UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
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U.S. ARMY INSTALLATION COMMAND	)	Docket No. 40-9083-MLA
	)	
(Source Materials License No. SUC-1593, Amendment 2, Davy Crockett Depleted Uranium at Various United States Army Installations)	)	

NRC STAFF'S ANSWER TO REQUESTS FOR HEARING AND PETITIONS TO INTERVENE FILED BY CORY HARDEN, JAMES ALBERTINI, RUTH ALOUA, AND HĀWANE RIOS

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May 1, 2017

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Pursuant to 10 C.F.R. § 2.309(i)(1), the Staff of the U.S. Nuclear Regulatory Commission ("NRC" or "Staff") hereby files its answer to the requests for hearing and petitions for leave to intervene filed by Cory (Martha) Harden,[1] James V. Albertini,[2] Ruth-Rebeccalynne Tyana Lokelani Aloua,[3] and Hāwane Priscilla Marie Kalikokaumakaikealaulaomana Rios.[4] These requests were filed in response to a notice of opportunity to request a hearing issued by the NRC for a license amendment ("Amendment 2") requested by the U.S. Army Installation Command ("Army") on September 15, 2016, and granted by the Staff on February 9, 2017, for Source Materials License No. SUC-1593.[5] Amendment 2 approves site-specific Environmental

[1] Request for Hearing and Petition for Leave to Intervene (Apr. 4, 2017) ("Harden Petition"). Ms. Harden resubmitted her petition on April 7, 2017, with certain personally identifiable information redacted from the petition and a supporting document.

[2] Request for Hearing and Petition for Leave to Intervene (Apr. 6, 2017) ("Albertini Petition").

[3] Request for Hearing and Petition for Leave to Intervene (Apr. 10, 2017) ("Aloua Petition").

[4] Request for Hearing and Petition for Leave to Intervene (Apr. 10, 2017) ("Rios Petition").

[5] Source Materials License No. SUC-1593, Amendment 2, Davy Crockett Depleted Uranium at Various United States Army Installations, 82 Fed. Reg. 10,031 (Feb. 9, 2017).

Radiation Monitoring Plans (ERMPs) and site-specific dose modeling for various radiation control areas (RCAs) at the sixteen Army installations[6] containing depleted uranium (DU) related to the Davy Crockett weapons system, and modifies two license conditions accordingly.[7]

In their requests for hearing, the petitioners raise various concerns with the licensing basis and presence of DU at the Pohakuloa Training Area, one of the sites where the Army is licensed to possess DU under SUC-1593. The Staff recognizes that each of the four petitioners is appearing *pro se* and accordingly is held to less rigid pleading standards than petitioners represented by counsel.[8] Nevertheless, as discussed below, none of the petitioners has demonstrated standing to intervene in this proceeding, which is sufficient grounds to deny each petition. In addition, even reading the petitions in the light most favorable to the petitioners, none of the petitioners has proffered a contention that meets the requirements of 10 C.F.R. § 2.309(f)(1). The petitioners' claims largely concern matters outside the narrow scope of the present licensing action. And for those claims that are arguably within the scope of the present licensing action, the petitioners do not demonstrate the existence of a supported material dispute with the application. Therefore, the Board should deny the petitioners' requests for hearing.

BACKGROUND

The present proceeding involves a license amendment (Amendment 2) to Source Materials License No. SUC-1593. To illustrate the narrow scope of this license amendment, and the accordingly narrow scope of this proceeding, the Staff provides in this section a brief

[6] The Army submitted site-specific ERMPs for eighteen sites at sixteen installations. Although the Pohakuloa Training Area and Schofield Barracks are considered a single installation under the license, the Army submitted a different site-specific ERMP for each site. *See* U.S. Army Installation Management Command, Programmatic Approach for Preparation of Site-Specific Environmental Radiation Monitoring Plans (Sept. 2016) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16265A221).

[7] *See* 82 Fed. Reg. at 10,031.

[8] *See U.S. Army Installation Command* (Schofield Barracks, Oahu, Hawaii, and Pohakuloa Training Area, Island of Hawaii, Hawaii), CLI-10-20, 72 NRC 185, 191-92 (2010).

discussion of DU from the Davy Crockett weapon system and the licensing history of the Pohakuloa Training Area as it relates to Amendment 2.

I. Depleted Uranium and the Davy Crockett Weapon System

The Davy Crockett weapon system was a tactical low-yield battlefield nuclear device developed by the Army in the late 1950s. During the 1960s, the Army was authorized to manufacture M101 "spotting rounds" for the Davy Crockett weapons system under licenses issued by the Atomic Energy Commission (AEC), the NRC's predecessor agency.[9] These spotting rounds consisted of a nosecone, which produced a "puff" of smoke to allow soldiers to locate the impact point of the round; a DU body; and an aluminum tail assembly.[10] DU is uranium with a lower content of the fissile isotope uranium-235 (0.2 to 0.3% by mass) than natural uranium (0.7% by mass).[11] DU was used in the spotting rounds because its heavy weight enabled the rounds to simulate the flight path of the main munition of the Davy Crockett weapon system.

Between 1962 and 1968, the Army fired Davy Crockett M101 spotting rounds containing DU at various U.S. Army installations.[12] The Army discontinued its use of the DU spotting rounds at these ranges, including the Pohakuloa Training Area on the Big Island of Hawaii, Hawaii, and Schofield Barracks on the Island of Oahu, Hawaii, by 1968.[13] Between 1968 and 2005, DU fragments from these rounds remained undetected at the Army installations at which they were used.[14] In 2005, while clearing former range areas of munitions, the Army discovered

[9] Safety Evaluation Report for the U.S. Army's Possession License for Depleted Uranium from Davy Crockett M101 Spotting Rounds – Amendment to Add Remaining Sites at 4 (March 2016) (ADAMS Accession No. ML16039A230) ("Amendment 1 SER").

[10] *Id.*

[11] *See U.S. Army Installation Command* (Schofield Barracks, Oahu, Hawaii, and Pohakuloa Training Area, Island of Hawaii, Hawaii), LBP-10-4, 71 NRC 216, 220 n.1 (2010).

[12] Safety Evaluation Report for the U.S. Army's Possession License for Depleted Uranium from the M101 Spotting Round at 6 (October 2013) (ADAMS Accession No. ML13259A081) ("Initial License SER").

[13] *Id.*

[14] *U.S. Army Installation Command*, LBP-10-4, 71 NRC at 220.

tail assemblies from the M101 spotting round on Schofield Barracks. The Army discovered additional DU fragments in 2006 while performing a controlled grass burn of this range. After these discoveries, the Army initiated an Archive Search Report (ASR) to determine whether DU was present at other ranges used by the Army for Davy Crockett weapons system testing. In 2006, the ASR team determined that M101 spotting rounds were used both at Schofield Barracks and at the Pohakuloa Training Area.[15] In November 2006, the Army notified the NRC of the discovery of DU at Schofield Barracks and, for the next two years, engaged the NRC in discussions regarding the licensing of the material.[16]

II. Issuance of Initial License (SUC-1593) for the Pohakuloa Training Area and Schofield Barracks

In 2008, the Army submitted an application to the NRC for a possession-only license pursuant to 10 C.F.R. Part 40 for DU from the Davy Crockett M101 spotting rounds located at the Pohakuloa Training Area and Schofield Barracks.[17] The license application stated that the purpose for which the DU will be used is to possess and manage DU from the Davy Crockett munitions system and that activities will be limited to surveys and incidental recovery of DU fragments.[18] In support of its application, the Army submitted both generic and site-specific radiation safety plans (RSPs), physical security plans (PSPs), and ERMPs for its installations.[19]

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[15] Amendment 1 SER at 8-9. In 2008, the Army confirmed the presence of DU from M101 spotting rounds at Pohakuloa Training Area. *U.S. Army Installation Command*, LBP-10-4, 71 NRC at 221 (citing, *inter alia*, U.S. Army Installation Management Command, Environmental Radiation Monitoring Plan for [DU] from the M101 Spotting Round for Pohakuloa Training Area, at 3-4).

[16] Amendment 1 SER at 8-9.

[17] U.S. Army Installation Command, Application for Materials License (Nov. 6, 2008) (ADAMS Accession No. ML090070095).

[18] *Id.* at PDF page 2.

[19] Initial License SER at 6-8, 23; *accord* Amendment 1 SER at 9. During this time, the Army's efforts to identify further installations containing DU from Davy Crockett M101 spotting rounds were ongoing. The Army informed the Staff that it had identified several other installations containing depleted uranium from the M101 spotting round. The Army also submitted an ERMP to the NRC for at least one other installation at that time. However, because the Staff determined that authorization for possession of DU at each installation would require a site-specific license amendment, the Staff's review and approval of the Army's application only authorized possession of DU at the Pohakuloa Training Area and Schofield Barracks at that time. Initial License SER at 8-9. For a full recitation of the draft and final plans submitted

Ultimately, in its evaluation of the environmental radiation monitoring necessary for the Pohakuloa Training Area and Schofield Barracks, the Staff considered in its Safety Evaluation Report (SER) the information supplied in the ERMPs for the two sites in conjunction with additional information independently identified by the Staff.[20]

On October 23, 2013, the Staff issued Source Materials License No. SUC-1593 to the Army for the Davy Crockett M101 DU at Pohakuloa Training Area and Schofield Barracks.[21] In its SER for the licensing action, the Staff concluded that the Army's application supported issuance of the license.[22] The Staff noted that the Army had not provided sufficient justification to show that air and plant monitoring was not warranted at the Pohakuloa Training Area and Schofield Barracks.[23] Therefore, the Staff imposed License Conditions 22 and 23, which required the Army to provide an air sampling plan and plant sampling plan to the NRC for review and approval within 90 days of the issuance of the license.[24] In addition, the Staff imposed License Condition 12, which required the Army to provide the NRC with license amendment requests to incorporate into SUC-1593 additional installations identified as containing DU from Davy Crockett M101 spotting rounds.[25]

III. Amendment 1 to SUC-1593: Approval of a Programmatic Approach to Licensing All Davy Crockett Installations

On June 1, 2015, in accordance with License Condition 12, the Army submitted an application to amend SUC-1593 to incorporate Davy Crockett M101 DU at several additional

by the Army and the Staff's interactions with the Army regarding those plans during the initial licensing phase, *see generally* Initial License SER at 6-9.

[20] Initial License SER at 8.

[21] Source Materials License No. SUC-1593 (Oct. 23, 2013) (ADAMS Accession No. ML13259A062) ("SUC-1593").

[22] Initial License SER at 3.

[23] *Id.* at 29-31.

[24] SUC-1593 at 3; Initial License SER at 39. These license conditions stated that until these plans received approval from the NRC, the Army would be restricted to conducting activities in accordance with previously approved restrictions and provisions. SUC-1593 at 3.

[25] SUC-1593 at 1-2; Initial License SER at 38.

installations into the license.[26] The Army also proposed to license all of the installations, including the Pohakuloa Training Area and Schofield Barracks, using a programmatic approach.[27] Pursuant to this approach, the Army proposed for the Staff's approval a programmatic RSP, programmatic PSP, and programmatic ERMP that would apply to the Davy Crockett M101 DU at all 16 installations.[28]

The programmatic ERMP contains general commitments for environmental monitoring of those transport pathways justified as having potential significance for the transport of DU contamination outside of the designated RCAs.[29] The programmatic ERMP provides direction to Army installations on the design of a site-specific ERMP for each installation containing licensed material, and establishes requirements and criteria for these site-specific ERMPs, including the requirement to describe: (1) why each potential sample media is or is not being sampled; (2) how many samples will be taken of each media; (3) how often the samples will be taken;[30] (4) where these samples will be taken; and (5) why these locations were chosen.[31] The programmatic ERMP also assesses which environmental pathways and media will require evaluation on a site-specific basis. For example, the programmatic ERMP assesses the

[26] U.S. Army Installation Command, Transmittal of Application for Amendment to Materials License No. SUC-1593 (ADAMS Accession No. ML15161A454); Amendment 1 SER at 11-12. In total, the Army sought to license under SUC-1593 16 installations, spanning fourteen States, collectively containing 38 sites with DU from Davy Crockett M101 spotting rounds. Amendment 1 SER at 11-12.

