UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Gregory B. Jaczko, Chairman
Kristine L. Svinicki
George Apostolakis
William D. Magwood, IV
William C. Ostendorff

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| In the Matter of | ) | |
| PA'INA HAWAII, LLC | ) | |
| (Materials License Application) | ) | Docket No. 30-36974-ML |

**CLI-10-18**

**MEMORANDUM AND ORDER**

This proceeding concerns the application of Pa'ina Hawaii, LLC (Pa'ina) for a license to possess and use byproduct material in an industrial irradiator at the site of the Honolulu International Airport. The Licensing Board has issued its Initial Decision on the merits of three environmental contentions filed by Concerned Citizens of Honolulu (Concerned Citizens), ruling in part in Concerned Citizens' favor.[1] Pa'ina[2] and the NRC

[1] Initial Decision (Ruling on Concerned Citizens of Honolulu Amended Environmental Contentions #3, #4, and #5) (Aug. 27, 2009) (unpublished) (Initial Decision). The Initial Decision is one that appears to be appropriate for publication in NUREG-0750, the Nuclear Regulatory Commission Issuances. *See generally* Internal Commission Procedures (Aug. 4, 2006), Appendix 9.

[2] *Applicant Pa'ina Hawaii, LLC's Petition for Review of the August 27, 2009*[,] *Initial Decision of the Atomic Safety and Licensing Board* (Oct. 6, 2009) (Pa'ina Petition).

Staff[3] petitioned for review of the Board's decision. Concerned Citizens opposed both Pa'ina's petition[4] and the Staff's petition.[5] The Staff responded in support of Pa'ina's petition,[6] and also replied to Concerned Citizens' opposition to the Staff's petition.[7] For the reasons provided below, we take review of the Board's decision. We admit Amended Contention 3 (the admissibility of which the Board left undecided) and remand it to the Board for additional consideration. We affirm the Board's decision in connection with Contention 4. We affirm the Board's determination to require an additional written comment period and deny Pa'ina's request to reinstate the categorical exclusion for its proposed irradiator. We also direct the Board to hold a hearing prior to its final decision on the merits of the remaining contentions.

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[3] *NRC Staff's Petition for Review of Board's Initial Decision* (Oct. 14, 2009) (Staff Petition), with attached *Affidavit of Earl P. Easton* (Sept. 11, 2009) (Easton Affidavit).

[4] *Intervenor Concerned Citizens of Honolulu's Opposition to Applicant Pa'ina Hawaii, LLC's Petition for Review of the August 27, 2009*[,] *Initial Decision of the Atomic Safety and Licensing Board* (Oct. 19, 2009) (Concerned Citizens Opposition to Pa'ina Petition).

[5] *Intervenor Concerned Citizens of Honolulu's Opposition to NRC Staff's Petition for Review of Board's Initial Decision* (Nov. 9, 2009) (Concerned Citizens Opposition to Staff Petition).

[6] *NRC Staff's Response to Licensee Pa'ina Hawaii, LLC's Petition for Review of Board's Initial Decision* (Oct. 19, 2009).

[7] *NRC Staff's Reply to Intervenor Concerned Citizens of Honolulu's Opposition to Staff's Petition for Review of Board's Initial Decision* (Nov. 16, 2009) (Staff Reply to Concerned Citizens Opposition). Pa'ina Hawaii declined to file a reply to Concerned Citizens' opposition to its petition, *see* Letter from Fred Paul Benco, Esq. to Office of the Secretary, U.S. Nuclear Regulatory Commission, *Re: Docket No. 030-36974, ASLBP No. 06-843-01-ML*[,] *Non-Filing of Reply in Support* [o]*f Petition* [f]*or Review* (Oct. 26, 2009).

## I. BACKGROUND

This proceeding began in 2005, shortly after Pa'ina filed an application to possess and use cobalt-60 in a commercial pool-type industrial irradiator near the Honolulu International Airport in Honolulu, Hawaii. The Staff issued the license in 2007.[8] Pa'ina's intention is to use the facility to irradiate fresh fruit and vegetables, cosmetics, and pharmaceutical products en route to the United States mainland from Hawaii; Pa'ina also intends to use the irradiator for research and development projects and will irradiate other materials with NRC approval on a case-by-case basis.[9]

### A. Procedural Synopsis

This proceeding has been lengthy and procedurally complex. Concerned Citizens initially submitted two National Environmental Policy Act (NEPA) contentions and twelve safety contentions.[10] The safety contentions presented issues involving sensitive information not publicly available that required a protective order and other procedures, which the environmental contentions did not. The Board therefore bifurcated its initial consideration of the environmental and safety portions of the

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[8] *See* Materials License 53-29296-01 (Aug. 17, 2007) (ADAMS accession number ML072320269). To date, however, Pa'ina has not constructed the irradiator.

[9] *See* Notice of License Request for Pa'ina Hawaii, LLC, Irradiator in Honolulu, HI and Opportunity [t]o Request a Hearing, 70 Fed. Reg. 44,396 (Aug. 2, 2005) (Notice of License Request); Application for Material License for Pa'ina Hawaii, Rev. 00 (June 23, 2005) (ML052060372) (License Application).

[10] *Request for Hearing by Concerned Citizens of Honolulu* (Oct. 3, 2005). Concerned Citizens soon withdrew two safety contentions. *See Petitioner's Reply in Support of Its Request for Hearing* (Dec. 2, 2005) at 15, 22.

proceeding.[11] The Board admitted the first of Concerned Citizens' environmental contentions in its entirety, and admitted part of the second environmental contention.[12] The Board subsequently ruled on Concerned Citizens' safety contentions, admitting three of the remaining ten safety contentions for hearing.[13]

Concerned Citizens and the Staff settled the two admitted environmental contentions by settlement stipulation.[14] Under this settlement stipulation, the Staff agreed to prepare an environmental assessment (EA) for the proposed irradiator to determine whether the Staff should produce an environmental impact statement or a finding of no significant impact. The Staff also agreed to provide a public comment period (with at least one public meeting in Honolulu, Hawaii) on a draft finding prior to making a final finding of no significant impact, in the event the Staff determined an environmental impact statement was not required. The settlement stipulation also resolved the admitted environmental contentions, and preserved Concerned Citizens' right to file new contentions on the adequacy of the NEPA documents.[15] The Board accepted the settlement stipulation and dismissed the contentions.[16]

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[11] LBP-06-4, 63 NRC 99, 102 (2006).

[12] LBP-06-4, 63 NRC at 115.

[13] LBP-06-12, 63 NRC 403, 407, 423 (2006).

[14] *NRC Staff and Concerned Citizens of Honolulu Joint Motion to Dismiss Environmental Contentions* (Mar. 20, 2006), and attached *Joint Stipulation and Order Regarding Resolution of Concerned Citizens' Environmental Contentions* (Settlement Stipulation).

[15] *Id*. at 2.

[16] Order (Confirming Oral Ruling Granting Motion to Dismiss Contentions) (Apr. 27, 2006) (unpublished).

Concerned Citizens submitted two new safety contentions and three new environmental contentions[17] after the publication of the Staff's draft EA[18] and associated draft topical report[19] and the February 1, 2007, public meeting. Concerned Citizens also filed comments on the draft EA and draft finding of no significant impact.[20] The Staff considered the environmental impacts associated with potential terrorist activities in an appendix B to the draft EA, issued in June 2007.[21] The Staff issued its final topical report[22] and its final EA (including a final appendix B) and final finding of no significant impact in August 2007.[23] In response, Concerned Citizens sought to amend its three environmental contentions.[24]

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[17] *Intervenor Concerned Citizens of Honolulu's Contentions Re: Draft Environmental Assessment and Draft Topical Report* (Feb. 9, 2007).

[18] *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 Fed. Reg. 78,231 (Dec. 28, 2006).

[19] *Draft Topical Report on the Effects of Potential Natural Phenomena and Aviation Accidents at the Proposed Pa'ina Hawaii, LLC, Irradiator Facility* (Dec. 2006) (ML063560344).

[20] *Letter from David L. Henkin, Staff Attorney, Earthjustice, to NRC* (Feb. 8, 2007) (ML070470615).

[21] *See* Notice of Availability — Consideration of Terrorist Acts on the Proposed Pa'ina Hawaii, LLC Irradiator in Honolulu, HI, 72 Fed. Reg. 31,866 (June 8, 2007).

[22] *Final Topical Report on the Effects of Potential Aviation Accidents and Natural Phenomena at the Proposed Pa'ina Hawaii, LLC, Irradiator Facility* (May 2007) (ML071280833).

[23] *See* Notice of Availability of Final Environmental Assessment and Finding of No Significant Impact for Proposed Pa'ina Hawaii, LLC Irradiator in Honolulu, HI, 72 Fed. Reg. 46,249 (Aug. 17, 2007).

[24] *Intervenor Concerned Citizens of Honolulu's Amended Environmental Contentions #3 through #5* (Sept. 4, 2007) (2007 Amended Environmental Contentions).

The Board admitted two of the amended contentions (Contention 3 and Contention 4) and rejected the third (Contention 5).[25] In Contention 3, Concerned Citizens asserted that the Staff, in the final EA, failed to take a hard look at the potential environmental impacts of the proposed irradiator.[26] Contention 3 claimed five "major deficiencies" — omissions — in the Staff's final EA:

1. The Staff failed to respond in the final EA to the Concerned Citizens' ten detailed comments on the deficiencies in the draft EA.[27]
2. The Staff provided insufficient evidence and analysis in the final EA regarding the potential effects of the proposed irradiator, pointing in particular to a list of 25 examples of asserted "deficits," including the "failure to provide any calculations, analysis, or data substantiating [the Staff's] generalized conclusory statements about the proposed irradiator's occupational dose limit, off-site consequences, impact on transportation, and influence on tourism."[28]
3. The Staff provided only general statements about possible risks and thus "failed to consider adequately the impact of natural disasters and aviation

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[25] Memorandum and Order (Ruling on the Admissibility of Intervenor's Amended Environmental Contentions) (Dec. 21, 2007), at 4 (unpublished) (December 2007 Order).

[26] 2007 Amended Environmental Contentions at 6.

[27] *Id*. at 7-8.

[28] December 2007 Order at 13-14, citing 2007 Amended Environmental Contentions at 8-14. The Board numbered the 25 examples of "deficiencies" in the order set out by Concerned Citizens in its pleading. December 2007 Order at 13-14.

accidents on the proposed irradiator, as well as transportation accidents involving the irradiator's cobalt sources."[29]

4. The Staff, in its final EA, "failed to provide a serious, scientifically-based analysis of the risk of a terrorist attack, disclose data underlying its terrorism analysis, address the significance of the identified effects, and consider all reasonably foreseeable impacts."[30]

5. The Staff failed to consider the health effects of the consumption of irradiated fruit and vegetables in the final EA.[31]

The Board admitted four of these five "major deficiencies" as part of Contention 3, specifically: deficiency number 1,[32] number 2 in part (limited to examples 1-10, 24, and 25),[33] number 3,[34] and number 5.[35] The Board deferred ruling on deficiency number 4,[36] pending our decision on a similar NEPA-terrorism issue in another proceeding.[37] The Board subsequently admitted deficiency number 4 "to the extent it alleges that the

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[29] December 2007 Order at 16, citing 2007 Amended Environmental Contentions at 14-18.

[30] December 2007 Order at 19, citing 2007 Amended Environmental Contentions at 18-29.

[31] 2007 Amended Environmental Contentions at 29-30.

[32] December 2007 Order at 11.

