UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

LBP-23-02

ATOMIC SAFETY AND LICENSING BOARD PANEL

Before the Licensing Board:

G. Paul Bollwerk, III, Chair
William J. Froehlich
Dr. Sue H. Abreu

In the Matter of	Docket No. 70-143-LA
NUCLEAR FUEL SERVICES, INC.	ASLBP No. 23-976-01-LA-BD02
(License Amendment Application)	January 30, 2023

MEMORANDUM AND ORDER
(Denying Intervention Petition and Terminating Proceeding)

Currently under consideration in this proceeding is an October 31, 2022 hearing request filed by petitioner Erwin Citizens Awareness Network, Inc. (ECAN).[1] In its intervention petition, ECAN posits four contentions challenging aspects of the November 18, 2021 BWXT Nuclear Fuel Services, Inc., (NFS) request that the Nuclear Regulatory Commission (NRC) amend the existing 10 C.F.R. Part 70 license for NFS's Erwin, Tennessee nuclear fuel fabrication facility to authorize NFS to perform new processes associated with uranium purification and conversion to uranium metal.[2] While the NRC Staff (NRC Staff) and NFS did not agree on whether ECAN has

[1] ECAN filed an initial hearing petition on October 31, 2022, which it amended later that same day. See Petition of [ECAN] for Leave to Intervene in Nuclear Fuel Services, Inc. License Amendment Proceeding, and Request for a Hearing (Oct. 31, 2022); Amended Petition of [ECAN] for Leave to Intervene in Nuclear Fuel Services, Inc. License Amendment Proceeding, and Request for a Hearing (Oct. 31, 2022) [hereinafter ECAN Amended Hearing Petition]. The subsequently filed version of ECAN's submission is what we will reference in this issuance.

[2] See Letter from Tim Knowles, Director, Safety and Safeguards, NFS, to Director, Office of Nuclear Material Safety and Safeguards (NMSS), NRC at portable document format (PDF) 1–2 (Nov. 18, 2021) (Agencywide Documents Access and Management System

demonstrated its representational standing to object to the NFS license amendment application, both assert that ECAN has failed to provide an admissible contention so that its hearing request should be dismissed.[3]

For the reasons set forth below, we conclude that ECAN has established representational standing to intervene in this proceeding but has failed to show that any of its four contentions are admissible under the governing standards in 10 C.F.R. § 2.309(f)(1). Accordingly, ECAN's hearing request must be denied and this proceeding terminated.

I. BACKGROUND

A. NFS License Amendment Application

As noted previously, in a November 18, 2021 letter to the agency, NFS requested an amendment to its existing 10 C.F.R. Part 70 special nuclear materials (SNM) license, SNM-124. See NFS License Amendment Application at PDF 1. If granted, the amendment would allow NFS to provide uranium purification and conversion services at its Erwin, Tennessee nuclear fuel fabrication facility. See id. at PDF 5. According to the NFS application, the license amendment request stems from a contract awarded to NFS by the U.S. Department of Energy's (DOE) National Nuclear Security Administration (NNSA) for the "U-Metal Project." Id. at PDF 1. That contract, the amendment application indicates, is intended to bridge the gap between the shutdown of the NNSA Oak Ridge, Tennessee facility's Y-12 legacy uranium processing equipment and the transition to a new facility at Y-12 that uses new electrorefining technology to purify high-enriched uranium metal. See id. at PDF 1–2.

(ADAMS) Accession No. ML21327A099) [hereinafter NFS License Amendment Application]. In several instances in which a cited document has no marked pagination, we refer to the document's pagination as it resides as a PDF file in the agency's ADAMS document management system or the associated Electronic Hearing Docket.

[3] NRC Staff Answer to [ECAN] Petition to Intervene and Request for Hearing (Nov. 23, 2022) at 1 [hereinafter Staff Answer]; [NFS]'s Answer to [ECAN]'s Hearing Request and Petition for Leave to Intervene (Nov. 25, 2022) at 1 [hereinafter NFS Answer].

As the application reflects, in accordance with 10 C.F.R. § 70.72(c), NFS is required to seek NRC approval of the license changes necessary to implement the new U-Metal process, including addressing the baseline design criteria set forth in 10 C.F.R. § 70.64. See id. at PDF 4–5. To address these regulatory requirements, attachments to the NFS application included a proposed supplemental environmental report (ER) evaluating the environmental impacts associated with the addition of the U-Metal Project.[4] See id. at PDF 3.

On March 25, 2022, the NRC Staff acknowledged receipt of the information necessary to accept the NFS license amendment application and proceed with its detailed licensing review.[5] Just over a month later, on April 28, 2022, the NRC Staff issued a request for additional information (RAI) seeking material it deemed necessary to complete its detailed environmental review,[6] to which NFS responded on June 30, 2022.[7]

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[4] The supplemental ER attached to the November 2021 NFS license amendment application was submitted as a nonpublic document. See NFS License Amendment Application, aff. ¶¶ A–B (Aff. of Tim Knowles, Director, Safety and Safeguards, NFS (Nov. 18, 2021)). Subsequently, in a January 22, 2022 request for supplemental information (RSI), the NRC Staff asked that NFS provide a version of the proposed supplemental ER that could be made available to the public. See Letter from James R. Downs, Senior Project Manager, NMSS, NRC, to Tim Knowles, Director, Safety and Safeguards, NFS, encl. at 5 (Jan. 21, 2022) ([RSI], Enterprise Project Identification Number: L-2021-LLA-0213) (ADAMS Accession No. ML22014A421). In a February 24, 2022 response, NFS provided a version of the supplemental ER suitable for public release. See Letter from Tim Knowles, Director, Safety and Safeguards, NFS, to Director, NMSS, NRC at PDF 1 (Feb. 24, 2022) (ADAMS Accession No. ML22066B004). That publicly available version of the supplemental ER is the version referenced in this decision. See id., encl. (NFS, Supplemental [ER] for Amendment of Special Nuclear Material License No. SNM-124 (Nov. 2021)) (ADAMS Accession No. ML22066B005) [hereinafter ER].

[5] See Letter from James R. Downs, Senior Project Manager, NMSS, NRC, to Timothy Knowles, Director, Safety and Safeguards, NFS at 1 (Mar. 25, 2022) (ADAMS Accession No. ML22080A238).

[6] See Letter from Jill S. Caverly, Senior Project Manager, NMSS, NRC, to Timothy Knowles, Director, Safety and Safeguards, NFS at 1 (Apr. 28, 2022) (ADAMS Accession No. ML22111A281).

[7] See Letter from Tim Knowles, Director, Safety and Safeguards, NFS, to Director, NMSS, NRC, attach. (Jun. 30, 2022) (NFS Response to [RAI] for the Development of the Environmental Assessment for the [NFS] License Amendment Request to SNM-124 Authorizing Uranium Purification and Conversion Services (U-Metal Project) (ADAMS Accession No. ML22193A034) [hereinafter NFS RAI Response].

B. Procedural Background

On April 27, 2022, the NRC Staff published a Federal Register notice indicating that it had received the November 2021 NFS license amendment application.[8] Further, in accordance with Atomic Energy Act (AEA) section 189a, 42 U.S.C. § 2239(a), the NRC Staff's notice stated that within 60 days any person whose interest might be affected by the application could file a hearing request and petition for leave to intervene challenging that application. See 87 Fed. Reg. at 25,055. On June 10, 2022, ECAN submitted a request for a three-month extension of this filing deadline, citing hardships related to the ongoing COVID-19 pandemic and a lack of broadband Internet access, which the Secretary of the Commission granted in part in a June 24, 2022 order extending the hearing petition filing deadline until July 27, 2022.[9] This was followed by a second ECAN extension request, dated July 26, 2022, seeking an additional three months to file a hearing petition.[10] In an August 8, 2022 order, the Secretary noted that the deadline for filing a hearing petition challenging the NFS application would be governed by a new hearing opportunity notice that the NRC Staff had advised was needed to outline the procedures by which a potential party could seek access to nonpublic sensitive unclassified non-safeguards information (SUNSI) documents provided by NFS in support of the license amendment application. See August 8, 2022 Commission Order at 1–2.

The NRC then published a hearing opportunity notice in the Federal Register on August 31, 2022, that set an October 31, 2022 deadline for any hearing requests challenging the NFS license amendment application.[11] On October 31, ECAN filed the instant amended

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[8] See [NFS], 87 Fed. Reg. 25,054, 25,054 (Apr. 27, 2022).

[9] See Commission Order (June 24, 2022) at PDF 1 & n.1 (unpublished).

[10] See Commission Order, attach. (Aug. 8, 2022) (unpublished) (Letter from Linda Cataldo Modica, President, ECAN, to Rochelle C. Bavol, Acting Secretary, Office of the Secretary, NRC (July 26, 2022)) [hereinafter August 8, 2022 Commission Order].

[11] See [NFS], 87 Fed. Reg. 53,507, 53,508–09 (Aug. 31, 2022). Consistent with the Commission's August 8 issuance, the Federal Register notice also incorporated an order setting

hearing petition in which it proffers four contentions challenging various aspects of the NFS license amendment request.[12]

In answers filed by the NRC Staff and NFS on November 23 and 25, 2022, respectively, while differing on ECAN's representational standing in this proceeding, both participants challenge the admissibility of ECAN's four contentions. See supra note 3 and accompanying text. In its December 2, 2022 reply,[13] ECAN asserts that all of its contentions are admissible such that it should be accepted as a party to this proceeding.[14]

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forth the procedures by which a potential party could seek access to SUNSI documents provided in support of the NFS license amendment application. See id. at 53,510–11. In response to the portion of the hearing notice regarding SUNSI access, Park Overall filed a SUNSI access request that ultimately was rejected by a licensing board consisting of the same three members appointed to this Board. That board rejected her request because it failed to articulate the requisite "need" for the SUNSI material as required under the standards governing such requests. See LBP-22-02, 96 NRC 129, 141–46 (2022). Thereafter, in response to the agency's August 31, 2022 hearing opportunity notice, Ms. Overall submitted an intervention petition that the Commission denied as failing to address any of the standing and contention admissibility criteria in 10 C.F.R. § 2.309(d) and (f). See Commission Order (Nov. 22, 2022) at 1–2 (unpublished).

[12] See supra note 1. For one of those contentions, ECAN references extensively the declaration of Michael Ketterer, Ph.D., which purportedly was included with the amended petition. See ECAN Amended Hearing Petition at 24–28. In a November 15, 2022 filing, however, ECAN acknowledged that it had failed to include the Ketterer declaration with its October 31, 2022 submission and indicated it was now "refiling" that declaration. Notice of Refiling of Declaration of Michael Ketterer, Ph.D. (Nov. 15, 2022) at 1 (indicating ECAN mistakenly filed only the Ketterer declaration's caption cover page at the time it submitted its hearing petition); see also id. attach. (Declaration of Michael E. Ketterer, Ph.D. (Oct. 26, 2022)) [hereinafter Ketterer Declaration].

[13] In a November 28 issuance, the Board clarified that, notwithstanding the different filing dates by the NRC Staff and NFS for their answers, an ECAN reply to both participants' answers would be timely if filed by December 2, 2022. See Licensing Board Memorandum and Order (Clarifying Schedule for Submitting Reply Pleading) (Nov. 28, 2022) at 2 (unpublished).

[14] See [ECAN]'s Combined Reply in Support of Petition for Leave to Intervene (Dec. 2, 2022) at 1–2 [hereinafter ECAN Reply]. In a December 9, 2022 filing, NFS asked that the Board strike substantial portions of the ECAN reply regarding Contention C, the admissibility of which is discussed in section III.B.3 below, as impermissibly raising new information. See [NFS]'s Motion to Strike Portions of the Reply Filed by [ECAN] (Dec. 9, 2022) at 9. Although the NRC Staff did not file a response to the NFS motion to strike, ECAN submitted an answer on December 19, 2022, in which it contested each of the NFS claims regarding its reply. See [ECAN]'s Opposition to [NFS]'s Motion to Strike (Dec. 19, 2022) at 10 [hereinafter ECAN Motion to Strike Answer]; see also Licensing Board Memorandum and Order (Memorializing Schedule

In a series of issuances, the Board scheduled an initial prehearing conference,[15] conducted via WebEx on December 12, 2022, during which the Board heard oral argument from the participants on the sufficiency of ECAN's contention admissibility claims.[16]

With this background in mind, we turn to the matters of ECAN's standing and the admissibility of its four proposed contentions.

II. STANDING

A. Standards Governing Standing under 10 C.F.R. § 2.309(f)(d)

ECAN seeks to establish standing based on its representation of an individual member in its organization. When an organization seeks to establish standing to participate in an NRC proceeding based on its representation of the interests of one or more individuals, a licensing

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for Responding to Pending Motion to Strike) (Dec. 13, 2022) at 1 (unpublished). As ECAN noted in its response, because of the expiration of its counsel's digital certificate, it was unable to submit this pleading on December 19 using the agency's E-Filing system. See ECAN Motion to Strike Answer at 1 n.1. Instead, ECAN circulated its filing to the Board members, the other participants, and the agency's hearing docket as an attachment to a December 19, 2022 e-mail and then filed the pleading the next day using the E-Filing system. No objection has been raised about the Board considering this submission in ruling upon the NFS motion to strike, which is addressed below. See infra note 66.

[15] See Licensing Board Memorandum and Order (Initial Prehearing Order) (Nov. 9, 2022) at 6–7 (unpublished) [hereinafter Initial Prehearing Order]; Licensing Board Memorandum and Order (Tentative Initial Prehearing Conference Schedule) (Nov. 22, 2022) at 1–2 (unpublished); Licensing Board Memorandum and Order (Scheduling Initial Prehearing Conference) (Dec. 6, 2022) (unpublished).

