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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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USNRC

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

March 20, 2007 (4:30am)

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

In the Matter of)
Pa'ina Hawaii, LLC)
)
Materials License Application)
_____)

Docket No. 30-36974-ML
ASLBP No. 06-843-01-ML

INTERVENOR CONCERNED CITIZENS OF HONOLULU'S
REPLY IN SUPPORT OF ITS CONTENTIONS RE: DRAFT
ENVIRONMENTAL ASSESSMENT AND DRAFT TOPICAL REPORT

I. INTRODUCTION

Pursuant to 10 C.F.R. § 2.309(h)(2) and the Board's March 15, 2007 Order, intervenor Concerned Citizens of Honolulu files its reply to applicant Pa'ina Hawaii, LLC's Answer To Intervenor Concerned Citizens of Honolulu's Contentions Re: Draft Environmental Assessment And Draft Topical Report (dated March 8, 2007) and the Nuclear Regulatory Commission ("NRC") Staff's Response (dated March 12, 2007). As discussed in detail below, admission of all five contentions Concerned Citizens filed on February 9, 2007 is warranted.

II. THE BOARD SHOULD ADMIT SAFETY CONTENTION #13 IN ITS ENTIRETY

The Staff correctly acknowledges that "[t]he issue of aviation accident probability is within the scope of the proceeding" and "does not contest the admissibility of [that] portion of Safety Contention #13." Staff's Response at 4. It also does not object to admission of at least portions of Safety Contention #13 challenging "the Staff's aviation accident consequence

TEMPLATE = 8ECY-037

8ECY-02

analysis.” Id.¹ The Staff confusingly suggests, however, that these issues are material only to “the findings the Staff must make under NEPA.” Staff’s Response at 4.

While Concerned Citizens concurs that, to comply with the National Environmental Policy Act (“NEPA”), the Staff must thoroughly evaluate potential impacts associated with aviation accidents, the issues raised in Safety Contention #13 go beyond challenging the Staff’s NEPA compliance. As the Board found in admitting Safety Contention #7, “the probability and consequences of aviation accidents at the proposed irradiator site” is relevant to determining whether Pa’ina’s proposed irradiator “satisfies the general requirement of 10 C.F.R. § 30.33(a)(2).” Pa’ina Hawaii, LLC (Material License Application), LBP-06-12, 63 NRC 403, 419 (2006). Since Pa’ina’s facility must meet this requirement “to be licensed,” Concerned Citizens’ challenge is admissible as a safety contention, in addition to raising environmental issues. Id.

Pa’ina challenges the admission of Safety Contention #13 “upon the same grounds as [it] requests that new Environmental Contention #3 be denied/dismissed.” Pa’ina’s Answer at 41. Accordingly, Concerned Citizens will generally defer its explanation of why the Board should disregard Pa’ina’s objections until its discussion of the environmental contentions. A couple of points, however, are best addressed in the context of this safety contention.

Initially, the Board should flatly reject Pa’ina’s attempt to shift to Concerned Citizens the burden of proof regarding the likelihood and consequences of an aviation accident. See, e.g., Pa’ina’s Answer at 26 (faulting Concerned Citizens for not calculating “amount of shock or

¹ The Staff expressly addresses only the portion of Safety Contention #13 “related to analysis of debris force from potential aviation accidents.” Id.; see also id. at 10. As discussed in Concerned Citizens’ moving papers, aviation accidents also pose threats from extreme temperatures associated with burning jet fuel and by preventing implementation of necessary emergency procedures. See 2/9/07 Contentions at 7, 9; see also Sozen Supp. Dec. ¶ 2. All of these threats must be addressed, not only in the context of the Staff’s NEPA review, but also in determining whether Pa’ina’s proposed irradiator complies with 10 C.F.R. § 30.33(a)(2).

pressure [that] would be exerted on the source assemblies during an aircraft accident”). “It is well established that the Applicant carries the burden of proof on safety issues.” Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1048 (1983). Thus, the burden is on Pa’ina “to establish that an aircraft crashing into the facility [is] not a ‘credible accident.’” Private Fuels Storage, LLC (Independent Spent Fuel Storage Installation), LBP-05-29, 62 NRC 635, 2005 WL 3827592, at *14 (2005). Should it fail to carry that burden (and, given that even the Draft Topical Report’s assessment of crash probability is orders of magnitude greater than the one-in-a-million threshold, it will have a hard time proving a crash is not “credible”), Pa’ina then bears the burden of establishing “the design of the facility is robust enough so that a crashing [airplane] would not penetrate [the irradiator pool or sources] or that, if it did, that there would be no significant radiation impact for the public.” Id.

In Safety Contention #13, Concerned Citizens, through its experts, presents evidence both that the risk of an aviation accident involving Pa’ina’s proposed irradiator is considerably greater than the one-in-a-million threshold the Board applies in similar situations and that there are numerous credible scenarios involving airplane crashes that threaten radiation releases. The ball is now in Pa’ina’s court to come up with its own calculations to prove either that the accident scenarios are not credible or that its proposed irradiator would be “adequate to protect health and minimize danger to life or property” should those scenarios occur. 10 C.F.R. § 30.33(a)(2). A hearing on this contention is needed to resolve the parties’ disputes over these important safety issues.

The Board should also dismiss Pa’ina’s allegation that Concerned Citizens’ critique of the Draft Topical Report’s application of NUREG-0800 and Dr. Resnikoff’s use of an alternate Department of Energy methodology to calculate the likelihood of an aviation accident constitute

impermissible challenges to an NRC regulation. Pa'ina's Answer at 25-26. The Board has previously held that NUREG-0800 does "not establish binding principles that must be followed in all instances." Private Fuels Storage, LLC (Independent Spent Fuel Storage Installation), LBP-03-04, 57 NRC 69, 92 (2003). It is only a guidance, not a regulation, and presents "just 'one way' of calculating the probability of an aircraft crash." Id. (quoting NUREG-0800 at 3.5.1.6-3). Thus, Concerned Citizens "is free to take issue with the terms of [NUREG-0800], which represents only Staff guidance and thinking, not official Commission requirements." Id.

III. SAFETY CONTENTION #14'S CHALLENGE TO THE DRAFT TOPICAL REPORT'S ANALYSIS OF SAFETY RISKS FROM NATURAL DISASTERS IS ADMISSIBLE

The Staff inaccurately claims Concerned Citizens failed timely to raise contentions related to Pa'ina's failure to provide the requisite "safety analysis of events caused by natural phenomena." Staff's Response at 5. In fact, Concerned Citizens' initial hearing request contained just such a claim, singling out the complete absence from Pa'ina's application of any "discussion of the potential for ... emergency events" associated with natural disasters as establishing Pa'ina's failure to make "the requisite showing that its 'proposed equipment and facilities [would be] adequate to protect health and minimize danger to life or property.'" 10/3/05 Hearing Request at 10, 15 (quoting 10 C.F.R. § 30.33(a)(2)); see also 12/1/05 Reply in Support of Hearing Request at 18 (Safety Contention #6 challenged Pa'ina's failure to demonstrate it "design[ed] its irradiator to withstand natural disasters, violating 10 C.F.R. § 30.33(a)(2)"). Thus, Concerned Citizens raised the need for a safety analysis of natural disasters at the outset of this proceeding. While the Board ultimately decided to admit Safety Contention #6 solely as a contention of omission (due to the lack of required outlines of emergency procedures for natural disasters), Concerned Citizens cannot be faulted for failing timely to raise

issues involving deficient (or, more accurately, non-existent) analysis of safety concerns related to natural phenomena.

Since the Board did not deny Concerned Citizens' hearing request "in its entirety," Concerned Citizens has not yet had an opportunity to appeal the Board's exclusion of the aspect of Safety Contention #6 challenging Pa'ina's failure to perform this analysis. Exelon Generation Co., LLC (Early Site Permit for the Clinton ESP Site), CLI-04-31, 60 NRC 461, 468 (2004); see also 10 C.F.R. § 2.311(b). Now that the Draft Topical Report has been prepared, the relevant inquiry has shifted to determining whether the report's discussion of safety issues related to natural disasters (the first such analysis prepared by either the Staff or Pa'ina in this proceeding) is adequate. Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 382, 384 (2002) (where "contention is 'superseded by the subsequent issuance of licensing-related documents,'" intervenor must file new contentions). Concerned Citizens timely filed, prior to the deadline the Board established, new safety contentions challenging the flaws in the Draft Topical Report's analysis.

As with Safety Contention #13, Pa'ina challenges the admission of Safety Contention #14 "upon the same grounds as [it] requests that new Environmental Contention #3 be denied/dismissed." Pa'ina's Answer at 41. For the reasons discussed in Part II, supra, the Board should not allow Pa'ina to shirk "the burden of proof on safety issues." Duke Power Co., CLI-83-19, 17 NRC at 1048. In its contentions, Concerned Citizens has identified credible scenarios involving natural disasters that threaten radiation releases from the proposed irradiator. As with

aviation accidents, Pa'ina now must demonstrate either that those scenarios are not credible or that, if they did occur, the proposed irradiator design would adequately protect the public.²

IV. THE BOARD SHOULD REJECT PA'INA'S COLLECTIVE CHALLENGES TO CONCERNED CITIZENS' ENVIRONMENTAL CONTENTIONS

At the outset of its Answer, Pa'ina advances several claims why, collectively, all three of Concerned Citizens' environmental contentions allegedly should be dismissed. For the following reasons, the Board should reject these challenges:

A. Concerned Citizens' Environmental Contentions Are Timely.

Since the adequacy of the NRC's NEPA analyses "cannot be determined before they are prepared," the Commission has long held that "contentions regarding their adequacy cannot be expected to be proffered at an earlier stage of the proceeding before the documents are available." Duke Power Co., CLI-83-19, 17 NRC at 1049. Despite this well-settled precedent, Pa'ina urges the Board to reject all of Concerned Citizens' environmental contentions as untimely on the grounds that Concerned Citizens should have earlier offered comment on an environmental analysis that did not yet exist. Pa'ina's Answer at 5-9. There is no support for Pa'ina's position.

In Duke Power Co., the Commission noted that, where an applicant has prepared an environmental report, an intervenor must timely file contentions challenging the adequacy of the applicant's analysis, even though "the staff may provide a different analysis in its [draft environmental statement]." 17 NRC at 1049. This, however, is not such a case. Prior to issuance of the Draft EA, neither the Staff nor the applicant had prepared any environmental

² Concerned Citizens addresses the remainder of Pa'ina's objections to Safety Contention #14 below.

analysis. Concerned Citizens therefore properly and timely included in its original hearing request the only environmental contentions that then existed, challenging the Staff's failure to justify its categorical exclusion of Pa'ina's proposed irradiator, as well as its refusal to prepare the requisite NEPA analysis. 10/3/05 Hearing Request at 19-25. Indeed, it is only due to Concerned Citizens' efforts, which resulted in a stipulation with the Staff to prepare at least an EA, that there has been any environmental review of Pa'ina's proposed irradiator. See 3/20/06 Joint Stipulation and Order Regarding Resolution of Concerned Citizens' Environmental Contentions; 4/27/06 Board Order (Confirming Oral Ruling Granting Motion to Dismiss Contentions).

Nor has Concerned Citizens failed to "structure [its] participation so that it alerts the agency to the [party's] position and contentions, in order to allow the agency to give the issue 'meaningful consideration.'" Pa'ina's Answer at 4-5 (quoting Department of Transportation v. Public Citizen, 541 U.S. 752, 764 (2004)). In Public Citizen, the Supreme Court held the plaintiffs had forfeited their objections to the Department of Transportation's EA because they had not "identified [them] in their comments." Id. In contrast, all of the contentions Concerned Citizens presented to the Board regarding the Draft EA's shortcomings were detailed in the comments Concerned Citizens and its experts timely submitted during the public comment period. See 2/8/07 Earthjustice Letter, with enclosures, available on ADAMS at ML070470615. Pa'ina fails to identify any authority to support its claim Concerned Citizens was obliged to raise its concerns before the Staff circulated its Draft EA for public review and comment.³

³ While, to preserve its right to object to the draft EA's deficiencies, Concerned Citizens was not required to provide input prior to the opening of the public comment period on the draft EA, the discussion in Concerned Citizens' hearing request of the serious threats to public safety and the environment associated with Pa'ina's proposed irradiator (from, among other things, natural disasters, aviation crashes, transportation accidents, terrorist attacks, and human

B. Issues Related To The Standard Of Review And Burden Of Proof Are Irrelevant To The Environmental Contentions' Admissibility.

