UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

NRC STAFF'S RESPONSE TO INTERVENOR'S SUPPLEMENTAL STATEMENT OF POSITION

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March 5, 2009

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I. Introduction

The NRC Staff responds to the Supplemental Statement of Position filed by the Intervenor, Concerned Citizens of Honolulu, on February 2, 2009. In its Supplemental Statement the Intervenor addresses the Staff's and Pa'ina's statements of position and testimony concerning the admitted portions of amended environmental contentions 3 and 4. As with its previous statements of position, in its Supplemental Statement the Intervenor alleges various deficiencies in the environmental assessment (EA) that the Staff prepared in connection with Pa'ina's application for a materials license to use at its proposed underwater irradiator.[1] The Intervenor has also submitted supplemental testimony from two witnesses and initial testimony from two new witnesses. Notwithstanding the Intervenor's new argument and testimony, the Board should reject the Intervenor's claims that the Staff's EA violates the National Environmental Policy Act of 1969, *as amended*, 42 U.S.C. §§ 4321 *et seq*. (NEPA). As

[1] "Final Environmental Assessment for Proposed Pa'ina Hawaii, LLC Irradiator" (August 10, 2007) (ADAMS Accession No. ML071150121).

explained in the Staff's Initial and Rebuttal Statements of Position, and as explained further below, the Staff's experts thoroughly considered the potential environmental impacts of licensing Pa'ina's irradiator and carefully evaluated alternative technologies before issuing a license to Pa'ina. The Board should therefore find that the Staff has complied with NEPA and affirm the Staff's issuance of Pa'ina's license.

II. Background

In its Initial Statement of Position, the Staff provided background information relevant to this proceeding. The Staff respectfully refers the Board and the parties to pages 5–14 of its Initial Statement of Position, dated August 26, 2008, for a summary of the proceeding to that point. The Background section of the Staff's Initial Statement of Position also summarizes each of the thirty-four segments within the admitted portions of amended environmental contentions 3 and 4. Below, the Staff will summarize only the developments since July 17, 2008, when the Board issued its Scheduling Order for the remainder of this proceeding.[2]

On July 31, 2008, the Staff submitted a *Vaughn* index for two documents referenced in Appendix B of the Pa'ina EA, which contains the Staff's "Consideration of Terrorist Attacks on the Proposed Pa'ina Irradiator." Along with its *Vaughn* index, the Staff made public redacted versions of these two documents, which are partially exempt from disclosure under the Freedom of Information Act, 5 U.S.C. § 552 (FOIA).

On August 26, 2008, each of the parties submitted its initial statement of position in this proceeding. Along with its statement, the Staff submitted testimony from a panel of six witnesses. Neither the Intervenor nor Pa'ina submitted any substantive testimony with its initial

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[2] *Pa'ina Hawaii, LLC*, Order (Scheduling Order) (July 17, 2008) (unpublished).

statement. Except for a portion of its Initial Statement addressing the Staff's *Vaughn* index, the Intervenor's statement was essentially a word-for-word resubmittal of its amended environmental contentions.

On September 15 and 16, 2008, the parties submitted rebuttal statements of position and testimony. The Staff's rebuttal testimony was limited to the Intervenor's objections to the *Vaughn* index—because the Intervenor's Initial Statement had not otherwise expanded on its contentions, there was nothing else for the Staff to "rebut" at that time. In its rebuttal testimony, the Intervenor addressed primarily the Staff's testimony explaining how it considered aircraft crash impacts and alterative technologies when preparing the EA. Pa'ina, for its part, also submitted testimony pertaining to the Staff's consideration of alternative technologies.

Between August and October 2008, the parties also filed several motions with the Board. On August 25, 2008, Pa'ina filed a "Motion to Reinstate Categorical Exclusion Status" for its irradiator. The Board denied Pa'ina's motion in an October 15, 2008 order. On September 26, 2008, the Staff filed its "Motion to Dismiss Portions of Amended Environmental Contentions and For Leave to Seek Summary Disposition." That motion is still pending. Finally, on October 16, 2008, the Intervenor filed its "Motion to Strike Testimony Submitted in Support of NRC Staff's and Pa'ina Hawaii, LLC's Statements of Position." The Board denied the Intervenor's motion in a December 4, 2008 order. In that order, the Board also directed the Intervenor to within sixty days submit a "full factual and substantive written statement of position (including written testimony with supporting affidavits and exhibits in support of its position) rebutting and responding to the presentations of the Staff and the Applicant, including the allegedly '*post hoc*,' 'improper,' and 'irrelevant' testimony submitted by the Staff and the Applicant." The Board also gave the Staff and Pa'ina thirty days to file written responses to the Intervenor's presentation.

On February 2, 2009, the Intervenor filed its Supplemental Statement of Position. Along with its statement, the Intervenor submitted testimony from four witnesses, two of whom—Marvin Resnikoff, Ph.D., and Eric D. Weinert—had previously submitted rebuttal testimony. The Intervenor's new testimony comes from George Pararas-Carayannis, Ph.D., whose testimony relates to the Staff's consideration of natural phenomena in the Pa'ina EA; and Mete Sozen, S.E. (Ill.), Ph.D., who provides limited testimony relating to aircraft crash consequences.

III. Burden of Proof

The Staff has the ultimate burden of establishing that it has complied with NEPA.[3] This does not mean, however, that the Staff must discuss every possible environmental impact in its NEPA document. Rather, the Staff must provide only "[a] reasonably thorough discussion of the significant aspects of the probable environmental consequences[.]"[4] The Staff does not need to discuss impacts that are remote and speculative.[5]

Nor does the Staff have the burden of proving that every conceivable environmental impact it did not consider in its NEPA document is remote and speculative. The Ninth Circuit recently provided guidance applying to situations where there is some uncertainty as to whether an agency had to consider an alleged environmental impact.[6] In *Lands Council*, the Ninth Circuit explained that, even when preparing an EIS, an agency "does not . . . have the burden to anticipate questions that are not necessary to its analysis, or to respond to uncertainties that are not reasonably supported by any scientific authority." 537 F.3d at 1002. *Lands Council* is

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[3] *Louisiana Enrichment Services* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 89 (1998).

[4] *Trout Unlimited v. Morton*, 509 F.2d 1276, 1283 (9th Cir. 1974).

[5] *Id.* at 1283; *Warm Springs Dam Task Force v. Gribble,* 621 F.2d 1017, 1026–27 (9th Cir. 1980).

[6] *Lands Council v. McNair*, 537 F.3d 981 (9th Cir. 2008) (en banc).

significant because, even within the Ninth Circuit, it places a clear limit on the Staff's burden of proving it has complied with NEPA. Where the Intervenor claims that an environmental impact is reasonably foreseeable but fails to support its claim with scientific authority, the Staff does *not* have the burden of proving that the alleged impact is remote and speculative. Although *Lands Council* was decided just last July, courts have already applied the Ninth Circuit's reasoning in finding that an agency's NEPA document is not deficient merely because that document does not discuss every conceivable environmental uncertainty. *See, e.g., Bark v. U.S. Bureau of Land Management*, 2009 WL 279087 at *3 (D.Or. Feb. 5, 2009) (citing *Lands Council*, 537 F.3d at 988) (holding that, "when reviewing scientific judgments and technical analyses within the agency's expertise," the court "should not act as a panel of scientists that . . . orders the agency to explain every possible scientific uncertainty").[7]

Lands Council is particularly relevant here, where the Intervenor fails to provide scientific support for its claims regarding the radiological consequences of various accident scenarios. For example, the Intervenor fails to provide any scientific data or other information to support its claims that cobalt-60 sources might be "pulverized" or that emergency responders would disregard training instructing them how to approach Pa'ina's irradiator following an accident. Accordingly, even if the Board were to question the Staff's conclusion that these impacts are entirely speculative, given the lack of supporting data from the Intervenor, there would still be no

[7] The Statement of Considerations underlying Subpart L in the NRC's Rules of Practice also makes clear that, even though a party sponsoring a contention might not have the ultimate burden of proof in an NRC proceeding, that party still "bears the burden of going forward with *evidence sufficient to show that there is a material issue of fact or law,* such that the applicant/proponent must meet its burden of proof." *Changes to Adjudicatory Process, Part II*, 69 Fed. Reg. 2182, 2213 (January 14, 2004) (emphasis added). In other words, even though the Staff has the ultimate burden of proof in an NRC hearing challenging its NEPA document, this burden is not without limit.

basis for finding that the Staff had to further analyze these impacts in the EA. The Staff discusses this point further in section VII.C.1 below.

Lands Council is significant not just because it places a limit on the extent to which an agency must address uncertainties in its NEPA document, but also because it affirms that a high degree of deference should be accorded to the judgments of agency experts. In *Lands Council*, the Ninth Circuit cited approvingly the decisions of other federal circuit courts holding "that we are to conduct a 'particularly deferential review' of an 'agency's predictive judgments about areas that are within the agency's field of discretion and expertise . . . as long as they are reasonable.'"[8] Here again, the Ninth Circuit's analysis is particularly relevant in the present case, where many sections of the Pa'ina EA and Topical Report reflect the Staff's predictive judgments about potential radiological consequences, an area particularly within the NRC's field of expertise. This is particularly so in the case of the Topical Report, the very purpose of which is to address the potential radiological consequences of aircraft crashes and natural phenomena involving Pa'ina's irradiator.

IV. Standard of Review

The Intervenor argues that Pa'ina and the Staff improperly rely on Ninth Circuit precedent in support of their positions. Supplemental Statement at 9–10. The Intervenor states that, instead of relying on Ninth Circuit precedent, the Board must evaluate the Pa'ina EA using its own *de novo* judgment, and taking into account "governing regulatory standards and the

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[8] 537 F.3d at 993 (citing *Earthlink, Inc. v. FCC*, 462 F.3d 1, 12 (D.C. Cir. 2006). Although this portion of *Lands Council* involved the National Forest Management Act rather than NEPA, this part of the decision is relevant because, under the Administrative Procedure Act, 5 U.S.C. § 701 *et seq.*, courts apply the same standard—the arbitrary and capricious standard—in determining whether an agency's action violates either statute.

evidence submitted."[9]

What the Intervenor overlooks is that in this case the Board specifically asked the parties to address relevant Ninth Circuit precedent, conveying to the parties that it would consider that precedent in exercising its *de novo* judgment on the issues in this proceeding.[10] Among the Ninth Circuit decisions the Staff and Pa'ina addressed in their initial statements was *Lands Council*. This is a recent decision in which the Ninth Circuit, sitting *en banc*, overturned its prior precedent and significantly revised the manner in which it reviews challenges to NEPA documents prepared by agency experts. *Lands Council* is particularly relevant in the present case, where the Intervenor's experts make wide-ranging claims about how aircraft crashes and various natural phenomena involving Pa'ina's irradiator might cause significant environmental impacts.

Rather than the Staff and Pa'ina, it is the Intervenor that is trying to introduce inapposite federal case law into this proceeding. The Intervenor has argued repeatedly that the Board should apply the administrative record rule to its review of the Pa'ina EA. The Staff addressed this issue at length in its Opposition to the Intervenor's Motion to Strike, dated October 23, 2008. As the Staff explained at that time, there is simply no basis for striking the Staff's testimony from an internal agency proceeding that was convened with the express purpose of addressing technical issues relating to the Staff's compliance with NEPA. The Staff respectfully refers the Board and the parties to its October 23, 2008 brief for a full discussion of this issue. The Staff will also briefly address this issue in section V below.

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[9] Supplemental Statement at 10 (citing *Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), CLI-05-17, 62 NRC 5, 38–39 (2005)).

[10] Order (Scheduling Order) at 3 (July 17, 2008).

The Intervenor also repeatedly relies on federal court precedent interpreting NEPA requirements that apply to an EIS, rather than an EA, and to agency-specific requirements that have no analogue in the NRC's NEPA-implementing regulations. For example, the Intervenor relies heavily on 40 C.F.R. § 1502.21, a regulation from the Council on Environmental Quality (CEQ) stating that in certain circumstances an agency must provide a formal public comment period on its NEPA document. This regulation is limited to the preparation of an EIS, however, and is therefore inapposite in the present proceeding.[11] The Intervenor also relies on 40 C.F.R. § 1502.14 to argue that the Staff violated NEPA because in the Final EA it did not "rigorously explore and objectively evaluate all reasonable alternatives" to licensing Pa'ina's irradiator.[12] This regulation is also limited to the preparation of an EIS, and the Intervenor fails to address the correct standard applying to an agency's evaluation of alternatives in an EA; that is, whether the agency provided "a brief discussion of reasonable alternatives."[13] As a third example, the Intervenor relies on a district court decision holding that the United States Postal Service (USPS) must consider alternative sites in an EA.[14] The Intervenor neglects to mention that the USPS has regulations specifically requiring the agency to consider alternative sites in an EA, whereas the NRC does not, and that the USPS-specific requirements formed the basis for the court's decision.[15] Below, the Staff will further address these regulations and decisions, as well

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[11] 40 C.F.R. Part 1502 is titled "Environmental Impacts Statements," and the regulations in this part all pertain to the preparation of an EIS.

[12] Supplemental Statement at 64.

[13] 10 C.F.R. § 51.30(1); *N. Idaho Cmty. Action Network v. USDOT*, 545 F.3d 1147, 1153 (9th Cir. 2008).

[14] Supplemental Statement at 72 (citing *Village of Palatine v. USPS*, 742 F.Supp. 1377 (N.D. Ill. 1990)).

[15] *Village of Palatine,* 742 F.Supp. at 1393.
(continued. . .)

as other sources cited by the Intervenor that have little or no relevance in the present proceeding.

V. The Board's Review Properly Includes the Parties' Evidentiary Submittals

The Intervenor argues that, because of the administrative record rule, the Board's review in this proceeding is limited to the information presented in the Pa'ina EA itself.[16] In other words, according to the Intervenor, the Board may not take into account the Staff's and Pa'ina's evidentiary submittals in ruling on the adequacy of the EA. The Intervenor's argument here is a condensed version of its Motion to Strike, dated October 16, 2008. The Staff responded to the Intervenor's motion on October 23, 2008, explaining that there is no basis for applying the administrative record rule in an ongoing NRC administrative proceeding. On December 4, 2008, the Board denied the Intervenor's motion to strike.

