

May 19, 2008

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
PA'INA HAWAII, LLC	)	Docket No. 30-36974
	)	
Material License Application	)	ASLBP No. 06-843-01

NRC STAFF'S RESPONSE TO AMENDED SAFETY CONTENTION 7

INTRODUCTION

On May 2, 2008, Concerned Citizens of Honolulu (Intervenor) filed amended safety contention 7, arguing that the license application submitted by Pa'ina Hawaii, LLC (Licensee) does not comply with 10 C.F.R. § 30.33(a)(2) because it fails to address the likelihood and potential consequences of an aircraft crash involving the Licensee's irradiator.<sup>1</sup> As with the Intervenor's original Safety Contention 7, the Board should reject the amended contention. The Board should reject the amended contention in the first instance because the Intervenor fails to establish there is good cause for the late filing of either the amended contention or its attached documentary support. The Board should also reject the amended contention because the Commission considered both the likelihood and potential consequences of aircraft crashes when it adopted the irradiator safety requirements in 10 C.F.R. Part 36, determining that, because of their design features and other protective measures, irradiators can safely be constructed "at any location at which local authorities would allow other occupied buildings to be

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<sup>1</sup> "Intervenor Concerned Citizens of Honolulu's Amended Safety Contention 7" (May 2, 2008) ("Intervenor's Brief") ADAMS Accession No. ML081280484.

built.”<sup>2</sup> Although the Intervenor argues that aircraft crashes pose a unique threat to the Licensee’s irradiator not contemplated by the Part 36 rulemaking, the Intervenor fails to demonstrate that the Commission’s conclusion regarding irradiator siting is inapplicable here.<sup>3</sup>

### BACKGROUND

On October 3, 2005, the Intervenor filed its hearing request, setting forth twelve safety and two environmental contentions.<sup>4</sup> The Board admitted three safety contentions but subsequently dismissed two of these contentions after the Licensee submitted supplemental procedures addressing relevant issues.<sup>5</sup> The contentions that were dismissed related to emergency procedures for natural disasters and prolonged loss of electrical power. The remaining contention, Safety Contention 7, alleged that the Licensee’s application is inadequate because it “fails completely to address the likelihood and consequences of an air crash” at the irradiator facility. Hearing Request at 15.

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<sup>2</sup> *License and Radiation Safety Requirements for Irradiators*, 58 Fed. Reg. 7715, 7726 (Feb. 9, 1993) (final rule).

<sup>3</sup> Today the Staff is also filing a separate response to the questions posed by the Board in its Order (Directing NRC Staff to Answer Questions) (May 7, 2008) (unpublished). The Staff would emphasize that the Board’s questions raise distinct issues not presented by the Intervenor in Amended Safety Contention 7. As explained in the Staff’s separate response, the Board’s questions pertain to the training, operating and emergency procedures required by Part 36, as well as the incident response programs of state, local and federal government agencies. In Amended Safety Contention 7, the Intervenor neither challenges the portions of the Licensee’s application adopting procedures required by Part 36 nor addresses the role that incident response programs would play in the event of an aircraft crash at the Licensee’s facility. The Intervenor does not argue that the Licensee needs to supplement its emergency procedures; rather, the Intervenor argues that the Licensee should have conducted a *siting analysis* for its irradiator.

<sup>4</sup> “Request for Hearing by Concerned Citizens of Honolulu” (Oct. 3, 2005) (“Hearing Request”).

<sup>5</sup> Memorandum and Order (Ruling on Admissibility of Two Amended Contentions) (June 22, 2006) (unpublished).

The Staff agreed to prepare an environmental assessment (EA) as part of a settlement agreement in this case.<sup>6</sup> The Staff contracted with the Center for Nuclear Waste Regulatory Analysis for the preparation of a Topical Report addressing certain issues to be considered in the EA. The Center prepared Draft and Final Topical Reports addressing risks to the Licensee's irradiator associated with aircraft crashes and various natural phenomena.<sup>7</sup> Following release of the Draft Topical Report and EA, the Intervenor filed Safety Contentions 13 and 14, alleging that the draft documents insufficiently analyzed risks associated with aircraft crashes and natural phenomena.<sup>8</sup> The Staff and the Licensee opposed both contentions on numerous grounds.<sup>9</sup>

On August 17, 2007, the Staff issued NRC License No. 53-29296-01, authorizing the Licensee to possess and use sealed sources in connection with its proposed underwater irradiator. The Staff also released its Safety Review for the Licensee's irradiator.<sup>10</sup>

On August 31, 2007, the Board certified to the Commission two questions relating to whether 10 C.F.R. § 30.33(a)(2) requires a safety analysis addressing aircraft crashes and

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<sup>6</sup> "NRC Staff and Concerned Citizens of Honolulu Joint Motion to Dismiss Environmental Contentions" (March 20, 2006). The settlement agreement addressed admitted contentions alleging deficiencies in the Staff's review under the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. §§ 4321-4437.