Pa'ina's arguments about the standard of review the Board applies in evaluating the Staff's compliance with its NEPA obligations and about the burden of proof go to the merits of the environmental contentions, not their admissibility. See Pa'ina's Answer at 9-10. As the Commission explained in extending the contention standard to proceedings regarding materials license applications, "[t]he contention standard does not contemplate a determination of the merits of a proffered contention." 69 Fed. Reg. 2,182, 2,190 (Jan. 14, 2004). This Board has previously held that contentions challenging the Staff's compliance with NEPA, including contentions identifying "specific omission[s] in the Staff's analysis" – the same types of contentions Concerned Citizens now proffers – are admissible. Pa'ina Hawaii, LLC (Material License Application), LBP-06-04, 63 NRC 99, 113 (2006); see also id. at 112. Resolution of disputes about the proper standard of review and burden of proof is "a test for another day." CFC Logistics, Inc. (Cobalt-60 Irradiator), LBP-03-20, 58 NRC 311, 326 (2003).

Should the Board nonetheless feel the need to reach the merits of these issues now, Concerned Citizens properly identified the standard of review and burdens of proof in its contentions. Pa'ina's statement that courts review agency compliance with NEPA pursuant to the standards set forth in 5 U.S.C. § 706(2)(A) is generally accurate. See Pa'ina's Answer at 9; Klamath-Siskiyou Wildlands Center v. Bureau of Land Management, 387 F.3d 989, 992 (9th Cir. 2004).⁴ That is not to say, however, that the standard as expressed in Concerned Citizens'

consumption of irradiated foods) clearly put the Staff on notice regarding key issues it would have to address in its NEPA analysis. See 10/3/05 Hearing Request at 5-6, 15-17, 20-24.

⁴ The inaccuracy comes from Pa'ina's failure to mention that, in addition to reviewing an agency's decision to see if it was "arbitrary and capricious, or an abuse of discretion," courts also may find a NEPA violation if the agency's decision was "otherwise not in accordance with law." Compare Pa'ina's Answer at 9 with Klamath-Siskiyou Wildlands Center, 387 F.3d at 992.

moving papers was inaccurate. An alternate way to phrase the standard for reviewing an EA's adequacy is that "the task is to ensure that the agency has taken a 'hard look' at the potential environmental consequences of the proposed action." Klamath-Siskiyou Wildlands Center, 387 F.3d at 993; see also 2/9/07 Contentions at 15. As for the burdens, "[i]t is ... settled that the NRC has the burden of complying with NEPA" and "that the Applicant carries the burden of proof on safety issues." 2/9/07 Contentions at 4, 15 (quoting Duke Power Co., CLI-83-19, 17 NRC at 1048).

C. Pa'ina's Factual Disputes Go To The Merits Of Concerned Citizens' Environmental Contentions, Not Their Admissibility.

Pa'ina's claim that, viewed as whole, the record supports the Draft EA likewise goes only to the merits of Concerned Citizens' environmental contentions, not their admissibility. See Pa'ina's Answer at 11-12. Thus, to determine whether the Draft EA takes the requisite hard look at potential impacts associated with tsunami runup, the Board will have to examine the EA's analysis of, among other things, the issues Dr. Pararas-Carayannis raises in his expert review. When it does so, the Board should reject Pa'ina's attack on Dr. Pararas-Carayannis's testimony about risks from tsunami-related flooding, since Pa'ina fails to take into account the fact that, due to increased resonance effects and cumulative pile-up of tsunami waves at the apex of Ke'ehi Lagoon, the construction of the Reef Runway can increase threats from tsunami runup at the proposed irradiator site. See Pararas-Carayannis Supp. Dec. ¶ 4; Exh. 9: Pararas-Carayannis Report at 14; see also Pa'ina's Answer at 11 n.4. Moreover, Pa'ina ignores that the methodology used to develop the O'ahu Civil Defense tsunami evacuation maps tends to underestimate the potential impact of a tsunami, including inundation limits and runups. See Pararas-Carayannis Supp. Dec. ¶ 3; Pararas-Carayannis Report at 14. While Pa'ina's "challenges establish that

factual disputes exist,” confirming that the environmental contentions satisfy 10 C.F.R. § 2.309(f)(1)(vi), “the resolution of such disputes is not the appropriate subject of [the Board’s] inquiry at the contention admission stage of the proceeding.” Pa’ina Hawaii, LBP-06-04, 63 NRC at 112.

The Board should also reject as “misguided” Pa’ina’s use of its answer “to engage in an attempted merit-based refutation of [Concerned Citizens’] contentions” regarding the potential for releases of radioactive material from the proposed irradiator. Pa’ina Hawaii, LBP-06-12, 63 NRC at 406; see also Pa’ina’s Answer at 12-14, 22-26. Eventually, the Board will have to determine whether the testimony of Concerned Citizens’ experts (who include a professor of structural engineering with more than five decades of experience in the field and a renowned expert on tsunamis, hurricanes, and earthquakes) or of the vice president of the company that wants to sell Pa’ina an irradiator (who holds a Bachelor of Arts degree in economics and concedes he lacks the expertise to evaluate “the potential likelihood and potential severity of the various incidents at the site of the facility”) is more credible regarding whether the proposed irradiator would keep the public and the environment safe in the face of the unique threats of aviation accidents and natural disasters inherent in Pa’ina’s chosen site. Stein Dec. ¶ 7; see also Exh. 13: 5/3/04 Email from GrayStar, available on ADAMS at ML041250238 (listing Stein’s “Formal Education” as B.A. in economics); Draft Topical Report at 3-3 (citing Pararas-Carayannis); see generally Sozen Supp. Dec.; Pararas-Carayannis Supp. Dec. “At the contention admissibility stage of the proceeding, however, [Pa’ina’s proffered] factual defense is ... irrelevant and inappropriate.” Pa’ina Hawaii, LBP-06-12, 63 NRC at 406. Pa’ina’s arguments serve only to confirm there are a number of disputes over issues “within the scope of the proceeding” and “material to the findings the NRC must make to support the action that is

involved in the proceeding” that can be resolved only at a hearing on Concerned Citizens’ contentions. 10 C.F.R. § 2.309(f)(1)(iii), (iv).

V. ENVIRONMENTAL CONTENTION #3 IS ADMISSIBLE

A. The Draft EA Violates NEPA’s Requirement To Give The Public An Opportunity To Review The Data And Calculations On Which The Staff Relies To Support Its Conclusions About Potential Impacts.

To defend the Draft EA’s failure to present the analysis on which the Staff based its conclusions that various impacts would not be significant, both Pa’ina and the Staff rely on regulations that allow agencies to incorporate material by reference. See Staff’s Response at 7; Pa’ina’s Answer at 16 & n.5 (citing 40 C.F.R. § 1502.24).⁵ They ignore, however, the requirement to ensure incorporation by reference will not “imped[e] agency and public review of the action,” which would contravene NEPA’s basic purposes. 40 C.F.R. § 1502.21; see also id. § 1500.1(b) (“expert agency comments, and public scrutiny are essential to implementing NEPA”). Thus, 40 C.F.R. § 1502.21 expressly prohibits incorporation by reference when the materials are not “reasonably available for inspection by potentially interested persons within the time allowed for comment.” Id. § 1502.21; see also NUREG-1748, “Environmental Review Guidance for Licensing Actions Associated with NMSS Programs,” §1.6.4 (2003) (same).

Even if, as Pa’ina and the Staff argue, it was acceptable for the Draft EA to incorporate by reference material from the Draft Topical Report, that would not mean that the Draft EA’s

⁵ Pa’ina’s reliance on 40 C.F.R. § 1502.24 is misplaced. The draft EA fails to satisfy the regulation’s requirement that the Staff identify and discuss in the draft EA itself (either in the main body or an appendix) the methodologies used to conduct the analysis of potential impacts to public and occupational health, socioeconomics, and ecology and to investigate the potential for radiological accidents from seismic or hurricane events. See Draft EA at 7-10. That the draft EA identified the methodologies used to analyze the risk of aviation accidents and the potential for tsunamis to pull a Cobalt-60 source out of the irradiator pool does not excuse the Staff’s failure to comply with 40 C.F.R. § 1502.24 with respect to the other impacts it claims to have investigated.

incorporation by reference of other material, which was not “reasonably available for inspection,” passes legal muster. 40 C.F.R. § 1502.21. While the Staff claims the information on which the Draft EA relied “has been placed in the NRC’s ADAMS system or is otherwise publicly available,” Staff’s Response at 7, the Draft EA in many cases failed to “indicate where these references are available for public review,” violating the Staff’s own guidance. NUREG-1748, § 1.6.4; see also Draft EA at 13-14 (listing references without indicating where they can be found).

For example, a member of the public concerned about radiation exposure from transporting Cobalt-60 sources to the irradiator would have no reasonable means to locate the data or analysis on which the Staff based its finding of no significant impact. See Draft EA at 8. Even if the concerned citizen knew to look on ADAMS to find the cited reference (“NRC, 2006d,” a December 6, 2006 email entitled “Pa’ini [sic] Irradiator SER Input”) and could figure out how to navigate ADAMS – no mean feat for the uninitiated – to locate the document, she would still find absolutely nothing to shed any light on how the Staff reached its conclusion. The document merely states the “draft ser input” is attached – but no data is, in fact, attached to the version of the document on ADAMS – and promises that “supporting information” would be provided the next week. Exh. 14: 12/6/06 Email from E. Keegan to M. Blevins, available on ADAMS at ML063480301.⁶

The Draft Topical Report suffers from the same defect. The report’s detailed discussion of the data and formulae used to evaluate the likelihood of an airplane crashing into Pa’ina’s

⁶ Similarly, the November 27, 2006 email the draft EA cites in support of its claim that “[p]ublic and occupational health impacts are expected to be small,” Draft EA at 7, mentions “[a]ttached ... microshield calculation,” but does not actually attach it, providing nothing for experts or the public to review. Exh. 15: 11/27/06 Email from A. Turner Gray to M. Blevins, available on ADAMS at ML063480293.

proposed irradiator contrasts sharply with the complete absence of any calculations or other meaningful analysis regarding the consequences of an aviation accident. Compare Draft Topical Report at 2-5 to 2-12 with id. at 2-12 to 2-13. Having been provided the analytical data on which the Staff based its conclusions about airplane crash frequency, Concerned Citizens – through its expert, Dr. Resnikoff – was able to prepare an extensive critique of the data and methodology the Draft Topical Report used, helping to ensure the NRC would make its decision on Pa’ina’s application “based on understanding of environmental consequences.” 40 C.F.R. § 1500.1(c); see also id. § 1500.1(b) (“public scrutiny ... essential to implementing NEPA). No similarly detailed review of the consequences of an aviation accident was possible, since the report contained only “generalized conclusory statements that the effects are not significant,” Klamath-Siskiyou Wildlands Center, 387 F.3d at 996, rather than “the underlying environmental data” from which the Staff derived its conclusions, as NEPA requires. Idaho Sporting Cong. v. Thomas, 137 F.3d 1146, 1150 (9th Cir. 1998); see also Resnikoff Dec. ¶ 15-19 (noting Draft Topical Report’s failure to analyze potential consequences of aviation accident); Sozen Dec. ¶ 7 (same); Sozen Supp. Dec. ¶ 10.

The Draft Topical Report likewise fails to set forth the bases for the Draft EA’s conclusions that various natural disasters involving the irradiator would not cause significant impacts. See 2/9/07 Contentions at 9-15. While the report states that “a stylized fluid dynamic calculation was conducted” to assess potential impacts associated with tsunamis and notes the conclusions reached, it does not actually set forth for public review the calculations that were performed or the data used. Draft Topical Report at 3-4.⁷ For all other threats involving natural

⁷ Even if it were permissible for the Staff to require the public to look beyond the sources cited in the Draft EA to locate information needed to understand the basis for the proposed

phenomena, the report does not even claim any calculations were performed and, thus, does not present them, even though, as Concerned Citizens' expert, Dr. Pararas-Carayannis explained, such analysis would be necessary to reach any meaningful conclusions about potential impacts. Pararas-Carayannis Dec. ¶¶ 11, 18-19, 28-31, 34; Pararas-Carayannis Supp. Dec. ¶¶ 4, 8.

As the Ninth Circuit stressed in Idaho Sporting Cong., "NEPA requires that the public receive the underlying environmental data" from which the Staff derived the conclusions set forth in the Draft EA. 137 F.3d at 1150.⁸ While the Staff and Pa'ina may dispute Concerned Citizens' claims that the Draft EA and the documents it references failed to provide that data, violating NEPA, Concerned Citizens has shown "that a genuine dispute exists .. on [this] material issue," warranting admission of its contention. 10 C.F.R. § 2.309(f)(2)(vi).

