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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of	)	
Pa'ina Hawaii, LLC	)	Docket No. 30-36974-ML
	)	
Material License Application	)	
	)	

INTERVENOR CONCERNED CITIZENS OF HONOLULU'S REPLY RE: QUESTIONS CERTIFIED BY THE LICENSING BOARD ON AUGUST 31, 2007

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I. THE STAFF AND PA'INA IMPROPERLY ATTEMPT TO LITIGATE ISSUES UNRELATED TO THE CERTIFIED QUESTIONS

The Commission's hearing regulations disfavor interlocutory review, due to a "general unwillingness to engage in 'piecemeal interference in ongoing Licensing Board proceedings.'" Exelon Generation Co., LLC (Early Site Permit for the Clinton ESP Site), CLI-04-31, 60 NRC 461, 466 (2004) (quoting Duke Cogema Stone & Webster (Savannah River Mixed Oxide Fuel Fabrication Facility), CLI-02-7, 55 NRC 205, 213 (2002)). Thus, 10 C.F.R. § 2.341(f) authorizes interlocutory review in only three circumstances:

> (1) where the Board decision works "immediate and serious irreparable impact"; (2) where it "affects the basic structure of the proceeding in a pervasive or unusual manner"; or (3) where the Board refers a ruling, or certifies a question, that "raises significant and novel legal or policy issues."

Id. (quoting 10 C.F.R. § 2.341(f)(1), (2))

Despite this strict limitation on interlocutory review, both the Staff and Pa'ina improperly attempt to use their responses to the narrow certified questions to mount unauthorized interlocutory challenges to various contentions. See, e.g., Staff's Response at 6 (claiming Safety Contention 14 is untimely), 21 n.35 (asserting Honolulu's building codes are adequate), 22 n.36

(claiming proposed irradiator site not in seismic zone); Pa'ina's Brief at 6-9 (challenging Board's admission of environmental contentions).[1] Since such challenges "must 'abide the end of the case' before undergoing appellate review," the Commission should disregard them and, instead, focus solely on the questions certified for immediate resolution. Exelon Generation Co., LLC, 60 NRC at 467 (quoting Cleveland Electric Illuminating Co. (Petty Nuclear Power Plant, Units 1 and 2), ALAB-675, 15 NRC 1105, 1114 (1982)).[2]

II. TO DETERMINE WHETHER PA'INA'S PROPOSED IRRADIATOR COMPLIES WITH 10 C.F.R. § 30.33(a)(2), THREATS FROM AVIATION ACCIDENTS AND NATURAL DISASTERS MUST BE EVALUATED

The discussion in the Staff's safety review of the potential for liquefaction and seismic separation belies its litigation position that analysis of site conditions is unnecessary to determine Pa'ina's compliance with 10 C.F.R. § 30.33(a)(2). Contrast Pa'ina Hawaii, LLC, Safety Review

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[1] The Licensing Board has not yet admitted the safety contentions the Staff challenges, making its arguments particularly unripe, while Pa'ina apparently has not learned its lesson from the three Commission orders rejecting its previous interlocutory appeals from Board decisions regarding the environmental contentions. See Memorandum and Order, CLI-06-13 (May 15, 2006); Memorandum and Order, CLI-06-18 (July 26, 2006); Memorandum and Order, CLI-06-25 (Sept. 6, 2006). Moreover, Concerned Citizens fails to see the relevance of Pa'ina's arguments about the Board's admission of environmental contentions that alleged violations of the National Environmental Policy Act ("NEPA") and have since been dismissed pursuant to a settlement. Whether Pa'ina's irradiator should have been categorically excluded from NEPA is an entirely separate question from whether 10 C.F.R. § 30.33(a)(2) mandates that Pa'ina demonstrate its proposed irradiator would be safe from aviation accidents and natural disasters.