To the extent the Intervenor disagreed with the Board's ruling on its Motion to Strike, the Intervenor could have sought leave to move for reconsideration of that decision, or the Intervenor could have appealed to the Commission. The Staff respectfully submits that there is no reason for the Board to reconsider the arguments in the Intervenor's Motion to Strike.

In any event, even if the Board did reconsider those arguments, it should reject them for the reasons stated in the Staff's Opposition to the Intervenor's Motion to Strike. As the Staff explained, the testimony submitted by the Staff and Pa'ina in this proceeding is consistent with the Board's Scheduling Order, which directed the parties to submit testimony on the admitted segments of amended environmental contentions 3 and 4. This testimony is also consistent

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[16] Supplemental Statement at section VII, pages 13–19.

with NRC regulations and Commission precedent, which unequivocally provide that parties may offer evidence in proceedings involving issues arising under NEPA. Further, this testimony is consistent with Ninth Circuit precedent holding that, even in litigation before the federal courts, agencies may submit information explaining their decisionmaking.[17]

In its Opposition, the Staff also addressed the Intervenor's claim that the Board lacks the authority to modify the Pa'ina EA and Finding of No Significant Impact (FONSI) based on testimony submitted as part of the hearing process. The Intervenor argued then—and it repeats its argument now—that because 10 C.F.R. § 51.34(b) states that the Staff's FONSI in a Subpart G proceeding is "subject to modification" by the Commission or Board, applying the principle *inclusio unius est exclusio alterius*[18] leads to the conclusion that the Staff's FONSI in a non-Subpart G proceeding is *not* subject to modification by the Commission or Board.[19] The Intervenor then argues that, because the Board cannot remedy any deficiencies in the EA, the Staff's testimony is irrelevant to the issues before the Board and should be stricken from the record.

As the Staff explained in its Opposition, what the Intervenor fails to address is that, regardless of whether the Board can modify the Pa'ina EA or FONSI, the Staff can modify these documents on its own initiative. The Staff does not need the Board to remedy any deficiencies in the EA; it simply needs the Board to identify any deficiencies and explain whether, in light of the evidence submitted in connection with the hearing, any deficiencies in the EA and FONSI as

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[17] *Asarco, Inc. v. U.S. EPA*, 616 F.2d 1153, 61 (9th Cir. 1980).

[18] This principle holds that "when a statute limits a thing to be done in a particular mode, it includes a negative of any other mode." *Christensen v. Harris County*, 529 U.S. 576, 583 (2000).

[19] Supplemental Statement at 13-18.

they existed on August 10, 2007 have since been corrected by the Staff.

In its Opposition, the Staff further explained that the Intervenor's interpretation of 10 C.F.R. § 51.34 is simply incorrect. As its title makes clear, 10 C.F.R. § 51.34 addresses the "*Preparation* of [a] finding of no significant impact" (emphasis added). This regulation says nothing about the actions the Commission or Board may take with respect to a FONSI that has already been prepared. There is no "subject to modification" language in § 51.34(a) not because the NRC intended to limit the Board's authority in non-Subpart G proceedings, but simply because, unlike a proposed FONSI, a final FONSI does not need to be modified to become a final FONSI.[20]

The Staff further notes that the NRC's regulations addressing "NEPA Procedure and Administrative Action" at 10 C.F.R. §§ 51.100–51.125 do not place any restrictions on the Board's ability to modify the Staff's FONSI based on evidence submitted in connection with a hearing. The Staff's position is that the Board could take such action consistent with the general authority invested in the Board by 10 C.F.R. §§ 2.319(r) and 2.321(c).[21] The Staff's position is supported by NRC precedent in which the Commission or Board has modified the

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[20] The principle *inclusio unius est exclusio alterius* is "'a product of logic and common sense,' properly applied only when it makes sense as a matter of legislative purpose." *Longview Fibre Co. v. Rasm*ussen, 980 F.2d 1307, 1313 (9th Cir. 1992) (quoting *Alcaraz v. Block*, 746 F.2d 593, 607 (9th Cir. 1984)). As the Staff argued in its Opposition, common sense dictates that 10 C.F.R. § 51.34 is limited to explaining how a final FONSI is prepared and says nothing about whether a FONSI, once it has been finalized, may be modified by the Commission or Board.

[21] *See Dominion Nuclear North Anna, LLC* (North Anna ESP Site), CLI-07-27, 66 NRC 215, 233 (2007) (holding that, in a proceeding involving issues arising under NEPA, the Board's discussion of the disputed issues "adds necessary additional details and constitutes a supplement to the [NEPA document's] review").

Staff's EA based on evidence submitted in connection with the hearing.[22]

Equally unpersuasive is the Intervenor's claim that 10 C.F.R. § 51.31(c)(4) demonstrates the Board cannot modify the EA or FONSI in this proceeding.[23] Section 51.31(c)(4) states that when a hearing is held on the proposed issuance of a manufacturing license or license amendment, "the NRC staff director will prepare a final environmental assessment which may be subject to modification as a result of review and decision[.]" The Intervenor argues that this language implies the NRC did not intend for the Staff's EA to be "subject to modification" in other types of licensing proceedings. Section 51.31(c)(4) was not even adopted until 2007, however,[24] and thus provides no evidence of the NRC's intent in promulgating § 51.104(b) and other regulations that predate § 51.31(c)(4) by decades. In fact, the portion of the Statement of Considerations addressing the 2007 amendments to § 51.31 makes clear that the NRC was only addressing matters of NEPA compliance for manufacturing licensees—there is absolutely no indication that, by adding § 51.31(c)(4), the NRC intended to speak to the procedures applying in NEPA-related proceedings involving non-manufacturing licensees.[25]

VI. Staff's Witnesses

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[22] *Pacific Gas & Elec. Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-26, 68 NRC __ (2008) (slip op.); *Nuclear Fuel Services*, LBP-05-8, 61 NRC at 217; *Davis-Besse*, LBP-87-11, 25 NRC at 303–322.

[23] Supplemental Statement at 14 n.7; Motion to Strike at 11 n.5.

[24] *Licenses, Certifications, and Approvals for Nuclear Power Plants (Part II)*, 72 Fed. Reg. 49352 (August 28, 2007).

[25] *See* 72 Fed. Reg. at 49427–49428 (explaining that "[t]he NRC is adding § 51.31(c) to describe the NRC's process for determining the manufacturing license with respect to environmental issues covered by NEPA[,]" and giving no indication that through its rulemaking the NRC intended to address NEPA procedures applying to non-manufacturing licensees).

The attached testimony presents the opinions of a panel of five witnesses: Matthew Blevins, James Durham, Amitava Ghosh, John Stamatakos and Earl Easton. The qualifications of the Staff's first four witnesses are set forth at pages 16–17 of its Initial Statement of Position. The Staff's fifth witness, Earl Easton, is a Senior Advisor for Transportation of Radioactive Materials in the Division of Spent Fuel Storage and Transportation, Office of Nuclear Materials Safety and Safeguards, at the NRC. He has over 30 years of professional experience in engineering, including over 25 years in the area of transportation safety. Mr. Easton's experience includes all aspects of radioactive material transportation and storage, including transportation and storage package design, health and safety issues, domestic and international regulation, environmental and risk studies, and public outreach.

Mr. Easton's testimony is being offered to further explain how the Staff has historically analyzed environmental impacts from the transportation of nuclear materials, and how the Staff's analyses are used in the preparation of environmental reviews for nuclear materials applications. Mr. Easton's testimony complements the testimony of Staff witness Matthew Blevins. Because Mr. Blevins is no longer an NRC employee, the Staff is offering Mr. Easton's testimony to provide additional background on the Staff's procedures relating to the evaluation of transportation impacts, and to demonstrate that the Staff's conclusions in the Pa'ina EA are consistent with prior NRC assessments of these impacts.

VII. Amended Environmental Contention 3: The Staff Took the Requisite "Hard Look" at the Potential Environmental Consequences of Licensing Pa'ina's Irradiator

Amended environmental contention 3 contains five portions, four of which are still at

issue in this proceeding.[26] At pages 8–12 of its Initial Statement, the Staff provides a detailed summary of these four portions, the first three of which contain numerous admitted segments. In the first portion of amended environmental contention 3, the Intervenor claims that the Staff did not respond adequately to its comments on the draft EA in ten areas. The second portion contends that the final EA does not contain sufficient evidence and analysis in twelve areas. In the third portion, the Intervenor argues that in the final EA the Staff failed to adequately consider the impacts of aircraft crashes and natural phenomena on the proposed irradiator. Finally, in the fourth portion, the Intervenor challenges the Staff's terrorism analysis in Appendix B of the final EA. The Board admitted the fourth portion only to the extent it alleges that the Staff did not properly disclose data underlying its terrorism analysis.

Under NEPA, an agency preparing an EA must take a "hard look" at the environmental impacts of the proposed action.[27] The Staff has previously addressed at length the specific elements of the "hard look" standard.[28] To summarize, a "hard look" under NEPA requires that an agency provide "[a] reasonably thorough discussion of the significant aspects of the probable environmental consequences[.]"[29] The hard look standard does *not* require that an agency address every conceivable environmental impact in its NEPA document.[30] For example, an

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[26] The fifth portion claimed that the Staff violated NEPA by failing to consider adverse health effect from the human consumption of irradiated food. The Commission dismissed that portion in its August 13, 2008 order. *Pa'ina Hawaii, LLC*, CLI-08-16. 68 NRC __ (slip op.).

[27] *Baltimore Gas & Elec.*, 462 U.S. at 97 (citing *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976)).

[28] Staff's Initial Statement at 18–25.

[29] *Trout Unlimited*, 509 F.2d at 1283.

[30] *Ground Zero Ctr. for Non-Violent Action v. U.S. Dept. of the Navy*, 383 F.3d 1082, 1089-90 (9th Cir. 2004) (citing *NoGWEN Alliance of Lane County, Inc. v. Aldridge*, 855 F.2d 1380, 1385 (9th Cir. 1988)). (continued. . .)

agency need not discuss remote and highly speculative impacts.[31] Nor must an agency support every assertion in an EA with reference to data, authorities, or explanatory information. While an EA must contain more than conclusory statements,[32] the EA is adequate if, as a whole, it adequately references the data it relies on.[33]

The Board's role, "vis-à-vis NEPA, is to ensure that the agency has taken the requisite 'hard look' at the potential environmental effects of the proposed action and its reasonable alternatives . . . and 'to ensure that the agency has adequately considered and disclosed the environmental impact of its actions. . . ."[34] The Board may look beyond the face of the NEPA document at issue to the administrative record to determine whether the "Staff's underlying review was sufficiently detailed to qualify as 'reasonable' and a 'hard look,' under NEPA—even if the Staff's description of that review in the [NEPA document] was not."[35] The Board's discussion of the disputed issues "adds necessary additional details and constitutes a supplement to the [NEPA document's]" review.[36]

In its Initial and Rebuttal Statements, the Staff explained how it met NEPA's "hard look"

(. . .continued)

[31] *Trout Unlimited*, 509 F.2d at 1283; *see also Warm Springs Dam Task Force,,* 621 F.2d at 1026–27.

[32] *Klamath-Siskiyou Wilderness Ctr. v. Bureau of Land Mgmt*., 387 F.3d 989, 996 (9th Cir. 2004).

[33] *Western Watersheds Project v. BLM,* 552 F. Supp. 2d 1113, 1129–30 (D. Nev. 2008).

[34] *Exelon Generation Co.* (Clinton ESP), LBP-04-821-01-ESP, 62 NRC 134, 151-52 (2005) (quoting *Coalition on Sensible Transp., Inc. v. Dole,* 826 F.2d 60, 66 (D.C. Cir. 1987) and citing *Louisiana Energy Serv. L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 87–88 (1998)).

[35] *North Anna,* CLI-07-27, 66 NRC at 230.

[36] *Id.*

in preparing the final EA for Pa'ina's irradiator. The Staff specifically addressed each of the thirty-two admitted segments in the first four portions of amended environmental contention 3. The Staff will further address the "hard look" standard below as it responds to the Intervenor's Supplemental Statement of Position and testimony.

A. The Staff Fully Responded to Comments on the Draft EA

In the first portion of amended environmental contention 3, the Intervenor argued that the Staff failed to respond to comments it submitted on the draft EA, including comments from its experts. The Intevenor repeats this claim in section IX.A of its Supplemental Statement. As the Staff explained in its Initial Statement of Position and testimony, however, there is no prescribed method for responding to comments on a draft EA. Even in the case of an EIS, the NRC's regulations provide the Staff with substantial flexibility in responding to public comments. Specifically, NRC regulations provide that the Staff may respond to comments on a draft EIS by taking any of the following actions:

(i) Modification of alternatives, including the proposed action;
(ii) Development and evaluation of alternatives not previously given serious consideration;
(iii) Supplementation or modification of analyses;
(iv) Factual corrections;
(v) Explanation of why comments do not warrant further response, citing sources, authorities or reasons which support this conclusion.

10 C.F.R. § 51.91(a)(1). There is no requirement that each comment be discussed in the Staff's NEPA document itself, even where that document is a final EIS.[37] Precisely how the Staff responds to comments on its NEPA document is a matter of discretion—the critical issue is

[37] 10 C.F.R. § 51.91.

whether the Staff in fact considered significant public comments in reaching its conclusions.[38]

In its initial testimony, the Staff explained how it responded to comments that the Intervenor and other members of the public submitted on the Draft EA and Draft Topical Report. The Staff responded to comments by, for example, supplementing its analyses in several parts of the Draft EA and Draft Topical Report, revising other parts of those documents, and verifying the data underlying its analyses. Blevins Initial Testimony (Staff Exhibit 1) at A.10–A.11; CNWRA Initial Testimony (Staff Exhibit 2) at A.6. *See also* Appendix C to final EA, "Public Comments on the Draft Environmental Assessment." The Staff's comment responses satisfy all requirements under NEPA. While the Intervenor may disagree with the conclusions reached by the Staff's experts after they considered the Intervenor's comments, there should be no question that the Staff responded to comments it received on the Draft EA.