B. The Draft EA's Conclusory Statements Do Not Satisfy NEPA.

Neither the Staff nor Pa'ina identifies any authority establishing that the less than four pages the Draft EA devotes to potential impacts satisfy the Staff's duty under NEPA to take a "hard look" at Pa'ina's proposed irradiator. Pa'ina merely notes there is nothing inherently illegal about an EA using terms like "negligible" or "immeasurable," citing Environmental Protection Information Service ("EPIC") v. U.S. Forest Service, 451 F.3d 1005 (9th Cir. 2006). Pa'ina's Answer at 21 n. 6. In that case, however, the agency spent fifteen pages discussing a single potential impact, providing "at least seven different, detailed reasons" why potential short-term impacts would be "negligible." EPIC, 451 F.3d at 1013 (emphasis added). Here, in

Finding Of No Significant Impact ("FONSI"), the Draft Topical Report does not give any hint where the public might be able to locate and review the analysis that was performed.

⁸ In contrast to the Council on Environmental Quality's NEPA regulations, which are binding, the CEQ's "Forty Questions" publication, on which the Staff relies to justify its failure to provide the data on which the Draft EA relied, is "merely an informal statement and is not controlling authority." Friends of the Earth v. Hintz, 800 F.2d 822, 837 n.15 (9th Cir. 1986); see also Staff's Response at 7.

contrast, the Draft EA's conclusory statements – even when read in conjunction with the Draft Topical Report and the other documents incorporated by reference – give neither the public nor the decisionmaker any way to evaluate how the Staff arrived at its proposed FONSI.⁹

While the Staff claims the opinions expressed in the Draft EA “are based on quantitative data,” with the exception of the Draft Topical Report's flawed calculation of the likelihood of an aviation accident, those quantitative data are nowhere in evidence. Staff's Response at 8. It is well-established that “NEPA documents are inadequate if they contain only narratives of expert opinions.” Klamath-Siskiyou Wildlands Center, 387 F.3d at 996. Admission of Concerned Citizens' contention is therefore appropriate to resolve the parties' dispute over the adequacy of the Draft EA's analysis.

C. The Draft EA Must Consider Impacts From The Transportation Of Cobalt-60 To The Proposed Irradiator.

Both the Staff and Pa'ina mistakenly conclude that, since the Board rejected a safety contention claiming Pa'ina's application needed to address risks associated with transporting Cobalt-60 to the proposed irradiator, the Staff is absolved of its obligation to consider potential transportation impacts – including the potential for transportation-related accidents – in evaluating Pa'ina's proposed irradiator pursuant to NEPA. See Pa'ina Hawaii, LBP-06-12, 63 NRC at 421. Their arguments ignore NEPA's requirement that the EA include within the scope of its analysis all actions “connected” to the activity for which Pa'ina seeks a license. 40 C.F.R.

⁹ The “bullets” listed on pages 16-17 of Concerned Citizens' February 9, 2007 contentions are examples of the type of information about direct and indirect impacts the Draft EA was obliged to provide to comply with NEPA's command to make “environmental information ... available to public officials and citizens before decisions are made and before actions are taken.” 40 C.F.R. § 1500.1(b). NUREG-1748 similarly requires the draft EA to “provide sufficient analysis to allow the decision maker to arrive at a conclusion.” NUREG-1748, § 1.6.4.

§ 1508.25(a)(1). Since Pa'ina's irradiator cannot function without regular shipments of Cobalt-60, the transportation of radioactive material to and from the site is a "connected" action whose potential impacts must be examined in the Draft EA. See Draft EA at 8.

Louisiana Energy Services, LLP (National Enrichment Facility), CLI-06-15, 63 NRC 687 (2006), which the Staff cites, supports admission of Concerned Citizens' contention. That case involved review of an environmental impact statement's ("EIS's") discussion of impacts associated with the disposal of depleted uranium. The Commission emphasized that the pending proceeding was "to license a uranium enrichment facility, not a proceeding to license a near-surface waste disposal facility." Id., slip op. at 3. The Commission nonetheless recognized that NEPA required the Staff "to consider the reasonably foreseeable environmental impacts of a proposed action, even if they are only indirect effects" and concluded that "[d]epleted uranium disposal from the proposed National Enrichment Facility would be an indirect effect." Id., slip op. at 4.

There was no question in Louisiana Energy Services that the Staff needed to discuss depleted uranium disposal in its NEPA analysis, even though licensing of a disposal facility was not involved. Id., slip op. at 14 ("NEPA requires ... that we consider 'reasonably foreseeable' indirect effects of the proposed licensing action"). Likewise, in this case, the Draft EA must include an adequate analysis of potential impacts associated with transporting Cobalt-60 to and from the irradiator.

The mere existence of a generic EIS discussing potential impacts from transportation of radioactive materials does not, as the Staff asserts, excuse its failure to address such impacts in the Draft EA. See Staff's Response at 9. While NEPA allows agencies to "tier" environmental analyses, to comply with the tiering regulations, the Draft EA would have had to "summarize the

issues discussed in the [generic EIS] and incorporate statements from the broader statement by reference,” concentrating on the transportation-related issues specific to Pa‘ina’s proposed irradiator. 40 C.F.R. § 1502.20. The Draft EA did not do this. It made no mention of the generic EIS (not even in the references), failed to disclose the calculations and data underlying its conclusion that “[t]ransportation impacts from normal operations would be small,” and included no discussion at all of transportation impacts from abnormal operations (i.e., accidents). Draft EA at 8 (emphasis added).

The Draft EA’s silence regarding the generic EIS meant the public, including Concerned Citizens, was unaware of its existence and alleged relevance to evaluating Pa‘ina’s proposal during the public comment period on the Draft EA. Consequently, no one was in a position to comment on whether the generic EIS adequately analyzes issues related to transporting Cobalt-60 to and from Hawai‘i. Because NEPA recognizes the vital role the public plays in ensuring agencies do not sweep important considerations under the rug, if the Staff had intended to rely on the generic EIS, it was required to state, in the Draft EA, “where the earlier document is available.” 40 C.F.R. § 1502.20. Likewise, the NRC’s guidance for preparing EAs provides that “[t]he new environmental document must identify the document from which it is tiered and both documents must be available for public review.” NUREG-1748, § 1.6.2. The Staff failed to comply with any of these requirements.

D. The Staff Was Obligated To Evaluate All Potential Impacts Associated With Airplane Crashes And Natural Disasters.

In their declarations and voluminous attached reports, Concerned Citizens’ experts specify numerous potential environmental impacts associated with airplane crashes and natural disasters involving Pa‘ina’s proposed irradiator that the Staff failed to analyze in the Draft EA.

Concerned Citizens contends the Draft EA's failure to evaluate all of these potential "environmental impacts of the proposed action" precludes the NRC from making a fully informed decision "whether to prepare an environmental impact statement," violating NEPA's requirements to take a hard look at Pa'ina's project and to permit meaningful public scrutiny. 40 C.F.R. § 1508.9(a); see also Klamath-Siskiyou Wildlands Center, 387 F.3d at 993, 1001; 40 C.F.R. § 1508.8 (defining "effects" that agency must consider). Pa'ina's only response is to attempt a "merit-based refutation of [Concerned Citizens'] contentions," which this Board has repeatedly emphasized is "irrelevant and inappropriate" at the contention admissibility stage. Pa'ina Hawaii, LBP-06-12, 63 NRC at 406; see also Pa'ina's Answer at 22-26.

The Staff, for its part, concedes that Concerned Citizens' claims with respect to "analysis of debris force from potential aviation accidents" and "hurricane frequency and strength" are admissible, but objects to claims regarding the Draft EA's failure adequately to evaluate "earthquake risks, the size of potential tsunamis, and the effects of increased buoyancy due to inundation from a hurricane storm surge or a tsunami" as allegedly unsupported. Staff's Response at 10. The Board should reject the Staff's objections, which reflect a fundamental misunderstanding of how the NEPA process works.

Based on his extensive education and professional experience, Concerned Citizens' expert, Dr. Pararas-Carayannis, has identified potentially significant threats that earthquakes, hurricanes, and tsunamis pose to Pa'ina's proposed irradiator due to Pa'ina's decision to site its facility on low-lying, unconsolidated fill, next to the ocean. See generally Pararas-Carayannis Dec.; Pararas-Carayannis Report; Pararas-Carayannis Supp. Dec.¹⁰ His declaration then details

¹⁰ Notably, the Draft Topical Report relies on Dr. Pararas-Carayannis's work to inform its analysis of tsunamis, evincing the Staff's recognition of his expertise. See Draft Topical Report at 3-3.

how the Staff's "conclusions that potential seismic, tsunami and hurricane activity would have no significant impacts on public health and safety from the proposed irradiator are based on inaccurate assumptions and faulty analysis." Pararas-Carayannis Dec. ¶ 11; see also id. ¶¶ 14-34. Finally, he identifies the additional analysis the Staff must conduct in order to assess accurately the potential for natural disasters to result in significant environmental impacts.

Specifically, Dr. Pararas-Carayannis contends that the Staff based its assessment of potential tsunami runup risk on inaccurate information, failed to quantify runup potential with a proper numerical modeling study, and ignored "the most likely result of a tsunami, flooding at the proposed site." Pararas-Carayannis Dec. ¶ 31; see also id. ¶¶ 24-30. He further notes the Staff failed completely "to consider buoyancy forces" that "can be expected to increase significantly under hurricane surge flooding conditions" or as a result of tsunami inundation and can damage the irradiator pool's integrity or allow potentially contaminated shielding water to escape. Id. ¶ 19; see also Pararas-Carayannis Report at 17. Moreover, Dr. Pararas-Carayannis points out the Staff's failure "to assess properly the risks earthquakes pose to the proposed irradiator," explaining that, to determine risks from liquefaction, the Staff must evaluate "the potential focusing effects of seismic energy on O'ahu" and take into account "the properties of unconsolidated sediments like those found at the irradiator site." Pararas-Carayannis Dec. ¶¶ 32, 34.

The Staff's suggestion that Concerned Citizens must prove conclusively that natural disasters involving Pa'ina's irradiator will cause significant harm to the environment reflects an improper attempt to shift to the public "the burden of complying with NEPA," which lies with

the Staff. Duke Power Co., CLI-83-19, 17 NRC at 1048.¹¹ It is the Staff's duty, not Concerned Citizens', to identify potential threats to the irradiator from natural disasters and take a "hard look" at them to determine whether significant impacts on the human environment may occur, triggering the Staff's duty to prepare an EIS. See Klamath-Siskiyou Wildlands Center, 387 F.3d at 993; see also Idaho Sporting Cong., 137 F.3d at 1151-52 (failure to analyze potential effects of timber sale on fisheries "implicate both of NEPA's disclosure goals, i.e., to insure the agency has fully contemplated the environmental effects of its action and to insure the public has sufficient information to challenge the agency"); 40 C.F.R. § 1508.9(a)(1). Concerned Citizens' expert testimony detailing the Staff's failure "to conduct standard factual and scientific site specific analysis" regarding threats from natural disasters and "to provide the analytic data necessary for any public challenge to the proposed [irradiator]" adequately substantiates its contention the Draft EA's analysis of these potential impacts is deficient. Idaho Sporting Cong., 137 F.3d at 1150. The Board should admit Environmental Contention #3 in its entirety to allow resolution of the merits at hearing.

E. The Staff's NEPA Review Must Consider Impacts From Terrorism.

The Staff correctly acknowledges that the Ninth Circuit's recent decision in San Luis Obispo Mothers for Peace v. Nuclear Regulatory Comm'n, 449 F.3d 1016 (9th Cir. 2006), cert. denied sub nom, Pacific Gas & Elec. Co. v. San Luis Obispo Mothers for Peace, 75 U.S.L.W. 3365 (U.S. Jan 16, 2007), means that the Draft EA improperly failed to analyze "the range of

¹¹ Indeed, even to establish on the merits that the Staff was required to prepare an EIS instead of an EA, Concerned Citizens "need not show that significant effects will in fact occur." Idaho Sporting Cong., 137 F.3d at 1150 (quoting Greenpeace Action v. Franklin, 14 F.3d 1324, 1332 (9th Cir. 1992); emphasis in Idaho Sporting Cong.). "Raising 'substantial questions whether a project may have a significant effect' is sufficient." Id. (quoting Greenpeace Action, 14 F.3d at 1332; emphasis added).

environmental impacts likely to result in the event of a terrorist attack,” id. at 1034, and that, accordingly, Environmental Contention #3 “as it pertains to inclusion of consideration of potential impacts from terrorism” should be admitted. Staff’s Response at 6; see also id. at 11-12. As discussed below, Pa’ina provides no valid basis for the Board to do otherwise.