<sup>7</sup> "Draft Topical Report on the Effects of Potential Natural Phenomena and Aviation Accidents at the Pa'ina Hawaii, LLC Irradiator Facility" (Dec. 31, 2006), ADAMS Accession No. ML063560344; "Final Topical Report on Aircraft Crash and Natural Phenomena Hazard at the Pa'ina Hawaii, LLC Irradiator Facility" (May 1, 2007), ADAMS Accession No. ML071280833.

<sup>8</sup> "Intervenor's Contentions Re: Draft Environmental Assessment and Draft Topical Report" (February 9, 2007) (ADAMS ML070510116). The Intervenor sought to amend its contentions following release of the Final Topical Report Final EA. "Intervenor Concerned Citizens of Honolulu's Contentions Re: Final Safety Evaluation Report" (Sept. 14, 2007).

<sup>9</sup> "NRC Staff Response to Intervenor Concerned Citizens of Honolulu's Contentions Re: Draft Environmental Assessment and Draft Topical Report" (March 12, 2007); "Applicant Pa'ina Hawaii, LLC's Answer to Intervenor Concerned Citizens of Honolulu's Contentions Re: Draft Environmental Assessment and Draft Topical Report" (March 9, 2007).

<sup>10</sup> "Pa'ina Hawaii, LLC, Safety Review of the License Application" (August 18, 2007) ADAMS Accession No. ML072260186.

natural phenomena at the proposed irradiator site.<sup>11</sup> The Board's first question asked "Whether, in the circumstances presented, 10 C.F.R. § 30.33(a)(2) requires a safety analysis of the risks asserted to be endemic (*i.e.* aircraft crashes and natural phenomena) to the proposed irradiator site at the Honolulu International Airport?" *Id.* at 17.

After the Board's certification, on September 14, 2007, the Intervenor filed Safety Contentions 15 and 16, arguing that the Staff's Safety Review for the Licensee's irradiator is deficient because the Staff failed to consider whether the irradiator would be safe in the event of an aircraft crash, tsunami or hurricane; and also that the Staff inadequately considered seismic risks.<sup>12</sup> Again, the Staff and the Licensee opposed both contentions.<sup>13</sup>

On March 17, 2008, the Commission ruled on the certified questions. With respect to the first question, the Commission found that Part 36's rulemaking history "leaves open the possibility that there could be a need for the NRC to review facility siting 'on a case by case basis, if a unique threat is involved which may not be addressed by State and local requirements'" CLI-08-03, 67 NRC \_\_ (slip op. at 20) (quoting 58 Fed. Reg. at 7725). However, the Commission also explained that "contentions questioning an irradiator facility's siting must be sufficiently supported, in light of the SOC's conclusions. . . . To require applicants or the NRC Staff, as an initial matter, to provide comprehensive, detailed studies proving that airports and potential natural phenomena do not pose a significant safety risk, would be contrary to the Part 36 rulemaking conclusions, which specifically found siting safety reviews unnecessary (even assuming such risks)." *Id.* (slip op. at 20–21). The Commission explained that a contention

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<sup>11</sup> Memorandum (Certifying Question to the Commission) (August 31, 2007) (unpublished).

<sup>12</sup> "Intervenor Concerned Citizens of Honolulu's Contentions Re: Final Safety Evaluation Report" (Sept. 14, 2007).