B. The Staff's Conclusions in the EA are Well Supported by Evidence and Analysis

In the second portion of amended environmental contention 3, the Intervenor argued that the Staff failed to adequately support its conclusions in the EA with data, calculations or analyses. In response, the Staff submitted testimony addressing each of the twelve admitted segments within this portion of the Intervenor's contention.

In its Supplemental Statement, the Intervenor repeats its argument that the EA lacks necessary data, analyses or calculations. Supplemental Statement at 23–30. For the most part, however, the Intervenor does not argue that the Staff's *testimony* fails to provide the allegedly required information. In particular, the Staff finds no evidence that the Intervenor

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[38] *See National Parks & Conservation Ass'n v. Babbitt*, 241 F.3d 722, 736 (addressing agency's responsibility to respond to comments and holding that a court must decide whether the agency considered conflicting expert testimony in preparing its EA and FONSI).

disputes the Staff's explanations provided with respect to segments 1–3, 5–9 and 24 in the second portion of the amended environmental contention 3. The Intervenor's only argument is that, because this information was not included in the EA itself, the Staff did not comply with NEPA in a timely manner. Even if that were the case—the Staff strongly disputes this claim, for reasons set forth in its initial testimony and Statement of Position—any NEPA violation has now been cured through the Staff's testimony. The Board should therefore dismiss segments 1–3, 5–9 and 24 in the second portion of amended environmental contention 3.[39]

While the Intervenor disputes the Staff's testimony regarding segments 4, 10 and 25, the Intervenor fails to show that the Staff withheld information required by NEPA. Segments 4 and 25 allege that the Staff failed to provide adequate support for statements in the EA regarding transportation impacts and tourism. Because the Intervenor argues those points separately in sections IX.D and IX.H of its Supplemental Statement, the Staff will also address them as separate matters, in sections VII.D and VII.G below.

The remaining segment, segment 10, alleges that the Staff failed to provide support for its statement that, in the event of an aircraft crash at Pa'ina's irradiator, "debris around the pool will act as barriers to restrict inadvertent access to the areas of elevated radiation directly above the pool." Final EA at 9. One of the Intervenor's witnesses, Dr. Sozen, claims that the Staff's statement is unjustified because "[t]he state of the aircraft after impact is very difficult to predict." Sozen Testimony at A.3. Dr. Sozen further claims that the Staff misinterpreted Figure 5 in his

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[39] *See Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2, Catawba Nuclear Station, Units 1 & 2), CLI-02-28, 56 N.R.C. 373, 382–84 (2002) (explaining that where a contention is superseded by new information, the contention must be disposed of or modified).

February 2007 report,[40] which depicts an airplane that has crashed into Pa'ina's facility and appears to be covering the irradiator pool. Dr. Sozen states that this depiction was not meant to suggest the airplane's "final resting place," but was "only a snapshot in the aircraft's progress as it impacts and enters the irradiator building." *Id.*

The Staff did not misinterpret Figure 5 in Dr. Sozen's Feburary 2007 report. Rather, as explained in his initial testimony, Staff witness Matthew Blevins concluded that, as a matter of common sense, an aircraft crash capable of removing water from the irradiator pool would also likely leave debris around the pool. Blevins Initial Testimony at A.24. Mr. Blevins did not claim that the airplane would inevitably come to rest above the irradiator pool, but merely noted that the hypothetical crash depicted by Dr. Sozen was consistent with his conclusion that debris would restrict inadvertent access to the pool. In fact, Dr. Sozen himself had claimed that, if an airplane were to strike Pa'ina's facility, building debris and jet fuel would likely fill the irradiator pool.[41]

In his supplemental testimony, Mr. Blevins explains that it is in fact irrelevant whether or not debris restricts inadvertent access to the area above the pool. Blevins Supplemental Testimony at A.3. That is because emergency workers responding to an aircraft crash involving Pa'ina's irradiator will have received training to ensure that they avoid any radiological hazards. *Id.* In other words, even though the Staff found that debris would likely restrict inadvertent access to any area of elevated radiation around the pool, the Staff did not rely on that finding alone in concluding there would be no significant environmental impacts associated with an

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[40] Sozen, M. and Hoffmann, C., "Analysis of the Effect of Impact by an Aircraft on a Steel Structure Similar to the Proposed Pa'ina Irradiator" (February 1, 2007) at 5.

[41] Sozen-Hoffmann Report at 5.

aircraft crash at Pa'ina's irradiator. *Id.*

C. The Staff Thoroughly Addressed All Reasonably Foreseeable Impacts and Scenarios Involving Aircraft Crashes and Natural Phenomena

Sixteen segments in the admitted portions of amended environmental contention 3 allege deficiencies related to the Staff's analysis of how aircraft crashes and various natural phenomena might affect Pa'ina's irradiator. The Staff's position on those issues, which is set forth in Section 1.2 of the Final Topical Report from the CNWRA, is that an aircraft crash or natural phenomenon would not cause radiological consequences *unless* the event resulted in a loss of control of the cobalt-60 sources located 12–18 feet beneath the surface of the irradiator pool. As explained in the Final Topical Report, however, it is not foreseeable that an aircraft crash, hurricane, tsunami, or earthquake would cause a loss of control of these sources.

In section IX.C of its Supplemental Statement, the Intervenor again argues that the Staff failed to consider significant radiological impacts associated with aircraft crashes and natural phenomena. The Intervenor's argument in section IX.C assumes that it is improper for the Board to consider the testimony and evidence submitted by the Staff in determining whether the Staff took a "hard look" at the potential impacts of these accident scenarios. It is not until section IX.G of its Supplemental Statement that the Intervenor actually addresses the testimony and other evidence the Staff has submitted on the admitted segments in amended environmental contention 3 pertaining to aircraft crashes and natural phenomena.

As explained above, it is entirely proper for the Board to consider the parties' evidentiary submittals in determining whether the Staff took a "hard look" under NEPA. In fact, it would be inconsistent with the NRC's regulations at Part 51 and Part 2 if the Board were to *not* consider this evidence. Moreover, even if the Board were to apply some variant of the administrative record rule in this proceeding—the Staff would reiterate that there is no basis for applying this

rule in an ongoing administrative proceeding—the Staff's evidence pertaining to aircraft crashes and natural phenomena would fall within an exception to the administrative record rule holding that agencies may submit evidence explaining their decisionmaking.[42] Here, the Staff's evidence explains why the impacts that the Intervenor claims might result from aircraft crashes and natural phenomena are remote and speculative. Because those impacts are remote and speculative, NEPA did not require the Staff to discuss them in the Pa'ina EA.[43]

Because it is appropriate for the Board to consider the Staff's testimony and supporting exhibits pertaining to aircraft crashes and natural phenomena, in this section the Staff will respond to the Intervenor's claims in both sections IX.C and IX.G of its Supplemental Statement. The Staff will, in other words, address both the Intervenor's claim that the Staff inadequately addressed impacts related to aircraft crashes and natural phenomena when preparing the final EA, and the Intervenor's claim that the testimony of the Staff's experts on these issues is also inadequate.

The impacts that the Staff allegedly failed to consider are those identified in the Intervenor's testimony from Marvin Resnikoff, Ph.D., George Pararas-Carayannis, Ph.D., and Mete Sozen, S.E. (Ill.), Ph.D. Although the Intervenor's experts describe a variety of hypothetical accident scenarios, they actually identify only two possible environmental impacts. First, Dr. Resnikoff argues that the water table surrounding Pa'ina's irradiator could become contaminated if, as the result of an aircraft crash, a cobalt-60 source is "pulverized," the pool liner is pierced below the water table, and source fragments escape through the opening in the

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[42] *Asarco,* 616 F.2d at 1155-61.

[43] *Trout Unlimited*, 509 F.2d at 1283.

liner.[44] Second, Dr. Resnikoff, Dr. Pararas-Carayannis, and Dr. Sozen argue that scenarios such as an exploding airplane, liquefaction, or storm surge inundation could remove shielding water from the pool.[45] According to the Intervenor's experts, this would place emergency responders at risk of receiving radiation overexposures from the elevated dose rate around the pool surface.

In their testimony, the Staff's experts explain why neither of these impacts is reasonably foreseeable. That is for two reasons. First, the impacts alleged by the Intervenor's experts—pulverized cobalt-60 entering the environment and radiation overexposures to emergency responders—are not reasonably foreseeable results of any scenario that the Intervenor identifies. Second, the scenarios that the Intervenor's experts claim might lead to such impacts, such as liquefaction or storm surge runups of record-setting heights, are themselves speculative. The Staff will address these issues in order.

1. The Radiological Impacts Alleged by the Intervenor are Remote and Speculative

As the Staff explains below and in its attached testimony, the impacts described by the Intervenor's experts are entirely speculative. Because they are speculative, the Staff did not need to address these impacts in the EA. Because cobalt-60 is a metal, it would not be susceptible to catastrophic failure in the event of an aircraft crash. CNWRA Supplemental Testimony at A.16–A.17. In other words, and contrary to Dr. Resnikoff's assertion, even if an aircraft were to crash into Pa'ina's facility and aircraft or building components were to both strike

[44] Supplemental Testimony of Dr. Resnikoff at A.9.

[45] Supplemental Testimony of Dr. Resnikoff at A.3.; Testimony of Dr. Pararas-Carayannis at A.5; Testimony of Dr. Sozen at A.4.

a cobalt-60 source and pierce the pool's steel-and-concrete liner below the water table (eight feet below the surface), the source would not be "pulverized," and radioactive material would not escape into the environment. *Id.*[46]

A careful examination of Dr. Resnikoff's testimony and calculations reveals that they lack the scientific support necessary to require the Staff to further analyze whether a source might be pulverized.[47] Dr. Resnikoff suggests that a source could be pulverized by a jet engine falling into the irradiator pool. Resnikoff Supplemental Testimony at A.9. But the jet engine relied on by Dr. Resnikoff in his calculations would be too large to enter the irradiator pool, and Dr. Resnikoff fails to provide calculations that take into account the lesser weight of aircraft

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[46] *See also* 10 C.F.R. § 36.21(a)(3) (stating that sealed sources for irradiators "[m]ust use radioactive material that is as nondispersible as practical and that is as insoluble as practical. . . ."). The Statement of Considerations underlying the NRC's irradiator-specific regulations at Part 36 further confirms Dr. Durham's testimony that it is not reasonably foreseeable cobalt-60 sources would be dispersed through "pulverization" caused by an aircraft crash:

> Even if a source were damaged as a result of an airplane crash, large quantities of radioactivity are unlikely to be spread from the immediate vicinity of the source rack because the sources are not volatile. With this protection, the radiological consequences of an airplane crash at an irradiator would not substantially increase the seriousness of the accident.

License and Radiation Safety Requirements for Irradiators, 58 Fed. Reg. 7715, 7726 (February 9, 1993) (final rule). *See also License and Radiation Safety Requirements for Irradiators*, 55 Fed Reg. 50,008, 50,0022 (December 4, 1990) (proposed rule) (similar language). It is entirely appropriate for the Board to consider these statements, which are the product of agency expertise and which were made in the context of a public rulemaking process, in evaluating whether pulverization of sources in Pa'ina's irradiator is a reasonably foreseeable scenario.

[47] The Staff submits, first, that Dr. Durham's testimony affirmatively shows that it is speculative a source might be pulverized as the result of an aircraft crash. The Staff's discussion here is intended to address the possibility that the Board finds there is still some question whether pulverization is a reasonably foreseeable scenario. The Staff would also emphasize that pulverization alone would not be sufficient to cause a loss of control over radioactive material; at a minimum, the pool liner would also have to be breached, and the breach would have to occur below the water table, which is eight feet below the pool surface.

components that might actually enter the pool.[48] Further, Dr. Resnikoff equates damage to the source encapsulation with pulverization of the source. There is no scientific support for this comparison. Merely because a source becomes exposed does not mean it is "pulverized," and Dr. Resinkoff provides no calculations showing that the forces sufficient to breach a source's encapsulation would also cause pulverization. CNWRA Supplemental Testimony at A.16. In other words, Dr. Resnikoff's conjecture that a source might be pulverized is "not reasonably supported by any scientific authority" and is insufficient to require the Staff to further address this issue.[49]

The other radiological impact that the Intervenor alleges is overexposures to emergency responders. According to Dr. Resnikoff, Dr. Pararas-Carayannis and Dr. Sozen, this could occur if an aircraft crash or natural phenomenon removed shielding water from the irradiator pool and emergency responders stood in the area of elevated radiation above the pool. But the claims of the Intervenor's experts are entirely speculative, as they rest on the assumption that, in the wake of an explosion, earthquake, massive storm surge or other event causing a loss of shielding water, emergency responders would unknowingly approach the area of elevated radiation above the pool. What the Intervenor's experts overlook is that Pa'ina will have specific procedures for training emergency workers who might be called upon to respond to an accident at its facility. CNWRA Supplemental Testimony at A.22. & A.33; Blevins Supplemental Testimony at A.3.[50] The conclusions of the Intervenor's experts rest on speculation that

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[48] Resnikoff Supplemental Testimony at A.9; Resnikoff Rebuttal Testimony at page 4.

[49] *Lands Council*, 537 F.3d at 1002.

[50] *See* "Application for Material License for Pa'ina Hawaii, Rev. 00" (June 23, 2005) (ADAMS Accession No. ML052060372) at 22 ("Emergency Response Personnel (ERP): Description: Representative (continued. . .)

emergency responders—professionals who routinely face life-threatening situations—would either lack the training necessary to avoid radiation overexposures or fail to follow their training. The Intervenor provides absolutely no scientific, technical or factual basis for reaching that conclusion. Accordingly, the impact that the Intervenor alleges is not one that the Staff had to consider in the Pa'ina EA. *Id.* at 1002.

2. The Scenarios that the Intervenor Identifies as Potentially Causing Radiological Impacts are Themselves Remote and Speculative

Even if the Intervenor had offered scientific support for its claims that a cobalt-60 source might be pulverized or emergency responders might fail to follow training, the radiological impacts the Intervenor alleges would *still* be speculative. This is because the scenarios that the Intevenor claims might cause such impacts are themselves speculative.