In Part V.C, supra, Concerned Citizens explained why the scope of the Draft EA properly includes consideration of potential impacts associated with the transportation of radioactive sources to and from Pa’ina’s proposed irradiator. There is no support for Pa’ina’s contrary claim the Staff could lawfully ignore potential terrorist attacks on shipments of Cobalt-60 that would not occur if Pa’ina’s proposed irradiator were not licensed and operating.

Pa’ina’s next argument, that res judicata bars the Concerned Citizens’ contention, ignores the fact that Safety Contentions #9 and 10 – which the Board previously held were “beyond the scope of the proceeding” – involved claims that Pa’ina’s application was deficient because it failed to make adequate provision to protect Cobalt-60 sources from terrorists. Pa’ina Hawaii, LBP-06-12, 63 NRC at 422-23.¹² The question before the Board in ruling on Concerned Citizens’ initial safety contentions – whether Pa’ina was required, at the application stage, to implement additional security measures – is entirely separate from the question posed by Environmental Contention #3: whether the Staff has a duty under NEPA to evaluate terrorist threats to Pa’ina’s proposed irradiator. While the Board, in its January 24, 2006 order, answered that latter question in the negative, it recognized that “future developments overruling current controlling Commission precedent” might dictate a different outcome. Pa’ina Hawaii, LBP-06-

¹² The fact that Concerned Citizens did not appeal the Board’s March 24, 2006 order did not, as Pa’ina argues, give up its right to object to adverse portions of that decision. Pa’ina’s Answer at 28 n.7. Since the Board did not deny Concerned Citizen’s hearing request “in its entirety,” Concerned Citizens had no right to appeal from the March 24, 2006 order. Exelon Generation Co., LLC, CLI-04-31, 60 NRC at 468; see also 10 C.F.R. § 2.311(b).

04, 63 NRC at 113.¹³ Now that the Ninth Circuit has overruled that Commission precedent, admission of Concerned Citizens' contention is warranted. As in the Pacific Gas & Electric Co. proceeding, the Staff must address in its EA "the likelihood of a terrorist attack" involving Pa'ina's proposed irradiator "and the potential consequences of such an attack." Pacific Gas & Electric Co. (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-07-11, 64 NRC ___, slip op. at 2 (Feb. 26, 2007).

Pa'ina's attempt to distinguish San Luis Obispo Mothers for Peace based on the type of facility involved ignores the evidence Concerned Citizens has already presented that the National Nuclear Security Administration considers Cobalt-60 irradiators as potential targets for dirty bombers and that malicious detonation of even a single Cobalt-60 pencil could cause widespread, catastrophic harm. See Exh. 2: 4/13/05 National Nuclear Security Administration press release; Exh 3: Public Interest Report, vol. 58, No. 2, March/April 2002; Resnikoff Dec. ¶¶ 20-21; Thompson Dec. ¶¶ V-1 to -6. At most, Pa'ina's attempt to distinguish this case on the facts creates a disputed issue for resolution at hearing.¹⁴

There is no basis for Pa'ina's final claim, that Concerned Citizens filed its contention regarding terrorism too late. Pa'ina's Answer at 29. When the Ninth Circuit issued its decision in San Luis Obispo Mothers for Peace, the Staff was busy preparing the Draft EA pursuant to the Joint Stipulation the Board entered in April 2006. Prior to the Staff's circulation of the Draft EA for public review at the end of December 2006, Concerned Citizens had no way of knowing the Staff did not intend to comply with the Ninth Circuit's newly announced holding that NEPA

¹³ As noted above, since the Board did not deny the hearing petition entirely, Concerned Citizens has had no opportunity to appeal this aspect of the January 24, 2006 order.

¹⁴ The evidence Concerned Citizens has introduced more than satisfies its burden at the contention admissibility stage to "[p]rovide sufficient information to show that a genuine dispute exists with [Pa'ina] on a material issue of ... fact." 10 C.F.R. § 2.309(f)(1)(vi).

required evaluation of threats from terrorism. Any contention filed before the release of the Draft EA alleging a failure to consider terrorism would have been based on pure speculation and, since the Draft EA did not yet exist, would have been unripe. As soon as the Draft EA came out, Concerned Citizens became aware of the deficiency and properly filed its Environmental Contention #3 within the time the Board established in its January 10, 2007 order.

F. The Draft EA's Failure To Consider Impacts From Human Consumption Of Irradiated Food Violated NEPA.

In ruling on Concerned Citizens' initial environmental contentions, the Board determined that "the possible health effects of irradiating papayas and mangos does not arise to the level of special circumstances necessary to invoke the exception under 10 C.F.R. § 51.22(b) for the categorical exclusion of irradiators." Pa'ina Hawaii, LBP-06-04, 63 NRC at 114-15. In other words, the Board held the potential human health impacts from consuming food irradiated at Pa'ina's facility did not trigger the Staff's obligation to prepare an EA. The Staff and Pa'ina fail to appreciate that Environmental Contention #3 poses a very different question, which the Board has not previously addressed: whether, once the Staff has decided to prepare an EA, NEPA mandates that its analysis consider the impacts of increasing the supply of irradiated food for human consumption.

For the reasons set forth in its moving papers, Concerned Citizens submits that, under controlling Ninth Circuit law, the Draft EA's failure to analyze these impacts violated NEPA. See 2/9/07 Contentions at 24. Pa'ina's objection that potential health effects are uncertain does not justify the Staff's decision to ignore them altogether. Rather, where "there is incomplete or unavailable information," NEPA still requires the NRC to address the potential impacts and provides detailed instructions on how it must satisfy its statutory duty. 40 C.F.R. § 1502.22.

VI. ADMISSION OF ENVIRONMENTAL CONTENTION #4 IS NECESSARY TO DETERMINE WHETHER THE DRAFT EA COMPLIES WITH NEPA'S MANDATE TO CONSIDER REASONABLE ALTERNATIVES

To comply with NEPA, the Draft EA must apprise the NRC and the public of reasonable alternatives to Pa'ina's proposed irradiator that "might be pursued with less environmental harm." Lands Council v. Powell, 395 F.3d 1019, 1027 (9th Cir. 2005). The discussion of alternatives must be "sufficiently detailed ... so as to permit informed decision making," id., and to foster "informed public participation." California v. Block, 690 F.2d 753, 767 (9th Cir. 1982); see also Morongo Band of Mission Indians v. Federal Aviation Admin., 161 F.3d 569, 575 (9th Cir. 1998). For the reasons set forth in Concerned Citizens' moving papers, the cramped discussion of alternatives in the Draft EA – which fails to quantify the impacts or benefits of taking no action or using the two treatment alternatives it does mention, does not analyze the most analogous alternate technology (electron-beam irradiation), and does not consider any alternate locations where the irradiator might be safe from aviation accidents and natural disasters – falls far short of the satisfying the Staff's legal obligations. See 2/9/07 Contentions at 25-27. While the Staff and Pa'ina may dispute the merits of Concerned Citizens' claims, resolution of the parties' disputes "is not the appropriate subject of [the Board's] inquiry at the contention admission stage of the proceeding." Pa'ina Hawaii, LBP-06-04, 63 NRC at 112.

The Staff's actions following the Draft EA's issuance belie its claim its NEPA review adequately canvassed reasonable alternate technologies. On February 14, 2007, the Staff wrote Pa'ina's president, stating that, "[a]s part of the development of the final EA[,] it would be helpful if you could elaborate on any consideration you gave to alternate technologies (e.g., electron beam or heat treatment)." Exh. 16: 2/24/07 Email from M. Blevins to M. Kohn, available on ADAMS at ML070600583. While the applicant cannot lawfully dictate the range of

alternatives the NRC evaluates, seeking information from the applicant (and others) about non-nuclear technologies that could substitute for Cobalt-60 irradiation is certainly an important part of the NEPA process. See Van Abbema v. Fornell, 807 F.2d 633, 638 (7th Cir. 1986). The Staff's failure to take even this initial step prior to preparing the Draft EA provides additional proof it has yet to comply with NEPA's command to consider reasonable alternatives.¹⁵

Pa'ina's assertion the Draft EA discussed "the electron-beam alternative[]" in some detail" is completely unsupported. Pa'ina's Answer at 32. The Draft EA's only mention of an electron-beam irradiator is in the section addressing "need," not alternatives. Draft EA at 6. There, the document notes that, "for various reasons including product restrictions and high shipping costs," some producers are precluded from using the existing treatment facilities, all of which, including an electron-beam irradiator, are located on Hawai'i Island. Id. The Draft EA never considers whether construction of an electron-beam irradiator on O'ahu could reduce those shipping costs and alleviate the alleged need, providing a reasonable alternative to the Cobalt-60 irradiator Pa'ina proposes. The Board should admit Environmental Contention #4 to resolve the parties' dispute over whether the absence of any consideration of an electron-beam alternative, as well as the cursory treatment afforded other alternate technologies, means the Draft EA fails the basic test of "foster[ing] informed decision-making and informed public participation." Block, 690 F.2d at 767.

Admission of Environmental Contention #4 is likewise justified to consider whether the Staff's refusal to consider any alternate sites for the irradiator violated NEPA. The evidence Concerned Citizens submitted with its moving papers makes clear that even Pa'ina recognizes

¹⁵ The fact that an electron-beam irradiator is already up and running in Hawai'i, performing the identical tasks Pa'ina plans to carry out, should have dispelled the Staff's alleged doubts whether "use of an electron-beam irradiator would be reasonable in the present instance." Staff's Response at 14.

there are alternate locations where it could undertake its project, including ones that might present “commercial advantages” over the airport location. Exh. 12: 8/28/06 Email from M. Kohn to J. Whitten at 1, available on ADAMS at ML062770248. The fact that Pa’ina has “entertain[ed] the idea of changing the proposed location from that listed in the license application” disproves the Staff’s and Pa’ina’s assertions that the proposed site is the only feasible one. Id.¹⁶ At a minimum, therefore, the Draft EA should have analyzed the alternative of siting the irradiator on Ualena Street, which has “several commercial buildings that would be acceptable to Pa’ina.” Id.¹⁷ Because this location is “further from an active runway and further from the ocean,” id., such an alternative may well accomplish the goals of the project “with less environmental harm.” Lands Council, 395 F.3d at 1027; see also Pararas-Carayannis Dec. ¶ 13. The NRC, and the public, will know for certain only when the Staff complies with its duty to consider alternate siting locations.

Concerned Citizens’ discussion of the Ualena Street alternative in its moving papers refutes Pa’ina’s claim Concerned Citizens has not identified any “specific alternative sites” the Draft EA should have considered. Pa’ina Answer at 33. That said, none of the authorities Pa’ina cites supports its argument that Concerned Citizens “must specifically identify what lot sites would be appropriate for the NRC to study.” Id. at 34 (emphasis added). Environmental Contention #4 identifies with adequate specificity the types of alternative sites that would “avoid or minimize adverse effects of [Pa’ina’s] actions upon the quality of the human environment,”

¹⁶ Since “the evaluation of ‘alternatives’ mandated by NEPA is to be an evaluation of alternative means to accomplish the general goal of an action” and “not an evaluation of the alternative means by which a particular applicant can reach his goals,” whether Pa’ina subjectively would be willing to consider another location is irrelevant to defining the range of reasonable alternatives. Van Abbema, 807 F.2d at 638.

¹⁷ Since “there are no guarantees that the proposed [airport] location will still be available at the end of the [NRC] process,” consideration of alternative sites seems only prudent. Id.

and, thus, should have been evaluated in the Draft EA. 40 C.F.R. § 1500.2(e); see also 2/9/07 Contentions at 27.¹⁸

Unlike the defendant agency in Morongo Band of Mission Indians, the Staff failed to develop or discuss any alternate sites for the proposed irradiator, violating its duty under NEPA to “study, develop, and describe appropriate alternatives.” 161 F.3d at 576 (quoting 42 U.S.C. § 4332(2)(E)). As the Ninth Circuit recently held in ‘Ilio‘ulaokalani Coalition v. Rumsfeld, 464 F.3d 1083 (9th Cir. 2006), where a project’s purpose “is not, by its own terms, tied to a specific parcel of land,” an agency’s categorical refusal to consider any alternate locations violates NEPA. Id. at 1098 (quoting Methow Valley Citizens Council v. Regional Forester, 833 F.2d 810, 815 (9th Cir. 1987); emphasis in ‘Ilio‘ulaokalani Coalition). Since the Draft EA expressed a need for “[a] treatment facility on Oahu,” not only at the specific airport parcel Pa‘ina proposes, the Staff was obliged to consider alternate locations that might accomplish the project’s purpose with fewer impacts. Draft EA at 6 (emphasis added).

