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May 1, 2006

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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May 2, 2006 (8:45am)

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

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

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

INTERVENOR CONCERNED CITIZENS OF HONOLULU'S
MOTION FOR LEAVE TO AMEND SAFETY CONTENTIONS #4 AND #6

I. INTRODUCTION

Pursuant to 10 C.F.R. § 2.309(c) and (f)(2), intervenor Concerned Citizens of Honolulu seeks leave to amend those portions of Safety Contentions #4 and #6 that challenge applicant Pa'ina Hawaii, LLC's failure to include in its application for an industrial irradiator any outlines of emergency procedure for situations involving loss of electricity and natural disasters.¹ In March 2006, Pa'ina belatedly submitted the missing outlines to the Nuclear Regulatory Commission staff ("Staff"). Unfortunately, as described in greater detail herein, the procedures Pa'ina now proposes are wholly inadequate to protect the public or the environment from potentially disastrous radioactive releases and, thus, fail to satisfy the fundamental requirement

¹ While Concerned Citizens believes section 2.309(f)(2) alone provides adequate authority to amend Safety Contentions #4 and #6 to address subsequently filed documents, in an abundance of caution, Concerned Citizens will also address herein the factors set forth in section 2.309(c). See Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc. (Vermont Yankee Nuclear Power Station), LBP-04-28, 60 NRC 548, 578 (2004) (noting section 2.309(c) and (f)(2) provide alternate means for intervenor to seek leave to file new contention where subsequently filed document "provides information 'not previously available' that is 'materially different'"); see also id. at 567 n.24 ("If new and materially different information later comes to light, we may entertain a motion for leave to file a new contention under 10 C.F.R. § 2.309(f)(2)").

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SECY-02

that Pa'ina ensure the proposed irradiator would "protect health and minimize danger to life or property." 10 C.F.R. § 30.33(a)(2). The Board should grant Concerned Citizens leave to amend its contentions to address the proposed emergency procedures' deficiencies, since the issues Concerned Citizens seeks to raise are central "to the findings the NRC must make to support the action that is involved in the proceeding," and Concerned Citizens otherwise satisfies all requirements for amending its contentions. Id. § 2.309(f)(1)(iv).

II. PROCEDURAL AND FACTUAL BACKGROUND

On October 3, 2005, Concerned Citizens timely filed a request for hearing on Pa'ina's application for a license for possession and use of byproduct material in connection with the construction and operation of a commercial pool-type industrial irradiator using a cobalt-60 source at the Honolulu International Airport. Among other issues, Concerned Citizens' hearing request included contentions regarding Pa'ina's "Failure to Address Accidents Involving Prolonged Loss of Electricity" (Safety Contention #4) and "Inadequate Provision for Natural Phenomena" (Safety Contention #6). 10/3/05 Hearing Request at 13, 15. These contentions challenged (1) the omission from Pa'ina's application of any outlines of the emergency procedures required pursuant to 10 C.F.R. § 36.53(b)(6) and (9); (2) Pa'ina's failure to address "the range of accidents that would arise from a loss of electricity;" (3) its failure to "discuss the potential for ... emergency events" involving natural disasters such as tsunamis and hurricanes; and (4) the inadequacy of Pa'ina's proposed irradiator design to protect the public and the environment from such threats, as 10 C.F.R. § 30.33(a)(2) requires. Id.; see also 12/1/05 Reply in Support of Hearing Request at 15, 17-19.

On January 24, 2006, the Board granted Concerned Citizens' request for hearing, finding Concerned Citizens has standing and its two environmental contentions are admissible. Pa'ina

Hawaii, LLC (Material License Application), LBP-06-04, 63 NRC ____ (2006) (“1/24/06 Order”). The Board deferred consideration of Concerned Citizens’ contentions related to safety concerns to allow for additional disclosures and briefing.

The following day, the Staff sent Pa’ina a letter detailing various deficiencies in its application, including Pa’ina’s failure to “provide ‘outlines’ for the procedures in 10 CFR 36.53(b)(5) and (9),” including “emergency procedures for natural phenomena” such as “an earthquake, a tornado, flooding, or other phenomena as appropriate for the geographical location of your facility.” 1/25/06 Staff Letter at 3, available on ADAMS at ML060260023. The Staff instructed Pa’ina to provide these emergency procedure outlines.

On March 9, 2006, in response to the Staff’s deficiency letter, Pa’ina submitted its outline of emergency procedures for natural disasters. See Exh. 1: 3/9/06 Pa’ina Letter at 6-7, available on ADAMS at ML060730528.²

On March 24, 2006, the Board issued an order admitting three of Concerned Citizens’ safety contentions, including contentions related to accidents due to prolonged loss of electricity (Safety Contention #4) and threats from natural disasters including tsunamis and hurricanes (Safety Contention #6). Pa’ina Hawaii, LLC (Material License Application), LBP-06-12, 63 NRC ____ (2006) (“3/24/06 Order”).

On March 31, 2006, Pa’ina submitted for the Staff’s review an outline of emergency procedures for prolonged loss of electrical power. See Exh. 2: 3/31/06 Pa’ina Letter, available on ADAMS at ML061000640.

Pa’ina did not serve Concerned Citizens with copies of either its March 9, 2006 or March 31, 2006 submittals to the Staff. Henkin Dec. at ¶ 5. Accordingly, Concerned Citizens was

² For ease of reference, Concerned Citizens has Bates-stamped this document.

unaware of the existence of any such documents until April 3, 2006, when, in reviewing Pa'ina's appeal of LBP-06-04 and LBP-06-12, its counsel noticed, in a footnote, Pa'ina's claim it had submitted the missing emergency procedure outlines. Id.; see also 4/3/06 Pa'ina Appeal at 4 n.3.³ Pa'ina's cursory mention of these submittals did not specify either when the documents were submitted or where copies of them could be secured.

Concerned Citizens first learned Pa'ina's March 9, 2006 submittal was available on the Agencywide Documents Access and Management System ("ADAMS") on April 6, 2006, when Pa'ina's counsel first contacted Concerned Citizens regarding this matter. Henkin Dec. at ¶ 6; see also Exh. 3: 4/6/06 Benco Email. At that time, Pa'ina's March 31, 2006 submittal was not available on ADAMS, and Pa'ina did not provide Concerned Citizens with a copy. Henkin Dec. at ¶ 6; 4/6/06 Benco Email. Due to technical problems with ADAMS, Concerned Citizens was unable to locate a copy of Pa'ina's March 31, 2006 submittal until Pa'ina's counsel provided the ADAMS accession number on April 17, 2006. Henkin Dec. at ¶¶ 8, 10.

During the month of April, in addition to addressing the other cases for which he is responsible, Concerned Citizens' counsel had numerous pleadings to prepare in connection with this proceeding, including an opposition to Pa'ina's April 3, 2006 appeal of LBP-06-04 and LBP-06-12, a reply in support of entry of the joint stipulation regarding its environmental contentions, and a proposed hearing schedule. Id. at ¶ 7. Despite the press of other business, to secure a timely analysis of the adequacy of Pa'ina's proposed emergency procedures, Concerned Citizens' counsel promptly forwarded to expert Dr. Marvin Resnikoff copies of the March 9 and 26 submittals as soon as they were secured. Id. at ¶¶ 8-9. Concerned Citizens brings the present

³ Concerned Citizens' counsel was out of the office on travel from March 13 to 31, 2006. See 3/8/06 Henkin Letter, available on ADAMS at ML061110444; Henkin Dec. at ¶ 7.

motion for leave to amend Safety Contentions #4 and #6 less than thirty days after first reviewing Pa'ina's March 9, 2006 submittal and only two weeks after first securing a copy of the March 31, 2006 submittal.