[27] Amendment 1 SER at 1, 10.

[28] *Id.*

[29] *Id.* at 42. In its evaluation of the programmatic ERMP, the Staff considered an environmental transport pathway significant if it potentially may contribute to exposures/dose at greater than 1% of the public dose limit (i.e., greater than 1 mrem/yr). *Id.*

[30] The programmatic ERMP states that samples at each location will be taken at least annually but should be taken more often (semiannually or quarterly) if seasonal variations are prevalent. U.S. Army Installation Command, Programmatic Approach for Preparation of Site-Specific Environmental Radiation Monitoring Plans at 3 (Dec. 31, 2015) (ADAMS Accession No. ML16004A369) ("Programmatic ERMP").

[31] Programmatic ERMP at 3. Although the programmatic ERMP uses the term "guidance," it establishes criteria and requirements with which site-specific ERMPs must comply. Accordingly, in its SER for Amendment 2, the Staff reviewed the site-specific ERMPs for consistency with the programmatic ERMP. *See* Safety Evaluation Report for the U.S. Army's Possession License for Depleted Uranium from Davy Crockett M101 Spotting Rounds – Amendment to Address License Conditions Nos. 18 and 19 at 11 (Jan. 2017) (ADAMS Accession No. ML16343A163) ("Amendment 2 SER").

exposure pathway of soil to atmosphere and concludes that there are no circumstances that would require air sampling at any of the licensed installations.[32] For groundwater monitoring, the programmatic ERMP states that groundwater sampling will only be conducted if there are existing wells potentially influenced by DU in the RCA.[33]

In its SER for Amendment 1, the Staff approved the Army's proposed programmatic approach to licensing all of the installations covered by SUC-1593 and made the programmatic RSP, programmatic PSP, and programmatic ERMP part of the licensing basis.[34] The Staff used the programmatic ERMP, in conjunction with information that was independently identified by the Staff, to evaluate the types of environmental monitoring that would be necessary at the Army's installations.[35] The Staff found that the environmental monitoring program proposed by the Army in the programmatic ERMP adequately addressed regulatory requirements for environmental monitoring and served as an adequate method to monitor for migration of significant DU contamination from the RCAs at licensed installations.[36] The Staff therefore removed License Conditions 22 and 23, which required the Army to provide an air sampling plan and plant sampling plan, and License Condition 17, which prohibited the Army from firing high-explosive munitions into areas containing DU without first informing the NRC.[37]

In determining that License Conditions 17 and 22 could be removed, the Staff agreed with the Army's analysis that airborne materials leaving the RCAs/impact areas, including from high explosive ordnance aerosolization, are highly unlikely to exceed regulatory exposure or

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[32] Programmatic ERMP at 11-13. This determination also encompassed the scenario of high explosive detonations in DU impact areas. *Id.* at 12-13.

[33] The programmatic ERMP states that in this case, "whenever anyone samples these wells for any purpose, he or she will also require analyses for isotopes of uranium and report the results to the [RSO]. Otherwise, no conditions require groundwater sampling." Programmatic ERMP at 14.

[34] Amendment 1 SER at 13-14. The Staff incorporated the additional installations into the license in License Condition 10. Source Materials License No. SUC-1593, Amendment 1 (Mar. 21, 2016) (ADAMS Accession No. ML16039A234).

[35] Amendment 1 SER at 13.

[36] *Id.* at 50.

[37] *Id.* at 51.

monitoring requirements and will not pose a danger to the public.[38] The Staff noted in its determination that aerosolization of DU from high explosive ordnance would bound airborne materials resulting from range fires that may occur within the RCA due to the greater motive force of the former to aerosolize materials bound in a soil matrix.[39] Further, finding that each installation will have some sampling that is dependent on site-specific environmental conditions, the Staff imposed License Condition 18, which required the Army to provide to the NRC for review and approval site-specific ERMPs for each installation within six months of the effective date of Amendment 1.[40]

In its review of the Amendment 1 application, the Staff also evaluated the Army's dose assessment for individuals located on and in the vicinity of the firing ranges who may come into contact with DU. The Staff found that the Army's scenarios,[41] assumptions, and use of conservative source term and environmental parameter values were reasonable and appropriate, and agreed that it was accordingly unnecessary to require environmental monitoring of soil, sediment, surface water, and groundwater on a regular basis.[42] The Staff also found that the Army's bounding calculation of 0.42 mrem/yr supported its requested programmatic approach, as the dose is well below the 10 mrem/yr total effective dose equivalent (TEDE) air pathway dose constraint applicable to most types of NRC licensed facilities[43] and is consistent with the environmental guidance that the Staff provided to the Army

[38] *Id.* at 34.
[39] *Id.*
[40] *Id.*
[41] The "resident farmer" scenario is considered to be the most conservative, bounding scenario in a RESRAD analysis. *Id.* at 36. The Army ran two scenarios based upon the resident farmer: (1) a "baseline scenario," in which it was assumed that the resident farmer resided on a 1km^2 area of land on which 1000 M101 rounds were fired; and (2) a "bounding source term scenario", which was identical to the baseline scenario in all respects except for the number of M101 rounds, which were assumed to be 9700, the greatest number of M101 rounds shipped to any individual installation.
[42] Amendment 1 SER at 40-41. The specific conservative environmental parameters modeled by the Army are described on pages 36-40 of the Amendment 1 SER.
[43] *See* 10 C.F.R. § 20.1101(d). The exception is those facilities subject to 10 C.F.R. § 50.34a, i.e., nuclear power plants.

for Davy Crockett M101 spotting rounds.[44] Finding that the Army had not provided sufficient justification for site-specific modeling parameters, the Staff imposed License Condition 19, which required the Army to submit documentation for the Staff's verification, including site-specific dose modeling parameters, showing that the approved dose modeling methodology was applied and that the calculated site-specific all pathway dose for each RCA at each installation did not exceed 1.0 mrem/yr TEDE.[45]

IV. Amendment 2 to SUC-1593: Approval of Site-Specific ERMPs for All Davy Crockett Installations

On September 15, 2016, in accordance with License Condition 18, the Army submitted site-specific ERMPs covering all of the RCAs licensed under SUC-1593. These site-specific ERMPs also contained site-specific dose modeling for each RCA, as required by License Condition 19.[46]

The site-specific ERMP for the Pohakuloa Training Area evaluated the environmental media recommended for sampling in the programmatic ERMP, such as groundwater, soil, surface water and sediment.[47] The plan notes that there are no surface water features within the Pohakuloa Training Area boundary, and intermittent streams flow only following heavy rainfall and dry quickly. Therefore, the Pohakuloa ERMP calls for sediment sampling (but not

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[44] On February 27, 2015, the Staff provided the Army with the additional environmental guidance specific to the Army installations containing Davy Crockett M101 spotting rounds to inform the Army's application for Amendment 1 and its request to license these installations using a programmatic approach. *See* Davy Crockett – Depleted Uranium – Possession Only License Source Materials License No. SUC- 1593 Additional Guidance (2015) (ADAMS Accession No. ML15061A177).

[45] Amendment 1 SER at 3-4, 41.

[46] With its submittal of these site-specific ERMPs, the Army also included a copy of the programmatic ERMP. The Staff confirmed that the programmatic ERMP submitted on September 15, 2016, was identical in every respect to the previously approved programmatic ERMP submitted on December 31, 2015, except that it was updated to remove the RESRAD environmental default parameters. Amendment 2 SER at 10. With the issuance of Amendment 2, the Staff amended License Condition 11 to substitute the September 15, 2016, programmatic ERMP for the December 31, 2015, version of the plan. *Id.* at 11-13.

[47] U.S. Army Installation Command, *Site-Specific Environmental Radiation Monitoring Plan, Pohakuloa Training Area, Hawaii*, Annex 17, at 2-1 to 2-2 (Sept. 30, 2017) (ADAMS Accession No. ML16265A231) ("Pohakuloa ERMP").

surface water sampling) from the location of an intermittent stream downstream of the RCAs. The plan states that the sediment sampling location was selected based on surface water hydrology and potential DU contribution.[48] The plan also calls for soil sampling if a specified amount of soil eroded from an RCA is discovered during routine operations and maintenance activities.[49] The Pohakuloa ERMP outlines sampling and laboratory analysis procedures to be used, and refers to a programmatic sampling quality assurance plan for further details of these procedures.[50] Finally, the plan documents the dose assessment results for a hypothetical farmer residing at each RCA in the Pohakuloa Training Area and confirms that the site-specific all pathway dose for each RCA does not exceed 1.0 mrem/yr TEDE.[51]

In its SER for Amendment 2, the Staff reviewed the application to verify (1) that each site-specific ERMP is consistent with the previously approved programmatic ERMP and conditions in SUC-1593, Amendment 1, and (2) that the site-specific dose assessments for each RCA demonstrated that the doses did not exceed 1.0 mrem/yr TEDE.[52] The Staff found the sampling locations described in each site-specific ERMP to be downgradient from the

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[48] *Id.* at 2-1. On April 19, 2017, the Staff was informed that the Army intended to submit for NRC review and approval a revised ERMP for the Pohakuloa Training Area. As proposed by the Army, the revision to the ERMP would be limited to relocating the sediment sampling site from its current location to a site upstream in the same stream channel at the boundary of the RCA. This proposed revision, if approved, would require an amendment to SUC-1593 to substitute the revised ERMP for the current ERMP listed in License Condition 11. As of the date of this filing, the Staff has not yet docketed the Army's license amendment request for review.

[49] *Id.* The plan also notes that that the depth to groundwater in the vicinity of the Pohakuloa Training Area is approximately 1,000 feet, and that although the soil exhibits high permeability, the combination of limited precipitation and great depth to groundwater makes it unlikely that DU would migrate to groundwater. The plan explains that for these reasons and consistent with the programmatic ERMP, groundwater sampling is not planned for the Pohakuloa Training Area.

[50] *Id.* at 3-1, referring to the U.S. Army Installation Command, Final Environmental Radiation Monitoring Program, Programmatic Uniform Federal Policy – Quality Assurance Project Plan (UFP-QAPP), Annex 19 (Sept. 30, 2016) (ADAMS Accession No. ML16265A233).

[51] Pohakuloa ERMP at 4-1 to 4-8. The plan states that for the purposes of these calculations, the nuclide-specific soil concentrations for U-238, U-235, and U-234 were calculated for each RCA by multiplying the entire mass of DU listed on the license for the installation by the nuclide-specific mass abundance, nuclide specific activity, and appropriate conversion factors to obtain a total activity for the RCA. That total activity was then assumed to be distributed homogenously in the top 15 centimeters (six inches) of soil located within the area of the RCA. *Id.* at 4-1.