[33] *Id*. at 14, 16. *See also* Order (Scheduling Order) (July 17, 2008) at 3-4 n.9 (unpublished) (July 2008 Scheduling Order).

[34] *Id*. at 17.

[35] *Id*. at 21.

[36] *Id*. at 19-20.

[37] *See Pacific Gas and Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-1, 67 NRC 1 (2008).

Staff failed 'to disclose data underlying [its] terrorism analysis' of the proposed irradiator in the final EA and its Appendices and thereby failed to meet the NEPA-mandated 'hard look' standard."[38] Deficiency number 5 was dropped after we decided, *sua sponte*, that NEPA does not require the NRC to assess the potential health effects of consuming irradiated food.[39]

In Contention 4, Concerned Citizens argued that the Staff, in the final EA, failed to consider reasonable alternative technologies and sites.[40] Specifically, the contention claimed that "the Staff failed to quantify the relative costs and benefits of the two pest control technologies mentioned in the final EA and omitted any consideration of the electron beam irradiator technology proposed in the Concerned Citizens' comments on the draft EA,"[41] thereby failing to provide the rigorous and objective evaluation required, Concerned Citizens argued, by NEPA.[42] The contention also claimed that the Staff failed to satisfy NEPA because the final EA did not include an analysis of alternative sites that would avoid or minimize the environmental risks from weather, earthquake, and terrorist acts.[43]

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[38] Memorandum and Order (Ruling on Admissibility of Intervenor's Terrorism-Related Challenges) (Mar. 4, 2008) at 5 (unpublished).

[39] *See* CLI-08-4, 67 NRC 171 (2008); CLI-08-16, 68 NRC 221, 222-23, 230 (2008).

[40] 2007 Amended Environmental Contentions at 30-31. *See also* December 2007 Order at 4.

[41] *Id*. at 24-25 (citing 2007 Amended Environmental Contentions at 31-32).

[42] December 2007 Order at 28-29, 30, citing 2007 Amended Environmental contentions at 32.

[43] 2007 Amended Environmental Contentions at 33-34.

The Board, in a series of orders, dismissed all of the safety contentions, including certain added and amended safety contentions.[44] In July 2008, at the Board's request, the parties filed initial and rebuttal written statements of position, written testimony, affidavits, and exhibits, and proposed questions for the Board to consider asking during the then-anticipated evidentiary hearing.[45] Shortly thereafter, Pa'ina filed a motion to reinstate the "categorical exclusion"[46] status of the proposed action. The Board denied Pa'ina's motion.[47]

Some months after the Board first directed the parties to file their statements of position, testimony, affidavits, and exhibits, the Board denied a Concerned Citizens motion to strike certain Staff and Pa'ina testimony and directed Concerned Citizens to file "a full factual and substantive written statement of position (including written

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[44] *See* Memorandum and Order (Ruling on Admissibility of Two Amended Contentions (June 22, 2006) (unpublished); Memorandum and Order (Dismissing Outstanding Safety Contentions and Permitting Submission of New Safety Contentions) (Apr. 2, 2008) (unpublished); Memorandum and Order (Ruling on Admissibility of Amended Safety Contention 7) (June 19, 2008) (unpublished).

[45] July 2008 Scheduling Order at 4-6. *See also Intervenor Concerned Citizens of Honolulu's Initial Written Statement of Position* (Aug. 26, 2008); *Licensee Pa'ina Hawaii, LLC's Trial Brief on the Law* (Aug. 26, 2008) (Pa'ina's Initial Statement of Position); *NRC Staff's Initial Statement of Position on Amended Environmental Contentions 3 and 4* (Aug. 26, 2008); *Intervenor Concerned Citizens of Honolulu's Rebuttal to Pa'ina Hawaii, LLC's Statement of Position* (Sept. 15, 2008); *Licensee Pa'ina Hawaii, LLC's Rebuttal Memorandum in Opposition to Intervenor Concerned Citizens of Honolulu's August 26, 2008*[,] *Initial Written Statement of Position and In Response to NRC Staff's Initial Statement of Position and Initial Written Testimony* (Sept. 15, 2008); *NRC Staff's Rebuttal Statement of Position and Testimony* (Sept. 15, 2008); *Intervenor Concerned Citizens of Honolulu's Rebuttal to NRC Staff's Statement of Position* (Sept. 16, 2008).

[46] *Licensee Pa'ina Hawaii, LLC's Motion: To Reinstate "Categorical Exclusion" Status for Pa'ina Hawaii, LLC's Irradiator* (Aug. 25, 2008) (Pa'ina Categorical Exclusion Motion).

[47] Order (Ruling on Pa'ina Hawaii, LLC Motion to Reinstate "Categorical Exclusion") (Oct. 15, 2008) (unpublished) (Categorical Exclusion Order). Among other things, the Board observed that, once the Staff prepared the EA, the issue of whether "categorical exclusion" status under NEPA applied to the proposed action became moot. *Id.* at 4.

testimony with supporting affidavits and exhibits in support of its position) rebutting and responding to the presentations of the Staff and [Pa'ina]," with responses from the Staff and Pa'ina permitted thereafter.[48]

The Staff response to Concerned Citizens' supplemental statement of position prompted Concerned Citizens to propose an amendment to the transportation accident portion of Contention 3.[49] Concerned Citizens' proposed amendment complained that "the Staff, for the first time, presented an analysis of the likelihood that 'radiation would be released as the result of an accident occurring during the transport of cobalt-60 to Pa'ina's irradiator,'"[50] in an analysis prepared by a previously uninvolved NRC Staff member long after the closure of the comment period for the draft EA and the issuance of the Staff's final EA.[51] According to Concerned Citizens, this did not satisfy the Staff's NEPA "hard look" obligation.[52] Concerned Citizens argued that the new analysis should have been circulated for public comment.[53] Moreover, Concerned Citizens asserted a

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[48] Order (Ruling on Intervenor's Motion to Strike Testimony, Releasing Previously Reserved Hearing Dates, and Directing Parties to Submit Scheduling Information for Hearing) (Dec. 4, 2008) at 2 (unpublished) (emphasis omitted). *See also Intervenor Concerned Citizens of Honolulu's Supplemental Statement of Position* (Feb. 3, 2009) (Concerned Citizens' Supplemental Statement of Position); *Licensee Pa'ina Hawaii, LLC's Response to Intervenor Concerned Citizens of Honolulu's Supplemental Statement of Position* (Mar. 4, 2009) (Pa'ina March 2009 Response); *NRC Staff's Response to Intervenor's Supplemental Statement of Position* (Mar. 5, 2009) (Staff Response to Concerned Citizens' Supplemental Statement of Position) and *Testimony of Earl Easton* (Mar. 5, 2009) (Pre-filed Staff Exh. 70) (2009 Easton Testimony).

[49] *Intervenor Concerned Citizens of Honolulu's Amendment to Environmental Contention 3 Re: Transportation Accidents* (Apr. 7, 2009) (2009 Amended Contention 3).

[50] 2009 Amended Contention 3 at 5, 9.

[51] *See* 2009 Easton Testimony at Q.2., A.2.

[52] 2009 Amended Contention 3 at 5.

[53] *Id*. at 6-7.

number of inadequacies in the analysis.[54] Concerned Citizens argued additionally that the Staff analysis improperly relied on NUREG-0170[55] to support the conclusion that impacts of transportation accidents would be insignificant.[56]

A month later, the Board stated that it would address the proposed Contention 3 amendment in its decision on the merits of the admitted environmental contentions. At this time, the Board also concluded, without further discussion, that it would not convene an oral hearing pursuant to 10 C.F.R. § 2.1207.[57] The Board issued its Initial Decision just under two months later, without assessing the admissibility of Concerned Citizens' proposed amendment to Contention 3.

**B. The Board's Initial Decision**

As an initial matter, Concerned Citizens took issue, generally, with the Staff's use of evidentiary submissions during the adjudicatory process to augment and clarify the Staff's EA. The Board rejected this challenge, finding that "there is no per se regulatory

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[54] Concerned Citizens asserted that: the analysis lacked any quantification of the effects of a transportation accident (*Id*. at 10-11); the analysis did not provide a "hard look" because it contained "[n]umerous methodological flaws and factual inaccuracies" (*Id*. at 11-12); the geographical scope of the analysis was too narrow and should have included the entire route from supplier to Pa'ina (*Id*. at 12-13); and the analysis provided no scientific basis supporting the reasonableness of the assumption that there would be "proper recovery" of any dispersed radioactive material (*Id*. at 13).

[55] Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes (Dec. 1977) (ML022590265, ML022590348, & ML022590370).

[56] 2009 Amended Contention 3 at 14-16. The Staff and Pa'ina both opposed Concerned Citizens' proposed amendment of Contention 3. *See Licensee Pa'ina Hawaii, LLC's Opposition to Intervenor's Amendment to Environmental Contention Re: Transportation Accidents* . . . . (May 1, 2009); *NRC Staff's Response in Opposition to Intervenor's Amendment to Environmental Contention 3 Re: Transportation Accidents* (May 1, 2009) (Staff Opposition to Amended Contention 3).

[57] Order (Notice Regarding Hearing) (June 5, 2009) (unpublished) (stating the Board's conclusion that "no hearing will be necessary").

bar that precludes the Staff from using the hearing process to clarify the administrative record" supporting its final EA, "and that record, along with any adjudicatory decision, becomes, in effect, part of the final environmental document."[58]

***1. Contention 3***

The Board separately considered each of the many components of Contention 3. With respect to Concerned Citizens' complaint that the Staff did not respond to specified comments on the draft EA (deficiency number 1), the Board considered whether the Staff provided adequate responses in the final EA and in the administrative record. The Board found that the Staff adequately addressed eight of the nine comments.[59] The Board found that the ninth comment, regarding the failure of the Staff "to examine accidents involving transportation of [cobalt]-60 sources to and from the proposed irradiator,"[60] appropriately was considered with the transportation issue raised elsewhere in the contention (that is, as part of deficiency number 3).

In connection with Concerned Citizens' argument that the Staff's EA contains insufficient evidence and analysis on the potential impacts of the irradiator to satisfy the requirements of NEPA (deficiency number 2), the Board examined each of the twelve admitted claims in turn. The Board found that the Staff's analysis was sufficient for all

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[58] Initial Decision at 18. *See generally Pacific Gas and Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-26, 68 NRC 509, 526 & n.87 (2008); *Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 89 (1998); *Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 53 (2001).

[59] *See* Initial Decision at 20-29 (citing 2007 Amended Environmental Contentions at 7).

[60] *See* Initial Decision at 29 (citing 2007 Amended Environmental Contentions at 7-8).

but one of the cited claims.[61] The Board found that the remaining claim — that the final EA "contains insufficient evidence and analysis to substantiate its claim that [t]ransportation impacts from normal operations would be small"[62] — appropriately was considered with the Contention 3 transportation issues.

As to Concerned Citizens' argument that the Staff's assessment of the potential consequences of natural disasters, aviation accidents, and transportation of radioactive source material failed to satisfy NEPA's "hard look" requirement (deficiency number 3), the Board examined the record associated with nine specific instances where Concerned Citizens argued the assessment was insufficient. For eight of these, the Board concluded that the Staff provided an adequate assessment, including responding to comments.[63]

For the ninth instance in particular, Concerned Citizens argued that "'while the [f]inal EA considers . . . '"[t]ransportation impacts from normal operations," it fails completely to examine the likelihood and consequences of accidents that might occur during the annual transport of [cobalt]-60 sources to and from the proposed irradiator."[64] For this issue, the Board found that the Staff had not met its "hard look" NEPA obligation.[65] It then directed the Staff to amend the final EA to respond to the contention

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[61] *See* Initial Decision at 30-40 (citing 2007 Amended Environmental Contentions at 8-11).