The Intervenor's experts claim there are several ways in which an aircraft crash or natural phenomenon could either pulverize a source or remove a significant amount of shielding water from the irradiator pool. Dr. Resnikoff claims that a source might be pulverized if an aircraft exploded or otherwise projected debris into the irradiator pool. If debris also pierced the irradiator pool's steel-and-concrete liners below the water level, Dr. Resnikoff argues, pulverized cobalt-60 might escape through the opening and enter the environment. Dr. Resnikoff, along with Dr. Pararas-Carayannis and Dr. Sozen, also claim that various scenarios could remove shielding water from the irradiator pool. For example, Dr. Resnikoff argues that water could be removed by a jet fuel fire, an explosion, an aircraft component dropping into the irradiator pool,

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members of the local Police Department, Fire Department, Rescue Squad, or similar organizations. The purpose of this training course is to assure that the ERP are familiar with what they can and cannot do in emergency situations.")

or a tear in the pool's liners. Dr. Pararas-Carayannis asserts that liquefaction or storm surge inundation could cause the irradiator pool to tilt, spilling shielding water.

None of these scenarios is reasonably foreseeable. In its testimony, the Staff explains why each of the scenarios described by the Intervenor's experts rests on speculation about what could happen in the event of an aircraft crash or natural phenomenon involving Pa'ina's irradiator. The Staff summarizes its experts' responses to the Intervenor's testimony below and provides citations to its experts' complete testimonial responses.

a. Aircraft Crash Scenarios

In A.7 of his supplemental testimony, Dr. Resnikoff states that, while he disagrees with the CNWRA's assessment of the likelihood an aircraft would strike Pa'ina's irradiator, he believes that even the crash probability cited by the CNWRA, 1 in 5000 annually, is unacceptably high. The Staff disagrees with Dr. Resnikoff's conclusion and does not consider this 1 in 5000 probability evidence that an aircraft crash into Pa'ina's facility is a reasonably foreseeable scenario. CNWRA Supplemental Testimony at A.9–A.11. In any event, Dr. Resnikoff appears to incorrectly assume that an aircraft crash into any part of Pa'ina's facility, which is what the 1 in 5000 probability reflects, can be equated with a crash into the much smaller area above the irradiator pool. As stated in Section 1.2 of the Final Topical Report, the irradiator pool measures only 81" by 95", or approximately one percent of the facility's floor area. The probability of a plane crashing into this space is less than the probability of a plane crashing anywhere into Pa'ina's facility by a factor of 3500. CNWRA Supplemental Testimony at A.10. Accordingly, even if the probability of a plane crashing into Pa'ina's facility could be considered "unusually high," as Dr. Resnikoff claims in A.7 of his supplemental testimony, that does not mean that the probability of an accident involving the irradiator pool itself is equally high.

In A.8 of his supplemental testimony, Dr. Resnikoff argues that the Staff failed to

adequately consider the possibility that an aircraft would explode upon impact with Pa'ina's facility. As explained in its initial testimony, the Staff considered the historical data for HNL and found no record of an aircraft exploding at any time in the history of the airport. CNWRA Initial Testimony at A.22. The Staff also considered that, if a plane were to strike Pa'ina's facility, it would most likely have to pass through a series of other structures to reach the facility. CNWRA Initial Testimony at A.17; CNWRA Supplemental Testimony at A.19. In other words, any explosion caused by impact with a building would most likely occur before the plane reached Pa'ina's facility. Finally, the Staff concluded that it is entirely speculative that an aircraft will both crash into Pa'ina's facility and explode over the irradiator pool, which measures only 81" by 95" at the surface. CNWRA Initial Testimony at A.19 & A.22.

In neither his supplemental testimony nor his rebuttal testimony does Dr. Resnikoff provide any relevant data to support his claim that an aircraft might explode above Pa'ina's irradiator pool. The only support he offers is a newspaper account of an explosion involving an aircraft landing in Sudan. This says nothing about the likelihood an aircraft would explode directly above Pa'ina's irradiator pool. The Staff submits, first, that it has affirmatively shown, based on its assessment of aircraft crash frequency and the historical data for HNL, that an aircraft exploding at Pa'ina's site is a speculative scenario. In any event, because Dr. Resnikoff fails to provide any scientific support for his claim that an exploding aircraft is reasonably foreseeable, NEPA did not require the Staff to discuss this issue in the EA.

In A.9 of his supplemental testimony, Dr. Resnikoff claims that an airplane crash might result in a jet engine falling into the irradiator pool and pulverizing a cobalt-60 source. But the scenario described by Dr. Resnikoff is all but impossible. The jet engine Dr. Resnikoff uses in his calculations is too large to enter the 81" by 95" irradiator pool. CNWRA Supplemental Testimony at A.11 & A.12. Most other commercial jet engines would also be too large to enter

the pool; even the engine *fans* would be too large to fall into the pool. *Id.* at A.11. Dr. Resnikoff fails to provide any calculations demonstrating what aircraft components might feasibly enter the irradiator pool and what forces these components might exert on the sources, which will be under 12–18 feet of water. Accordingly, here again Dr. Resnikoff fails to provide the scientific support necessary to require the Staff to address the scenario he identifies.

Dr. Sozen also discusses aircraft crash scenarios, albeit briefly, in his testimony. Dr. Sozen does not claim that he has performed any calculations relevant to determining the probability of various aircraft crash scenarios or the probability a source might be breached. Instead, he merely states that it would be inappropriate to "categorically rule out" the potential for these occurrences without performing such calculations. Sozen Testimony at A.4. In this case, however, the Staff *has* performed calculations relevant to determining aircraft crash probability. The Staff has also reviewed pertinent data to determine whether scenarios such as an aircraft exploding above Pa'ina's irradiator pool, or an engine falling into the pool, are reasonably foreseeable. The Staff has concluded they are not. To the extent Dr. Sozen is arguing that there are any remaining uncertainties relating to aircraft crashes that the Staff should have addressed in the EA, he fails to provide any scientific support for his claim. *See Lands Council*, 537 F.3d at 1002 (explaining that under NEPA an agency "does not . . . have the burden . . . to respond to uncertainties that are not reasonably supported by any scientific authority").[51]

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[51] The Staff notes that statements from Dr. Sozen and Dr. Resnikoff appear to contradict each other regarding whether it is foreseeable an aircraft might explode above Pa'ina's irradiator pool or drop an engine or other components into the pool. Dr. Resnikoff's position is that both of these scenarios are reasonably foreseeable. Resnikoff Rebuttal Testimony at 4–6. Dr. Sozen, on the other hand, testifies that, in the event of an aircraft crash involving Pa'ina's irradiator, "[t]he state of the aircraft after impact is very difficult to predict." Sozen Testimony at A.3. Dr. Sozen makes clear that his reference to the "state (continued. . .)

b. Scenarios Related to Natural Phenomena

Dr. Pararas-Carayannis testifies that the Staff failed to consider numerous scenarios in which an earthquake, tsunami or hurricane might cause shielding water to spill or drain from the irradiator pool. In particular, Dr. Pararas-Carayannis disputes much of the analysis in Section 3 of the Final Topical Report, as well as the initial testimony of Staff witness Dr. John Stamatakos. Dr. Pararas-Carayannis's overarching claim is that the Staff fails to assign proper weight to certain data that, in hisopinion, is relevant to determining what scenarios might foreseeably affect Pa'ina's irradiator.

Dr. Pararas-Carayannis claims that the Staff improperly dismissed the possibility a wave or storm surge might cause radiological impacts at Pa'ina's site. Pararas-Carayannis Testimony at A.4. He argues that a wave or storm surge could cause the irradiator pool to become buoyant and tilt, spilling water and creating an elevated dose rate above the pool. *Id.* He also argues that the Staff failed to take into account unique features of the adjacent Ke'ehi Lagoon that are relevant to determining the potential height of storm surges. Pararas-Carayannis Testimony at A.7.

The Staff fully considered the scenarios described by Dr. Pararas-Carayannis. The Staff concluded, however, that it is not reasonably foreseeable a wave or storm surge would cause the irradiator pool to become buoyant and spill water. CNWRA Supplemental Testimony at A.23. The Staff relied on a 30-meter wave as a bounding calculation, a wave height that is very

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of the aircraft" extends to both the aircraft's condition and its "final resting place." *Id.* The Intervenor cannot have it both ways—it cannot be both "very difficult to predict" what would occur after an aircraft crash, as Dr. Sozen claims, and reasonably foreseeable that an aircraft striking Pa'ina's irradiator would explode over or drop aircraft components into the irradiator pool, as Dr. Resnikoff maintains.

conservative when compared to past data. CNWRA Supplemental Testimony at A.24. This 30-meter bounding calculation, which applies regardless of whether Pa'ina's irradiator were inundated by a wave or by storm surge runup, would not exert significant buoyancy forces on the pool. *Id*. Further, even if the water table were to rise as a result of storm surge inundation, as Dr. Pararas-Carayannis suggests, this would not lift the irradiator pool. That is because the pool itself would be underwater, with more than half of the structure below the water table, and would contain more than 29 tons of water. CNWRA Supplemental Testimony at A.23. & A.37.

Nor did the Staff ignore allegedly unique features of Ke'ehi Lagoon that, in Dr. Pararas-Carayannis's view, increase the potential that a storm surge would lift or damage the irradiator pool. Pararas-Carayannis Testimony at A.7. Rather, the Staff found that the lateral forces Dr. Pararas-Carayannis describes, which he likens to the effects Hurricane Katrina had on levees in New Orleans, are remote and speculative. CNWRA Supplemental Testimony at A.24. That is because Pa'ina's irradiator will be built below grade, with more than half the pool below the water table, and will not be subjected to the lateral forces of floodwaters. *Id.* The Staff notes that, unlike Pa'ina's irradiator, the New Orleans levees were above-grade earthen structures with embedded floodwalls. This made the levees susceptible to the lateral forces of floodwaters generated during Hurricane Katrina. *Id.*

Next, Dr. Pararas-Carayannis claims that the Staff ignored the potential for liquefaction at Pa'ina's site. Dr. Pararas-Carayannis argues that liquefaction might lift or damage the irradiator pool, causing water to spill or drain from the pool. Pararas-Carayannis Testimony at A.8–A.9. As the Staff explains, however, Dr. Pararas-Carayannis bases his conclusion on factors that have little relevance to Pa'ina's site. CNWRA Supplemental Testimony at A.25.-A.29. The Staff's analysis, which takes into account isoseismal maps showing Modified Mercalli intensity values, demonstrates that O'ahu has not experienced significant ground motions from

past earthquakes. *Id*. at A.26. In reaching this conclusion, the Staff considered the possibility that the soil conditions at Pa'ina's site may be different than those shown in United States Geological Survey (USGS) data for O'ahu. *Id.* The Staff concluded, however, that because the USGS data identify relatively small ground motions for firm rock conditions, there would not be significant peak ground accelerations at Pa'ina's site, even though the site consists of reclaimed land. *Id.* A.26. & A.30.

Dr. Pararas-Carayannis claims that seismic events occurring in other areas are relevant to evaluating whether seismic activity might occur at Pa'ina's site. For example, he cites the 1994 earthquake in Northridge, California, as evidence that liquefaction might occur at Pa'ina's site, and the 1976 Tangshan earthquake in China as evidence that Pa'ina's site might be vulnerable to thrust faulting. Pararas-Carayannis Testimony at A.8–A.9. As the Staff explains, these seismic events are irrelevant to evaluating potential seismic activity at Pa'ina's site. CNWRA Supplemental Testimony A.27. –A.32. Rather than engage in speculation as to whether similar activity might occur at Pa'ina's site, the Staff reviewed isoseismal maps, USGS data, and other information pertaining to O'ahu specifically. The relevant scientific data supports the Staff's conclusion that the seismic conditions underlying the Northridge and Tangshan earthquakes are markedly different than those at Pa'ina's site. *Id.* at A.27. & A.28. Using these earthquakes to draw conclusions about whether liquefaction or thrust faulting might occur at Pa'ina's site is pure speculation.

Dr. Pararas-Carayannis also cites past earthquakes in Hawaii itself as evidence that Pa'ina's irradiator pool might be damaged by ground motions or other seismic activity. Pararas-Carayannis Testimony at A.8. But the evidence on which Dr. Pararas-Carayannis relies actually contradicts his claim that Pa'ina's site is susceptible to greatly amplified ground motions. As the Staff explains, the damage to buildings in O'ahu from past earthquakes is entirely consistent

with MM force V to VI intensities and peak ground accelerations that are relatively low. CNWRA Supplemental Testimony at A.29. & A.30. This data does not reflect the potential for greatly amplified ground motions, and it does not suggest that an earthquake would cause significant damage to strongly reinforced structures like Pa'ina's irradiator pool. *Id.*

In A.10, Dr. Pararas-Carayannis argues that it is improper for the Staff to rely on building codes in determining that Pa'ina's facility will be adequately protected against earthquakes. As the Staff explains, however, seismic engineers routinely rely on such codes. CNWRA Supplemental Testimony at A.36. While Dr. Pararas-Carayannis claims that current building codes in Honolulu are inadequate, he provides no support for his claim, only speculation.

D. The Staff Addressed Transportation Impacts to the Extent Required by NEPA

The Intervenor argues that the Staff failed to comply with NEPA because the EA does not adequately address environmental impacts associated with the transportation of cobalt-60 sources to Pa'ina's irradiator. In its amended environmental contentions, the Intervenor asserted that the licensing of Pa'ina's irradiator and the transportation of sources to the irradiator are "connected actions" and, for that reason, the Pa'ina EA should have addressed transportation impacts. This was the *sole* basis for the Intervenor's argument that the Staff needed to consider transportation impacts.[52]

As the Staff explains at pages 25–27 of its Initial Statement, the licensing of Pa'ina's irradiator and annual cobalt-60 shipments to the irradiator are not "connected actions" for purposes of NEPA. That is because shipments of cobalt-60 to Pa'ina's irradiator will not be a

[52] Amended Environmental Contentions at 18 (citing 40 C.F.R. § 1508.25(a)(1) (discussing "connected actions")).

federal action.[53] Rather, the relevant federal action will be the licensing and registration of radioactive materials carriers, who will be responsible for the cobalt-60 shipments. The general licensee will be the party inspecting the packages, determining the route, and maintaining records for each shipment, *not* the NRC. 10 C.F.R. Part 71, Subpart G, §§ 71.81–71.97.

