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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Thomas S. Moore, Chairman
Dr. Paul Abramson
Dr. Anthony J. Baratta

In the Matter of	Docket No. 30-36974-ML
PA'INA HAWAII, LLC	ASLBP No. 06-843-01-ML
(Material License Application)	April 30, 2007

ORDER
(Posing Questions for the Parties)

Before us are five new timely contentions proffered by the Intervenor Concerned Citizens of Honolulu, addressing various aspects of the Staff's Draft Environmental Assessment (EA) and "Draft Topical Report on the Effects of Potential Natural Phenomena and Aviation Accidents at the Proposed Pa'ina Hawaii, LLC Irradiator Facility."[1] The Intervenor's newly proffered safety and environmental contentions challenge, inter alia, the NRC Staff's analyses and conclusions in the draft EA, which relies upon the Draft Topical Report, regarding hurricanes, tsunamis, earthquakes, and aircraft crashes at the proposed facility location at the Honolulu Airport. The Applicant, Pa'ina Hawaii, LLC, opposes the admission of all the proffered contentions on grounds that evidence, at best, a misapprehension of the Commission's

[1] See Intervenor's Contentions Re: Draft Environmental Assessment And Draft Topical Report (Feb. 9, 2007); Draft Environmental Assessment Related to the Proposed Pa'ina Hawaii, LLC Underwater Irradiator in Honolulu, Hawaii, ADAMS Accession No. ML063470231 [hereinafter Draft EA]; Draft Topical Report on the Effects of Potential Natural Phenomena and Aviation Accidents at the Pa'ina Hawaii, LLC Irradiator Facility, ADAMS Accession No. ML063560344 [hereinafter Draft Topical Report].

contention pleading rules.[2] The Staff concedes the admissibility of all or part of three of the proffered contentions, including one on the need to consider the environmental impacts of terrorism, and opposes the others.[3]

As we explain more fully below, this otherwise ordinary irradiator licensing proceeding is unique because the issues presented by the proffered contentions raise several fundamental and overarching issues that appear to fall squarely in the cracks of the Commission's environmental and safety regulatory scheme for irradiators. Thus, sound case management counsels that the parties address these issues now. After reviewing the Parties' written answers to the questions that follow, we will then decide whether to hold a telephone conference to hear argument on the newly proffered contentions. More importantly, we will be able to determine whether we should certify one or more questions to the Commission regarding the appropriate regulatory approach for addressing the issues before us.

A. Missing Regulatory Framework

The Staff's determinations in the Draft Topical Report and Draft EA rest on assessments of the probabilities and consequences of the various accidents related to natural phenomena and aircraft crashes; therefore, any ultimate resolution of these matters depends upon our interpretation of the regulatory framework applicable to such determinations. The Draft Topical

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[2] See Applicant Pa'ina Hawaii, LLC's Answer to Intervenor Concerned Citizens of Honolulu's Contentions Re: Draft Environmental Assessment and Draft Topical Report (Mar. 8, 2007).

[3] See NRC Staff Response to Intervenor Concerned Citizens of Honolulu's Contentions Re: Draft Environmental Assessment and Draft Topical Report (Mar. 12, 2007) at 4-16. In opposing the admissibility of one of the Intervenor's contentions asserting that the Staff must prepare an Environmental Impact Statement (EIS), the Staff concedes that the contention is premature because it has yet to reach any final conclusions on the significance of potential impacts but nevertheless opposes its admission on the grounds that it does not currently raise a genuine dispute. See id. at 14-16.

Report provides no such explanation; instead, it simply describes a computation for arriving at "the annual probability of an aircraft crashing into the proposed facility" (2.1×10^{-4} per year), and proclaims that "loss of control of radioactive material as the result of an aircraft crash into the facility is negligible."[4] Absent from this report, as well as the Staff's Draft EA, is any context or description of the regulatory criteria by which the acceptability of this computed probability is to be assessed. Although 10 C.F.R. § 30.33(a)(2), which provides general requirements for all byproduct material licenses, requires that an "applicant's proposed equipment and facilities are adequate to protect health and minimize danger to life or property," that regulation does not appear to provide a basis for establishing a specific numerical standard like those applied to other NRC-regulated facilities as discussed below.

B. Design Basis Approach at Other NRC Facilities

NRC regulatory practice has, in the case of most NRC-regulated facilities, required that the site of a proposed facility "be evaluated to identify and assess the likelihood of possible accidents, both natural and manmade, that could affect the facility." Private Fuel Storage, LLC (Independent Spent Fuel Storage Installation), CLI-01-22, 54 NRC 255, 258 (2001); see e.g., 10 C.F.R. Parts 50, 60, & 72. Under the typical regulatory framework, "[a] facility need not be designed to withstand every conceivable accident, but only those found to be 'credible.'" PFS, CLI-01-22, 54 NRC at 259. These accidents are referred to as "design basis accidents," and they create a regulatory outer bound for design criteria of the facility. Site characteristics influence the nature of events to which a facility will be exposed, and thereby affect what accidents are deemed credible at a particular site.