[62] *See* Initial Decision at 33 (citing 2007 Amended Environmental Contentions at 9).

[63] *See* Initial Decision at 41-46 (citing 2007 Amended Environmental Contentions at 14-17) (internal quotation marks omitted).

[64] Initial Decision at 47 (citing 2007 Amended Environmental Contentions at 18).

[65] Initial Decision at 51 n.263, citing the Final EA at 8 ("Transportation effects from normal operations would be small.") and at Appendix C, C-11 ("Radioactive materials required for irradiators are transported in lead-shielded steel casks. These casks are (Continued . . .)

and to provide "more than conclusory assertions regarding the environmental consequences of transportation accidents."[66] The Board directed the Staff furthermore to "provide a full citation to any documents it relies on in its review, including, if relevant to transportation accidents, the [Generic Environmental Impact Statement] on the transportation of radioactive material in urban environments, and [to] summarize the issues and reasoning set forth in these incorporated documents as is required when documents are tiered."[67]

Deficiency 4 involved Concerned Citizens' claim that the final EA did not take the NEPA-required "hard look" at potential impacts from terrorism. Concerned Citizens argued that the final EA should have been circulated for additional public comment because the Staff's terrorism analysis initially did not refer to one of the documents listed in the *Vaughn*[68] index and because that document and one other were not released in redacted form during the comment period.[69] The Board found that the Staff's analysis satisfied the "hard look" standard[70] and that the EA supplement did not need to be circulated for additional comment.[71]

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designed to withstand the most severe accidents, including collisions, punctures, and exposure to fire and water depths."), and finding that these statements did not respond to the specifics of Concerned Citizens' contention.

[66] Initial Decision at 51-52.

[67] *Id*. at 52.

[68] *See Vaughn v. Rosen*, 484 F.2d 820, 823-25, 827-28 (D.C. Cir. 1973).

[69] Initial Decision at 52, 54.

[70] *Id*. at 54.

[71] Initial Decision at 55.

### *2. Contention 4*

Concerned Citizens argued in this contention that the Staff was required under NEPA to evaluate reasonable technological and geographical alternatives to the proposed Pa'ina irradiator, and failed to do so. The Board reviewed the applicable regulations,[72] the statutory NEPA language,[73] and Ninth Circuit case law, and found this to be true:

> Although the discussion of alternatives in the EA need only be "brief" it must nevertheless be sufficient to fully comply with the requirement of [NEPA] section 102(2)(E) (i.e., study, develop, and describe appropriate alternatives") and applicable circuit precedent ("give full and meaningful consideration to all reasonable alternatives"). The law in the Ninth Circuit is that, "[s]o long as 'all reasonable alternatives' have been considered and an appropriate explanation is provided as to why an alternative was eliminated, the regulatory requirement is satisfied," and "[t]he range of alternatives that must be considered need not extend beyond those reasonably related to the purposes of the project." And the "rule of reason" necessarily informs that choice.[74]

Applying these standards to the Staff's analysis, the Board concluded that the Staff's consideration of the alternative technologies of methyl bromide fumigation and heat treatments was inadequate.[75] However, the Board clarified the EA itself, by virtue of its own review of an exhibit in the record that provided additional information on the

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[72] 10 C.F.R. § 51.30(a)(1)(ii), 40 C.F.R. §§ 1502.14(a) and 1508.9(b).

[73] NEPA § 102(2)(E).

[74] Initial Decision at 59 (footnotes omitted).

[75] *Id*. at 60-69.

fumigation and heat treatment alternatives.[76] With that clarification, the Board concluded that the EA discussion of these technologies was minimally sufficient.[77]

With respect to alternative technologies, the Board examined the Staff's consideration of the electron-beam (e-beam) irradiator technology in the EA and in the adjudicatory record in considerable detail.[78] A majority of the Board ultimately found insufficient justification for the Staff's failure to consider the e-beam irradiator in the EA,[79] and also found the record insufficient to remedy this Staff failure.[80] The Board found that in order to analyze the e-beam irradiator alternative, it would have to go outside the administrative record and outside its adjudicatory function. The Board therefore directed the Staff to amend or supplement the EA to consider properly the e-beam irradiator alternative and — since there was no previous discussion of this alternative in either the draft or the final EA — to allow a brief opportunity for public comment on the draft amendment or supplement. The Board found that a public comment period was required both by the settlement agreement and by Ninth Circuit case law.[81]

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[76] *Id*. at 69-71. *See generally Email Letter from M. Kohn to M. Blevins* (Feb. 28, 2007) (Pre-filed Staff Exh. 26) (Kohn Letter).

[77] Initial Decision at 71.

[78] *See id*. at 71-100.

[79] *Id*. at 101. Judge Baratta dissented in part from the Board's decision on this point, interpreting the evidence differently and stating that he "consider[ed] that the testimony and exhibits clearly augment and clarify the administrative record and have now become part of the environmental document, obviating the need for the Staff to modify the EA to discuss electron beam technology." *Id*. at 111.

[80] *Id*. at 101.

[81] *Id*. at 102 (citing the rule set out in *Bering Strait Citizens for Responsible Res. Dev. v. U.S. Army Corps of Eng'rs*, 524 F.3d 938, 95[3] (9th Cir. 2008) ("[W]e now adopt this rule: An agency, when preparing an EA, must provide the public with sufficient environmental information, considered in the totality of circumstances, to permit (Continued . . .)

Similarly, the Board found that the Staff must consider reasonable alternative geographical sites for the proposed irradiator and must make its analysis available for written public comment.[82]

***3. Contention 5***

Based on its consideration of all of the Staff's submissions, the Board concluded that the Staff had no obligation to prepare an environmental impact statement and therefore dismissed Contention 5.[83]

**C. Post-Decision Pleadings**

Concerned Citizens filed a motion requesting clarification, or in the alternative, reconsideration, of the Initial Decision in connection with three points: whether the decision required the Staff to allow public comment on the transportation accident analysis Staff would prepare; whether the decision required revocation of the license; and whether the dismissal of Contention 5 was without prejudice.[84] The Board denied this motion, finding that the decision was clear on all three points.[85]

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members of the public to weigh in with their views and thus inform the agency decision-making process.")).

[82] Initial Decision at 108.

[83] *Id*. at 109.

[84] *Intervenor Concerned Citizens of Honolulu's Motion to Clarify or, in the Alternative, for Reconsideration in Part of the August 27, 2009*[,] *Initial Decision* (Sept. 8, 2009). *See also Licensee Pa'ina Hawaii, LLC's Opposition to Intervenor's Motion to Clarify or, in the Alternative, for Reconsideration in Part of the August 27, 2009*[,] *Initial Decision . . . .* (Sept. 18, 2009); *NRC Staff's Response to Intervenor's Motion for Clarification or Reconsideration of Board's Initial Decision* (Sept. 21, 2009).

[85] Order (Denying Intervenor's Motion to Clarify) (Sept. 29, 2009) (unpublished).

Timely petitions for review of the Initial Decision followed the resolution of Concerned Citizens' motion.[86]

## II. DISCUSSION

### A. Review Standards

We grant review of final initial decisions on a discretionary basis, giving due weight to a petitioner's showing that there is a substantial question with respect to one or more of the following considerations:

> (i) A finding of material fact is clearly erroneous or in conflict with a finding as to the same fact in a different proceeding;
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> (ii) A necessary legal conclusion is without governing precedent or is a departure from or contrary to established law;
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> (iii) A substantial and important question of law, policy, or discretion has been raised;
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> (iv) The conduct of the proceeding involved a prejudicial procedural error; or
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> (v) Any other consideration which the Commission may deem to be in the public interest.[87]

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[86] Pa'ina subsequently filed a motion requesting that we (1) direct the Staff to conduct studies of two alternative sites for the proposed irradiator; (2) expedite review of the two petitions for review; and/or (3) establish a schedule for a final decision on those petitions. *See generally Applicant Pa'ina Hawaii, LLC's Motion for Order/Direction that NRC Staff Study Two Alternative Sites for Proposed Irradiator, and/or for Commission to Expedite Appeal, and/or for Commission to Establish Schedule for Decision* (Feb. 23, 2010) (Pa'ina Feb. 2010 Motion). *See also Intervenor Concerned Citizens of Honolulu's Response to Applicant Pa'ina Hawaii, LLC's February 23, 2010 Motion* (Mar. 5, 2010) (taking no position on the relief sought); *NRC Staff's Response to Pa'ina's February 23, 2010 Motion* (Mar. 4, 2010) (opposing the request that we direct the Staff to evaluate alternate sites and taking no position on the other two requests for relief).

[87] 10 C.F.R. § 2.341(b)(4).

In our adjudicatory process, the licensing board's principal role "is carefully to review all of the evidence, including testimony and exhibits, and to resolve any factual disputes."[88] We refrain from exercising our authority to make *de novo* findings of fact in situations "where a Licensing Board has issued a plausible decision that rests on carefully rendered findings of fact."[89] As we have stated many times, "[w]hile [we have] discretion to review all underlying factual issues *de novo*, we are disinclined to do so where a Board has weighed arguments presented by experts and rendered reasonable, record-based factual findings."[90] "Our standard of 'clear error' for overturning a Board's factual findings is quite high."[91] We defer to a board's factual findings, correcting only "'clearly erroneous' findings — that is, findings 'not even plausible in light of the record viewed in its entirety'"[92] — where we have "strong reason to believe that . . . a board has overlooked or misunderstood important evidence."[93]

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[88] *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 NRC 235, 259 (2009) (citing *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-05-19, 62 NRC 403, 411 (2005)).

[89] *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-03-8, 58 NRC 11, 25-26 (2003). *See also General Public Utilities Nuclear Corp.* (Three Mile Island Nuclear Station, Unit No. 1), ALAB-881, 26 NRC 465, 473 (1987); *Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-05-28, 62 NRC 721, 723 (2005).

[90] *Louisiana Energy Services, L.P.* (National Enrichment Facility), CLI-06-22, 64 NRC 37, 40 (2006) (some internal quotation marks omitted).

[91] *Oyster Creek*, CLI-09-7, 69 NRC at 259 (citing *Private Fuel Storage*, CLI-03-8, 58 NRC at 26).

[92] *Louisiana Energy Services,* CLI-06-22, 64 NRC at 40 (some internal quotation marks omitted) (citing, *inter alia, Hydro Resources, Inc*., (P.O. Box 777, Crownpoint, New Mexico 87313), CLI-06-1, 63 NRC 1, 2 (2006); *Anderson v. Bessemer City*, 470 U.S. 564, 573-76 (1985)).

[93] *Oyster Creek*, CLI-09-7, 69 NRC at 259 (citing *Private Fuel Storage*, CLI-05-19, 62 NRC at 411).

In contrast, "for conclusions of law, our standard of review is more searching. We review legal questions *de novo*. We will reverse a licensing board's legal rulings if they are 'a departure from or contrary to established law.'"[94]

Our boards have the authority to regulate hearing procedure, and decisions on evidentiary questions fall within that authority.[95] "[A] licensing board normally has considerable discretion in making evidentiary rulings."[96] We apply an abuse of discretion standard to our review of decisions on evidentiary questions.[97]

We grant the Staff's petition for review in part, on the grounds that the Staff has demonstrated substantial questions as to the Board's correct application of NEPA jurisprudence, and as to whether certain actions taken by the Board constituted prejudicial procedural error.[98] In view of our deferential standard of review of the Board's findings of fact, we find that the Staff has not raised a substantial question as to the Board's findings, and we decline the petition for review as to these points. However, given that the Board made findings of fact in the absence of a required evidentiary hearing, we provide a more detailed discussion of the Staff's fact questions than we otherwise might. Pa'ina's petition for review does not raise a substantial question as to any of the considerations identified in section 2.341(b)(4).