<sup>13</sup> "NRC Staff's Response to Intervenor's Contentions on Staff's Safety Review" (Oct. 9, 2007); "Applicant Pa'ina Hawaii, LLC's Answer to Intervenor Concerned Citizens of Honolulu's Contention Re: Final Safety Evaluation Report" (Oct. 2, 2007).

demanding a detailed, comprehensive siting analysis must, at a minimum, “set forth, with adequate elaboration and support, a plausible claim that a proposed facility would not be adequately protective in the event of specific phenomena.” *Id.* (slip op. at 21). The Commission further explained that “[t]he degree of support necessary for a contention will depend on how obvious a threat the asserted risk is, given the irradiator facility’s design and protective features (e.g., depth and dimensions, lack of volatility of sources, shielding provided by water and/or concrete, temperatures, pressure, impact, and other conditions the source assemblies have been tested to withstand, etc.)” *Id.*

The Commission did not rule on the pending safety contentions, but rather remanded this matter so that the Board could decide whether the Intervenor’s contentions “go beyond generalized claims and are adequately supported.” *Id.* (slip op. at 22). The Commission also noted that, on remand, the Board had to determine whether the Intervenor’s claims were timely and otherwise met all contention requirements in 10 C.F.R. § 2.309. *Id.* “For instance, the Board must evaluate whether the pending safety contentions raise claims that could have been raised in Concerned Citizens’ original petition for hearing. ‘Petitioners must raise and reasonably specify at the outset their objections’ to a licensing action.” *Id.* (quoting *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-03-17, 58 NRC 419, 427 (2003)).

On April 2, 2008, the Board dismissed all five of the Intervenor’s pending safety contentions. Memorandum and Order (Dismissing Outstanding Safety Contentions and Permitting Submission of New Safety Contentions) (April 2, 2008) (unpublished). The Board found that the Intervenor’s safety contentions fell short, “by a considerable measure,” of meeting the rigorous standards for contention admissibility. *Id.* at 5. The Board held that, in light of CLI-08-03, “it is not sufficient to assert simply that the particular irradiator is not adequately protective based upon an argument that unspecified offsite consequences will occur[.]” *Id.* at 4.

Rather, the Intervenor must set forth the “specific *manner* by which such offsite consequences will occur” and identify a “unique threat scenario outside the parameters for irradiators already generically approved in the promulgation of 10 C.F.R. Part 36[.]” *Id.* (emphasis in original).

Although the Board dismissed the Intervenor’s pending safety contentions, the Board also provided the Intervenor thirty days to file new safety contentions. *Id.* at 5. The Board provided this opportunity based on what it described as the “Commission’s newly prescribed and rigorous safety contention admissibility standards with respect to irradiator siting.” *Id.* The Board emphasized, however, that any new contentions filed by the Intervenor must meet all of the general contention requirements in 10 C.F.R. § 2.309(f)(1), as well as the requirements for nontimely filings in 10 C.F.R. § 2.309(c)(1)(i)–(viii). *Id.*

On May 2, 2008, the Intervenor filed Amended Safety Contention 7, arguing that the Licensee’s application is deficient because it fails to address the likelihood and potential consequences of an aircraft crash at the irradiator site. In its brief, the Intervenor merely repeats arguments made in its original Safety Contention 7, while attempting to supplement its original contention with new documentary support.

#### DISCUSSION

The general requirements for contention admissibility have been set forth numerous times by both the Board and the parties in this proceeding and can be found at 10 C.F.R. § 2.309(f)(1)(i)–(vii). Among those requirements, an intervenor must support its contention with references to specific portions of the application that the petitioner disputes or, if the petitioner believes the application fails to contain necessary information, identify each failure and provide supporting reasons for the petitioner’s belief. 10 C.F.R. § 2.309(f)(1)(vi). The additional requirements for amended contentions can be found at 10 C.F.R. § 2.309(f)(2). Under this section, an amended or new contention will not be considered timely unless: (i) the information upon which the amended or new contention is based was not previously available; (ii) the

information upon which the amended or new contention is based is materially different than information previously available; and (iii) the amended or new contention has been submitted in a timely fashion based on the availability of the subsequent information. If the amended contention is not timely filed, the board must consider the factors in 10 C.F.R. § 2.309(c)(i)–(viii) before deciding whether to reject or admit the contention, with the most important factor generally considered to be whether, under 10 C.F.R. § 2.309(c)(i), the intervenor has shown there is good cause for its untimely filing. *Cf. Commonwealth Edison Co.* (Braidwood Nuclear Power Station, Units 1 and 2), CLI-86-8, 23 NRC 241, 244 (1986) (addressing criteria for admitting late-filed contentions under former 10 C.F.R. § 2.714 and emphasizing that good cause is a critical factor in determining contention admissibility).