[4] See Draft Topical Report at ii, 2-1 to 2-13.

Using this framework, the Commission has established threshold probabilities for design basis events for certain types of facilities, such as power reactors and independent spent fuel storage installations (ISFSI). See 10 C.F.R. Parts 50, 72. These thresholds are set after weighing the risks endemic to the type of facility at issue and, thus, different facilities have different thresholds for the same type of accident. In PFS, the Commission, acting on a ruling referred by a licensing board, determined that when a threshold probability for a design basis event is not established in regulation or guidance, "the Commission must decide the threshold probability." PFS, CLI-01-22, 54 NRC at 259.

C. Unique Regulatory Situation Presented by Irradiators

There appears to be no specific regulatory scheme applicable to the siting of irradiators. Beyond the general charge of section 30.33(a)(2), the regulations specifically addressing irradiators in 10 C.F.R. Part 36 lack any provisions for the assessment of safety or environmental concerns triggered by siting issues – natural phenomena, aircraft crashes, or otherwise. The framework for a design basis approach is absent from Part 36. Thus, this situation might be viewed as analogous to that for ISFSIs prior to consideration of the topic by the Licensing Board and the Commission.

The lack of a design basis regulatory framework with regard to the siting of irradiators may, however, be attributed to two generic assessments made by the Commission regarding irradiators generally:

1. Categorical Exclusion of Irradiators

From the perspective of environmental impacts, a categorical exclusion under Commission regulations implementing NEPA represents the Commission determination that "the category of actions does not individually or cumulatively have a significant effect on the human

environment." 10 C.F.R. § 51.22(a). Accordingly, section 51.22(c)(14)(vii) excuses the Staff from performing an environmental impact analysis of a proposed irradiator, subject to a special circumstances exception found in 10 C.F.R. § 51.22(b) and discussed further below. If the Staff is required to perform a NEPA analysis, the probability and consequences of accidents (natural phenomena or man-made) should be assessed for all accidents that are not deemed "remote and speculative." With respect to irradiators, however, the Commission's regulations generally do not contemplate an environmental assessment of the probability and consequences of accidents.

2. No Siting Regulations in Part 36

Similarly, with respect to safety issues for irradiators, NRC regulations do not impose siting requirements or prohibitions in 10 C.F.R. Part 36. In its Statement of Considerations respecting "Final Rule, Licenses and Radiation Safety Requirements for Irradiators," the Commission noted that "[a]ll irradiator experience to date indicates that irradiators do not present a threat to people outside the facility. Therefore, the NRC believes that, in general, irradiators can be located anywhere that local governments would permit an industrial facility to be built." 58 Fed. Reg. 7715, 7726 (Feb. 9, 1993). As we noted in LBP-06-12, the Commission considered siting requirements with regard to some natural phenomena and airports, but determined that they were not warranted.[5] Because of this understanding, the Commission's regulations do not contemplate an assessment of the probability and consequences of accidents with regard to its safety review.

[5] See LBP-06-12, 63 NRC 403, 419 (2006).

D. Unique Situation Presented by Pa'ina

Although the Commission's regulations do not contemplate an assessment of the probability and consequences of accidents with regard to either its safety or environmental reviews, in the circumstances presented here, the Staff has purported to undertake such a review. In the instant proceeding, the Intervenor initially proffered several contentions asserting that "special circumstances" requiring review existed because the proposal would place a source of up to a million curies of radioactivity on the grounds of the Honolulu Airport, a location at ocean's edge that is subject to unique risks of aircraft crashes and destructive wave damage from tsunamis and hurricanes.[6] The Intervenor also proffered a safety contention challenging the Staff's failure to analyze the probabilities and consequences of aircraft crashes at the proposed facility site. These environmental and safety contentions were admitted.[7] The Staff then agreed to prepare an environmental assessment and the Intervenor withdrew these environmental contentions.[8] Thereafter, the Staff also prepared and filed a Draft Topical Report that, along with addressing the effects of hurricanes, tsunamis, and earthquakes, analyzed the probabilities and consequences of aircraft crashes at the proposed site. The Applicant, with the concurrence of the Staff, then sought to dismiss as moot the Intervenor's outstanding safety

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[6] See LBP-06-04, 63 NRC 99 (2006).

[7] See id.; LBP-06-12, 63 NRC 403 (2006). As we noted in LBP-06-12, the hypothetical irradiator assessed by the Commission, in determining that siting requirements were not necessary in Part 36, was of a vastly different construction than the irradiator proposed by the Applicant in this case. Id. at 419.