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[94] *Oyster Creek*, CLI-09-7, 69 NRC at 259 (citing *Tennessee Valley Authority* (Watts Bar Nuclear Plant, Unit 1; Sequoyah Nuclear Plant, Units 1 and 2; Brown's Ferry Nuclear Plant, Units 1, 2, and 3), CLI-04-24, 60 NRC 160, 190 (2004)).

[95] *See, e.g.*, 10 C.F.R. § 2.319(d).

[96] *Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), CLI-04-21, 60 NRC 21, 27 (2004); *see also Duke Power Co.* (William B. McGuire Nuclear Station, Units 1 and 2), ALAB-669, 15 NRC 453, 475 (1982).

[97] *Catawba*, CLI-04-21, 60 NRC at 27.

[98] *See* 10 C.F.R. § 2.341(b)(4)(ii), (iv).

### B. Analysis

Conceptually, the issues on which the Board directed further Staff action fall into two categories: NEPA alternatives and the effects of offsite source transportation. We examine NEPA alternatives first.

#### *1. NEPA Alternatives*

NEPA § 102(2)(C) requires federal agencies, "to the fullest extent possible" to "include in every recommendation or report on proposals for . . . major Federal actions significantly affecting the quality of the human environment; a detailed statement . . . on":

> (i) the environmental impact of the proposed action,
>
> (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
>
> (iii) alternatives to the proposed action,
>
> (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
>
> (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.[99]

NEPA requires a hard look at environmental effects; "general statements about 'possible' effects and 'some risk' do not constitute a 'hard look' absent a justification regarding why more definitive information could not be provided."[100] A "rule of reason"

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[99] 42 U.S.C. § 4332(2)(C).

[100] *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1213 (9th Cir. 1998) (citing *Neighbors of Cuddy Mountain v. U.S. Forest Serv.*, 137 F.3d 1372, 1380 (9th Cir. 1998) (some internal quotation marks omitted)).

applies to the assessment of the adequacy of a NEPA analysis.[101] This "rule of reason" is implicit in NEPA's requirement that an agency consider reasonable alternatives to a proposed action.[102]

NEPA twice refers to the consideration of "alternatives." In addition to the "alternatives" language in section 102(2)(C)(iii), quoted above, NEPA section 102(2)(E) requires federal agencies to "study, develop, and describe appropriate alternatives to recommend courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources."[103] As the Ninth Circuit has held, this § 102(E) "alternatives provision" applies both when an agency prepares an environmental impact statement and, as here, when it prepares an environmental assessment.[104] In either case, the provision requires the agency to give "full and meaningful consideration to all reasonable alternatives."[105] But the obligation to consider alternatives is a lesser one under an EA than under an EIS.[106] When preparing an EIS, the agency must "[r]igorously explore and objectively evaluate all reasonable

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[101] *Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), CLI-07-27, 66 NRC 215, 228-29 (2007).

[102] *Natural Res. Def. Council v. Morton*, 458 F.2d 827, 834 (D.C. Cir. 1972).

[103] 42 U.S.C. § 4332(2)(E).

[104] *N. Idaho Cmty. Action Network v. U.S. Dept. of Transp.*, 545 F.3d 1147, 1153 (9th Cir. 2008).

[105] *Id*. *See also Center for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1217-18 (9th Cir. 2008).

[106] *Envtl. Prot. Info. Ctr. v. U.S. Forest Serv.*, 451 F.3d 1005, 1016 (9th Cir. 2006) (the environmental assessment "considered in detail a no-action alternative, the proposed Project alternative, and a third alternative that was similar. . . . [The agency] had also considered six additional alternatives, but eliminated them from detailed study for various reasons [that] were not arbitrary and capricious, and were tied to the stated purpose of the Project." *Id*.)

alternatives."[107] In contrast, when preparing an EA, the agency only must "include a brief discussion of reasonable alternatives."[108] Even when a proposed action does not require preparation of an EIS, the "consideration of alternatives remains critical to the goals of NEPA."[109] In short, whether an agency is preparing an EA or an EIS, the alternatives that should be considered will be the same — it is only in the depth of the consideration and in the level of detail provided in the corresponding environmental documents that an EA and an EIS will differ.

Consistent with Council on Environmental Quality (CEQ) regulations,[110] we have by regulation designated certain actions as "categorically excluded" from the requirement to prepare an EA or an EIS:

> *Categorical Exclusion* means a category of actions which do not individually or cumulatively have a significant effect on the human environment and which the Commission has found to have no such effect in accordance with procedures set out in § 51.22, and for which, therefore, neither an environmental assessment nor an environmental impact statement is required.[111]

Once a categorical exclusion has been established, the Staff need not prepare an environmental assessment or an environmental impact statement, absent the existence of "special circumstances."[112]

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[107] 545 F.3d at 1153.

[108] *Id*.

[109] *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1228-29 (9th Cir. 1988).

[110] *See* 40 C.F.R. § 1508.4. It is our stated policy to take into account CEQ regulations voluntarily, subject to some conditions. *See* 10 C.F.R. § 51.10(a).

[111] 10 C.F.R. § 51.14(a).

[112] Our rules provide that "special circumstances" include "the circumstance where the proposed action involves unresolved conflicts concerning alternative uses of available resources within the meaning of section 102(2)(E) of NEPA." The Commission may find (Continued . . .)

We have established a categorical exclusion for materials licenses associated with irradiators.[113] Irradiators, like the one proposed by Pa'ina, may be constructed at any site determined appropriate for commercial use.[114] The Honolulu Airport site Pa'ina proposes to use is, in fact, zoned for commercial use.[115] The site thus is reserved for commercial purposes whether or not Pa'ina secures a lease and constructs its irradiator. We see no "unresolved conflict regarding alternative uses of the site" — and none has been raised — and find no clear-cut "special circumstances" setting this particular project outside of our categorical exclusion associated with issuance of a materials license for irradiators. That said, the settlement stipulation between the Staff and Concerned Citizens — waiving the categorical exclusion — took the Staff's evaluation of this license application outside the norm for actions of this type.

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special circumstances upon its own initiative, or upon the request of an interested person. 10 C.F.R. § 51.22(b).

[113] 10 C.F.R. § 51.22(c)(14)(vii) provides:

> The following categories of actions are categorical exclusions:
> . . .
> (14) Issuance, amendment, or renewal of materials licenses issued pursuant to 10 [C.F.R.] parts 30, 31, 32, 33, 34, 35, 36, 39, 40 or part 70 authorizing the following types of activities:
> . . .
> (vii) Irradiators.

[114] Final Rule, Licenses and Radiation Safety Requirements for Irradiators, 58 Fed. Reg. 7715, 7726 (Feb. 9, 1993). Some NRC oversight is provided with respect to construction of a facility housing an irradiator. In particular, Condition 13 of Pa'ina's license prohibits the installation of sealed sources until the licensee has assured that the facility was constructed as described in the application, and has completed applicable tests required by 10 C.F.R. § 36.41 ("Construction Monitoring and Acceptance Testing").

[115] Pa'ina March 2009 Response at 27 ("the proposed Pa'ina lot site . . . is already zoned light industrial.").

The settlement stipulation sets the baseline for the Staff's obligation regarding the EA it agreed to perform, puts into play our regulations governing environmental assessments (as well as applicable agency and judicial legal precedent), and defines the Staff's public participation commitment. Given the Staff's election to prepare an EA in conjunction with Pa'ina's application, the Board properly focused on the question of whether the Staff's analysis met applicable NEPA requirements. In so doing, the Board made the factual determination that, with respect to three issues, the Staff had not satisfied its obligation.

Several rules define the Staff's obligations for preparation of an EA,[116] including the following:

> An environmental assessment for proposed actions . . . shall identify the proposed action and include:
>
> (1) A brief discussion of:
>
> (i) The need for the proposed action;
>
> (ii) Alternatives as required by section 102(2)(E) of NEPA;
>
> (iii) The environmental impacts of the proposed action and alternatives as appropriate; and

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[116] *Environmental Assessment* means a concise public document for which the Commission is responsible that serves to:

> (1) Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.
>
> (2) Aid the Commission's compliance with NEPA when no environmental impact statement is necessary.

10 C.F.R. § 51.14(a). A third purpose is to "[f]acilitate preparation of an environmental impact statement when one is necessary." *Id*. *See also* 40 C.F.R. § 1508.9.

(2) A list of agencies and persons consulted, and identification of sources used.[117]

As identified in this proceeding, the main purpose of the proposed action is "to irradiate fresh fruits (primarily papayas), vegetables, cosmetics, and pharmaceutical products so that when they are sent to the United States mainland, they are insect-free."[118] The applicant's stated purpose defines the correlating range of alternatives that should be considered: while different from the specific proposal, the alternatives that should be considered must still accomplish the underlying purpose of the proposed action — here, Pa'ina's principal purpose in operating the irradiator is to render produce and other commodities pest-free.[119]

The adequacy of the alternatives analysis is judged on the "substance of the alternatives" rather than the "sheer number of alternatives examined."[120] "So long as 'all reasonable alternatives' have been considered and an appropriate explanation is provided as to why an alternative was eliminated, the regulatory requirement is satisfied. . . . [T]he regulation does not impose a numerical floor on alternatives to be

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[117] 10 C.F.R. § 51.30(a).

[118] Initial Decision at 2. Additionally, "the irradiator will . . . be used for research and development projects and to irradiate other materials as approved by the NRC on a case-by-case basis." *Id*. The irradiator also may be used for treatment of fresh produce imported to Hawaii. Final EA at 1. *See also* Notice of License Request, 70 Fed. Reg. at 44,396; License Application at 8.

[119] *See, e.g., Highway J Citizens Group v. Mineta*, 349 F.3d 938, 960-61 (7th Cir. 2003) ("logically and legally, an agency is required to address three questions in considering alternatives. 'First, what is the purpose of the proposed project (major federal action)? Second, given that purpose, what are the reasonable alternatives to the project? And third, to what extent should the agency explore each particular reasonable alternative?'" (citing *Simmons v. U.S. Army Corps of Eng'rs*, 120 F.3d 664, 668 (7th Cir. 1997))).

[120] *Native Ecosystems Council v. U.S. Forest Serv.*, 428 F.3d 1233, 1246 (9th Cir. 2005).

considered."[121] The consideration of alternatives is bounded by a "notion of feasibility."[122] "Alternatives that do not advance the purpose of the [project] will not be considered reasonable or appropriate."[123]

With these precepts in mind, we turn to consideration of the specific arguments made by Pa'ina and the Staff.

*a. Electron beam Irradiator Alternative Technology*

Pa'ina argues — with respect to both alternative sites and alternative technologies — that the Board erred in directing the consideration of alternatives because the private nature of projects like this one entitles them to "great deference in their siting and design choices under NEPA."[124] Pa'ina bases this theory on a reading of our decision in *Hydro Resources*[125] where we stated:

> When reviewing a discrete license application filed by a private applicant, a federal agency may appropriately "accord substantial weight to the preferences of the applicant and/or sponsor in the siting and design of the project.'"[126]

Pa'ina calls this "the Commission's 'rule of deference' for privately-initiated projects."[127] But Pa'ina overstates our precedent. While we do accord "substantial weight" to an

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[121] *Id*.