The licensing of radioactive materials carriers and the licensing of Pa'ina's irradiator are not "connected actions" for purposes of NEPA. Under CEQ regulations, actions are "connected" only if they:

> (i) Automatically trigger other actions which may require environmental impact statements.
> (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously.
> (iii) Are interdependent parts of a larger action and depend on the larger action for their justification.

40 C.F.R. § 1508.25(a).[54] Neither subpart (i) nor subpart (iii) applies here. Neither the licensing of Pa'ina's irradiator nor the licensing of materials shippers and carriers "automatically trigger[s]" the other action. There is also no "larger action" of which these two actions can be considered parts and on which they depend for their justification.

Nor are these actions "connected" as defined in subpart (ii) of 40 C.F.R. § 1508.25(a).

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[53] *See State of New Jersey* (Department of Law and Public Safety's Requests Dated October 8, 1993), CLI-93-25, 38 NRC 289, 293–94 (1993) (explaining that where a general license to ship nuclear materials is granted under the NRC's regulations, the license "may be used by anyone who meets the terms of the rule, 'without the filing of applications with the Commission or the issuance of licensing documents to particular persons'") (citation omitted). *Cf. also In the Matter of Shipments of Fuel from Long Island Power Authority's Shoreham Nuclear Power Station to Philadelphia Electric Company's Limerick Generating Station* (Office of Nuclear Materials Safety and Safeguards)(Opinion of Robert M. Bernero, Director), 38 NRC 365, 375 (1993) (explaining that because there is no federal action associated with a general licensee's decision to transport fuel under a general license issued by the NRC, no NEPA requirements are triggered.)

[54] 10 C.F.R. Part 51 does not define "connected actions," so the Staff is citing to CEQ regulations for guidance.

In determining whether actions "[c]annot or will not proceed unless other actions are taken previously or simultaneously," courts apply an "independent utility" test that looks to whether *either* of the allegedly connected actions would have proceeded without the other action.[55] There should be no question that the licensing of Pa'ina's irradiator played no role in the development of NRC and Department of Transportation (DOT) regulations applying to the transportation of radioactive materials. The federal actions involved in issuing these regulations therefore have "independent utility" with respect to the licensing of Pa'ina's irradiator, and these actions are not "connected actions" that the Staff had to address in the same NEPA document.

In its Supplemental Statement, the Intervenor fails to address Commission precedent holding that individual shipments of radioactive materials pursuant to a general NRC license are not a federal action for purposes of NEPA. The Intervenor also fails to cite any precedent suggesting that an action can be considered a "connected action" under 40 C.F.R. § 1508.25(a) even though it is not a federal action. Further, the Intervenor fails to address federal court decisions cited in the Staff's Initial Statement that explain when two federal actions will not be considered "connected" under 40 C.F.R. § 1508.25(a). Significantly, the Intervenor fails to address *Blue Ocean Preservation Society*, *supra*, a district court case from within the Ninth Circuit that addresses at length when actions are "connected" for purposes of NEPA.

The Staff would reiterate that, in arguing the Pa'ina EA had to address any impact from source shipments to Pa'ina's irradiator, the Intervenor initially relied solely on its argument that those shipments and the licensing of Pa'ina's irradiator are connected actions. Amended

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[55] *Hudson River Sloop Clearwater v. U.S. Dept. of the Navy*, 836 F.2d 760, 763 (2nd Cir. 1988). *See also Blue Ocean Preservation Soc. v. Watkins*, 754 F. Supp., 1450 1458 (D. Haw. 1991) (holding that the inquiry under the "cannot or will not proceed" language in 40 C.F.R. § 1508.25(a)(ii) is directed not toward whether a later action could go forward without previous actions, but rather whether the earlier actions could go forward without the later action ever being completed).

Environmental Contentions at 18 (citing 40 C.F.R. § 1508.25(a)). Because they are not, the Board should dismiss the three transportation-related segments in amended environmental contention 3.

In its Supplemental Statement, the Intervenor seeks to expand its contention to argue that the Staff had to address transportation impacts in the Pa'ina EA regardless of whether or not source shipments are a connected action with respect to the licensing of Pa'ina's irradiator.[56] This argument must also fail. As the Staff explained in its Initial Statement, the NRC considered the environmental impacts of transporting cobalt-60 sources, during both normal operations and accidents, in its FEIS from 1977.[57] In fact, the NRC specifically considered the impacts of transporting large curie cobalt-60 sources to commercial irradiators, and found that the impacts of all cobalt-60 shipments would be small.[58] Any environmental impacts associated with the annual shipments of cobalt-60 to Pa'ina's irradiator have already been considered as part of the NRC's prior NEPA review. In other words, the shipment to Pa'ina are encompassed by the FEIS analysis; they are not additional or "incremental changes" as suggested by the Intervenor.[59] The Intervenor does not even attempt to explain why any impacts associated with the annual transportation of cobalt-60 sources to Pa'ina's irradiator do

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[56] Supplemental Statement at 35–40.

[57] Federal courts have recognized that a generic EIS such as NUREG-0170 "is a legitimate means by which [the NRC] can avoid pointlessly 'relitigat[ing] issues that may be established fairly and efficiently in a single rulemaking.'" *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2, and Catawba Nuclear Station, Units 1 & 2 (consolidated), CLI-02-14, 55 NRC 278, 290 n.16 (2002) (citing *Kelley v. Selin*, 42 F.3d 1501, 1511 (6th Cir.), cert. denied, 515 U.S. 1159 (1995)).

[58] Staff Prefiled Exhibit 72, NUREG-0170, "Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes." (December 1977) at iv-v & 1-6.

[59] Intervenor's Supplemental Statement at 40.

not fall squarely within the scope of the NRC's prior NEPA review. It was reasonable for the Staff to rely on NUREG-0170 for its consideration of transportation impacts.[60]

Even if the Board had some question as to whether it was proper for the Staff to rely on NUREG-0170 to conclude there would be no significant environmental impacts associated with the transportation of sources, there is other support for the Staff's conclusion. As the Staff explains through the testimony of Earl Easton, it is extremely unlikely there would be any significant environmental impact from the annual transport of cobalt-60 to and from Pa'ina's irradiator. Easton Testimony at A.7. That is for two reasons. First, there would be no discernible impact to the public from normal transportation because there would be only a slightly increased radiation level at the surface of the shipping cask. Easton Testimony at A.8. The Staff knows this because 10 C.F.R. § 73.47 sets radiation levels at the surface of Type B packages, which is the type that will be used to transport sources to Pa'ina's facility. Second, it is highly improbable that any radiation would be released as the result of an accident occurring during the transport of cobalt-60 to Pa'ina's irradiator. Easton Testimony at A.7. In fact, in the thirty years that Type B packages have been used, there has never been an accident that resulted in a release of radiation. Easton Testimony at A.6.

E. The Staff Has Disclosed the References Supporting its Analysis of Terrorism to the Extent Required by Law

The Intervenor argues that because the Staff's terrorism analysis in Appendix B of the final EA omitted one reference, and because the Staff initially withheld non-sensitive portions of two documents that are partially exempt from disclosure under FOIA, the EA is deficient and

[60] The Intervenor cites *LES* to assert that the Staff had to consider indirect impacts from transportation of cobalt-60, but the Staff has considered transportation impacts both with its normal operations calculation in the EA and by relying on NUREG-0170 for normal and accident consequences.

must be recirculated for public. Supplemental Statement at 40-45 & 47.[61] But the Intervenor ignores *Diablo Canyon*,[62] where the Commission recently addressed a similar contention arguing that the Staff improperly withheld certain information underlying its analysis of terrorism risks, and where the Commission did not order the Staff to recirculate the EA for public comment.

The issue in this case mirrors the document disclosure contention in *Diablo Canyon*. In *Diablo Canyon*, the Commission admitted a contention alleging that the Staff failed to disclose all sources upon which it relied in its terrorism analysis.[63] To address this contention, the Commission ordered the Staff to produce all its source documents, redacted pursuant to FOIA, along with a *Vaughn* index.[64]

Here, as in *Diablo Canyon*, the Intervenor alleges that the Staff failed to disclose data underlying its terrorism analysis.[65] Also as in *Diablo Canyon*, the Board here ordered the Staff to produce a *Vaughn* index and disclose its source documents to the extent required by FOIA.

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[61] This is the sole remaining issue relating to the Staff's terrorism analysis in the EA. The Board has dismissed the other segments in the fourth portion of amended environmental contention 3. Memorandum and Order (Ruling on Admissibility of Terrorism-Related Challenges) (March 4, 2008) (slip op. at 5-6).

[62] *Pacific Gas & Elec. Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-26, 68 NRC __ (2008) (final Commission decision on the merits); LBP-08-7, 67 NRC 361 (2008) (Presiding Officer decision granting Staff's uncontested motion for summary disposition on the Intervenor's claim that the Staff violated NEPA by failing to disclose information underlying its analysis of terrorism risks).

[63] *Diablo Canyon*, CLI-08-01, 67 NRC 1, 17 (2008).

[64] *Id.* at 25-26.

[65] Supplemental Statement at 40.

The Staff did that on July 31, 2008.[66] Upon release of the *Vaughn* index and redacted documents, the Intervenor could have submitted a late-filed contention challenging the Pa'ina EA's analysis in light of the redacted documents or challenging the scope of the Staff's redactions.[67] The Intervenor did neither. Instead, the Intervenor continues to argue that if the EA itself does not contain all required information, the EA must be ruled deficient.[68] But the Intervenor overlooks the role of the NRC's hearing process, which is designed to allow public participation in resolving issues under NEPA, and which in this case helped ensure that the non-sensitive portions of all documents used in the Staff's terrorism analysis were disclosed to the public *before* any final agency action on the Pa'ina EA. Because the Staff has addressed the Intervenor's contention of omission through its *Vaughn* index and document disclosures, the Board should dismiss the remaining segment in the fourth portion of amended environmental contention 3. *Duke Energy Corp.*, CLI-02-28, 56 NRC at 382–84.[69]

F. The Intervenor Fails to Identify any NEPA Violation Related to the Staff's

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[66] NRC Staff's *Vaughn* Index and Updates to Disclosures Required by 10 C.F.R. § 2.336(d) and 10 C.F.R. § 2.1203(c) (July 31, 2008).

[67] In *Diablo Canyon*, the Intervenor submitted a late-filed contention based on the information contained in one of the redacted documents released with the *Vaughn* index. That document, "Decision-Making Framework for Materials and Research and Test Reactor Vulnerability Assessments, SECY-04-0222" was relied upon in both the Diablo Canyon ISFSI Supplemental EA and the Pa'ina EA for background information addressing procedures for determining the adequacy of security measures at NRC-licensed facilities. *See Diablo Canyon*, CLI-08-8, 67 NRC 193 (2008).

[68] Supplemental Statement at 46.

[69] Along with its Supplemental Statement of Position, the Intervenor submitted testimony from Dr. Resnikoff arguing that the Staff should have considered a range of attack scenarios. The Intervenor states, however, that it "does not . . . seek to raise issues outside of the admitted segment," but merely to illustrate how it might have commented on certain information had it been released with the final EA. Supplemental Statement at 44 n.20. In any event, as the Commission made clear in *Diablo Canyon*, it will not permit litigation of alternative attack scenarios in NEPA cases. CLI-08-26, 68 NRC __ (slip op. at 7–8, 17); CLI-08-01, 67 NRC 1, 20 (2008).

Submittal of Evidence as Part of the Hearing Process

The Intervenor argues that the Staff violated NEPA because certain information the Staff has provided during the hearing process should have been included in the EA. The Intervenor's primary complaint is that because this information was not available at the time the Staff circulated the draft EA, the public did not have the opportunity to review the information during the comment period the Staff provided in January–February 2007.[70] According to the Intervenor, the appropriate remedy is for the Board to find that the Staff has violated NEPA and order the Staff to provide another public comment period. Supplemental Statement at 47.

The Intervenor's argument assumes that all the information provided through the Staff's testimony and exhibits needed to be included in the EA. That is not the case. As the Staff explained in its Opposition to the Intervenor's Motion to Strike, dated October 23, 2008, in its testimony the Staff's experts explain why numerous scenarios identified by the Intervenor—scenarios such as the pulverization of a cobalt-60 source and liquefaction—are remote and speculative and, for that reason, did not need to be addressed in the EA.[71] In other words, the mere fact that the Staff's experts provide information in addition to the analysis in the EA does not establish a NEPA violation. Were that the case, the Staff would arguably violate NEPA each time it submits evidence in a proceeding where its EA or EIS is at issue, and the very procedures the NRC has adopted to ensure compliance with NEPA would generate NEPA

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[70] *See Notice of Availability of Draft Environmental Assessment and Finding of No Significant Impact for Proposed Pa'ina Hawaii, LLC Irradiator in Honolulu, Hawaii*, 71 FR 78231 (December 28, 2006) (encouraging members of the public to submit comments on the Draft EA and stating that the comment period would continue until February 8, 2007).

[71] *Trout Unlimited*, 509 F.2d at 1283.

violations.[72]

In arguing that the Staff's evidence significantly modifies the EA and requires an additional comment period, the Intervenor fails to address Commission precedent on both of these points. Under this precedent, none of the evidence submitted by the Staff would be considered significant new information that requires the Staff to supplement its NEPA document. Commission precedent also makes clear that, in NRC adjudicatory proceedings, the NRC's hearing process ensures that the agency meets NEPA's public involvement requirements, rendering an additional comment period in this case unnecessary.

1. The Staff's Evidentiary Submittals Do Not Significantly Modify the EA

The Intervenor claims that the Staff has significantly modified the Pa'ina EA through the testimony and exhibits submitted in connection with the hearing. At pages 47-49 of its Supplemental Statement, the Intervenor lists thirteen areas in which it believes the Staff, through its testimony, has provided significant new information that needed to be included in the final EA. At pages 65-69, the Intervenor argues that the Staff's testimony concerning the alternative technology of electron-beam irradiation likewise needed to be included in the EA. The Intervenor argues that, in light of these significant modifications, the Board should find that the Staff violated NEPA and order the Staff to provide another public comment period on remand. Supplemental Statement at 47.