III. THE BOARD SHOULD GRANT LEAVE TO AMEND SAFETY CONTENTIONS #4 AND #6

As discussed in Concerned Citizens' opposition to Pa'ina's motion to dismiss, filed herewith, Pa'ina's belated submission of emergency procedures has no effect on those portions of Safety Contentions #4 and #6 that challenge Pa'ina's failure to address "the range of accidents that would arise from a loss of electricity," its failure to "discuss the potential for ... emergency events" involving natural disasters such as tsunamis and hurricanes, and the inadequacy of Pa'ina's proposed irradiator design to protect the public and the environment from either type of threat. 10/3/05 Hearing Request at 13, 15; see also Reply in Support of Hearing Request at 15, 17-19. Those submittals did, however, render moot those portions of the contentions challenging the omission in Pa'ina's application of any emergency procedure outlines.

Where, as here, "a contention is 'superseded by the subsequent issuance of licensing-related documents,'" the Board should afford Concerned Citizens the "opportunity to raise amended or new contentions based upon any new data or conclusions found in [Pa'ina's] responses to Staff [Requests for Additional Information]." Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 382, 384 (2002) (quoting Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1050 (1983)). Having reviewed Pa'ina's proposed emergency procedures for prolonged loss of electricity and for natural disasters, Concerned Citizens contends they are grossly inadequate "to protect health and minimize danger to life or property," as required by 10

C.F.R. § 30.33(a)(2). For the reasons set forth below, the Board should grant leave for Concerned Citizens to amend Safety Contentions #4 and #6 to address these deficiencies.

A. Pa'ina's Proposed Emergency Procedures for Prolonged Electricity Loss Are Inadequate.

Pa'ina's proposed emergency procedures for prolonged electricity loss are fatally flawed because they fail to address situations in which the Area Radiation Monitor ("ARM") and/or Water Radiation Monitor ("WRM") are no longer functioning or no longer function properly. Resnikoff Dec. at ¶ 4. Rather, all the procedures require is that the Radiation Safety Officer or Irradiator Officer determine "if the ARM and WRM are functioning properly." 3/31/06 Pa'ina Letter (emphasis added). If either monitor is found not to be functioning properly (or at all), Pa'ina fails to provide for any emergency remedial action to be taken.

Pa'ina's application is silent regarding whether there is any back-up power supply or batteries for these monitors. If not, neither monitor would function at all in the event of a power outage. Resnikoff Dec. at ¶ 5. Even if there were, Pa'ina has failed to demonstrate its alternate power source would be adequate to keep the monitors functioning properly during prolonged electricity loss. Id. Moreover, with or without a back-up power source, the monitors are at risk of damage from power surges when power is restored. Id.

Proper functioning of both the ARM and WRM is vital to ensure Pa'ina's compliance with numerous regulations designed to protect the public and the environment from releases of radiation. Resnikoff Dec. at ¶ 6. For example, Pa'ina's failure to ensure proper functioning of the ARM risks violating 10 C.F.R. § 36.29(b), which requires underwater irradiators that are not in a shielded radiation room to "have a radiation monitor over the pool to detect abnormal radiation levels." See also Resnikoff Dec. at ¶ 6. Proper functioning of both the ARM and

WRM is also needed to comply with 10 C.F.R. § 36.29(a), since both monitors are needed to detect radiation leaks that trigger automatic shut-off of product conveyance. Id.; see also Application at 25.⁴

In its March 9, 2006 letter, Pa'ina responded to a Staff inquiry by clarifying that it intends to rely exclusively on continuous monitoring by the WRM to comply with 10 C.F.R. § 36.59(b)'s requirements for leak testing. See 3/9/06 Pa'ina Letter at 7-8. Because of its exclusive reliance on the WRM, if that monitor is not functioning properly, either during prolonged electricity loss or resulting from a power surge when electricity is restored, Pa'ina would not be able to satisfy section 36.59(b) and, thus, could not determine whether potentially hazardous radiation leaks were taking place, posing threats to the public and environment. Resnikoff Dec. at ¶ 7. Moreover, without a functioning WRM to allow for accurate testing of pool water for radiation, Pa'ina cannot comply with 10 C.F.R. § 36.83(a)(7)'s mandatory reporting requirements, which are vital to the Staff's oversight of Pa'ina's operations for compliance with safety and environmental requirements.

To ensure adequate protection of the public and the environment and to comply with the Commission's regulatory requirements, Pa'ina must ensure the proper functioning of both the ARM and WRM during and following power outages. Id. at ¶ 8. In situations where, despite those efforts, the ARM or WRM nonetheless is not functioning properly, Pa'ina's emergency procedures must ensure that irradiator operations will immediately cease and that replacement monitors that function properly will be immediately installed. Id. Since Pa'ina's proposed

⁴ Pa'ina must comply with 10 C.F.R. § 36.29(a)'s requirement that "product conveyors must stop automatically" if the monitor detects a source, since its proposed irradiator has a system that conveys product automatically and product would not "move within an enclosed stationary tube." See Application at 25 (bells with product automatically move through irradiation process). If one or more monitors is not functioning, compliance with this important safety requirement is impossible.

emergency procedures would fail to achieve these minimum goals, they are deficient. Id.; see also 58 Fed. Reg. 7,715, 7,717 (Feb. 9, 1993) (outlines in application must “specifically state the radiation safety aspects of the procedures”).

B. Pa‘ina’s Proposed Emergency Procedures for Natural Disasters Would Not Protect the Public or Environment from Harm.

As the tsunami in southeast Asia in December 2004 and the hurricanes along the Gulf Coast in 2005 abundantly demonstrated, a tsunami or hurricane could bring down the proposed irradiator’s entire building and cranes. Id. at ¶ 9. Such natural disasters could also undermine the foundation for the irradiator. They could crack the pool lining, allowing the shielding water to escape. Without a viable structure or an intact pool, members of the public could be exposed to unshielded Cobalt-60. Id.

Even if the entire irradiator were not destroyed, flooding associated with a tsunami or hurricane could short out the electricity and any battery backup, rendering radiation monitors inoperable. Id. at ¶ 10. Radiation monitors, handheld survey meters, heat exchangers, and tanks containing compressed air for the bells and helium for the plenum could also be washed away or disengaged. Without any means to detect radiation leaks, Pa‘ina could not ensure against harmful exposures to the public, including emergency responders.

Without an intact compressed air supply, water would enter the product bells, contaminating the pool water and ion exchange resins with food stuff. Id. at ¶ 11. A break in the helium line would submerge the Cobalt-60 pencils. A break in either the helium or compressed air line could therefore plug the ion exchange filter and prevent the water from being cleaned, violating 10 C.F.R. §§ 36.33(e), 36.39(d), and 36.63’s requirements for pool water purity.

Pa'ina's proposed procedures for responding to natural disasters fail to provide adequately for any of these situations. Resnikoff Dec. at ¶ 12. Instead, Pa'ina suggests merely that workers shut down operations, if time permits, and then, if possible, "follow local emergency guidance to protect personnel." 3/9/06 Pa'ina Letter at 7. On their return to the facility, "assuming that local authorities have determined that the area is safe to enter," Pa'ina's workers would merely assess the damage and then hold a Radiation Safety Committee meeting to figure out what needs to be done. *Id.* Such procedures are wholly inadequate to protect public safety or the environment. Resnikoff Dec. at ¶ 12.

To comply with 10 C.F.R. § 30.33(a)(2)'s requirement "to protect health and minimize danger to life or property," Pa'ina must outline procedures that would be adequate in the event its facility suffers major damage during a natural disaster. *Id.* at ¶ 13. Such procedures must address situations that include, but are not limited to: cracking of the pool lining that allows shielding water to escape, loss of on-site radiation monitors and survey meters, and/or breaks in helium and compressed air lines. Pa'ina's procedures also must address how to ensure adequate protection of the public and environment in situations where local authorities have determined the area in which the facility is located is not safe for anyone, including Pa'ina's employees, to enter.