[16] See Tr. at 1–93. Referencing this prehearing conference, several individuals submitted 10 C.F.R. 2.315(a) limited appearance statements that, in addition to opposing the NFS license amendment request on grounds that generally parallel the issues raised in ECAN's contentions, questioned whether the Board had provided sufficient notice of the process by which members of the public could make a section 2.315(a) limited appearance statement. See, e.g., E-Mail from William Boone to Licensing Board and EHD (Jan. 18, 2023, 22:56 EST). In a January 23, 2023 memorandum, the Board noted that its November 2022 initial prehearing order had provided guidance on submitting written limited appearance statements. See Licensing Board Memorandum (Submission of 10 C.F.R. § 2.315(a) Limited Appearance Statements) (Jan. 23, 2023) at 2 (unpublished) (citing Initial Prehearing Order at 7–8). Ultimately, the Board has received more than fifty limited appearance statements, which section 2.315(a) indicates "shall not be considered evidence in the proceeding."

board must look to the standing of the individuals being represented as well as to the organization's ability to establish its own standing in a representational capacity.

In this regard, the Commission recently noted that under section 2.309(d)(1), to establish representational standing,

> the hearing request must state (1) the name, address, and telephone number of the petitioner; (2) the nature of the petitioner's right under the AEA to be made a party to the proceeding; (3) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (4) the possible effect of any decision or order that may be issued in the proceeding on the petitioner's interest. In addition, an organization seeking to represent its members must show that at least one member has standing and has authorized the organization to represent her and to request a hearing on her behalf. Further, the interests that the representative organization seeks to protect must be germane to its own purpose, and neither the asserted claim nor requested relief must require an individual member to participate in the organization's legal action.[17]

The Commission further explained that "[w]hile we will construe the hearing request in the petitioner's favor, the petitioner has the burden of demonstrating that the standing requirements are met." Vogtle, CLI-20-6, 91 NRC at 238.

Depending on the proceeding, an organization invoking representational standing can seek to establish the standing of one or more of its members by using either traditional judicial standing principles or the proximity presumption in applicable proceedings.[18] Traditional judicial standing requires that a petitioner show (1) an actual or threatened, concrete and particularized injury (injury in fact); (2) that is fairly traceable to the challenged action (causation); (3) that falls within the zones of interest protected by the statutes that govern the agency's proceedings (such as the AEA or the National Environmental Policy Act (NEPA)) (zone of interest); and (4)

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[17] S. Nuclear Operating Co., Inc. (Vogtle Electric Generating Plant, Unit 3), CLI-20-6, 91 NRC 225, 237–38 & n.83 (2020) (footnote omitted) (citing Fla. Power & Light Co. (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-15-25, 82 NRC 389, 394 (2015)).

[18] See Exelon Generation Co., LLC (Peach Bottom Atomic Power Station, Units 2 and 3), CLI-05-26, 62 NRC 577, 579–83 (2005).

that is likely to be redressed by a favorable decision (redressability).[19] On the other hand, the proximity presumption, which "rests on the presumption that an accident associated with the nuclear facility could adversely affect the health and safety of people working or living offsite but within a certain distance of that facility," relieves a petitioner of the need to satisfy the traditional standing elements of injury in fact, causation, and redressability. See Peach Bottom, CLI-05-26, 62 NRC at 580.

In proceedings for light-water power reactor "construction permits, operating licenses, or significant amendments thereto such as the expansion of the capacity of a spent fuel pool,"[20] as well as for early site permits, combined licenses, and license renewals,[21] NRC caselaw has established that a petitioner who lives within approximately 50 miles of such a nuclear reactor generally will be able to invoke the proximity presumption. This 50-mile proximity presumption applies to traditional light-water power reactor license proceedings, but not necessarily to other licensed activities, such as this nuclear fuel fabrication facility. Instead, ruling on a proximity presumption claim in such a case, sometimes referred to as a "proximity plus" presumption,[22] requires "a case-by-case" analysis of the proposed licensing action to determine the radius beyond which "there is no longer an 'obvious potential for offsite consequences' by 'taking into account the nature of the proposed action and the significance of the radioactive source.'"

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[19] See Yankee Atomic Elec. Co. (Yankee Nuclear Power Station), CLI-96-1, 43 NRC 1, 6 (1995); see also Calvert Cliffs 3 Nuclear Project, LLC (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-09-20, 70 NRC 911, 915–16 (2009) (citation omitted).

[20] Fla. Power & Light Co. (St. Lucie Nuclear Power Plant, Units 1 and 2), CLI-89-21, 30 NRC 325, 329 (1989) (citation omitted).

[21] See, e.g., Fla. Power & Light Co. (Turkey Point Nuclear Generating Units 3 and 4), LBP-19-3, 89 NRC 245, 258–59 (2019) (subsequent license renewal), appeal dismissed and referred ruling aff'd, CLI-20-3, 91 NRC 133 (2020); Calvert Cliffs, CLI-09-20, 70 NRC at 916–17 (combined license); S. Nuclear Operating Co. (Early Site Permit for Vogtle ESP Site), LBP-07-3, 65 NRC 237, 249–51 (2007) (early site permit).

[22] CFC Logistics, Inc., LBP-03-20, 58 NRC 311, 318 (2003) (citing Sequoyah Fuels Corp. (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 75 n.22 (1994)).

Peach Bottom, CLI-05-26, 62 NRC at 580–81 (quoting Georgia Institute of Technology (Georgia Tech. Research Reactor), CLI-95-12, 42 NRC 111, 116–17 (1995)).

B. Analysis of ECAN's Representational Standing

While the NRC Staff does not contest ECAN's representational standing, NFS asserts that ECAN has failed to establish the grounds for either proximity-based standing or traditional standing on the part of the member whose location and other information was provided in support of the amended hearing petition.[23] See Staff Answer at 6; NFS Answer at 9 n.35. To fulfill the representational standing requirement of demonstrating the standing of one or more individuals, ECAN supplied a member's affidavit showing that the individual (1) resides within one mile of the NFS facility; (2) is concerned about criticality and uranium hexafluoride accidents at the plant associated with both current operations and the proposed U-Metal process license amendment as well as the need for a NEPA-based assessment of proliferation impacts and the imposition of additional quality assurance (QA) requirements consistent with the AEA; and (3) authorizes ECAN to represent his interests in this proceeding. See ECAN Amended Hearing Petition, unnumbered attach. 1, at 1–2 (Decl. of Alfred John Davies (Oct. 30, 2022)).

In a prior proceeding involving the NFS facility, a licensing board concluded that residents located between two and twenty miles from the NFS facility failed to make a sufficient showing of a particularized injury relative to a proposed licensing action authorizing the downblending of uranium.[24] That licensing board also determined that an individual residing within one mile of the NFS Erwin facility and passing directly by the facility five days a week had

[23] NFS also suggests that if the Board concludes that ECAN has not provided any admissible contentions, it can forego deciding the issue of ECAN's standing. See NFS Answer at 9 n.35. Although such an approach would not be improper as a procedural matter, we address ECAN's standing as a matter of administrative efficiency.

[24] See Nuclear Fuel Servs., Inc. (Erwin, Tennessee), LBP-04-5, 59 NRC 186, 189–96, aff'd, CLI-04-13, 59 NRC 244 (2004) (ruling on appeal of petitioner Kathy Helms-Hughes).

established standing based on the individual's proximity to the facility and the application's description of the potential accidents that could occur from the downblending process. See Nuclear Fuel Servs., Inc., LBP-04-5, 59 NRC at 196–98. In this instance, as the NRC Staff points out, criticality and uranium hexafluoride accidents like those referenced in the ECAN member's standing declaration are among those specified in the NFS emergency plan submitted with the November 2021 license amendment application, which are denoted as having potential offsite consequences. See Staff Answer at 6; ER at 7. Accordingly, consistent with agency caselaw, the analogous factual circumstances in this case lead us to conclude the ECAN member's standing has been established through the "proximity plus" presumption.

Additionally, to demonstrate that ECAN as an organization has representational standing, ECAN's president provided an affidavit in support of its hearing petition. This declaration shows that ECAN has met the representational standing requirements specified above, most notably that ECAN's primary purpose is "to research and investigate issues involving the nuclear industry that affect the health, safety and environment in Erwin, Tennessee."[25]

We thus conclude that ECAN has established its representational standing to intervene in this proceeding and move next to determining whether any of its four contentions are admissible so as to merit granting its hearing petition and admitting ECAN as a party in this proceeding.

[25] See ECAN Amended Hearing Petition, unnumbered attach. 2, at 1–2 (Decl. of Authorized Officer of [ECAN] for Leave to Intervene in [NFS] License Amendment Proceeding (Oct. 30, 2022)).

III. ADMISSIBILITY OF PETITIONER ECAN'S CONTENTIONS

A. Contention Admissibility Standards under 10 C.F.R. § 2.309(f)(1)

A contention submitted by a hearing requestor such as ECAN as part of a timely intervention petition must satisfy the following six admissibility factors set forth in section 2.309(f)(1):

> (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;
> (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 which support the requestor's/petitioner's position on the issue and on which the petitioner intends to rely at hearing . . . ; and
> (vi) . . . [P]rovide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact.

10 C.F.R. § 2.309(f)(1)(i)–(vi).

These six criteria aim to "focus litigation on concrete issues and result in a clearer and more focused record for decision."[26] The petitioner bears the burden to satisfy each of the criteria;[27] a failure to comply with any of the six requirements constitutes grounds for rejecting a

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[26] Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2202 (Jan. 14, 2004) [hereinafter 2004 Part 2 Changes].

[27] See Entergy Nuclear Operations, Inc. (Palisades Nuclear Plant), CLI-15-23, 82 NRC 321, 329 (2015) ("[I]t is Petitioners' responsibility, not the Board's, to formulate contentions and to provide 'the necessary information to satisfy the basis requirement' for admission." (quoting Statement of Policy on Conduct of Adjudicatory Proceedings, CLI-98-12, 48 NRC 18, 22 (1998)).

proposed contention.[28] Moreover, when a petitioner neglects to provide the requisite support for its contentions, the board may not cure the deficiency by supplying that information.[29]

B. Analysis of ECAN's Four Contentions

1. ECAN Contention A: Nuclear Weapons Proliferation Review Is Required by NEPA and AEA

> The new process at NFS will provide purified [high-enriched uranium (HEU)] material for inclusion in nuclear weapons. It is an activity that signals to the international community continued U.S. government support for a policy of producing nuclear weapons for warmaking. The policy projects a message internationally that inclusion of continuously-improved nuclear weapons in international relations is acceptable. That policy is increasingly at odds with international laws and norms. Under NEPA, the NRC is required to investigate, analyze and publicly disclose a nuclear weapons proliferation assessment, discussing the impacts and policy implications of the new NFS purification process on the U.S. weapons program and prospects.

ECAN Amended Hearing Petition at 8.

a. ECAN's Arguments

As the basis for this contention, ECAN asserts that the U-Metal Project is intended to produce purified uranium metal for nuclear weapons production. Also as support for this contention, ECAN references various nuclear weapons-related items, including the ongoing Russian-Ukrainian conflict; a re-ignited arms race among the United States, Russia, and China; the possibility of nuclear war between the United States and Russia; American defense establishment promotion of the winnability of nuclear war and a new nuclear arms race; and several current international nuclear nonproliferation agreements such as the Nuclear Nonproliferation Treaty and the Treaty on the Prohibition of Nuclear Weapons (to which the United States is not a party). See id. at 8–11. All this, ECAN contends, establishes that the

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[28] See 2004 Part 2 Changes, 69 Fed. Reg. at 2221; see also Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999).

[29] See Ariz. Pub. Serv. Co. (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 NRC 149, 155 (1991) (licensing board cannot supply missing information supporting a contention).

United States nuclear weapons program is "controversial," "arguably illegal," and "violative of international norms" so as to raise "legal, moral, ethical, and survival questions." Id. at 11. ECAN maintains that "NEPA requires the [NRC] to conduct a nuclear weapons proliferation assessment to examine the contribution of purified HEU manufactured at NFS with the overall weapons supply chain," including identifying and analyzing "the particular impacts that purified HEU will have on the capabilities of the U.S. nuclear weapons program in the ongoing 21st century nuclear arms race." Id.

ECAN contends in addition that under the AEA, the agency has a "legal and non-discretionary duty to consider whether, when granting a license, such an action could be inimical to the common defense and security of the United States or the health and safety of the public." Id. at 12 (citing 42 U.S.C. §§ 2077(c)(2), 2099). ECAN further maintains this purported legal duty requires that "the Commission's NEPA analysis must consider the full range of risks to the common defense and security potentially arising from its licensing decision, and must consider all reasonable alternatives that could eliminate or mitigate those risks." Id. (citing San Luis Obispo Mothers for Peace v. NRC, 449 F.3d 1016 (9th Cir. 2006)). Thus, ECAN claims that, in the context of a United States "common defense and security" nuclear weapons complex-associated license amendment request like that proposed by NFS, an "[a]nalysis of the positive and negative impacts the purification line may have on nuclear weapons proliferation concerns" is clearly material to the NRC's licensing decision. Id. at 12–13.

ECAN also asserts that there are numerous instances in which nuclear weapons proliferation and security issues have been the subject of NEPA assessments. These include a 1973 court-mandated Atomic Energy Commission (AEC) programmatic environmental impact statement (EIS) on the liquid metal fast breeder reactor program and a generic EIS on plutonium recycling that the AEC agreed to prepare as part of a 1974 settlement in litigation

regarding mixed oxide fuel.[30] ECAN references as well various historical nuclear weapons-related government activities involving (1) the storage, testing, and destruction of nuclear weapons or the dismantling or updating of nuclear weapons missile launch facilities; (2) a never-finalized 2009 DOE draft programmatic EIS regarding the proposed Global Nuclear Energy Partnership (GNEP); (3) 1995 and 1999 DOE programmatic EISs regarding tritium supply and recycling associated with nuclear weapons production; and (4) a 2011 DOE EIS regarding the Y-12 nuclear weapons production facility. See id. at 13–15. All these, ECAN contends, establish that the NRC and DOE are familiar with the application of NEPA as a vehicle for analyzing proliferation impacts. See id. at 15.