[8] See NRC Staff and Concerned Citizens of Honolulu Joint Motion to Dismiss Environmental Contentions (Mar. 20, 2006); Licensing Board Order (Confirming Oral Ruling Granting Motion to Dismiss Contentions) (Apr. 27, 2006) (unpublished).

contention.[9] As previously noted, after the Staff issued its Draft EA and Draft Topical Report, the Intervenor timely filed new contentions challenging the Staff's analysis and conclusions in these documents.

In these circumstances, where the regulations do not, on their face, appear to contemplate a framework for addressing possible dangers posed by irradiator siting issues, in either the safety or environmental context, we find it necessary to explore the issue through further briefing before proceeding. Therefore, the Staff is instructed to deliver to the Board concise but thorough briefings answering the following questions.

The Staff shall file its answer to question 3(a) by May 7, 2007. The Staff shall file its answers to all the remaining questions by May 21, 2007. Depending upon the Staff's responses, the Board then will identify which questions the Applicant and the Intevenor must answer and the filing deadlines for their answers.

Questions

1. As noted above, the Staff in its Draft Topical Report and Draft Environmental Assessment, provides statements and analyses regarding the probability and consequences with respect to aircraft crashes, tsunamis, and hurricanes. In regard to probability, the Staff outlines its approach for making such an assessment and provides a description of the methodology set forth in NUREG-0800. Additionally, the Staff provides a brief discussion of the consequences of such events. What is missing from this discussion is a description of how the Staff determined that the risks associated with these events are acceptable taking into account the probability of the event's occurrence.

    a. Did the Staff make such a determination?

    b. If so,

        i. What regulatory framework did the Staff use to determine the appropriate threshold?

            (a) What is that threshold?

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[9] See Applicant Pa'ina Hawaii, LLC's Motion to Dismiss Safety Contention # 7 (Jan. 8, 2007); NRC Staff Response to Applicant Pa'ina Hawaii, LLC's Motion to Dismiss Safety Contention #7 (Jan. 19, 2007).

(b) What is the legal authority for the Staff's use of such a threshold?
(c) What were the essential factors for determining the threshold?
(d) Did the Staff, in determining the appropriate threshold, use an established regulatory framework that has been applied in previous reviews?

ii. How did the regulatory framework take into account the dose limits set forth in 10 C.F.R. Part 20?

2. If the Staff did not make the threshold determination described in question 1, can the merits of the Intervenor's contentions with respect to aircraft crashes, tsunamis, and hurricanes be addressed without first establishing an appropriate threshold probability?

a. What is the legal authority for proceeding without such a threshold?

b. Based upon established threshold probabilities for reactors and ISFSIs, provide an analysis of how an appropriate threshold would be established for irradiators if none currently exists.

c. We note that the threshold for ISFSIs in PFS was established by the Licensing Board and affirmed by the Commission. Is the establishment of an appropriate threshold within the authority of this Board or does the Commission's ruling in PFS, CLI-01-22, 54 NRC 255 (2001), instruct that the Commission must make that determination in the first instance? That is to say, if this matter is one of "law and policy," must the Commission make this determination before we proceed?

d. Since the Draft EA and Draft Topical Report address, in large part, the analysis of the probability and consequences of the various accident scenarios, would the establishment of a probability threshold, by the Commission or otherwise, require the Staff to issue new draft documents before proceeding in this licensing matter? If so, what would be the merit of moving forward with these contentions if new documents are forthcoming?

3. Environmental Impact of Terrorism

a. What is the Staff's time-frame for the completion of its NEPA review for a terrorist attack at the proposed site?

b. Will the Staff's review of the environmental impacts of such an attack use the probability threshold approach used in the design basis framework?

c. If so, could such a threshold be applied to unintentional aircraft crashes and natural phenomena?

It is so ORDERED.

THE ATOMIC SAFETY
AND LICENSING BOARD*

[Original signed by:]

Thomas S. Moore, Chairman
ADMINISTRATIVE JUDGE

[Original signed by:]

Dr. Paul B. Abramson
ADMINISTRATIVE JUDGE

[Original signed by:]

Dr. Anthony J. Baratta
ADMINISTRATIVE JUDGE

Rockville, Maryland
April 30, 2007

* Copies of this memorandum and order were sent this date by Internet e-mail transmission to counsel for (1) Applicant Pa'ina Hawaii, LLC.; (2) Intervenor Concerned Citizens of Honolulu; and (3) the NRC Staff.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
PA'INA HAWAII, LLC	)	Docket No. 30-36974-ML
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	)	
(Honolulu, Hawaii Irradiator Facility)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing LB ORDER (POSING QUESTIONS FOR THE PARTIES) have been served upon the following persons by U.S. mail, first class, or through NRC internal distribution.

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[Original signed by Evangeline S. Ngbea]

Office of the Secretary of the Commission

Dated at Rockville, Maryland
this 30th day of April 2007