Pa'ina's proposed procedures also fail to account for the fact that a natural disaster striking the irradiator would undoubtedly involve emergency responders outside Pa'ina's organization, such as local police and/or fire departments, the Federal Emergency Management Agency, and/or the Federal Aviation Administration. *Id.* at ¶ 14. These entities lack the expertise to respond safely to natural disasters at a nuclear irradiator, and, accordingly, NUREG-1556 specifies applicants must address how outside emergency responders will be notified and/or

trained “regarding the unique concerns and hazards associated with emergencies at the irradiator facility.” NUREG-1556 at 8-50. Pa’ina’s complete failure to provide for such notification and training further evidences the inadequacy of its emergency procedures. Resnikoff Dec. at ¶ 14.

C. Concerned Citizens’ Amended Contentions Satisfy the Requirements for Admission.

1. 10 C.F.R. § 2.309(f)(1).

In the foregoing discussion, Concerned Citizens has provided specific statements of the factual and legal issues to be raised, a brief explanation of the basis for each amended contention, and a concise statement of the alleged facts and expert opinions which support Concerned Citizens’ position on the issues and on which Concerned Citizens intends to rely at hearing, as required by 10 C.F.R. § 2.309(f)(1)(i), (ii) and (v). The core issue raised by both amended contentions – whether Pa’ina has failed to ensure that, in the event of emergencies involving power outages or natural disasters, the public and environment would be adequately protected from radioactive releases, as required by 10 C.F.R. § 30.33(a)(2) – is both within the scope of this proceeding regarding Pa’ina’s application and material to the findings the Board must make herein. See id. § 2.309(f)(1)(iii)-(iv); see also 3/24/06 Order at 24; Entergy Nuclear Vermont Yankee, LLC, 60 NRC at 555-57. By pointing out the specific portions of Pa’ina’s proposed procedures that it disputes, as well as necessary information that has been omitted from Pa’ina’s application, Concerned Citizens has established the amended contentions present genuine disputes on a material issue in accordance with 10 C.F.R. § 2.309(f)(1)(vi).

2. 10 C.F.R. § 2.309(f)(2).

In conformity with 10 C.F.R. § 2.309(f)(2)(i), Concerned Citizens’ amended contentions are based on proposed emergency procedure outlines that were not previously available.

Moreover, since, prior to Pa'ina's submission of these proposed procedures in March 2006, its application contained no discussion whatsoever of emergency procedures for power outages or natural disasters (indeed, Pa'ina vehemently denied it was obliged to submit such outlines), the information upon which Concerned Citizens bases its amended contentions is "materially different than information previously available." 10 C.F.R. § 2.309(f)(2)(ii). Finally, Concerned Citizens has submitted these amended contentions in a timely fashion. *Id.* § 2.309(f)(2)(iii). Even with the flurry of filings in this case, Concerned Citizens formulated and submitted its amended contentions less than thirty days after first securing a copy of Pa'ina's proposed procedures for natural disasters and only two weeks after securing a copy of Pa'ina's proposed procedures for power outages.

3. 10 C.F.R. § 2.309(c).

As discussed in footnote 1, *supra*, Concerned Citizens does not believe consideration of 10 C.F.R. § 2.309(c) is required before the Board can admit the amended contentions; satisfying § 2.309(f)(2) is sufficient. Even if section 2.309(c)'s factors were relevant to the Board's decision, it still should grant Concerned Citizens' request.

Since Pa'ina did not include any emergency procedure outlines in its June 2005 application, Concerned Citizens has good cause for not filing with its original hearing request challenges to the adequacy of outlines that did not then exist. *See* 10 C.F.R. § 2.309(c)(i). "Newly available material information has long been held to provide good cause to file a new contention." Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc. (Vermont Yankee Nuclear Power Station), LBP-04-33, 60 NRC 749, 754 (2004) (citing Consumers Power Co. (Midland Plant, Units 1 and 2), LBP-82-63, 16 NRC 571, 577 (1982)).

The Board has previously held Concerned Citizens has standing to participate in this proceeding under either traditional judicial concepts of standing or proximity-plus standing, due to the “obvious potential for offsite consequences from the significant source of radioactivity housed within the irradiator.” 1/24/06 Order at 8. Both natural disasters and power outages – the subjects of the challenged emergency procedures – threaten injury from radiation exposure to Concerned Citizens’ members, some of whom work and recreate in close proximity to the proposed irradiator site. See id. at 4. Since the Board has already found Concerned Citizens’ “interest may be affected by this proceeding,” and no party has appealed that decision, Concerned Citizens unquestionably has a right to participate in this licensing proceeding. Id. at 2 (quoting 42 U.S.C. § 2239(a)(1)(A)); see also 10 C.F.R. § 2.309(c)(ii). As for the nature and extent of its “interest in the proceeding,” it is to avoid or minimize threats of injury from radiation exposure associated with the irradiator, including possible exposure resulting from the types of emergencies Pa’ina’s deficient procedures are supposed to address. 10 C.F.R. § 2.309(c)(iii).

Since “[t]he proposed irradiator will not be operated without approval and a license from the NRC,” whether and the degree to which Concerned Citizens and its members face threats of injury from radiation – including the adequacy of procedures to address emergency situations – is completely contingent on the ultimate decision on Pa’ina’s license application. 1/24/06 Order at 5. Since the hearing on this application is the only forum in which Concerned Citizens can seek improved emergency procedures and other protections, the factors set forth in section 2.309(c)(iv) and (v) weigh in favor of admitting the amended contentions.

To date, the Staff has opposed admission of every contention Concerned Citizens has proffered, including Safety Contentions #4 and #6. There are no other intervenors in this case,

and, thus, no other existing parties who will or can represent Concerned Citizens' interests. See 10 C.F.R. § 2.309(c)(vi).

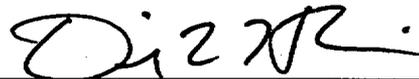
Admitting the amended contentions would not broaden the issues in this licensing proceeding, since, with or without the contentions, the Board would be obliged to consider whether Pa'ina's proposed emergency procedures would be adequate to protect the public and environment. See 10 C.F.R. § 2.309(c)(vii). Nor will it materially increase the time necessary to complete the hearing, since the amended contentions are closely related to the other portions of Safety Contentions #4 and #6, which remain in dispute, and there is significant overlap with the issues the Staff must analyze as part of its environmental assessment. The primary effect of admitting the amended contentions would be to ensure the Board has a fully developed and sound record on which to base its ultimate decision, with Concerned Citizens' experts providing information that otherwise would be missing from the proceeding. See id. § 2.309(c)(viii).

IV. CONCLUSION

For the foregoing reasons, Concerned Citizens respectfully asks the Board to grant leave to file the amendments to Safety Contentions #4 and #6 described above.

Dated at Honolulu, Hawai'i, May 1, 2006.

Respectfully submitted,



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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
Pa'ina Hawaii, LLC)	Docket No. 30-36974-ML
)	ASLBP No. 06-843-01-ML
Materials License Application)	
_____)	

**DECLARATION OF MARVIN RESNIKOFF, Ph.D.
IN SUPPORT OF PETITIONER'S AMENDED SAFETY CONTENTIONS**

Under penalty of perjury, I, Dr. Marvin Resnikoff, hereby declare that:

1. I am a physicist with a Ph.D. in high-energy theoretical physics from the University of Michigan and also the Senior Associate of Radioactive Waste Management Associates (RWMA), a private technical consulting firm based in New York City. I previously filed declarations in support of intervenor Concerned Citizens of Honolulu's Request for Hearing. My credentials to discuss technical issues related to Pa'ina Hawaii, LLC's proposed irradiator were previously stated in my prior declarations and will not be repeated here.