[52] Amendment 2 SER at 5.

various RCAs and therefore adequate for tracking and trending purposes to detect the existence of significant transport of DU from surface water runoff. The Staff also found acceptable the proposed sample collection methods and frequency.[53] The Staff concluded that the site-specific ERMPs were "consistent with the previously approved programmatic approach for preparation of site-specific environmental monitoring plans," as well as with license conditions in SUC-1593, Amendment 1, and therefore found them to be adequate for monitoring for transport of DU from the RCAs.[54] In addition, the Staff concluded that the Army's site-specific dose assessments for each RCA were conservative and acceptable.[55] The Staff confirmed that in all cases the calculated dose to the hypothetical resident farmer located on the RCA was below 1.0 mrem/yr TEDE.[56] Consequently, the Staff deleted License Condition 19 and amended License Condition 18 to require to the Army to fully implement each installation's site-specific ERMP within six months of the effective date of Amendment 2.[57]

On February 9, 2017, the NRC issued Amendment 2 and published in the Federal Register a notice of opportunity to request a hearing on Amendment 2.[58]

DISCUSSION

I. Standing to Intervene

A. Applicable Legal Standards

In accordance with the Atomic Energy Act (AEA), "the Commission shall grant a hearing upon the request of any person whose interest may be affected by the proceeding, and shall

[53] *Id.* at 11. The Staff noted that the frequency of collection was consistent with the frequency established in NUREG-1301, Off-site Dose Calculation Manual Guidance: Standard Radiological Effluent Controls for Pressurized Water Reactors. *Id.* The Staff used this guidance to inform its review of the Army's proposed sampling methods and frequency in the absence of specific NRC guidance for DU spent rounds present in the environment. *Id.* at 9-10.

[54] Amendment 2 SER at 11.

[55] *Id.* at 23.

[56] *Id.*

[57] *Id.* at 30.

[58] 82 Fed. Reg. at 10,031.

admit any such person as a party to such proceeding."[59] The Commission will grant a request for hearing if the petitioner meets the standing requirements of 10 C.F.R. § 2.309(d) and submits at least one admissible contention pursuant to 10 C.F.R. § 2.309(f).[60] The petitioner's hearing request must contain:

(i) The name, address and telephone number of the requestor or petitioner;

(ii) The nature of the requestor's/petitioner's right under the Act to be made a party to the proceeding;

(iii) The nature and extent of the requestor's/petitioner's property, financial or other interest in the proceeding; and

(iv) The possible effect of any decision or order that may be issued in the proceeding on the requestor's/petitioner's interest.[61]

1. Traditional Standing Principles

In addition to fulfilling the general standing requirements of 10 C.F.R. § 2.309(d)(1), a petitioner "must demonstrate that it has an interest that may be affected by the proceeding."[62] The Commission applies contemporaneous judicial concepts of standing to evaluate whether the petitioner has demonstrated the requisite interest.[63] To this end, "a petitioner must (1) allege an injury in fact that is (2) fairly traceable to the challenged action and (3) is likely to be redressed by a favorable decision."[64] The injury claimed by the petitioner must be actual or threatened and both concrete and particularized.[65] Further, the injury alleged must be "to an

[59] 42 U.S.C. § 2239(a)(1)(A).
[60] *See* 10 C.F.R. § 2.309(a).
[61] 10 C.F.R. § 2.309(d).
[62] *See Florida Power and Light Co.* (Turkey Point Nuclear Generating Units 3 and 4), CLI-15-25, 82 NRC 389, 394 (2015).
[63] *See id.* at 394; *see also Calvert Cliffs 3 Nuclear Project, LLC, & UniStar Nuclear Operating Services, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-09-20, 70 NRC 911, 915 (2009).
[64] *Turkey Point*, CLI-15-25, 82 NRC at 394; *Sequoyah Fuels Corp. and General Atomics* (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 71 (1994); *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992).
[65] *International Uranium (USA) Corporation* (White Mesa Uranium Mill), CLI-01-21, 54 NRC 247, 250 (2001); *see also Sequoyah Fuels Corp.,* CLI-94-12, 40 NRC at 71 (stating that "standing has been denied when the threat of injury is too speculative").

interest arguably within the zone of interests protected by the governing statute" – here, the AEA or the National Environmental Policy Act (NEPA).[66] If the proceeding involves an amendment to a license, "a petitioner's challenge must show that the amendment will cause a distinct new harm or threat *apart from the activities already licensed*."[67] The causation element of standing requires a petitioner to show "that the injury is fairly traceable to the proposed action."[68] The redressability element of standing "requires the intervenor to show that its actual or threatened injuries can be cured by some action of the tribunal."[69] The petitioner has the burden to demonstrate standing requirements are met.[70] However, a licensing board will "construe the [intervention] petition in favor of the petitioner" when making a standing determination,[71] and will "afford greater latitude to a pleading submitted by a *pro se* petitioner."[72]

2. "Proximity-Plus" Standing Principles

In cases involving reactor facilities, the Commission will apply a standing presumption based on proximity to the site.[73] No such automatic presumption exists for nuclear materials proceedings.[74] In such cases, a petitioner must demonstrate that "the proposed action involves a significant source of radioactivity producing an obvious potential for offsite consequences."[75] This "proximity-plus" standard is applied on a "case-by-case basis, taking into account the nature of the proposed action and the significance of the radioactive source."[76] If "there is no

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[66] *Calvert Cliffs*, CLI-09-20, 70 NRC at 915 (citing *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-93-21, 38 NRC 87, 92 (1993) (internal quotations omitted)).

[67] *White Mesa*, CLI-01-21, 54 NRC at 251 (emphasis added) (quoting *International Uranium (USA) Corporation* (White Mesa Uranium Mill), CLI-01-18, 54 NRC 27 (2001) (internal quotations omitted)).

[68] *Sequoyah Fuels,* CLI-94-12, 40 NRC at 75.

[69] *Sequoyah Fuels Corporation and General Atomics* (Gore, Oklahoma Site Decommissioning), CLI-01-02, 53 NRC 9, 15 (2001).

[70] *See Commonwealth Edison Co*. (Zion Nuclear Power Station, Units 1 and 2), CLI-00-5, 51 NRC 90, 98 (2000).

[71] *Turkey Point*, CLI-15-25, 82 NRC at 394 (quoting *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 115 (1995) (internal quotations omitted)).

[72] *See U.S. Army Installation Command,* CLI-10-20, 72 NRC 185, 188 (2010).

[73] *See Florida Power and Light Co.* (St. Lucie, Units 1 and 2), CLI-89-21, 30 NRC 325, 329 (1989).

[74] *See Nuclear Fuel Servs., Inc.* (Erwin, Tennessee), CLI-04-13, 59 NRC 244, 248 (2004).

[75] *Georgia Tech Research Reactor*, CLI-95-12, 42 NRC at 116.

[76] *Id.* at 116-17.

'obvious' potential for radiological harm at a particular distance frequented by the petitioner, it becomes the petitioner's burden to show a specific and plausible means of how the challenged action may harm him or her."[77] "[C]onclusory allegations about potential radiological harm" are insufficient for this showing.[78] Where a petitioner is unable to demonstrate "proximity-plus" standing to intervene, traditional standing principles will apply.[79]

B. Analysis of Individual Petitioners' Standing to Intervene

Even affording "greater latitude" to the pleadings submitted by these four *pro se* petitioners, the "petitioner ultimately bears the burden to provide facts sufficient to show standing."[80] None of the four petitioners has met that burden here, under either traditional standing requirements or the Commission's alternative "proximity-plus" standing determination. Especially in light of the limited scope of License Amendment 2, the petitioners do not describe facts or provide sufficient support to identify a "concrete" and "particularized" injury "fairly traceable to the challenged action and . . . likely to be redressed by a favorable decision."[81] Further, the petitioners do not qualify for "proximity-plus" standing because they do not demonstrate an "obvious" potential for radiological harm, particularly in light of the low levels of radioactivity posed by the depleted uranium M101 spotting rounds at the Pohakuloa Training Area.[82]

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[77] *USEC Inc.* (American Centrifuge Plant), CLI-05-11, 61 NRC 309, 311-12 (2005) (quoting *Nuclear Fuel Servs*, CLI-04-13, 59 NRC 244 (internal quotations omitted)).

[78] *Nuclear Fuel Servs*., CLI-04-13, 59 NRC at 248.

[79] *See U.S. Army Installation Command,* CLI-10-20, 72 NRC at 188.

[80] *Id.*

[81] *Sequoyah Fuels Corp.,* CLI-94-12, 40 NRC at 71-72 (citing *Lujan v. Defenders of Wildlife*, 112 S. Ct. 2130, 2136 (1992)).

[82] As discussed in prior proceedings, a conservative analysis completed in connection with the original license for possession of DU rounds at the Pohakuloa Training Area found that these rounds would not result in concentrations of DU exceeding decommissioning screening values for U-234, U-235, and U-238. *See U.S. Army Installation Command*, CLI-10-20, 72 NRC at 190-91. The Army performed conservative RESRAD analyses in connection with Amendment 1 to assess the potential offsite dose to a farmer residing one kilometer from the range, finding a maximum annual dose to the offsite individual to be only 0.035 mrem/yr. *See* SER Amendment 1 at 39. The programmatic ERMP approved in connection with Amendment 1 did not evaluate air as a significant pathway because "the NRC staff considers an

1. Cory Harden

Ms. Harden does not plead facts necessary to meet either traditional standing requirements or the Commission's alternative "proximity-plus" standards. Ms. Harden, a resident of Hawaii, states that she resides approximately 30 miles away from the Pohakuloa Training Area. Although she mentions brief and isolated past activities in closer proximity to the Pohakuloa Training Area grounds,[83] these do not constitute frequent contacts for the purposes of demonstrating standing.[84] Ms. Harden also notes that she "drive[s] past [the site] on Saddle Road several times a year," without further explanation or description of her proximity to the site in those instances.

In any event, even if Ms. Harden had demonstrated frequent contacts in the immediate vicinity of the Pohakuloa Training Area, she does not explain how any plausible injury to her would be traceable to Amendment 2. With regard to injury in fact, Ms. Harden states that she has "health issues" and is "concerned about health effects of depleted uranium on [herself] and other island residents."[85] However, Ms. Harden does not sufficiently articulate how the DU present at Pohakuloa Training Area poses a potential health risk and more specifically how this particular license amendment could either create or contribute to that risk. "Conclusory allegations about potential radiological harm from the facility in general, which are not tied to the specific amendment at issue, are insufficient to establish standing."[86] The conclusory nature of

environmental transport pathway significant if it potentially may contribute to exposures/doses at greater than 1% of the public dose limit (i.e., greater than 1 mrem/yr)." *Id*. at 42.

[83] *See* Harden Petition at unnumbered page 1 (noting that she "attended Kiolhana Girl Scout camp around the time Davy Crocketts may have been used at [the site]" and she has "spent 1-2 hours on the [site] grounds or about 100 feet from the boundary several times in the past 10 years").

[84] *USEC*, CLI-05-11, 61 NRC at 313 (stating that in standing determinations, "past activities are relevant only to the extent that they might help substantiate a serious intention . . . to frequent the area to a significant degree in the future).

[85] *See* Harden Petition at unnumbered page 1. Although Ms. Harden notes that she is concerned for the health of other island residents, asserting the rights of third parties cannot confer standing. *See Detroit Edison Co.* (Enrico Fermi Atomic Power Plant, Unit 2), LBP-78-11, 7 NRC 381, 387 (1978), ***aff'd***, ALAB-470, 7 NRC 473 (1978); *see also St. Lucie*, CLI-89-21, 30 NRC at 329-30.

[86] *White Mesa*, CLI-01-21, 54 NRC at 251.