VII. THE BOARD SHOULD ADMIT ENVIRONMENTAL CONTENTION #5 TO RESOLVE THE PARTIES’ DISPUTES ABOUT WHETHER AN EIS IS REQUIRED

To determine whether the controversy over a project’s impacts triggers an agency’s obligation to prepare an EIS, the Ninth Circuit looks to whether, during the NEPA process, there have been numerous responses from “knowledgeable individuals” who are “critical of the EA” and “disput[e] the EA’s conclusions.” Friends of Endangered Species v. Jantzen, 760 F.2d 976, 986 (9th Cir. 1985). In this case, the Staff has received just such an outpouring of criticism in

¹⁸ There is no support for Pa‘ina’s suggestion there are no sites currently zoned for industrial use on O‘ahu that are far from active runways, away from the ocean’s edge and on solid ground. See Pa‘ina’s Answer at 35. On the contrary, Pa‘ina’s consideration of alternate locations on Ualena Street confirms that neither land-use policy nor zoning laws would need to be altered to move the proposed irradiator away from at least some of the unique threats inherent in the airport site.

response to the Draft EA. In addition to the comments submitted by Concerned Citizens' experts,¹⁹ the editorial staff of Hawai'i's largest newspaper, as well as numerous elected officials, have weighed in to express their dismay at the Draft EA's inadequate analysis of the irradiator's potential impacts to Hawai'i's people, economy, and environment and failure to evaluate less harmful alternatives to Pa'ina's proposal. See, e.g., Exh. 17: 12/27/06 Honolulu Advertiser editorial entitled "Irradiator study needs additional disclosures," available at <http://the.honoluluadvertiser.com/article/2006/Dec/27/op/FP612270322.html>; Exh. 18: 1/30/07 Comment on Draft EA from Hawai'i State Senators Suzanne Chun Oakland and Gordon Trimble and Hawai'i State Representatives John Mizuno and Karl Rhoads; Exh. 19: 1/23/07 Comment on Draft EA from Hawai'i State Representative Karl Rhoads; Exh. 20: 1/24/07 Comment on Draft EA from Hawai'i State Senator Norman Sakamoto.

Pa'ina's narrow focus on how many of the people in attendance at the February 1, 2007 public were "for" or "against" the irradiator is completely irrelevant, as the determination whether a project is "highly controversial" for purposes of NEPA has nothing to do with the existence or non-existence of mere "opposition to a use." Blue Mountains Biodiversity Project v. Blackwood, 161 F.3d 1208, 1212 (9th Cir. 1998), cert. denied sub nom Malheur Lumber Co. v. Blue Mountains Biodiversity Project, 527 U.S. 1003 (1999). Since Concerned Citizens has "produced evidence from numerous experts showing the [EA's] inadequacies and casting serious doubt on the [agency's] conclusions," the Ninth Circuit has indicated "[t]his is precisely the type of 'controversial' action for which an EIS must be prepared." Id. (quoting Sierra Club v. United

¹⁹ Concerned Citizens fails to see the relevance of Pa'ina's comment on where its experts reside. See Pa'ina's Answer at 38 n.9. As the experts' resumes reflect, all have significant, relevant expertise regarding the evaluation of potential impacts associated with Pa'ina's proposed irradiator. In addition, Pa'ina gives the Board no valid reason to strike the declarations of Drs. Thompson and Au, which are relevant to the Board's consideration of newly proffered contentions challenging the Draft EA's adequacy.

States Forest Serv., 843 F.2d 1190, 1193 (9th Cir. 1988)).²⁰ Admission of Environmental Contention #5 is warranted to resolve Concerned Citizens' dispute with Pa'ina regarding this issue.

The Staff's claim "there is no true controversy between the Staff and [Concerned Citizens] as to the significance of the potential impacts" does not justify excluding this contention. Staff's Response at 16. The Staff's suggestion Concerned Citizens should wait "[u]ntil a Final FONSI is issued," id., ignores the rule requiring intervenors "to raise issues as early as possible" based on the environmental documentation then available. Duke Power Co., CLI-83-19, 17 NRC at 1050; see also 1/10/07 Board Order at 2 (contentions relating to the Draft EA must be filed by February 9, 2007).

At this stage of the proceeding, the Staff has made an initial, draft determination that Pa'ina's proposed irradiator would have no significant impacts. As discussed in its moving papers, Concerned Citizens contends that, in light of the substantial uncertainty about potential impacts associated with natural disasters, aviation accidents, transportation of Cobalt-60 sources, and terrorist attacks (which has resulted, in large part, from the Staff's failure adequately to analyze these issues), as well as the controversy over the reasonableness of the Draft EA's conclusions, the Staff must prepare an EIS, not a FONSI. See 2/9/07 Contentions at 28-29. Should the Staff reverse course after completing the final EA and decide to prepare an EIS, it might be appropriate, at that time, to dismiss Environmental Contention #5. See Duke Power Co., CLI-83-19, 17 NRC at 1050 (if contentions "are superseded by the subsequent issuance of licensing-related documents, those changes can be dealt with by either modifying or disposing of

²⁰ Pa'ina's compliance with local land-use and zoning laws is only "a factor" supporting a FONSI. Goodman Group, Inc. v. Dishroom, 679 F.2d 182, 186 (9th Cir. 1982). It does not conclusively resolve the issue whether an EIS is required, as there are many other "significance" criteria. See 40 C.F.R. § 1508.27.

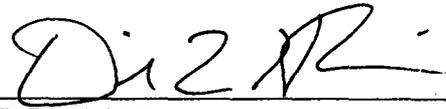
the superseded contentions”). For now, however, there is a live dispute – at least with Pa‘ina – which calls for admitting the contention.

VIII. CONCLUSION

For the foregoing reasons, Concerned Citizens respectfully asks the Board to admit the safety and environmental contentions filed herein on February 9, 2007.

Dated at Honolulu, Hawai‘i, March 19, 2007.

Respectfully submitted,



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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
Pa'ina Hawaii, LLC)
Materials License Application)
_____)

Docket No. 30-36974-ML
ASLBP No. 06-843-01-ML

**SUPPLEMENTAL DECLARATION OF GEORGE PARARAS-CARAYANNIS,
PH.D. IN SUPPORT OF CONCERNED CITIZENS' CONTENTIONS RE:
DRAFT ENVIRONMENTAL ASSESSMENT AND DRAFT TOPICAL REPORT**

Under penalty of perjury, I, Dr. George Pararas-Carayannis, hereby declare that:

1. I have over 40 years of experience in the field of natural disaster risk assessment. Details of my education and experience relating to natural disasters, along with a true and correct copy of my resume, were set forth my original declaration.
2. I have reviewed Pa'ina Hawaii, LLC's Answer to Concerned Citizens of Honolulu's contentions, paying particular attention to the declaration of Gray*Star, Inc. Vice President and Chief Operating Officer Russell N. Stein. Nothing in Pa'ina's materials provides any reason to alter my opinions about the serious public safety threats posed by Pa'ina's choice of irradiator site, which is susceptible to flooding by tsunamis and hurricanes, wind damage by hurricanes, and liquefaction by earthquakes. The risk of releases of radioactive materials due to these natural phenomena could easily be avoided by locating the site inland and on solid ground, rather than unconsolidated fill.
3. In its Answer, Pa'ina improperly relies on the notation on the current Hawai'i State Civil Defense tsunami evacuation maps to refute my conclusion that the

proposed irradiator site is at risk of flooding from tsunami. As noted in the report attached to my original declaration as Exhibit "9," the current evacuation maps are based on maps I helped prepare in 1967, which relied primarily on historical tsunami data using empirical methods, rather than numerical modeling. This method tends to underestimate the potential impact of a tsunami, including inundation limits and runups. Thus, the notation on the Civil Defense maps that the rise in water levels within Ke'ehi Lagoon should not exceed four feet is unsupported.

4. Moreover, Pa'ina ignores that the data on which the current tsunami evacuation maps are based predate the massive alterations of Ke'ehi Lagoon caused by dredging the lagoon for construction of Honolulu Airport's reef runway, which began in 1973. As I explained in my report, both the presence of the Reef Runway and the deepening of Ke'ehi Lagoon through dredging could increase resonance effects and cumulative pile-up of a tsunami at the apex of the basin, which is at the end of Palekona Street, where Pa'ina proposes to place its irradiator. Pa'ina has failed to conduct any numerical modeling, which is the only accepted means to reveal the full effects of dredging the lagoon and altering the shoreline.

5. As for Mr. Stein, he provides no reason to question my conclusions that the proposed site for Pa'ina's irradiator is unsafe because of its vulnerability to natural disasters. At the outset of his declaration, he admits he has no background in disaster risk analysis and that he cannot evaluate the potential likelihood and severity of disaster incidents that may impact the site of the proposed irradiator. Stein Decl. ¶ 7. Despite his lack of expertise, Mr. Stein asserts that all potential effects of all natural hazards at the site, no matter how severe, have been accounted for through the irradiator design, and

there could never be a release of radioactive material into the environment. Mr. Stein's statements lack any support; there is simply no evidence his generic irradiator design would provide adequate protection under the unique conditions at issue in this case: construction on a landfill site, with substrata of unconsolidated, alluvial, and storm surge sediments, that lies within a tsunami evacuation zone and is vulnerable to flooding by hurricane surges.

6. Mr. Stein fails to account for the fact that construction of a critical facility on a landfill site next to the sea is not the same as construction at higher elevation, at a safer location and on firmer ground. There is no material strength or strain compatibility between the different alluvial deposits of a landfill location. What holds the landfill material is not internal strength, but simply cohesion and friction of one type of material against another type of material. It is this friction and cohesion that renders some degree of strength to a landfill site. The strength depends on how hard the materials are pushed together, like two pieces of sandpaper rubbing together. This strength can diminish significantly by the ground accelerations (horizontal and vertical) of an earthquake, or by the flooding effects of tsunami or hurricane surge.

7. As recognized in Pa'ina's Geoanalytical Report, the site where Pa'ina proposes to put its irradiator is comprised of "an eight-foot-thick zone of fill consisting of silty sand and gravel," with the lower five feet of fill "soft or very loose." Below these layers of loose soft material are storm surge deposits to a depth of about 36.5 feet. Such landfill areas are extremely susceptible to ground liquefaction. The Marina District of San Francisco suffered great damage during the 1989 Loma Prieta earthquake because it

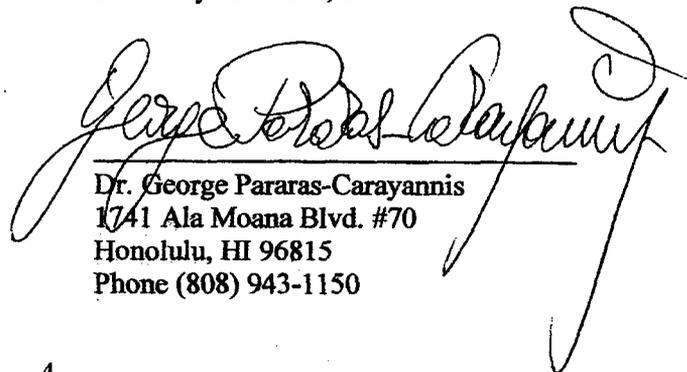
was located on such unconsolidated sediments on land reclaimed following the 1906 San Francisco earthquake.

8. Mr. Stein makes an unsupported general statement that support beams, I-beams, and backfill material surrounding and at the bottom of the pool will anchor the irradiator in the event of storm surges or liquefaction. There is no indication, however, that Mr. Stein's design specifically considered how the pool can be anchored in "soft or very loose" sediments or the effect of hydrostatic forces on the irradiator pool due to elevated water levels from tsunamis or hurricane surges. Such questions cannot be answered based on a generic design. Analysis of the facility's safety must take into account the characteristics of the proposed site, which is particularly vulnerable to natural disasters, but, to date, Pa'ina has failed to present any such analysis.

9. In summary, as I determined through my risk assessment and stated in my prior declaration, hurricanes, tsunamis, and earthquakes pose a real risk at the proposed irradiator site that merits rigorous review. Mr. Stein neither refutes this position nor demonstrates that such a rigorous review has been undertaken.

I declare under penalty of perjury that the factual information provided above is true and correct to the best of my knowledge and belief, and that the professional opinions expressed above are based on my best professional judgment.

Executed at Athens, Greece on this 15th day of March, 2007.