2. Since my last declaration, I have reviewed Pa'ina's March 9, 2006 response to the Nuclear Regulatory Commission staff's January 25, 2006 deficiency letter. Among other things, Pa'ina's March 9, 2006 letter, which is available on ADAMS at ML060730528, provided an outline of emergency procedures for natural disasters. I have also reviewed Pa'ina's March 31, 2006 letter submitting an outline for emergency procedures regarding prolonged electricity loss, which is available on ADAMS at ML061000640.

3. As described in greater detail below, in my opinion, Pa'ina's proposed emergency procedures for prolonged electricity loss and for natural disasters are inadequate "to protect health and minimize danger to life or property," as required by 10 C.F.R. § 30.33(a)(2).

4. **Emergency Procedures for Prolonged Electricity Loss.** Pa'ina's proposed emergency procedures for prolonged electricity loss are fatally flawed because they fail to address situations in which the Area Radiation Monitor ("ARM") and/or Water Radiation Monitor ("WRM") are no longer functioning or no longer function properly. Rather, all they require is that the Radiation Safety Officer or Irradiator Officer determine "if the ARM and WRM are functioning properly." 3/31/06 Pa'ina Letter (emphasis added). If not, Pa'ina fails to provide for any emergency remedial action to be taken.

5. Pa'ina's application is silent regarding whether there is any back-up power supply or batteries for these monitors. If not, neither monitor would function at all in the event of a power outage. Even if there were, Pa'ina has failed to demonstrate its alternate power source would be adequate to keep the monitors functioning properly during prolonged electricity loss. Moreover, with or without a back-up power source, the monitors are at risk of damage from power surges when power is restored.

6. Proper functioning of both the ARM and WRM is vital to ensure Pa'ina's compliance with numerous regulations designed to protect the public and the environment from releases of radiation. For example, Pa'ina's failure to ensure proper functioning of the ARM risks violating 10 C.F.R. § 36.29(b), which requires underwater irradiators that are not in a shielded radiation room to "have a radiation monitor over the

pool to detect abnormal radiation levels.” Proper functioning of both ARM and WRM is also needed to comply with 10 C.F.R. § 36.29(a), since both monitors detect radiation leaks that trigger automatic shut-off of product conveyance. See Application at 25.

7. In its March 9, 2006 letter, Pa’ina clarified it is relying exclusively on continuous monitoring by the WRM to comply with 10 C.F.R. § 36.59(b)’s requirements for leak testing. Without a properly functioning WRM, either during prolonged electricity loss or resulting from a power surge when electricity is restored, Pa’ina could not satisfy 10 C.F.R. § 36.59(b) and, thus, could not determine whether potentially hazardous leaks of radiation were taking place. Moreover, without a functioning WRM to allow for accurate testing of pool water for radiation, Pa’ina cannot comply with 10 C.F.R. § 36.83(a)(7)’s mandatory reporting requirements.

8. In my opinion, to ensure adequate protection of the public and the environment and to comply with the Commission’s regulatory requirements, Pa’ina must ensure the proper functioning of both the ARM and WRM during and following power outages. In situations where, despite those efforts, the ARM or WRM nonetheless is not functioning properly, Pa’ina’s emergency procedures must ensure that irradiator operations will immediately cease and that replacement monitors that function properly will be immediately installed. Since Pa’ina’s proposed emergency procedures fail to achieve these minimum goals, they are deficient.

9. **Emergency Procedures for Natural Disasters.** As the tsunami in southeast Asia in December 2004 and the hurricanes along the Gulf Coast in 2005 abundantly demonstrated, a tsunami or hurricane could bring down the proposed irradiator’s entire building and cranes. Such natural disasters could undermine the

foundation for the irradiator. They could crack the pool lining, allowing the shielding water to escape. Without a viable structure or an intact pool, members of the public could be exposed to unshielded Cobalt-60.

10. Flooding associated with a tsunami or hurricane could short out the electricity and any battery backup, rendering radiation monitors inoperable. Radiation monitors, handheld survey meters, heat exchangers, and tanks containing compressed air for the bells and helium for the plenum could also be washed away or disengaged.

11. Without an intact compressed air supply, water would enter the product bells, contaminating the pool water and ion exchange resins with food stuff. A break in the helium line would submerge the Cobalt-60 pencils. A break in either the helium or compressed air line could therefore plug the ion exchange filter and prevent the water from being cleaned.

12. Pa'ina's proposed procedures for responding to natural disasters fail to provide adequately for any of these situations. Instead, Pa'ina suggests merely that workers shut down operations, if time permits, and then, if possible, "follow local emergency guidance to protect personnel." 3/9/06 Pa'ina Letter. On their return to the facility, "assuming that local authorities have determined that the area is safe to enter," Pa'ina's workers would merely assess the damage and then hold a Radiation Safety Committee meeting to figure out what needs to be done. Id. Such procedures are wholly inadequate to protect public safety or the environment.

13. To comply with 10 C.F.R. § 30.33(a)(2)'s requirement "to protect health and minimize danger to life or property," Pa'ina must outline procedures that would be adequate in the event its facility suffers major damage during a natural disaster. Such

procedures must address situations that include, but are not limited to: cracking of the pool lining that allows shielding water to escape, loss of on-site radiation monitors and survey meters, and/or breaks in helium and compressed air lines. Pa'ina's procedures also must address how to ensure adequate protection of the public and environment in situations where local authorities have determined the area in which facility is located is not safe for anyone, including Pa'ina's employees, to enter.

14. A natural disaster involving the irradiator would undoubtedly involve emergency responders outside Pa'ina's organization, such as local police and/or fire departments, the Federal Emergency Management Agency, and/or the Federal Aviation Administration. These entities lack the expertise to respond safely to natural disasters at a nuclear irradiator, and, accordingly, NUREG-1556 specifies applicants must address how outside emergency responders will be notified and/or trained "regarding the unique concerns and hazards associated with emergencies at the irradiator facility." NUREG-1556 at 8-50. Pa'ina's failure to provide for such notification and training further evidences the inadequacy of its emergency procedures.

Executed at New York, New York on this 28th day of March, 2006.



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NUCLEAR REGULATORY COMMISSION

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Docket No. 30-36974-ML
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DECLARATION OF DAVID L. HENKIN

I, David L. Henkin, declare:

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

2. I make this declaration in support of Concerned Citizens' Motion for Leave to Amend Safety Contentions #4 and #6. This declaration is based on my personal knowledge, and I am competent to testify about the matters contained herein.

3. Attached hereto as Exhibit "1" is a true and correct copy of applicant Pa'ina Hawaii, LLC's March 9, 2006 response to the Nuclear Regulatory Commission staff's ("Staff's") January 25, 2006 letter identifying deficiencies in Pa'ina's June 2005 application. This document is available on the Agencywide Documents Access and Management System ("ADAMS") at ML060730528. For ease of reference, I have added Bates-stamped numbers to the pages of this document.

4. Attached hereto as Exhibit "2" is a true and correct copy of Pa'ina's March 31, 2006 submittal to the Staff of its outline of emergency procedures regarding prolonged electricity loss. This document is available on ADAMS at ML061000640.

5. Pa'ina has never provided Concerned Citizens with copies of either its March 9, 2006 or March 31, 2006 submittals to the Staff, neither at the time they were first submitted nor at any time thereafter. I was unaware of the existence of any such documents until April 3, 2006, when, in reviewing Pa'ina's appeal of LBP-06-04 and LBP-06-12, I noticed, in a footnote, Pa'ina's claim it had submitted the missing emergency procedure outlines. Pa'ina's cursory mention of these submittals in its appeal did not specify either when the documents were submitted or where copies of them could be secured.