As explained in its Initial Statement, the Staff has offered its testimony and exhibits in the first instance to show why the EA is adequate as it stands and does not need to be modified.

[72] 10 C.F.R. § 51.104(b) specifically provides that, when a hearing is held on an EA, "any party to the proceeding may take a position and offer evidence on the aspects of the proposed action within the scope of NEPA and this subpart in accordance with the provisions of part 2 of this chapter applicable to that proceeding or in accordance with the terms of the notice of hearing."

Even if the Board were to find that in a number of areas the Staff's evidentiary submittals are necessary to demonstrate compliance with NEPA, however, that does not mean the Staff has significantly modified the EA through those submittals. This is not a case where the proposed action has changed in any way, or where the Staff has changed any of its conclusions regarding the environmental impacts of the proposed action or alternatives to the proposed action.[73] This is also not a case where the Staff's testimony addresses broad areas of environmental impact about which the EA is silent.[74] Rather, the Staff has merely elaborated on the reasoning underlying certain statements in the Final EA, responding to the numerous segments in the admitted portions of the Intervenor's amended environmental contentions.

The NRC's regulations applying to the supplementation of a draft or final EIS, although inapplicable in this case, help clarify that the Staff has not modified the Pa'ina EA in manner that might require formal supplementation and recirculation for public comment.[75] Under section 51.92(a)(2), "the NRC staff will prepare a supplement to a final environmental impact statement . . . if . . . [t]here are significant new circumstances or information relevant to

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[73] *Cf. Hydro Resources, Inc.*, CLI-01-04, 53 NRC at 52–53 (finding that the FEIS did not need to be recirculated for public comment where the alternatives listed in the FEIS did not reflect a "substantial change in the description of the project" and where "[n]o significantly new picture of environmental or other impacts [was] presented by" the Staff's evidentiary submittals) (citation omitted); *Philadelphia Elec. Co.* (Limerick Generating Station, Units 1 and 2), LBP-84-31, 20 NRC 446, 551 (1984) (finding no further relief warranted where, even though the Staff did not disclose certain information at the time the FES was issued, "the conclusions of the FES as to total risk are unchanged by the explicit consideration now provided by the evidence and decision in this case") (affirmed by *Philadelphia Elec. Co.* (Limerick Generating Station, Units 1 and 2), ALAB-819, 22 NRC 681, 705 (1985)).

[74] *Cf. Boston Edison Co. et al.* (Pilgrim Nuclear Generating Station, Unit 2), ALAB-479, 7 NRC 774, 781 (1978).

[75] *See* 10 C.F.R. § 51.72(a)(2) (governing the supplementation of a draft EIS); 10 C.F.R. § 51.92(a)(2) (final EIS).

environmental concerns and bearing on the proposed action or its impacts."[76] The Commission has provided guidance for determining when information is "significant" within the meaning of 10 C.F.R. § 51.92(a)(2):

> A Supplemental [EIS] is not necessary "every time new information comes to light after the EIS is finalized." As a general matter, the agency must consider whether the new information is significant enough to require preparation of a supplement. *The new information must present "a seriously different picture of the environmental impact of the proposed project from what was previously envisioned."*[77]

Under this test, the information provided through the Staff's testimony in the present case cannot be considered "significant" information requiring the Staff to supplement its NEPA document. The information is not "significant" because it quite clearly does not present "a seriously different picture of the environmental impact of the proposed project from what was previously envisioned." In its testimony pertaining to electron-beam irradiation, for example, the Staff merely explains that although it would be technically feasible for Pa'ina to treat products with this alternative technology, at the time the Staff was preparing the EA there was substantial economic uncertainty over the long-term prospects of electron-beam irradiation. This testimony does not show that the environmental impacts of Pa'ina's proposed action will be in any way different from the impacts identified in the Final EA. The same analysis applies to each of the thirteen other areas in which the Intervenor claims that the Staff's evidence significantly modifies the final EA. Supplemental Statement at 47–50. None of the evidence cited by the Intervenor presents "a seriously different picture of the environmental impact of the proposed

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[76] 10 C.F.R. § 51.72(a)(2) uses essentially the same language.

[77] *Hydro Resources, Inc.* (2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-99-22, 50 NRC 3, 14 (1999) (quoting *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 373 (1989), and *Sierra Club v. Froehlke*, 816 F.2d 205, 210 (5th Cir. 1987)) (emphasis added).

project from what was previously envisioned."[78] To the contrary, each example cited by the Intervenor *strengthens* the Staff's conclusions regarding the environmental impacts of licensing Pa'ina's irradiator. Accordingly, Commission precedent supports finding that the Staff's evidence in this proceeding is not significant information requiring a supplemental NEPA document.

Even if the Board were to find that the Staff's evidentiary submittals in the present case constitute "significant" new information, there would *still* be no basis in the NRC's regulations for ordering the Staff to provide another public comment period. That is because the NRC does not have regulations requiring the Staff to circulate an EA for public comment in the first instance. Although the NRC would have to ensure that it meets NEPA's public involvement requirements before taking the final agency action with respect to the Pa'ina EA, in the present case the NRC's hearing process guarantees that the agency will meet those requirements. The Staff addresses this point next.

2. The Staff's Evidentiary Submittals Do Not Require a Comment Period

Even if the Board were to find that the Staff's testimony includes information that, under NEPA, should have been included in the Pa'ina EA, there is no basis for finding that the Staff needs to provide another public comment period.[79] That is because the NRC's hearing process itself satisfies the agency's public involvement obligations under NEPA.

The NRC's NEPA regulations are at 10 C.F.R. Part 51. The NRC adopted these

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[78] *Hydro Resources, Inc.*, CLI-99-22, 50 NRC at 14.

[79] The Staff provided a comment period on the Pa'ina draft EA pursuant to its settlement agreement with the Intervenor. There is no requirement, under NRC regulations or under NEPA generally, that an agency provide a comment period on an EA.

regulations with the express intent of implementing section 102(2) of NEPA.[80] Under NEPA section 102(2)(G), "all agencies of the Federal Government shall . . . make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment." Accordingly, the regulations at Part 51 ensure not only that the NRC complies with NEPA generally, but also that the NRC meets the specific goal of informing the public that it has considered environmental concerns in its decisionmaking.

Part 51 contains numerous regulations that ensure the public is involved in NRC decisionmaking. Most relevant to the facts of the present case, section 51.104(b) provides any party with the opportunity to "take a position and offer evidence" in any proceeding where a hearing is held on the adequacy of the Staff's EA. In a case where the NRC Staff's NEPA document is the subject of a public hearing, there can be little question that the NRC fully complies with—and likely exceeds—NEPA's public involvement requirements. The Commission has specifically addressed this point in several cases. In *Hydro Resources*, the Commission rejected the intervenor's call for an supplemental EIS and an additional public comment period based on new information:

> In this case, the public had access to the relevant information and the agency decision makers considered that information before a final decision on the matter was reached. The new information did not present a "seriously different" view of the environmental impacts. We do not find any legal flaw with its later release and consideration and, therefore, decline to alter the Presiding Officer's decision.

CLI-99-22, 50 NRC at 14. In a later case involving the same licensee, the Commission similarly rejected the intervenor's demand for an additional public comment on a final environmental

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[80] *Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions and Related Conforming Amendments*, 49 Fed. Reg. 9352, 9352 (March 12, 1984).

statement (FES) that had been supplemented by the Staff's evidentiary submittals during the hearing. The Commission found an additional comment period unnecessary because "the hearing process itself allows for additional and more rigorous public scrutiny of the [Staff's NEPA document] than does the usual circulation for comment." *Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-04, 53 NRC 31, 52–53 (2001) (citing *Limerick*, ALAB-819, 22 NRC at 707) (internal quotation marks omitted).[81]

The Staff's position is also supported by NRC decisions involving EAs specifically. The most recent example is *Diablo Canyon*, CLI-08-26, 68 NRC __ . In *Diablo Canyon*, the Commission took into account the parties' evidentiary submittals and legal argument before concluding that the Staff complied with NEPA when preparing a supplement to the Diablo Canyon EA. Specifically, the Commission found that the Intervenor's second contention, "as illuminated by the parties' written submissions and oral argument, provides no basis for invalidating the NRC Staff's supplemental environmental assessment or for requiring the NRC Staff to prepare a full environmental impact statement." *Id.* (slip op. at 16). The Commission did not order the Staff to provide an additional public comment period, even though the information it found "illuminating"—the parties' written submissions and oral argument—was not available when the Staff released its EA supplement. Examples of cases in which the Board

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[81] *Cf. also Florida Power and Light Co.* (Turkey Point Nuclear Generating, Units 3 and 4), ALAB-660, 14 NRC 987, 14 (1981) (holding that "the omission of discussion from the FES of the impact of severe storms on low level waste was a minor failing which did not call for recirculation of the FES. . . . [i]t was cured by the evidentiary submissions to the Licensing Board and by the Board's decision."); *Philadelphia Elec. Co.* (Limerick Generating Station, Units 1 and 2), ALAB-262, 1 NRC 163, 196–96 & 197 n.54 (1975) (explaining that, unlike situations where an agency's NEPA evaluation is made available for "appraisal only by the agency officials making the ultimate decision on the project. . . [u]nder the procedures of [the NRC], the [Staff's NEPA] analysis was put forward at a public, adjudicatory hearing and was fully tested.").

has amended an EA *pro tanto* after taking into account the parties' evidentiary submittals include *Nuclear Fuel Services, Inc.* (Erwin, Tennessee), LBP-05-8, 61 NRC 202 (2005), and *Toledo Edison Co.* (Davis-Besse Nuclear Power Station, Unit 1), LBP-87-11, 25 NRC 287 (1987). In each case the Board assigned significant weight to the parties' evidentiary submittals.[82] In neither case, however, did the Board find that the evidence submitted during the hearing process required a public comment period.

These decisions are well supported by the particular provisions in the NRC's Rules of Practice in 10 C.F.R. Part 2. It is these provisions that apply in the case of any hearing on the adequacy of the Staff's NEPA review. Under 10 C.F.R. § 2.309, any member of the public may file a request for a hearing challenging the Staff's NEPA review and proposing contentions for the hearing. If new information comes to light that appears to have a bearing on the adequacy of the Staff's review, a member of the public may seek to amend any admitted contention or submit a late-filed contention. If a member of the public is unwilling or unable to become a party to the hearing, that person may seek to participate in the hearing as a non-party under the provisions of 10 C.F.R. § 2.315. Accordingly, both sections 2.309 and 2.315 provide important opportunities for the public to participate in NRC hearings involving the Staff's NEPA reviews.

Still other provisions in 10 C.F.R. Part 2 and Part 51 provide opportunities for public involvement in the NRC's decisionmaking under NEPA. Under 10 C.F.R. § 2.336(b), the Staff

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[82] *See Nuclear Fuel Serv., Inc.*, LBP-05-8, 61 NRC at 217 (2005) ("The short of the matter is that, *particularly when considered in the light of the substantive showings of the Licensee and Staff*, what [the Intervenor] has chosen to put before us does not come close to what was necessary to give credence to the single [Intervenor] concern that has been addressed in its written presentations.") (emphasis added); *Davis-Besse*, LBP-87-11, 25 NRC at 303–322 (listing the Presiding Officer's Findings of Fact on Contested Issues, which are replete with citations to testimony submitted as part of the evidentiary hearing).

must disclose documents relating to its review of a license application. 10 C.F.R. § 2.1203, which applies to Subpart L proceedings such as the present case, requires the Staff to establish a hearing file containing various categories of documents. In addition, 10 C.F.R. § 51.121 provides contact information for specific NRC Staff offices involved in NEPA reviews, so that an interested person can obtain information on the status of any Staff review.

Apart from these regulations, the NRC has an Agencywide Documents Access Management System (ADAMS)[83] and an Electronic Hearing Docket (EHD).[84] These two systems provide members of the public with free-of-charge, electronic access to non-sensitive documents associated with any NRC adjudicatory hearing on a Staff NEPA review. The Staff would emphasize that, except for a small number of documents containing sensitive or safeguards information, all of the documents associated with the Staff's NEPA review of Pa'ina's irradiator, as well as all the Staff's evidentiary submittals, can be found in ADAMS and the EHD. Although the Intervenor claims that certain information included in the Staff's evidentiary submittals was not reasonably available to the public at the time the Final EA was released, that information has been in the public domain since at least July–September 2008.

In arguing that the Staff should be required to recirculate the Pa'ina EA for another public comment period, the Intervenor relies primarily on 40 C.F.R. § 1502.21. Supplemental Statement at 46, 50. This regulation applies to the preparation of an EIS, not an EA, and has no application in the present case.[85] The Intervenor also relies on *Idaho Sporting Congress v.*

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[83] http://www.nrc.gov/reading-rm/adams/web-based.html

[84] http://ehd.nrc.gov/EHD_Proceeding/home.asp

[85] In any event, because 40 C.F.R. § 1502.21 is a CEQ regulation that has not been expressly adopted in 10 C.F.R. Part 51, this regulation would not apply even if the Staff had prepared a draft EIS for Pa'ina's (continued. . .)

Thomas, 137 F.3d 1146 (9th Cir. 1998), in support of its claim that the Staff needs to recirculate the Pa'ina EA for public comment. Supplemental Statement at 50. The court in *Idaho Sporting Congress* held that, prior to taking a final agency action, "the public [must] receive the underlying environmental data from which [an agency's experts] derived [their] opinion[s]." *Id.* at 1150. This language does not help the Intervenor, because in the present case the NRC has not yet taken a final agency action with respect to Pa'ina's application for a materials license.[86] In other words, any information made available to the public during the hearing process will be, by definition, information that is provided before the final agency action.[87]

Although 40 C.F.R. § 1506.6, which the Intervenor also cites, sets forth public participation goals that have been applied by courts when reviewing EAs, this regulation does not apply directly to the Staff's review here. Again, this is because the NRC has adopted its own NEPA-implementing regulations.[88] To the extent the Intervenor is arguing that the Staff had to comply with 40 C.F.R. § 1506.6 above and beyond meeting the requirements of 10 C.F.R Part 51, the Intervenor seeks to impose on the Staff a requirement not found in NRC

(. . .continued)

irradiator. Instead, it would be the NRC's regulations at 10 C.F.R. §§ 51.73 and 51.117 that set forth the Staff's responsibilities.