I. The Intervenor Fails to Demonstrate Good Cause for its Late-Filed Contention.

The Intervenor argues that Amended Safety Contention 7 is a timely filed contention under 10 C.F.R. 2.309(f)(2) and that, in any event, there is good cause for any late filing under 10 C.F.R. § 2.309(c). Intervenor’s Brief at 14–17. The Intervenor bases both arguments on the Commission’s March 17, 2008 order, which the Board characterized as containing a “newly prescribed” standard for safety contentions challenging an irradiator’s siting. The Intervenor states that the Commission’s order is particularly significant because “[p]rior to the Commission’s March 17, 2008 ruling, there was no standard other than the one set forth at 10 C.F.R. § 2.309(f)(1) to govern the admission of contentions timely filed with an initial hearing request.” *Id.* at 15.

The Staff submits that this understanding of the Commission’s ruling is incorrect. The Commission did not establish a new rule for contention admissibility in its March 17, 2008 order, nor did it amend or supplement the existing rules at 10 C.F.R. § 2.309(f)(1). Rather, the

Commission merely restated longstanding requirements for contention admissibility.<sup>14</sup> The significant information provided by the Commission pertained not to contention requirements, but to the subject of the Board's first certified question, that is, the relation between the general requirement of 10 C.F.R. § 30.33(a)(2) and the specific safety requirements for irradiators in Part 36. The Commission clarified that, although challenges to an irradiator's siting are not barred as a matter of law, "they must be sufficiently supported, in light of the SOC's conclusions." CLI-08-03, 67 NRC \_\_ (slip op. at 20).

The conclusions in the SOC to the Part 36 final rule (1993) were, of course, available to the Intervenor when it submitted its original Safety Contention 7 in October 2005, as were the conclusions in the SOC to the proposed rule (1990).<sup>15</sup> In fact, the SOC to the 1993 final rule contains the very language upon which the Commission based its decision. The Commission found that the SOC "leaves open the possibility that there could be a need for the NRC to review facility siting 'on a case by case basis, if a unique threat is involved which may not be addressed by State and local requirements'" CLI-08-03, 67 NRC \_\_ (slip op. at 20) (quoting 58 Fed. Reg. at 7725). The Intervenor could have addressed the SOC's language when it filed Safety Contention 7 in 2005. The Intervenor could, in other words, have argued that 10 C.F.R. § 30.33(a)(2) requires an irradiator siting analysis both as a general matter and, as it now contends, because the risk of aircraft crashes presents a unique threat to the Licensee's irradiator. The present case is therefore distinguishable from NRC decisions holding that good

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<sup>14</sup> In explaining what a petitioner must set forth in a contention arguing for a facility siting review, the Commission relied on 10 C.F.R. § 2.309(f) generally; the SOC to the 10 C.F.R. Part 2 revisions in 1989; and a 2004 Commission decision holding that contentions are expected to "present a reasonable scenario" of potential consequences. CLI-08-03, 67 NRC \_\_ (slip op. at 21 n.68–n.70). These citations reflect that the Commission was not establishing a new admissibility standard for contentions challenging the omission of a siting analysis from an irradiator application, but merely explaining how existing requirements might apply in the present case.

<sup>15</sup> *License and Radiation Safety Requirements for Irradiators*, 55 Fed Reg. 50,008, 50,017 (December 4, 1990).

cause exists for a late-filed contention where the Commission introduces a new legal principle addressed by the contention. *Texas Utilities Electric Co., et al.* (Comanche Peak Steam Electric Station, Unit 1), LBP-86-36A, 24 NRC 575, (October 30, 1986). Here, by contrast, the Commission merely cited an existing conclusion, set forth by the NRC during a public rulemaking process, as the basis for its ruling. The Intervenor therefore fails to demonstrate either that its amended contention is timely filed or that there is good cause for its late filing.