6. I first learned Pa'ina's March 9, 2006 submittal was available on ADAMS late in the afternoon of April 6, 2006, when Pa'ina's counsel, Fred Benco, first contacted me via electronic mail to see if Concerned Citizens would agree to dismiss Safety Contention #6 as moot. In his email, Mr. Benco provided the ADAMS accession number for the March 9, 2006 submission. He also noted that Pa'ina's submission of emergency procedures for loss of power was not yet available on ADAMS, but he did not provide a copy of the document. A true and correct copy of Mr. Benco's April 6, 2006 email is attached hereto as Exhibit "3." I have redacted unrelated correspondence among counsel regarding the Second Joint Stipulation and Order Regarding Disclosures.

7. When I received Mr. Benco's April 6, 2006 email, I had recently returned to the office after a three-week absence, and had several time-sensitive matters to attend to, including resolving a fee dispute in federal litigation involving the U.S. Army and drafting an opposition to Pa'ina's April 3, 2006 appeal to the Commission of LBP-06-04 and LBP-06-12. Shortly

thereafter, the Board issued its April 11, 2006 order, which required me to draft a reply in support of the joint motion to dismiss Concerned Citizens' environmental contentions and also to negotiate a schedule for the hearing herein.

8. Despite the press of other business, I immediately got in contact with Concerned Citizens' expert Dr. Marvin Resnikoff to seek his views regarding the adequacy of the procedures outlined in Pa'ina's March 9, 2006 letter to protect the public and the environment from natural disasters. I also checked ADAMS regularly, without success, to see whether Pa'ina's emergency procedures for power outages was available.

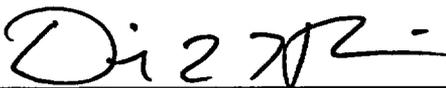
9. Contrary to Mr. Benco's statement in his April 18, 2006 affidavit, the first time he contacted me to enquire whether Concerned Citizens would stipulate to dismiss Safety Contention #4 was in the afternoon of April 17, 2006, via electronic mail. Mr. Benco's April 17, 2006 email was also the first time I learned the ADAMS accession number for Pa'ina's outline of emergency procedures for loss of power. I immediately secured a copy of the document and forwarded it to Dr. Resnikoff for review.

10. Following receipt of Mr. Benco's April 17, 2006 email, I performed a search of ADAMS to determine whether I could have independently located Pa'ina's March 31, 2006 letter. I discovered that, for reasons unknown, I could not access this document by entering as search terms the docket number for this proceedings and the relevant date range, which was the method I had been using. I performed the same type of search today and confirmed that one still cannot locate Pa'ina's March 31, 2006 letter in this manner. Attached hereto as Exhibit "4" are true and correct copies of the search terms and results pages from the ADAMS search I performed today. Apparently, there has been an error in adding this document to ADAMS.

11. Pursuant to 10 C.F.R. § 2.323(b), I made a sincere effort to secure Pa'ina's and the Staff's agreement to allow Concerned Citizens' to amend Safety Contentions #4 and #6. The parties were unable to reach agreement, necessitating this motion.

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

Dated at Honolulu, Hawai'i, May 1, 2006.



DAVID L. HENKIN

Pa'ina Hawaii LLC

Promoting Agriculture in Hawaii PO Box 50542 Honolulu, HI 96820

March 9, 2006

Anthony Gaines
Sr. Health Physicist
Division of Nuclear Materials Safety
611 Ryan Plaza Dr., Suite 400
Arlington, TX 76011-4005

RE: Docket No. 030-36974

Mr. Gaines,

On behalf of Pa'ina Hawaii, please find the answers the questions you sent to us by fax on January 25th, 2006.

Please note that the answers to questions 1-11 are written with a certain set of assumptions. The method of installation may change based on local conditions that could not be foreseen with sample coring, and the expertise and experience of the contractor responsible for the work. Gray*Star and CHL Systems, the design and engineering firms behind the Genesis Irradiator will be working closely with the architect, soil experts, and contractors during the construction phase to be sure that any change in conditions will result in the most sound construction choices. We will of course notify you of any changes before they are finalized.

If you have any further questions, please let me know.

Regards,



Andrew E. Buchan
RSO/Production Manager

Enclosed: Drawing # POOLA-104-000-REV3

- 1) The pool is leak checked after manufacture to insure that both the ¼" inner pool wall and the ¼" outer pool wall are completely leak-free.

Once the pool arrives on site, it will be visually inspected to insure that no damage occurred during shipping.

Once the pool has been set in position and the foundation has been poured, the pool will be filled with water. The space between the inner pool wall and the outer pool wall will be checked to insure that there is no leak in the inner wall.

- 2) Yes, the overhead trolley, rail, and hoists have been designed, and will be tested, installed, and maintained in accordance with ANSI B30.16, "Overhead Hoists (Underhung). All of the hoist inspection, service, and maintenance records will be kept on file by the Applicant.
- 3) The walls of the pool have been designed to resist a combined equivalent "at-rest" fluid and hydrostatic pressure equal to what would be exerted by a fluid soil with a density of 144 pounds per cubic foot. This is true for the entire pool wall, from the top of the pool to the full depth of the pool.

The I-beams between the inner wall and the outer wall of the pool serve as a tension and shear connection between the inner wall and the outer wall before the installation (during leak checking). After the installation of the pool is complete, these I-beams serve as a shear connection between the inner wall and the outer wall of the pool. Cathodic corrosion will not be a factor at the joint between the stainless steel inner wall and the carbon steel I-beams for several reasons. First, the space between the inner wall and outer wall, where this joint is located, is a sealed area, no electrolyte will be present. Second, the surfaces of these two metals will be sealed in masonry material, which will protect them from any corrosive agents. Third, the lime itself that is used in the masonry material provides corrosion protection to these metals.

- 4) When the excavation for the pool is completed, the pool will be lowered into the hole and suspended from supporting beams attached to the top of the pool. Once the pool is in position, the foundation material will be poured into the excavation until it fills the space beneath the pool and comes up the side of the pool a short distance. This foundation material will be allowed to cure, then the pool will be filled with water. The space between the inner wall and outer wall will be checked to insure that there is no leak in the inner wall. The space between the two walls, and the backfill, will then be poured. The Pool Installation method is also shown on Drawing # POOLA-104-000-REV3. Some details are shown on this drawing for the purpose of illustration only. This is particularly true with the type of steel piling shown and the floor thickness shown. These items can be done differently as long as the functional requirements are met, they are only shown this way on the drawing for the purpose of illustration.
- 5) The island of Oahu is located in a Uniform Building Code (UBC) seismic zone 2A, which has a specified effective peak ground acceleration of 0.15g. This acceleration corresponds to a seismic event with a magnitude of 5.5. The pool is designed as an independent rigid structure. A seismic event of this magnitude, or even one of significantly higher magnitude, would not compromise the integrity of the pool structure in any way. Any acceleration of the pool, due to a seismic event,

would be experienced by the entire pool structure, thus resulting in no damage to the pool. It is not clear that liquefaction of the soil around the pool would ever occur as a result of a seismic event, but if it ever did, the only effect it would have on the pool would be to increase the soil pressure on the walls of the pool. Under normal conditions, the soil will exert an average soil pressure on the outsides of the pool walls equivalent to a fluid with a density of 64 lbs/cf. The most pressure the soil could exert on the walls of the pool would be if complete liquefaction of the soil occurred, the full depth of the pool. This would result in a soil pressure equivalent to a fluid with a density of 102 lbs/cf. The walls of the pool are designed to withstand at least the pressure equivalent to a fluid with a density of 144 lbs/cf. No damage to the pool would result from complete liquefaction of all the soil around the pool.