[122] *Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council*, 435 U.S. 519, 551 (1978).

[123] 428 F.3d at 1247.

[124] Pa'ina Petition at 9.

[125] *Hydro Resources, Inc.*, (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31 (2001).

[126] *Id*. at 55.

[127] Pa'ina Petition at 10.

applicant's preferences, this does not equate to complete deference to those preferences. Such deference would, in many cases, preclude the consideration of reasonable alternatives that NEPA requires. While it is true that the project goal is to be determined by the applicant, not the agency,[128] "courts will not allow an agency to define the objectives so narrowly as to preclude a reasonable consideration of alternatives."[129] Here, the purpose of the proposed project — to eliminate pests from commodities destined for the mainland — might be achieved by employing alternative technologies instead of Pa'ina's preferred cobalt-60 irradiator. The Board's goal, in directing the Staff to consider the e-beam irradiator in its EA, is to ensure that the Staff's evaluation complies with NEPA's requirement to consider reasonable alternatives.

On this point, the Staff asks us to reassess the probative value of the information in the record. The Staff argues that the Board's decision to require consideration of e-beam irradiation as an alternative technology to the proposed cobalt-60 irradiator was prejudicial error.[130] The Staff concedes that it did not discuss the e-beam irradiator technology in the "Alternatives" section of the environmental assessment.[131] But the Staff maintains that the discussion on the record of the reasons it gave for not considering the alternative are the same as, and should count for, actual consideration of the alternative. Moreover, according to the Staff, this consideration was sufficient to satisfy NEPA especially given that the record, including the testimonies of Pa'ina's and

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[128] *See generally Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 199 (D.C. Cir. 1990), *cert. denied*, 502 U.S. 994 (1991).

[129] *Citizens Comm. to Save Our Canyons v. U.S. Forest Serv.*, 297 F.3d 1012, 1030 (10th Cir. 2002).

[130] Staff Petition at 15.

[131] *Id*. at 16.

Concerned Citizens' witnesses, augmented the environmental assessment. In concluding that the Staff's analysis was not sufficient, the Staff argues that the Board disregarded information in the record.

Like the Staff, Pa'ina challenges the Board's assessment of the probative value of the evidence presented. In particular, Pa'ina claims that the Board erred when it rejected the Staff's reliance on a letter from Pa'ina's principal, Mr. Kohn, based on the Board's view that it was an "advocacy piece of a salesman."[132] Pa'ina also argues that the Board "ignored" one piece of "high quality" evidence — namely, an SEC Form 10-Q filed by Titan Corporation, the manufacturer of the e-beam irradiator and a guarantor and lender to Hawaii Pride (operator of an e-beam irradiator in Hawaii). In Pa'ina's view, the 10-Q supported the Staff's conclusion that it is not financially feasible to operate an e-beam irradiator in Hawaii.[133]

Apart from disagreement with the Board's conclusions, the Staff and Pa'ina provide no compelling justification for disturbing the Board's factual findings. We will not lightly reverse our boards' factual determinations,[134] and "will not overturn [a licensing board's] findings simply because we might have reached a different result."[135] In this instance, the Board detailed its consideration of the information in the record and rejected the Staff's reasons for eliminating the e-beam irradiator from consideration. It is clear from the record that the Staff's witness, Mr. Blevins, believed that an e-beam

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[132] Pa'ina Petition at 10.

[133] *Id*. at 6-9.

[134] *Louisiana Energy Services*, CLI-98-3, 47 NRC at 93.

[135] *Id*.

irradiator might serve the underlying pest elimination purpose of the proposed project,[136] and that Mr. Blevins agreed that using an e-beam irradiator might eliminate some potential hazards related to using a cobalt-60 irradiator.[137] It is also clear that the Staff removed the e-beam irradiator from consideration as an alternative due to perceived economic considerations.[138] Because the Staff did not believe there would be significant effects from using a cobalt-60 irradiator, [139] the Staff did not directly compare the environmental effects of using the two alternative technologies. But, given the Board's measured determination that the e-beam irradiator technology presented a reasonable alternative, we find no clear error in the Board's request that the Staff make this comparison.

Moreover, the Staff's argument that the Board failed to consider the entire administrative record is unavailing. To support its argument, the Staff cites specific answers in the Blevins initial and supplemental testimony,[140] and mentions the testimony

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[136] *NRC Staff's Supplemental Testimony of Matthew D. Blevins* (Mar. 5, 2008) (Pre-filed Staff Exh. 61) (Blevins Supp. Testimony) at A.7.

[137] *Id*. at Q.8., A.8.

[138] *Id*. at A.7, A.8.

[139] *Id*. at A.8.

[140] *See NRC Staff's Testimony of Matthew D. Blevins Concerning Amended Environmental Contentions 3 and 4* (Aug. 26, 2008) (Pre-filed Staff Exh. 1) (Blevins Testimony); Blevins Supp. Testimony. The Staff cites Blevins Testimony, A.31 and Blevins Supp. Testimony, A.7, A.8, and A.11. *See* Staff Petition at 15 nn.28 & 30-31, 16 nn.32-34.

of Pa'ina's witness, Mr. Kohn,[141] and Concerned Citizens' witness, Mr. Weinert.[142] But the Board considered and cited in its decision all but one of the Blevins answers the Staff cites in its petition for review,[143] so we cannot agree with the Staff that the Board ignored this part of the administrative record. As it happens, the one Blevins answer that the Staff cites, but the Board did not, contained Mr. Blevins's reflections on Mr. Kohn's and Mr. Weinert's testimonies.[144] Given that the Board itself examined the Kohn and Weinert testimonies at length in the decision, we also cannot agree that the Board ignored this part of the administrative record. We see no clear error in the Board's decision to require the Staff to perform the e-beam irradiator alternative analysis.

*b. Alternative Sites*

As we stated above, while we do accord substantial weight to a license applicant's preferences, we do not defer absolutely to those preferences. This includes an applicant's site preferences. NEPA requires us to analyze reasonable alternatives that, like the proposed project, would serve to advance its defined purpose. The level of analytic detail required in an EA is, as we noted above in our review of the law on NEPA

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[141] *See Written Direct Testimony of Michael Kohn* (Sept. 15, 2008) (Kohn Testimony), attached to *Licensee Pa'ina Hawaii, LLC's Rebuttal Memorandum in Opposition to Intervenor Concerned Citizens of Honolulu's August 26, 2008 Initial Written Statement of Position and In Response to NRC Staff's Initial Statement of Position and Initial Written Testimony* (Sept. 15, 2008); Kohn Letter.

[142] *See Written Rebuttal Testimony and Declaration of Eric D. Weinert* (Sept. 3, 2008) (Weinert Rebuttal Testimony), attached to *Intervenor Concerned Citizens of Honolulu's Rebuttal to NRC Staff's Statement of Position* (Sept.16, 2008); *Supplemental Written Testimony and Declaration of Eric. D. Weinert* (Jan. 27, 2009) (Weinert Supplemental Testimony), attached to *Intervenor Concerned Citizens of Honolulu's Supplemental Statement of Position* (Feb. 3, 2009).

[143] The Board cites Blevins Testimony A.31 and Blevins Supp. Testimony, A.7, A.8, and A.10. *See* Initial Decision at 73 nn.343-45, 74 nn.346-49, 75 nn.351-55.

[144] Blevins Supp. Testimony, A.11.

alternatives, less than that required in an EIS. Nonetheless, reasonable alternatives must be considered as appropriate, and an explanation provided for their rejection. Patently, the identified purpose of the proposed irradiator reasonably may be accomplished at locations other than the proposed site.[145] Therefore, the Board's decision to require the consideration of alternative sites is reasonable — particularly given that Pa'ina does not have in hand an executed lease for the proposed site, and given that Pa'ina itself considered alternate sites[146] — facts noted by the Board in its decision.[147]

Pa'ina argues that Concerned Citizens "failed to carry its burden of stating and supporting any valid contention" because Concerned Citizens' experts did not identify any specific alternate sites for the proposed irradiator and "provided no 'specific evidentiary facts' describing how any alternate location was geologically sound, properly zoned, commercially available and near to appropriate transportation infrastructure."[148] Pa'ina, therefore, appears to argue the propriety of the Board's decision to admit this portion of the contention at the outset. But this argument ignores the fact that, as

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[145] *Compare Methow Valley Citizens Council v. Reg'l Forester*, 833 F.2d 810 (9th Cir. 1987) *rev'd and remanded on other grounds*, *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332 (1989), *aff'd on remand*, 879 F.2d 705, 706 (9th Cir. 1989) ("Here the Forest Service's purpose — to provide a 'winter sports opportunity' — is broadly framed in terms of service to the public benefit. It is not, *by its own terms*, tied to a specific parcel of land." 833 F.2d at 815 (emphasis in original). "Appellants have offered evidence suggesting that other sites may be well suited for the type of recreational development envisioned by the Forest Service." *Id*. at 816.).

[146] Concerned Citizens Opposition to Pa'ina Petition at 4-6, citing an email from Pa'ina's Mr. Kohn (identified by the Board, Initial Decision at 106, as Concerned Citizens Initial Statement, Exh. 20, (Email from Michael Kohn to Jack Whitten (Aug. 28, 2006) (Kohn Email))).

[147] Initial Decision at 106.

[148] Pa'ina Petition at 5 (emphasis in original).

Concerned Citizens points out,[149] the primary obligation of satisfying the requirements of NEPA rests on the agency.[150] Further, Pa'ina does not raise an effective challenge to the Board's contention admissibility determination, which evaluated the proposed contention relative to each of our contention admissibility requirements.[151]

The Staff's arguments are predicated on the notion that the NEPA requirement to consider a range of alternatives in an environmental assessment can be satisfied by considering only one type of alternative — technological — even where considering another type of alternative — geographical — may be reasonable in the particular circumstances of a proposed action. The Staff argues that it appropriately limited its analysis to four alternatives.[152] According to the Staff, "because it had already considered a number of alternatives to the proposed action, it could rely on NEPA's rule of reason to forgo considering *any* additional alternatives, including alternative sites."[153]

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[149] Concerned Citizens Opposition to Pa'ina Petition at 2.

[150] *See* NEPA § 102(2)(C); *See also Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 765 (2004); *'Ilio'ulaokalani Coalition v. Rumsfeld*, 464 F.3d 1083, 1092 (9th Cir. 2006); *Louisiana Energy Services*, CLI-98-3, 47 NRC at 89.

[151] The Board found that the contention raised the legal issue of whether the Staff's failure to consider alternative locations complied with NEPA (10 C.F.R. § 2.309(f)(1)(i)); described the legal basis for its contention under Ninth Circuit legal precedents (§ 2.309(f)(1)(ii)); satisfied the scope and materiality requirements by raising a legal issue related to completeness of the EA and compliance with NEPA (§ 2.309(f)(1)(iii & iv)); and presented a legal contention of omission and a genuine dispute over compliance with NEPA (§ 2.309(f)(1)(v & vi)). December 2007 Order at 30-32. We find that the Board did not commit clear error in admitting this portion of the contention. In addition, we observe that Pa'ina identified alternate sites for its own consideration. *See, e.g.*, Kohn Email (discussing an existing building on Ualena Street).

[152] *See* Staff Petition at 19. The Staff identifies the four alternatives as the no-action alternative, methyl bromide fumigation, heat treatment, and e-beam radiation. *Id*. at 19 n.38.

[153] *Id*. at 20 (emphasis in original).