Finally, given what it asserts is the clear duty of the NRC under NEPA to consider proliferation impacts in appropriate instances, ECAN claims that its Contention A poses a genuine issue of law because the NFS supplemental ER omits any reference to relevant international treaty obligations, to the role the proposed U-Metal Project would "play in the U.S. nuclear weapons complex [or] how that would alter U.S. nuclear weapons readiness or U.S. national security," or to the planned NFS project's proliferation impacts. Id. at 16. By failing to include any analyses of these subjects, ECAN asserts that the NFS supplemental ER is "seriously incomplete" as a baseline NEPA document and must be corrected. Id.

b. NFS and NRC Staff Responses

In response to ECAN's claims regarding the admissibility of Contention A, NFS asserts that ECAN's characterization of the NFS license amendment as authorizing activities relating to "nuclear weapons" is incorrect because the "primary licensed activity is the production of

[30] ECAN Amended Hearing Petition at 13 (citing Scientists' Inst. For Pub. Infor., Inc. v. AEC, 481 F.2d 1079 (D.C. Cir. 1973); W. Mich. Env't Action Council v. AEC, Dkt. No. G-58-73 (W.D. Mich. 1974)).

nuclear fuel for the United States Navy."[31] NFS also maintains that the contention seeks to frame this as a policy issue rather than contesting the license amendment and so fails to satisfy a number of the section 2.309(f)(1) admissibility criteria, including (1) being outside the scope of the proceeding as defined by the agency's hearing opportunity notice; (2) failing to raise a material issue in that the proliferation assessment sought by ECAN has no impact on the grant or denial of the NFS license amendment application; and (3) failing to raise a genuine dispute with the application given that only the last half page of the eight-and-a-half pages devoted to this issue statement even mentions the application. See NFS Answer at 9–12. According to NFS, ECAN asserts on that half page that the supplemental ER is deficient in that it neither references international treaty obligations or corresponding statutes nor explains what role the uranium purification process plays in the United States nuclear weapons or national security program. See id. at 12. NFS maintains that 10 C.F.R. Part 51 imposes no such obligation; therefore, ECAN's contention cannot be admitted because its concerns are immaterial to the NFS amendment application and ECAN fails to show a dispute over a material factual or legal issue. See id. at 12 (citing 10 C.F.R. § 2.309(f)(1)(iv), (vi)); see also Staff Answer at 14–15.

The NRC Staff contends that the ECAN definition of "proliferation" is problematic because it is based not on proliferation's generally understood meaning as concerned with the spread of nuclear weapons or fissionable nuclear material, but instead focuses improperly on the United States nuclear weapons programs. See Staff Answer at 10 & n.53. Nor does ECAN define the specific nature of the impacts it believes should be assessed under NEPA and the AEA, according to the NRC Staff. See id. at 10. As a result, the NRC Staff argues, the contention fails to recognize the regulatory framework within which the NRC Staff reviews a fuel cycle facility license amendment application like the one at issue here. See id. at 11. That

[31] NFS Answer at 10 (quoting ER at 2). The NRC Staff appears to agree with this point. See Staff Answer at 13 (indicating "NFS-produced U-Metal would not necessarily be destined for use in the nuclear weapons complex. NNSA has a multifaceted mission that, among other things, includes providing the U.S. Navy with nuclear fuel.").

review, according to the NRC Staff, considers AEA-related common defense and security issues such as physical security and radiological sabotage, theft, and diversion protection, the very matters the Commission has indicated, albeit in the context of a rulemaking proceeding, are adequate without a proliferation assessment.[32]

The NRC Staff further maintains that prior Commission cases make clear that proliferation is a matter of international policy involving a multi-layered domestic and international framework as well as the assessment of numerous speculative future independent actions by third-parties such as the President, the Congress, and officials from foreign nations.[33] This same caselaw, according to the NRC Staff, recognizes that licensing actions like that proposed by NFS are domestic activities in which the uranium product involved would become a proliferation concern only through its diversion to another nation by unforeseeable, illicit actions involving violations of law and NRC regulations. See id. at 13. Consequently, relying on the precept that NEPA consideration encompasses only reasonably foreseeable environmental impacts, not remote and speculative matters or worst-case scenarios, the NRC Staff maintains that this Commission precedent establishes that proliferation concerns in a case such as this lack the necessary causal links to the NRC licensing action at issue. See id. at 12–13.

The NRC Staff also asserts that the caselaw and agency actions referenced by ECAN fail to lend any support to ECAN's proposition that NEPA requires the NRC to consider proliferation in deciding whether to issue a license. See id. at 14. Rather, the NRC Staff describes ECAN's cited legal authority as inapposite for failing to discuss proliferation of nuclear weapons or as addressing mootness and the award of attorney's fees in litigation in which the

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[32] See Staff Answer at 11 & n.56 (citing Nuclear Proliferation Assessment in Licensing Process for Enrichment or Reprocessing Facilities, 78 Fed. Reg. 33,995, 34,007 (Jun. 6, 2013) [hereinafter Proliferation Assessment Rulemaking Petition Denial]).

[33] See id. at 12–13 (citing Louisiana Energy Services, L.P. (National Enrichment Facility), CLI-05-28, 62 NRC 721, 724 (2005), and USEC, Inc. (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 463 (2006)).

NRC made a voluntary election to prepare an EIS.[34] See id. (citing ECAN Amended Hearing Petition at 13). The NRC Staff further criticizes ECAN's other examples as instances in which other agencies voluntarily discussed nuclear weapons or nonproliferation in the context of possibly taking direct agency action with respect to such weapons or proliferation. See id. (citing ECAN Amended Hearing Petition at 13–15).

Ultimately, the NRC Staff concludes that ECAN's proliferation concerns are too speculative to require consideration in a licensing-related environmental review and thus fall outside the scope of this proceeding, are not material to the findings that the agency must make in support of the proposed licensing action, lack proper support, and do not establish the requisite genuine dispute on a material issue of law or fact. See id. at 14–15 (citing 10 C.F.R. § 2.309(f)(1)(iii)-(vi)).

c. ECAN's Reply

ECAN characterizes the NFS and NRC Staff answers to its hearing petition generally as having "conjured up a stream of apparitions and bugbears" intended to divert attention from ECAN's showing that there are material facts in dispute such that ECAN's contentions should be admitted into this proceeding. ECAN Reply at 2. More specifically regarding Contention A, to counter the NRC Staff's assertion that ECAN was imprecise in defining both "proliferation" and the nature of the impacts that should be assessed under NEPA and the AEA, ECAN

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[34] Relative to the Scientists' Institute for Public Information, Inc. case discussed by ECAN, the NRC Staff states that in a subsequent decision in Nat. Wildlife Fed'n v. FERC, 912 F.2d 1471, 1478 (D.C. Cir. 1990), the United States Court of Appeals for the District of Columbia Circuit

> observed that the key reasoning in Scientists' Institute—that "future, yet unproposed projects" should be considered in an [EIS] "if the envisioned future projects would impact the relevant environment"—was likely supplanted by the Supreme Court's decision in Kleppe v. Sierra Club, [427 U.S. 390, 404–05 (1976)], which held that NEPA does not require an [EIS] in the absence of an actual proposed federal action.

Staff Answer at 14 n.69.

references an NRC website discussion that indicates the agency's proliferation concerns are horizontal, i.e., stopping the spread of nuclear weapons to entities not currently possessing them, as well as vertical, i.e., deterring the increase in numbers of nuclear weapons in countries already possessing such weapons. See id. at 3 (citing https://www.nrc.gov/materials/fuel-cycle-fac/support-us-nonproliferation-objectives.html). According to ECAN, Contention A concerns both types of proliferation: vertical, because the U-Metal Project purification process would help "normalize" the nuclear weapons building/rebuilding process in the United States, and horizontal, in that purifying uranium would sustain and intensify the international nuclear weapons demand notwithstanding evolving international law and norms opposing such weapons. Id. ECAN maintains that this requires an AEA and NEPA analysis of where the NFS purified HEU "fits within the continuum of U.S. weapons manufacturing, and how (or whether) the new NFS line fulfills the United States' nonproliferation objectives." Id. at 4.

In reply to the NFS and NRC Staff arguments that the U-Metal Project at the Erwin facility will not involve nuclear weapons production, ECAN states that this assertion creates factual issues supporting the admission of Contention A. Among the items ECAN claims create a factual dispute are statements from (1) officials of the City of Oak Ridge, Tennessee, questioning whether NRC regulation of the U-Metal Project will have the same level of proliferation protection for weapons-grade uranium as exists at the NNSA-operated Y-12 facility; (2) officials of the NFS workers' union who indicated the purified HEU produced at the Erwin facility will be used for nuclear weapons purposes; and (3) a defense industry publication indicating the NFS Erwin-produced material will be used to fulfill NNSA's need to make secondary stage subassemblies for refurbishing land-, sea-, and air-based nuclear weapons. See id. at 5–7. Further, according to ECAN, the NFS denial that any U-Metal Project uranium will be used for nuclear weapons and NFS's associated assertion that no significant environmental change will result from the license amendment-authorized work (1) fails to inform the public that Erwin will become an upgraded espionage or attack target; (2) deprives Erwin

residents of an adequate emergency plan as compared to what is available to the inhabitants of Oak Ridge; and (3) impedes a proper assessment of the amendment application's socioeconomic and environmental impacts. See id. at 7. ECAN also asserts that the transfer of nuclear weapons production and materials from federal government entity NNSA to private entity NFS violates article 1 of the Nuclear Non-Proliferation of Nuclear Weapons Treaty. See id. Further, ECAN maintains that the NRC Staff's assertion that any NEPA concerns about proliferation are governed by a "rule of reason" compels the conclusion that NFS's indefensible denial of any U-Metal Project nuclear weapons connection requires a proliferation assessment as well as the ultimate denial of the NFS amendment request. See id. at 7–8.

ECAN goes on to contest the NRC Staff's interpretation of the Commission's American Centrifuge Plant decision as dispositive on the issue of the need for a proliferation assessment. See id. at 8. The focus of that ruling, ECAN indicates, was a draft suggestion by the Carnegie Endowment for International Peace about the possibility of a temporary pause in HEU enrichment and reprocessing, which the Commission found made the proliferation concern "potential" and therefore too unlikely and remote from licensing to require a NEPA assessment. See id. at 8–9 (citing American Centrifuge Plant, CLI-06-10, 63 NRC at 463). In contrast, ECAN states, here the HEU production project's relationship to proliferation is not speculative, involving a production line that will add to the United States' nuclear weapons inventories and thereby establishing a causal relationship between the U-Metal Project and proliferation. See id. at 9.

According to ECAN, the NRC Staff's dismissal of ECAN's reliance on Scientists' Institute for the Public Interest case is without merit as well. See id. at 9–10. Of relevance here, ECAN insists, is the court's determination that an EIS was required for the liquid metal fast breeder reactor, which ECAN maintains was understood by DOE and the NRC to result from the fact

that breeder reactors create plutonium fuel while generating electricity, thereby raising proliferation concerns that needed to be analyzed.[35] See id.

Finally, ECAN disputes the NRC Staff's challenge to the relevance of its citation to the 1973 Western Michigan Environmental Action Council litigation as limited to mootness and attorney fees, based on a subsequent 1983 lawsuit. See id. at 11 (citing W. Mich. Env't Action Council, Inc. v. NRC, 570 F. Supp. 1052 (W.D. Mich. 1983)). ECAN maintains that, notwithstanding the later 1983 litigation referenced by the NRC Staff, the 1973 proceeding cited in its amended petition remains important because in that action's wake, the AEC voluntarily agreed to prepare a generic EIS regarding recycled plutonium use in light-water reactor mixed oxide fuel that included a proliferation analysis. See id.

d. Licensing Board Determination

In ruling on the admissibility of this contention, we begin by observing that ECAN argues that the NRC failed to conduct a nuclear weapons proliferation assessment that ECAN asserts is required under both the agency's AEA and NEPA obligations. The Commission's rules of practice require that contentions be framed as challenges to the application, and for NEPA-related contentions, those challenges must be raised regarding the applicant's ER because the Staff has not necessarily conducted its environmental analysis at the hearing request stage.[36] Although it framed its contention as a challenge to NRC Staff inaction,

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[35] Additionally, responding to the NRC Staff's assertion that the 1973 Scientists' Institute for the Public Interest case had been diluted by the 1976 Supreme Court decision in Kleppe, see supra note 34, ECAN declares that the NRC Staff mischaracterizes the reason why ECAN referenced that case. See ECAN Reply at 10. According to ECAN, it cites the case to illustrate when an EIS needs to address proliferation concerns, not for the proposition cited by the NRC Staff that "future, yet unproposed projects" do not require coverage in an EIS. See id. Also, ECAN asserts that because the NRC Staff-referenced National Wildlife Federation case was not decided until 1990, how that case calls into question the continuing efficacy of the Scientists' Institute for the Public Interest decision or the 1981 DOE liquid metal breeder reactor EIS is not apparent. See id. at 10–11.

[36] See LBP-22-2, 96 NRC at 144 & n.22 (citing Pac. Gas & Elect. Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-728, 17 NRC 777, 807 (indicating that in a licensing

ultimately ECAN indicates its Contention A challenge is to the NEPA-related portion of the NFS license amendment application, the supplemental ER, as being deficient because it does not include a proliferation analysis. See ECAN Amended Hearing Petition at 16. Consequently, Contention A is a contention of omission relative to the NFS supplemental ER. See Ross, LBP-13-10, 78 NRC at 132 n.6 (distinguishing contentions of "omission" from contentions of "adequacy").

