Contention Q should be rejected.

¹⁰ The Staff recognizes, however, that if the contention is assumed to reflect Dr. Resnikoff's views and his expected testimony, this factor would weigh in favor of the contention's admission.

D. The Admissibility of Late-Filed Contention Q

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 issue raised by Dr. Resnikoff most appropriately should be raised in the rulemaking proceedings on the Holtec cask systems rather than in this 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."). Since the State seeks to litigate a matter that is about to be considered in rulemaking, the contention is inadmissible. *See PFS, LBP-98-7, 47 NRC at 179*. Indeed, as discussed above, the State has raised similar issues in the Holtec HI-STAR 100 storage cask rulemaking proceeding.

Second, while the State asserts that the analysis described in the LLNL report should be redone, the contention erroneously assumes that the analysis has not been redone; in fact, the analysis has been redone for the HI-STORM cask. Thus, by letter dated June 8, 1999, Holtec submitted a revised section of its TSAR for the HI-STORM storage cask to respond to ISG-12.¹¹ In Holtec's new analysis for fuel rod buckling, "the weight of the pellets is conservatively assumed to be attached to the cladding for all discussions and evaluations." *See HI-STORM TSAR Rev. 7 at 3.5-7*. The analysis concludes that fuel rod integrity is maintained in the event of a hypothetical accident condition leading to a 45 g design basis deceleration. . . ." *See id.* at 3.5-9. Therefore, a new

¹¹ *See* Letter from Bernard Gillian, Project Manager, HI-STAR/HI-STORM Licensing Project to NRC, dated June 8, 1999.

analysis has been performed such that late-filed contention Q does not present a genuine dispute of material fact with the Applicant, at least with respect to the HI-STORM cask.¹²

Finally, the State's assertion that "[t]he Applicant must not only address lifting accidents while onsite at the ISFSI, but at the intermodal transfer site or during transport on either rail or highway, where significant damage could occur during an accident with potential resulting release of nuclear material" should be rejected. *See* Late-Filed Contention Q at 5. This matter is repeated verbatim from the State's original Contention Q, and should be rejected for the same reasons that the Board rejected it originally. *See* LBP-98-7, 47 NRC at 195 n.17.

¹² The Staff notes, however, that PFS should revise its SAR to include a reference to Holtec's June 8, 1999, submittal, in which Holtec provides a new analysis in response to ISG-12. This may be done as part of PFS' expected revision of its application to reference the final Holtec and/or TranStor cask system that is approved in rulemaking.

CONCLUSION

For the reasons set forth above, the State's Late-Filed Contention Q should be rejected as failing to satisfy the Commission's requirements for the admission of late-filed contentions and as failing to state an issue that is appropriate for litigation in this proceeding.

Respectfully submitted,

Catherine L. Marco

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Counsel for NRC Staff

Dated at Rockville, Maryland
this 5th day of August 1999

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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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 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 5th day of August, 1999.

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