Further, even if the Board determines there is good cause for new *legal argument* addressing the Commission's ruling in CLI-08-03, the Intervenor fails to demonstrate good cause for submitting additional documents in support of its amended contention. Along with its amended contention, the Intervenor has submitted nine documents that were not filed at the time of its original contention.<sup>16</sup> The Intervenor fails to explain why the information contained in those documents could not have been submitted in 2005, along with its original contention.<sup>17</sup> In its original contention, the Intervenor argued that 10 C.F.R. § 30.33(a)(2) requires a site-specific analysis of the probability and consequences of aircraft crashes at the Licensee's site.<sup>18</sup> That is the very same argument the Intervenor makes in its amended contention. To the extent the newly submitted information is relevant to the amended contention, it would also have been relevant to the original contention. Accordingly, even if the Board concludes the Intervenor should be allowed to amend its contention by submitting new legal argument in response to CLI-

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<sup>16</sup> The documents include Attachments 1–8 to the Intervenor's May 2, 2008 filing and the May 2, 2008 Declaration of Marvin Resnikoff, Ph.D., also attached to the filing.

<sup>17</sup> Although several of the studies and analyses included among the Intervenor's supporting documents had not yet been prepared in 2005, that is only because the Intervenor generated them to support contentions challenging the Draft Topical Report and EA. The Intervenor fails to explain why the same, or similar, studies could not have been prepared at the time it filed its original contention.

<sup>18</sup> Hearing Request at 15.

08-03, the Board should reject the Intervenor's attempt to provide new documentary support for its contention.

II. The Intervenor Fails to Demonstrate that Either the Likelihood or Potential Consequences of an Aircraft Crash is a "Unique Threat" Requiring a Facility Siting Review.

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Before adopting the safety requirements for irradiators in 10 C.F.R. Part 36, the Commission specifically considered whether there should be a prohibition against locating irradiators near airports because of the risk of radiation overexposures caused by an aircraft crash.<sup>19</sup> The Commission concluded that "a prohibition against placing an irradiator where other types of occupied buildings could be placed is not justified on safety grounds." 58 Fed. Reg. at 7726. In reaching this conclusion, the Commission relied in large part on the design features of irradiators and their sources. The Commission explained that, even if an airplane were to strike an irradiator and a source were damaged as a result, "large quantities of radioactivity are unlikely to be spread from the immediate vicinity of the source rack because the sources are not volatile." *Id.* Based on these protective features, the Commission concluded that "the radiological consequences of an airplane crash at an irradiator would not substantially increase the seriousness of the accident." *Id.* The Commission therefore decided to "allow the construction of an irradiator at any location at which local authorities would allow other occupied buildings to be built." *Id.*

In CLI-08-03, the Commission concluded that Part 36's rulemaking history "leaves open the possibility that there could be a need for the NRC to review facility siting 'on a case by case basis, if a unique threat is involved which may not be addressed by State and local requirements'" CLI-08-03, 67 NRC \_\_ (slip op. at 20) (quoting 58 Fed. Reg. at 7725). However,

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<sup>19</sup> *License and Radiation Safety Requirements for Irradiators*, 58 Fed. Reg. 7715, 7726 (final rule); 55 Fed. Reg. 50,008, 50,017 (proposed rule).

the Commission also explained that “contentions questioning an irradiator facility's siting must be sufficiently supported, in light of the SOC's conclusions.” *Id.* (slip op. at 20).

Here, the Intervenor does not address the specific language of the SOC and explain why, consistent with that language, the risk of aircraft crashes involving the Licensee's irradiator is a “unique” threat. The Intervenor does not, for example, argue that the Licensee's irradiator will be constructed at a site where local authorities would not allow other occupied buildings to be placed. Instead, the Intervenor makes two general arguments that do not take into account the language of the SOC.

First, the Intervenor argues that the risk of aircraft crashes involving the Licensee's irradiator is uniquely high. Intervenor's Brief at 6–7, 11–12. Second, the Intervenor claims that the potential radiological consequences of an aircraft crash may be uniquely severe. Intervenor's Brief at 7–10, 12–14. Neither of these claims is sufficient to raise an issue as to whether there is “unique threat” involving the Licensee's irradiator. That is because: (1) the SOC *assumes* an aircraft crash takes place, rendering a probability analysis irrelevant; (2) the potential consequences the Intervenor identifies are in no way unique to the Licensee's facility, but could, at least in theory, be consequences of an aircraft crash at *any* irradiator; (3) the Intervenor offers only speculation regarding consequences that might result from an aircraft crash at the Licensee's irradiator, rather than a demonstration that those consequences are likely to result; and (4) the Intervenor fails to explain how aircraft crashes can realistically be considered a “threat . . . which may not be addressed by State and local requirements,” 58 Fed. Reg. at 7725, particularly where the Licensee is presently negotiating with the State of Hawaii to lease a parcel of land adjacent to the Honolulu International Airport on which it will build the irradiator.