[2] Should the Commission determine any of these challenges are relevant to the certified questions, Concerned Citizens is prepared to respond to them. See, e.g., Concerned Citizens' Reply To Staff's Response To Amended Safety Contentions 13 And 14 at 3 (July 5, 2007) (ML071910319) (Safety Contention 14 timely); Concerned Citizens' Reply In Support Of Its Contentions Re: Final Safety Evaluation Report at 7 (Oct. 8, 2007) (ML072970091) (compliance with Honolulu building code would not guarantee safety from earthquakes); Concerned Citizens' Contentions Re: Final Safety Evaluation Report at 7-9 (Sept. 14, 2007) (ML072610141) (Staff's analysis regarding intensity of earthquakes at Pa'ina's chosen site is flawed); Concerned Citizens' Opposition To Pa'ina's Appeal From LBP-06-04 And LBP-06-12 at 5-10 (Apr. 17, 2006) (ML061210007) (environmental contentions properly admitted).

of the License Application at 4 (Aug. 18, 2007) ("SR") (ML072260186) with Staff's Response at 17 ("the Commission intended that no seismic analysis would typically be required for an underwater irradiator"). The design and performance requirements for irradiators set forth in Part 36 do not specify any seismic requirements for underwater irradiators. See 10 C.F.R. pt. 36, subpt. C. Thus, if Pa'ina needed to demonstrate compliance with only "the specific requirements in Part 36," as Pa'ina and the Staff claim, there would have been no reason for the Staff to consider potential safety issues related to earthquakes at all. Staff's Response at 12; see also Pa'ina's Brief at 3 (alleging "compliance with Part 36 ... constitutes compliance with Section 30.33"). Instead, the Staff not only considered seismic issues, but sent Pa'ina a deficiency letter requiring it to submit additional "information of what seismic loads, including liquefaction, are applicable to the irradiation chamber and how they have been evaluated," as well as "justification of why isolation is not required between the slab and the pool liner during a seismic event" or "details of the isolation requirements." Deficiency Fax at 1 (Jan. 25, 2006) (ML060260023). The Staff would not have sent a deficiency letter – which is triggered when "the license reviewer considers the application incomplete or inadequate" – if it truly believed, as its lawyers now contend, that analysis of earthquake threats is irrelevant to approval of Pa'ina's application. 55 Fed. Reg. 50,008, 50,010 (Dec. 4, 1990).

The Staff's actions illustrate the obvious point that one cannot know whether "a unique threat is involved which may not be addressed by State and local requirements" unless an inquiry (by Pa'ina or, failing that, the Staff) is performed into the nature and magnitude of the safety threats endemic to the location Pa'ina proposes for its irradiator. 58 Fed. Reg. 7,715, 7,725 (Feb. 9, 1993). As the Staff explained, its deficiency letter to Pa'ina and its analysis of seismic issues in the SR were "a necessary step in ascertaining whether there was any obvious reason to look

beyond Part 36's requirements in this case." Staff's Response at 19 (emphasis added).[3] Likewise, to determine whether Pa'ina's proposed irradiator would be "adequate to protect health and minimize danger to life or property," an analysis of the unique threats from aviation accidents, tsunamis and hurricanes at Pa'ina's chosen site was needed. 10 C.F.R. § 30.33(a)(2).

Requiring a site-safety analysis in this case would not, as the Staff and Pa'ina assert, impose a duty to analyze site safety in all irradiator licensing proceedings. The Staff and Pa'ina ignore that the location Pa'ina proposes for its irradiator is subject to unique threats that make this proceeding far from routine. See Concerned Citizens' Opening Brief at 2-5. Due to Pa'ina's decision to locate its irradiator adjacent to active runways at a busy international airport that also serves as an Air Force base, the risk of an airplane striking the facility would be up to one-in-175 over the life of the license. Unlike the panoramic irradiators the Commission considered during Part 36 rulemaking, in which "radioactive sources ... would be relatively protected from damage [during an aviation accident] because they are generally contained within 6-foot thick reinforced-concrete walls," the sources in Pa'ina's proposed facility "would be in a pool with a liner consisting of 6 inches of concrete, with ¼-inch steel on the inside and outside." Pa'ina Hawaii, LLC (Material License Application), LBP-06-12, 63 NRC 403, 419 (2006). There is no evidence any irradiator of such vulnerable construction has ever been licensed to operate anywhere near an airport, much less in a location with a risk of aviation accident anything like the level of Pa'ina's proposed site.

Similarly, neither the Staff nor Pa'ina has presented any evidence that other irradiators have been licensed to operate in tsunami evacuation zones or at sites vulnerable to hurricane

[3] While Concerned Citizens disputes the accuracy and adequacy of the Staff's analysis of earthquake threats, it agrees such an inquiry is required. See Concerned Citizens' Contentions Re: Final Safety Evaluation Report at 6-9 (Sept. 14, 2007) (ML072610141).

storm surge, as Pa'ina proposes. Moreover, while irradiators have been located in areas of seismic activity, there has been no showing they have been licensed to operate at sites consisting of unconsolidated alluvial sediments, where strong ground motions and liquefaction pose serious threats. Finally, Pa'ina's decision to locate its irradiator in the midst of a major metropolitan area, where hundreds of thousands of residents would be threatened by any mishap, and at the economic heart of the State of Hawai'i, where any disruption could inflict enormous costs, presents unique circumstances that distinguish Pa'ina's proposal from "ordinary licensing actions." Staff's Response at 19.