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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
Pa‘ina Hawaii, LLC)
Materials License Application)
_____)

Docket No. 30-36974-ML
ASLBP No. 06-843-01-ML

**SUPPLEMENTAL DECLARATION OF METE A. SOZEN, Ph.D. IN
SUPPORT OF CONCERNED CITIZENS' CONTENTIONS RE:
DRAFT ENVIRONMENTAL ASSESSMENT AND DRAFT TOPICAL REPORT**

Under penalty of perjury, I, Dr. Mete A. Sozen, hereby declare that:

1. As stated in my original declaration, I am the Purdue University Kettelhut Distinguished Professor of Structural Engineering, and have a Ph.D. in Civil Engineering. I have over 50 years of training and experience in the field of structural engineering, and I have been retained by numerous private organizations and state and federal agencies, including the Nuclear Regulatory Commission ("NRC"), on special projects concerned with structural safety and potential structural damage. A true and correct copy of my resume is attached to my original declaration.

2. Together with Dr. Christoph Hoffmann, I prepared a numerical analysis to simulate the potential for damage from an aircraft striking a steel structure adjacent to active runways at the Honolulu International Airport, similar to the proposed Pa‘ina irradiator. I then concluded, based on this simulation and my expertise and experience as a structural engineer, that an aircraft impact at the considered ground speed (which, as discussed in our report, was chosen to ensure our analysis would be conservative) could

destroy the building housing the irradiator and the 3 ½ foot lip of the irradiator pool. I also concluded that destruction of the pool lip could undermine the integrity of the pool, causing the water shielding the Co-60 sources to drain out; a high-temperature conflagration caused by the impact could destroy the pool by heating the steel; and flying debris could breach the source assembly or pool. In all of these instances, radioactive Co-60 could be introduced to the human environment.

3. I have reviewed Pa'ina Hawaii, LLC's Answer to Concerned Citizens of Honolulu's contentions, with particular attention to the declaration of Gray*Star, Inc. Vice President and Chief Operating Officer Russell N. Stein. Pa'ina does not dispute Dr. Marvin Resnikoff's conclusion that the likelihood of an aviation crash is more than the one-in-a-million threshold the NRC uses to evaluate aviation risks or Dr. Hoffmann's and my findings that the building housing the irradiator, as well as the irradiator pool's lip as modeled, would be destroyed in the event of an aircraft impact. Pa'ina does attempt to refute, through Mr. Stein's declaration, my conclusion that an aircraft crash may cause radioactive Co-60 from the irradiator to be introduced to the human environment. I address Mr. Stein's declaration below.

4. Initially, it troubles me that Mr. Stein claims to be responsible for all design and engineering for the Genesis irradiator that Pa'ina proposes to build and operate, because Mr. Stein has not demonstrated he has any training or experience as an engineer. In fact, it appears from the files of another NRC proceeding that Mr. Stein's only "formal education" was as an economist, having received a Bachelor of Arts degree in that field. See 5/3/04 Email from GrayStar (ML041250238), a true and correct copy of which is attached hereto as Exhibit "13." It is obviously one thing to design an irradiator

that can be economically viable, and entirely another to design an irradiator that can withstand the forces of an airplane crash.

5. Despite his stated lack of expertise evaluating the “potential severity of various incidents that may have impact at the site of the facility,” Mr. Stein nonetheless asserts, with no basis in fact or quantitative analysis, that his irradiator design could prevent nuclear materials from dispersing, even in the event of an aviation accident. Stein Decl. ¶ 7. He claims the numerical model Dr. Hoffmann and I prepared is based on “false premises” because we allegedly did not have a “proper understanding of the design.” Id. ¶¶ 6 and 8. According to Mr. Stein, we failed to consider that the 42” lip of irradiator is to be made of only ¼” stainless steel, with no concrete or structural I-beams, and is “designed to be sacrificial.” Id. ¶ 10(A).

6. Any misunderstanding about the construction of the pool lip is due to the imprecise description provided in Pa’ina’s application, which states that the pool is “constructed of two steel layers with a concrete filled six-inch space between them.” Application at 23. The application notes that “[t]he pool is mainly below ground with a 42” upper lip extending above the facility floor;” it does not indicate explicitly that the construction of the lip differs from that of the rest of the pool, of which it is a part. Id. The drawings to which Mr. Stein refers similarly do not clearly indicate the pool lip is made up of only ¼” stainless steel.

7. In any event, Mr. Stein’s comments about the construction of the pool lip serve only to demonstrate his lack of understanding of the structural defense mechanisms of the system. The lip that Dr. Hoffmann and I modeled with concrete and structural I-beams (based on the description in the application) is much stronger and tougher than the

design Mr. Stein describes. Thus, damage to the lip and resulting damage to the irradiator pool that Pa'ina apparently proposes to build would be considerably more than what was calculated. That Dr. Hoffmann and I modeled using conservative assumptions merely confirms that Mr. Stein's less robust design could certainly not stand up to a similar aircraft impact. Mr. Stein's notation in paragraph 10(A) that "most of the stainless steel inner liners on other irradiators are less than 1/4" thick" misses an important point: Other irradiators are not located immediately adjacent to active runways at an international airport and, thus, do not have to be robust enough to withstand the impact of a passenger jet.

8. Further, Mr. Stein's assertion that he intended the irradiator pool lip "to be sacrificial" is irrelevant to the structural analysis of what would happen to the integrity of the pool in the event of an aviation accident. As stated in my report and prior declaration, damage to the lip, which is attached to the pool, will undermine the structural stability of the pool, creating a situation of potential release of radioactive material. Mr. Stein has not provided quantitative evidence to challenge this conclusion (and, since presumably his irradiator design has not previously been hit by an airplane, has no empirical data on which to rely) and has not even attempted to show that radioactive material could not be released under the phenomena associated with an aviation accident.

9. Mr. Stein's declaration notably fails to address situations in which flying debris – pieces of the airplane that hit the irradiator facility and/or portions of the building itself – breach the source assembly or pool. As discussed in my previous declaration and attached report, it is my opinion, based on over five decades of

experience in the field of structural engineering, that, in such circumstances, radioactive Co-60 could be introduced to the human environment.

10. While Mr. Stein accuses Dr. Hoffmann and me of speculation, he offers no hard proof contradicting the conclusions we derived from our numerical modeling and professional experience. For example, Mr. Stein asserts that the source retaining mechanisms are designed to disconnect and leave the source at the bottom of the pool, yet offers no experiential proof or mathematical modeling to demonstrate the sources could not be pulled out of the pool in the event of an aviation accident. Similarly, rather than offer alternate analysis, he merely asserts that impact to the lip could not transfer significant forces to the pool itself. Mr. Stein also fails to provide any evidence to back up his assertion that damage to the sources from an airplane crash would “not lead to an environmental issue.” Stein Decl. ¶ 10(B).

11. I stand by the opinions offered in my original declaration, which were based on a reliable numerical modeling study using methodologies accepted in the structural engineering field, as well as my experience as a structural engineer and researcher.

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I declare under penalty of perjury that the factual information provided above is true and correct to the best of my knowledge and belief, and that the professional opinions expressed above are based on my best professional judgment.

Executed in San Diego, CA, on this 15th day of March, 2007.



Dr. Mete A. Sozen
Licensed Structural Engineer (Illinois)
Lafayette, Indiana
550 Stadium Mall Drive
West Lafayette, IN 47907-2051
Phone (765) 494-2186
Fax (765) 494-0395

jim wood

From: GrayStarNJ@aol.com
Sent: Monday, May 03, 2004 9:08 AM
To: jwood@cfclogistics.com
Subject: RE: Qualifications

Russell N. Stein - RSO Qualifications:

General:

Mr. Stein is uniquely qualified to be the RSO for License number 37-30804-02. Mr. Stein is the designer of the irradiator. He was also instrumental in the writing of the License Application as well as all associated procedures. He inspected both the fabrication and the installation of the unit at CFC Logistics. He personally visited the irradiator site over seventy times during 2003 and was present during several of the NRC's inspections of the site. Mr. Stein was also present and took an active part in the initial cobalt loading of the unit.

Formal Education:

B.A. Economics (1981) - Dickinson College, Carlisle, PA.

Irradiator Safety Experience:

RSA Corporation (1980-1981) - Licensed Irradiator Operator.

Performed all duties and responsibilities of an Irradiator Operator.

International Nutronics, Inc. (1981-1982) - Project Manager and Irradiator Operator.

Designed new irradiator (Cobalt-60).

Implemented new scheduling systems and software.

Performed all duties and responsibilities of an Irradiator Operator.

Precision Materials Corporation (1982-1987) - Vice President of Operations,
Primary Radiation Safety officer, Radiation Safety Committee Member.

Designed new irradiators (Cobalt-60 and Cesium-137).

Built Omega Irradiator (Cobalt-60) including all safety systems.

Managed Omega Irradiator operations.

Performed all duties and responsibilities of the primary RSO.

Held seminar to familiarize NRC inspectors with irradiator operations.

Decommissioned Omega Irradiator under direct NRC observation.

Loaded, unloaded, and repositioned sealed sources in the source rack.

GRAY*STAR, Inc. 91989 - Present) - Vice President.

Designed new irradiators.

Developed GRAY*STAR Model 1 (Cesium-137) Irradiator including:

Design of all safety features.

Design of all production features.

Designed of transportation package.

Design of new type of source encapsulation.

Developed GENESIS I Irradiator (Cobalt-60) Including:

Design of all safety features.

Design of all production features.

Design of all operational procedures, routine, non-routine and emergency

EXHIBIT 13

5/3/2004

New Technologies:

Mr. Stein has developed and implemented many new technologies related to irradiator safety and production including:

Dynamic Source Scan - US Patent Application (abandoned).

Radiation Shield - US Patent Number 5,504,344.

Radiation Flux Polarizer or Distributor - US Patent 5,528,659 (Patented Internationally).

Associations:

American Nuclear Society.

American Society for Materials.

American Society for Testing and Materials - Dosimetry Section.

Radiation Process Simulation and Modeling User Group.

Gamma Irradiation Processing Alliance.

Food Irradiation Processing Alliance.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
Pa'ina Hawaii, LLC)
)
Materials License Application)
_____)

Docket No. 30-36974-ML
ASLBP No. 06-843-01-ML

SUPPLEMENTAL DECLARATION OF DAVID L. HENKIN

I, David L. Henkin, declare:

1. I am an attorney at law, duly licensed to practice before all courts of the State of Hawai'i, the U.S. District Court for the District of Hawai'i, the U.S. Court of Appeals for the 9th Circuit, and the U.S. Supreme Court. I am the lead attorney for intervenor Concerned Citizens of Honolulu.

2. I make this supplemental declaration in support of Concerned Citizens' Contentions Re: Draft Environmental Assessment And Draft Topical Report. This declaration is based on my personal knowledge, and I am competent to testify about the matters contained herein.

3. Attached hereto as Exhibit "14" is a true and correct copy of a December 6, 2006 email from Elaine Keegan to Matthew Blevins entitled "Pa'ini [sic] Irradiator SER input." This document is available on ADAMS at Accession Number ML063480301.

4. Attached hereto as Exhibit "15" is a true and correct copy of a November 27, 2006 email from Anita Turner Gray to Matthew Blevins entitled "Microshield Calculation Review." This document is available on ADAMS at Accession Number ML063480293.

5. Attached hereto as Exhibit "16" is a true and correct copy of a February 14, 2007 email from Matthew Blevins to Micheal Kohn of Pa'ina Hawaii, LLC regarding Pa'ina's consideration of alternate treatment technologies. This document is available on ADAMS at Accession Number ML070600583.

6. Attached hereto as Exhibit "17" is a true and correct copy of an editorial that appeared in the December 27, 2006 edition of the Honolulu Advertiser entitled "Irradiator study needs additional disclosures." This document is available on the Advertiser's website at: <http://the.honoluluadvertiser.com/article/2006/Dec/27/op/FP612270322.html>. The Advertiser is the newspaper in Hawai'i with the largest daily circulation.

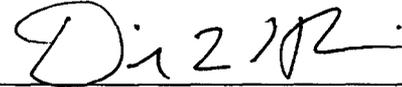
7. Attached hereto as Exhibit "18" is a true and correct copy of a letter dated January 30, 2007, containing the testimony on the Draft Environmental Assessment ("Draft EA") of Hawai'i State Senators Suzanne Chun Oakland and Gordon Trimble and Hawai'i State Representatives John Mizuno and Karl Rhoads. At the request of Senator Chun Oakland, I personally submitted a copy of this letter at the February 1, 2007 public hearing on the Draft EA. For reasons unknown, the Staff has not yet added this letter to ADAMS.

8. Attached hereto as Exhibit "19" is a true and correct copy of a letter dated January 23, 2007, with additional testimony on the Draft EA from Hawai'i State Representative Karl Rhoads. This document is available on ADAMS at Accession Number ML070330024.