A. The Intervenor's Arguments Regarding the Probability of an Aircraft Crash are Irrelevant to the Issues Before the Board.

The Intervenor argues that the Licensee failed to comply with 10 C.F.R. § 30.33(a)(2) because its application does not address the likelihood of an aircraft crash involving the proposed irradiator. Intervenor's Brief at 6–7, 11–12. The Intervenor claims that the risk of an aircraft crash is heightened because the Licensee's irradiator will be located near "one of the busiest airports in the United States." Intervenor's Brief at 6.<sup>20</sup> According to the Intervenor, the annual likelihood of an aircraft crash involving the irradiator would be either 1-in-2,786 or 1-in-1,757, depending on the methodology used. Intervenor's Brief at 6–7.

The risk data submitted by the Intervenor is irrelevant for purposes of determining whether the Licensee had to include a siting analysis in its application. That is because the SOC to the Part 36 final rule effectively assumes a *1-in-1* likelihood of an aircraft crash at an irradiator. The Commission addressed this point in CLI-08-03, noting that the SOC's discussion of aircraft crashes "*even conservatively assumes the scenario of a 'source . . . damaged as a result of an airplane crash,'*" but concludes nonetheless that "large quantities of radioactivity are unlikely to be spread from the immediate vicinity of the source rack because the sources are not volatile."<sup>21</sup> Where the SOC's conclusion is based on the assumption that an aircraft crash *actually occurs*, the Intervenor's claim that the Licensee's irradiator faces a uniquely high risk of a crash is simply not relevant to determining whether the Licensee had to include a siting analysis in its application.

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<sup>20</sup> According to Federal Aviation Administration data, in 2007 the Honolulu International Airport was the 26<sup>th</sup>-busiest airport in the United States, handling less than a third of the air traffic of the two busiest airports. Honolulu also had fewer flights than Washington-Dulles (#16) and only slightly more flights than Baltimore-Washington International (#29) and Washington National (#30). [http://www.faa.gov/news/updates/busiest\\_airports/index.cfm?airportType=All&year=2007](http://www.faa.gov/news/updates/busiest_airports/index.cfm?airportType=All&year=2007) (last visited May 19, 2008).

<sup>21</sup> CLI-08-03, 67 NRC \_\_ (slip op. at 16) (citing 58 Fed. Reg. at 7726) (emphasis added).

B. Rather Than Identifying a “Unique Threat” to the Licensee’s Irradiator, the Intervenor Merely Identifies Generic Consequences Affecting All Irradiators.

The Commission found that Part 36’s rulemaking history “leaves open the possibility that there could be a need for the NRC to review facility siting ‘on a case by case basis, if a unique threat is involved which may not be addressed by State and local requirements.’”<sup>22</sup> In this case, the Intervenor has not made any attempt to show that the aircraft crash consequences it identifies are unique to the Licensee’s proposed irradiator. Rather, the Intervenor has merely pointed to consequences that, while highly unlikely, could affect any underwater irradiator and most panoramic irradiators.

Because the consequences it alleges would in no way be unique to the Licensee’s irradiator, the Intervenor is in effect challenging the conclusions underlying the Part 36 final rule. In the SOC to the final rule, the NRC concluded that, even if an airplane were to strike an irradiator and a source were damaged as a result, “large quantities of radioactivity are unlikely to be spread from the immediate vicinity of the source rack because the sources are not volatile.” 58 Fed. Reg. at 7726. The Intervenor challenges this conclusion as it applies to the Licensee’s irradiator, but without identifying any feature that would render the consequences of an aircraft crash at the Licensee’s irradiator more severe than those resulting from a crash at any other irradiator. In other words, the Intervenor’s argument succeeds only if the Board determines that the NRC’s conclusion regarding the consequences of an aircraft crashes at irradiators was in error. The Intervenor’s argument that the consequences of an aircraft crash at the Licensee’s facility represents a “unique threat” requiring a siting analysis must therefore be considered an impermissible challenge to the regulations in 10 C.F.R. Part 36. See *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), LBP-01-6, 53 NRC 138, 159 (2001) (holding that a contention presents an impermissible challenge to NRC

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<sup>22</sup> CLI-08-03, 67 NRC \_\_ (slip op. at 20) (citing 58 Fed. Reg. at 7725).

regulations by seeking to impose requirements in addition to those set forth in the regulations); see also *Duke, Cogema, Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), LBP-01-35, 54 NRC 403, 422 (2001).