Ms. Harden's assertion of harm is particularly acute in this case because prior NRC licensing proceedings and the associated extensive documentation regarding the Pohakuloa Training Area discuss the very small radiological risk posed by DU, particularly with regard to the potential offsite dose to the public.[87]

Ms. Harden seems to suggest that DU could travel offsite through a number of different air-based pathways including high wind events, live-fire training, wildfires, or controlled burns.[88] However, as described above,[89] the Staff's previous review and approval of Amendment 1 resolved that air sampling is not necessary at the Pohakuloa Training Area, based on the determination that airborne materials leaving the RCAs/impact areas, including from high explosive ordnance aerosolization, are highly unlikely to exceed regulatory exposure or monitoring requirements and will not pose a danger to the public.[90] Given this detailed assessment of aerial migration of DU as part of Amendment 1, Ms. Harden does not explain how her claims of harm from air-based DU pathways are plausible, and, in any event, they would not be traceable to the licensing of Amendment 2. Ultimately, Ms. Harden does not identify any plausible scenario describing "how the particular license amendment[] at issue

[87] *Supra* note 82.

[88] *See* Harden Petition at unnumbered page 1. Ms. Harden requests further study and evaluation of "whether animals may be carrying DU out of Radiation Control Areas" and groundwater depth, generally, at Pohakuloa Training Area. *See id*. at unnumbered page 2. Ms. Harden does not further elaborate on these points or describe an associated potential for offsite harm.

[89] *See* Background Section III.

[90] Amendment 1 SER at 34. The Army evaluated the potential for aerosolization from high explosive ordnance in connection with Amendment 1 to the license. *See* Response to Request for Additional Information, Attachment 7, "Potential Air Quality Impacts of Aerosolizing M-101 Spotter Rounds at Pohakuloa Training Area" (June 2015) (ADAMS Accession No. ML15294A277); *see also id.* at Attachment 10, "Arguments against Air Sampling During HE Fire into RCAs, rev.1." In the associated SER, the Staff found this analysis to be bounding and concluded that "Army's arguments, in total, adequately demonstrate that airborne materials leaving the RCAs/impact areas are highly unlikely to exceed regulatory exposure or monitoring requirements and not pose a danger to the public." SER Amendment 1 at 34; *see also id*. at 45-46 (describing the arguments presented against air sampling requirements during ground disturbing activities and concluding "[t]he NRC staff finds these arguments, in total, to be sufficient justification to alleviate routine air sampling because it is highly unlikely there would be any significant dose (i.e., no more than 1 mrem/yr) from suspended airborne particulates leaving the RCA due to ground disturbing activities in the vicinity of the RCA").

would increase the risk of an offsite release of radioactive fission products" through any of these pathways, let alone how any radiological impact could occur at her home 30 miles away.[91] "[T]he threat of injury" described by Ms. Harden is "too speculative" to provide standing under traditional principles.[92] For the same reasons, Ms. Harden does not identify a "significant source of radioactivity producing an obvious potential for offsite consequences" or "show a specific and plausible means of how the challenged action may harm . . . her" as required under the Commission's "proximity-plus" standard.[93]

2. James Albertini

Mr. Albertini does not plead facts or provide support necessary to meet either traditional standing requirements or the Commission's alternative "proximity-plus" standards. Mr. Albertini states that he resides about 30 miles from the Pohakuloa Training Area grounds.[94] He states that he has frequented the Pohakuloa Training Area for community meetings with the military and "to conduct Hawaiian ceremonies and the building of an ahu (Hawaiian altar) at the base of Pu'u Kapele."[95] He asserts that he has also "spent countless hours outside the main gate of Pohakuloa protesting military bombing and desecration and at other sites around the perimeter

[91] *Commonwealth Edison Company* (Zion Nuclear Power Station, Units 1 and 2), CLI-99-04, 49 NRC 185, 189 (1999). Ms. Harden provides a hyperlink to an article describing a study that suggests DU can travel up to 26 miles by wind. *See* Harden Petition at unnumbered page 51. However, she provides no indication of how, if at all, the study would apply to the current circumstances at Pohakuloa Training Area, let alone how it shows that approval of Amendment 2 demonstrates a "plausible" source of harm to her or an "obvious potential" for offsite health effects.

[92] *Sequoyah Fuels*, CLI-94-12, 40 NRC at 71.

[93] *USEC*, CLI-05-11, 61 NRC at 311-12. Indeed, in connection with the initial NRC licensing proceeding for the Pohakuloa Training Area, a Licensing Board concluded that Ms. Harden had not demonstrated standing to intervene. *See U.S. Army Installation Command,* LBP-10-4, 71 NRC at 230-35. On a similar record (including her residence 30 miles from the site), that Board concluded, among other things, that Ms. Harden had not shown how the DU at the Pohakuloa Training Area site constitutes a "significant source of radioactivity" nor how the onsite radioactivity would produce an obvious potential for offsite consequences. *Id.*

[94] *See* Albertini Petition at unnumbered page 1.

[95] *Id.*

of Pohakuloa" and used "facilities at Mauna Kea Park located approximately 1 and ½ miles from a firing range for the Davy Crockett DU spotting rounds."[96]

Mr. Albertini's stated interest in the proceeding is the "health effects of inhaled depleted uranium oxide (DU)."[97] Mr. Albertini seems to be concerned that that DU could become aerosolized and resuspended "from wind, live-fire, and other disturbances," and inhaled.[98] Mr. Albertini states that "[g]iven the possibility of DU oxide dust particles blowing in the wind, DU oxide dust particles may be transported all over the island on vehicles that travel the Saddle Rd."[99] Although Mr. Albertini states throughout his pleading that the DU present at the Pohakuloa Training Area presents a health risk to individuals offsite, he does not describe a plausible pathway that would make these claims more than "[c]onclusory allegations about potential radiological harm from the facility in general."[100] Mr. Albertini does not demonstrate that his "asserted injuries from the action that would be approved by the license amendment are distinct and palpable, particular and concrete, as opposed to being conjectural or hypothetical."[101] Furthermore, as noted previously, the prior review and approval of Amendment 1 already establishes that the Pohakuloa ERMP is not required to include air sampling.[102] As a result, Mr. Albertini's claims of harm from aerosolized DU would simply not be traceable to Amendment 2 in any event. Mr. Albertini does not describe how granting or denying

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[96] *Id.*

[97] *See id*. Although Mr. Albertini states that his concern for health effects extends to other island residents, a petitioner cannot assert the rights of third parties to attain standing. *See Enrico Fermi,* LBP-78-11, 7 NRC at 387; *see also St. Lucie,* CLI-89-21, 30 NRC at 329-30.

[98] *See* Albertini Petition at unnumbered page 3.

[99] *See id.* at unnumbered page 2.

[100] *White Mesa*, CLI-01-21, 54 NRC at 251.

[101] *International Uranium (USA) Corporation* (White Mesa Uranium Mill), CLI-98-6, 47 NRC 116, 117 (1998).

[102] *See* Background Section III. As noted above, *see supra* notes 82, 90, the Army evaluated the potential for aerosolization from high explosive ordnance in connection with Amendment 1 to the license, and the Staff concluded that airborne materials were highly unlikely to exceed regulatory exposure or monitoring requirements and not pose a danger to the public. In contrast to those determinations, Mr. Albertini provides no information in his petition to indicate that his concerns about health effects of inhaled DU are plausible sources of harm to him traceable to approval of Amendment 2, nor that Amendment 2 presents an obvious potential for offsite consequences.

Amendment 2 would affect his interest and therefore fails to demonstrate traditional standing requirements are met.[103] Accordingly, regardless of Mr. Albertini's representations regarding his more frequent activities at locations closer to Pohakuloa Training Area than his home, he simply has not demonstrated the "obvious potential for offsite consequences" due to "a significant source of radioactivity" necessary to establish "proximity-plus" standing.[104]

3. Ruth Aloua and Hāwane Rios

Ms. Aloua and Ms. Rios likewise do not establish the requisite injury to fulfill traditional standing requirements and do not plead sufficient facts to meet the Commission's "proximity-plus" standard.[105] Ms. Aloua and Ms. Rios are residents of Waiki'i Ranch and state that they live approximately five miles from Pohakuloa Training Area.[106] Both Ms. Aloua and Ms. Rios express a longstanding connection to the Pohakuloa area and describe its importance to their heritage.[107] Ms. Aloua explains that she is "concerned about the health issues and effects of depleted uranium (DU) on [herself], . . . farm crops and animals, soldiers at Pohakuloa Training Area, and our born and unborn children."[108] Ms. Rios is "concerned by the potential contamination of . . . air, fresh water resources, and food sources.[109] She also notes that she has experienced "an increase in a number of respiratory, liver, and digestive health problems" since moving to Waiki'i and opines that this may be due to the effects of DU.[110]

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[103] *See Turkey Point*, CLI-15-25, 82 NRC at 394 (stating that the cause of the injury need not flow directly from the challenged action, but the chain of causation must be plausible).

[104] *USEC*, CLI-05-11, 61 NRC at 311-12. Similar to Ms. Harden, in connection with the initial NRC licensing proceeding for the Pohakuloa Training Area site, a Licensing Board concluded that Mr. Albertini had not demonstrated standing to intervene. *See U.S. Army Installation Command,* LBP-10-4, 71 NRC at 235-37. The Board concluded, among other things, that Mr. Albertini had not shown how the DU at the Pohakuloa Training Area site constitutes a "significant source of radioactivity" nor how the onsite radioactivity would produce an obvious potential for offsite consequences. *Id.*

[105] Ms. Aloua and Ms. Rios will be treated together in Staff's response because they are similarly situated and provide the same list of contentions.

[106] *See* Aloua Petition at 2; *see also* Rios Petition at 2.

[107] *See* Aloua Petition at 1; *see also* Rios Petition at 1.

[108] *See* Aloua Petition at 2. Asserting the rights of third parties does not confer standing. *See Enrico Fermi*, LBP-78-11, 7 NRC at 387; *see also St. Lucie,* CLI-89-21, 30 NRC at 329-30.

[109] *See* Rios Petition at 2.

[110] *See id*.

Although both Ms. Aloua and Ms. Rios discuss concerns with the presence of DU at the Pohakuloa Training Area, they do not identify a plausible pathway for the material to proceed offsite, nor to cause contamination or other radiological harm at their residences. Ms. Aloua states that she "may be at threat due to DU being carried on the winds" and Ms. Rios suggests that her health concerns may be linked to the use of the Mauna Kea water source.[111] But because neither petitioner provides support to show how those concerns are more than speculative, the petitioners do not "show that they have a cognizable interest that may be affected if the proceeding has one outcome rather than another."[112] And to the extent the harm Ms. Aloua and Ms. Rios posit is the airborne transport of DU, the previous review and approval of Amendment 1 already establishes that the Pohakuloa ERMP is not required to include air sampling, meaning that claims of harm from aerosolized DU would simply not be traceable to Amendment 2 in any event.[113] Further, "proximity-plus" standing requires a showing that a "significant source of radioactivity producing an obvious potential for offsite consequences" is at issue, or the petitioner must plead "a specific and plausible means of how the challenged action may harm him or her."[114] Ms. Aloua's and Ms. Rios's speculative statements regarding offsite DU migration do not demonstrate that DU at Pohakuloa Training Area is a "significant source of radioactivity," much less that DU at the site has an obvious potential for offsite health effects, to them, attributable to Amendment 2.[115] Accordingly, those statements do not support either traditional standing or "proximity-plus" standing.

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[111] *See* Aloua Petition at 2; *see also* Rios petition at 2.