- 6) Our pool design and installation method is based on the concept that the pool is a rigid structure, completely independent from, and not connected to the floor. This is done so that any seismic event that may be experienced at this site will have no effect on the pool. To accomplish this isolation of the pool from the floor we have provided a 6" space between the pool and the floor and between the surge tank and the floor on all sides where the floor meets the pool or surge tank. For the purpose of determining how much isolation space to provide between the pool and the floor we used the scenario that would result in the maximum amount of movement between the pool and the floor. This scenario is when liquefaction of the soil under the floor occurs. It is not clear that this would ever happen, but it was assumed that it would for the purpose of this analysis. Given a seismic event with a peak acceleration of 0.15g's, and the soil conditions at the site, and assuming that the soil under the floor experiences liquefaction, the maximum amount of movement that could be expected between the pool and the floor would be about 4.5". The 6" space we are providing insures isolation between the pool and the floor even in this worst-case scenario that was assumed for the purpose of this analysis.
- 7) The foundation material underneath the pool is a concrete material capable of curing under water. The pool will not be placed on this material after it has been poured, but the installation will be done with the pool suspended in position and the concrete foundation poured under and around it. There are I-beams welded to the outer wall of the pool, on the bottom of the pool and around the sides of the pool. When the concrete material is poured under and around the pool, these beams will tie the pool to the concrete material.

There will be steel sheet pilings driven down into the soil prior to excavating for the pool. The entire area within the sheet pilings will be excavated down to some depth that will be determined at the time of excavation. The space below the bottom of the pool to the bottom of the excavation will be poured with concrete material and the space between the outer wall of the pool and the sheet pilings will be poured with concrete material. So, the dimensions of the foundation will be the dimensions inside the steel sheet pilings, a minimum of 9' X 10'. The actual depth of the foundation will depend on the depth of the excavation, which will depend on actual conditions found at the time of excavation. But, the thickness of the foundation material under the I-beams on the bottom of the pool will not be less than 4 inches.

- 8) The concrete material used to fill the space between the inner and outer pool walls will have a minimum compressive strength of 1,000 psi. This is the same material that will be used to pour under and around the pool to fill the space at the bottom of the excavation and between the outer wall of the pool and the steel sheet pilings. Samples of this material will be taken during the pour, and these samples will be sent to a certified testing lab for testing. The results of these tests will be sent to the Architect overseeing the installation. A copy of these test results will be kept on file by

the Applicant. During the pouring operations, concrete vibrators will be used to eliminate any air or water pockets in the concrete.

- 9) These numbers came from references from CHL or Gray*Star, however, they are only preliminary numbers. Weidig will be involved with the calculations of the soils ability to bear the load from the irradiator, its components, backfill and the building once a final plan is completed. We will notify the NRC of the final numbers at that time.
- 10) B-5 is within 5 feet of the proposed pool location. B-2 is far enough away that it will not likely affect the irradiator hole site. Because the excavation for the irradiator tank is so deep, we expect to hit a layer of loose gravelly sand at some depth in the hole. Note that the B-5 data shows a similar layer with a blow count of 9 at 15 feet. We feel that the pile walls, combined with the fill concrete will mitigate any issues a layer of such material might pose.
- 11) A final decision on the pile driving method has not been made, however, it is most likely to be the vibration method. Once that has been decided (pending selection of a subcontractor) we will notify the NRC. The current plan is to not de-water the hole during excavation. Once the hole is deep enough a layer of tremie concrete will be placed in the bottom of the excavation, effectively forming a box that should have little water intrusion. Any water removal at that point should be minimal and not effect the soil strength.
- 12) The requirements for training for the RSO are found on pages 8-11 and 8-12 of NUREG 1556V6, while they suggest that completion of a training course as modeled in Appendix G is evidence of adequate training and experience, the specific criteria are as follows:

"The RSO should have at least 3 months (full-time equivalent) of experience at the applicant's irradiator or at another irradiator of a similar type. The 3 months of experience may include preoccupational involvement, such as acceptance testing, while the irradiator is being constructed."

"However, to allow flexibility, the NRC will determine the adequacy of the RSO's training and experience on a case-by-case basis, looking at his or her actual qualifications and drawing on the NRC Staff's experience in reviewing such qualifications."

Mr. Buchan has had over 13 years of increasing radiation safety responsibility, including eighteen months as the RSO for the University of California, Merced. Further he has completed a 40 hour training course on Occupational and Environmental Radiation Protection from Harvard University and a 40 hour training course from the manufacturer of the irradiator.

He will be overseeing the construction and installation of the irradiator working directly with representatives of the manufacturer. Presently Mr. Buchan's office is located within a few miles from the irradiator site. He will move his office onsite as soon as occupancy has been granted. He will be doing all the acceptance testing of the irradiator and its safety systems. We expect this phase to last approximately three months. Including operating the irradiator (in simulation) prior to the installation of cobalt, and will receive further training and guidance from the manufacturer.

As outlined on page 13 and 52 of the application, we believe that Mr. Buchan's work experience, the classes he has taken, and his involvement in the construction and acceptance testing of the irradiator prior to cobalt installation meet the intent of the RSO training and experience requirements.

13) Pa'ina Hawai'i will not be performing source loading, unloading, or repositioning. One or both of our source suppliers will be performing these actions per 10CFR36.13(g). We will be reviewing their procedures to make sure they comply with Pa'ina's license and they will be approved by the Radiation Safety Committee prior to these activities being conducted.

14)

(a) The following are outlines for emergency procedures for 10CFR36.53(b)(5):

Low Water Level (Summary)

Frequency: Low water level indicator, an abnormal water loss, or leakage from the source storage pool

Responsibility: The Radiation Safety Officer

Summary: Low water level indicator:

There are two types of "low water level indicators". The first are indicators to an Operator or the RSO that water should be added to the pool. [Adding water is a manual operation, see "Adding Pool Water summary, page 75 of the Application.] If the water level is below this mark, water should be added to the pool. The second is a "minimum water level indicator". There is no normal condition that would allow for water being below this indicator. Therefore, if water is below this indicator, water should be added to the pool immediately and the RSO notified. The RSO should investigate the cause of this indication and notify the NRC if a leak in the pool is suspected. The Radiation Safety Committee will convene to determine what corrective action needs to be taken. In the event that water level cannot be maintained through the system, the RSO must take steps to maintain the water level through other methods (e.g. bring in outside water) until the situation is stabilized.

Summary: Abnormal water loss:

A check of the status of the water level is performed under Routine Operation procedure (GI-101). The status is recorded on the "Safety Log". The safety log is reviewed periodically by the RSO. Further, a log is maintained when water is added to the pool. This log is also periodically reviewed by the RSO. The log will provide a baseline loss of water for normal reasons (e.g. evaporation). With a baseline established, increased use of water may be an indication of abnormal water loss. The cause of abnormal water loss must be investigated. The Radiation Safety Committee will convene to determine what corrective action needs to be taken. The NRC will be notified if a leak in the pool is suspected.

Summary: Leakage from the source storage pool:

Whether determined by the methods above and/or some other method (e.g. visual observation), that there is a leak in the pool, the Radiation Safety Committee will convene to determine what corrective action needs to be taken and the NRC will be notified. If repair to the pool necessitates removal of the sources, either the sources will be maintained onsite in approved shipping packages (casks) or arrangements will be made to transport and store the sources at an appropriate and licensed facility until the situation is rectified.

If a low water event leads to an abnormal radiation level then the Abnormal Radiation Level procedure (GI-301) must be followed.

Documentation: The actions taken, the results, and any corrective actions are documented. Water level status is recorded in the "Safety Log" (GI-101-01)

High Water Level (Summary)

Frequency: High water level indicator

Responsibility: The Radiation Safety Officer

Summary: Water is added to the pool manually. It is possible for an Operator or the RSO to add "too much" water to the pool and exceed the water level indicator(s). This is not an "emergency" situation. However, it should be noted as an abnormal event in the Safety Log (GI-101-01).

If a significant "overflowing" situation occurs (e.g. it might lead to the over flow of the pool), the RSO must be notified prior to operating the unit. The Radiation Safety Committee will convene to determine what corrective actions need to be taken.