Turning then to the substance of ECAN's claims, we conclude that Contention A does not meet the admissibility standards of section 2.309(f)(1). In adjudicatory decisions from 2005–2006 and a rulemaking petition denial from 2013, the Commission determined that a proliferation assessment such as that sought by ECAN here is not required under either the AEA or NEPA in connection with agency domestic licensing proceedings. In its decision in National Enrichment Facility, CLI-05-28, 62 NRC at 724, the Commission rejected the admissibility of contentions that asserted NEPA required an assessment of the impacts of a proposed enrichment facility on nuclear nonproliferation objectives, including the objectives of a 1993 US/Russia agreement for the purchase of enriched uranium from Russian weapons stocks. The Commission explained that "[nuclear] nonproliferation concerns span a host of factors far removed from the licensing action at issue" such that any potential effects of the facility on nonproliferation policies and programs are "speculative, and far afield from our decision whether to license the facility," and concern achieving goals that depend "on independent future actions by numerous third parties, including the President, Congress, and officials of other nations." Id. And more specifically regarding NEPA, the Commission

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proceeding, with the exception of certain NEPA issues, the applicant's license application is in issue, not the adequacy of the NRC Staff's review of the application), petition for review denied, CLI-83-32, 18 NRC 1309 (1983)); see also Strata Energy, Inc. (Ross In Situ Recovery Uranium Project), LBP-13-10, 78 NRC 117, 132–34 (2013) (indicating a NEPA contention initially properly framed as challenging an applicant's ER can migrate to become an issue contesting an NRC Staff NEPA statement once that NRC Staff NEPA statement is issued).

concluded that the environmental impacts process "simply 'does not extend to all conceivable consequences of agency decisions, no matter how far down the causal chain from a nuclear licensing decision and no matter how unpredictable.'" Id. (quoting Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), CLI-02-25, 56 NRC 340, 347 (2002)). Rather, the Commission found, nonproliferation concerns "are international in nature and do not have a 'proximate cause' connection to the proposed enrichment facility sufficient to require a NEPA inquiry." Id. Similarly, in American Centrifuge Plant, CLI-06-10, 63 NRC at 463, referencing the above-quoted language from the National Enrichment Facility decision, the Commission rejected a petitioner's safety-based contention calling for consideration of whether a proliferation-associated licensing freeze was required for a proposed enrichment facility, concluding that the contention "raises issues of international policy unrelated to the NRC's licensing criteria and therefore beyond the scope of th[e] proceeding."

Although these rulings concerned enrichment facilities, the Commission expanded the reach of the general principles embodied in these cases in the 2013 rulemaking petition denial. The rulemaking petition requested that the agency amend its Part 70 rules to require a proliferation assessment for any domestic enrichment or reprocessing facility license application. See Proliferation Assessment Rulemaking Petition Denial, 78 Fed. Reg. at 33,995. In response to the petition requester's assertion that the NRC's licensing process was insufficient to address proliferation concerns, the Commission stated that "[s]afety and security, including proliferation risks, are adequately addressed by the NRC's comprehensive licensing framework, which includes: (1) [e]xtensive regulatory requirements, (2) ongoing oversight, and (3) active Federal interagency cooperation." Id. at 33,998. Moreover, in its statement responding to a public comment championing the need for a proliferation assessment of all nuclear fuel cycle facilities, including mixed oxide fuel fabrication facilities and uranium conversion plants, the Commission again stated that fuel cycle facility applications do not require proliferation assessments:

> The NRC disagrees that proliferation assessments should be required for all fuel cycle facilities. Existing NRC requirements address proliferation risks and concerns at all fuel cycle facilities. As discussed in response to petition Assertion 2, the existing NRC licensing framework is adequate to address proliferation concerns associated with nuclear fuel cycle facilities by including requirements to prevent the unauthorized disclosure of classified matter and sensitive technologies, and provide physical protection of nuclear equipment and materials.

Id. at 34,007.

The American Centrifuge Plant case, together with the Commission's 2013 rulemaking petition denial,[37] both make clear that a proliferation assessment is not required under the AEA in connection with a fuel cycle facility licensing action. Further, while the 2013 rulemaking petition denial did not reach the question whether NEPA might mandate such an analysis, see id. at 35,005, in National Enrichment Facility, CLI-05-28, 62 NRC at 724, the Commission found the need for such an assessment "speculative" and lacking a "proximate cause connection." Therefore, in the face of the Commission's previous adjudicatory and rulemaking-related statements indicating that the AEA and NEPA generally do not compel a proliferation assessment in the context of an agency fuel cycle facility licensing action, Contention A is

[37] Regulatory history based on the statement of considerations for a proposed or final rule is often cited for expressions of Commission intent. See, e.g., Luminant Generation Co., LLC (Comanche Peak Nuclear Power Plant, Units 3 and 4), CLI-11-9, 74 NRC 233, 242–43 (2011) (referencing both proposed and final rule statements of considerations in using regulatory history to determine rule's meaning). But Commission statements made in the context of a rulemaking petition denial are equally appropriate for that purpose. See Duke Cogema Stone & Webster (Savannah River Mixed Oxide Fuel Fabrication Facility), LBP-03-14, 58 NRC 104, 108 (2003) (indicating that when regulatory history shows the Commission has rejected an amendment to a rule, that rejection may be evidence the Commission did not intend the regulation to include the provision in the rejected amendment); cf. Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), ALAB-900, 28 NRC 275, 290 (finding NRC Staff regulatory guidance documents that are consistent with the regulations and are at least implicitly endorsed by the Commission are entitled to correspondently special weight), petition for review denied, CLI-88-11, 74 NRC 603 (1988).

outside the scope of this proceeding and therefore inadmissible as failing to satisfy section 2.309(f)(1)(iii).[38]

Nor are we persuaded by ECAN's attempt to cure this deficiency, as well as to fulfill the requisite section 2.309(f)(1)(vi) showing of a genuinely disputed material factual issue, by claiming there is an issue whether the purified uranium produced at the NFS facility using the U-Metal process will be used by NNSA for nuclear weapons production purposes. This is significant, ECAN maintains, because the uranium metal that will be purified using the new U-Metal process at NFS can be used by the NNSA in the production of nuclear weapons, effectively creating a "hybrid" that places that purification process and its proliferation impacts

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[38] Relative to the Commission's statements in National Enrichment Facility, CLI-05-28, 62 NRC at 724 & n.11, that nonproliferation concerns are "speculative" and lack a "proximate cause connection" to licensing so as not to require a NEPA analysis, the authority cited in support of that proposition was the Commission's ruling in Private Fuel Storage, CLI-02-25, 56 NRC at 347, 349 & n.33 (2002), that the agency is not obligated to consider terrorism impacts under NEPA. ECAN suggested during the December 12 oral argument, see Tr. at 32–33 (Lodge); see also ECAN Amended Hearing Petition at 12, that reliance on the Commission's Private Fuel Storage holding is misplaced given the United States Court of Appeals for the Ninth Circuit's determination in San Luis Obispo Mothers for Peace, 449 F.3d at 1034, that the NRC must consider the effects of terrorism under NEPA. Nonetheless, based on a contrary decision from the United States Court of Appeals for the Third Circuit in N.J. Dep't of Env't Prot. v. NRC, 561 F.3d 132, 143 (3d Cir. 2009), the Commission follows the Ninth Circuit precedent only for facilities located within the jurisdiction of that circuit, see Areva Enrichment Servs., LLC (Eagle Rock Enrichment Facility), CLI-09-15, 70 NRC 1, 5 (2009), which the NFS Erwin facility is not. Thus, the Commission's Private Fuel Storage decision remains instructive in this proceeding.

We note as well that the other examples cited by ECAN as legal authority supporting NEPA consideration of proliferation impacts do not require a different result for a nuclear fuel cycle facility generally. For instance, the Scientists' Institute for the Public Interest and Western Michigan Environmental Action Council cases, see supra pp. 13–14, 19–20, involved the liquid metal fast breeder reactor and mixed oxide fuel programs, which are associated with the use of plutonium. Even putting aside the question of the continuing validity of these 1970s cases (predating the NRC) in light of the Commission's more recent pronouncements on the need to perform proliferation assessments under the AEA and NEPA, see supra pp. 21–23, the NFS license amendment at issue here does not involve plutonium, see Tr. at 63 (Lighty). Further, the ECAN-referenced examples of the never-completed DOE GNEP proliferation assessment and various military-related proliferation assessments regarding the storage, testing, and destruction of nuclear weapons or the dismantling or updating of nuclear weapons missile launch facilities, see supra p. 14, all are inapposite as outside of the NRC licensing and regulatory framework that the Commission repeatedly has indicated allays the need for any proliferation assessment under either the AEA or NEPA.

outside of the naval vessel fuel fabrication regulatory regime under which the NFS Erwin facility heretofore has operated and been regulated. Tr. at 90 (Lodge); see also ECAN Reply at 5–7 (proffering trade press articles and local government and union officials' statements as showing NNSA will use U-Metal process materials for the United States nuclear weapons program).

We are unable to conclude that the end use of the U-Metal processed-uranium metal (or any of ECAN's other purported factual disputes proffered in support of Contention A) establishes a required genuine material disputed issue of fact or law under section 2.309(f)(1)(vi) or otherwise brings Contention A within the scope of this proceeding. As the NRC Staff suggested, see Staff Answer at 13, see also Tr. at 73–74 (Roach), even if the NNSA, as an authorized federal government entity, received the U-Metal processed material and used it for nuclear weapons production, the metal's end use is not a relevant factor for the purpose of determining whether a proliferation impacts analysis is required under the AEA or NEPA.[39]

Rather, as the Commission has recognized regarding fuel cycle facilities generally, the purified uranium metal's fabrication by NFS would fall within the confines of the NRC's domestic Part 70 nuclear materials licensing and regulatory process. Part 70's health, safety, and security protections are designed to prevent nuclear equipment and material, as well as

[39] Regarding the significance of the use of the U-Metal process end-product as a basis for requiring a proliferation impacts analysis, NFS asserts that (1) while purified uranium metal currently produced by NNSA at its Y-12 facility can be used for both naval reactor fuel feedstock and nuclear weapons purposes, NFS does not know how NNSA might use the U-Metal process material at that facility, see Tr. at 46–51 (Lighty); (2) NFS is prohibited by 10 C.F.R. § 70.32(a)(6) from using any Part 70 special nuclear material to construct a nuclear weapon or any component of such a weapon, see Tr. at 51–53 (Lighty); and (3) NNSA activities at the Y-12 facility have previously been the subject of a sitewide EIS that included a nonproliferation assessment, see Tr. at 53–54 (Lighty); see also NFS Answer at 11 n.43 (citing ECAN Amended Hearing Petition at 15 (citing NNSA, DOE, Final Site-Wide [EIS] for the Y-12 National Security Complex at S-14 to -16 (Feb. 2011) (https://www.energy.gov/sites/prod/files/EIS-0387-FEIS-Summary-2011.pdf))). Given our conclusion that the U-Metal process end-product's use is not a relevant factor in deciding whether a proliferation assessment is required for this license amendment request, we reach no conclusion about whether any of these factors would support that determination as well.

classified information and sensitive technologies, from becoming available to unauthorized foreign or domestic individuals or entities. A further proliferation analysis is not required by these regulations. In conjunction with the speculative nature of the proliferation assessment process that would be based on policy information and analyses remote from both the NRC's licensing process and the license request at issue,[40] this establishes that the Commission's previous fuel cycle facility-related pronouncements that neither the AEA nor NEPA mandates the preparation of a proliferation assessment apply with equal force here.

Because ECAN has failed to meet its burden to establish that Contention A is within the scope of this proceeding and that it raises a genuine dispute regarding a material issue of law or fact, we do not admit that contention. See 10 C.F.R. § 2.309(f)(1)(iii), (vi).

2. ECAN Contention B: Narrow Scope of Purpose and Need Statement Undercuts Consideration of Alternatives

> The purpose and need for the project [are] expressed in unduly narrow and time-limited terms, which has caused inadequate consideration of the no-build alternative with the result of biasing the NEPA inquiry and decision to be made by NFS and the NRC in favor of amending the license and proceeding with the proposed project.

ECAN Amended Hearing Petition at 16.

a. ECAN's Arguments

According to ECAN, a purpose and need statement in a NEPA environmental assessment or report is important because it "'necessarily dictates the range of "reasonable" alternatives'" and must be "supported by data and evidence" that establish the assessment is "reasonable." Id. at 18 (quoting City of Carmel-by-the-Sea v. U.S. Dep't of Transp.,

[40] Although ECAN argues the NRC Staff fails adequately to recognize that proliferation has both a horizontal (i.e. deterring nuclear weapons spread to entities not currently holding nuclear weapons) and a vertical (i.e., deterring increasing nuclear weapons numbers in countries already possessing such weapons) component, see ECAN Reply at 3–4, that definitional distinction has no relevance to our determination that Contention A fails to meet the admissibility standards of section 2.309(f)(1).

123 F.3d 1142, 1155 (9th Cir. 1997)). ECAN further asserts that the agency cannot simply "accept out of hand" an applicant's purpose and need statement or allow the objectives of an action under consideration to be defined "so unreasonably narrow[ly] that only one alternative . . . would accomplish the goals of the agency's action." Id. (quoting Citizens Against Burlington, Inc. v. Busey, 938 F.2d 190, 196 (D.C. Cir. 1991)). At the same time, ECAN maintains, while an agency is not required to include "all theoretically possible environmental effects arising out of an action," it must make "reasonable forecasts of the future." Id. And relative to the consideration of alternatives to a proposed action, ECAN declares that agencies must, to the fullest extent possible, "[s]tudy, develop, and describe appropriate alternatives" that are within the "nature and scope of the proposed action . . . sufficient to permit a reasoned choice." Id. (quoting Idaho Conservation League v. Mumma, 956 F.2d 1508, 1519, 1520 (9th Cir. 1992) and California v. Block, 690 F.2d 753, 761 (9th Cir. 1982)).

Against this backdrop of asserted NEPA requirements, ECAN challenges the purpose and need statement in the NFS supplemental ER as being "unduly narrow" and inadequate in its consideration of the no-build alternative. Id. at 16. ECAN asserts that the changes at NFS are not needed to bridge the projected interruption of HEU metal production purification at the DOE NNSA's Y-12 facility in Oak Ridge, Tennessee. See id. at 17. Further, ECAN contends that the purpose and need statement "does not contain timely information on the status of the Y-12 legacy equipment replacement process," demonstrating that the statement lacks "fairness and adequacy" as a basis for a NEPA analysis of project alternatives. Id. at 17, 19. ECAN also offers two primary objections to the supplemental ER's purpose and need statement as establishing genuine material issues of fact and law: "(1) NFS has not conclusively demonstrated that the no-build alternative should be rejected; and (2) the improved Y-12 facility, seen in light of the NNSA's March 2022 stated intention to continue 'to fund uranium purification in [Y-12] Building 9212 until the electrorefining process is fully operational' in Oak Ridge (not Erwin), must be considered as an additional alternative to construction at Erwin." Id. at 21

(emphasis omitted). Thus, according to ECAN, because "[o]nly a timely update as to the status of Y-12 will allow the public to assess how meaningful the no-action alternative really is," this contention should be admitted "to ensure objective consideration of the no-build alternative . . . depicted according to its own timeline for completion and availability." Id.