[112] *Sequoyah Fuels Corp.*, CLI-94-12, 40 NRC at 69.

[113] As noted above, *see supra* notes 82, 90, the Army evaluated the potential for aerosolization from high explosive ordnance in connection with Amendment 1 to the license, and the Staff concluded that airborne materials were highly unlikely to exceed regulatory exposure or monitoring requirements and not pose a danger to the public.

[114] *USEC*, CLI-05-11, 61 NRC at 311-12.

[115] *Id.*; supra note 82.

II. Admissibility of the Petitioners' Proffered Contentions

Each of the petitioners has set forth in his or her hearing request a number of contentions. In addition to items labeled as contentions, two of the petitioners – Ms. Harden and Mr. Albertini – raise related or additional arguments elsewhere in the materials submitted as part of their respective hearing requests. As described in the following section, recognizing that *pro se* petitioners are held to less rigid standards of clarity and precision with regard to their pleadings,[116] the Staff has conservatively evaluated the additional arguments proffered by the individual petitioners as potential contentions, or as part of the intended basis for one of the labeled contentions, and addressed them in this Answer accordingly.[117] Nonetheless, for the reasons described below, none of the petitioners has proffered a contention that meets the requirements of 10 C.F.R. § 2.309(f)(1).

A. Legal Requirements Governing Contention Admissibility

10 C.F.R. § 2.309(f)(1) establishes the "basic criteria that all contentions must meet in order to be admissible."[118] Pursuant to that section, a contention must:

> (i) provide a specific statement of the issue of law or fact to be raised or controverted;
>
> (ii) provide a brief explanation of the basis for the contention;

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[116] *U.S. Army Installation Command*, CLI-10-20, 72 NRC at 191-92.

[117] The Staff also considered assertions described by each petitioner in his or her supplemental materials (such as emails written by the petitioner and quoted in the petition) as potential contentions, and interpreted other references (such as quotes or summaries of concerns from other individuals or organizations) as intended to provide support for the petitioner's contentions. Ultimately, although *pro se* petitioners are provided some latitude in the matter of clarity and precision of hearing requests, a Board is not expected to search through pleadings or other materials to uncover arguments and support never advanced by the petitioners themselves; moreover, Boards may not infer unarticulated bases for contentions. *USEC Inc.* (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 457 (2006); *see also PPL Susquehanna, LLC* (Susquehanna Steam Electric Station, Units 1 & 2), LBP-07-4, 65 NRC 281, 304-05 (2007); *Shieldalloy Metallurgical Corp.* (Amendment Request for Decommissioning of the Newfield, New Jersey Facility), LBP-07-5, 65 NRC 341, 347 (2007).

[118] *Entergy Nuclear Vermont Yankee*, *LLC and Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), LBP-06-14, 63 NRC 568, 571-72 (2006); *see also USEC Inc.* (American Centrifuge Plant), CLI-06-9, 63 NRC 433, 436-437 (2006) (stating that the Commission "will reject any contention that does not satisfy the requirements").

(iii) demonstrate that the issue raised in the contention is within the scope of the proceeding;

(iv) demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding;

(v) provide a concise statement of the alleged facts or expert opinions, including references to specific sources and documents, that support the petitioner's position and upon which the petitioner intends to rely at hearing; and

(vi) provide information sufficient to show that a genuine dispute with the applicant/licensee exists in regard to a material issue of law or fact, including references to specific portions of the application that the petitioner disputes, or in the case of an application that is asserted to be deficient, the identification of such deficiencies and supporting reasons for this belief.[119]

The Commission has acknowledged that *pro se* petitioners are held to less rigid standards of clarity and precision with regard to the petition to intervene, so that parties with a clear but imperfectly stated interest in the proceeding are not excluded.[120] For example, Boards have considered a petitioner's proposed bases for a contention while making a finding regarding a contention's specificity.[121] However, the Commission has emphasized that even *pro se* petitioners are not excused from complying with the contention admissibility requirements of 10 C.F.R. § 2.309(f)(1).[122] The failure to comply with any one of the 10 C.F.R. § 2.309(f)(1) requirements is grounds for the dismissal of a contention.[123]

The contention admissibility requirements of 10 C.F.R. § 2.309(f)(1) are intended to "focus litigation on concrete issues and result in a clearer and more focused record for decision."[124] The Commission has stated that it "should not have to expend resources to

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[119] *See* 10 C.F.R. § 2.309(f)(1).

[120] *U.S. Army Installation Command*, CLI-10-20, 72 NRC at 189.

[121] See *Pub. Serv. Co. of New Hampshire* (Seabrook Station, Units 1 & 2), ALAB-899, 28 NRC 93, 97 (1988) (both contention and stated bases should be considered when question arises regarding admissibility of contention); *General Pub. Utilities Nuclear Corp.* (Oyster Creek Nuclear Generating Station), LBP-96-23, 44 NRC 143, 162 (1996).

[122] *See U.S. Army Installation Command*, CLI-10-20, 72 NRC at 192.

[123] *Private Fuel Storage, L.L.C.* (Independent Irradiated Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999).

[124] Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2202 (Jan. 14, 2004).

support the hearing process unless there is an issue that is appropriate for, and susceptible to, resolution in an NRC hearing" as indicated by a proffered contention that satisfies all of the 10 C.F.R. § 2.309(f)(1) requirements.[125] The Commission has emphasized that the 10 C.F.R. § 2.309(f)(1) requirements are "strict by design."[126] Attempting to satisfy these requirements by "[m]ere 'notice pleading' does not suffice."[127] A contention must be rejected where, rather than raising an issue that is concrete or litigable, it reflects nothing more than a generalization regarding the petitioner's view of what the applicable policies ought to be.[128]

Pursuant to 10 C.F.R. § 2.309(f)(1)(iii), a proposed contention must be rejected if it raises issues beyond the scope of the proceeding as dictated by the Commission's hearing notice.[129] Thus, a proposed contention that challenges a license amendment must confine itself to "health, safety or environmental issues fairly raised by [the license amendment]."[130] The adequacy of the Staff's review, as opposed to the adequacy of the application, cannot be challenged.[131]

Further, pursuant to 10 C.F.R. § 2.309(f)(1)(v), a proposed contention must be rejected if it does not provide a concise statement of the facts or expert opinions that support the proposed contention together with references to specific sources and documents. Neither mere

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[125] *Id.*

[126] *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 & 3), CLI-01-24, 54 NRC 349, 358 (2001), *petition for reconsideration denied*, CLI-02-01, 55 NRC 1 (2002).

[127] *Amergen Energy Co., L.L.C.* (Oyster Creek Nuclear Generating Station), CLI-06-24, 64 NRC 111, 119 (2006) (quoting *Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), CLI-05-29, 62 NRC 801, 808 (2005)).

[128] *Private Fuel Storage, L.L.C.* (Independent Irradiated Fuel Storage Installation), CLI-04-22, 60 NRC 125, 129 (2004) (citing *Philadelphia Elec. Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20-21 (1974)).

[129] *See Pub. Serv. Co. of Indiana, Inc.* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-316, 3 NRC 167, 170-71 (1976).

[130] *Commonwealth Edison Co.* (Dresden Nuclear Power Station, Unit 1), CLI-81-25, 14 NRC 616, 624 (1981).

[131] *See Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), CLI-10-27, 72 NRC 481, 493 n.56 (2010) ("The contention . . . inappropriately focused on the Staffs [sic] review of the application rather than upon the errors and omissions of the application itself. Such challenges are not permitted in our adjudications."); *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Unit 3), CLI-09-5, 69 NRC 115, 123 n.39 (2009); 69 Fed. Reg. at 2202.

speculation nor bare or conclusory assertions, even by an expert, suffices to allow the admission of a proposed contention.[132] While a Board may view a petitioner's supporting information in a light favorable to the petitioner, if a petitioner neglects to provide the requisite support for its contentions, it is not within the Board's power to make assumptions or draw inferences that favor the petitioner, nor may the Board supply the information that a contention is lacking.[133] Additionally, simply attaching material or documents as a basis for a contention, without setting forth an explanation of that information's significance, is inadequate to support the admission of the contention.[134] The Board is not expected to sift through attached material and documents in search of factual support.[135]

Finally, pursuant to 10 C.F.R. § 2.309(f)(1)(vi), a proposed contention must be rejected if it does not present a genuine dispute with the applicant on a material issue of law or fact. The Commission has emphasized that "contentions shall not be admitted if at the *outset* they are not described with reasonable specificity or are not supported by some alleged fact or facts *demonstrating* a genuine material dispute" with the applicant.[136] The hearing process is reserved "for genuine, material controversies between knowledgeable litigants."[137]

B. Individual Petitioners' Proffered Contentions

1. Cory Harden

In her petition, Ms. Harden lists five bulleted contentions, one of which contains multiple subparts.[138] Ms. Harden also appears to raise additional concerns under the heading of

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[132] See *USEC*, CLI-06-10, 63 NRC at 472; *Fansteel, Inc.* (Muskogee, Oklahoma Site), CLI-03-13, 58 NRC 195, 203 (2003).

[133] See *Crow Butte Res., Inc.* (North Trend Expansion Project), CLI-09-12, 69 NRC 535, 553-54 (2009); *Arizona Pub. Serv. Co.* (Palo Verde Nuclear Generating Station, Unit Nos. 1, 2, and 3), CLI 91-12, 34 NRC 149, 155 (1991).

[134] See *Fansteel*, CLI-03-13, 58 NRC at 204-05.

[135] *NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 332 (2012).

[136] *Id.* (quoting *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 335 (1999)).

[137] *Id.* (quoting *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Unit 2), CLI-03-14, 58 NRC 207, 219 (2003)).

[138] Harden Petition at unnumbered pages 1-2.

"general comments" as well as in excerpts of prior emails from herself to the NRC.[139] These contentions and other concerns appear to rely primarily on the aforementioned emails; a communication from Ms. Harden to the Deputy Director of the Hawaii State Department of Health; communications between Dr. G. Michael Reimer and the NRC; an abstract and hyperlink to an article on DU contamination of Persian Gulf War veterans and others; and attachments consisting of a photo of a dust storm near the Pohakuloa Training Area and a screenshot of a video portraying a "fire tornado" at the Pohakuloa Training Area.[140] Throughout her petition, Ms. Harden also includes excerpts of other information, with internet hyperlinks to the apparent sources of that information. Finally, Ms. Harden attaches curricula vitae for Drs. G. Michael Reimer, Lorrin Pang, and H. Marshall Blann.[141]

As a threshold matter, several of Ms. Harden's claims are outside the scope of this proceeding or are not material to the findings the Staff must with respect to Amendment 2, as explained in more detail below, and they therefore cannot support an admissible contention. Ms. Harden contends that the NRC should require the Army to "remove all DU" and "correct shortcomings in studies the license is based on," listing several factors that studies should account for or require.[142] Ms. Harden asks that the Staff subsequently reconsider the license application "or have a more appropriate agency address the DU."[143] Likewise, Ms. Harden states that the Staff should evaluate "whether the DU hazard would be better addressed using regulations and/or an agency that are appropriate," contending that NRC regulations do not cover DU left on the ground.[144] In addition, Ms. Harden expresses concerns regarding the

[139] *Id.* at unnumbered pages 4-6, 9-17.
[140] *Id.* at unnumbered pages 9-43; attachments ("Photo of dust storm near PTA"; "Fire Tornado on Hawaii Island Caught on Video").
[141] *Id.* at unnumbered pages 44-51; attachment ("Resume of H. Marshall Blann").
[142] *Id.* at unnumbered pages 2, 4-6 (including third and fifth bulleted contentions).
[143] *Id.* at 2 (fifth bulleted contention).
[144] *Id*. at unnumbered page 2 (fourth bulleted contention).