[86] *See Private Fuel Storage* (Independent Spent Fuel Storage Installation), LBP-03-30, 58 NRC 454, 474, 495 (2003) (explaining that "the Board is (subject to Commission review) the decisionmaker for the agency relative to contested portions of the FEIS").

[87] *See Diablo Canyon*, CLI-08-26, 68 NRC __ (slip op. at 23n.87) (citing prior NRC decision holding that, where a hearing is held on the Staff's NEPA document, the "adjudicatory record and Board decision (and, or course, any Commission appellate decisions) become, in effect, part of the FEIS") (citations omitted).

[88] The NRC's regulations at Part 51 do not incorporate 40 C.F.R. § 1506.6.

regulations.[89]

In any event, even if the Board considered 40 C.F.R. § 1506.6 as illustrative of what constitutes compliance with NEPA for other agencies, the NRC would be fully discharging its responsibilities under this regulation. As explained above, the NRC's hearing process ensures that the public (1) continues to receive information regarding contested NEPA reviews, and (2) has additional opportunities to participate in the NRC's decisionmaking process. In a recent decision interpreting 40 C.F.R. § 1506.6, the Ninth Circuit, following the approach of every other circuit to address this issue, declined to hold that an agency must always circulate a draft EA for public comment. *Bering Strait Citizens for Responsible Res. Dev. v. U.S. Army Corps of Eng'rs*, 524 F.3d 938, 952 (9th Cir. 2008). Instead, the Ninth Circuit adopted the following rule: "An agency, when preparing an EA, must provide the public with sufficient environmental information, considered in the totality of circumstances, to permit members of the public to weigh in with their views and thus inform the agency decision-making process." *Id.* at 953.

The NRC's efforts to involve the public in the Pa'ina NEPA review would easily pass the test set forth in *Bering Strait*. In *Bering Strait*, the agency neither circulated a draft EA nor convened a public hearing to address the adequacy of the final EA. Instead, the agency took a number of less formal steps to involve the public, such as holding meetings and circulating newsletters concerning the proposed action.[90] Here, by comparison, the NRC Staff held an initial public information meeting on Pa'ina's proposed action, as well as another public meeting

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[89] *Cf. Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), LBP-01-6, 53 NRC 138, 159 (2001) (holding that a contention presents an impermissible challenge to NRC regulations by seeking to impose requirements in addition to those set forth in the regulations).

[90] 524 F.3d at 953.

on the draft EA. The Staff held the draft EA open for public comment for six weeks, and it included a comment response section as Appendix C of the final EA. Through its regulations, the NRC is now providing a public hearing on the final EA, in which interested persons can seek to participate as parties or non-parties. As the Commission explained in *Hydro Resources*, the hearing process "allows for additional and more rigorous public scrutiny of the FES than does the usual circulation for comment."[91] The mere fact that information is provided during the hearing process, rather than in the Staff's NEPA document itself, is immaterial to determining whether the NRC has met NEPA's public involvement requirements.[92]

The Intervenor fails to cite a single NRC decision in which the Commission or Board directed the Staff to provide a public comment period based on evidence submitted in connection with a hearing on a final EA. The Staff is unaware of any such case. As noted, the Commission did not direct the Staff to provide a public comment period on the EA supplement in *Diablo Canyon*, even though the EA supplement had been amended by the Staff's written testimony and the Commission decision in that proceeding. The Staff submits that a comment period would have been unnecessary because the NRC's hearing process ensured the agency met NEPA's public involvement requirements before the Commission issued the final agency decision on the adequacy of the Diablo Canyon supplement.

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[91] CLI-01-04, 53 NRC at 52–53 (citation omitted). *See also Limerick*, ALAB-819, 22 NRC 681, 705–07 (1985) (explaining that "the hearing . . . provide[s] the public ventilation that recirculation of an amended FES would otherwise provide'").

[92] *See Sierra Nevada Forest Protection Campaign v. Weingardt,* 376 F. Supp. 2d 984, 991 (E.D. Cal. 2005) (holding that under CEQ regulations pertaining to public involvement in the NEPA process, the "way in which the information is provided [to the public] is less important than that a sufficient amount of environmental information . . . be provided").

G. The Staff Was Not Required to Address Potential Impacts to Tourism

In its amended environmental contentions, the Intevernor claimed that the Staff failed to provide calculations, analysis or data to support the final EA's statement that "'there is no reason to believe the irradiator would have any effect' on tourism." Contentions at 10 (citing final EA at C-12). In its Supplemental Statement, the Intervenor additionally claims that, because the Staff witness who added this statement to the EA has no apparent training or experience relevant to assessing impacts on tourism, the statement lacks a supporting basis. Supplemental Statement at 30 n.16.

As explained in the Staff's Initial Statement and testimony, at page C-12 of the EA the Staff is responding to comments expressing concern about how tourism will be affected when tourists see the facility next to the airport. Blevins Initial Testimony at A.26. Because the Pa'ina irradiator "w[ill] be visually indistinguishable from other typical industrial buildings in the area," EA at C-12, the Staff concluded that there will be no impact to tourism from seeing an irradiator. *Id.* The Staff's conclusion is logically sound and does not require any type of expertise relevant to assessing tourism-related impacts. The Intervenor offers no expert of its own to dispute this logical conclusion, but merely suggests a difference of opinion.

In fact, the Intervenor does not question the Staff's conclusion that Pa'ina's irradiator would cause no visual impacts that might affect tourism. Instead, the Intervenor argues that the Staff had to consider potential impacts to tourism in the event of an *accident* involving Pa'ina's irradiator. The Intervenor suggests that such an accident could force the closure of runways at Honolulu International Airport (HNL) and seriously disrupt Hawaii's tourist traffic.

The problem for the Intervenor is that the Staff *did* consider the possibility of accidents involving Pa'ina's irradiator. Indeed, that was the very purpose of the Draft and Final Topical Reports. The Staff concluded that accidents such as those described by the Intervenor—

accidents that might result in the closure of runways at HNL—are not reasonably foreseeable. Because these accidents are themselves speculative, any secondary impacts of these accidents, such as impacts to tourism, would also be speculative. Blevins Supplemental Testimony at A.4. The Staff did not need to enlist an individual with expertise in evaluating tourism-related impacts to reach this conclusion. Rather, the Staff properly reached this conclusion based on its analysis of the likelihood and potential consequences of various accident scenarios, as described in the Topical Reports.

VIII. Amended Environmental Contention 4: The Staff Complied with NEPA by Considering Reasonable Alternatives to Licensing Pa'ina's Irradiator

As explained in the Staff's Initial Statement of Position, the Staff met NEPA's "hard look" standard by considering a reasonable range of alternatives while preparing the final EA.[93] In order to meet the "hard look" standard and comply with NRC regulations, the Staff must "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources."[94] NEPA's requirement that an agency consider alternatives in an EA is subject to a "rule of reason," which the Commission has described as a "judicial device to ensure that common sense and reason are not lost in the rubric of regulation."[95] The "rule of reason" governs both *which* alternatives the agency must discuss, and the *extent* to which the agency must discuss them." *Id.*

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[93] The Staff's discussion of alternatives is at pages 65–77 of its Initial Statement of Position.

[94] NEPA § 102(2)(E), 42 U.S.C. § 4332 (2)(E); 10 C.F.R. § 51.30(a)(1)(ii).

[95] *North Anna*, CLI-07-27, 66 NRC at 229 n.71 (citing *NRDC v. Morton*, 458 F.2d 827, 834 (D.C. Cir. 1982) and *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 551 (1978) (referring to the notion of "feasibility")).

NEPA's requirements are satisfied "[s]o long as 'all reasonable alternatives' have been considered and an appropriate explanation is provided as to why an alternative was eliminated" from consideration.[96] NEPA does not require an agency to discuss in an EA "all proposed alternatives, no matter what their merit."[97]

Here, as in other areas, the Intervenor seeks to impose on the Staff requirements that apply when an agency prepares an EIS, not an EA. The Intervenor claims that the alternatives analysis in the Pa'ina EA "fails to 'rigorously explore and objectively evaluate' the relative environmental costs and benefits of using [alternative] technologies in lieu of building and operating a Co-60 irradiator." Supplemental Statement at 64 (citing *Morongo Band of Mission Indians v. FAA.*, 161 F.3d 569, 575 (9th Cir. 1998)). But the court in *Morongo Band* was interpreting 40 C.F.R. § 1502.14(a), which applies to an *EIS*, not an EA. *Id.*

Since the parties' original filings in this case, the Ninth Circuit has reaffirmed its decision to join other circuits in holding that "an agency's obligation to consider alternatives under an EA is a lesser one than under an EIS."[98] In *North Idaho Community Action Network,* the Ninth Circuit held that "whereas with an EIS, an agency is required to '[r]igorously explore and objectively evaluate all reasonable alternatives,' with an EA, an agency only is required to

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[96] *Native Ecosystems*, 428 F.3d at 1246.

[97] *Cf. Louisiana Crawfish Producers Ass'n v. Rowan*, 463 F.3d 352, 356–57 (5th Cir. 2006) (addressing 40 C.F.R. § 1508.9(b) which specifically requires alternatives be addressed in an EA). The court explained that "the range of alternatives that the [agency] must consider decreases as the environmental impact of the action becomes less and less substantial." *Id.* at 357 (quoting *Highway J Citizens Group v. Mineta*, 349 F.3d 938, 960 (7th Cir. 2003). Further, the court distinguished *Sierra Club v. Watkins*, 808 F.Supp. 852 (D.D.C. 1991), cited by the Intervenor at page 61 of its Supplemental Statement, because in that case the agency had eliminated an entire range of alternatives from consideration.

[98] *N. Idaho Cmty. Action Network v. USDOT*, 545 F.3d 1147, 1153 (9th Cir. 2008).

include a brief discussion of reasonable alternatives."[99] Accordingly, the legal standard the Intervenor seeks to impose on the Staff in the present proceeding—the standard drawn from 40 C.F.R. § 1502.14—is inapposite, even in the Ninth Circuit. All that is required of the Staff is that it briefly discuss reasonable alternatives in its EA, not that it "rigorously explore and objectively evaluate all reasonable alternatives."[100]

Commission precedent also guides the Staff's consideration of alternatives in an EA. As the Staff explained in its Initial Statement of Position, the Commission has explicitly held that the Staff "may take into account the economic goals of the project's sponsor" in preparing the agency's NEPA document.[101] This is consistent with federal circuit court precedent holding that when an agency is asked to sanction a specific plan, "not as a proprietor, but to approve and support a project being sponsored by a . . . private applicant, the Federal agency is necessarily more limited" than when it is analyzing a plan the agency itself proposes.[102] The Intervenor argues against this Commission precedent, suggesting that the Board instead apply the test in

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[99] *Id.* at 1154 (internal citations to CEQ regulations omitted).

[100] The Commission's standards for alternatives analyses in EAs and EISs are similar to those of the federal circuit courts. The Commission applies a "sliding scale" to differentiate between alternatives analyses in EAs and EISs. *VA Elec. & Power Co.* (North Anna Power Station, Units 1 & 2), ALAB-584, 11 NRC 451, 457 (1980); *North Anna*, LBP-85-34, 22 NRC 481, 491 (1985), *aff'd by* ALAB-822, 22 NRC 771 (1985). The former Atomic Safety and Licensing Appeal Board (ALAB) has stated that "there is no obligation to search out possible alternatives to a course which itself will not either harm the environment or bring into serious question the manner in which the country's resources are being expended." *VA Elec. & Power Co.* (North Anna Power Station, Units 1 & 2), ALAB-584, 11 NRC 451, 457 (1980) (quoting *Portland General Elec. Co.* (Trojan Nuclear Plant), ALAB-531, 11 NRC 263, 266 (1979)). The ALAB's decisions are relevant because the Commission continues to look to those decisions for guidance. *Sequoyah Fuels Corp. and General Atomics* (Gore, OK site), CLI-94-11, 40 NRC 55, 59 n.2 (1994).

[101] *Hydro Res., Inc.*, CLI-01-04, 53 NRC at 55 (citing *City of Grapevine v. USDOT*, 17 F.3d 1502, 1506 (D.C. Cir. 1994) *cert. denied*, 513 U.S. 1043 (1994)).

[102] *Hydro Res., Inc.*, CLI-01-04, 53 NRC at 55 (citing *Citizens Against Burlington*, 938 F.2d at 197).

Van Abbema v. Fornell, 807 F.2d 633, 638 (7th Cir. 1986), which held that the agency's alternatives analysis should focus on the "general goal of an action," not on "alternative means by which a particular applicant can reach its goals."[103] But several Courts of Appeals have disagreed with the Seventh Circuit's analysis in *Van Abbema*,[104] and the Commission has decided to follow the other circuits by finding that it is appropriate to "accord substantial weight to the preferences of the applicant and/or sponsor in the siting and design of the project."[105]

Even if the Board finds that it is not clear on the face of the EA whether the Staff considered particular alternatives, an EA may be deemed adequate where it is obvious from the administrative record that the agency considered those alternatives in its decisionmaking process.[106] Because a contested EA prepared by the NRC Staff is not final until all hearing proceedings and agency appeals are complete, the parties' testimony on alternatives contributes to the record before the Board or Commission.[107]

A. The Staff Thoroughly Evaluated Alternative Technologies

Contrary to the Intervenor's arguments, the Staff thoroughly considered alternative technologies when developing the Pa'ina EA, and the Staff's testimony demonstrates that fact.

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[103] Amended Environmental Contentions at 31; Supplemental Statement at 62.

[104] *Citizens Against Burlington*, 938 F.2d at 197; *Alliance for Legal Action v. FAA*. *See also Colo. Envtl. Coalition v. Dombeck*, 185 F.3d 1162, 1174–75 (10th Cir. 1999) (stating that an agency's purpose and need statement must fall somewhere between the extremes of considering only the applicant's preferred alternative and ignoring the applicant's objectives).

[105] *Hydro Res., Inc.*, CLI-01-04, 53 NRC at 55 (citing *Citizens Against Burlington*, 938 F.2d at 197).