9. Attached hereto as Exhibit "20" is a true and correct copy of a letter dated January 24, 2007, with testimony on the Draft EA from Hawai'i State Senator Norman Sakamoto, together with the cover email. This document is available on ADAMS at Accession Number ML070290589.

I declare under penalty of perjury that I have read the foregoing declaration and know the contents thereof to be true of my own knowledge.

Dated at Honolulu, Hawai'i, March 19, 2007.



DAVID L. HENKIN

In the Matter of Pa'ina Hawaii, LLC, Docket No. 30-36974-ML, ASLBP No. 06-843-01-ML;
SUPPLEMENTAL DECLARATION OF DAVID L. HENKIN RE: CONCERNED CITIZENS'
CONTENTIONS RE: DRAFT ENVIRONMENTAL ASSESSMENT AND DRAFT TOPICAL
REPORT

Matthew Blevins - Pa'ini Irradiator SER input

From: Elaine Keegan
To: Matthew Blevins
Date: 12/06/2006 5:59 PM
Subject: Pa'ini Irradiator SER input
CC: John Cook

Matt,

Attached is my draft ser input. I will have the supporting information to you next week. If you want to talk about the input, let me know. I have a meeting tomorrow morning but may be free in the afternoon.

Elaine

John, You can let folks know that ticket DSFST20070002 can be closed out.
emk

EXHIBIT 14

Mail Envelope Properties (45774B5E.5F0 : 17 : 34836)

Subject: Pa'ini Irradiator SER input
Creation Date 12/06/2006 5:59:42 PM
From: Elaine Keegan

Created By: ENK@nrc.gov

Recipients

nrc.gov
OWGWPO01.HQGWDO01
MXB6 (Matthew Blevins)

nrc.gov
OWGWPO03.HQGWDO01
JRC1 CC (John Cook)

Post Office

OWGWPO01.HQGWDO01
OWGWPO03.HQGWDO01

Route

nrc.gov
nrc.gov

Files	Size	Date & Time
MESSAGE	817	12/06/2006 5:59:41 PM
TEXT.htm	655	
Paini irradiator ser.doc	25600	12/06/2006 5:56:18 PM

Options

Expiration Date: None
Priority: Standard
ReplyRequested: No
Return Notification: None

Concealed Subject: No
Security: Standard

Junk Mail Handling Evaluation Results

Message is not eligible for Junk Mail handling
Message is from an internal sender

Junk Mail settings when this message was delivered

Junk Mail handling disabled by User
Junk Mail handling disabled by Administrator
Junk List is not enabled
Junk Mail using personal address books is not enabled

Block List is not enabled

Matthew Blevins - Microshield Calculation Review

From: Anita Turner Gray
To: Matthew Blevins
Date: 11/27/2006 4:19 PM
Subject: Microshield Calculation Review

Matt,

I've reviewed your microshield calculation for the Co-60 pool irradiator and found it acceptable. Attached is my microshield calculation resulting in an exposure rate of $4.75E-2$ mR/hr (dose rate $\sim 4.75E-2$ mrem/hr), well below 1 mrem/hr. The difference in our microshield calculations is primarily due to material (density) assumption of the source and the first shield.

Being interested in modeling the problem using MCNP, I discussed the details of the problem with Sami Sherbini. Using MCNP, the results were below 1 mrem/hr, but slightly higher than my microshield result.

If you have any questions or want more details, please let me know.

Thanks,
Anita

Anita Turner Gray, Ph.D.
Systems Performance Analyst
U. S. Nuclear Regulatory Commission
Washington, DC 20555
Office: 301-415-5508
Fax: 301-415-5369

EXHIBIT 15

Mail Envelope Properties (456B5679.A91 : 18 : 35034)

Subject: Microshield Calculation Review
Creation Date 11/27/2006 4:19:53 PM
From: Anita Turner Gray

Created By: ALT@nrc.gov

Recipients

nrc.gov
OWGWPO01.HQGWDO01
MXB6 (Matthew Blevins)

Post Office

OWGWPO01.HQGWDO01

Route

nrc.gov

Files	Size	Date & Time
MESSAGE	1572	11/27/2006 4:19:53 PM
TEXT.htm	1260	
CO60.MS5	2764	11/27/2006 3:43:28 PM

Options

Expiration Date: None
Priority: Standard
ReplyRequested: No
Return Notification: None

Concealed Subject: No
Security: Standard

Junk Mail Handling Evaluation Results

Message is not eligible for Junk Mail handling
Message is from an internal sender

Junk Mail settings when this message was delivered

Junk Mail handling disabled by User
Junk Mail handling disabled by Administrator
Junk List is not enabled
Junk Mail using personal address books is not enabled
Block List is not enabled

Matthew Blevins - Re: consideration of alternative technology

From: <Hawaiiexport@aol.com>
To: <MXB6@nrc.gov>
Date: 02/28/2007 9:38 PM
Subject: Re: consideration of alternative technology

Dear Mr. Blevin,

please find attached my answer to your question. I also included alternative sites as siting and technology are inseparable given the special geographic circumstances in Hawaii.

Please let me know if you have any questions.

Sincerely,

Michael Kohn
Pa'ina Hawaii LLC

In a message dated 2/14/2007 11:08:09 A.M. Hawaiian Standard Time, MXB6@nrc.gov writes:

Mr. Kohn,

As part of the development of the final EA it would be helpful if you could elaborate on any consideration you gave to alternative technologies (e.g., electron beam or heat treatment). Thanks for any input you can provide.

Matthew Blevins
Senior Project Manager
Division of Waste Management and
Environmental Protection
U.S. Nuclear Regulatory Commission
Phone: (301) 415-7684

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EXHIBIT 16

Posted on: Wednesday, December 27, 2006

Irradiator study needs additional disclosures

 StoryChat: [Comment on this story](#)

There's nothing gained by either side in an environmental dispute when laws aimed at providing a full analysis of the facts are marginally observed.

That appears to be the case with the preparation of the environmental assessment about a plant irradiation facility proposed by the company Pa'ina Hawai'i, adjacent to Honolulu International Airport near Lagoon Drive. This plant would help in the eradication of pests in tropical fruits and other exotics, using cobalt-60, a radioactive compound. This is distinct from the X-ray technology used at the existing irradiator on the Big Island.

There are, to be sure, substantial potential benefits for the state's agricultural economy. Cobalt-60 has certain environmental advantages over some of the alternatives, including fumigation with methyl bromide, which has been cited for potential damage to the Earth's ozone layer.

But nowhere in the slim 16 pages of text in the environmental assessment are alternative sites considered. Do the advantages to locating the irradiation facility at the airport outweigh risks? We'll never really know if the alternatives aren't examined.

Secondly, the risk analysis does a quick survey of how the facility could be endangered through aviation accidents and certain natural phenomena, such as earthquakes, tsunamis and hurricanes.

But even if one accepts these risk assessments, with a project proposed near heavy aviation traffic and military installations, the threat of terroristic attack also must be considered. The description of the facility's design details how radioactive contamination is unlikely to pierce through the built-in safeguards, but the risk of intentional breaches is not addressed.

In this era of raised consciousness about homeland security, silence on this issue is inexcusable.

It now falls to the concerned public to press for a more thorough analysis of all the risks and benefits so that a responsible decision can be made and, if the project is approved, essential conditions can be set.

Back

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HAWAII STATE LEGISLATURE
STATE CAPITOL
HONOLULU, HAWAII 96813

January 30, 2007

Mr. Matthew Blevins
Senior Project Manager
Division of Waste Management and Environmental Protection
U.S. Nuclear Regulatory Commission
Office of Public Affairs
Washington, D.C. 20555

Dear Mr. Blevins:

Re: Testimony on the Draft Environmental Assessment for Proposed
Pa`ina Hawaii, LLC, Underwater Irradiator

Thank you for this opportunity to provide comments regarding the proposed Pa`ina Hawaii, LLC underwater irradiator in Honolulu, Hawaii, and the U.S. Nuclear Regulatory Commission's *Draft Environmental Assessment and Information Related to the Proposed Pa`ina Hawaii, LLC Underwater Irradiator in Honolulu, Hawaii*, December 21, 2006. We are Hawaii State Legislators, representing the Senate and Representative Districts in and surrounding the proposed site location for the Pa`ina irradiator facility. Collectively, we have served as members of the Hawaii State Legislature for many years, and throughout our time in office, we have remained committed to improving the health and well-being of all of Hawaii's residents and visitors, particularly our children, seeking to create a healthy and happy environment for them. We are pleased to offer comments on our concerns regarding the draft environmental assessment, as well as general concerns regarding the approval of the construction of a nuclear irradiator facility in Honolulu.

As state legislators, we have a responsibility to not only support agricultural growth and economic prosperity within the State, but also to protect our residents from public health and safety dangers in the community. It is with these objectives in mind that we voice our concerns.

EXHIBIT 18

2007-1231 LETTER-1.doc

Draft Environmental Assessment

The need for the preparation of either an environmental assessment (EA) or an environmental impact statement (EIS) regarding the proposed irradiator facility in Honolulu, Hawaii is important when determining the feasibility and propriety of establishing such facilities. Accordingly, the NRC has recently published the Draft Environmental Assessment on the proposed Pa`ina irradiator facility which ultimately indicated the determination that a "Finding of No Significant Impact" is appropriate.

The Draft EA indicated that there will be no significant impacts on land use, historical and cultural resources, noise, air quality, visual quality, water quality, water use, and public or occupational health during operation. However what stands out in the Draft EA are the findings that there will also be only minimal beneficial impacts to socioeconomics and no significant beneficial impact to ecology with regard to controlling invasive species. Additionally, it was determined that the impacts of approving and denying the application for the irradiator facility are in fact similar. The Draft EA included an analysis of the potential safety concerns regarding the proposed facility's ability to withstand aviation accidents, natural phenomena, and abnormal events, concluding that none of the foregoing would have significant impacts on public health and safety. However, the analysis fails to address other potential hazards associated with the facility based upon the proposed location near the Honolulu International Airport.

The proposed location for the facility, near the Honolulu International Airport, is disconcerting as the area already presents numerous safety concerns that will be exponentially increased by the facility's erection. The location is near the ocean, subject to the risks of damage and destruction resulting from flooding and tsunamis; near the airport, threatened by the risks of plane crashes; and near Hickam Air Force Base and Pearl Harbor, further exposed to the risks of terrorist acts. These concerns are at the forefront of the minds of many residents, particularly in the wake of the events of September 11, 2001, the Asian Tsunami in Indonesia, Hurricanes Katrina and Rita, as well as the recent series of earthquakes in October, 2006, centered off the coast of the island of Hawaii, one of which resulted in a statewide power outage that ensued for several hours. The presence of a food irradiation facility in the midst of these types of occurrences could prove truly catastrophic for not only the residents and workers in the areas surrounding the airport, but the island of Oahu and the State in its entirety. Although the Draft EA addressed some of these concerns, to a certain extent, the issue of terrorist attacks was conspicuously absent, though the threat poses a real concern in the current political climate and based on the proximity of the proposed location to the airport and military installations.

Therefore, despite the finding that the Pa`ina irradiator facility will have no significant environmental impact, the potential dangers continue to pose a real threat to the people

of Hawaii. It is important to factor into the decision making process not only the potential benefits but also the potential costs to the taxpayers and make a determination whether the risks are sufficiently and justifiably outweighed by the benefits. The finding of no significant socioeconomic benefit is one that should be carefully considered in making the final decision on the facility's approval. In other words, simply because it can be done, should it, and even if it should, should it be constructed in that location? We continue to be concerned not only about the dangers of the proposed facility, but also about the proposed facility's location and whether a more appropriate location on Oahu exists. These are the questions that have not been satisfactorily answered and are the catalyst of our continued presence at these meetings and continued reservations regarding the approval of Pa'ina's application.

Hazards Posed by a Food Irradiation Facility

Additionally, while it is true that irradiation facilities are not a new phenomenon in this country or even worldwide, accidents and other negative incidents have occurred on numerous occasions. These incidents have often required remedy at the expense of the State and its taxpayers. The very existence of an irradiation facility presents the potential risk of exposure to radioactive materials in many ways, including the transport, loading, and unloading of the Cobalt-60 that is planned to be used at the facility. In other situations, radioactive water has infiltrated public sewer systems; radioactive waste has been wrongly disposed in the garbage; radiation has leaked; facilities have caught fire; equipment has malfunctioned; and employees have been injured, some fatally. While these are possible maladies, there are certain known problems that will result from operating a food irradiation facility, including increased air pollution and dangerous working conditions for the facility's workers. Hawaii prides itself on the natural beauty of the islands, predicated on the clear air, beaches, and forestry that my colleagues and I have fought to preserve. Therefore, meaningful choices must be made when the introduction of environmental hazards is at issue.