Nothing in the regulatory history remotely suggests the Commission intended that Part 36's promulgation would exempt Pa'ina from the requirement to demonstrate compliance with 10 C.F.R. § 30.33(a)(2). As with the Statement of Considerations ("SOC") for the final rule (discussed in Concerned Citizens' opening brief), the SOC for the draft regulations expressly identified as "information that must be included in a license application if it is to be approved by the Commission" that "[t]he applicant's proposed equipment and facilities must be adequate to protect the health of workers and the public and minimize danger to life and property." 55 Fed. Reg. at 50,014 (emphasis added). The Commission incorporated that requirement by reference into 10 C.F.R. § 36.13(a) to ensure that irradiator applicants like Pa'ina would comply with this "standard requirement[] for all NRC licensees." Id. Demonstrating compliance with 10 C.F.R. § 30.33(a)(2) is, therefore, part and parcel of the "comprehensive, formal set of regulations" the Commission adopted for irradiator licensing. 58 Fed. Reg. at 7,716.[4]

[4] The Staff is incorrect when it claims Concerned Citizens "does not argue that [a site-related safety] analysis is required by 10 C.F.R. Part 36." Staff's Response at 11. 10 C.F.R. § 36.13(a) – which is in Part 36 – mandates that "[t]he applicant shall satisfy the general requirements specified in § 30.33 of this chapter." Those general requirements include 10 C.F.R.

Nor does the regulatory history support Pa'ina and the Staff's claim that "a site-related safety analysis of aircraft crashes is never required." Staff's Response at 13; see also Pa'ina's Brief at 4-5. While the Commission decided not to enact a blanket prohibition on siting an irradiator at an airport, that "does not affirmatively establish that any airport location satisfies the general requirement of 10 C.F.R. § 30.33(a)(2) that an irradiator facility be 'adequate to protect health and minimize danger to life or property.'" LBP-06-12, 63 NRC at 419. Pa'ina proposes to site its irradiator next to active runways at "one of the busiest airports in the United States." Final Topical Report at 2-1 (ML071280833). Such a risky venture requires additional scrutiny.

As detailed in Concerned Citizen's opening brief, the SOC's discussions of airplane accidents, earthquakes, tornadoes, and other natural hazards all assumed a panoramic irradiator, whose six-foot thick "shield walls by their nature are inherently strong." 58 Fed. Reg. at 7,720. The Commission should reject the Staff's speculation that the SOC's complete silence regarding the potential for aviation accidents and natural disasters to damage underwater irradiators means the Commission conclusively determined such irradiators were safe from all threats. See Staff's Response at 14-16. As the Licensing Board previously observed:

> The Staff's glib answer ... casts the issue entirely incorrectly, implying that, in every instance of rulemaking in which, as here, there is no indication a matter was considered, we must assume it was, in fact considered.

Pa'ina Hawaii, LLC (Material License Application), LBP-06-04, 63 NRC 99, 110-11 (2006).

The Staff's reliance on NUREG-1345 to argue against a site-related safety analysis for Pa'ina's irradiator is likewise misplaced. See Staff's Response at 14. NUREG-1345 focused on Category IV (panoramic, wet-source-storage) irradiators, not Category III (underwater) irradiators of the type Pa'ina proposes. NUREG-1345, "Review of Events at Large, Pool-Type

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§ 30.33(a)(2), which places on Pa'ina the burden to demonstrate its "proposed equipment and facilities are adequate to protect health and minimize danger to life or property."

Irradiators," at 1 (1989).[5] Nor did NUREG-1345 consider risks from aviation accidents, which pose a particularly significant threat at Pa'ina's preferred site. With respect to natural phenomena and other site problems, the report found that the limited data available did not "contain much knowledge about external events affecting operational events at irradiators" and, according, did not allow the report "to identify possible generic problems." NUREG-1345 at 22-23.[6] Nothing in NUREG-1345 supports the Staff's and Pa'ina's assertion that a Category III irradiator that complies with local building codes would be immune from harm due to aviation accidents and natural phenomena.