To illustrate this purported lack of information, ECAN references NFS's supplemental ER statement that the Oak Ridge Y-12 facility "is tentatively planned for shutdown in the 2023 timeframe," at which time the NNSA "plans to partially replace [its] legacy uranium processing system capability with new electrorefining technology to purify high-enriched uranium metal." Id. at 19 (quoting ER at 1). ECAN asserts that the supplemental ER's purpose and need statement also described a schedule for the new Y-12 purification equipment to come online by "2023 at the earliest," but noted the enhanced Y-12 process "will not be capable of converting oxides to metal until completion of a separate future project," a timeline ECAN maintains was confirmed in a March 2022 NNSA report to Congress.[41] ECAN then highlights NFS's June 2022 RAI response in which NFS claimed construction of the new U-Metal Project facility would not be completed "until September 2024 or even later." Id. at 19 (citing NFS RAI Response at 4). All this, according to ECAN, means that

> [w]ithout any record information on the status of the equipment updating and replacement project at Y-12, it is possible that most of the anticipated HEU purification interruption at Y-12 has passed and that implementation of NNSA's March 2021 plan for a 'bridging strategy' at NFS will be a waste of time, resources and taxpayer monies.

Id. at 17 (footnote omitted).

Further, as support for its claim that the supplemental ER's consideration of alternatives is inadequate, ECAN cites the applicant's discussion of the potential for significant adverse

[41] ECAN Amended Hearing Petition at 16–17 (quoting ER at 1 and citing NNSA, DOE, Fiscal Year 2022, Stockpile Stewardship and Management Plan, Report to Congress at 3-11 (Mar. 2022) (https://www.energy.gov/sites/default/files/2022-03/FY%202022%20SSMP%20March%202022.pdf)).

impacts from the construction at a new site. See id. at 19–20. According to ECAN, NFS has provided this analysis to downplay the benefits of the no-action alternative in that NFS focuses on how the no-action/no-build alternative would result in significant adverse impacts (1) at another site because of construction and start-up activities; (2) in the vicinity of the Erwin facility due to increased unemployment; and (3) by hindering DOE's nuclear material processing objectives. See id. at 20 (citing ER at 49–50). Additionally, ECAN points to a purported discrepancy between an NFS statement in the supplemental ER's no-action alternative discussion that "[t]he proposed license amendment . . . will not result in significant adverse impacts to air quality" and an NFS June 2022 RAI response indicating that "[t]he gaseous effluents from the new U-Metal process are similar in attribute and quantity to those emitted from current operations at the NFS facility," which ECAN contends means that the U-Metal Project will actually result in a doubling of air pollutants. Id. (quoting NFS RAI Response at 6).

b. NFS and NRC Staff Responses

In response to ECAN's petition, NFS argues that Contention B "is not adequately supported, as required by 10 C.F.R. § 2.309(f)(1)(v), and that it fails to demonstrate a genuine dispute with the [license amendment application], as required by 10 C.F.R. § 2.309(f)(1)(vi)." NFS Answer at 14. Regarding ECAN's Contention B objection that NFS has failed to demonstrate that the no-action alternative should be rejected, NFS asserts it is under no legal obligation to "conclusively demonstrate" that any of the reasonable alternatives, including the no-action alternative, should be rejected; rather, Part 51 simply requires the discussion to be "sufficiently complete" to assist the Commission in "developing and exploring, pursuant to section 102(2)(E) of NEPA, 'appropriate alternatives to recommended courses of action.'" Id. (quoting 10 C.F.R. § 51.45(b)(3)).

With respect to ECAN's further claim that another offsite location for the Y-12 process must be considered as an additional alternative, NFS declares that the "no-action" alternative contemplated by the supplemental ER does involve NRC disapproval of the license amendment

request, resulting in "a reasonable alternative in which the capability gap is bridged at a facility other than NFS." Id. at 13 (emphasis omitted). Moreover, according to NFS, ECAN's alternative scenario whereby the NNSA continues to purify uranium metal in Y-12's Building 9212 until the new electrorefining technology comes online "conflates two different technologies and disregards the full purpose and need for the proposed action." Id. at 14–15. NFS declares that the new electrorefining technology that would come online at the Y-12 facility in 2023 will only purify HEU metal and will not include the ability to convert oxides to metal, therefore creating a need to bridge the technology gap between the two processes. See id. at 15. NFS argues as well that only reasonable alternatives that will "bring about the ends of the proposed action," i.e., adding oxide conversion, must be considered, and ECAN's no-action alternative to continue relying solely on the current Y-12 facilities is not such an alternative. Id. (quoting Hydro Res., Inc. (Rio Rancho, NM), CLI-01-4, 53 NRC 31, 55 (2001)). Further, NFS asserts that ECAN fails to explain, as required to support its contention, how the current proposed alternative is "unduly narrow," particularly given it is an extraordinarily broad, performance-based objective. Id. at 15–16.

Similarly, the NRC Staff maintains that ECAN fails to contradict the stated purpose and need statement in the supplemental ER, thereby failing to raise a material dispute with the application. See Staff Answer at 15. Contending that "[u]ltimately, the alternatives that the applicant selects are informed by the project and its goals," the NRC Staff points out that the NFS purpose and need statement not only addresses the technology gap for oxide conversion but also posits a need to "create redundant production capacity to 'hedge against' the risks of adopting new technology," a central point the NRC Staff maintains is not addressed by ECAN in its hearing petition. Id. at 16–17 (quoting ER at 1). Consequently, according to the NRC Staff, ECAN has failed to frame a genuine dispute about a material issue of law or fact. See id. at 17 (citing 10 C.F.R. § 2.309(f)(1)(iv), (vi)).

Additionally, the NRC Staff asserts that ECAN "appears to challenge NNSA's contracting decision" in its petition by questioning whether there is a need for NNSA to contract for additional uranium purification and conversion services. Id. (emphasis omitted). This, the NRC Staff observes, is a "determination [that] has already been made by NNSA, as is evidenced by the contract NNSA entered into with NFS." Id. Given that the only issue is the NFS amendment application, the NRC Staff likewise urges that Contention B is not within the scope of this licensing proceeding and is not material to the licensing findings the NRC must make. See id. (citing 10 C.F.R. § 2.309(f)(1)(iii)–(iv)).

c. ECAN's Reply

ECAN's reply asserts that the NRC Staff's answer has confirmed that a factual issue exists relative to the supplemental ER in its description of the NFS amendment as a "'hedge against' the risks of adopting new technology" at the NNSA Y-12 facility. ECAN Reply at 12 (quoting Staff Answer at 17). ECAN questions why this "hedge" is necessary when the old purification process will continue to be available at Y-12, making the proposed NFS U-Metal Project redundant, wasteful, and a negative that cannot be outweighed by the environmental positive of not authorizing its construction and operation. See id. Also, according to ECAN, the start-up for the new electrorefining process at the Y-12 facility has been ongoing for two years with satisfactory results, meaning that the new process is likely to become operational in the near future, while the old Y-12 production line continues to function and, as such, constitutes "an alternative to the proposed NFS project not mentioned by NFS in its Supplemental ER." Id. at 12–13. Specifically, ECAN states that the NEPA alternative of NNSA funding "uranium purification in Y-12 Building 9212 until the electrorefining process is fully operational" not only meets the NEPA "rule of reason" standard by having a "reasonable possibility" of occurring, but "is actually happening in real time." Id. at 13 (emphasis omitted). As such, ECAN claims it must be addressed as an alternative in the supplemental ER.

d. Licensing Board Determination

In ruling on Contention B's admissibility, we begin by noting information NFS clarified during oral argument: that the new uranium purification process under construction at the NNSA Y-12 facility in Oak Ridge, Tennessee "may start to come online in the 2023 timeframe . . . [and] is expected to be completed around 2028," while "the conversion process would be a functionality that may or may not be added later, around the 2028 timeframe or afterwards." Tr. at 56 (Lighty). Counsel for NFS also stated that the proposed U-Metal process in its Erwin, Tennessee facility "may be online [by] approximately 2026." Tr. at 57 (Lighty).

As ECAN points out, "[i]t is entirely proper to raise a contention which challenges the fairness and adequacy of [an ER's] purpose and need statement." ECAN Amended Hearing Petition at 17. Nonetheless, such a challenge must, among other things, demonstrate that the requisite genuine dispute exists with the applicant on a material issue of law or fact, as required by 10 C.F.R. § 2.309(f)(1)(vi).[42]

In the context of a purpose and need statement or otherwise, the alternatives selected for a NEPA analysis are necessarily informed by the project under review and its goals, which in turn are determined by the applicant.[43] In questioning the adequacy of the NFS supplemental ER's purpose and need statement as being "unduly narrow" because it fails to consider a "no-build alternative," id. at 16, ECAN has failed to account for critical facts set forth in the supplemental ER. Specifically, ECAN never disputes the need to develop the U-Metal process to create a "separate process of converting isotopes to metal, as well as creating redundant capacity" if issues arise with the new electrorefining process at the Y-12 facility. Tr. at 68

[42] Although ECAN seeks to establish such a genuine dispute with its assertion that the U-Metal Project will result in a doubling of air pollutants, see supra p. 29, as we note below in addressing this same argument presented as a supporting basis for Contention C, that claim is based on a misunderstanding of the supplemental ER's language and so fails to establish the requisite genuine dispute, see supra p. 48.

[43] See Dominion Nuclear North Anna, L.L.C. (Early Site Permit for North Anna ESP Site), LBP-07-9, 65 NRC 539, 607–08 (2007), approved, CLI-07-27, 66 NRC 215 (2007).

(Roach); see NFS Answer at 13 (quoting ER at 1 indicating U-Metal Project was intended to provide both "oxide conversion capability and to hedge against the technology risk associated with the new electrorefining facility"); see also Tr. at 44 (Lighty) (observing that the existing equipment at the NNSA Y-12 facility "is aging and in the near future will not be capable of performing [purification and conversion] services"). Because ECAN fails to dispute these central facts, its Contention B lacks the necessary support to create a genuine dispute on a material issue of fact or law that is required for an admissible contention.[44]

3. ECAN Contention C: Legacy Contamination Is Understated, Uninvestigated and Missing from Cumulative Effects Analysis in the ER

> NFS has been the contributor as point source to multiple soil and groundwater episodes of industrial chemical contamination throughout its 65-year existence. Over time there have been remediation programs and various attempts to mitigate the presence and intensity of these toxins. They are not adequately identified in the NFS Supplemental [ER]. The present status of groundwater contamination is poorly explained and lacks a comprehensive perspective. The possibility of the presence of [per- and polyfluoroalkyl substances (PFAS)] chemicals is not addressed. The documented presence of radioisotopes identified with NFS for miles downstream in the Nolichucky River is unmentioned. None of the groundwater effects of NFS have been incorporated into the ER as part of a cumulative effects analysis.

ECAN Amended Hearing Petition at 21–22.

a. ECAN's Arguments

As the basis for this contention, ECAN points to three purported categories of groundwater contamination from NFS's Erwin facility: (1) particles of radioisotopes, including

[44] As was indicated in section III.B.2.b above, citing the section 2.309(f)(1)(iii) and (iv) admissibility factors regarding scope and materiality, the NRC Staff maintains that Contention B should be dismissed to the degree that it is an attempt to challenge whether there is an NNSA need to contract for additional uranium purification and conversion services. This proceeding undoubtedly is not the forum in which to challenge whether the NNSA needs the uranium purification and conversion services for which it has contracted. At the same time, while the NNSA contract certainly would inform the factual basis for a NEPA-associated purpose and need statement, the mere existence of that contract and its requirements would not foreclose a NEPA-related consideration of alternatives, including the no-action alternative.

plutonium and uranium-235, found in the Nolichucky River ninety-five miles downstream from the NFS facility; (2) PFAS, based on the "verified presence of PFAS chemicals in the tissues of fish inhabiting the Nolichucky River," coupled with the likelihood of PFAS chemicals being present and used at the NFS facility; and (3) the historically high concentrations of partially remediated trichloroethylene (TCE) and tetrachloroethylene (PCE) at the site. Id. at 22. ECAN asserts that NFS's supplemental ER does not "meaningfully disclose the potential for similar or identical chemicals to be present in the future." Id. ECAN further argues that, notwithstanding the doubling of air emissions from the Erwin facility as a result of the U-Metal process, the NFS supplemental ER fails to disclose the chemicals that will be emitted from the purification and conversion processes proposed in the NFS license amendment application. Id. ECAN maintains as well that the NRC must both disclose the "continuing presence, movement and effects" of these existing toxins along with the chemicals that will be released into the water and air from the purification and conversion process, and evaluate the cumulative impacts upon the site of past, present, and future foreseeable actions, claims ECAN asserts render this contention within the scope of, and material to, this proceeding. Id. at 22–24; see id. at 33–35.

As technical support for its argument that the NFS facility is causing radiological groundwater contamination, ECAN relies on Dr. Michael Ketterer's declaration. See id. at 24. Dr. Ketterer, who states that he has sampled water, soil, sediment, and mollusks in and around the Nolichucky River near the NFS facility beginning in 2010, claims there is extensive evidence of multiple pathways and releases of enriched uranium and plutonium from NFS operations. See id. at 24–26 (citing Ketterer Declaration at 1–2). ECAN contrasts Dr. Ketterer's opinion with what it describes as the NFS supplemental ER's dissembling discussion of radiological contamination of the Nolichucky from the Erwin facility. See id. at 26. Additionally, ECAN specifically notes that the long half-lives of uranium, plutonium, and other radioisotopes compel a supplemental ER discussion of cumulative impacts. See id.

As for nonradiological impacts, after providing an extended discussion of the dangers of PFAS chemicals, ECAN acknowledges that there is no "direct evidence that PFAS chemicals are present in the groundwater beneath, or in the vicinity of the NFS complex in Erwin." Id. at 26–28. Nonetheless, ECAN asserts that because PFAS chemicals have historically been used in lubricants and industrial processes such as fire protection, it is reasonable to assume PFAS chemicals could have been used there during the NFS Erwin facility's sixty-five years of industrial activity. See id. at 28. Significant as well in confirming this possible PFAS release, ECAN argues, are fish tissue samples taken by the Tennessee Department of Environment and Conservation (TDEC) in major Tennessee rivers, including the Nolichucky River, during 2008–2009. See id. ECAN thus urges, based on Dr. Ketterer's recommendation and consistent with the growing recognition of the "ubiquitous" presence of health-threatening PFAS chemicals in long-time industrial installation environments, that an investigation should be conducted to determine whether PFAS contamination exists at the NFS site. Id. (citing Ketterer Declaration at 2).