Documentation: The actions taken, the results, and any corrective actions are documented. Water level status is recorded in the "Safety Log" (GI-101-01)

(b) The following are outlines for emergency procedures for 10CFR36.53(b)(9) as appropriate for the geographical location of the facility: [There are only two significant natural phenomena that Pa'ina Hawaii has identified for the geographical location of the irradiator. Tsunamis and Hurricanes.]

Emergency procedures:

Natural Disaster (Summary)

Frequency: Tsunami Alert, Hurricane Alert, Earthquake, Tornado, Any Event that might lead to flooding, lead to anticipated loss of building power, any damage to the irradiator, any significant damage to the building.

Responsibility: Irradiator Operator(s) and The Radiation Safety Officer

Summary:

In the event that there is an alert for a natural phenomena that might damage the irradiator and/or present physical risk to personnel on site:

1. Secure the Irradiator and the Facility. This includes halting the operation of the irradiator, following the "End of Shift" procedures outlined in GI-101 (Routine Operation), and shutting main hoist power at the main breaker box.
2. Notify the RSO.
3. Follow local emergency guidance to protect personnel.

In the event there is a natural phenomena that might damage the irradiator and/or present physical risk to personnel on site with no prior alert:

1. Take all steps necessary to protect personnel.
2. If possible, secure the Irradiator and the Facility (as stated above).
3. If possible, notify the RSO.
4. If possible, follow local emergency guidance to protect personnel.

After the event, (assuming that local authorities have determined that the area is safe to enter).

1. Enter the Restricted Area per GI-101 (Routine Operations). [Note: Be cognizant that there might be damage to the building and / or the irradiator.]
2. The Radiation Safety Officer is to perform an inspection on the entire unit specifically including but not limited to the following:

- a) Check hand held radiation survey meters.
- b) Check for physical damage to any part of the irradiator.
- c) Check water level for abnormally low or high water level.
- d) Check conductivity of water. (e.g. determine if salt water has entered the system.)
- e) Check radiation monitors (ARM and WRM) for damage and function.
- f) Check any off site alert systems. Determine that communication lines are still functioning properly.

3. If the unit appears to be damage free, turn on hoist power and run through a test cycle or cycles to assure that the unit is functioning properly prior to commencing operations.

4. If there is damage to the unit, hold a Radiation Safety Committee meeting to determine the appropriate course of action.

NOTE 1) If there is damage that requires immediate remediation, take appropriate steps. e.g. follow GI-301, GI-302 or GI-303.

NOTE 2) If there is any damage that the RSO determines might have any effect on the safe operations of the unit, appropriate personnel will inspect the unit. Determination for any remediation would be conducted by the Radiation Safety Committee based on inspection findings.

NOTE 3) The NRC will be notified if appropriate.

Documentation: The actions taken, the results, and any corrective actions are documented.

- 15) We wish to delete our previous method of leak testing from our Application (page 71) and replace it with a continuous monitoring system as outlined below: Also, please delete the section on "Periodic Leak Test (Six Month Intervals):" on page 68 of the Application.

Leak Test (Summary)

Frequency: Start of Shift / On alert / The first time an Operator or RSO enters the Restricted Area after being left unattended.

Responsibility: The Radiation Safety Officer or an Irradiator Operator.

Summary: The WRM continuously monitors for contamination (see pages 32 and 33 of the Application). The monitor has both an alert system and a digital readout. The readout is in 0.1 mR/hr. increments. At the frequency stated above, the readings are recorded on the "Safety Log" (GI-101-01-00).

During periods when the unit is unattended, any alert of the WRM will be monitored offsite.

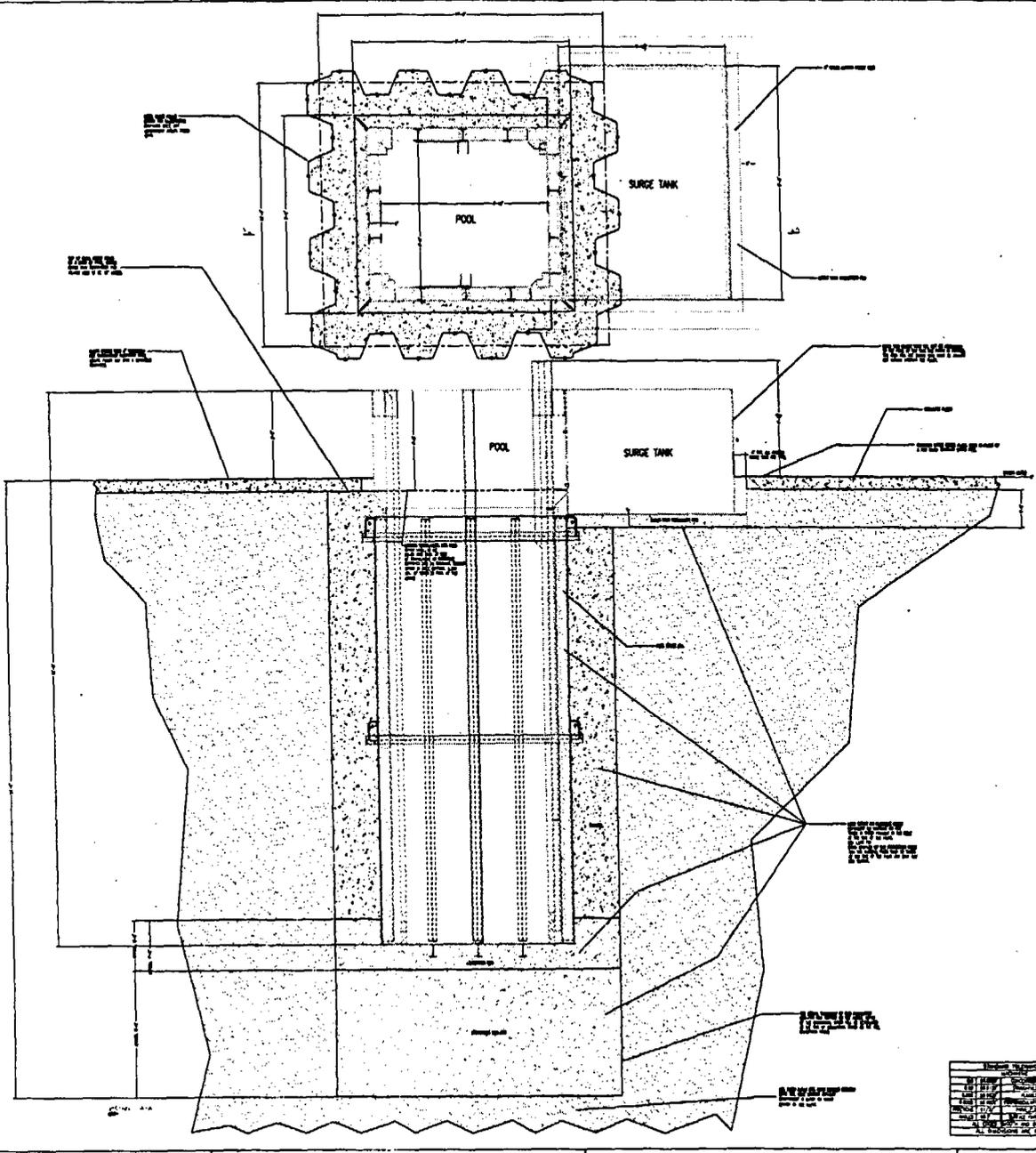
In the event of an abnormal radiation level, procedure GI-301, "Abnormal Radiation Level", will be followed.

In the event that a reading of the WRM is above nominal, the RSO will be notified. The RSO will determine if the WRM is functioning properly. If radiation levels are abnormal at any point of the water circulation system, the RSO will take corrective action including contacting the NRC if a leaking source is suspected.

Documentation: The actions taken, the results, and any corrective actions are documented. WRM readings are recorded in the "Safety Log", which is reviewed periodically by the RSO.