On the contrary, NUREG-1345 emphasizes "[t]he potential personnel radiation exposure hazard posed by the sources at large irradiators is substantial" and highlights the need to assure "the integrity of the source pool." NUREG-1345 at 2.[7] While the two incidents involving natural phenomena that NUREG-1345 discussed may not have resulted in "actual ... impact on the health and safety of the employees or the public," the Commission understood when it promulgated the Part 36 regulations that such events posed "potential safety significance," contradicting Pa'ina's and the Staff's claims irradiators are immune from harm. 55 Fed. Reg. at 50,012. As NUREG-1345 pointed out, even though those specific events did not have "an

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[5] Indeed, the only irradiator of similar design of which Concerned Citizens is aware was located in rural Milford Township, Pennsylvania, far from major airports, coastal areas, and areas of seismic activity. See Declaration of Marvin Resnikoff, Ph.D. In Support Of Petitioner's Areas Of Concerns at ¶ 3 & Exh. D (Sept. 30, 2005) (ML052970026).

[6] The limited data was due in part to the fact that, twenty years ago, when NUREG-1345 was written, there were relatively few years of irradiator operating experience. Id. at 3. Moreover, due to the inadequacy of reporting requirements, the report noted "the actual rate of occurrence of events of concern to the staff may be higher." Id. at 1; see also id. at 23. NUREG-1345 was not, therefore, the comprehensive review the Staff claims. See Staff's Response at 14.

[7] Ensuring the integrity of Pa'ina's irradiator pool is particularly important since natural disasters or aviation accidents might rupture the pool lining, removing vital shielding from the sources and allowing potentially contaminated water to escape into the groundwater and nearshore areas. See Concerned Citizens' Opening Brief at 4-5.

impact on health and safety[,] ... the outcome might have been significant under different circumstances." NUREG-1345 at 18. An analysis of site safety is necessary in this case to determine whether natural disasters involving Pa'ina's irradiator would imperil public health and safety.[8]

Finally, the Staff's argument that, to state an admissible contention, Concerned Citizens "should bear the burden of showing an alleged siting threat is both unique and not addressed by applicable building codes" improperly seeks to shift to intervenors the burden on safety issues. Staff's Response at 20. One cannot determine whether applicable building codes would, or would not, adequately address the threats that are endemic to a proposed irradiator site unless one first performs a thorough analysis of those threats and then evaluates whether compliance with building codes would ensure against consequences involving radiation exposes above regulatory limits. To secure a license, Pa'ina bears the burden of performing this analysis and establishing its proposed irradiator would be "adequate to protect health and minimize danger to life or property;" Concerned Citizens does not bear the burden of affirmatively proving the irradiator would not be safe. 10 C.F.R. § 30.33(a)(2); see also Duke Power Co. (Catawba

[8] The circumstances at Pa'ina's irradiator would be substantially different from those discussed in NUREG-1345, posing the potential for significant impacts to health and safety. In one case, NUREG-1345 noted the potential for a significant impact where an irradiator experienced a series of earthquakes with only "a peak horizontal acceleration of less than 0.01 g and ... an intensity of II, but not greater than III, on the Modified Mercalli index." NUREG-1345 at B-17. Pa'ina's proposed irradiator could be subject to much greater forces, with even the Staff acknowledging the potential for peak ground acceleration of 0.26 g (more than an order of magnitude greater) and a Modified Mercalli Intensity of Force V. Final Topical Report at 3-3; see also Declaration of George Pararas-Carayannis, Ph.D. Re: Concerned Citizens' Contentions Re: Final Safety Evaluation Report at ¶¶ 11-12 (Sept. 12, 2007) (ML072610141) (Staff underestimated potential intensity of ground motions at Pa'ina's site). The sole irradiator to have been struck by a tornado was "installed in a pool formerly occupied by a pool-type reactor," and, thus, its design was far more robust than the one Pa'ina proposes. NUREG-1345 at A-6.

Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1048 (1983) ("Applicant carries the burden of proof on safety issues").