Asserting that groundwater contaminant plumes are known to underlie the NFS facility and migrate offsite, ECAN faults the NFS supplemental ER for failing to address PFAS groundwater contamination and migration as well as possible thorium and plutonium plumes. See id. at 29–30. ECAN also maintains that the NRC must determine whether the groundwater flow from the vicinity of the Erwin facility has contaminated (1) the Banner Hill Spring; (2) the nearby Banner Spring Branch; (3) the Nolichucky River itself; and (4) the Railroad Well's groundwater capture zone. See id. at 30–32. In this regard, while acknowledging that a previous amendment to the NFS license removed a requirement to sample the Banner Spring Branch, ECAN asserts that this "does not absolve the NRC from the responsibility to determine the extent to which Banner Spring Branch is contaminated." Id. at 30.

Lastly, ECAN argues that NFS's failure "to address sinkhole activity and karst terrain . . . underlying its site" is a dereliction of its NEPA responsibility to provide a thorough environmental

impacts review, particularly in light of the development of a sinkhole next to a local elementary school. Id. at 32–33. According to ECAN, the failure of NFS and the NRC to evaluate the complex groundwater flow, the possible groundwater contamination, and the sinkhole activity and karst terrain at the Erwin facility has created "a dangerously incomplete assessment of the proposed action's potential impacts on the environment." Id. at 32.

b. NFS and NRC Staff Responses

In its response to ECAN's hearing request, NFS asserts that Contention C should be dismissed because, instead of challenging the current license amendment, ECAN primarily raises concerns about past agency action and "fails to acknowledge that the NRC previously disclosed and analyzed past, present, and future facility effluents in its license renewal Environmental Assessment [(EA)] for the NFS facility."[45] NFS also claims that ECAN disregards multiple disclosures about the NFS site's current effluents. See NFS Answer at 16. NFS thus concludes that ECAN's claims are "variously unsupported (both factually and legally), out-of-scope, immaterial, and fail to raise a genuine material dispute with the [current license amendment application]." Id. at 14–15.

Addressing the specifics of ECAN's radiological contamination concerns and the related Ketterer Declaration,[46] NFS argues that the supplemental ER and NFS's June 2022 RAI responses identify and analyze all radiological effluents and show that all radiological

[45] See NFS Answer at 16 (citing Office of Federal and State Materials and Environmental Management Programs, NRC, Final [EA] for the Proposed Renewal of [NRC] License No. SNM–124 for [NFS] at vi (Oct. 2011) (ADAMS Accession No. ML112560265) [hereinafter NFS License Renewal EA]).

[46] In a footnote to its response, NFS points out that the Ketterer Declaration was filed fifteen days after the hearing opportunity notice deadline for submitting a timely hearing petition and asserts that ECAN having failed to show any "extreme and unavoidable circumstances" that would excuse such an untimely filing, the Board should disregard it as "inexcusably late." Id. at 17 n.67 (quoting 10 C.F.R. § 2.307(a)).

concentrations are lower than the applicable regulatory limits.[47] As to ECAN's claim that the license amendment "will cause a doubling of air pollution over present levels," NFS explains that this assertion is based on the incorrect assumption "that the new U-Metal activity will involve processing quantities of SNM in addition to the quantities authorized in the current license." Id. at 19 (emphasis omitted) (quoting ECAN Amended Hearing Petition at 20). According to NFS, its requested license amendment does not seek an increase in NFS's baseline production capacity, but only a change in production capability. See id. Additionally, NFS asserts that, contrary to ECAN's claims, liquid effluents associated with the U-Metal process not only have been disclosed, but if the license amendment is granted they will be materially the same as the currently-produced effluents. See id. at 19–20 (citing NFS RAI Response at 1, 8).

Relative to ECAN's argument that the supplemental ER's cumulative impacts analysis of industrial chemical groups is inadequate, NFS contends that ECAN fails to identify any supplemental ER deficiency under 10 C.F.R. Part 51. See id. at 20. Additionally, NFS maintains that the NRC Staff's previous analysis of cumulative impacts in its 2011 license renewal EA is dispositive of this question. See id. According to NFS, in that EA the NRC Staff explained that the NFS facility effluent discharges comply with federal, state, and local permit requirements and would not be expected to "pose undue cumulative risks to human health and the environment." Id. (emphasis omitted) (quoting NFS License Renewal EA at vi). Because ECAN does not contest NFS's statement that under the proposed license amendment effluents would remain within existing permit limits, NFS argues that no "significant environmental change" from the license renewal EA will occur and therefore no further supplemental ER analysis is needed. See id. at 20–21 (quoting 10 C.F.R. § 51.60(a)).

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[47] See id. at 17–19 (citing ER at 28, 35–42; NFS RAI Response at 1, 7; id. at R-11 to -18 (tbl. 5 (Beta Particle Reasonable Potential Calculations, Based on NRC Semiannual Reports and Sum of Fractions Method)) [hereinafter Table 5]).

Addressing ECAN's assertions about NFS's legacy contamination and remediation activities, NFS declares that these issues also were analyzed and discussed in the license renewal EA, with updated information provided in the supplemental ER regarding NFS's post-EA remediation activities to address any such contamination. See id. at 21–22 (citing NFS License Renewal EA at 4-13 to -14; ER at 29). According to NFS, ECAN has failed to show that anything further is required under Part 51. Additionally, NFS argues that because the NRC has determined that the remediated area meets the radiological criteria for unrestricted use, a challenge to this finding is beyond the scope of this proceeding.[48]

NFS also asserts that, contrary to ECAN's claims in its hearing petition, the sinkhole activity associated with the nearby karst terrain in relation to the Rome Formation underlying the Erwin facility site has been addressed in the NFS license renewal proceeding EA.[49] Thus, NFS asserts, ECAN's attempt to relitigate the NRC's findings via Contention C is likewise beyond the scope of this proceeding. See id. at 23 (citing 10 C.F.R. § 2.309(f)(1)(iii)).

Finally, NFS finds fault with ECAN's assertion that PFAS may be at the NFS site. According to NFS, neither ECAN nor its expert Dr. Ketterer have presented anything beyond speculation to support this generalized claim. See id. at 23–24. Noting ECAN's admission that it "does not have any direct evidence that PFAS chemicals are present in the groundwater beneath, or in the vicinity of the NFS complex in Erwin," NFS asserts that "black letter case law specifies that a contention cannot be based on speculation." Id. at 24 (quoting ECAN Amended Hearing Petition at 28). Moreover, NFS argues, even assuming ECAN's speculative assertion

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[48] See id. at 22 (citing Letter from Kevin M. Ramsey, Project Manager, NMSS, NRC, to Richard J. Freudenberger, Director, Safety and Safeguards, NFS, encl. at 4 (Dec. 11, 2018) (Safety Evaluation Report, [NFS] – North Site, Addendum to the Final Status Survey Report for Survey Units 4, 6, 7, 12, 16, 17 and 18, Survey Units 6 and 7 Surface Soil Characterization) (ADAMS Accession No. ML18338A246)).

[49] See id. at 22–23 (citing Frequently Asked Questions about the [NFS] Fuel Fabrication Facility, Emergency Planning, Sinkholes, https://www.nrc.gov/materials/fuel-cycle-fac/fuel-fab/nfs-faqs.html#11d1 (Why was the NFS license renewed given the existence of sinkholes in the local area?) [hereinafter NFS FAQ on Sinkholes]).

is correct, ECAN has failed to make any showing as to how or why having such chemicals onsite would present a "significant environmental change" that would need to be analyzed in the supplemental ER. Id. (quoting 10 C.F.R. § 51.60(a)). Consequently, NFS asserts, ECAN's PFAS claims lack support and fail to raise a genuine dispute on a material issue of law or fact regarding the NFS license amendment application. See id. at 24–25 (citing 10 C.F.R. § 2.309(f)(1)(iv)–(vi)).

In response to ECAN's claims regarding Contention C, the NRC Staff asserts that the contention is inadmissible because ECAN does not show the requisite genuine dispute with the NFS supplemental ER. See Staff Answer at 19 (citing 10 C.F.R. § 2.309(f)(1)(v)– (vi)). In this regard, the NRC Staff argues that ECAN "overlooks applicable information in the application and its references—particularly, the Supplemental ER and NFS'[s] responses to NRC environmental [RAI]." Id.

The NRC Staff first states that "the information ECAN provides about the presence of small amounts of radioisotopes in the environment near NFS is materially consistent with the information disclosed by NFS in its application." Id. Regarding ECAN's claims that, in light of the information provided in Dr. Ketterer's declaration, the supplemental ER fails to describe sufficiently the presence of radioisotopes in the Nolichucky River downstream of the NFS Erwin facility, the NRC Staff references the "numerous discussions, figures, and tables that identify the timing and amounts of past releases" of radioisotopes as required by NFS's regulatory permits along with the radiological pathway assessments in both the NFS supplemental ER and its June 2022 response to the Staff's RAI. Id. at 20 & nn.98–99 (citing ER at 4–5, 29, 37, and NFS RAI Response, encl. B, Table 5, at R-11 to -18). The NRC Staff maintains as well that because radioisotope effluents are discussed in NFS's application in detail, contrary to ECAN's allegation of omission of this information, ECAN has failed to raise a dispute with the application. See id. at 21.

Second, in response to ECAN's assertion that potential PFAS contamination should be investigated, the NRC Staff asserts that ECAN's claim is mere speculation in that "ECAN offers no tangible evidence of PFAS use or PFAS contamination at NFS." Id. Thus, the NRC Staff argues that Contention C's claim regarding the potential presence of PFAS at the Erwin facility lacks sufficient supporting facts or expert opinion to provide the grounds for an admissible contention. See id. at 22 (citing 10 CFR § 2.309(f)(1)(v)).

Third, relative to ECAN's expressed concerns about the lack of a groundwater assessment in the supplemental ER, the NRC Staff contends that "NFS'[s] application includes extensive discussion of groundwater contamination that ECAN does not address." Id. at 22. Specifically, the NRC Staff points to (1) the Erwin site's historically measured groundwater depth at ten feet below the ground surface; (2) NFS's control procedures for all spills and releases; and (3) NFS's statements that the "impact of the additional U-Metal process on liquid effluent and/or runoff will be minimal," and that there will be no "new chemical or radiological attributes with the potential to enter surface waterways." Id. (quoting NFS RAI Responses at 25, 40). The NRC Staff also asserts that ECAN's arguments about the failed PCE remediation activities and the contamination in Banner Hill Spring do not raise specific disputes with relevant portions of the supplemental ER, but instead are speculation based on "the suggestion of a mere possibility of contamination" and "unverified testimony" and thus "present no concrete facts or dispute with the application." Id. at 23–24 (citing 10 C.F.R. § 2.309(f)(1)(v)–(vi)).

Similarly, the NRC Staff asserts that ECAN has provided no support for its position that complex groundwater flow could lead to unpredictable contamination through groundwater pathways. See id. at 24. While ECAN references the 2011 final EA associated with the renewal of the NFS license for the Erwin facility, the NRC Staff asserts that this EA contradicts ECAN's assertions and thus does not raise a genuine dispute with the NFS supplemental ER. See Staff Answer at 24 (citing NFS License Renewal EA at 3-18). Further, the NRC Staff argues that

"ECAN does not raise a specific dispute regarding NFS'[s] characterization of the foundation geology underlying the NFS site." Id. at 24–25. The NRC Staff again states that ECAN's assertions are speculative and that merely referencing the sinkhole incident in the vicinity of the facility ten years ago does not establish a litigable claim. See id. at 24. In sum, according to the NRC Staff, Contention C is inadmissible as failing to meet the pleading requirements of section 2.309(f)(1)(v) and (vi) and so should be dismissed. See id. at 25.

c. ECAN's Reply

ECAN asserts that the NRC has never taken the requisite "hard look" at the "cumulative impacts from radioactive air, water and soil contamination in the vicinity of, and downriver from, the NFS [Erwin] plant." ECAN Reply at 15. ECAN also takes issue with the lack of warning signs to alert and protect the public from what it claims is radiologically contaminated water that pools on the surface near a walking trail in the vicinity of the NFS facility. See id.

ECAN argues as well that the NRC is willing to accept false assertions in the NFS license amendment application, specifically that Banner Spring Branch is classified for fish and aquatic life, livestock watering, irrigation, and recreation, when it is, according to ECAN, channelized in a buried culvert. See id. at 16. According to ECAN, among the erroneous bases for NFS's false claim that Banner Spring Branch has diverse aquatic life are (1) the supplemental ER citation to a 2019 TDEC report that did not even list Banner Spring Branch; and (2) a 1996 DOE report referenced in the 2009 NFS environmental report supporting its license renewal application, as well as a 2017 Tennessee Wildlife Resources Agency report cited in NFS's June 2022 RAI responses, both of which indicated there are several species of minnows where Banner Spring Branch converges with Martin Creek, notwithstanding that Banner Spring Branch is "completely enclosed inside a pipe." Id. at 16–17 (quoting ER at 18).

In response to the PCE groundwater contamination and bioremediation discussion in the NRC Staff's answer, ECAN maintains that the NRC Staff mischaracterizes the NFS supplemental ER as having an extensive discussion of groundwater contamination when it in

fact only has some "illegible" bar charts and a few isolated sentences on the subject. Id. at 17–18. Further, ECAN challenges the NRC Staff's failure to produce or seek from NFS new plume diagrams or maps regarding the purported new contaminants, particularly as it relates to the nearby Railway Well that ECAN labels "a major source of drinking water for the town." Id. at 18. Thus, ECAN claims the NFS license amendment application is deficient because NFS has not "adequately illustrated the data they purport to," and the NRC Staff has not sought clarification on this issue via RAIs. Id. So too, according to ECAN, the supplemental ER's discussion of cumulative impacts is lacking because it fails to explain (1) the higher upstream gross beta readings on the Nolichucky River in 2011 and 2019 and on Martin Creek in 2012 as compared to downstream gross beta readings; (2) the 2012 higher upstream gross alpha readings on the Nolichucky River as compared to downstream gross alpha readings; and (3) the 2018 higher upstream uranium readings on the Nolichucky River as compared to downstream uranium readings. See id. at 19. Finally, ECAN asserts that the NFS license amendment application omits any discussion of the Nolichucky River, specifically the Greeneville Water Commission's current NFS-related enhanced monitoring procedures and the fact that the river provides drinking water to Greeneville and other communities in the county. See id.