C. The Intervenor Offers Only Speculation as to the Consequences that Might Result from an Aircraft Crash.

In an attempt to support its claim that an aircraft crash at the Licensee's irradiator may result in uniquely severe consequences, the Intervenor submits several documents describing scenarios that supposedly "could" result from an aircraft crash. However, these documents provide no support for the Intervenor's argument that such scenarios are plausible. Rather, the attachments merely identify scenarios that could conceivably result in severe radiological consequences, without explaining why these scenarios are anything other than speculative. This is not enough for the Intervenor's contention to be admissible under the NRC's Rules of Practice. Even where the opinions of alleged experts are involved, "an expert opinion that merely states a conclusion (e.g., the application is 'deficient, 'inadequate,' or 'wrong') without providing a reasoned basis or explanation for that conclusion is inadequate because it deprives the Board of the ability to make the necessary reflective assessment of the opinion. . . ." *USEC Inc. (American Centrifuge Plant)*, CLI-06-10, 63 NRC 451, 472 (2006) (quoting *Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation)*, LBP-98-7, 47 NRC 142, 181 (1998)).

To confirm that the Intervenor's argument regarding the consequences of an aircraft crash rests on speculation, the Board need look no further than the first paragraph of the Intervenor's primary supporting document, "Analysis of the Effect of Impact by an Aircraft on a Steel Structure Similar to the Proposed Pa'ina Irradiator." Intervenor's Brief, Exhibit 7 at 1. In the first paragraph the authors summarize the conclusions of their report, which are that "a disastrous accident *could* occur in the event of an airplane crashing into a steel structure built

adjacent to the Honolulu International Airport. . . . Such an accident would create conditions that *could* lead to introduction of radioactive Cobalt-60 into the human environment.” *Id.* (Emphases added.) The authors’ conclusions are by their very terms speculative. Moreover, these conclusions are not supported by any rigorous analysis in the remainder of the report showing that radiologically significant consequences are the plausible result of an aircraft crash involving the Licensee’s facility.

To the contrary, the authors’ speculative conclusions are repeated throughout the body of the document. For example, the authors claim that a fire associated with an aircraft crash “could result in a breach of both the source assemblies and the pool, allowing shielding water to escape.” *Id.*, Exhibit 7 at 5. They claim that “Co-60 sources could also be exposed if extreme temperatures evaporate the pool water or if the force of the impact disperses the source.” *Id.* The authors do not assign any likelihood to such events, however, and they do not provide any analysis demonstrating these events are other than speculative.

The Intervenor also relies on a declaration dated May 2, 2008 in support of its argument that the consequences of an aircraft crash at the Licensee’s irradiator may be uniquely severe.<sup>23</sup> This declaration likewise rests on mere speculation. The author cites calculations he performed showing that a jet engine traveling at 38.5 miles per hour would pierce the irradiator pool liner. Resnikoff Declaration (May 2, 2008) at ¶¶ 11-12. Exactly *how* the engine would strike the liner is left unexplained, a significant omission given that the irradiator pool will be almost entirely below ground level and the pool surface will be only approximately 81” by 95” wide. The author also speculates that an aircraft crash could exert forces that breach the sealed sources in the irradiator and allow Co-60 to escape the irradiator pool through groundwater. *Id.* at ¶ 20. The author provides no data or analysis showing this is a plausible consequence of an aircraft crash,

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<sup>23</sup> Intervenor’s Brief, “Declaration of Marvin Resnikoff, Ph.D., in Support of Concerned Citizens’ Amended Safety Contention 7” (“Resnikoff Declaration (May 2, 2008)”).

and the author fails to address portions of the Licensee's application discussing the design of the irradiator pool—which includes both inner and outer steel tanks with an intermediate concrete layer—and the geology of the irradiator site.<sup>24</sup>