The Staff's argument is based on a misreading of the regulatory history. The Commission did not say that review of irradiator siting is needed only when it has first been established conclusively that local building codes would not, in fact, be adequate to protect against threats at a proposed irradiator location; that would put the cart (the site-related safety analysis) ahead of the horse (the trigger for conducting such an analysis). Rather, the Commission explained that review of site safety is triggered by the existence of "a unique threat" that "may not be addressed by State and local requirements." 58 Fed. Reg. at 7,725 (emphasis added). Concerned Citizens has provided ample expert testimony and documentary evidence that the site Pa'ina proposes for its irradiator would be subject to unique risks of aircraft crashes, destructive wave damage from tsunamis and hurricanes, and severe earthquakes. That showing triggers Pa'ina's obligation to prove that, even in the face of those threats, its irradiator would be "adequate to protect health and minimize danger to life or property," whether through compliance with local building codes or otherwise. 10 C.F.R. § 30.33(a)(2). With the exception of the Staff's flawed analysis of earthquake risks, there has been no analysis of whether Pa'ina's proposed irradiator would be safe from the uniquely elevated risks of aviation accidents and natural disasters at Pa'ina's preferred site, precluding a finding that Pa'ina has satisfied 10 C.F.R. § 30.33(a)(2), a necessary condition of license issuance.[9]

[9] In support of its contentions regarding the inadequacy of the analysis of seismic threats, Concerned Citizens presented evidence the Staff underestimated the forces to which Pa'ina's proposed irradiator may be subject and challenged the adequacy of existing building codes to protect against radiation releases. See, e.g., Concerned Citizens' Contentions Re: Final Safety Evaluation Report at 6-9 (Sept. 14, 2007) (ML072610141); Concerned Citizens' Reply In Support Of Its Contentions Re: Final Safety Evaluation Report at 6-9 (Oct. 8, 2007)

III. THE COMMISSION SHOULD ESTABLISH 10^{-6} PER YEAR AS THE PROBABILITY THRESHOLD TRIGGERING SITE-RELATED SAFETY ANALYSIS

A. The Commission Should Reject As Improper Sandbagging Any Arguments The Staff Or Pa'ina May Offer In Their Replies Regarding An Alternate Probability Threshold.

In setting forth the briefing schedule for the certified questions, the Commission clearly intended to give Concerned Citizens the opportunity to respond to the Staff's and Pa'ina's arguments regarding the appropriate probability threshold beyond which a site-related safety analysis for Pa'ina proposed irradiator is required. See 10/24/07 Memorandum and Order at 3-4 (allowing each party to file reply brief addressing the certified questions). Rather than disclose in their opening memoranda the probability threshold they contend should apply, however, both the Staff and Pa'ina opted instead "not to reach" this question. Staff's Response at 1; see also Pa'ina's Brief at 10. The Staff claimed an inability "to identify a quantitative threshold beyond which a site-related analysis should be required," Staff's Response at 23, while Pa'ina suggested that, should the Commission feel the need to select a probability threshold, it should "adopt the Staff's findings and calculations herein as the proper standards," without identifying what those standards might be or offering any legal or factual argument to justify why those unidentified standards should be adopted. Pa'ina's Brief at 10.[10]

This is not the first time the Staff and Pa'ina have refused to articulate a position regarding the appropriate probability threshold. In its April 30, 2007 order, the Licensing Board asked the parties to "provide an analysis of how an appropriate threshold would be established for irradiators if none currently exists." 4/30/07 Order at 8 (Posing Questions for the Parties). In

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(ML072970091). Resolution of the parties' disputes regarding these matters is not, however, proper at the contention admission stage of this proceeding. LBP-06-04, 63 NRC at 112.

[10] Given the Staff has not identified a probability threshold, it is unclear what standard Pa'ina suggests the Commission should adopt.

response, the Staff merely asserted "the threshold probability for an irradiator would likely be much lower than the threshold probabilities for power reactors and [independent spent fuel storage installations ("ISFSIs")]," without providing any evidence in support of its position or actually specifying the threshold it deemed appropriate. 5/21/07 Staff's Second Response to the Licensing Board's April 30, 2007 Order at 8-9 (ML071420518). For its part, Pa'ina declined to respond to the question at all. 6/13/07 Letter from Fred Paul Benco (ML071780617).

Since the Staff and Pa'ina elected "not to reach" the issue of the appropriate probability threshold in their opening briefs, the Commission should refuse to consider any argument they may offer in their replies in support of a specific numeric threshold. Staff's Response at 1. Allowing the Staff or Pa'ina to engage in such sandbagging would unfairly deprive Concerned Citizens of the opportunity to point out the flaws in any legal or factual argument they may present in support of a threshold lower than the 10^{-6} (one-in-a-million) standard Concerned Citizens has consistently maintained should apply in this proceeding. See 6/13/07 Concerned Citizens' Response to the NRC Staff's Answers to the Questions Posed in the Licensing Board's April 30, 2007 Order at 7-8 (ML071730390).[11]

B. To Protect The Health of Both Workers And The Public, The Commission Should Establish A 10^{-6} Standard.

The Staff fails to provide any valid reason for the Commission to decline to establish a probability threshold for irradiators. Even if there were "a paucity of data on siting problems at irradiators," Staff's Response at 23, to comply with the Atomic Energy Act's mandate to ensure the use of nuclear material is "consistent ... with the health and safety of the public," the

[11] Since the Staff and Pa'ina were on notice regarding Concerned Citizens' position on the probability threshold, they have no excuse for failing to identify in their opening briefs an alternate threshold and to present arguments why they believe the Commission should adopt that threshold, rather than the 10^{-6} standard.

Commission cannot wait until there is a series of disasters at irradiators to provide empirical data to inform the establishment of a probability threshold. 42 U.S.C. § 2013(d). Nor need it pursue such a reckless course of action. Models exist to predict the consequences of an aviation accident or natural disaster involving Pa'ina's proposed irradiator, allowing evaluation of site safety without subjecting the public to needless death and injury. See, e.g., Declaration of George Pararas-Carayannis, Ph.D. Re: Draft Environmental Assessment and Draft Topical Report at ¶¶ 18-20, 29, 32-34 (Feb. 9, 2007) (ML070510116) (noting failures to model potential hurricane surge heights, hurricane wind speeds and tsunami runup and to calculate buoyancy forces and potential intensity of ground motion and liquefaction potential during earthquakes); Declaration of George Pararas-Carayannis, Ph.D. Re: Concerned Citizens' Contentions Re: Final Safety Evaluation Report at ¶¶ 4-9 (Sept. 12, 2007) (ML072610141) (noting failure to conduct numerical modeling of tsunami runup or analyze consequences of storm surges or liquefaction); Declaration of Mete A. Sozen, Ph.D Re: Draft Environmental Assessment and Draft Topical Report at ¶ 7 (Feb. 8, 2007) (ML070510116) (discussing failure to demonstrate proposed irradiator's safety from aviation accidents through modeling); Supplemental Declaration of Mete A. Sozen, Ph.D Re: Draft Environmental Assessment and Draft Topical Report (Mar. 15, 2007) (ML070870154) (same); Declaration of Marvin Resnikoff, Ph.D. Re: Draft Environmental Assessment and Draft Topical Report at ¶¶ 15-19 (Feb. 9, 2007) (ML070510116) (same).[12]

Even if, as the Staff claims, the risk of release from irradiators were low, the Commission still should establish a probability threshold to ensure against incidents in which regulatory exposure standards might be exceeded. See NUREG-1345 at 2 ("potential personnel radiation

[12] Notably, the Staff did not need empirical data to calculate that a loss of eight feet of shielding water due to a breach in the irradiator pool would result in radiation doses of 8,465 millirems/hour. See "Microshield Summary Sheet for Loss of 8 Feet of Water Shielding" (ML072630315).

exposure hazard posed by the sources at large irradiators is substantial"). In Private Fuel Storage ("PFS"), the Commission concluded the 10^{-6} standard was appropriate for ISFSIs even though "the absence of ...a driving force, due to the absence of high temperature and pressure conditions in an ISFSI ...[,] substantially eliminates the likelihood of accidents involving a major release of radioactivity from spent fuel stored in an ISFSI." 60 Fed. Reg. 20,879, 20,883 (Apr. 28, 1995) (emphasis added); see also Private Fuel Storage, LLC (Independent Spent Fuel Storage Installation), CLI-01-22, 54 NRC 255, 265 (2001). The mere fact that radioactive material in ISFSIs is "relatively invulnerable to ... natural disruptive forces" neither justified a failure to establish a probability threshold in PFS nor counseled in favor of accepting threshold risks higher than 10^{-6}. 60 Fed. Reg. at 20,883. To protect the public, the Commission should likewise establish a 10^{-6} standard for irradiators.

In establishing the probability threshold, the Commission should reject the Staff's suggestion to focus solely on "off-site consequences." Staff's Response at 23. The standards for protection against radiation set forth in Part 20 exist to ensure the safety of irradiator personnel and others (such as emergency responders) who may be present on-site, in addition to the public at large. See 10 C.F.R. §§ 20.1201, 20.1207, 20.1301. In recognition of this fact, when it promulgated the Part 36 regulations, the Commission listed among the mandatory contents of irradiator license applications that "[t]he applicant's proposed equipment and facilities must be adequate to protect the health of workers and the public and minimize danger to life and property." 58 Fed. Reg. 7,715, 7,717 (Feb. 9, 1993) (emphasis added); see also 55 Fed. Reg. at 50,014. The probability threshold must be low enough to trigger safety review where workers may be subject to elevated exposures due to the aviation accidents or natural disasters to which Pa'ina's chosen site is particularly vulnerable.

That "Part 36's regulatory history does not reveal any probability threshold analysis underlying the Commission's adoption of the irradiator licensing rules" does not, as the Staff claims, justify a failure to establish a threshold in this proceeding. Staff's Response at 23. Under the Staff's logic, there would have been no need to determine the probability threshold for aviation accidents in PFS since, unlike the situation for nuclear reactors (for which the Standard Review Plan had "long ago" established a one-in-ten-million probability), no preexisting "agency guidance or regulation" defined "the threshold probability for a design basis event at an ISFSI." PFS, 54 NRC at 259-60. Rather than adopt the Staff's approach and deprive Part 72's safety-based standards of any meaning, the Commission in PFS affirmed that, "[a]s no law or regulation establishes the threshold probability for design basis accidents at an ISFSI, the Commission must select a standard it finds sufficiently protective." Id. at 263. Likewise, since no law or regulation establishes the standard Pa'ina must meet to demonstrate its proposed irradiator would be "adequate to protect health and minimize danger to life or property," the Commission should establish it in this proceeding. 10 C.F.R. § 30.33(a)(2).

Finally, the Staff's suggestion that the Commission intended to rely exclusively "on local building codes to address siting concerns" – precluding the need to establish a probability threshold for irradiators – lacks support in the regulatory history. Staff's Response at 23. In promulgating Part 36, the Commission stated its belief that, "in general, irradiators can be located anywhere that local governments would permit an industrial facility to be built." 58 Fed. Reg. at 7,726 (emphasis added). At the same time, however, the Commission expressly acknowledged there may be exceptions to that general rule, noting the NRC may need to "review facility siting ... if a unique threat is involved which may not be addressed by State and local requirements." Id. at 7,725.

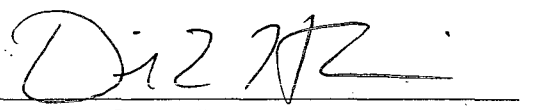
The Staff's argument ignores the fact that, to decide whether a unique threat is involved, one must first assess the likelihood an aviation accident or natural disaster would occur at the proposed irradiator site and compare that likelihood with the established probability threshold. Only then can one determine whether the threat is credible and, thus, worthy of further analysis, including consideration of whether applicable state and local requirements are adequate to ensure compliance with Part 20, or whether additional measures to ensure safety are needed. See PFS, 54 NRC at 259 (facility need be designed to withstand only those accidents "found to be 'credible'"). Without an established probability threshold, neither the Staff nor the Commission can make a rational and informed determination whether there is anything "extraordinary and unique about [Pa'ina's proposed] site." 8/31/07 Licensing Board Memorandum at 16.

IV. CONCLUSION

For the foregoing reasons, Concerned Citizens urges the Commission to find that, in the circumstances presented, 10 C.F.R. § 30.33(a)(2) requires a safety analysis of the threats to Pa'ina's proposed irradiator from aviation accidents and that 10^{-6} (one-in-a-million) per year is the appropriate probability threshold.

Dated at Honolulu, Hawai'i, November 14, 2007.

Respectfully submitted,



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CERTIFICATE OF SERVICE

The undersigned hereby certifies that, on November 14, 2007, a true and correct copy of the foregoing document was duly served on the following via e-mail and first-class United States mail, postage prepaid:

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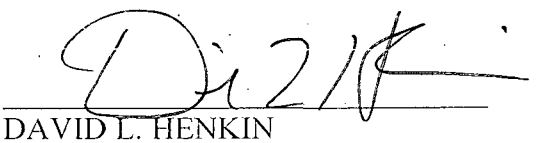
Dated at Honolulu, Hawai'i, November 14, 2007.



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