The Staff maintains that NEPA's rule of reason does not require an agency to undertake a "separate analysis of alternatives which are not significantly distinguishable from alternatives actually considered, or which have substantially similar consequences."[154]

In our view, in this case alternative sites are "significantly distinguishable" from the alternative technologies the Staff considered. Further, the record does not contain sufficient information to discern whether the consequences of siting the irradiator at an alternative location would be "substantially similar." It therefore was not clear error for the Board to require the Staff to consider alternate sites in this particular proceeding — even though consideration of alternative sites is not universally required in the preparation of an environmental assessment.

The Staff maintains that for the Pa'ina irradiator, it reasonably took into account the site-specific risks. The Staff notes that, in its technical review, it "found no foreseeable radiological consequences from an aircraft crash or natural phenomenon at Pa'ina's proposed site, with the possible exception of a temporary increase in the radiation level directly above the irradiator pool" and "found an offsite radiation release to be entirely speculative"[155] — and analyzed a correspondingly appropriate number of alternatives. The Staff argues that there is a correlation between the number of alternatives that must be considered to satisfy NEPA and the environmental impact of the proposed action, such that actions with lesser impacts require consideration of fewer alternatives. Concerned Citizens counters that the Staff's legal argument is incorrect,

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[154] Staff Reply to Concerned Citizens Opposition at 4 (quoting *Westlands Water Dist. v. U.S. Dept. of Interior*, 376 F.3d 853, 868 (9th Cir. 2004)) (internal quotation marks omitted).

[155] Staff Petition at 20-21.

particularly under Ninth Circuit precedent. According to Concerned Citizens, "to pass legal muster, regardless of whether it was preparing an EA or an EIS for Pa'ina's irradiator, the Staff had 'to give full and meaningful consideration to all reasonable alternatives.'"[156]

In our view, the Board's decision does not mandate consideration of any specific, or unreasonably large, number of alternatives, and does not direct the Staff to conduct an extensive search for alternatives. Instead, the Board's decision directs consideration of a range of alternatives that we agree, in this proceeding, reasonably should include site alternatives.

The Staff argues that there are no unresolved conflicts over the use of the resource at issue — the proposed site — for commercial purposes. The Staff maintains that "to the extent there were any *unresolved conflicts concerning alternative uses of available resources*, the Staff addressed those conflicts by considering four alternatives to cobalt-60 irradiation."[157] These arguments are beside the point. The concern is not whether the proposed site could be used for alternate purposes, but whether the purpose of the proposed action can be achieved at an alternate site. Alternative sites (like alternative technologies) plainly could serve to advance the underlying purpose of the proposed project.

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[156] Concerned Citizens Opposition to Staff Petition at 18-19 (citing *N. Id. Cmty. Action Network v. U.S. Dept. of Transp.*, 545 F.3d 1147, 1153 (9th Cir. 2008) (emphasis added by Concerned Citizens)).

[157] Staff Petition at 22 (emphasis added). The italicized language is taken from NEPA § 102(2)(E) — and also from the description in 10 C.F.R. § 51.22(b) of the "special circumstances" that potentially can take a proposed project out of a categorical exclusion that normally would apply.

The Staff maintains that "[i]t was reasonable for the Staff to focus its study of alternatives on those alternatives which, unlike alternative sites, would fully resolve concerns raised by [Concerned Citizens] and other members of the public regarding Pa'ina's use of radioactive material."[158] But it may be that siting the proposed irradiator at another location *will* resolve at least some of the concerns raised by Concerned Citizens and other members of the public.

We also are not persuaded by the Staff's argument that it is enough to consider only the proposed action and the no-action alternative.[159] The cases the Staff cites do not stand for that proposition in any event. In one, while the "'no action' alternative and the 'preferred alternative' . . . were the focus of the EA and given detailed consideration," the agency actually "considered a total of six alternatives, four of which were raised but rejected without detailed consideration."[160] In the second, the proposed project was a two-year experimental program and the agency's EA considered four alternatives: the "no-action" alternative, the as-proposed program, a "seasonal use" option, and the option of discontinuing the program altogether.[161]

The alternatives the Staff considered are of a single type, that is, technological alternatives. The facts in this case are, in our view, analogous to cases where "courts focused on the failure of the agency to consider an entire range of options without

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[158] Staff Petition at 22.

[159] *Id*. at 23.

[160] *Native Ecosystems*, 428 F.3d at 1245.

[161] *Akiak Native Cmty. v. U.S. Postal Serv.*, 213 F.3d 1140, 1148 (9th Cir. 2000).

adequate explanation."[162] Thus, the question becomes whether the Staff provided an adequate explanation for its decision to exclude consideration of alternate sites.

The Staff characterizes as an "appropriate explanation" for not considering more alternatives, including alternative sites, the combination of its determination that "any environmental impacts associated with Pa'ina's proposed site would be negligible," its consideration of (in its opinion) four alternatives, and the reasonable conclusion (in its view) that it need not consider other alternatives.[163] The Staff argues that, despite its agreement to prepare an environmental assessment, it remained free to take into account the judgment underlying the categorical exclusion of irradiators for the purpose of computing the number of alternatives it should examine.[164]

At bottom, the Staff's finding that environmental impacts at the proposed site would be negligible says nothing about the site's relative impact compared to impacts associated with alternative sites. It may be that the environmental impacts would be substantively identical at a site that is, for example, located farther from the Honolulu Airport. But the record does not provide the information necessary for us to draw that conclusion. And, as Concerned Citizens argues, even though the analysis provided in an EA does not have to be as comprehensive as the analysis provided in an EIS, there

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[162] *Louisiana Crawfish Producers Association-West v. Rowan*, 463 F.3d 352, 357 n.2 (5th Cir. 2006). The court distinguishes the facts of the case before it from those of other cases where the agency failed to consider a range of alternatives without explanation — including a case where "the Ninth Circuit held that by considering only a no-action alternative along with two 'virtually identical alternatives,' the agency had failed to consider a reasonable range of alternatives." *Id*. (citing *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800 (9th Cir. 1999)).

[163] Staff Petition at 22.

[164] *Id*. at 21.

must be "at least 'a brief discussion of reasonable alternatives.'" [165] Consideration of three alternatives does not mean the Staff can omit considering an additional, reasonable, alternative that also satisfies the underlying purpose of the proposed action.

In sum, we agree that in connection with this proposed action it is appropriate for the EA to include a brief analysis of the environmental impacts associated with siting the irradiator at a different location. In our view the Board did not clearly err in requiring the Staff to consider sites other than the proposed site, at the level of detail appropriate for an EA. But let us be clear: we do not find today that alternative sites always must be analyzed in an EA; analysis is appropriate only when such sites are determined to be reasonable alternatives. But in this particular instance, we decline to disturb the Board's determination that an analysis of alternative sites is appropriate.[166]

***2. Off-Site Transportation Accidents***

The Staff argues that the Board committed prejudicial procedural error in its handling of Concerned Citizens' proposed amendment to Contention 3. Further, the Staff and Pa'ina both challenge the Board decision directing the Staff to prepare additional analysis of the impacts of potential accidents during the transportation of cobalt-60 sources. We start with the Staff's arguments.

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[165] Concerned Citizens Opposition to Staff Petition at 19 (citing 545 F.3d at 1153).

[166] Recently, Pa'ina requested, among other things, that we direct the Staff to study two alternative sites, identified by Pa'ina, in order to facilitate the conclusion of this proceeding. Although we see no need to direct the Staff's review in this regard, the Staff is free to consider Pa'ina's suggested sites. *See* Pa'ina Feb. 2010 Motion at 7-9.

*a. Admissibility of Amended Contention 3*

The Staff contends that the Board committed prejudicial error because it did not rule on Concerned Citizens' 2009 Amended Contention 3,[167] and yet made a merits determination on Contention 3 that required the Staff to amend the EA, based in part on information included only with this amended contention (and therefore not subject to merits briefing). The Staff complains particularly about a footnote in the Board's decision, in which the Board directed the Staff to "reconcile its expert's findings with those of [Concerned Citizens'] expert,"[168] where Concerned Citizens' expert Dr. Resnikoff's findings were contained in an attachment to the proposed — and unaddressed — amended contention.[169] This was arbitrary and prejudicial, the Staff argues, because it denied the Staff the opportunity to rebut Concerned Citizens' testimony, which the Staff would have had if the merits of the contention had been litigated. Concerned Citizens maintains that the Board's decision was not prejudicial because the Board's "Initial Decision expressly states the Board based its order on the Staff's failure to 'respond[] to [Concerned Citizens'] specific admitted contention,' not on Concerned Citizens' 'newly filed contention.'"[170]

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[167] *See* Initial Decision at 52.

[168] *Id*. at 51 n.262.

[169] 2009 Amended Contention 3, *Declaration of Marvin Resnikoff, Ph.D. Re: Intervenor Concerned Citizens of Honolulu's Amendment to Environmental Contention 3 Re: Transportation Accidents* (Apr. 2, 2009) (attached) (Resnikoff Testimony).

[170] Concerned Citizens Opposition to Staff Petition at 6 (citing Initial Decision at 51-52 (emphasis added by Concerned Citizens)).

The Board was required to decide whether the proposed amended contention was admissible under 10 C.F.R. § 2.309(f)(2).[171] In declining to rule on Concerned Citizens' 2009 Amended Contention 3, the Board disregarded our rules and also committed prejudicial procedural error. The Board provides little to justify its decision to disregard our contention admissibility requirements with respect to this amended contention.[172] The Board states simply — with no citation to our procedural rules — that it "will refrain from needlessly devoting time and effort to resolving the battle between the Staff and [Concerned Citizens] over the admissibility of its newly filed contention."[173] The Board purports to base its merits decision on the inadequacy of testimony provided previously. But in our view, the Board's direction to the Staff to reconcile its expert's findings with Dr. Resnikoff's findings demonstrates that the Board considered the affidavit associated with the amended contention in making its merits decision. The parties never had the opportunity to challenge the merits of this material and were, in effect, left with a lack of clarity regarding the scope of the admitted contention, and, particularly, the status of proffered testimony. Given these considerations and the five-

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[171] There has been some discussion recently over the application of 10 C.F.R. § 2.309(f)(2) (governing new or amended contentions), and 10 C.F.R. § 2.309(c) (governing untimely petitions). *See generally Southern Nuclear Operating Co.* (Vogtle Electric Generating Plant, Units 3 and 4), LBP-10-1, 71 NRC __ (slip op. Jan. 8, 2010). To be clear, in the circumstances presented here, where Concerned Citizens was admitted to this case as a party at the time it filed Amended Contention 3, consideration of the contention's admissibility is governed by the provisions of § 2.309(f)(2), as well as the general contention admissibility requirements of § 2.309(f)(1).

[172] Nor did the Board otherwise dispose of the contention, for example, by finding that Concerned Citizens' amended contention was somehow moot or had been superseded.

[173] Initial Decision at 52.

year duration of this proceeding, we exercise our authority to consider the admissibility of Concerned Citizens' amendments to Contention 3 on our own initiative.[174]

Under our rules, contentions may be amended or new contentions filed, with permission from the presiding officer, if the petitioner shows that:

> (i) The information upon which the amended or new contention is based was not previously available;
>
> (ii) The information upon which the amended or new contention is based is materially different than information previously available; and
>
> (iii) The amended or new contention has been submitted in a timely fashion based on the availability of the subsequent information.[175]

As discussed below, we find that Concerned Citizens satisfied these requirements and we admit Amended Contention 3.