amount, location, and possible aerial migration of DU at the Pohakuloa Training Area;[145] the extent, adequacy, and impartiality of surveys conducted of the Pohakuloa Training Area for DU;[146] and the risks from DU used for purposes other than spotting rounds, which may be "subjected to impacts and explosions from activities such as target practice."[147] She also challenges the adequacy of the Staff's SER with respect to several issues.[148]

These concerns raised by Ms. Harden do not satisfy the elements of 10 C.F.R. § 2.309(f)(1), because none is within the scope of this proceeding or material to the findings the Staff must make on Amendment 2. In a license amendment proceeding, a petitioner's contentions must focus on the issues identified in the hearing notice, the amendment application, and the Staff's environmental responsibilities relating to the application.[149] Pursuant to the hearing notice for Amendment 2, the present license amendment proceeding concerns the approval and incorporation into SUC-1593 of site-specific ERMPs for the Pohakuloa Training Area and the other licensed sites, and the approval of site-specific dose modeling calculations.[150] Ms. Harden's assertions that the Staff should require the Army to remove DU from the site, reconsider the license application, and consider having, or evaluating the possibility of having, a "more appropriate agency address the DU," do not fall within the narrow scope of the present licensing action. Ms. Harden's contention that the Staff should require the Army to "correct shortcomings in studies the license is based on" is likewise out of scope because she does not explain how these shortcomings are relevant to the Army's submission of the Pohakuloa ERMP or the Army's site-specific dose modeling calculations for the Pohakuloa

[145] *Id*. at unnumbered pages 3, 9-10, 31, 33.
[146] *Id.* at unnumbered pages 3, 30, 33-40.
[147] *Id.* at unnumbered page 5.
[148] *Id.* at unnumbered pages 3, 7-8.
[149] *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), LBP-91-39, 34 NRC 273, 282 (1991).
[150] *See* 82 Fed. Reg. at 10,031.

Training Area.[151] The Staff is not obligated to gather information not pertinent to its licensing decision.[152] Furthermore, to the extent that Ms. Harden is challenging the authority of the NRC to regulate DU, her arguments constitute an impermissible challenge to NRC regulations and are accordingly outside the scope of an NRC adjudication.[153]

In addition, contrary to 10 C.F.R. §§ 2.309(f)(1)(iii) and (f)(1)(iv), Ms. Harden does not explain how her concerns regarding the amount, location, and possible aerial migration of DU at the Pohakuloa Training Area;[154] the extent, adequacy, and impartiality of surveys conducted of the Pohakuloa Training Area for DU;[155] and the risks from DU used for purposes other than spotting rounds, fall within the scope of this proceeding or are material to the findings the NRC must make with respect to its approval of site-specific ERMPs and dose modeling calculations for the Pohakuloa Training Area. For example, the Army's applications for its initial license and for Amendment 1 described the process used by the Army to locate DU and determine the boundaries for each RCA at the Pohakuloa Training Area, as well as estimates of the amount of DU present at the site, and these supported the findings necessary for the Staff's approval of Amendment 1.[156] There was no license condition or other regulatory requirement for the Pohakuloa ERMP and site-specific dose assessment to reevaluate this information or provide new information regarding these matters, and so the Amendment 2 application did not revisit those aspects of the licensing basis. Finally, Ms. Harden's challenges to the Staff's evaluation of the application – such as her claim that the Staff's SER "chooses inappropriate regulations for guidance, and gives no specific reasons for that choice" – also do not fall within the scope of

[151] Although Ms. Harden's list of examples of shortcomings includes certain criticisms directed to the Pohakuloa ERMP and SER for Amendment 2, *see* Harden Petition at unnumbered pages 1-2, she still does not explain why these criticisms are within the scope of this proceeding, as explained *infra* at pages 28-30.

[152] *See USEC*, CLI-06-10, 63 NRC at 481.

[153] *See Oconee*, CLI-99-11, 49 NRC at 334.

[154] Harden Petition at unnumbered pages 3, 9-10, 31, 33.

[155] *Id*. at unnumbered pages 3, 30, 33-40.

[156] *See* Initial License SER at 16-18; Amendment 1 SER at 25.

this proceeding. It is well established that the adequacy of the Staff's review, as opposed to the adequacy of the application, cannot be challenged.[157]

Ms. Harden makes further claims that are outside the scope of this proceeding or are not material to the findings the Staff must make on Amendment 2, because they pertain to matters resolved in the Amendment 1 licensing action. Ms. Harden contends that the Staff should require the Army to perform air monitoring, in accordance with specific recommendations in her pleading, and that the Staff should prohibit high explosives in RCAs until one year of air monitoring does not detect DU.[158] She states that the Staff should evaluate whether the Army is resisting effective air monitoring "because that might reveal use of extremely hazardous DU penetrators" at the Pohakuloa Training Area.[159] Elsewhere in her hearing request, Ms. Harden criticizes the site-specific ERMP for failing to evaluate the pathway of dust inhalation or to require air monitoring, and she likewise faults the Staff's SER for failing to require this evaluation and monitoring.[160] She further asserts that the Pohakuloa ERMP and the Staff's SER fail to evaluate the cumulative effects of radiation from the Pohakuloa Training Area combined with other radiation sources and toxins.[161] In addition, regarding the Army's site-specific dose modeling calculations, Ms. Harden states that rather than assuming that the total

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[157] See *Northern States Power Co.*, CLI-10-27, 72 NRC at 493 n.56; *Dominion Nuclear Connecticut*, CLI-09-5, 69 NRC at 123 n.39; 69 Fed. Reg. at 2202. Alternatively, to the extent Ms. Harden's claim is that the application does not meet applicable regulations or guidance, she does not specify what provision in regulations or guidance has not been met. Without that explanation, she cannot demonstrate the existence of a genuine material dispute with the application, as required by 10 C.F.R. § 2.309(f)(1)(vi).

[158] Harden Petition at unnumbered pages 1-4, 7, 12 (including first and second bulleted contentions); *see also id.* at unnumbered pages 30-32, 41 (raising concerns in 2013 regarding aerosolization of DU and air monitoring methods employed by the Army at the Pohakuloa Training Area).

[159] *Id*. at unnumbered page 6.

[160] *Id*. at unnumbered pages 2, 8, 12. For example, Ms. Harden's concern regarding air monitoring appears to be the reason for her references to her May 28, 2013, communication to the Deputy Director of the Hawaii State Department of Health; the abstract of an article on DU contamination of Persian Gulf War veterans; comments by Dr. Reimer excerpted by Ms. Harden and in communications to the NRC regarding air monitoring; and the photo and video screenshot portraying wind events in the vicinity of the Pohakuloa Training Area. *Id.* at unnumbered pages 18-20, 22, 26, 43; attachment ("Photo of dust storm near PTA"); attachment ("Fire Tornado on Hawaii Island Caught on Video").

[161] *Id.* at unnumbered pages 8, 17.

activity of each isotope is homogenously distributed in the top 15 centimeters of soil in the RCA, "the Army should consider the more likely scenario of uneven distribution of 'hot spots' and much greater depth from explosives driving DU into the ground."[162]

These claims are outside the scope of this proceeding and not material to the finding the Staff must make regarding Amendment 2, contrary to 10 C.F.R. §§ 2.309(f)(1)(iii) and (f)(1)(iv), because they challenge matters already resolved for this site in a prior licensing action. In its programmatic ERMP for all licensed sites, including the Pohakuloa Training Area, the Army determined on a programmatic basis that air sampling was not required under any circumstances.[163] The Staff evaluated and agreed with this conclusion, and the programmatic ERMP, approved by the Staff in Amendment 1 to SUC-1593, directed Army installations to prepare site-specific ERMPs consistent with the criteria and requirements in the programmatic ERMP. Therefore, consistent with the programmatic ERMP, the Army did not address or require air sampling in the site-specific ERMP for the Pohakuloa Training Area. As the site-specific ERMP for the Pohakuloa Training Area addresses only certain pathways not already programmatically resolved in the previous license amendment approving and incorporating the programmatic ERMP, Ms. Harden does not explain how her concerns about dust inhalation, air monitoring, and evaluation of other unspecified radiation sources or toxins fall within the scope of this proceeding or are material to the findings the NRC must make. Moreover, Ms. Harden's claim that the Army is resisting air monitoring to avoid the discovery of "extremely hazardous DU penetrators" amounts to no more than speculation, which is insufficient to support the admissibility of a contention.[164]

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[162] *Id*. at unnumbered page 7; *see also id.* at unnumbered page 32 (raising similar concern in 2013 regarding settlement of DU into "hot spots").

[163] Programmatic ERMP at 12-13.

[164] *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3), LBP-08-13, 68 NRC 43, 102 (2008).

Similarly, Ms. Harden's assertion that the Army's dose model should assume "uneven hot spots" and greater depth of contamination, rather than a homogenous distribution of contamination to a depth of 15 centimeters, challenges dose modeling calculation assumptions established in Amendment 1. In its bounding dose assessment model approved by the Staff in Amendment 1, the Army used an input parameter for soil contamination depth of 15 centimeters.[165] In the site-specific model, consistent with Amendment 1, the Army again used an input parameter of 15 centimeters for soil contamination depth.[166] The Army submitted the dose modeling parameters in its application for Amendment 2 for the limited purpose of providing confirmation to the NRC that the dose modeling methodology approved in Amendment 1 was applied on a site-specific basis and the calculated all pathway dose for each RCA does not exceed 1.0 mrem/yr.[167] Because the soil contamination depth input parameter was approved as part of the licensing basis in the previous licensing action, and the Army carried forward that parameter without modification in the site-specific ERMP for Amendment 2, Ms. Harden has not shown that her challenge to the application of this input parameter in the Pohakuloa dose assessment is within the scope of this license amendment proceeding.[168]

Finally, Ms. Harden makes a series of assertions that the site-specific ERMP for the Pohakuloa Training Area is deficient in several respects, but she does not demonstrate that these concerns amount to a supported genuine material dispute with the application. For example, Ms. Harden states that the Pohakuloa ERMP contains factual errors about groundwater depth, ownership of Pohakuloa land, and the nature of the troops that train at the

[165] *See* Amendment 1 SER at 41.
[166] *See* Amendment 2 SER at 21 (Table 6).
[167] *See id.* at 24 (deleting License Condition 19, which required the submission of this information).
[168] Further, although Ms. Harden states that her proposed assumptions regarding soil contamination should be substituted for the assumptions used by the Army, she does not explain how the Army's assumptions in its site-specific dose model are inadequate. A bare assertion of this kind, offered without factual or expert opinion support, is not sufficient to allow the admission of a proposed contention. *See USEC*, CLI-06-10, 63 NRC at 472; *Fansteel*, CLI-03-13, 58 NRC at 203.

site.[169] She asserts that sampling should be done more often and should be postponed, rather than canceled, in inclement weather.[170] Ms. Harden also states that the Staff and the Army should clarify "contradictory" information regarding the size of DU fragments, referring to portions of the Amendment 2 SER that describe the conservative assumptions used by the Army in its calculation of site-specific doses and comparing that information to a statement in an NRC backgrounder[171] on SUC-1593 that DU fragments are "large."[172]

These claims do not raise a supported genuine material dispute with the application, contrary to 10 C.F.R. § 2.309(f)(1)(iv), (v) and (vi). Ms. Harden asserts that factual errors exist in the Pohakuloa ERMP concerning groundwater depth, land ownership, and use of the land by foreign troops, but she does not explain how these purported errors amount to a genuine, material deficiency in the plan. First, while Ms. Harden refers to excerpts and graphs from news articles in asserting that the Pohakuloa ERMP errs in its assessment of groundwater depth, she does not demonstrate how this concern amounts to a genuine material dispute with the application, contrary to 10 C.F.R. § 2.309(f)(1)(iv) and (vi). Namely, while the Pohakuloa ERMP describes groundwater conditions in support of its determination that groundwater sampling is not currently necessary at the site, it also states that this determination is based on the rationale presented in the programmatic ERMP,[173] which calls for groundwater sampling only if existing wells potentially influenced by DU exist within an RCA.[174] The Pohakuloa ERMP states that currently there are no groundwater monitoring wells located at or near the RCAs; because Ms.