The Intervenor also argues that emergency responders would receive potentially lethal radiation doses if the pool liner were pierced as the result of an aircraft crash and shielding water drained from the pool. Intervenor's Brief at 8–9. The Intervenor's only support for this argument is the affidavits and supporting documents discussed in the two preceding paragraphs. Because the conclusions in those reports are based on mere speculation, the Intervenor's argument is similarly unsupported. The Intervenor also appears to base its argument on the assumption that emergency responders would approach the facility without knowing it contains a radioactive source and, additionally, stand directly above the source. *Id.* at 9. This is mere speculation.<sup>25</sup> In any event, even if the Intervenor's arguments had merit, they would be directed to the wrong portion of the Licensee's application. The Intervenor could have submitted a safety contention claiming some deficiency in the Licensee's emergency procedures. It did not. What is before the Commission in amended Safety Contention 7 is the Intervenor's claim that the Licensee should have included a *siting analysis* in its application.

D. The Intervenor Fails to Explain Why State and Local Building Requirements are Insufficient to Address the Risk of Aircraft Crashes.

As the Commission noted in CLI-08-03, the SOC to the Part 36 final rule states that an applicant may be required to conduct a siting analysis "if a unique threat is involved which may

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<sup>24</sup> "Pa'ina Hawaii, LLC—Geotechnical Report" (November 30, 2005) (ADAMS Accession No. ML053460276).

<sup>25</sup> For example, the Intervenor fails to address sections of the Uniform Fire Protection Code (NFPA 1) (2003) pertaining to emergency response. NFPA 1 has been adopted by both the State of Hawaii and the County of Honolulu. Revised Ordinances of Honolulu, Chapter 20, "Fire Code of the City and County of Honolulu," available at <http://www.co.honolulu.hi.us/refs/roh/20.htm> (last visited May 19, 2008). Likewise, the Intervenor does not provide any basis for concluding the collimated beam from the Co-60 source would affect individuals outside the pool's immediate vicinity.

not be addressed by State and local requirements.” 58 Fed. Reg. at 7725. The Intervenor claims that it is unaware of any state or local requirement compelling the Licensee to modify the design of its proposed irradiator or relocate the irradiator to eliminate the threats it identifies. Intervenor’s Brief at 10. But that is insufficient to show a unique threat “not addressed” by state or local requirements. The Intervenor does not take into account the possibility that government officials concluded building code requirements presently in effect *sufficiently address* the risk of aircraft crashes at industrial facilities such as irradiators.

The SOC to the Part 36 final rule reflects the Commission’s judgment that an applicant need not perform an irradiator siting analysis for threats that are addressed by state or local building requirements. In Amended Safety Contention 7, the Intervenor appears to be both questioning the Commission’s judgment in relying on the expertise of local governments and suggesting that Hawaii government agencies have not considered the possible risks of allowing an industrial facility to be constructed at a site such as that proposed by the Licensee. The first argument questions the basis for the Part 36 final rule, and should be rejected as an impermissible challenge to those regulations. The second argument, on the other hand, suggests that the State of Hawaii would enter into a lease with the Licensee for land adjacent to the Honolulu International Airport without considering either the purpose for which the Licensee seeks to use the land or the possibility of aircraft crashes near the Licensee’s facility.<sup>26</sup> The Staff submits that this scenario is wholly implausible.

### CONCLUSION

The Board should reject Amended Safety Contention 7 because the Intervenor fails to demonstrate good cause for its late filing. The Board should also reject the contention because

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<sup>26</sup> The Licensee is engaged in ongoing negotiations with the State of Hawaii to lease the land on which it intends to build the irradiator. "Lease Update in Response to ASLB's October 5, 2007 Order" (May 7, 2008).

the Intervenor fails to show there is any unique threat to the Licensee's irradiator requiring a site-specific safety analysis of aircraft crashes.

Respectfully submitted,

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Michael J. Clark  
Counsel for the NRC Staff

Dated at Rockville, Maryland  
this 19<sup>th</sup> day of May, 2008

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
PA'INA HAWAII, LLC	)	Docket No. 30-36974
	)	
Material License Application	)	ASLBP No. 06-843-01

CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF'S RESPONSE TO AMENDED SAFETY CONTENTION 7" in the above-captioned proceedings have been Served on the following by deposit in the United States mail; through deposit in the Nuclear Regulatory Commission's internal system as indicated by an asterisk (\*), and by electronic mail as indicated by a double asterisk (\*\*) on this 19<sup>th</sup> day of May, 2008.

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