[106] *See, e.g., Save Our Cumberland Mtns. v. Kempthorne*, 453 F.3d 334, 347 (6th Cir. 2006) (finding that "while the agency did not identify additional alternatives in so many words in the environmental assessment, it plainly considered alternatives during the administrative process").

[107] *See Diablo Canyon*, CLI-08-26, 68 NRC __ (slip op. at 23).

The Intervenor's claim is made up of two parts: (1) the Staff's consideration of heat treatment and methyl bromide fumigation was too "cursory," and (2) the Staff should have, but did not consider electron-beam technology.[108] The Intervenor relies almost exclusively on case law addressing EISs, thus arguing for a much broader scope of alternatives analysis than is required in an EA.

In arguing that the Staff violated NEPA by failing to sufficiently evaluate alternatives, the Intervenor incorrectly assumes that, if all of the Staff's analyses and conclusions are not included in the EA itself, the EA must fail. As explained above, the Staff need only include in the EA "a *brief discussion* of reasonable alternatives."[109] The Staff did just that by discussing three alternatives in the final EA: the alternative technologies of heat immersion and methyl bromide fumigation, and the no-action alternative. Final EA at 12–13. Although the Intervenor claims the EA failed to "rigorously explore" heat immersion and methyl bromide fumigation, that was not required. *Id.* at 1154. The Intervenor fails to allege any other specific deficiency in the Staff's analyses of these two alternative technologies.

The Intervenor also claims that the Staff unreasonably failed to consider the alternative technology of electron-beam irradiation. The Staff did, in fact, consider this technology, as made clear by the testimony of Staff witness Matthew Blevins. Blevins Supplemental Testimony at A.7.-A.11.; Blevins Initial Testimony at A.31. The Staff removed this alternative from consideration prior to finalizing the EA, however, because it appeared there were significant questions as to whether operating an electron-beam irradiator would be economically practicable. Staff Prefiled Exhibits 63 and 64 are articles by environmental and food safety

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[108] Supplemental Statement at 64–66.
[109] *N. Idaho Cmty. Action Network*, 545 F.3d at 1154 (emphasis added).

organizations challenging the viability of electron beam irradiation technology. This information, which is representative of information the Staff reviewed when it was preparing the final EA, demonstrates that the Staff's decision to remove the electron-beam alternative from consideration was well-grounded.

Although the Intervenor now focuses on electron-beam irradiator as an alternative that merited discussion in the final EA, this alternative did not receive nearly as much attention at the time the Staff was preparing the final EA. The electron-beam alternative was not mentioned specifically during the February 1, 2007 public meeting on the draft EA. The only references to the electron-beam alternative came from two participants who stated that "the last irradiator failed . . . it was in financial ruin,"[110] and "[w]e need to look into the other irradiators that have collapsed financially."[111] Neither Mr. Weinert nor any other representative of Hawaii Pride provided comments at that meeting, or in writing, concerning electron-beam technology. Although the Intervenor mentioned the electron-beam alternative in its contentions on the draft EA, the Intervenor argued at greater length that there were significant health concerns associated with the consumption of food processed with *any* irradiative technology.[112]

After the public meeting, on February 14, 2007, the Staff contacted Michael Kohn, Pa'ina's President, with questions about alternative technologies, and Mr. Kohn responded on February 28, 2007. Staff Exh. 26. In his response, Mr. Kohn stated that electron beam

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[110] Staff Prefiled Exhibit 65 at 96.

[111] Staff Prefiled Exhibit 65 at 105.

[112] A number of participants at the February 1, 2007 public meeting were likewise concerned about potentially negative health effects from consuming irradiated food. Transcript of February 1, 2007 public meeting in Honolulu at 66, 88–89, 98, 102–03.

irradiators use significantly more electricity than cobalt-60 irradiators, require constant upkeep, and frequently break down. *Id.* Mr. Kohn also stated that the electron beam technology's economic future had been put on hold. *Id.* Mr. Kohn's statements regarding electron-beam irradiation were consistent with the statements made at the February 1, 2007 public meeting and with information the Staff reviewed during its own research of alternatives.

The Staff was entirely justified in removing the electron-beam alternative from consideration. There is no requirement that an agency discuss in its NEPA document "the environmental consequences of alternatives it has in good faith rejected as too remote, speculative, or . . . impractical or ineffective."[113] Here, the Staff in good faith rejected electron-beam irradiation as an alternative based on its review of information available at the time it was finalizing the EA. Although the Intervenor claims that the Staff should have further investigated whether it would be economically feasible to operate an electron-beam irradiator, the Intervenor does not dispute that, at the time the Staff was preparing the EA, there was publicly available information casting doubt on the future of electron-beam technology.

The Staff's decision not to discuss the electron-beam irradiator in the EA is also consistent with case law affirming that a reviewing agency can take an applicant's goals for a project into account and that an agency's evaluation of reasonable alternatives is "shaped by the application at issue."[114] It is undisputed that Pa'ina seeks to build a cobalt-60 irradiator in large part because of dissatisfaction with the service provided by CW Hawaii Pride, LLC, the electron-beam irradiator operating in Hawaii. Kohn Testimony at A.3.-A.12. In *Akiak Native*

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[113] *Fuel Safe Wash. v. FERC*, 389 F.3d 1313, 1323 (10th Cir. 2004) (internal quotation marks omitted) (omission in original).

[114] *Citizens Against Burlington*, 938 F.2d at 199.

Community v. United States Postal Serv., the court made clear that "it was permissible for the [Postal Service's] Environmental Assessment to reject the use of alternate transportation modes such as trucks, boats, or fixed-wing aircraft. . . .[i]t was the inefficiencies of these traditional alternatives that gave rise to the need for the experimental . . . Project in the first place."[115] In the present case, Pa'ina seeks to build a cobalt-60 irradiator because of what it perceives as inefficiencies associated with the electron-beam alternative. Kohn Testimony at A.3.-A.12. Pa'ina's underlying goal is, at least in part, to compete with Hawaii Pride for business by using what it considers a superior technology. As stated above, the Staff based its decision to remove the electron-beam alternative from consideration based on economic uncertainty. Blevins Supplemental Testimony at A.31. However, even if the information regarding the economic feasibility of electron-beam irradiation had been more equivocal, it would have been entirely appropriate for the NRC to take into account Pa'ina's business goals in deciding whether to remove electron-beam irradiation from consideration.[116]

The Intervenor seeks to define Pa'ina's goals narrowly, such that they simply mirror the "purposes" section of the EA. There is no support for this position. In *Akiak Native Community,* the purpose of the Postal Service's experimental project was to deliver mail. This could also have been accomplished by any of several traditional methods of mail delivery. But the Ninth Circuit found that the project's goal could not be defined merely by looking to its purpose, because the goals of the project included providing a new mail delivery method. In the present case, the Pa'ina EA reflects Mr. Kohn's goal of bringing a new, more reliable method of food

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[115] 213 F.3d 1140, 1148 (9th Cir. 2000).

[116] *Citizens Against Burlington*, 938 F.2d at 199.

irradiation to Hawaii. Again, it was entirely appropriate for the Staff to consider this goal in deciding to remove the electron-beam alternative from further consideration.

B. The Staff Did Not Have to Analyze Alternative Locations for Pa'ina's Irradiator

The Intervenor continues to argue that the EA is inadequate because the Staff did not discuss alternative locations for the irradiator. Supplemental Statement at 69-75. As explained in the Staff's Initial Statement of Position, NEPA and the NRC's implementing regulations do not require the Staff to analyze alternative locations in an EA. NEPA section 102(2)(E), which applies to the preparation of an EA, states that "all agencies of the Federal Government shall... study, develop, and describe appropriate alternatives to recommend courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." The only "resource" at issue in this case is the parcel of land on which Pa'ina intends to build its irradiator.[117] The Staff considered four alternative uses of that resource, three of which are discussed in the Final EA itself, and one of which the Staff considered but removed from consideration while preparing the Final EA.

In *North Anna,* the Board explained that the Staff must determine there is a "resource in conflict" before it is required to analyze alternatives.[118] "[T]here is no obligation to search out

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[117] *Cf. Wicker Park Historic Dist. Preservation Fund v. Pierce*, 565 F. Supp. 1066, 1081 (1982) (noting that courts construing NEPA § 102(2)(E) to require consideration of alternative sites have limited their holdings to concededly major federal actions or actions raising serious environmental questions). The Intervenor claims that *Wicker Park*'s holding "does not hold sway, even in the Northern District of Illinois," citing *Village of Palatine v. USPS*, 742 F.Supp. 1377 (N.D. Ill. 1990). While in *Village of Palatine* the court found that the agency had to consider alternative sites in its EA, that is because the agency's regulations *specifically required* the agency to consider alternative sites. *Id.* at 1393.

[118] *North Anna*, LBP-85-34, 22 NRC 481, 491 (1985), *aff'd by* ALAB-822, 22 NRC 771 (1985) (the resources considered potentially at issue were "lead, steel, copper, resin, cement, labor, vehicles, casks and roadways.").

possible alternatives to a course which itself will not either harm the environment or bring into serious question the manner in which this country's resources are being expended."[119] On review, the ALAB further explained that "some factual basis (usually in the form of the staff's environmental analysis) is necessary to determine whether a proposal 'involves unresolved conflicts concerning alternative resources'—the statutory standard of Section 102(2)(E)."[120] There was no discussion of alternatives in the EA at issue in *North Anna*. After hearing testimony, however, the Board determined that there was no resource in conflict, and that, accordingly, no alternatives analysis was required.[121] In the present case, the Board should likewise find that there is no resource in conflict that would require the Staff to analyze alternative sites. Because the Staff is not financing the proposed action, this is not a case where the agency's funding may itself be considered a "resource" about which there may be an unresolved conflict. The Staff has addressed any unresolved conflict over the use of Pa'ina's proposed irradiator site by considering a number of alternative uses for that site, including the no-action alternative. More is not required under NEPA.

The Intervenor does not address any Commission case involving an alternative site analysis in an EA. The court cases cited by the Intervenor involving EAs address entirely different situations, such as where the federal agency itself was the proponent of the proposed action, where statutes other than NEPA or the agency's own regulations required an alternative site analysis, or where there were non-environmental reasons for the federal agency to consider

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[119] *Id.* (quoting *Portland General Elec. Co.* (Trojan Nuclear Plant), ALAB-531, 9 NRC 263, 266 (1979)).

[120] *Id.* (quoting *Consumers Power Co*. (Big Rock Point Nuclear Plant), ALAB-636, 13 NRC 312, 332 (1981) (quoting *North Anna*, ALAB-584, 11 NRC 451, 456-59 (1980)).

[121] *Id.* at 492.

alternative sites. For example, in *Village of Palatine, supra,* the USPS considered alternative sites in its EA. But that is because the USPS's regulations, along with the Intergovernmental Cooperation Act, specifically impose that requirement on the agency.[122]

Even if the Staff might be required to evaluate alternative locations in an EA under some circumstances, in the present case the Intervenor's clear preference is to construct its irradiator adjacent to HNL and near the Port of Honolulu, the transportation hubs of Hawaii. *See City of Grapevine,* 17 F.3d at 1506 (where the federal agency is not the sponsor of a project, the "consideration of alternatives may accord substantial weight to the preferences of the applicant and/or sponsor in the siting and design of the project"). Mr. Kohn's preference is, moreover, consistent with broad goals within the Hawaiian agriculture industry. Staff Exhibit 35 is a February 1, 2007 letter from Lyle Wong, Ph.D., Plant Industry Administrator for the Hawaii Department of Agriculture. In his letter, Dr. Wong emphasizes the need for an irradiator located near Hawaii's major ports of entry. Dr. Wong states that "to protect Hawaii from the constant threat of new invasive species of agriculture, environment and public health in Hawaii, post-entry treatment capacity is need[ed] at our major ports of entry such as Honolulu International Airport." Staff Exhibit 35 at 3. Dr. Wong's letter further supports the conclusion that in this case

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[122] The other cases cited by the Intervenor in support of its claim that the Staff had to consider alternative sites for Pa'ina's irradiator are all readily distinguishable. *See also Lee v. U.S. Air Force*, 354 F.3d 1229 (10th Cir. 2004) (involving an EA tiered off of an EIS which had analyzed alternative sites based on operational and technical criteria); *South Carolina v. DOE*, 64 F.3d 892, 900 (4th Cir. 1995) (Court of Appeals did not even consider alternative sites because it found the suggested alternative—reprocessing spent nuclear fuel rods—against national policy, and thus not a viable option.); *North Carolina v. FAA*, 957 F.2d 1125 (4th Cir. 1992) (finding the FAA's lack of alternatives in its EA sufficient because it relied upon the Navy's determination to eliminate alternative sites for various reasons, including non-environmental ones; *Monarch Chemical Works, Inc. v. Thone*, 604 F.2d 1083, 1088 (8th Cir. 1979), (finding meritless the contention that an alternative site analysis was necessary because the State had evaluated thirty sites for the medium-minimum security institution. The Court never actually ruled on whether the analysis was necessary).

there was no reason for the Staff to analyze alternative sites.

CONCLUSION

The Staff complied with NEPA by taking a "hard look" at the environmental impacts of licensing Pa'ina's irradiator and by considering a reasonable range of alternatives when preparing the Pa'ina EA. Notwithstanding its Supplemental Statement of Position and testimony, the Intervenor fails to provide sufficient evidence to demonstrate there is a material issue as to whether the Staff has complied with NEPA. The Board should dismiss the Intervenor's contentions and affirm the Staff's issuance of a license to Pa'ina.

Respectfully submitted,

/RA/

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Michael J. Clark
Molly L. Barkman
Counsel for NRC Staff

Dated at Rockville, Maryland
This 5th day of March, 2009

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

CERTIFICATE OF SERVICE

I hereby certify that copies of the "NRC Staff's Response to Intervenor's Supplemental Statement of Position" and "Staff Prefiled Exhibits 1–3 and 60–73" have been served on the recipients listed below by deposit in the United States mail; through deposit in the Nuclear Regulatory Commission's internal system as indicated by an asterisk (*), and by electronic mail as indicated by a double asterisk (**) on this 5th day of March, 2009.

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