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[169] Harden Petition at unnumbered pages 3, 9, 12-16.

[170] *Id*. at unnumbered pages 3, 9.

[171] The backgrounder cited by Ms. Harden is a fact sheet issued by the NRC to provide information on the license for DU at Army sites, including background information on DU and the NRC's role overseeing the licensed material. U.S. NRC, Backgrounder on License for Depleted Uranium at U.S. Army Sites (March 2016), *available at* https://www.nrc.gov/reading-rm/doc-collections/fact-sheets/bg-license-app-du.html.

[172] Harden Petition at unnumbered pages 5, 7-8.

[173] Pohakuloa ERMP at 2-1.

[174] *See* Programmatic ERMP at 14.

Harden does not dispute this conclusion, her concerns about groundwater depth cannot demonstrate any inconsistency between the Pohakuloa ERMP and the approved programmatic ERMP, and as a result those concerns do not demonstrate a material deficiency.[175]

Next, regarding Ms. Harden's claims of errors in the Pohakuloa ERMP concerning land ownership (leasing of a portion of the site from the State of Hawaii) and use by foreign troops, she does not explain how these issues, even if true, would be material to this proceeding, contrary to 10 C.F.R. §§ 2.309(f)(1)(iv) and (vi). In addition, Ms. Harden provides no fact or expert opinion to support (or explain the significance of) her assertion that sampling should be performed more often and should be postponed, rather than canceled, in inclement weather. Bare assertions, lacking analysis and fact-based or expert support, are not sufficient to support the admission of a contention, and Ms. Harden thus does not explain how this concern demonstrates a genuine dispute on a material issue with the application.[176]

Likewise, Ms. Harden's assertion that the Amendment 2 SER's description of the size of DU fragments "contradicts" information published by the NRC in a backgrounder does not demonstrate the existence of a genuine, material dispute with the application. The backgrounder states that DU cannot easily become airborne or move off-site due in part to the large fragment size of the DU.[177] By contrast, in the section of the Amendment 2 SER to which Ms. Harden refers, the Staff is not describing the actual condition of DU rounds found at Pohakuloa Training Area; rather, the Staff is describing the assumptions the Army used to calculate concentrations of DU in the soil for the purposes of confirming, on a site-specific basis, the conservative, bounding dose assessment approved by the Staff in Amendment 1.[178] In sum, given those different contexts, Ms. Harden does not provide any reasoned explanation of how

[175] *See* Pohakuloa ERMP at 2-1.
[176] *See USEC*, CLI-06-10, 63 NRC at 479.
[177] U.S. NRC, Backgrounder on License for Depleted Uranium at U.S. Army Sites (March 2016), *available at* https://www.nrc.gov/reading-rm/doc-collections/fact-sheets/bg-license-app-du.html.
[178] Amendment 2 SER at 14.

the excerpts from these two documents are contradictory, much less show the existence of a genuine dispute on a material issue, contrary to 10 C.F.R. §§ 2.309(f)(1)(v) and (f)(1)(vi).

Finally, Ms. Harden's hearing request includes reproductions and summaries of communications from other individuals, such as Dr. Reimer, which she describes as "comments" concerning "shortcomings" in "studies done in support of the license."[179] A number of these "comments" criticize aspects of the approval of Amendment 2, including the Pohakuloa ERMP. However, Ms. Harden generally does not further explain how these references correspond to the concerns in her own contentions and emails.[180] Moreover, Ms. Harden does not explain the relevance of these opinions to her contentions. The Commission has made clear that intervenors must provide a clear statement of the basis for contentions, as well as the supporting information that serves to establish the validity of the contention.[181]

2. James Albertini

Mr. Albertini lists 13 numbered contentions.[182] Mr. Albertini also appears to raise additional concerns under the heading of "general comments."[183] Mr. Albertini references leaflets from peace vigils held in the vicinity of the Pohakuloa Training Area; a U.S. Department of Defense-authored list of possible DU penetrators used at the site; a hyperlink to a video on the dangers of DU; a letter from Mr. Albertini to the commanding officer of the Army garrison at Pohakuloa Training Area regarding Mr. Albertini's concerns with the Army's presence at and use of the site; press releases and articles authored by Mr. Albertini; and a list of references to

[179] *See, e.g.*, Harden Petition at unnumbered pages 2-3.

[180] Ms. Harden's first listed contention does refer to the statements from Dr. Reimer included later in the petition, as she advocates that the Army "do air monitoring following recommendations from Dr. Pang and Dr. Reimer[.]" Harden Petition at unnumbered page 1. As explained above, concerns regarding air monitoring are outside the scope of this proceeding. In contrast to that reference, Ms. Harden does not explain how the other attached comments correspond to the issues she portrays as her concerns. Therefore, with respect to these statements and comments, Ms. Harden has not demonstrated the existence of a genuine material dispute with the application, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

[181] *Oyster Creek*, CLI-06-24, 64 NRC at 118-19.

[182] Albertini Petition at unnumbered pages 2-3.

[183] *Id.* at unnumbered pages 3-4.

additional leaflets and articles, including an article by Dr. Michael Reimer entitled "Army Underplaying Depleted Uranium Risks."[184]

The majority of Mr. Albertini's contentions and concerns appear to criticize the U.S. military's historic activities at the Pohakuloa Training Area, to assert that more DU is present on the site than has been identified, and to advocate more extensive and "independent" DU surveys and monitoring, in particular air sampling. For example, Mr. Albertini contends that the NRC should require the U.S. military to stop any activities that create dust on the Pohakuloa Training Area.[185] He asserts that the NRC should require, as part of the Army's license, that the Army comply with Hawaii County Council Resolution 639-08.[186] Stating that the Army and other military entities have historically used the Pohakuloa Training Area for live-fire and bombing exercises and that less than 1% of the site has been surveyed for DU, Mr. Albertini posits that the site likely contains more DU than just that attributed to the Davy Crockett weapons system and that the use of high explosives in the area has reduced large pieces of DU to small pieces.[187] He contends that inhalation of small DU oxide dust particles is the primary DU-related hazard at the Pohakuloa Training Area and that air monitoring for DU oxides "is the priority."[188] He states that the NRC should require comprehensive independent testing and monitoring – including air monitoring for DU oxide particles – at the Pohakuloa Training Area, Mauna Kea Park, and the nearby Girl Scout camp to determine the full extent of DU contamination at the site.[189] Mr. Albertini recounts radiation readings in the range of 60, 70 and

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[184] *Id.* at unnumbered pages 5-12.

[185] *Id.* at unnumbered pages 2-3 (contentions 1 and 13).

[186] *Id.* (contention 2).

[187] *Id.* at unnumbered pages 2-3 (contentions 3, 11, and 12). Mr. Albertini asserts that the Pohakuloa Training Area may have to be shut down because it is a hazard to troops, residents, and visitors. *Id.* at unnumbered page 3 (contention 11).

[188] *Id.* at unnumbered pages 2-3 (contentions 4 and 10).

[189] *Id.* at unnumbered pages 2-3, 12-13 (including contentions 7 and 10). Mr. Albertini states that air monitoring should be conducted "under all weather conditions for an extended period of time, in all directions from [the] PTA . . . [and] should include high wind conditions [and] brush fires." *Id.* at unnumbered page 3 (contention 10).

80 counts per minute (CPMs) at Mauna Kea Park, and avers that the entire area of the Pohakuloa Training Area, Mauna Kea Park, and the nearby Girl Scout camp need to be surveyed for DU.[190]

However, none of these concerns meets the contention admissibility requirements of 10 C.F.R. § 2.309(f)(1). In particular, Mr. Albertini does not explain how his concerns fall within the scope of this proceeding or are material to the findings the NRC must make with respect to this license amendment, contrary to 10 C.F.R. §§ 2.309(f)(1)(iii) and (f)(1)(iv). The size and extent of DU at the licensed installations was assessed and resolved as part of the Army's application for Amendment 1, which included the approval of the programmatic ERMP. The Army determined that the Pohakuloa Training Area/Schofield Barracks installation contained 714 spotting rounds, with a combined DU mass of 135.7 kg.[191] The Army based its determination on the actual number of rounds shipped to the installation according to shipping records.[192] This determination was approved by the Staff in its SER for Amendment 1 and became part of the licensing basis.[193] Those determinations were not altered or affected by Amendment 2. Consequently, the Army's site-specific ERMP and site-specific dose modeling calculations for the Pohakuloa Training Area submitted in the application for Amendment 2 relied on information in the existing licensing basis regarding the size and extent of DU.[194]

Further, in its programmatic ERMP for sites including the Pohakuloa Training Area, the Army determined on a programmatic basis that air sampling for DU was not required under any

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[190] *Id.* at unnumbered page 2, 12 (including contentions 6, 7 and 8).

[191] U.S. Army, Supporting Information for NRC Form 313 Application for Materials License (Jun. 1, 2015) (ADAMS Accession No. ML15161A458), at PDF page 2.

[192] *Id.*

[193] *See* Amendment 1 SER at 13-18. In the SER, the Staff performed its own confirmatory calculations to assess DU mass, and arrived at an estimate of 140 kg. *Id.* at 17.

[194] Moreover, in its calculation of specific soil concentrations for each RCA, the Army conservatively assumed that the entire mass of DU listed for the installation was present in that RCA (i.e., the Army assumed that the total mass for an entire site/installation was present in each and every RCA). *See* Amendment 2 SER at 14.

circumstances.[195] The Staff reviewed and approved this determination in Amendment 1, explaining in its SER that airborne materials leaving the RCAs/impact areas, including from high explosive ordnance aerosolization, are highly unlikely to exceed regulatory exposure or monitoring requirements and will not pose a danger to the public.[196] Therefore, consistent with the programmatic ERMP, in its application for Amendment 2 the Army did not address or require air sampling in the site-specific ERMP for the Pohakuloa Training Area. In sum, because Amendment 1 determined that air sampling was not required, and the site-specific ERMP for the Pohakuloa Training Area addresses only certain pathways not already resolved in the previously-approved programmatic ERMP, Mr. Albertini does not explain how his requests to require air monitoring fall within the scope of this proceeding or are material to the findings the NRC must make for Amendment 2. Finally, while Mr. Albertini asserts that the NRC should require the Army to comply with Hawaii County Council resolution 639-08, he neither describes the terms of that resolution nor explains why they involve matters within the NRC's purview, let alone matters that are relevant to Amendment 2. Absent such an explanation, and particularly given that the resolution to which he refers appears to have been passed in 2008, he has not demonstrated that concerns regarding that resolution are within the limited scope of (or material to) the present license amendment proceeding, again contrary to 10 C.F.R. §§ 2.309(f)(1)(iii) and (f)(1)(iv).[197]

In addition to the claims discussed above, Mr. Albertini does make certain statements that appear to express concern about the Pohakuloa ERMP. Mr. Albertini asserts that recent water wells have been drilled at and in the vicinity of Pohakuloa Training Area and that these

[195] Programmatic ERMP at 12-13.

[196] Amendment 1 SER at 49. Based in part on this determination, the Staff removed a license condition prohibiting the Army from firing high-explosive munitions into areas containing DU without first informing the NRC. *Id.*

[197] For the same reason, Mr. Albertini has also not provided sufficient information to show that this contention meets the requirements of 10 C.F.R. §§ 2.309(f)(1)(v) and (f)(1)(vi).

wells need to be tested for DU and other military toxins. He states that "water was found at much shallower are[as] than anticipated."[198] In addition, Mr. Albertini states that the current proposed single site sediment sample "miles northwest of the impact area, taken every several months, weather permitting," is completely unsatisfactory and a "sham requirement" that is the least likely manner in which to identify the presence of DU.[199] These concerns also do not meet the requirements of 10 C.F.R. § 2.309(f)(1) because Mr. Albertini does not provide factual support for those aspects of his claims or demonstrate the existence of a genuine dispute with the application on a material issue of law or fact, contrary to §§ 2.309(f)(1)(v) and (f)(1)(vi). Indeed, Mr. Albertini at no point cites the Amendment 2 license application or even the Staff's SER. While Mr. Albertini's discussion of wells and sampling locations arguably reflects a disagreement with the Pohakuloa ERMP's statement that no wells exist within the RCAs at the Pohakuloa Training Area, none of the information provided or referenced in support of his Petition provides a basis for these factual claims. His statement that water has been found at shallower areas than expected is likewise unsupported, and in any event Mr. Albertini does not explain its significance.[200] Moreover, as the Staff has discussed above, the fact that the Pohakuloa ERMP does not include groundwater sampling is consistent with the programmatic ERMP, which calls for groundwater sampling only if existing wells potentially influenced by DU exist within the RCA.[201] With respect to his claim that the Pohakuloa ERMP's sampling is unsatisfactory and a "sham requirement," Mr. Albertini does not explain how this claim is supported by facts or expert opinion.[202] A conclusory assertion, without more, does not suffice

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[198] Albertini Petition at unnumbered page 2 (contention 5).

[199] *Id.* (contention 9).

[200] *See id.* at unnumbered page 2.

[201] *See supra* at 173 and 174.

[202] *See Seabrook*, CLI-12-5, 75 NRC at 320. In one of the referenced press releases, Mr. Albertini also appears to criticize the ERMP sediment sampling site by stating that it "includes probable drainage from thousands of acres not part of the radiation impact areas." Albertini Petition at unnumbered page 8. He does not, however, explain the factual basis for this statement or why this observation contradicts any assumption or analysis in the application, let alone why the extent of drainage would render the ERMP

to support the admission of a contention, and does not demonstrate a genuine material dispute with the applicant.[203]

For the foregoing reasons, the Board should reject Mr. Albertini's proposed contentions.

3. Ruth Aloua and Hāwane Rios

Ms. Aloua and Ms. Rios submit five identical contentions.[204] These five contentions primarily focus on the U.S. military presence in Hawaii and the need for additional testing and air monitoring for DU at the Pohakuloa Training Area and the surrounding area. Specifically, Ms. Aloua and Ms. Rios state that the U.S. military illegally seized 84,000 acres of land through Executive Order 11167 and continue to illegally occupy it.[205] They contend that the terms of the State General Lease under which the U.S. military holds the Pohakuloa Training Area requires them to remove DU.[206] Ms. Aloua and Ms. Rios ask the NRC to require the U.S. military to "fulfill the requests outlined in Hawaii County Resolution 639-08."[207] They further request additional testing and monitoring to determine "full extent of radiation contamination" at the

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sampling location (or other aspect of the Amendment 2 application) materially deficient, contrary to 10 C.F.R. §§ 2.309(f)(1)(v) and (f)(1)(vi). The Staff notes that a comment by Dr. Mike Reimer in a press release, excerpted later in the Petition, asserts that the sampling location described in the Pohakuloa ERMP "is selected to dilute by thousands any DU found; it will be masked by the natural uranium present." Albertini Petition at unnumbered page 9. The quote from Dr. Reimer asserts that based on his experience, "there is zero chance of finding any DU (with the NRC approved plan)." *Id.* However, Mr. Albertini has not explained the relevance of either of Dr. Reimer's comments to his contention and, in any event, the brief quotes from those comments are conclusory and lack a reasoned basis or explanation for the conclusions asserted. *See Millstone*, CLI-01-24, 54 NRC at 359. The Commission has held that even an expert opinion is inadequate support for a contention where it "merely states a conclusion . . . without providing a reasoned basis or explanation for that conclusion[.] *USEC*, CLI-06-10, 63 NRC at 472 (quoting *Private Fuel Storage, LLC* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 181, *aff'd* CLI-98-13, 48 NRC 26 (1998)).

[203] See *USEC*, CLI-06-10, 63 NRC at 472; *Fansteel*, CLI-03-13, 58 NRC at 203.

[204] Ms. Aloua and Ms. Rios note that they "concur with contentions submitted" by each other, James Albertini, Cory Harden, Dr. Lorrin Pang, and Dr. Reimer. *See* Aloua Petition at 3; *see also* Rios Petition at 3. To the extent that either Ms. Aloua or Ms. Rios intended this statement to serve as an adoption of the contentions pled by other petitioners, "in order for a petitioner to adopt the contention of another petitioner, it must first demonstrate that it has standing and submit its own admissible contention." *Indian Point*, LBP-08-13, 68 NRC at 65 (interpreting Commission direction in *Consolidated Edison Co. of New York* (Indian Point, Units 1 and 2), CLI-01-19, 54 NRC 109, 132-33 (2001)).

[205] *See* Aloua Petition at 3; *see also* Rios Petition at 2.

[206] *See id*.

[207] *See* Aloua Petition at 3; *see also* Rios Petition at 3.

Pohakuloa Training Area.[208] Finally, Ms. Aloua and Ms. Rios ask that the NRC require the Army to perform air monitoring in nearby Waiki'i Ranch.[209] In support of these contentions, Ms. Aloua and Ms. Rios attach Executive Order 11167, "Setting Aside for the Use of the United States Certain Public Lands and Other Public Property Located at the Pohakuloa Training Area, Hawaii"; State General Lease No. S-3849; Resolution 639-08, "Urging the United States Military to Address the Hazards of Depleted Uranium at the Pohakuloa Training Area"; and an article discussing a 2008 Waiki'i Ranch "dust sample" taken by the Waiki'i Ranch Homeowners Association.

Each of these contentions is inadmissible because it does not meet the requirements of 10 C.F.R. §§ 2.390(f)(1)(iii) and (iv). As a preliminary matter, the NRC does not have jurisdiction over the presence of the U.S. military in Hawaii or the State of Hawaii's General Lease of the Pohakuloa Training Area.[210] Further, the scope of the current license proceeding is limited to Amendment 2, which serves to incorporate the site-specific ERMPs into the Army's possession-only license and to confirm, on a site-specific basis, the conservative, bounding dose assessment approved by the Staff in Amendment 1.[211] As explained above in response to Ms. Harden and Mr. Albertini's hearing requests, in Amendment 1 to SUC-1593, the Army determined on a programmatic basis that air sampling for DU was not required under any circumstance, and the Staff agreed with this determination, modifying the license accordingly.[212] Therefore, Ms. Aloua's and Ms. Rios's contentions that air monitoring should be performed at

[208] *See id*.
[209] *See id.*
[210] "[T]he NRC's adjudicatory process [is] not the proper forum for investigating alleged violations that are primarily the responsibility of other . . . state[] or local agencies . . ." *See PPL Susquehanna LLC* (Susquehanna Steam Elec. Station, Units 1 and 2), CLI-07-25, 66 NRC 101, 105 (2007).
[211] *See* 82 Fed. Reg. at 10,031.
[212] *Supra* notes 163, 196.

the Pohakuloa Training Area do not fall within the scope of the current proceeding and are not material to the findings the Staff must make on Amendment 2.[213]

Likewise, their requests for comprehensive testing to determine the extent of radiation at the site are outside the scope of the proceeding because such requests do not engage issues germane to Amendment 2. As previously noted, the size and extent of DU present at Pohakuloa Training Area was discussed and dispositioned as part of Amendment 1 of the license.[214] The dose assessment for Amendment 2 uses the licensing basis from Amendment 1, but does not alter these underlying determinations.

For similar reasons, the provisions of Resolution 639-08 are also outside the scope of the proceeding.[215] Ms. Aloua and Ms. Rios do not elaborate on the provisions of Resolution 639-08 or explain how they relate to the present license amendment proceeding. Further, as with the other contentions offered by Ms. Aloua and Ms. Rios, it is unclear why these terms are material to the findings that the Staff must make on Amendment 2, particularly given that the Resolution was issued in 2008 (well before the issuance of the initial PTA license, Amendment 1, or Amendment 2) and its requests appear to be directed to the Army, not to the NRC. In sum, the contentions offered by Ms. Aloua and Ms. Rios do not meet the admissibility requirements of 10 C.F.R. § 2.309(f)(1).

For the forgoing reasons, the Board should reject Ms. Aloua's and Ms. Rios's contentions.

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[213] *See* 10 C.F.R. § 2.309(f)(1)(iii); *see also Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Unit 3), LBP-08-9, 67 NRC 431 (2008) (stating "[a]ny contention that falls outside the specified scope of the proceeding must be rejected").

[214] *See supra* notes 193 and 194.

[215] As attached to Ms. Aloua's and Ms. Rios's petitions, the terms of Resolution 639-08 include a request that the United States Military implement a "five-point plan": "1) Ordering a complete halt to B-2 bombing missions and to all live firing exercises and other activities at the Pohakuloa Training Area that create dust until there is an assessment and clean up of the depleted uranium already present; 2) Establishing a permanent, high-tech monitoring system with procedures to ensure air quality control; 3) Establishing a citizen monitoring system to work closely with Military experts to assure transparency and community confidence; 4) Hosting quarterly meetings to update and inform the public; 5) ensuring permanent funds are available for the monitoring program." *See* Resolution 639-08 "Urging the United States Military to Address the Hazards of Depleted Uranium at the Pohakuloa Training Area."

CONCLUSION

For the foregoing reasons, the Board should find that none of the petitioners has demonstrated standing to intervene in this proceeding, and that none of the petitioners has submitted an admissible contention. Accordingly, the Board should dismiss the petitioners' hearing requests.

Respectfully submitted,

/Signed (electronically) by EM/

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Executed in Accord with 10 CFR 2.304(d)

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Dated at Rockville, Maryland
this 1st day of May, 2017

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
U.S. ARMY INSTALLATION COMMAND	)	Docket No. 40-9083-MLA
	)	
(Source Materials License No. SUC-1593, Amendment 2, Davy Crockett Depleted Uranium at Various United States Army Installations)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing "NRC Staff's Answer to Hearing NRC Staff's Answer to Requests for Hearing and Petitions to Intervene Filed by Cory Harden, James Albertini, Ruth Aloua, and Hāwane Rios" in the above-captioned proceeding have been served this 1st day of May, 2017, via the NRC's Electronic Information Exchange ("EIE"), which to the best of my knowledge resulted in transmittal of the foregoing to those on the EIE Service List for the above-captioned proceeding.

/Signed (electronically) by/

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Dated at Rockville, Maryland
this 1st day of May, 2017