Concerned Citizens filed Amended Contention 3 on April 6, 2009, in response to Mr. Easton's March 5, 2009, testimony. The Board explained earlier in the proceeding that it would consider a contention filed within 30 days of the issuance of a document that "legitimately undergirds" the contention "as timely and presumptively meeting the good cause requirement of section 2.309(c)(1)(i) and (f)(2)(iii)."[176] We find this to be a reasonable deadline, which Concerned Citizens met in filing Amended Contention 3.

Additionally, the amended contention was based on new and materially different information, previously unavailable, thus satisfying § 2.309(f)(i) and (ii). The Board's

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[174] *Compare Crow Butte Resources, Inc.* (North Trend Expansion Project), CLI-09-12, 69 NRC 535, 552-54 (2009) (in which the Commission found that the Board did not provide clarity on the scope of admitted contentions, and reformulated the contentions).

[175] 10 C.F.R. § 2.309(f)(2).

[176] Order (May 1, 2006), at 2-3 (unpublished).

treatment of the 2009 Easton Testimony makes clear that the Board considered the information contained in that testimony to be "new." The Board appears to adopt Concerned Citizens' characterization of the Staff's March 5, 2009, discussion (in its response to Concerned Citizens' Supplemental Statement of Position) as the "first time" the Staff addressed the impacts of transportation accidents.[177] Citing the 2009 Easton Testimony discussion of releases of radioactive material from Type B packages and of the probability that a transportation accident will occur, the Board found that, "in a few, unsupported sentences, the Staff's expert makes broad, generalized statements" marking "the first time the Staff or any of its experts has attempted to respond" to the transportation contention.[178] Significantly, the Board's discussion of the 2009 Easton Testimony in making its merits ruling would have been unnecessary had the information been available from a record source other than this testimony.[179] Moreover, despite the Staff's insistence that Concerned Citizens should have challenged the Staff's asserted reliance on the NUREG-0170 transportation analysis in August 2008,[180] the Staff nowhere identifies where in the record it extended that analysis to the specifics of this action, aside from Mr. Easton's new testimony.

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[177] Initial Decision at 48.

[178] *Id*. at 51.

[179] We note that the Staff specifically identified the part of the 2009 Easton Testimony that was new to the proceeding in opposing Amended Contention 3. The "new" piece is Mr. Easton's view that NUREG-0170's conclusions apply in this case and his confirmation that those "conclusions remain valid in light of more recent data and reports." Staff Opposition to Amended Contention 3 at 9.

[180] *See id*. at 7-10.

The materiality of Mr. Easton's new testimony also is apparent. We note particularly the Board's references to the 2009 Easton Testimony[181] and the Board's identification of inconsistencies between this testimony and Dr. Resnikoff's testimony.[182] The Board's consideration of Dr. Resnikoff's testimony prompted another anomaly: the Staff attaches a supplemental affidavit (the Easton Affidavit) to its petition for review. The Easton Affidavit contains supplemental testimony intended to counter the Resnikoff Testimony. Moreover, Concerned Citizens' response to the Staff Petition makes assertions that, had the amended contention been admitted properly, likely would have been subject to merits briefing by the parties and questioning by the Board.[183] Given the confusion in the adjudicatory record due to the Board's error, we remand the remaining pieces of Contention 3,[184] as amended and admitted today, to the Board for further consideration.

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[181] Initial Decision at 50-51.

[182] *Id*. at 51 n.262.

[183] Concerned Citizens asserts that this supplemental affidavit "merely reaffirms that transportation accidents resulting in releases of radioactive material do, in fact, occur." Concerned Citizens Opposition to Staff Petition at 10. Concerned Citizens argues that the Staff expert's "claim that, if packages are not properly secured or prepared, they are not, by definition, 'Type B' ignores that failures to follow procedures and comply with permit conditions are often key factors that lead to accidents and result in impacts on the human environment." *Id*.

[184] Contention 3 consists of: deficiency number 1, ninth comment and deficiency number 3, ninth instance (allegation). *See* Initial Decision at 29 ("the Staff either ignored or shunted aside with conclusory statements . . . the failure of the EA 'to examine accidents involving transportation of [cobalt]-60 sources to and from the proposed irradiator.'"); *id*. at 47 ("while the [f]inal EA considers . . . [t]ransportation impacts from normal operations, it fails to examine the likelihood and consequences of accidents that might occur during the annual transport of [cobalt]-60 sources to and from the proposed irradiator." (internal quotation marks omitted)); and discussion *id*. at 47-52.

*b. Legal Challenges Associated with Contention 3*

The Staff argues that the Board made two substantive errors of law as part of its ruling on Contention 3. First, the Board concluded that the operation of the Pa'ina irradiator and the impacts of the transportation of cobalt-60 are connected actions under NEPA.[185] Although the Staff concedes that transportation of sources to the Pa'ina irradiator would be an indirect effect of the licensing action,[186] the Staff nevertheless argues that the transportation of cobalt-60 sources and the operation of the proposed irradiator are not "connected actions" under NEPA because neither the operation of the irradiator nor the transportation is a federal action. According to the Staff, the Board's analysis confuses "indirect effects" under 40 C.F.R. § 1508.8(b)[187] with "connected actions" under 40 C.F.R. § 1508.25(a)(1),[188] and we should take review to clarify that a

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[185] Initial Decision at 49-50.

[186] Staff Petition at 14.

[187] "Effects" are defined in 40 C.F.R. § 1508.8 to include:

> (a) Direct effects, which are caused by the action and occur at the same time and place.
>
> (b) Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

[188] "Connected actions . . . are closely related and therefore should be discussed in the same impact statement. Actions are connected 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.

(Continued . . .)

"connected action" theory does not apply.[189]

From Concerned Citizens' perspective, the Staff's argument is beside the point. Concerned Citizens argues that the Staff must consider all impacts, whether characterized as direct, indirect, or cumulative, and must consider actions, including those carried out by others, if they are "connected actions."[190] On this point, we agree with Concerned Citizens.

Whether the Staff is required to assess transportation impacts as a "connected action" or as an "indirect effect" is a distinction that is not outcome-determinative in this case, and we need not decide it here. NEPA requires the consideration of reasonably foreseeable environmental impacts. The licensing action at issue involves a materials license for cobalt-60 sources for use in an industrial irradiator. The use of that materials license carries with it the potential for transportation impacts associated with source shipments to and from the irradiator site. The scope and severity of such impacts, and whether they are reasonably foreseeable in the first instance, involve questions of fact that are at the very heart of the contested issue.

This leads to the Staff's second legal challenge to the Initial Decision's ruling on this portion of Contention 3. The Board concluded that the Staff failed to address adequately the environmental impacts associated with transportation accidents in its EA, and directed the Staff to amend the EA to directly and sufficiently respond to the

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(iii) Are interdependent parts of a larger action and depend on the larger action for their justification. 40 C.F.R. § 1508.25(a)(1).

[189] Staff Petition at 14.

[190] Concerned Citizens Opposition to Staff Petition at 14.

contention.[191] The Staff maintains that it need not amend the EA to analyze the environmental consequences of transportation accidents, because such consequences are not reasonably foreseeable.[192] Concerned Citizens counters that impacts are reasonably foreseeable under NEPA, and must be analyzed publicly, "even if their probability of occurrence is low."[193] In their pleadings on review, the Staff and Concerned Citizens dispute the adequacy of Type B packaging and the historical occurrence of transportation accidents. These disputed issues involve fact questions, the resolution of which will guide the determination of whether the environmental consequences of transportation accidents are reasonably foreseeable, and therefore should be included in the Staff's EA. The Board should resolve these issues on remand during its consideration of now-admitted Amended Contention 3.

For its part, Pa'ina argues that the Staff should not be required to evaluate transportation accidents because the cobalt-60 will be shipped by a currently unknown separate Part 71 licensee, not a party to this proceeding, by a route currently unknown, for which mitigation methods cannot presently be assessed.[194] Here again, in our view, Pa'ina raises a factual issue that should be litigated at an evidentiary hearing.

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[191] Initial Decision at 50-52.

[192] Staff Petition at 11 (citing *Warm Springs Dam Task Force v. Gribble*, 621 F.2d 1017, 1026-27 (9th Cir. 1980) (an agency would not proceed in the face of any substantial risk that a dam might fail, making consequences of such a failure "remote and speculative." Therefore, detailing "the catastrophic results of the failure of a dam" in an EIS "would serve no useful purpose.")). *See also* Staff Petition at 13.

[193] Concerned Citizens Opposition to Staff Petition at 11 (citing 40 C.F.R. § 1502.22(b)(4), and *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016, 1033 (9th Cir. 2006), *cert. denied sub nom. Pac. Gas & Elec. Co. v. San Luis Obispo Mothers for Peace*, 549 U.S. 1166 (2007)).

[194] Pa'ina Petition at 11.

Pa'ina makes three other arguments, none of which raises a substantial question as to the Board's findings of fact or conclusions of law. Pa'ina challenges the relevance of several cases cited by the Board on the transportation issue. In particular, Pa'ina argues that analogies to situations where we have considered the environmental impacts of construction activities — such as road, rail, or transmission line construction — outside the physical boundaries of a proposed facility are inapposite because there will be no offsite rail or road construction activities related to construction of the Pa'ina irradiator.[195] While it is true that the cases cited by the Board involved offsite construction,[196] and offsite construction does not appear to be part of the plan here even immediately adjacent to the proposed site, it does not follow that offsite consequences need not be considered. As stated above, construction and operation of the irradiator carries with it transportation of the necessary cobalt-60 sources; this linkage means that all reasonably foreseeable impacts, including any reasonably foreseeable impacts of accidents resulting from transportation of the sealed sources to and from the irradiator, may be appropriate for consideration in the Staff's EA.

Pa'ina argues, based on the Board's earlier dismissal of two "near-identical" safety contentions, that "[i]f the transportation of [cobalt]-60 to and from Hawaii was not a relevant safety issue connected to Pa'ina's materials license application in 2006, then logically there could be no relevant environmental impacts attributable to, or the

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[195] *Id*. at 12.

[196] Initial Decision at 50 (citing *Kansas Gas & Electric Co.* (Wolf Creek Nuclear Generating Station, Unit No. 1), CLI-77-1, 5 NRC 1, 8 (1977) (access road and rail spur) and *Detroit Edison Co.* (Greenwood Energy Center, Units 2 and 3), ALAB-247, 8 AEC 936 (1974) (high voltage transmission lines)).

responsibility of, Pa'ina in 2009."[197] "The AEA and NEPA contemplate *separate* NRC reviews of proposed licensing actions."[198] While our safety and environmental reviews may consider overlapping concerns, they are separate and independent, with differing objectives and scope, governed by different statutes with different requirements. Consequently, the fact that the Board dismissed a safety-related transportation contention is not dispositive of the merits of the NEPA-based transportation contention.

Finally, Pa'ina argues in the alternative that "the Board should have ordered the [Generic Environmental Impact Statement] on the transportation of radioactive material in urban areas to be incorporated into the EA, and no comment period would be necessary because (1) the [Generic Environmental Impact Statement] when developed was available for public comment, and has been ever since, and (2) the documents and files in this proceeding have been available for over four years."[199] The Board observed that the only cited Generic Environmental Impact Statement[200] does not consider specifically the transportation of radioactive material in urban areas.[201] Given our

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[197] Pa'ina Petition at 11.

[198] *Florida Power and Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 13 (2001) (emphasis in original) (citing *Limerick Ecology Action v. NRC*, 869 F.2d 719, 729-31 (3d Cir. 1989)).

[199] *Id*. at 12.

[200] NUREG-0170, *Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes* (Dec. 2007).