ECAN's reply also reiterates that the NFS application is "dangerously deficient because of its failure to address the geologic hazards," specifically sinkholes, at the NFS Erwin facility. Id. at 20. ECAN asserts as well that there are multiple false statements made in NFS's supplemental ER and other reports, focusing particularly on the previously raised issue of the pipe-enclosed Banner Spring Branch as being able to support aquatic life and wildlife, irrigation, and recreation. See id. at 20–22. In addition, ECAN declares that NFS falsely claims its supplemental ER presents "updated disclosures and analyses." Id. at 22 (quoting NFS Answer at 16). In this regard, ECAN states that critical information is missing, particularly data on the migration of the uranium and PCE/TCE groundwater contaminant plumes, and cumulative plutonium contamination of water, sediment, and soil. See id. at 22–24. ECAN acknowledges

the NRC Staff's reference to the NFS supplemental ER and June 2022 RAI responses that provide plutonium contamination data for the Nolichucky River, but counters that this data only reflects recent discharges and does not take into account the cumulative impacts of these discharges, particularly given that the TDEC cannot regulate plutonium discharges under the Clean Water Act and can only monitor for uranium as a source of heavy metal toxicity, not as a radiological contaminate per se. See id. at 24–25. According to ECAN, given the long half-lives of uranium, thorium, and plutonium, the NRC and NFS must evaluate their cumulative impacts, as well as the extent of migration of the TCE, 1,2-dichloroethylene, and vinyl chloride plumes and the chemical contamination they carry. See id. at 25–26.

d. Licensing Board Determination

While the Commission has long recognized that the scope of a hearing contesting a facility license amendment should encompass "any health, safety or environmental issues fairly raised by [the license amendment],"[50] such a challenge still must be lodged within the confines of the Commission's contention admissibility rule, 10 C.F.R. § 2.309(f)(1). That provision, which is strict by design,[51] does not permit a petitioner to file vague, unparticularized, unsupported contentions.[52] Moreover, as evidenced by the requirement in section 2.309(f)(1)(vi) that a contention must include specific references to the disputed portions of the license application at issue, this provision does not permit challenges to (1) NRC Staff actions; see supra note 36 and accompanying text, or (2) past or current facility operations simply on the basis that the activities

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

[51] See, e.g., PPL Susquehanna, LLC (Susquehanna Steam Electric Station, Units 1 and 2), CLI-15-8, 81 NRC 500, 504 (2015).

[52] See, e.g., N. Atl. Energy Serv. Corp. (Seabrook Station, Unit 1), CLI-99-6, 49 NRC 201, 219 (1999).

authorized under the license amendment would be conducted by the same licensee at the same facility.[53]

As was the case with Contention A, ECAN improperly frames portions of its support for Contention C's admissibility in terms of the NRC's failure to carry out its NEPA responsibilities.[54] Nonetheless, as discussed above, see supra note 36 and accompanying text, environmental contentions first must challenge the applicant's ER, and ECAN does challenge the NFS supplemental ER to the extent ECAN claims the ER is deficient because it does not include an analysis of the historic contamination that has occurred at the Erwin facility. Therefore, Contention C is, in general, a contention of omission relative to the NFS supplemental ER.[55] Yet, as we explain below, the concerns raised in Contention C about a variety of air, soil, and water contamination issues all are outside the scope of this license amendment proceeding, are

[53] See S. Nuclear Operating Co. (Vogtle Electric Generating Plant, Unit 3), LBP-20-8, 92 NRC 23, 47 (indicating challenges to current plant licensing basis rather than the requested facility modification are not within the permissible scope of a license amendment proceeding and instead should be brought as an enforcement action pursuant to 10 C.F.R. § 2.206) (citing NextEra Energy Seabrook, LLC (Seabrook Station, Unit 1), CLI-19-7, 90 NRC 1, 14 (2019)), aff'd, CLI-20-18, 92 NRC 530 (2020).

[54] See, e.g., ECAN Reply at 14–15 (claiming NRC's failure to undertake a cumulative radiological impacts analysis in response to a radiological surface water quality figure in 2009 NFS license renewal application environmental report evidences the agency's failure to carry out its NEPA responsibility to take the requisite "hard look" at such impacts); id. at 18 (NRC has not presented any new data or updated map on Railroad Wells capture zone or issued RAI to NFS on drinking water quality).

[55] In its reply, ECAN does make one claim that might be considered an "adequacy" challenge. See Ross, LBP-13-10, 78 NRC at 132 n.6. According to ECAN, information in the supplemental ER mischaracterizes the status of the Banner Spring Branch as able to support aquatic life and wildlife. See ECAN Reply at 16–17, 20–21 (arguing supplemental ER is deficient by failing to disclose Banner Spring Branch is a "stream in a pipe"). Nonetheless, labeling information in an environmental analysis document as incorrect without also showing how that purported inaccuracy has some significance for the NEPA process fails to pass muster under section 2.309(f)(1)(vi)'s requirement that a contention's sponsor must show that a "material" issue of fact is involved. See Holtec Int'l (HI-STORE Consolidated Interim Storage Facility), CLI-20-4, 91 NRC 167, 190–91 (2020) (noting contention must frame a dispute as to a material issue and the Commission's previous warning about trying to "flyspeck" an EIS).

otherwise unsupported, or fail to raise a genuine material dispute on an issue of law or fact. Contention C thus does not meet section 2.309(f)(1)'s contention admissibility requirements.

This license amendment proceeding is focused on the requested action stated in the hearing opportunity notice – a license amendment to allow NFS to perform uranium purification and conversion services at its Erwin facility. See 87 Fed. Reg. at 53,508–09. In many instances, however, ECAN does not raise concerns about this specific license amendment. Instead, ECAN raises several issues about purported historic contamination at the NFS facility. And where ECAN does raise a concern regarding the license amendment, ECAN fails to substantiate its claims that relevant data is missing and fails to supply its own supporting data.

First, ECAN's assertion that the movement and effects of various groundwater contaminants need to be "updated, investigated and analyzed, since they will continue to be found . . . into the unknown future," ECAN Amended Hearing Petition at 22, is unsupported by any legal authority and is related to historic contamination, not to the current license amendment. By ECAN's own admission "[t]he supplemental ER offers a comparison table of radiological contamination of the Nolichucky upstream and downstream of the NFS wastewater outfall." Id. at 26 (citing ER at 29, fig.5 (Radiological Surface Water Quality)). In its supplemental ER, NFS explains there are radioisotopes in these surface waters near the facility, but that all radiological concentration levels between 2009 and 2020 were well below the 10 C.F.R. Part 20 regulatory limit of 300 picocuries per liter (pCi/l). See ER at 28–29. More broadly, the specific radioisotopes and their quantities resulting from Erwin site effluents were identified as part of the NRC's 2011 EA associated with the renewal of the NFS Erwin facility license and found not to exceed individual radionuclide limits. See NFS License Renewal EA at iv, 3-31 to -34. Further, the NFS supplemental ER and June 2022 RAI responses provide updated information regarding the radiological effluents, liquid or otherwise, involved with the U-Metal process as well as tables showing the Erwin facility-associated levels of stream, soil, and vegetation radioactivity from 2009 through 2020, which show no amounts exceeding

regulatory limits.[56] At the same time, the U-Metal process is expected to cause minimal gaseous or liquid effluent impacts. See NFS RAI Responses at 1–2, 6–8, 40.

In contrast, ECAN makes no showing that the U-Metal process license amendment will increase the current NFS facility-related radiological contamination. Rather, ECAN takes issue with past contamination, which is examined in the supplemental ER. Thus, ECAN's claims regarding the existence and assessment of radiological contamination are both outside the scope of this proceeding and fail to demonstrate a genuine material dispute of law or fact as required by section 2.309(f)(1). See 10 C.F.R. § 2.309(f)(1)(iii), (vi).

Second, ECAN concedes that it has provided no direct evidence to support its claim that there is PFAS groundwater contamination at the Erwin facility.[57] Thus, ECAN has not substantiated its claim with adequate factual or expert opinion as required under 10 C.F.R. § 2.309(f)(1)(v). "Historic industrial" processes and uses purported to be associated with PFAS are the focus of ECAN's claims. ECAN Amended Hearing Petition at 28. But ECAN does not make any claims or otherwise reference the U-Metal process license amendment application in relation to PFAS contamination. See id. at 26–28. This purported deficiency likewise is both outside the scope of this proceeding and fails to show a genuine material dispute of law or fact. See 10 C.F.R. § 2.309(f)(1)(iii), (vi).

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[56] See ER at 35-40 (tbl. 22A (2009–2020 Environmental Air Average Gross Radioactivity), tbl. 22B (Stream Sediment Average Radioactivity 2009-2020), tbl. 22C (Soil Average Radioactivity 2009–2020), tbl. 22D (Vegetation Average Radioactivity 2009–2020), tbl. 22E (Martin Creek Downstream - Average Radioactivity 2009-2020), tbl. 22F (2009–2020 Nolichucky River Downstream - Environmental Monitoring Data)); NFS RAI Responses at 6-8, (tbl. 2 (Gaseous Effluents from the U-Metal Project)). In its reply, ECAN takes issue with Table 22B in the supplemental ER, asserting that it fails to provide an explanation about a purported discrepancy with upstream and downstream radiological readings associated with the Nolichucky River and Martin Creek. See ECAN Reply at 19. Again, however, ECAN fails to make any showing as to why this is a "material" factual issue within the meaning of section 2.309(f)(1)(vi). See supra note 55.

[57] See ECAN Amended Hearing Petition at 28 ("Petitioner ECAN does not have direct evidence that PFAS chemicals are present in the groundwater beneath, or in the vicinity of the NFS complex in Erwin.")

Third, ECAN's claims about other omissions in the supplemental ER, including that the ER does not include an analysis of potential sinkhole activity and historic groundwater plumes moving offsite, are simply incorrect. See ECAN Amended Hearing Petition at 30–32. Groundwater plumes are identified and analyzed in the supplemental ER,[58] while sinkhole activity and its significance to the NFS facility was addressed in the context of the 2011 NFS license renewal proceeding and is reflected in the 2019 NFS supplemental ER.[59] As before,

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[58] Regarding groundwater plumes, the NFS supplemental ER indicates:

> Operations at the NFS Erwin Facility resulted in the presence of radionuclides and organic constituents in the groundwater beneath the facility. . . . For remediation purposes, the primary groundwater contaminants of concern (COCs) include [PCE], uranium (U), and technetium (Tc-99). Bioremediation of PCE has created byproduct contaminations including [TCE], 1,2-dichloroethylene (1,2-DCE), and vinyl chloride (VCI). NFS has completed corrective actions involving excavation, transport and removal of over 5 million cubic feet of contaminated soil and debris to remove PCE, Tc-99, and uranium sources at the North Site. In 2018, NFS obtained NRC concurrence that final status survey requirements were achieved at the North Site for subsurface and surface soil. NFS is currently continuing corrective actions to address the residual groundwater contamination remaining now that the main contributing sources have been excavated and removed.
>
> There are no known users of the groundwater between the NFS Erwin Facility and the Nolichucky River. Groundwater collected in monitoring wells on the down-gradient (Plant west) boundary indicates that TCE, PCE, 1,2-DCE and VCI periodically exceed drinking water standards at one or more locations near the western boundary. NFS is actively working to remediate the off-site plumes and has achieved significant plume reductions. The goal of groundwater remediation is to meet the [United States Environmental Protection Agency's] drinking water [maximum concentration levels] for all COCs.

ER at 29.

[59] See NFS License Renewal EA at B-71 (responding to a public comment about karst topography underlying the NFS site, the NRC Staff indicated that the "NFS site is directly underlain by the Rome Formation, a non-karstic formation (although there is some evidence of dissolution features in the northern part of the site). The Rome Formation is a competent rock consisting of sandstone, siltstone, shale, dolomite, and limestone. Karst topography is present in the southeasterly Shady Formation, but that is upgradient of the NFS site."); ER at 15 ("The

ECAN does not make any allegations regarding, nor does it otherwise reference, the U-Metal process license amendment application in relation to either groundwater plumes or sinkholes. See ECAN Amended Hearing Petition at 29–33; ECAN Reply at 19–20. Thus, these historic issues that are framed in terms of regulatory inaction are both beyond the scope of this proceeding and likewise fail to demonstrate the requisite genuine material dispute of law or fact. See 10 C.F.R. § 2.309(f)(1)(iii), (vi).

Lastly, ECAN's claim that air emissions from the NFS Erwin facility will double with the license amendment, see ECAN Amended Hearing Petition at 22, is based on a misunderstanding of an NFS RAI response's language stating "[t]he gaseous effluents from the new U-Metal process are similar in attribute and quantity to those emitted from current operations at the NFS facility," NFS RAI Response at 6. NFS confirmed in its answer that the requested licensing change pertains to capability only and not to an increase in capacity. See NFS Answer at 19. According to NFS, any new activities under the requested license amendment will be offset by a reduction in NFS's current activities such that air emissions "will remain 'similar' to current levels." Id. (quoting NFS RAI Response at 6). Therefore, ECAN's assertion that air emissions will double if the U-Metal process amendment is approved lacks both adequate factual or expert opinion support and fails to demonstrate a genuine material issue of fact or law. See 10 C.F.R. § 2.309(f)(1)(v)–(vi).

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bedrock strata at the NFS Erwin Facility are consolidated, providing firm foundations for buildings that lie directly on the strata or that are supported by footings."); see also NFS FAQ on Sinkholes ("NFS has reported some evidence of karstic dissolution features in the deep bedrock of the Rome Formation at the north end of the site. Because of this geography, sinkholes are less likely to form at NFS than in the boundary regions of the Rome Formation, which is where sinkholes in the local area have formed. It is our assessment that sinkholes do not pose a significant threat to the site. . . . As the NRC considered the license renewal application for NFS, the consequences of accidents caused by natural phenomena were considered in the EA. The sinkhole events constituted new information, but the NRC staff concluded that the consequences from a sinkhole event would not be worse than the consequences from earthquakes, floods, and other natural phenomena that were already evaluated.") (last visited Jan. 27, 2023).

Because ECAN's Contention C does not meet all the section 2.309(f)(1) criteria, this contention is inadmissible.

4. ECAN Contention D: Fuel Cycle Facility Regulations Are Insufficient to Protect Public Health, Safety & Security Because They Lack Stringent Quality Assurance Requirements

> NRC's Fuel Cycle Facility regulations have failed to achieve a sustained safety culture at NFS and therefore, do not protect the public, workers, or environment.

ECAN Amended Hearing Petition at 35.

a. ECAN's Arguments

As the basis for this contention, ECAN asserts that despite being subject to numerous safety violations, several of which have occurred since the last Erwin facility license renewal in 2021, as well as being called multiple times to the NRC's Agency Action Review Meetings, NFS continues to operate without adequate regulatory oversight of "how NFS addresses worker safety and protection of the public health and safety." Id. at 35–36. Consequently, ECAN contends, NRC must impose tougher standards on NFS. See id. at 40.

ECAN declares that this contention is within the scope of this proceeding because the agency has a "legal and non-discretionary duty to consider whether, when granting a license, such an action could be inimical to the common defense and security of the United States or the health and safety of the public." Id. at 36. Further, according to ECAN, the issues raised in this contention are material to the findings the NRC must make to support the action involved in this proceeding because "[t]he adequacy of [QA] implicates considerations of public health and safety in the NRC's deliberations of whether to issue the license amendment." Id.

As support for this contention, ECAN asserts that since the 2012 license renewal, there have been at least thirty-two known safety violations and unresolved items, three times in which accidents at NFS and their aftermaths were listed in NRC's Report to Congress on Abnormal Occurrences, and repeated Nuclear Criticality Safety deficiencies, including a malfunctioning

alarm system in the NFS wastewater treatment facility resulting in a stop work order.[60] See id. at 36–37. Further, ECAN asserts, NFS experienced sixteen environmental releases that triggered offsite notification between 1997 and 2021, seven known physical security-related violations after NFS's last license renewal, and six deficiencies that were listed in an Independent Safety Culture Assessment.[61] See id. at 37. Additionally, ECAN argues that NFS historically has had trouble at this plant completing corrective actions in a timely manner. See id.

To further illustrate its concern, ECAN compares QA measures at a DOE uranium purification site to those at NFS. According to ECAN, at DOE's site in Oak Ridge, Tennessee, a different QA regime contractually obligates prime contractors to have QA management training and nuclear quality control engineers with adequate technical experience reporting to them.

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[60] The ECAN amended petition states that there have been "thirty-two (39) known safety violations and unresolved items" and "three (2) times where accidents and aftermaths at NFS have been serious." ECAN Amended Hearing Petition at 36–37. For consistency and clarity, in this decision we assume that the spelled-out number is the correct number for purposes of ECAN's arguments while noting, as a substantive matter, that which number is correct is not material to our ruling.

[61] As summarized by ECAN, the deficiencies are as follows:

> - Need for licensee to develop and provide formal training to the appropriate front-line supervisors to improve their understanding and use of Operating Experience.
> - Licensee lacked a way to document the review for major organizational changes during the change process review by the Change Control Board.
> - Update the procedure for conducting Corrective Action Program (CAP) effectiveness reviews, and update the list of personnel required to be trained on the procedure.
> - Two Unresolved issues: Deficiencies in the consistent application of the [CAP] within the Security and Material Control and Accounting (MC&A) Departments.
> - Need for Licensee to develop consistent standards and expectations for supervisors with regards to improving oversight of work activities.

Id. at 37–38 (citing Letter from Alan J. Blarney, Branch Chief, NMSS, NRC, to Joseph G. Henry, President, NFS, encl. at 9–11 (Jan. 30, 2013) (NRC Integrated Inspection Report No. 70-143/2012-005) (ADAMS Accession No. ML13030A347)).

See id. at 38. In contrast, ECAN maintains, NFS is only required to follow QA controls on the shipment of special nuclear material and is not subject to the provisions of the American Society of Mechanical Engineers (ASME) Nuclear Quality Assurance (NQA-1) certification because NFS is not eligible for such certification. See id.

ECAN acknowledges that NFS is required to "implement and maintain a graded QA program commensurate with the risk posed by the facility," which ECAN asserts is "highly likely to increase as a consequence of the new uranium purification process." Id. at 38–39. These QA requirements, specified in 10 C.F.R. §§ 70.62(d) and 70.64, require each applicant/licensee to establish management measures to ensure compliance with performance requirements in 10 CFR § 70.61.[62] See id. at 39. But the issue with the QA approach at NFS, ECAN claims, is that there are no organizationally designated staff tasked with performing QA functions, which ECAN asserts "means, in practical terms, that no one does them." Id.

As an example, ECAN states that an April 2012 NRC integrated inspection found the lack of adequate management measures pertaining to the maintenance of a firewall and its associated penetrations adversely affected the firewall's two-hour National Fire Protection Association fire rating required by the NFS Integrated Safety Analysis and thus affected the function and reliability of NFS's IROFS, which led to two separate agency-issued notices of violation.[63] Citing another notice of violation, ECAN claims that the agency's integrated inspection report concluded that the lack of adequate management measures enabled the

[62] According to ECAN, "Management Measures are those functions performed by the licensee that are applied to items relied on for safety (IROFS), to ensure the items are available and reliable to perform their functions when needed." Id. at 39. These include (1) configuration management; (2) maintenance; (3) training and qualifications; (4) procedures; (5) audits and assessments; (6) incident investigations; (7) records management; and (8) other QA elements. See id.

[63] See id. at 39–40 (citing Letter from Alan Blarney, Branch Chief, NMSS, NRC, to Joseph Henry, President, NFS, encl. 2, at 4–6 (Apr. 30, 2012) (NRC Inspection Report Nos. 70-143/2012-002 and 70-143/2012-006) (ADAMS Accession No. ML12122A186) [hereinafter April 2012 Inspection Reports]).

degradation of structural supports, thus adversely affecting the stability and reliability of the configuration-controlled storage columns designated as IROFS. See id. at 40 (citing April 2012 Inspection Reports at 8–10). All this, ECAN contends, establishes that NFS "should not be authorized to process nuclear weapons material without strict [QA] requirements." Id. at 38.

Finally, ECAN argues that Contention D presents a genuine material issue of law and fact because the safety and quality culture at NFS is severely lacking for a facility that "involve[s] handling ultrahazardous material in risky conditions," a situation in which "NRC's regulatory discretion certainly extends to the imposition of tougher QA standards." Id. at 40. ECAN claims that these previous violations, compliance issues, and NRC special enforcement measures, combined with the risks involved with the new purification process should "herald the initiation of tougher [QA] standards." Id. Therefore, in ECAN's view, the current QA approach at NFS requires "[a] dramatic upgrade in safety and quality culture" to be more in-line with the ASME NQA-1 QA requirements, including having independent, third-party QA auditors with the power to stop work to correct adverse circumstances. Id. at 40–41.

b. NFS and NRC Staff Responses

NFS argues that Contention D is not only outside the scope of the proceeding, but also fails to raise issues that are material to the proposed license amendment and fails to raise a genuine dispute on a material issue with the amendment request. See NFS Answer at 26 (citing 10 C.F.R. § 2.309(f)(1)(iii)–(iv), (vi)). In NFS's view, ECAN's contention is "inadmissible on its face" because it does not make any mention of the license amendment request. Id. at 25 (emphasis omitted). Moreover, NFS argues that "it is the NRC's 'regulations' that are the target of Petitioner's attack in this contention." Id. This is impermissible, NFS maintains, because this adjudicatory proceeding regarding the NFS license amendment application "is not the appropriate vehicle for questioning the NRC Staff's past regulatory efforts nor is it an opportunity to raise generic grievances about how the licensee has historically operated under its license." Id. at 26 (quoting LBP-22-02, 96 NRC at 144).

Similarly, in its answer to ECAN's hearing petition, the NRC Staff states that "NRC regulations preclude challenges to Commission rules or regulations in adjudicatory proceedings, absent a waiver granted by the Commission." Staff Answer at 26 (citing 10 C.F.R. § 2.335(a)). Thus, "[c]ontentions that merely present the petitioner's view of what applicable policies ought to be must be rejected," because they are impermissible "attempts to advocate for requirements stricter than those imposed by regulation," and are "outside the scope of the proceeding." Id.

According to the NRC Staff, ECAN is arguing that "requirements other than those imposed by regulation should govern the review of NFS'[s] application." Id. The NRC Staff maintains that QA requirements that are applicable to the requested license amendment for the NFS Erwin facility are already contained in 10 C.F.R. § 74.59. See id. at 27. Thus, the NRC Staff asserts that Contention D is impermissibly outside the scope of the proceeding because the contention merely presents ECAN's view of what applicable policies ought to be or is an attempt to advocate for stricter requirements than those imposed by the applicable regulations. See id. (citing 10 C.F.R. § 2.309(f)(1)(iii)).

c. ECAN's Reply

ECAN asserts that the NFS license amendment application "poses a very unique regulatory problem" because an industrial process that was subject to QA requirements particular to DOE facilities will now be "duplicated at a privately-owned industrial complex regulated by the NRC without those QA requirements." ECAN Reply at 26. ECAN challenges the NFS assertion in its June 2022 response to the NRC Staff's April 2022 RAI that for over twenty years NFS performed downblending operations safely. See id. at 26–27 (citing NFS RAI Response at 10). According to ECAN, a 2006 HEU spill at NFS resulted in the pooling of enough fissile material to have caused a criticality accident, for which NFS was cited with four violations. See id. at 27–28. Moreover, ECAN asserts, NFS was operating under the authority of several NRC Staff-approved license amendments that were assessed as having no significant environmental impacts. See id. ECAN ultimately ascribes this spill to inadequate

configuration control, change analysis, and design requirements that constituted serious QA problems. See id. at 28.

ECAN thus maintains that Contention D should be admitted "[d]espite insistences by the NRC Staff and NFS that ECAN is impermissibly challenging a regulation." Id. The real focus should be on "whether a facility that under other circumstances would be required by DOE regulations to have a process [QA] program should, based upon serious past violations, be disqualified from receiving a license to pursue a quality-deficient, inherently dangerous radiological process." Id.

d. Licensing Board Determination

ECAN's assertion that NFS "should not be authorized to process nuclear weapons material without strict [QA] requirements," ECAN Amended Hearing Petition at 38, does not account for the QA requirements in 10 C.F.R. § 74.59 that already are applicable to the NFS facility and, consequently, to the activities that would be authorized under the requested license amendment. ECAN's Contention D thus is a challenge to the validity or sufficiency of a Commission regulation.

Under 10 C.F.R. § 2.335, licensing boards may not entertain challenges to the validity of Commission regulations in individual licensing proceedings except in certain "special circumstances" in which a waiver is requested and found to be appropriate. Section 2.335(b) and Commission caselaw detail the prima facie showing that an intervenor must make to establish the requisite "special circumstances" so that a waiver may be granted.[64] If a licensing board determines that such a prima facie showing has been made, section 2.335(d) provides that the question whether the regulation should be waived must be certified to the Commission. Without a waiver determination by the Commission, a contention that challenges a rule is

[64] See Dominion Nuclear Conn., Inc. (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551, 559–60 (2005).

outside the scope of the proceeding and may not be given further consideration by a licensing board.[65]

ECAN did not include a petition for a waiver to impose requirements beyond the existing applicable Part 74 QA regulations. See 10 C.F.R. § 2.335(b). Contention D therefore is outside the scope of this proceeding. See 10 C.F.R. § 2.309(f)(1)(iii).

IV. CONCLUSION

For the reasons set forth above in section II.B, ECAN has provided an adequate showing to establish its representational standing in this license amendment proceeding regarding NFS's Erwin facility. For the reasons described in section III.B above, however, we find that under the applicable standards of 10 C.F.R. § 2.309(f)(1) ECAN has failed to establish the grounds for admitting any of its four contentions.[66]

Accordingly, ECAN's hearing request is denied.

For the foregoing reasons, it is this thirtieth day of January 2023, ORDERED, that:

1. The October 31, 2022 hearing request of petitioner Erwin Citizens Awareness Network, Inc. is denied and this proceeding is terminated.

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[65] See NextEra Energy Point Beach, LLC (Point Beach Nuclear Plant, Units 1 and 2), CLI-22-5, 95 NRC 97, 101, 105 (2022); see also 10 C.F.R. § 2.335(c).

[66] Regarding the outstanding December 9, 2022 NFS motion to strike a portion of ECAN's December 2, 2022 reply pleading regarding Contention C, see supra note 14, our conclusion in section III.B.3.d above that Contention C is not admissible, in conjunction with our denial of ECAN's hearing request, renders that NFS motion moot. The same is true with respect to the NFS request in connection with Contention C that the Board not consider Dr. Ketterer's declaration because it was late-filed without adequate justification. See supra note 46.

2. In accordance with the provisions of 10 C.F.R. § 2.311, as this memorandum and order rules upon an intervention petition, any appeal to the Commission from this memorandum and order must be taken within 25 days after this issuance is served.

THE ATOMIC SAFETY
AND LICENSING BOARD

/RA/

G. Paul Bollwerk, III, Chair
ADMINISTRATIVE JUDGE

/RA/

William J. Froehlich
ADMINISTRATIVE JUDGE

/RA/

Dr. Sue H. Abreu
ADMINISTRATIVE JUDGE

Rockville, Maryland

January 30, 2023

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
Nuclear Fuel Services, Inc.	)	Docket No. 70-143-LA
	)	
(Application to Amend Special Nuclear Materials License SNM-124)	)	
	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing **MEMORANDUM and ORDER (Denying Intervention Petition and Terminating Proceeding) (LBP-23-02)** have been served upon the following persons by Electronic Information Exchange.

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Office of the Secretary of the Commission

Dated at Rockville, Maryland,
this 30th day of January 2023.