Since the 1960s, there have been dozens of accidents reported in relation to irradiation facilities throughout the world. These incidents should not be overlooked. Even here in Hawaii, in 1979, the decontamination process began at the Hawaiian Development Irradiator at the former Fort Armstrong on Oahu where radioactive water had leaked on the premises. Although the leaking had occurred years earlier, the issue was only addressed at that time and the facility was subsequently shut down in 1980. The clean-up involved the removal of approximately 50 tons of steel, 250 cubic feet of concrete, and 1,100 cubic feet of soil, all of which required transport to a nuclear waste dump more than 2,700 miles away in Hanford, Washington. The \$500,000 clean-up was a necessary and costly endeavor that had to be subsidized with taxpayers' money.

The remaining Cobalt-60 from the former Fort Armstrong facility was transported to the University of Hawaii where it was housed until 2005 when it was transported to the mainland United States and disposed of. Although the University of Hawaii had sought removal four years prior, the removal was finally accomplished as the result of the federal government's growing concerns, in the wake of the events of September 11, 2001, regarding the existence and location of radioactive materials that could be used in constructing bombs. The presence of the Cobalt-60, which it does not appear was being or had been utilized by the University of Hawaii since its transport in 1980, posed great dangers to the surrounding community. On October 30, 2004, the area surrounding the campus, Manoa, Hawaii, suffered severe flooding requiring Governor Linda Lingle to proclaim a state disaster for which moneys from the State's major disaster fund were made available and for which federal assistance was sought. The University of Hawaii suffered significant damage to its facilities, equipment, supplies, and power supply, causing the school library to close until clean-up and recovery could occur. Of great concern to campus officials was the state of the radioactive materials in the wake of the flooding. Thankfully, campus officials were highly sensitive and alert to the presence and dangers of the Cobalt-60 and were able to timely ascertain its stability. The potential additional disaster that was averted in this situation raises more questions about the ability of Pa`ina Hawaii's ability to safely operate and maintain a facility in the urban area proposed.

As the facility will directly impact the community, due consideration must be given to the taxpayers' position on risk tolerance in light of the potential dangers, including the potential costs of clean-up, as well as the plans and procedures for safeguards against these dangers.

Hazards of Irradiated Food

Furthermore, although food irradiation is an accepted practice which has been in existence for approximately the last fifty years, many of us still harbor reservations as to the true safety and long-term implications of consuming irradiated food. Although it has been tested, the utilization of radiation to eliminate disease-causing germs from foods is not a widespread practice and, therefore, may present several unknown or negative long-term effects that could endanger the health and the lives of the consumers. Recent studies have indicated that food irradiation creates certain chemicals that may promote tumor growth and cause cellular and genetic damage. These concerns must be further investigated before consumers can be assured of food safety.

Moreover, research does not indicate that there is a strong market for irradiated food in this country, particularly in regards to produce, which is likely due to consumers' health concerns over irradiated food. Also altered appearance and taste reflect negatively on the irradiation process. Again, part of Hawaii's allure is its fresh produce, which is

enjoyed by residents and visitors, who often transport fruits to their homes. Unsafe and poor-tasting produce will not enhance, but rather damage Hawaii's agricultural economy and may eventually negatively affect the tourism industry as well.

Although not all of these concerns are directly relevant to your review, they speak to the greater issue of the dangers of the unknown associated with an irradiation facility; thus magnifying the larger concern about Pa`ina Hawaii's ability to adequately address public health and safety concerns in operating an irradiation facility in Hawaii and, more specifically, in the proposed location.

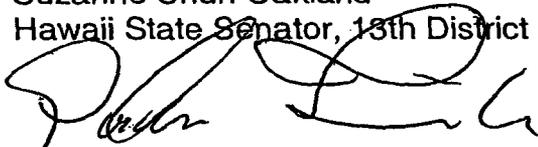
Conclusion

Once again, we would like to thank you for the opportunity to present comments on the proposed Pa`ina irradiator facility and the Draft EA. We trust that you will carefully consider our concerns as well as those of our constituents and other interested parties. Please feel free to contact us should you have any questions regarding this testimony.

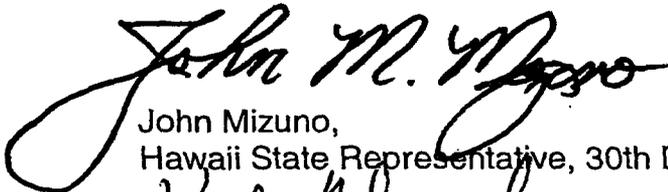
Sincerely,



Suzanne Chun Oakland
Hawaii State Senator, 13th District



Senator Gordon Trimble
Hawaii State Senator, 12th District



John Mizuno,
Hawaii State Representative, 30th District



Karl Rhoads
Hawaii State Representative, 28th District



HOUSE OF REPRESENTATIVES

STATE OF HAWAII
STATE CAPITOL
HONOLULU, HAWAII 96813

January 23, 2007

RECEIVED

JAN 31 AM 9:28

RULES & ADMINISTRATION

Mr. Michael Lesar
Chief, Rules Review and Directives Branch
Mail Stop T6-D59
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

12/28/06
71FR78231

6

RE: Docket No. 030-36974

Dear Sir:

I appreciate the opportunity to comment on the December 2006 Draft Environmental Assessment (DEA) of Pa`ina Irradiator's request. In sum, I am skeptical of both the safety and economic benefits of the project, located at the end of Lagoon Drive adjacent to the Honolulu International Airport and abutting the ocean.

The DEA itself does not seem to adequately support immersing this device below or very near the high water mark in a coastal zone. Also, it is cold comfort that the risk analysis suggests an aviation accident at the site tomorrow would not be repeated for another 5,000 years.

Some studies support the safety of irradiated foods, but none have given assurance that irradiation would not be used as a substitute for standard means of sanitation and handling. In addition, possible contamination could always occur subsequent to irradiation.

Lastly, the DEA frequently refers to small economic impacts, such as shifting sweet potato treatment from bromide or x-ray to gamma ray modes to realize small savings. If all of Hawaii's produce, herbs and other foods were amenable to safe treatment, these assessments might be significant. I am not convinced that this is so.

Again, I appreciate this opportunity to comment on this important issue.

With Warmest Aloha

Karl Rhoads
State Representative; District 28

/PS

Representative Karl Rhoads ~ Vice Chair, Human Services and Housing Committee (HSH)

District 28: Palama, Downtown, Chinatown, Sheridan

State Capitol, Room 326 - Honolulu, Hawaii 96813

Phone: 586-6180 - Fax: 586-6189

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EXHIBIT 19

HOUSE REVIEW COMPLETE
Template = ADM-013

F-KIDS = ADM-013
Call = 711 Bureau (mxb6)
R. Torres (RST)

RCREP - Testimony - Docket No. 030-36974

From: "sakamoto1" <sakamoto1@capitol.hawaii.gov>
To: <NRCREP@nrc.gov>
Date: 01/24/2007 6:08 PM
Subject: Testimony - Docket No. 030-36974

12/28/04
71FR 78231

4

Dear Matthew Blevins:

Attached is a pdf file of Senator Sakamoto's testimony on the NRC's February 1 hearing on the Paina Irradiator. You should be receiving a hard copy of his testimony shortly.

Thank you for your attention to this matter.

Robert Arakaki
Researcher for
Senator Norman Sakamoto
Senate Committee on Education
Hawaii State Senate, 15th District

RECEIVED

2007 JAN 26 AM 10:51

RULES AND DIRECTIVES
DIVISION
LEADERS

RCREP Review Complete
Complete = ADM-013

FRIDS = ADM-03
Add = Mr. Blevins (mxbl)
R. S. Torres (RST)

EXHIBIT 20

Mail Envelope Properties (45B7E6C3.E2F : 7 : 11823)

Subject: Testimony - Docket No. 030-36974
Creation Date Wed, Jan 24, 2007 6:08 PM
From: "sakamoto1" <sakamoto1@capitol.hawaii.gov>

Created By: sakamoto1@capitol.hawaii.gov

Recipients

nrc.gov
TWGWPO01.HQGWDO01
NRCREP

Post Office

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Route

nrc.gov

Files	Size	Date & Time
MESSAGE	381	Wednesday, January 24, 2007 6:08 PM
TEXT.htm	3469	
01-24-2007 NRC.pdf	41152	
Mime.822	62509	

Options

Expiration Date: None
Priority: Standard
ReplyRequested: No
Return Notification: None

Concealed Subject: No
Security: Standard

Junk Mail Handling Evaluation Results

Message is eligible for Junk Mail handling
This message was not classified as Junk Mail

Junk Mail settings when this message was delivered

Junk Mail handling disabled by User
Junk Mail handling disabled by Administrator
Junk List is not enabled
Junk Mail using personal address books is not enabled
Block List is not enabled

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HAWAII STATE SENATE
HONOLULU

CHAIR, COMMITTEE ON EDUCATION

MAJORITY WHIP

January 24, 2007

Chief
Rules Review and Directives Branch
Mail Stop T6-D59
U.S. Nuclear Regulatory Commission
Washington DC 20555-0001

Dear Sir:

RE: DOCKET NO. 030-36974

Attached is a testimony that we will be submitting on the proposed Pa'ina Hawaii, LLC Irradiator in Honolulu, Hawaii for the public meeting to be held at the Ala Moana Hotel on February 1, 2007.

Thank you for your attention to this matter.

Sincerely,

Norman Sakamoto, Chair
Senate Committee on Education
Hawaii State Senate, 15th District

NS: ra

TESTIMONY

February 1, 2007
Concerning the Proposed Pa`ina Hawaii LLC Irradiator
In Honolulu, Hawaii
[Docket No. 030-36974]

TO: Nuclear Regulatory Commission
FROM: State Senator Norman Sakamoto
Hawaii State Senate, 15th District

The proposed Pa`ina Irradiator is situated on the very edge of the Honolulu International Airport, next to one of the main runways. While there will be benefits to the State's economy, the risks will be far greater.

There has been much concern raised about the possibility of radioactive contamination whether from natural catastrophes, human error, or terrorist attacks. Despite our requests for information on plans for dealing with such disasters from various state agencies, we have received unsatisfactory responses from them. In a letter dated May 22, 2006 Brian Sekiguchi, Deputy Director-Airports of the Department of Transportation, informed us that the information was not available for release. In a June 1, 2006 letter, the Department of Health provided us information about evacuations, but nothing further. Given the proximity of the proposed irradiator to the Honolulu International Airport, any incident at the irradiator facility could result not only in the endangerment of human lives, but also seriously impair operations at the airport. Even a minor incident could result in serious consequences devastating to our local economy. Therefore, we cannot support the proposed Pa`ina Hawaii, LLC, Underwater Irradiator application.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that, on March 19, 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:

Fred Paul Benco
Suite 3409, Century Square
1188 Bishop Street
Honolulu, Hawai'i 96813
E-Mail: fpbenco@yahoo.com
Attorney for Pa'ina Hawaii, LLC

Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
Attn: Rulemakings & Adjudications Staff
E-Mail: HEARINGDOCKET@nrc.gov

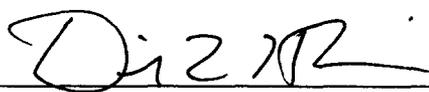
Margaret J. Bupp
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Administrative Judge
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Administrative Judge
Anthony J. Baratta
Atomic Safety & Licensing Board Panel
Mail Stop – T-3 F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
E-Mail: ajb5@nrc.gov

Dated at Honolulu, Hawai'i, March 19, 2007.



DAVID L. HENKIN
Attorneys for Intervenor
Concerned Citizens of Honolulu



EARTHJUSTICE

BOZEMAN, MONTANA DENVER, COLORADO HONOLULU, HAWAII
INTERNATIONAL JUNEAU, ALASKA OAKLAND, CALIFORNIA
SEATTLE, WASHINGTON TALLAHASSEE, FLORIDA WASHINGTON, D.C.

March 19, 2007

Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
Attention: Rulemakings and Adjudications Staff

Re: In the Matter of Pa'ina Hawaii, LLC, Docket No. 030-36974-ML, ASLBP No. 06-843-01-ML

To Whom It May Concern,

On behalf of Intervenor Concerned Citizens of Honolulu, we are filing an original and two copies of Intervenor's Reply In Support Of Its Contentions Re: Draft Environmental Assessment And Draft Topical Report. Please note that the signature pages for the declarations of Dr. George Pararas-Carayannis and Dr. Mete Sozen are scanned and faxed copies, respectively. We did not receive the originals in time for this filing, but will file them as soon as we receive them.

Sincerely,

David L. Henkin

DLH/tt
Enclosures

cc: Service list