[201] *See* Initial Decision at 49 n.255 ("the document to which the Staff cites, NUREG-0170, does not, by its own admission, 'specifically consider facets unique to the urban environment,' the environment in which the proposed irradiator is located. . . . Rather, NUREG-0170 states that '[a] separate study specific to such considerations is being conducted and will result in a separate environmental statement specific to such an urban environment.'" Initial Decision at 49 n.255, citing NUREG-0170 at iv. "To date, the Staff has not filed or cited the allegedly forthcoming and relevant environmental (Continued . . .)

decision to remand Contention 3 to the Board, the applicability of NUREG-0170 to the environmental review associated with the Pa'ina application, in our view, is an issue appropriate for further consideration by the Board in conjunction with that contention.

***3. Comment Period***

As a final matter, the Staff argues that the Board's decision to require a brief public comment period following issuance of a revised or supplemental environmental assessment was clear error because neither the settlement stipulation nor Ninth Circuit precedent mandates a comment period for an EA supplement.[202] Concerned Citizens responds that the Staff's interpretation of the settlement stipulation "elevates form over substance" and that the "clear intent" of the settlement stipulation was to guarantee the public a meaningful opportunity to offer responsive input on the Staff's analysis, including the Staff's analysis of the potential impacts of Pa'ina's proposal and "alternatives that might be pursued with less environmental harm."[203] Concerned Citizens maintains that because the EA omitted any discussion of the environmental impact of transportation accidents, alternate sites, or the e-beam alternative, the Staff's analyses will include new information on those subjects, and "[t]he Board properly recognized that an additional comment period was necessary" to ensure compliance with the settlement stipulation.[204]

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study on the transportation of radioactive material in urban environments." Initial Decision at 49 n.255.).

[202] Staff Petition at 23-25.

[203] Concerned Citizens Opposition to Staff Petition at 22.

[204] *Id*. at 23. Additionally, Concerned Citizens argues, the Staff's failure to provide analysis of transportation accidents and the two alternatives in the EA or in the proceeding before the Board deprived Concerned Citizens and the general public of their (Continued . . .)

As part of the settlement stipulation, the Staff stated that it would "prepare an environmental assessment for [Pa'ina's] proposed irradiator"[205] and "prior to making any final finding," committed to making its draft finding of no significant impact available "for public review and comment" and to holding "at least one public meeting in Honolulu, [Hawaii] at which the public will have the opportunity to offer comment on the record."[206] We agree with the Board that the previous comment period does not satisfy the stipulation agreement in light of the supplementation of the EA. We therefore find that the Board did not err in requiring a brief written comment period to allow the public to address the amended or supplemented EA. In our view, providing such a comment period is consistent with the underlying intent of the settlement stipulation. A comment period also is consistent with the public participation goals of NEPA. "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."[207]

***4. Pa'ina's Request to Reinstate the Categorical Exclusion***

Pa'ina argues that the dismissal of a large number of Concerned Citizens' contentions shows that there were no "special circumstances" taking the proposed

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opportunity to "weigh in with their views and thus inform the agency decision-making process." *Id.* (citing Initial Decision at 13 (quoting *Bering Strait Citizens for Responsible Res. Dev. v. U.S. Army Corps of Eng'rs*, 524 F.3d 938, 953 (9th Cir. 2008))).

[205] Settlement Stipulation at 1.

[206] *Id*. at 2.

[207] *Bering Strait,* 524 F.3d at 953. *See* 40 C.F.R. § 1500.1(b) ("NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA. . . .").

irradiator out of 10 C.F.R. § 51.22(c)(14)(vii)'s "categorical exclusion" of irradiators from projects requiring environmental assessments — in short, the "categorical exclusion" appropriately applied to the Pa'ina irradiator. Pa'ina argues further that Concerned Citizens' contentions were a "disguised challenge" to 10 C.F.R. § 51.22(c)(14)(vii), and as such an impermissible challenge to the NRC's regulations.[208] Pa'ina maintains that since the application should have been categorically excluded from NEPA analysis, the Board's decision is in error "and will result in time-consuming, redundant, 'gratuitous analyses.'"[209]

These arguments echo earlier Pa'ina arguments[210] rejected by the Board[211] because of the procedural posture of the "categorical exclusion" issue. We again reject them, for the reasons articulated by the Board. Quite simply, the Staff waived "categorical exclusion" status for the Pa'ina application in the settlement stipulation entered into by the Staff and Concerned Citizens and accepted by the Board. Later resolution of contentions, whether dismissed at the contention admissibility stage or rejected on the merits, does not alter the fact that the categorical exclusion has been waived for the purposes of this proceeding. As the Board noted:

> Ordinarily, the Staff need not prepare an environmental assessment for an irradiator facility because irradiators fall under the categorical exclusion of 10 C.F.R. § 51.22(c)(14)(vii). Here, however, the Staff, in effect, waived the categorical exclusion in the joint stipulation and thus was obligated to prepare an environmental assessment in full compliance with NEPA and applicable precedent, including those of the United States

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[208] Pa'ina Petition at 13.

[209] *Id*. at 14.

[210] Pa'ina Categorical Exclusion Motion. *See also* Pa'ina's Initial Statement of Position at 11-12.

[211] Categorical Exclusion Order.

> Court of Appeals for the Ninth Circuit — the federal circuit encompassing Hawaii.[212]

The Staff committed to performing an environmental review that satisfies NEPA. This commitment stands, even if "special circumstances" that would otherwise justify removing the proposed action from the exclusion were not present. We decline to reinstate the categorical exclusion.

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One additional matter merits discussion. Once a hearing is granted under Subpart L, our rules require an informal oral hearing on the merits, except in the limited circumstances described in 10 C.F.R. § 2.1206:

> Hearings under this subpart will be oral hearings as described in § 2.1207, unless . . . the parties unanimously agree and file a joint motion requesting a hearing consisting of written submissions. A motion to hold a hearing consisting of written submissions will not be entertained unless there is unanimous consent of the parties.[213]

Additionally, in connection with our 2004 Part 2 revisions, in our discussion of Subpart L, we stated:

> [T]he Commission believes that if the presiding officer has the opportunity to examine the witnesses, the presiding officer will be able to gain a better understanding of the testimony, and efficiently oversee the development of evidence relevant to the resolution of the contested matter in the hearing. Written follow-up questions propounded by a presiding officer are, at best, an inefficient substitute for the "back-and-forth" ability of a presiding officer to question witnesses orally, and experience indicates consumes more time and resources of the presiding officer and parties.

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[212] Initial Decision at 3 n.14.

[213] Merits issues sometimes may be resolved via summary disposition, which would obviate the need for a hearing. But that did not occur here. The Board expressly informed the parties that it would not entertain motions for summary disposition (*see* Initial Decision at 7 nn.33 & 35). The Staff nonetheless filed a motion for summary disposition as to several subsections of Contention 3, which the Board declared to be moot following its resolution of Contention 3 on the merits. *Id.* at 7 n.35.

> For these reasons, the Commission concludes that an oral hearing should be provided for in a Subpart L proceeding. . . .[214]

Prior to 2004, our rules of practice prescribed that hearings held under Subpart L — as this proceeding would have been — were to be informal "paper hearings," with oral presentations permitted only upon a determination by the presiding officer that such presentations were necessary to create an adequate record for decision.[215] Our 2004 changes to the rules, however, expressly did away with this format in its entirety, shifting the focus of Subpart L to oral hearings.[216] Although the Board has broad authority to regulate the conduct of the proceeding before it, it is beyond the Board's discretion to abrogate our oral hearing rule entirely, and proceed as though our prior rules were still in effect.

The Board conceded that a hearing was required in this case, but nonetheless attempted to justify its decision to eschew a hearing on the merits of the admitted environmental contentions, stating:

> Although the Commission's Subpart L regulations appear to require a mandatory oral hearing, the regulations also provide that "[p]articipants and witnesses will be questioned orally or in writing and only by the presiding officer." Because the Board has concluded from the parties' filings that it has no critical factual questions for the parties and that convening such a session cannot be justified, the Board informed the parties that it would not hold an oral hearing in Hawaii."[217]

Nothing in the record reveals a desire on the part of the parties to this proceeding to hold the hearing via written submissions. In fact, the history of the proceeding shows

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[214] Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2213 (Jan. 14, 2004) (2004 Final Rule).

[215] *See* 10 C.F.R. § 2.1233 (2001).

[216] *See* 2004 Final Rule, 69 Fed. Reg. at 2213.

[217] Initial Decision at 9.

that all — including the Board — anticipated an oral hearing.[218] In addition, as a practical matter, it is evident that the Board would have benefited from evidentiary presentations, at least on the issues raised by the parties on appeal. As a consequence of the Board's decision to forego an oral hearing, the adjudicatory record was left muddled and incomplete — a result that likely would have been rectified by an evidentiary hearing. We therefore direct the Board, as it moves forward in this proceeding with respect to its resolution of Amended Contention 3, to conform to our Subpart L rules and hold a hearing prior to its final decision on the merits of the remaining issues.

This proceeding has been before the agency for five years, and its timely resolution is paramount. As discussed above, we are compelled to direct further action in this case, including consideration of Amended Contention 3, as limited and admitted today, at an evidentiary hearing. We expect the Board to expeditiously implement this directive. To that end, as an exercise of our inherent supervisory authority over adjudicatory proceedings,[219] we direct the Board to provide us with a status report

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[218] The Board requested on three separate occasions that the parties set aside time for an oral hearing. *See* Order (Submission of a Joint Proposed Schedule) (Apr. 29, 2008) (unpublished), at 1 (directing counsel to provide possible dates for oral hearing); Order (Scheduling Order) (July 17, 2008), at 6 (unpublished) ("a subsequent Order will be issued that sets the date of the Oral Hearing."); Order (Directing parties to Submit Scheduling Information for Hearing) (Aug. 7, 2008), at 1 (unpublished) (ordering parties to provide dates in January, February, and March 2009 when counsel and witnesses would not be available for a hearing); Order (Ruling on Intervenor's Motion to Strike Testimony, Releasing Previously Reserved Hearing Dates, and Directing Parties to Submit Scheduling Information for Hearing), at 3 (Dec. 4, 2008) (unpublished) (directing parties to provide dates in May, June, and July 2009 when counsel and witnesses would not be available for a hearing).

[219] *See, e.g., Oyster Creek*, 69 NRC at 284 (citing *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), CLI-90-3, 31 NRC 219, 229 (1990); *Carolina Power* (Continued . . .)

outlining the Board's timetable for resolving all pending matters. The Board should provide this status report no later than August 9, 2010.

## III. CONCLUSION

For the foregoing reasons, we *grant* the Staff petition for review in part and *deny* it in part, and *deny* the Pa'ina petition for review. We *admit* Amended Contention 3, and *remand* this contention to the Board for further consideration consistent with today's decision. We *affirm* the Board's decision to require the Staff to undertake additional consideration, in connection with Contention 4, of the e-beam irradiator technology and of alternative sites, consistent with this decision. We *affirm* the Board's decision to require a brief period for written public comment on the amended or supplemental EA. We *deny* Pa'ina's request to reinstate the categorical exclusion for its proposed irradiator. Finally, we *direct* the Board, pursuant to our inherent supervisory authority over adjudicatory proceedings, to hold a hearing prior to its final decision on the merits of the contentions that remain, as discussed herein.

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*and Light Co.* (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, and 4), CLI-80-12, 11 NRC 514, 516-17 (1980)).

IT IS SO ORDERED.

For the Commission

**[NRC SEAL]**

**/RA/**

Annette L. Vietti-Cook
Secretary of the Commission

Dated at Rockville, Maryland,
this 8th day of July, 2010.