60000

NO.	Revision	FC#	By	Date	Checked	Approved



- INSTALLATION PROCEDURE:
1. DETERMINE REQUIRED HOLE SIZE TO THE PROPER DEPTH USING STEEL SHEET PILING, IF REQUIRED.
 2. CONTINUOUSLY REMOVE ANY EXCESS GRAVEL UNDER.
 3. PLACE POOL IN HOLE AND SUPPORT WITH TEMPORARY BEAMS FROM ABOVE.
 4. ADJUST LAYOUT, POSITION AND HEIGHT, ORIENTATION OF POOL.
 5. POUR FOUNDATION UNDER POOL AND UP THE SIDE OF THE POOL ABOUT 1". (CAN BE DONE IN TWO SEPARATE POLES) ALLOW TO CURE.
 6. FILL POOL WITH APPROX. 6" (2") OF SAND.
 7. CHECK VOID BETWEEN POOL WALLS (APPROX. 6" CLEARANCE) OF SAND (CHECK REQUIRED).
 8. BACK-FILL HOLE TO TOP OF STEEL SHEET PILING WITH FAVORABLE GRAVEL.
 9. POUR SURGE TANK FOUNDATION AND FLAT AND LEVEL AND FINISH WITH THE TOP OF THE ANGLE IRON GLAZE ON THE POOL.
 10. FORM OUT AREA FOR SURGE TANK BEFORE POURING FLOOR.
 11. REMOVE WATER IN POOL ONLY AFTER GRAVEL HAS CURED (IF DESIRED).

Legend for Material Symbols

Symbol 1	Symbol 2	Symbol 3	Symbol 4
Symbol 5	Symbol 6	Symbol 7	Symbol 8
Symbol 9	Symbol 10	Symbol 11	Symbol 12

<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		NO.	DATE	DESCRIPTION				<p>CLAYTON H. LANDIS COMPANY INC.</p> <p>1000 W. 10th Street, Suite 100 Oklahoma City, Oklahoma 73101</p> <p>337-48-258-000</p>
NO.	DATE	DESCRIPTION						
<p>PROJECT NO. POOLA-104-000</p> <p>DATE: 11/11/00</p> <p>BY: [Signature]</p> <p>CHECKED: [Signature]</p> <p>APPROVED: [Signature]</p>								



Pa'ina Hawaii LLC

Promoting Agriculture in Hawaii PO Box 30542 Honolulu, HI 96820

MAR 31 2006

Anthony Gaines
Sr. Health Physicist
Division of Nuclear Materials Safety
611 Ryan Plaza Dr., Suite 400
Arlington, TX 76011-4005

Mr. Gaines,

On behalf of Pa'ina Hawaii, I am pleased to submit an outline for our emergency procedure regarding prolonged electricity loss, for your review as part of our application.

Thank you for your time.

Regards,

Andrew E. Buchan
RSO/Production Manager

EXHIBIT 2

Emergency procedures:

Prolonged Loss of Electrical Power (Summary)

Frequency: Electrical Power Loss

Responsibility: The Radiation Safety Officer or an Irradiator Operator

Summary: Perform a battery check on both Hand Held Survey Meters. Use a Hand Held Survey Meter when in the Restricted Area. Check to see if the ARM and WRM are functioning properly. If the loss of electricity is for an extended period of time (e.g. beyond shift), notify the RSO. This is not an "emergency" situation. However, it should be noted as an abnormal event in the Safety Log (GI-101-01).

Documentation: The actions taken, the results, and any corrective actions are documented. Events are to be recorded in the "Safety Log" (GI-101-01)

David Henkin

From: Fred Benco [fpbenco@yahoo.com]
Sent: Thursday, April 06, 2006 4:45 PM
To: David Henkin
Cc: Michael Kohn
Subject: RE: Proposed Stipulation re disclosures

Dear David,

1. My client is still considering the Second Joint Stipulation. I should have an answer for you tomorrow.
 2. My client has submitted its outline for natural disasters to the NRC. It can be accessed as ML060730528. Please let me know if your side is willing to now stip to dismiss Safety Contention #6.
 3. My client has submitted its Outline for Safety Contention #4, but apparently it hasn't made it to ADAMS yet.
- Thank you very much.

--- David Henkin <dhenkin@earthjustice.org> wrote:

- > Molly,
- >
- > Those edits are fine with me. Fred, what are your
- > thoughts?
- >
- > Aloha, David
- >
- > David L. Henkin
- > Earthjustice
- > 223 South King St., Suite 400
- > Honolulu, Hawai'i 96813
- > Tel.: (808) 599-2436, ext. 14
- > Fax: (808) 521-6841
- >
- >

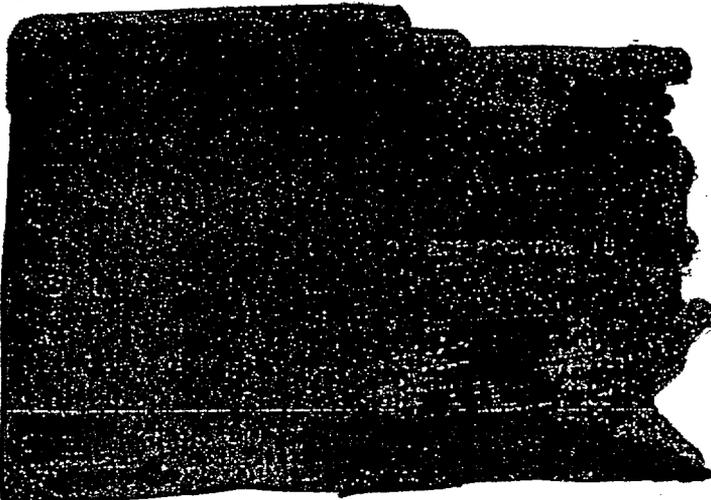


EXHIBIT 3



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- Public Involvement

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License Number	ex. 21-0133-02, NPF-87, SNM-1513, XMAT-0388

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EXHIBIT 4



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A

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No documents were retrieved by this query.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that, on May 1, 2006, a true and correct copy of the foregoing document was duly served on the following via e-mail and first-class United States mail, postage prepaid:

Fred Paul Benco
Suite 3409, Century Square
1188 Bishop Street
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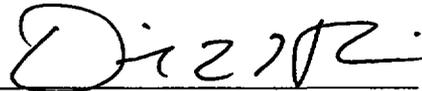
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Dated at Honolulu, Hawai'i, May 1, 2006.



DAVID L. HENKIN
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EARTHJUSTICE

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TRANSMITTAL LETTER

TO: Office of the Secretary VIA FIRST CLASS MAIL
 U.S. Nuclear Regulatory Commission
 Washington, DC 20555-0001
 Attention: Rulemakings and Adjudications Staff

FROM: David L. Henkin *DWH/EL*

DATE: May 1, 2006

RE: Docket No. 030-36974-ML
Pa'ina Hawaii, LLC, Irradiator in Honolulu, HI

COPIES	DATE	DESCRIPTION
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Enclosures (original and two copies):

5/1/06	INTERVENOR CONCERNED CITIZENS OF HONOLULU'S OPPOSITION TO APPLICANT'S MOTION TO DISMISS SAFETY CONTENTIONS #4 AND #6; CERTIFICATE OF SERVICE
5/1/06	INTERVENOR CONCERNED CITIZENS OF HONOLULU'S MOTION FOR LEAVE TO AMEND SAFETY CONTENTIONS #4 AND #6; DECLARATION OF MARVIN RESNIKOFF, Ph.D.; DECLARATION OF DAVID L. HENKIN; EXHIBITS "1" - "4"; CERTIFICATE OF SERVICE

<input type="checkbox"/> For Your Information.	<input checked="" type="checkbox"/> For Filing.
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REMARKS: