PMFermiCOLPEm Resource

From: Lemont, Stephen
Sent: Monday, September 21, 2009 2:53 PM
To: Masnik, Michael; Hinson, Charles; Cicotte, George; Caverly, Jill; McBride, Mark; 'LaGory, Kirk E.'; John Hayse; 'skamboj@anl.gov'; 'jquinn@anl.gov'
Cc: FermiCOL Resource
Subject: REMINDER: IMPORTANT: Request to Review Fermi 3 RAIs for Admitted Contentions - DELIBERATIVE
Attachments: Fermi Contention Order.pdf; Preliminary Draft RAIs for Fermi 3 Contentions 090209.doc

Importance: High

To All NRC Staff: This is a reminder that I still need your written comments (preferably as tracked changes) on the subject attached RAIs by **Wednesday, September 23, 2009**. Please also let me know if you have no comments. See my email below for complete information and instructions.

To Charles Hinson and George Cicotte: Rich Emch reviewed the HH RAIs (Rad Health/Human Health) and had no comments. However, if you have comments, we would like to have them.

To Kirk LaGory and All Argonne Staff: Unless you have already done so, please proactively contact your NRC counterparts to discuss and finalize these RAIs.

To John Hayse: You also need to discuss with Mike Masnik your proposed approach(es) for obtaining the necessary information for Contention 6 if we cannot send the RAI.

Thanks,
Steve

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From: Lemont, Stephen
Sent: Friday, September 11, 2009 11:31 AM
To: Masnik, Michael; Emch, Richard; Hinson, Charles; Dehmel, Jean-Claude; Caverly, Jill; McBride, Mark; Doub, Peyton
Cc: Whited, Ryan; LaGory, Kirk E.; Hayse, John; Mohsen Khatib-Rahbar; Roy Karimi; skamboj@anl.gov; jquinn@anl.gov; Weeks, David A.; Olson, Bruce
Subject: IMPORTANT: Request to Review Fermi 3 RAIs for Admitted Contentions - DELIBERATIVE
Importance: High

PLEASE EXCUSE THE LENGTH OF THIS EMAIL, AND PLEASE REVIEW IT IN TOTAL.
THIS EMAIL DISCUSSES CRITICAL MATTERS FOR THE FERMI 3 ENVIRONMENTAL REVIEW , EIS, AND CONTENDED HEARING.

To All: As I believe you all know, parts of four of the 14 Fermi 3 contentions (#3, 5, 6 and 8) were admitted by the ASLB (the "Board"). The Board's Contention Order (the "Order") is attached for your reference.

Consequently, it now becomes imperative that we ensure that the issues from these admitted contentions are fully and thoroughly addressed in the DEIS (not that we shouldn't be doing the same, of course, for all other project issues). The main reasons for this are that 1) these issues will be the subjects of particularly intense scrutiny by the Board in the contended hearing(s); and 2) addressing these issues appropriately in the DEIS might give Detroit Edison a basis for requesting summary disposition of selected admitted contentions, to possibly remove them from consideration in any contended hearing(s).

In the attached Order, the Board indicates that Detroit Edison would need to provide certain additional information to address admitted contentions. The Fermi 3 Environmental Review Team needs that information ASAP in order to incorporate it into the DEIS. In my conversations with Detroit Edison on this matter, the response I received is that they don't believe it necessary to provide any of the information specified in the Order until the hearing(s). Even if Detroit Edison would voluntarily provide this information to us now, I would not want to leave what we think we need to their interpretation. Therefore, I have asked your contractor counterparts to prepare preliminary draft RAIs (see attached) to request the information specified in the Order plus any other information believed needed to fully address the admitted contention issues. Although some of the admitted contentions may be partially safety related, I believe that all four have components that must be addressed in the DEIS. Following our review and final approval through the concurrence process, these RAIs--in their final form--would be sent to Detroit Edison for response. To avoid schedule impacts, I need to get these RAIs to Detroit Edison ASAP with the hope of receiving their response no later than the end of calendar year 2009.

Please note that I ran this approach by Andy Kugler and he agreed that, for Fermi 3, this is a good way to go to get the needed additional information. I also ran this by Marcia Carpentier of OGC, who also concurred with this approach, with one exception regarding Contention 6 which is discussed below (for the benefit of Mike Masnik). OGC's response, with regard to sending RAIs for the other three admitted contentions, was:

> *"As we discussed earlier, RAIs concerning contentions 3, 5, and 8 should not be a problem. We agreed that contention 5 was admissible, and we are already waiting for information related to a safety side RAI that would cure the omission. In responding to contentions 3 and 8, we argued that the petitioners had failed to make their case rather than that the issues themselves were outside the scope of the NRC's licensing decision."*

I am now requesting that you please review and provide me with your comments on the attached preliminary draft RAIs for your respective review areas as listed below. Please discuss these with your contractor counterparts as necessary. **I need your written comments (preferably as tracked changes) by <u>Wednesday, September 23, 2009</u>.**

- Aquatic Ecology [Mike Masnik (NRC)/John Hayse (Argonne)] - Contention 6, RAI AE2.4.2-5
- Human Health/Rad Health [Rich Emch, Charles Hinson, Jean-Claude Dehmel (NRC)/Sunita Kamboj (Argonne)] - Contention 3, RAIs HH3.5-1, HH5.4.3-4, and HH5.4.3-5
- Hydrology [Jill Caverly, Mark McBride (NRC)/John Quinn (Argonne)] - Contention 5, HY2.3.1
- Terrestrial Ecology [Peyton Doub (NRC)/David Weeks (E&E)] - Contention 8, RAIs TE4.1-12, TE2.4.1-13, TE4.3.1-8, and TE4.3.1-9.

<u>To Mike Masnik</u>: OGC's position is that we cannot send RAIs for Contention 6, for reasons discussed in Marcia's response below:

> *"In the case of contention 6, however, we argued that the issue of effluent limitations (thermal and phosphorus) was covered by the Clean Water Act [CWA] NESHAPS program and not by NRC's licensing process. This limits our ability to issue RAIs that contradict that position and to claim that the information is now required for the NRC to do its environmental review. The Board rejected our argument."*

In response to the above, I told Marcia that we still need information to be able to fully address the Contention 6 issues in the DEIS, and asked her for recommendations for options we could follow to obtain this information. In that regard, she concluded her statement above with the following:

> *"However, I assume that the applicant will, at some point, assemble all the information required for CWA permitting and submit it to the relevant agency. Would the NRC normally get access to this information during the process of completing its EIS? I am not sure of the usual practice in these matters, so I wanted to ask you about that before going any further into the question of options."*

I have a call in to Randy Westmoreland to find out the status of Detroit Edison's preparation of such CWA permitting information; however, I currently believe that such information would not be available until long after the FEIS has been issued because Detroit Edison currently does not plan to construct the facility until long after the COL is granted. After I hear back from Randy, I will follow up with Marcia on options for how we can get the information for RAI AE2.2.2-5 if not through that RAI itself. I guess one option might be to have Argonne conduct the analysis requested in that RAI, although we might still need information from Detroit Edison to do that.

While I continue to coordinate with Randy and Marcia on this matter, please go ahead and review RAI AE2.4.2-5. Also, any thoughts you may have regarding OGC's position would be appreciated. I'll keep you posted on any developments.

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Please contact me if you have any questions or need additional information. I look forward to receiving your comments.

Thanks,
Steve

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Hearing Identifier: Fermi_COL_Public
Email Number: 609

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Sent Date: 9/21/2009 2:52:45 PM
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Recipients:
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Tracking Status: None
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Priority: High
Return Notification: No
Reply Requested: Yes
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LBP-09-16

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Ronald M. Spritzer, Chairman
Michael F. Kennedy
Randall J. Charbeneau

In the Matter of	Docket No. 52-033-COL
DETROIT EDISON COMPANY	ASLBP No. 09-880-05-COL-BD01
(Fermi Nuclear Power Plant, Unit 3)	July 31, 2009

MEMORADUM and ORDER
(Ruling on Hearing Requests)

I. Introduction

The Detroit Edison Company ("DTE" or "Applicant") has applied to the Nuclear Regulatory Commission (NRC) for a combined license (COL) under 10 C.F.R. Part 52 that would authorize DTE to construct and to operate a new boiling water reactor, designated Unit 3, employing the GE-Hitachi Economic Simplified Boiling Water Reactor (ESBWR)[1] on its existing Fermi nuclear facility site near Newport City in Monroe County, Michigan.[2] By hearing petition received March 9, 2009, Petitioners – Beyond Nuclear, Citizens for Alternatives to Chemical Contamination (CACC), Citizens Environmental Alliance of Southwestern Ontario (CEASO), Don't Waste Michigan (DWM), the Sierra Club, and numerous individuals ("Petitioners" or

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[1] The ESBWR design is the subject of an ongoing rulemaking proceeding under Docket No. 52-010. See General Electric Company; Notice of Acceptance of Application for Final Design Approval and Standard Design Certification of the ESBWR Standard Plant Design, 70 Fed. Reg. 73,311 (Dec. 9, 2005).

[2] Detroit Edison Company; Notice of Hearing, and Opportunity to Petition for Leave to Intervene and Order Imposing Procedures for Access to Sensitive Unclassified Non-Safeguards Information and Safeguards Information for Contention Preparation on a Combined License for Fermi 3, 74 Fed. Reg. 836 (Jan. 8, 2009).

"Beyond Nuclear et al.") – jointly seek to intervene and to challenge various aspects of the DTE COL application (COLA) and the NRC regulatory process for reviewing that application.

In this decision, we address the Petitioners' standing to intervene and the admissibility of the Petitioners' thirteen proffered contentions.[3] For the reasons set forth below, we find that all of the Petitioners have established standing to intervene in this proceeding. We further find that the Petitioners have advanced, in part, four admissible contentions, specifically contentions 3, 5, 6, and 8. The Petitioners have therefore met the necessary prerequisites for the Board to grant a hearing request.[4]

II. Background

Under the Part 52 licensing process that governs the DTE application for the Fermi Nuclear Power Plant Unit 3 ("Fermi Unit 3"), an entity may apply for a single license that authorizes both new reactor construction and operation. Specifically, Subpart C of Part 52 establishes procedures for the issuance of a combined construction permit and operating license for a nuclear power plant and the conduct of the hearing that is afforded for a COL. The COL is "essentially a construction permit which also requires consideration and resolution of many of the issues currently considered at the operating license stage."[5] The general requirements for the contents of a COLA are set forth in 10 C.F.R. §§ 52.79-52.80.

In addition, Subpart B of Part 52 allows a COL applicant to reference a certified reactor design for the facility it proposes to construct and operate. If a certified design is referenced in a COL proceeding, in the absence of a petition under 10 C.F.R. § 2.335 seeking a waiver, the Commission will treat the certified design as resolving all matters that could have been raised during the rulemaking process in which the certified design was reviewed and approved.

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[3] The Petitioners formerly withdrew Contention 10 during oral argument on May 5, 2009. See Tr. at 142.

[4] See 10 C.F.R. § 2.309(a), (f)(1).

[5] Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Reactors, 53 Fed. Reg. 32,060, 32,062 (Aug. 23, 1988).

DTE submitted a COLA to the NRC on September 18, 2008. The NRC accepted and docketed the application on November 25, 2008, and December 2, 2008, respectively. On January 8, 2009, the Commission published in the Federal Register a notice of hearing and opportunity to petition for leave to intervene on the COL application for Fermi 3.[6] The notice provided that any person whose interest would be affected by the proposed COL may file, in accordance with 10 C.F.R. § 2.309, a request for a hearing and petition for leave to intervene within 60 days of the notice. The notice also included an "Order Imposing Procedures for Access to Sensitive Unclassified Non-Safeguards Information [SUNSI] and Safeguards Information [SGI] for Contention Preparation."[7]

On March 9, 2009, the Petitioners timely filed a request for a Hearing and Petition to Intervene,[8] and on March 19, this Board was established to preside over the proceeding.[9] Timely answers were filed by the Applicant and the NRC Staff on April 3, 2009,[10] and a reply was received from the Petitioners on April 10, 2009.[11] Because the Petitioners' original petition

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[6] See 74 Fed. Reg. 836.

[7] See id. at 838.

[8] See Petition of Beyond Nuclear, Citizens for Alternatives to Chemical Contamination, Citizens Environmental Alliance of Southwestern Ontario, Don't Waste Michigan, Sierra Club, Keith Gunter, Edward McArdle, Henry Newman, Derek Coronado, Sandra Bihn, Harold L. Stokes, Michael J. Keegan, Richard Coronado, George Steinman, Marilyn R. Timmer, Leonard Mandeville, Frank Mantei, Marcee Meyers, and Shirley Steinman for Leave to Intervene in Combined Operating License Proceedings and Request for Adjudication Hearing (Mar. 9, 2009).

[9] See [DTE]; Establishment of Atomic Safety and Licensing Board, 74 Fed. Reg. 12,913 (Mar. 25, 2009).

[10] See Applicant's Answer to Petition to Intervene (Apr. 3, 2009) [hereinafter App. Ans.]; NRC Staff Answer to Petition of Beyond Nuclear, Citizens for Alternatives to Chemical Contamination, Citizens Environmental Alliance of Southwestern Ontario, Don't Waste Michigan, Sierra Club, Keith Gunter, Edward McArdle, Henry Newman, Derek Coronado, Sandra Bihn, Harold L. Stokes, Michael J. Keegan, Richard Coronado, George Steinman, Marilyn R. Timmer, Leonard Mandeville, Frank Mantei, Marcee Meyers, and Shirley Steinman for Leave to Intervene in Combined Operating License Proceedings and Request for Adjudication Hearing (Apr. 3, 2009) [hereinafter NRC Ans.].

[11] See Combined Reply of Petitioners Beyond Nuclear, Citizens for Alternatives to Chemical Contamination, Citizens Environmental Alliance of Southwestern Ontario, Don't Waste Michigan, Sierra Club, Keith Gunter, Edward McArdle, Henry Newman, Derek Coronado, Sandra Bihn, Harold L. Stokes, Michael J. Keegan, Richard Coronado, George Steinman, Marilyn R. Timmer, Leonard Mandeville, Frank Mantei, Marcee Meyers, and Shirley Steinman to

was submitted in five separate, unnumbered, documents, the Board ordered the Petitioners to submit a newly filed petition consolidated into one final document,[12] which was refiled on April 21, 2009.[13] The Board held a one-day prehearing conference in Monroe, Michigan, on May 5, 2009, during which it heard oral presentations from the participants on the issues of standing and the admissibility of their contentions.[14]

III. Standing of Petitioners to Participate in this Proceeding

A. Legal Requirements for Standing

A petitioner's participation in a licensing proceeding hinges on a demonstration of the requisite standing. This requirement is derived from Section 189a of the Atomic Energy Act of 1954 (AEA),[15] which instructs the NRC to provide a hearing "upon the request of any person whose interest may be affected by the proceeding."[16] The Commission's regulation implementing the standing requirement, 10 C.F.R. § 2.309(d), directs a licensing board to consider (1) the nature of the petitioner's right under the AEA or the National Environmental Policy Act (NEPA) to be made a party to the proceeding; (2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (3) the possible effect of any decision or order that may be issued in the proceeding on the petitioner's interest.[17] When assessing whether an individual or organization has set forth a sufficient interest, the

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NRC Staff and DTE Answers to Petition for Leave to Intervene (Apr. 10, 2009) [hereinafter Reply].

[12] See Licensing Board Order (Regarding Oral Argument) (Apr. 9, 2009) at 2.

[13] See REFILED Petition of Beyond Nuclear, et al., for Leave to Intervene in Combined Operating License Proceedings and Request for Adjudication Hearing (Apr. 21, 2009) [hereinafter Pet. and Cont.]. The Petitioners combined the multiple parts of their original petition into one filing. As directed by the Board, the Petitioners included a page numbering system that coincided with that used by the Staff and the Applicant in their answers to the Petition. The first eight pages of the filing constitute the Petition proper, which bears the signature of counsel, contains the standing argument, and incorporates the contentions by reference. The remaining pages in the filing are the Petitioners pleaded contentions. These two parts will be referred to herein as "Petition" and "Contentions," respectively.

[14] See Tr. at 1-196.

[15] 42 U.S.C. § 2011 et seq. (1954).

[16] Id. at § 2239(a)(1)(A).

[17] 10 C.F.R. § 2.309(d)(1)(ii)-(iv).

Commission has applied contemporaneous judicial concepts of standing, under which the petitioner must allege "a concrete and particularized injury that is fairly traceable to the challenged action and is likely to be redressed by a favorable decision."[18] In proceedings involving nuclear power reactors, the Commission has adopted a proximity presumption that allows a petitioner living within fifty miles of a nuclear power reactor to establish standing without the need to make an individualized showing of injury, causation, and redressability.[19] The proximity presumption applies to COL proceedings.[20]

When, as here, an organization petitions to intervene in a proceeding, it must demonstrate either organizational or representational standing. To demonstrate organizational standing, the petitioner must show "injury-in-fact" to the interests of the organization itself.[21] Where an organization seeks to establish representational standing, it must demonstrate that at least one of its members would be affected by the proceeding and identify that member by name and address. Moreover, the organization must show that the members would have standing to intervene in their own right, and that the identified members have authorized the organization to request a hearing on their behalf.[22] In addition, the interests that the

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[18] Cleveland Elec. Illuminating Co. (Perry Nuclear Power Plant, Unit 1), CLI-93-21, 38 NRC 87, 92 (1993) (citing Lujan v. Defenders of Wildlife, 504 U.S. 555, 561 (1992)); see also, e.g., Yankee Atomic Elec. Co. (Yankee Nuclear Power Station), CLI-98-21, 49 NRC 185, 195 (1998); Georgia Inst. of Tech. (Georgia Tech Research Reactor), CLI-95-12, 42 NRC 111, 115 (1995).

[19] See, e.g., Florida Power & Light Co. (St. Lucie Nuclear Power Plant, Units 1 and 2), CLI-89-21, 30 NRC 325, 329 (1989) ("living within a specific distance from the plant is enough to confer standing on an individual or group in proceedings for construction permits, operating licenses, or significant amendments thereto.").

[20] See Duke Energy Carolinas, LLC (Combined License Application for William States Lee III Nuclear Station, Units 1 and 2), LBP-08-17, 67 NRC __, __ (Sept. 22, 2008) (slip op. at 5); Tennessee Valley Auth. (Bellefonte Nuclear Power Plant Units 3 and 4), LBP-08-16, 67 NRC __, __ (Sep. 12, 2008) (slip op. at 8).

[21] See Shaw Areva MOX Servs. (Mixed Oxide Fuel Fabrication Facility), LBP-07-14, 66 NRC 169, 183 (2007).

[22] See id. Accord Sequoyah Fuels Corp. and Gen. Atomics (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 72 (1994) (citing Houston Lighting & Power Co. (Allens Creek Nuclear Generating Station, Unit 1), ALAB-535, 9 NRC 377, 389-400 (1979)) ("An organization seeking representational standing on behalf of its members may meet the 'injury-in-fact' requirement by demonstrating that at least one of its members, who has authorized the organization to represent his or her interest, will be injured by the possible outcome of the proceeding.").

representative organization seeks to protect must be germane to its own purpose, and neither the asserted claim nor the required relief must require an individual member to participate in the organization's legal action.[23]

B. Licensing Board's Ruling on Petitioners' Standing

Organizational Petitioners

For reasons set forth below, we conclude that the five organizational petitioners – Beyond Nuclear, CACC, Sierra Club, DWM, and CEASO -- have established representational standing to participate in this proceeding on behalf of one or more of their members. In addition, the individuals that have authorized the five organizational petitioners to represent them in this proceeding have established standing in their own right. The NRC Staff agrees that the Petitioners have standing. See NRC Ans. at 9-16. We are not persuaded by the Applicant's arguments to the contrary.

Beyond Nuclear, CACC, Sierra Club, DWM, and CEASO have each demonstrated that one or more of their members would have standing to intervene and have provided names and addresses for each of the identified members. All of the organizational petitioners represent at least one member living within 50 miles of the proposed new reactor.[24] Thus, under the 50-mile proximity presumption, the identified members could have brought this action on their own behalf. Further, the identified members have authorized Beyond Nuclear, CACC, Sierra Club, DWM, or CEASO to represent their interests in any licensing proceeding that concerns the safety and environmental impacts of Fermi Unit 3. The organizations have described their purposes, which are germane to the health, safety, and environmental interests asserted by their members. See Pet. at 2-4. Finally, neither the asserted claims nor the requested relief

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[23] Consumers Energy Co. (Palisades Nuclear Power Plant), CLI-07-18, 65 NRC 399, 409 (2007).

[24] The Petition includes affidavits from authorized officials of Beyond Nuclear, CACC, CEASO, and the Sierra Club, describing their interest in this proceeding. The Petitioners also provide member affidavits in support of representational standing for those organizations and for DWM. Seven other individuals also filed affidavits in support of the Petition.

requires an individual member to participate in this action. Therefore, Beyond Nuclear, CACC, Sierra Club, DWM, and CEASO have established representational standing.

Applicant's Challenge to the 50-mile Presumption

The Applicant asserts that none of the Petitioners demonstrate the requisite standing to intervene in this proceeding. See App. Ans. at 11. Principally, the Applicant argues that the Commission's 50-mile proximity presumption is "obsolete," and thus the Board "must assess the Petitioners' standing claims against contemporaneous standing principles rather than a rote 'proximity presumption.'"[25] It cites recent developments in judicial concepts of standing which it claims demonstrate that the proximity presumption is "outdated and should be abandoned." App. Ans. at 15.

The same argument was recently rejected by the licensing board in Calvert Cliffs. The board held that is was not at liberty to abandon the Commission's 50-mile proximity presumption. It also observed that the NRC's proximity presumption does not disregard contemporaneous judicial concepts of standing, as suggested by the Applicant, but rather the Commission applied its expertise to determine that persons living within a 50-mile radius of a nuclear reactor "face a realistic threat of harm if a release of radioactive material were to occur from the facility."[26] It is for this reason that the Commission has chosen not to require independent showings of injury, causation, and redressibility.[27] The non-trivial increased risk constitutes injury-in-fact, is traceable to the challenged action (the NRC's licensing of a new nuclear reactor), and is likely to be redressed by a favorable decision that either denies a license or mandates compliance with legal requirements that protect the interests of the

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[25] See App. Ans. at 16; see also id. at 11-18.

[26] Calvert Cliffs 3 Nuclear Project, LLC, and Unistar Nuclear Operating Serv., LLC (Combined License Application for Calvert Cliffs Unit 3), LBP-09-04, 69 NRC __, __ (slip op. at 12) (Mar. 24, 2009).

[27] See Calvert Cliffs, LBP-09-04, 69 NRC at __ (slip op. at 13) (citing St. Lucie, CLI-89-21, 30 NRC at 329; Florida Power & Light Co. (Turkey Point Nuclear Generating plant, Units 3 and 4), LBP-01-6, 53 NRC 138, 150 (2001)).

petitioners.[28] We reject the Applicant's argument here for the reasons given by the Calvert Cliffs board.

"Nexus" Between Standing and Contentions in NRC Proceedings

The Applicant asserts that the Petitioners' contentions are further limited "to those that will afford relief from the injuries asserted as a basis for standing." App. Ans. at 11. In Yankee Rowe the Commission ruled that "once a party demonstrates that it has standing to intervene on its own accord, that party may then raise any contention that, if proved, will afford the party relief from the injury it relies upon for standing."[29] The Commission recently confirmed that, rather than requiring a "nexus" between the claimed injury and the contention, "Yankee Rowe requires a nexus between the injury and the relief."[30] When the denial of a license would alleviate a petitioner's asserted potential injury, the Commission held that any admissible contention with such a result can be prosecuted by a petitioner, regardless of whether that contention is directly related to that petitioner's articulated injury.[31]

The Applicant cites this general principle of law but fails to explain in any detail how it should apply to any of the contentions in this case. App. Ans. at 9-11. We have no difficulty in concluding that the Petitioners' contentions, if proved, will afford them relief from the injuries they have relied upon for standing. Members of each of the five organizational Petitioners state that they are concerned that the construction and operation of Fermi Unit 3 might adversely affect their health and safety and the environment in which they live.[32] The safety-related contentions the Petitioners raise, if successful, will afford relief from the asserted injuries by requiring denial or modification of the license. The same principle also applies to the

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[28] Calvert Cliffs, LBP-09-04, 69 NRC at __ (slip op. at 13) (citing Lujan v. Defenders of Wildlife, 504 U.S. at 560-61).

[29] See Yankee Atomic Elec. Co. (Yankee Nuclear Power Station), CLI-96-1, 43 NRC 1, 6 (1996).

[30] Crow Butte Res., Inc. (License Renewal for In Situ Leach Facility, Crawford, Nebraska), CLI-09-09, 69 NRC __, __ (slip op. at 9-10) (May 18, 2009).

[31] Crow Butte Res., Inc., CLI-09-09, 69 NRC at __ (slip op. at 10).

[32] See, e.g., Declarations of Colan Keith Gunter, Edward McCardle, Harold L. Stokes, Derek Coronado, and Michael J. Keegan.

Petitioners' NEPA contentions. Because NEPA is a procedural statute, the Petitioners need not show that favorable rulings on their NEPA contentions will require denial of the license, but rather that favorable rulings will require that procedures intended for protection of their members' concrete interests will be observed.[33] Here, favorable rulings on the Petitioners' NEPA contentions would ensure that procedures are observed that require adequate analysis of potential impacts to their members' health and safety and to the environment where the members reside.[34] Thus, all of the Petitioners' contentions, if proved, will afford relief from the injuries relied upon for standing.

IV. Standards for Admissibility of Contentions

Regulatory Standards for Contention Admissibility

In order to participate as a party in this proceeding, a petitioner for intervention must not only establish standing, but must also proffer at least one admissible contention that meets the requirements of 10 C.F.R. § 2.309(f)(1).[35] An admissible contention must: (i) provide a specific statement of the legal or factual issue sought to be raised; (ii) provide a brief explanation of the basis for the contention; (iii) demonstrate that the issue raised is within the scope of the proceeding; (iv) demonstrate that the issue raised is material to the findings the NRC must make to support the action that is involved in the proceeding; (v) provide a concise statement of the alleged facts or expert opinions, including references to specific sources and documents, that support the petitioner's position and upon which the petitioner intends to rely at the hearing; and (vi) provide sufficient information to show that a genuine dispute exists in regard to a material issue of law or fact, including references to specific portions of the application that the

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[33] See Lujan v. Defenders of Wildlife, 504 U.S. at 573 n.7 ("Thus, under our case law, one living adjacent to the site for proposed construction of a federally licensed dam has standing to challenge the licensing agency's failure to prepare an environmental impact statement, even though he cannot establish with any certainty that the statement will cause the license to be withheld or altered, and even though the dam will not be completed for many years.").

[34] See Calvert Cliffs, LBP-09-04, 69 NRC at __ (slip op. at 18).

[35] See 10 C.F.R. § 2.309(a), (f)(1).

petitioner disputes, or, in the case when the application is alleged to be deficient, the identification of such deficiencies and supporting reasons for this belief.[36]

The purpose of Section 2.309(f)(1) is to "focus litigation on concrete issues and result in a clearer and more focused record for decision."[37] The Commission has stated that it "should not have to expend resources to support the hearing process unless there is an issue that is appropriate for, and susceptible to, resolution in an NRC hearing."[38] The Commission has emphasized that the rules on contention admissibility are "strict by design."[39] Further, contentions challenging applicable statutory requirements or Commission regulations are not admissible in agency adjudications. 10 C.F.R. § 2.335(a). Failure to comply with any of these requirements is grounds for not admitting a contention.

Several of the contentions we address below are contentions of omission. A contention of omission claims that "the application fails to contain information on a relevant matter as required by law . . . and [provides] the supporting reasons for the petitioner's belief."[40] To satisfy Section 2.309(f)(1)(i)-(ii), the contention of omission must describe the information that should have been included in the ER and provide the legal basis that requires the omitted information to be included. The petitioner must also demonstrate that the contention is within the scope of the proceeding. 10 C.F.R. § 2.309(f)(1)(iii).

Section 2.309(f)(1)(v) requires the petitioner to provide a concise statement of the alleged facts that support its position and upon which the petitioner intends to rely at the hearing. However, "the pleading requirements of 10 C.F.R. § 2.309(f)(1)(v), calling for a recitation of facts or expert opinion supporting the issue raised, are inapplicable to a contention

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[36] 10 C.F.R. § 2.309(f)(1).

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

[38] Id.

[39] See, e.g., Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Unit 2), CLI-03-14, 58 NRC 207, 213 (2003); Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358-59 (2001); Duke Energy Corp. (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 334-35 (1999).

[40] 10 C.F.R. § 2.309(f)(1)(vi).

of omission beyond identifying the regulatively required missing information."[41] Thus, for a contention of omission, the petitioner's burden is only to show the facts necessary to establish that the application omits information that should have been included. The facts relied on need not show that the facility cannot be safely operated, but only that the application is incomplete. If an applicant cures the omission, the contention will become moot.[42]

Finally, if the contention makes a prima facie allegation that the application omits information required by law, "it necessarily presents a genuine dispute with the Applicant on a material issue in compliance with 10 C.F.R. § 2.309(f)(1)(vi) [and] . . . raises an issue plainly material to an essential finding of regulatory compliance needed for license issuance"[43] in accordance with Section 2.309(f)(1)(iv).

V. Board Analysis and Rulings on Petitioners' Contentions

A. Contention 1

The Petitioners state in Contention 1:

> The Environmental Report is unacceptably deficient because it omits an adequate analysis of the significance of Fermi 3 environmental impacts and its contribution to cumulative and additive persistent toxic discharges into Lake Erie and the Great Lakes Basin from the nuclear industry.[44]

The Petitioners challenge the adequacy of the Applicant's analysis of cumulative environmental effects in its Environmental Report (ER). Cont. at 1. Specifically, the Petitioners contend that by analyzing the "small segment of western Lake Erie 'immediately adjacent to Fermi'" for its quantitative analysis of water impacts, the Applicant is unreasonably narrowing the significance determination of "the new reactor's cumulative and additive impact on health,

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[41] Virginia Elec. & Power Co. d/b/a/ Dominion Virginia Power and Old Dominion Elec. Coop. (Combined License Application for North Anna Unit 3), LBP-08-15, 68 NRC __, __ (slip op. at 27) (Aug. 15, 2008) (quoting Pa'ina Hawaii, LLC (Materials License Application), LBP-06-12, 63 NRC 403, 414 (2006)).

[42] North Anna, LBP-08-15, 68 NRC at __ (slip op. at 27); Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 383 (2002).

[43] Pa'ina, LBP-06-12, 63 NRC at 414.

[44] Cont. at 1.

safety and environment."[45] Instead, referencing the Council on Environmental Quality (CEQ) guidance regarding cumulative effects, the Petitioners assert that NEPA requires a review process that takes into consideration cumulative effects "on a regional scope," and therefore, the Applicant is required to consider the 33 reactors licensed to operate, and the up to 12 newly proposed reactor units, on the Great Lakes Basin.[46] Moreover, the Petitioners point to a U.S. Supreme Court decision holding that the environmental consequences of proposals being considered by an agency within a region must be considered together to determine the synergistic and cumulative environmental effects.[47] The Petitioners point out, while citing to several excerpts from the ER, that the Applicant considers only the cumulative and additive chemical and radiological impacts from the existing Fermi Unit 2 site, and fail to analyze how "persistent toxic chemical and radiological discharges" from this source and the proposed Fermi Unit 3 might cycle into a region beyond those waters immediately adjacent to the Fermi site. Cont. at 8.

In support of Contention 1, the Petitioners reference several sections of the ER (primarily Chapters 2 and 5) to note the Applicant's acknowledgement of the regional topography, the shallow nature of Lake Erie, and the interconnectedness of all the lakes in the Great Lakes Basin. Id. at 2-7. In addition, citations are provided to the International Joint Commission (IJC) on the Great Lakes to support the proposition that point source pollution remains a threat,[48] and the Petitioners contend their concerns with regard to point source pollution are heightened by

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[45] Cont. at 7; id. at 1.

[46] Cont. at 4. Of the 33 reactors, six units are in Michigan and Wisconsin along Lake Michigan; eight reactors are in Ontario, Canada along Lake Huron; three units are in Michigan and Ohio along Lake Erie; and four units are in New York along Lake Ontario, and twelve units are in Ontario, Canada along Lake Ontario. Id. at 4-5. The newly proposed reactors are equally dispersed among these three areas in the Great Lakes including the new reactor at issue in this proceeding. Of these sites, the units at Davis-Besse and Fermi Unit 2 are the only two units within 50 miles of the proposed Fermi Unit 3. Id. at 9.

[47] Cont. at 15 (citing Kleppe v. Sierra Club, 427 U.S. 390 (1976)).

[48] Cont. at 9. Canada and the United States created the International Joint Commission through recognition that actions affecting the Great Lakes and associated river systems concern both countries, and therefore an agreement is necessary to protect and manage these waters wisely. See id.; see also http://www.ijc.org/php/publications/html/invrep/index.html.

the use of the federal radiation protection standard of "Reference Man" to determine average lifetime exposure. Cont. at 13.

Both the Applicant and the Staff maintain that Contention 1 is not admissible because the Applicant's ER addresses cumulative impacts and the effects of other nuclear reactor activity in the region, and because this contention is not adequately supported with factual or expert support indicating that further analysis is necessary or would lead to any different conclusions.[49] The Applicant notes that the geographical area analyzed for cumulative impacts in the ER was supported by results of ongoing monitoring programs for Fermi Unit 2, which has indicated that the water discharged from this unit has not had a measurable water quality impact. App. Ans. at 20. Fermi Unit 3 operations are assumed in the COLA ER to have similar impacts to those from Unit 2, and the Applicant avers that the discharge water from the new facility is expected to scarcely affect Lake Erie because of the large volume of Lake Erie water. App. Ans. at 21. Moreover, the Applicant highlights that with respect to radiological effluents, "the ESBWR design is capable of being operated as a zero liquid effluent discharge facility," which is how the Applicant intends to operate the new facility. Id.

The Staff adds that the Applicant's radiological environmental monitoring program (REMP) supports the Applicant's reasoning for limiting the cumulative impacts analysis in the ER to the area immediately adjacent to the Fermi plant, and that the Petitioners have not asserted any inadequacies in this approach.[50] Moreover, the Staff maintains that the Petitioners have not provided alleged facts or expert opinion to support their claim that the nuclear power

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[49] NRC Ans. at 17; App. Ans. at 19-20.

[50] In its ER, the Applicant notes that "discharge of water from Fermi [Unit] 2 to Lake Erie has not had a measureable water quality impact, based on ongoing monitoring programs, and states that Fermi [Unit] 3 is expected to have impacts similar to those of Fermi [Unit] 2." NRC Ans. at 19 (citing Fermi: Combined License Application; Part 3, Environmental Report (Rev. 0) (Sept. 2008) [hereinafter ER] at 5-202).

plants in the Great Lakes region will have cumulative or synergistic environmental impacts with Fermi Unit 3.[51]

Discussion

In Contention 1, the Petitioners claim that the Applicant has "omitted any analysis in its [ER] that would provide reasonable assurance that there is or is not an anticipated cumulative and additive environmental impact on Lake Erie and the Great Lakes Basin from the proposed construction and operation of Fermi [Unit] 3." Cont. at 1. As set forth below, we agree with the arguments advanced by the Applicant and the Staff, and find Contention 1 inadmissible.

As noted by the Staff, Contention 1 is similar to a contention recently considered and rejected in the Calvert Cliffs COL proceeding.[52] In Calvert Cliffs, that licensing board found that, although the applicant's description of existing water quality conditions did not "separately evaluate the contributions of specific sources," it nonetheless formed "an environmental baseline against which to measure the cumulative impact of the proposed new reactor."[53] The Calvert Cliffs Board concluded that the environmental baseline reflected the effects of all currently existing pollution sources in the relevant watershed, including contributions of all nuclear power plants, and that the petitioners had failed to provide information indicating that this "aggregate" analysis was insufficient under NEPA.[54]

In its ER, the Applicant defines cumulative impacts consistent with 40 C.F.R. § 1508.7 and CEQ guidance as "the impact on the environment which results from the incremental impact

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[51] NRC Ans. at 20. The Staff notes that all but two of the Canadian plants mentioned by the Petitioners are located on the north shore of Lake Erie and are a considerable distance from the proposed Fermi Unit 3 location. Id. at 21. The closest operating plant is Davis-Besse, which the Petitioners argue falls within the 50-mile Emergency Planning Zone. Cont. at 8-9. The Staff notes that the Emergency Planning Zone is established based on safety considerations and is not intended for use as a boundary for assessing environmental impacts. NRC Ans. at 20 (citing 10 C.F.R. §§ 50.33(g), 50.47(c)(2)).

[52] Calvert Cliffs, LBP-09-04, 69 NRC at __ (slip op. at 40).

[53] Id. at __ (slip op. at 39-40).

[54] Id. at __ (slip op. at 40-43).

of the action when added to other past, present, and reasonably foreseeable future actions."[55] In Section 2.3, the ER presents a baseline analysis of water quality within the vicinity of the proposed Fermi Unit 3 location that is an integrated measure of discharges associated with past and present actions. The ER also presents data on hydrology and water use for the Great Lakes Basin. Although the discussion of water quality is limited to the site-specific area in the vicinity of proposed Fermi Unit 3, this limited region for the assessment is supported by the environmental baseline described in Chapter 2 of the ER, which accounts for conditions within Lake Erie and upstream, and the existing environmental monitoring program that shows no significant impacts from operation of Fermi Unit 2. Likewise, the water quality impacts assessment is supported by baseline conditions in addition to the cumulative effects of Fermi Unit 2. Such an analysis is consistent with CEQ NEPA guidance that "experience with and information about past direct and indirect effects of individual past actions may also be useful in illuminating or predicting the direct and indirect effects of a proposed action."[56]

Based on the foregoing review of the Applicant's analysis, we find that the cumulative impacts from water discharges to the Lake Erie environment have been considered in the ER, and that the resulting conclusions are not properly challenged by the Petitioners. The Petitioners fail to acknowledge the discussion of cumulative impacts in ER Section 4.7 (construction) and Section 5.11 (operations), and they do not dispute the conclusions drawn from this analysis. The Petitioners provide no analysis to suggest that extending the ER to include proposed additional nuclear facilities within the basin, but not in proximity to proposed Fermi Unit 3, would change any of the Applicant's conclusions documented in its ER.

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[55] ER at 5-197.

[56] President's Council on Environmental Quality, Guidance on the Consideration of Past Actions in Cumulative Effects Analysis at 2 (June 24, 2005) [hereinafter CEQ Guidance]; see also 40 C.F.R. § 1508.7.

In addition to providing citations to NEPA and the CEQ guidelines, the Petitioners cite only to the IJC "Inventory of Radionuclides for the Great Lakes"[57] in support of this contention. However, this IJC report is merely a general assessment of radioactivity within waters of the Great Lakes Basin. This report does not address specific issues with regard to the proposed Fermi Unit 3, and it does not provide any support for the Petitioners assertions needed to advance an admissible contention. See 10 C.F.R. § 2.309 (f)(1)(v).

Finally, the Petitioners argue that the Applicant does not address that tritium appears in both the ESBWR design control document (DCD) and the IJC report as one of the isotopes that requires further specific analysis. Reply at 13. However, tritium is a radionuclide that is in fact considered in the ER's radiological assessment based on estimated release rates reported in the ESBWR DCD. The Petitioners have not challenged the results presented therein; as such, the Petitioners have failed to demonstrate a genuine dispute with the Applicant on a material issue of fact or law. See 10 C.F.R. § 2.309(f)(1)(vi).

Based on the foregoing, the Board finds Contention 1 inadmissible.

B. Contention 2

The Petitioners state in Contention 2:

> There is no technical basis for a finding of 'reasonable confidence' that spent fuel can and will be safely disposed of at some time in the future.[58]

This contention concerns the Commission's ongoing proceedings in which it is revisiting the question whether high-level radioactive waste produced by nuclear power plants can be safely stored onsite past the expiration of existing facility licenses until offsite disposal or storage is available. In 1984 and again in 1990 and 1999, the Commission conducted so-called waste confidence proceedings.[59] In those proceedings, the Commission made or updated several findings that were the basis for generic determinations embodied in 10 C.F.R.

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[57] Inventory of Radionuclides for the Great Lakes, Nuclear Task Force, International Joint Commission, December 1997.

[58] Cont. at 17.

[59] See Waste Confidence Decision Update, 73 Fed. Reg. 59,551, 59,552-53 (Oct. 9, 2008).

§ 51.23(a). The first of these generic determinations was that, for at least thirty years beyond the expiration of reactor operating licenses, no significant environmental impact would result from spent nuclear fuel (SNF) storage in reactor storage pools or independent spent fuel storage installations (ISFSIs) located at reactor or away-from-reactor sites.[60] The second generic determination was the Commission's finding that "there is reasonable assurance that at least one mined geologic repository will be available within the first quarter of the twenty-first century, and sufficient repository capacity will be available within 30 years beyond the licensed life for operation of any reactor to dispose of the commercial [high-level waste and spent nuclear fuel] originating in such reactor and generated up to that time."[61] Last fall, the Commission issued a proposed update to its 1999 Waste Confidence Decision (WCD),[62] and a related proposed rule entitled "Consideration of Environmental Impacts of Temporary Storage of Spent Fuel After Cessation of Reactor Operation."[63]

The Petitioners assert that, through Contention 2, they seek to enforce the NRC's commitment that it would "not continue to license reactors if it did not have reasonable confidence that the wastes can and will in due course be disposed of safely."[64] The Petitioners claim the NRC has "no technical basis for a finding of reasonable confidence that spent fuel can and will be safely disposed of at some time in the future." Cont. at 31-32. The Petitioners contend that neither the WCD nor the Proposed Storage Rule satisfies the requirements of NEPA or the AEA, and therefore "the NRC has no lawful basis to issue a license for the proposed Fermi [Unit] 3 nuclear power plant." Id. at 31.

The Petitioners recognize that the issues in this contention are "generic in nature," and they therefore "do not seek to litigate them in this individual proceeding." Id. The Petitioners instead request the Board to admit the contention and hold it in abeyance "in order to avoid the

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[60] See id.

[61] Id. at 59,553.

[62] Id.

[63] 73 Fed. Reg. 59,547 (Oct. 9, 2008) [Proposed Storage Rule].

[64] Cont. at 29 (citing Proposed Waste Confidence Decision, 73 Fed. Reg. at 59,552).

necessity of a premature judicial appeal if this case should conclude before the NRC has completed the rulemaking proceeding." Id. Recognizing that the Board might not have the jurisdiction to rule on a contention challenging a rule, the Petitioners request alternatively that this Board refer the contention to the Commission. Id.

Both the Applicant and the Staff respond that Contention 2 is an impermissible attack on Commission regulations and seeks to address issues that are the subject of ongoing rulemaking.[65] The Staff further adds that the Petitioners have not cited any legal basis for holding this contention in abeyance and that the proper venue for litigation of such issues is the rulemaking process. NRC Ans. at 27. Moreover, the Applicant and the Staff maintain that, to hold a contention in abeyance, a board must first find the contention admissible, which in this instance the Board cannot because the Petitioners do not "inherently . . . demonstrate a dispute with the Applicant," but instead dispute the WCD and the Temporary Storage Rule.[66] Further, the Applicant asserts that "issues that are subject of pending rulemaking cannot form the basis for an admissible contention." App. Ans. at 24-25.

Discussion

We agree that this Contention is not admissible because it challenges a pending NRC policy review and rulemaking. Various other licensing boards have rejected similar contentions because they challenged the ongoing agency policy review and rulemaking concerning the storage and eventual disposal of spent nuclear fuel.[67] As the Bellefonte Board explained:

> a contention that attacks a Commission rule, or that seeks to litigate a matter that is, or clearly is about to become, the subject of a rulemaking, is inadmissible. This includes contentions that advocate stricter requirements than agency rules impose or that otherwise seek to litigate a generic determination established by a Commission rulemaking. By the same token, a challenge footed in the

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[65] NRC Ans. at 25; App. Ans. at 24.

[66] NRC Ans. at 28, 31; App. Ans. at 26.

[67] See Licensing Board Memorandum and Order (Unistar Nuclear Operating Servs. (Calvert Cliffs Unit 3)) (June 9, 2009) (unpublished); Licensing Board Memorandum and Order (Virginia Elec. & Power Co. (North Anna Unit 3)) (June 2, 2009) (unpublished); Licensing Board Memorandum and Order (Tennessee Valley Auth. (Bellefonte Nuclear Power Plant Units 3 and 4)) (Apr. 29, 2009) at 12 (unpublished).

> petitioner's views about what regulatory policy should be does not present a litigable issue. Given that the proposed update to the Commission's waste confidence decision and the proposed revision of the waste confidence rule are the subjects of an ongoing Commission policy review and an associated rulemaking, we find that [the proposed new contention] does not present a matter appropriate for adjudication before this Licensing Board.[68]

We find Contention 2 inadmissible for the same reasons stated by the Bellefonte Board. "If Petitioners are dissatisfied with [the Commission's] generic approach to the problem, their remedy lies in the rulemaking process, not in this adjudication."[69]

The Petitioners ask that Contention 2 be "admitted and held in abeyance in order to avoid the necessity of a premature judicial appeal if this case should conclude before the NRC has completed the rulemaking proceeding." Cont. at 31. The reasoning underlying the Petitioners' concern that they might be required to file a premature judicial appeal is unclear, but in any event we know of no legal basis upon which to admit an otherwise inadmissible contention in order to avoid the perceived need to file such an appeal. We also do not accept the Petitioners' request to refer the issue to the Commission if we determine that we lack the authority to admit Contention 2 because it presents a challenge to a generic rule. Id. The standard for such a referral is not met because our ruling on this matter does not raise "significant and novel legal or policy issues," the resolution of which "would materially advance the orderly disposition of the proceeding."[70]

We therefore find Contention 2 inadmissible.

C. Contention 3

The Petitioners state in Contention 3:

> The COLA violates NEPA by failing to address the environmental impacts of the 'low-level' radioactive waste that it will generate in the absence of licensed disposal facilities or capability to isolate the radioactive waste from the environment.[71]

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[68] Tennessee Valley Authority (Bellefonte Nuclear Power Plant Units 3 and 4) (Ruling on Request to Admit New Contention) at 12 (Apr. 29, 2009) (unpublished).

[69] Oconee, CLI-99-11, 49 NRC at 345.

[70] 10 C.F.R. § 2.341(f)(1).

[71] Cont. at 37.

The Petitioners contend that the issue of long-term radioactive waste management and disposal of low-level radioactive waste (LLRW) that would be generated at Fermi Unit 3 is not adequately addressed in the ER. Cont. at 37-44. The ER, the Petitioners note, presumes that LLRW from the new facility will be disposed of offsite.[72] The Petitioners explain that in reality there are no facilities in the United States currently licensed and able to accept Class B, C, and greater-than-Class-C waste from Michigan for disposal.[73] Thus, the Petitioners contend, the LLRW will remain onsite indefinitely. Therefore, the Applicant must address the environmental impacts of leaving these wastes onsite. Cont. at 40. The Petitioners also argue that the Applicant must take into account the likelihood that the need for onsite disposal of LLRW will increase the decommissioning cost estimate. Id. at 40-41.

Citing recent licensing board rulings on similar contentions, the Applicant notes that the disposal of greater-than-Class-C waste is not directly affected by the closure of the Barnwell disposal facility because it is the responsibility of the federal government; thus, the aspects of this contention related to greater-than-Class-C waste are inadmissible. App. Ans. at 27-28. The Applicant argues that the Petitioners' assumption that the lack of a licensed disposal site for Class B and C waste means the waste will remain onsite indefinitely is incorrect. Id. at 28. The Applicant maintains there is a "foreseeable disposition path for removing Class B and C wastes from the Fermi [Unit] 3 site." Id. at 28. Moreover, the Applicant asserts that this contention constitutes an impermissible attack on Table S-3 of 10 C.F.R. § 51.51. Id. at 29-30. The Applicant also argues that the Petitioners provide no factual, expert, or other support to show that long-term onsite storage of LLRW would pose any significant safety or security risk that

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[72] Cont. at 37 (citing ER, Rev. 0, p. 5-146).

[73] Cont. at 37-39. The Petitioners note that the only operating disposal sites that presently accept Class B and C waste are in Richland, Washington, and Barnwell, South Carolina. However, neither of these facilities accepts LLRW from outside the northwest, Rocky Mountain, and Atlantic LLRW compacts. The recently-licensed site in Andrews County, Texas, if opened, will only accept waste from Texas and Vermont, which are members of a prearranged compact. Id. at 39.

needs to be addressed in the COLA.[74] Citing recent Commission precedent, the Applicant states that power reactor licensees have safely stored and managed LLRW under NRC oversight for years without the development of immediate safety problems or concerns.[75]

The Staff disputes the Petitioners' characterization of Contention 3 as a contention of omission. The Staff argues that the contention "challenges the adequacy of the ER's treatment of the environmental effects of LLRW management at the Fermi [Unit] 3 site," and that greater factual support is required for such a contention than the Petitioners have provided. NRC Ans. at 32-34. The Staff also argues that, to the extent the contention is a challenge to 10 C.F.R. § 51.51 and to the effluent quantities listed in Table S-3, it is barred by 10 C.F.R. § 2.335(a). Id. at 37. The Staff further contends that "[t]o the extent that Contention 3 is intended to present arguments related to the type of 'site- and design-specific' impacts of on-site LLRW storage that the Commission has recently found to be appropriate for resolution in adjudicatory proceedings, the Petitioners have failed to proffer a 'properly framed and supported' contention as required."[76]

Discussion

Contentions concerning the management of LLRW have recently been addressed by other licensing boards[77] and the Commission.[78] Consistent with those rulings, we agree with the Applicant and the Staff that the contention is inadmissible insofar as it concerns greater-than-Class-C waste, seeks to require a change to the decommissioning cost estimate, or constitutes a challenge to Table S-3 of 10 C.F.R. § 51.51. Nevertheless, we have narrowed the

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[74] App. Ans. at 30.

[75] Id. (citing Tennessee Valley Authority (Bellefonte Nuclear Power Plant, Units 3 and 4), CLI-09-03, 69 NRC __, __ (slip op. at 11 n. 3) (Feb. 17, 2009).

[76] NRC Ans. at 37 (citing Bellefonte, CLI-09-03, 69 NRC at __ (slip op. at 11)) (emphasis in Staff Answer).

[77] See Calvert Cliffs, LBP-09-04, 69 NRC at __ (slip op. at 62-76); Southern Nuclear Operating Co. (Vogtle Electric Generating Plant, Units 3 and 4), LBP-09-03, 69 NRC __, __ (slip op. at 20-27) (Mar. 5, 2009); North Anna, LBP-08-15, 68 NRC at __ (slip op. at 21-32); Progress Energy Florida, Inc. (Combined License Application for Levy County Nuclear Power Plant, Units 1 and 2), LBP-09-10, 70 NRC __,__ (slip op. at 72-78) (July 8, 2009).

[78] Southern Nuclear Operating Co. (Vogtle Electric Generating Plant, Units 3 and 4), CLI-09-16, 70 NRC __,__ (July 31, 2009); Bellefonte, CLI-09-03, 69 NRC at __ (slip op. at 11).

Petitioners' LLRW allegations to a specific NEPA contention that meets the admissibility criteria of 10 C.F.R. § 2.309(f)(1) and that does not conflict with NRC regulations. Other boards have also narrowed LLRW contentions in a similar manner.[79] We admit the contention as so narrowed.

1. Inadmissible aspects of Contention 3

We agree with the Staff and the Applicant that Contention 3 should be construed as a NEPA Contention. It alleges a NEPA violation based on the Applicant's failure to explain in the ER how it will safely manage LLRW from Fermi Unit 3 in the absence of a permanent disposal facility. The Petition refers to safety and security issues only in the context of discussing the environmental effects that must be evaluated under NEPA. Cont. at 40. The Petition fails to identify any NRC safety regulations requiring that the COLA be supplemented with additional information concerning LLRW management. Only in their reply brief did the Petitioners claim that Contention 3 includes a separate safety contention and provide citations to NRC safety regulations that they claim require the Applicant to provide updated information concerning LLRW management. But "a reply cannot expand the scope of the arguments set forth in the original hearing request."[80] Accordingly, we will analyze Contention 3 solely as a NEPA contention.

In addition, as other boards have concluded, only the management of Class B and Class C wastes is properly the subject of a contention such as this.[81] Contention 3 is founded upon the fact that the only operating disposal facilities for Class B and C waste are located in Richland, Washington, and Barnwell, South Carolina, and neither of those facilities currently accepts LLRW from Michigan reactors. That undisputed fact, however, is not relevant to the disposal of greater-than-Class-C waste because the disposal of that category of waste is, by

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[79] See Calvert Cliffs, LBP-09-04, 69 NRC at __ (slip op. at 62); Levy County, LBP-09-10, 70 NRC at __ (slip op. at 72).

[80] Crow Butte Resources, Inc. (North Trend Expansion Area), CLI-09-12, 69 NRC __, __ (June 25, 2009) (slip op. at 44).

[81] See Calvert Cliffs, LBP-09-04, 69 NRC at __ (slip op. at 62); North Anna, LBP-08-15, 68 NRC at __ (slip op. at 21 n. 86).

statute, the responsibility of the federal government.[82] The Petitioners have not provided facts to support a contention that the United States will fail in its responsibility to provide for the disposal of greater-than-Class-C waste. 10 C.F.R. § 2.309(f)(1)(v).

We also deem too speculative the Petitioners' allegation that the decommissioning cost estimate is inadequate because the Applicant may someday need to dispose of LLRW onsite. Cont. at 41. The Petitioners suggest that the COLA must take into account the increased decommissioning costs that might result from the need to store or permanently dispose of LLRW at the Fermi Unit 3 site after the nuclear power plant ceases operation. But the decommissioning of the facility, the construction of which has not even begun, is most likely decades in the future. Arguments premised on the prediction that someday the Fermi Unit 3 site will become a permanent storage or disposal facility for LLRW are "too speculative at present and . . . therefore not 'material to the findings the NRC must make to support the action that is involved in' the present proceeding."[83]

In addition, we agree with the Applicant that the portion of this contention disputing the cost estimate for decommissioning is an indirect challenge to 10 C.F.R. § 50.75(c). App. Ans. at 31-32. The Applicant developed the cost estimate using the formula required by the regulation, which includes, among other things, an escalation factor for waste burial. The Petitioners do not claim that the Applicant used the formula incorrectly. Rather, they appear to argue that the cost estimate should be increased above the estimate developed pursuant to the regulation because of the alleged need to permanently store or dispose of LLRW onsite during decommissioning. See Cont. at 41. When a Commission regulation permits the use of a particular analysis, a

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[82] 42 U.S.C. § 2021c(b)(1)(D). See North Anna, LBP-08-15, 68 NRC at ____ (slip op. at 21 n.86).

[83] North Anna, LBP-08-15 68 NRC at __ (slip op. at 26) (quoting 10 C.F.R. § 2.309(f)(1)(iv)). See also Calvert Cliffs, LBP-09-04, 69 NRC at __ (slip op. at 64).

contention asserting that a different analysis or technique should be utilized is inadmissible because it indirectly attacks the Commission's regulations.[84]

NEPA issues related to the environmental consequences of the permanent disposal of Class B and C wastes are not properly before us. The Commission held that a licensing board may not admit a contention that directly or indirectly challenges Table S-3 of 10 C.F.R. § 51.51.[85] The Commission explained that "Table S-3 assumes that solid, low-level waste from reactors will be disposed of through shallow land burial, and concludes that this kind of disposal will not result in the release of any 'significant effluent to the environment.'"[86] We may not admit a contention that directly or indirectly challenges that assumption or conclusion. Thus, the Applicant must rely upon Table S-3 to evaluate the environmental consequences of the permanent disposal of LLRW from Fermi Unit 3, as it did, and we may not require it to reexamine issues resolved by Table S-3.

The Commission also stated, however, that "we do not rule out that, in a future COL proceeding, a petitioner could proffer an application-specific contention suitable for litigation on the subject of onsite storage of low-level radioactive waste."[87] The Commission further concluded that "[t]he questions of the safety and environmental impacts of onsite low-level waste storage are, in our view, largely site- and design-specific, and appropriately decided in an individual licensing proceeding, provided that litigants proffer properly framed and supported contentions."[88] In addition, the Commission observed that, even if it had chosen to promulgate a "low-level waste confidence" rule, such a rule would not, if it followed the pattern of the high-level waste confidence rule, "alter any requirements to consider in the adjudicatory proceeding

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[84] Metropolitan Edison Co. (Three Mile Island Nuclear station, Unit No. 1), LBP-83-76, 18 NRC 1266, 1273 (1983).

[85] Bellefonte, CLI-09-03, 69 NRC at __ (slip op. at 9).

[86] Id. at __ (slip op. at 8 n.30).

[87] Id. at __ (slip op. at 11 n.42).

[88] Id. at __ (slip op. at 11) (emphasis in original).

the environmental impacts of waste storage during the term of the license."[89] Also, "Table S-3 does not include health effects from the effluents described in the Table," and that issue, as well as others specifically noted, "may be the subject of litigation in the individual licensing proceedings."[90]

2. Reformulated Contention 3

Contention 3 is not limited to the environmental consequences of the disposal of LLRW. The contention also concerns the environmental and health effects of extended onsite storage of LLRW. We conclude for the reasons just explained that we may, without creating a conflict with Table S-3, admit an application-specific contention concerning the environmental and public health consequences of the need for extended onsite storage of LLRW, assuming that contention satisfies the requirements of 10 C.F.R. § 2.309(f)(1). Contention 3 raises such an issue, although it also raises other issues described above that we do not find admissible.

Boards may reformulate contentions to "eliminate extraneous issues or to consolidate issues for a more efficient proceeding."[91] The Board has therefore reformulated Contention 3 as follows:

> The ER for Fermi Unit 3 is deficient in discussing the Applicant's plans for management of Class B and C wastes. The ER assumes the existence of an offsite disposal facility for those wastes. In light of the current lack of a licensed offsite disposal facility, however, and the uncertainty whether a new disposal facility will become available during the license term, the ER must either describe the Applicant's plan for storing Class B and C wastes onsite during the license term and the environmental consequences of such extended onsite storage, or show that the Applicant has a plan for managing the wastes that does not require an offsite disposal facility or extended onsite storage.

The narrowed contention is a contention of omission based on the Applicant's failure to acknowledge in the ER that it lacks an offsite disposal facility and to either explain its plan for

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[89] Id. at __ (slip op. at 11-12).

[90] 10 C.F.R. § 51.51(b), n.1 to Table S-3.

[91] Crow Butte, CLI-09-12, 69 NRC at ____ (slip op. at 22) (June 25, 2009) (quoting Shaw Areva MOX Services (Mixed Oxide Fuel Fabrication Facility), LBP-08-11, 67 NRC 460, 482 (2008) (emphasis omitted)); Pennsylvania Power & Light Co. (Susquehanna Steam Electric Station, Units 1 and 2), LBP-79-6, 9 NRC 291, 295-96 (1979).

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storing such wastes onsite during the license term, or show that it has some alternative means of managing the wastes that will not require either an offsite disposal facility or extended onsite storage. The narrowed contention is site- and design-specific and concerns only extended onsite storage, not permanent disposal, of Class B and C wastes. It challenges neither the assumption of Table S-3 that low-level waste from reactors will eventually be disposed of through shallow land burial, nor its conclusion that this kind of disposal will not result in the release of any significant effluent to the environment.

2. Analysis of Reformulated Contention 3 under 10 C.F.R. § 2.309(f)(1)

a. Statement of the issue, basis of the contention, and scope of the proceeding

Reformulated contention 3 satisfies the contention admissibility standards of 10 C.F.R. § 2.309(f)(1). The first such standard requires that a petitioner provide a specific statement of the legal or factual issue sought to be raised.[92] In North Anna, the Board found that a contention of omission like the one at issue here satisfied Section 2.309(f)(1)(i) by alleging that the Applicant should have explained its current plan for the management of LLRW, given the lack of an offsite disposal facility, and the potential environmental impact of retaining LLRW at the reactor site for an extended period.[93] Reformulated Contention 3 requires that DTE provide the same information or show that extended onsite storage is unnecessary because the waste will be shipped offsite for storage at another licensed facility.

The Petitioners have also provided a brief explanation of the basis of Contention 3. They explain that the ER incorrectly assumes that Fermi Unit 3 will have access to a permanent LLRW disposal facility, that in the absence of such a disposal facility the Applicant's LLRW is likely to remain onsite for an extended period, and that the ER fails to explain how the waste will be stored onsite for an extended period and the environmental consequences of extended onsite storage. Cont. at 38-40, 42-43. The Petitioners have adequately identified the legal basis of the contention by alleging that such explanation is required by NEPA (and implicitly by

[92] 10 C.F.R. § 2.309(f)(1)(i).

[93] North Anna, LBP-08-15, 68 NRC at __ (slip op. at 20-22).

10 C.F.R. Part 51). Id. at 37, 40. Accordingly, the Petitioners have satisfied the requirements of 10 C.F.R. § 2.309(f)(1)(ii).[94]

Contention 3 is within the scope of this proceeding,[95] as required by Section 2.309(f)(1)(iii). The Notice of Hearing and Opportunity to Petition for Leave to Intervene for this proceeding explained that the Licensing Board would consider the Application under Part 52 for a COL for Fermi Unit 3. Contention 3 challenges the legal sufficiency of the ER for Fermi Unit 3 and is therefore within the scope of the proceeding.[96]

b. Materiality

Contention 3 is material to compliance with NEPA and the NRC's regulations implementing NEPA, and it therefore satisfies the requirement of Section 2.309(f)(1)(iv).[97] NEPA requires that an EIS provide a detailed statement concerning among other things, "the environmental impact of the proposed action," "any adverse environmental effects which cannot be avoided should the proposal be implemented," and "any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented."[98] The NRC regulations governing preparation of the ER require that it discuss the same subjects.[99] In addition, the NRC regulations provide that the information submitted in the ER pursuant to these requirements "should not be confined to information supporting the proposed action but should also include adverse information."[100] In substance, Contention 3 alleges that the discussion of LLRW management in the ER does not reflect current conditions but rather those that existed when Michigan reactors could ship LLRW to an offsite disposal facility, and therefore the ER fails to accurately describe the proposed action and its impact on

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[94] North Anna, LBP-08-15, 68 NRC at __ (slip op. at 22-23); Pa'ina, LBP-06-12, 63 NRC at 414.

[95] See 73 Fed. Reg. 55,876 (Sept. 26, 2008).

[96] See North Anna, LBP-08-15, 68 NRC at__ (slip op. at 23); Pa'ina, LBP-06-12, 63 NRC at 414.

[97] See 10 C.F.R. Part 51.

[98] 42 U.S.C. § 4332(C)(i), (ii), (v).

[99] 10 C.F.R. § 51.45(b)(1), (2), (5).

[100] Id. § 51.45(e).

the environment. Contention 3 thus alleges omissions from the analysis required by NEPA and 10 C.F.R. § 51.45(b) and (e). Accordingly, it is material to the ER's compliance with the NRC's Part 51 regulations and to the Agency's compliance with NEPA.

According to the Applicant, the "Petitioners cite no regulatory requirement that Detroit Edison must provide a 'feasible plan' for dispositioning [LLRW] in the ER." App. Ans. at 31. It is true that Part 51 does not expressly mandate that the ER describe the applicant's plan for the management of LLRW, although Sections 51.45(b)(1) and (2) imply that it must do so since an understanding of mitigation measures is necessary to evaluate the proposed action's impact on the environment and any adverse environmental effects which cannot be avoided.

Even if the text of Part 51 does not conclusively resolve the question, we may resort to case law and regulations construing the NEPA requirements for the EIS that correspond to the requirements Section 51.45(b) imposes upon the ER.[101] In Robertson v. Methow Valley Citizens Council, the Supreme Court construed NEPA Section 102(C)(ii), which requires that an EIS disclose "any adverse environmental effects which cannot be avoided should the proposal be implemented," to implicitly require that the EIS disclose mitigation measures:

> [O]ne important ingredient of an EIS is the discussion of steps that can be taken to mitigate adverse environmental consequences. The requirement that an EIS contain a detailed discussion of possible mitigation measures flows both from the language of [NEPA] and, more expressly, from CEQ's implementing regulations. Implicit in NEPA's demand that an agency prepare a detailed statement on "any adverse environmental effects which cannot be avoided should the proposal be implemented," 42 U.S.C. § 4332(C)(ii), is an understanding that the EIS will discuss the extent to which adverse effects can be avoided. . . . More generally, omission of a reasonably complete discussion of possible mitigation measures would undermine the "action-forcing" function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects.[102]

Section 51.45(b)(2) requires that the ER discuss "[a]ny adverse environmental effects which cannot be avoided should the proposal be implemented," the same subject that NEPA Section 102(2)(C)(ii) requires be covered in the EIS. Because the NRC regulation repeats verbatim the

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[101] Calvert Cliffs, LBP-09-04, 69 NRC at __ (slip op. at 68). See also infra at 30.

[102] 490 U.S. 332, 351-352 (1989) (citations and footnotes omitted).

NEPA language that the Supreme Court construed to require "a detailed discussion of possible mitigation measures," and because the analysis in the ER is the foundation upon which the Agency's EIS will be prepared, the ER should also discuss the measures the Applicant intends to use to mitigate adverse environmental consequences. If it did not, it would not provide the Staff with the information it needs to prepare the EIS in compliance with NEPA.

Ordinarily this would be the end of the materiality analysis. However, the licensing board in the Levy County COL proceeding recently suggested that NEPA has only a limited role to play in interpreting Part 51's requirements for the ER.[103] Although it did not directly address the question presented here, that Board's analysis could be viewed as inconsistent with our ruling that NEPA Section 102(2)(C)(ii), as interpreted by the Supreme Court, provides relevant guidance for interpreting the equivalent provision in Section 51.45(b)(2). We will therefore explain our view of the role NEPA plays in interpreting Part 51's requirements for the ER in greater detail than might otherwise be necessary.

We agree with the Levy County Board that NEPA applies to federal agencies, not permit applicants; that the requirements directly applicable to the ER are set forth in 10 C.F.R. Part 51, not NEPA; and that the ER is not identical to the EIS. The Commission could decide, consistently with NEPA, not to require an ER, or it could eliminate from the ER any obligation to discuss subjects the agency must address in the EIS. We also recognize that, to the extent the NRC's Part 51 regulations are unambiguous, the regulations must be enforced according to

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[103] Levy County, LBP-09-10, 70 NRC at __ (slip op. at 26-28). In many respects, we are in agreement with the Levy County Board's rulings. That Board reached a conclusion much like ours regarding the LLRW contention in that case. Id. at __ (slip op. at 75-78). In the section of the opinion entitled "Standards Governing NEPA Alternatives Analysis," it relied upon NEPA case law, CEQ regulations, and Commission decisions to help explain the requirements for the ER, an approach that is consistent with our own. Id. at __ (slip op. at 79-81). Our disagreement is with the Board's suggestion, in a separate section of the opinion entitled "ER is Mandated by Part 51, not NEPA," that the primary criterion in determining the adequacy of the ER should be Part 51, construed with little or no reference to corresponding provisions of NEPA. This is true only in those instances where Part 51's provisions, standing alone, are sufficient to resolve the particular question at issue. In other instances licensing boards will need to look to NEPA case law and CEQ regulations to interpret the Part 51 requirements for the ER. That is what the Levy County Board itself did when explaining the standards governing the alternatives analysis in the ER. Id. at __ (slip op. at 79-81).

their plain meaning. But Section 51.45(b)'s list of environmental considerations, like the corresponding list of environmental considerations in NEPA Sections 102(2)(C)(i)-(v), is phrased in such broad and general terms that its provisions may often fail, if construed in isolation, to clearly resolve particular questions concerning the required content of the ER. The issue whether the ER must include the Applicant's mitigation plan for LLRW presents one instance where Section 51.45(b) does not expressly resolve the question at hand.

In such situations, the NEPA case law and CEQ [104] regulations concerning NEPA Sections 102(2)(C)(i)-(v) provide useful guidance in interpreting the corresponding provisions in 10 C.F.R. § 51.45(b)(1)-(5). As the D.C. Circuit explained, "'a regulation must be interpreted so as to harmonize with and further [ ] not to conflict with the objective of the statute it implements. [Courts] must construe [regulations] in light of the statute[s they] implement [ ], keeping in mind that where there is an interpretation of an ambiguous regulation which is reasonable and consistent with the statute, that interpretation is to be preferred.'"[105] The section defining the scope of Part 51 states, with certain exceptions not relevant here, that "the regulations in this part implement: (a) Section 102(2) of the National Environmental Policy Act of 1969, as amended."[106] Section 51.45, the provision that governs the content of the ER, is thus one of the agency's regulations implementing NEPA Section 102(2). It should therefore be construed consistently with corresponding NEPA requirements.

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[104] The Council on Environmental Quality, an agency created by NEPA, has promulgated regulations concerning compliance with NEPA. See 40 C.F.R. 1500-1517. The Supreme Court has held that the CEQ regulations are entitled to substantial deference. Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 334, 355-56 (1989).

The Commission has stated that "the NRC as an independent regulatory agency can be bound by CEQ's NEPA regulations only insofar as those regulations are procedural or ministerial in nature. NRC is not bound by those portions of CEQ's NEPA regulations which have a substantive impact on the way in which the Commission performs its regulatory functions." Environmental Protection Regulations for Domestic Licensing and Related Conforming Amendments, 49 Fed. Reg. 9352 (Mar. 12, 1984). We do not suggest otherwise, but only that CEQ regulations provide useful guidance in interpreting the scope of the environmental considerations enumerated in Section 51.45(b)(1)-(5).

[105] Western Fuels-Utah, Inc., 900 F.2d 318, 320 (D.C. Cir. 1990) (quoting Emery Mining Co. v. Sec'y of Labor, Mine Safety & Health Admin., 744 F.2d 1411, 1414 (10th Cir.1984)).

[106] 10 C.F.R. § 51.1.

The rule of construction stated by the D.C. Circuit applies with particular force here because of the close textual relationship between the relevant provisions of NEPA and Part 51. Of particular importance, 10 C.F.R. § 51.45(b)(1)-(5) requires that the ER address a list of "environmental considerations" that correspond to the environmental considerations that NEPA Section 102(2)(C)(i)-(v) requires the agency to address in the EIS.[107]

NEPA Section 102(2)(C) provides that, "on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment," the agency shall prepare a "detailed statement" on:

> (i) the environmental impact of the proposed action,
> (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
> (iii) alternatives to the proposed action,
> (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
> (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.[108]

Similarly, the ER must "contain a description of the proposed action, a statement of its purposes, [and] a description of the environment affected," 10 C.F.R. § 51.45(b), and it must "discuss the following considerations":

> (1) The impact[s] of the proposed action on the environment . . . in proportion to their significance;
> (2) Any adverse environmental effects which cannot be avoided should the proposal be implemented;
> (3) Alternatives to the proposed action . . . ;
> (4) The relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity; and
> (5) Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.[109]

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[107] 42 U.S.C. § 4332(C)(i)-(v).

[108] 42 U.S.C. § 4332(C)(i)-(v).

[109] 10 C.F.R. § 51.45(b)(1)-(5). The Commission omitted from Section 51.45(b) the statement in NEPA Section 102(2)(C) that the EIS must include a "detailed statement" on the listed environmental considerations. Instead, the ER should "discuss" those considerations. Given that the Commission did include most of the text of Section 102(2)(C) in the regulation, one could infer that the omission of the words "detailed statement" was intentional. Thus, the ER

Thus, the environmental considerations that the ER must discuss are equivalent to, and in most instances verbatim restatements of, the environmental considerations that NEPA requires the agency to describe in detail in the EIS. Moreover, in what appears to have been a further effort to maintain consistency with NEPA, the Commission added additional language to Section 51.45(b) that was derived from CEQ regulations that interpret NEPA. For example, NEPA Section 102(2)(C)(i) requires that the EIS include a detailed statement on "the environmental impact of the proposed action," while the corresponding NRC regulation states that the ER shall discuss "the impact of the proposed action on the environment," and also provides that "[i]mpacts shall be discussed in proportion to their significance."[110] The Commission explained that the second sentence in Section 51.45(b)(1) is "identical to the first sentence § 1502.2(b) of the CEQ regulations . . . ."[111] The Commission also explained that "[t]he sentence in § 51.45(b)(3) which reads '[t]o the extent practicable, the environmental impacts of the proposal and the alternatives should be presented in comparative form[]' is drawn from § 1502.14 of the CEQ regulations."[112] The fact that the Commission used CEQ regulations as sources of law for developing requirements for the ER supports using those regulations to resolve questions concerning the content of the ER that are not resolved by the agency's regulations.

Also, with respect to alternatives to the proposed action, the Commission not only required that the ER discuss alternatives, as required by NEPA Section 102(2)(C)(iii), but also required that the discussion of alternatives be sufficiently complete to aid the Commission in

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need not be as detailed as an EIS. But that does not change the important point that the ER must provide sufficient information to permit the NRC Staff to adequately address in the EIS the environmental consequences in NEPA Sections 102(2)(C)(i)-(v). The Staff may have to add some detail to the information provided in the ER, but the Commission did not expect it to write on a blank slate.

[110] 10 C.F.R. § 51.45(b)(1)

[111] 49 Fed. Reg. 9352, 9363 (Mar. 12, 1984).

[112] Id.

developing alternatives under NEPA Section 102(2)(E).[113] The Commission evidently intended to ensure that the ER would provide the essential information the agency requires to fulfill its NEPA obligations concerning alternatives to the proposed action, an issue that both the NRC and the CEQ have described as the heart of an EIS.[114]

Thus, Section 51.45(b)'s description of the environmental considerations that must be discussed in the ER is derived from (a) the corresponding provisions of NEPA Sections 102(2)(C) and 102(2)(E) and (b) CEQ regulations interpreting NEPA requirements. As another board stated:

> To a substantial extent Part 51 parallels and elaborates on the requirements of NEPA and the NEPA regulations promulgated by the Council on Environmental Quality in 40 C.F.R. Parts 1500 to 1508. In addition, the Part 51 regulations impose certain obligations on the applicant, e.g., to submit an environmental report which the NRC Staff uses as input to the draft and final environmental impact statements. See 10 C.F.R. §§ 51.45 and 51.50. For example, the ER must discuss each of the five subelements covered by NEPA § 102(2)(C), see 10 C.F.R. § 51.45(b)(1)-(5).[115]

The Commission has similarly observed that "much of the information in an Applicant's ER is used in the [draft environmental impact statement]."[116] Given that the ER provides the foundation upon which the EIS is built, the environmental considerations the applicant must address in the ER pursuant to Sections 51.45(b)(1)-(5) should be construed consistently with the environmental issues the Staff must address in the EIS pursuant to NEPA Sections 102(2)(C)(i)-(v). This is fully in accord with the rule of construction described above.

The Commission has made it clear that issues arising under NEPA, not just those arising under Part 51, are a material basis for challenging the ER. Section 2.309(f)(2) requires petitioners to file contentions based on the documents in existence when the petition is filed,

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[113] Contention 13, which we discuss infra at 76, concerns alternatives to the proposed action.

[114] 10 C.F.R. Part 51, Subpart A, Appendix A § 5; 40 C.F.R. § 1502.14.

[115] Dominion Nuclear North Anna, LLC (Early Site Permit for North Anna ESP Site), LBP-07-09, 65 NRC 539, 614 (2007).

[116] Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1049 (1983).

including the applicant's environmental report.[117] This covers any contention alleging that the ER is deficient under Part 51. But the Commission also requires petitioners to raise their NEPA contentions in response to the ER, rather than awaiting publication of the EIS. Under 10 C.F.R. § 2.309(f)(2), "[o]n issues arising under the National Environmental Policy Act, the petitioner shall file contentions based on the applicant's environmental report." (Emphasis added). The plain meaning of Section 2.309(f)(2) is that NEPA contentions – not just Part 51 contentions – must be raised in response to the ER. It would make no sense to impose such a requirement if issues arising under NEPA do not provide a basis for challenging the ER.[118]

Accordingly, Section 51.45(b)'s list of environmental considerations is correctly understood as requiring the applicant to provide the essential information the agency needs to prepare the EIS in compliance with NEPA Sections 102(2)(C)(i)-(v). We may therefore rely upon NEPA Sections 102(2)(C)(i)-(v), as interpreted in NEPA case law and CEQ regulations, for assistance in resolving questions concerning the content of the ER that are not unambiguously resolved by 10 C.F.R. § 51.45(b)(1)-(5). The NEPA case law we have cited confirms that the Applicant's plan for the storage of Class B and C wastes and the environmental consequences of that plan are material issues under Section 51.45(b).

c. Factual support

The Petitioners describe Contention 3 as a "'contention of omission,' i.e., a claim, in the words of 10 C.F.R. § 2.309(f)(1)(vi), that 'the application fails to contain information on a relevant matter as required by law . . . and the supporting reasons for the petitioner's belief.'"[119]

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[117] 10 C.F.R. § 2.309(f)(2).

[118] A court should not adopt an interpretation that would render a statutory provision "redundant" or "nonsensical." Field v. Mans, 516 U.S. 59, 68 n.7 (1995). "[A] basic tenet of statutory construction, equally applicable to regulatory construction, [is] that [a text] should be construed so that effect is given to all its provisions, so that no part will be inoperative or superfluous, void or insignificant, and so that one section will not destroy another unless the provision is the result of obvious mistake or error." APWU v. Potter, 343 F.3d 619, 626 (2d Cir. 2003) (quoting Silverman v. Eastrich Multiple Investor Fund, 51 F.3d 28, 31 (3d Cir.1995)).

[119] Cont. at 44 (quoting Pa'ina Hawaii, LLC, LBP-06-12, 63 NRC at 413).

For a contention of omission, the petitioner's burden is to show the facts necessary to establish that the application omits information that should have been included.[120]

The Petitioners have met that burden. They have cited a publicly available source that describes the hazardous nature of LLRW. Cont. at 40 n.8, 43. None of the parties has disputed that LLRW is hazardous. Petitioners have also cited a Government Accountability Office (GAO) study that explains that a LLRW disposal facility located in Barnwell, South Carolina, formerly received about 99 percent of the nation's Class B and C waste, but that after June 30, 2008, the Barnwell facility was closed to generators of LLRW except those located in States that are part of the Atlantic Compact (South Carolina, Connecticut, and New Jersey). LLRW generators in Michigan thus cannot send their Class B and C waste to the Barnwell facility. Id. at 37 n.1. Neither the Applicant nor the Staff disputes that Michigan reactors currently lack a permanent disposal facility for the Class B or C wastes they generate.

As the Commission recently observed regarding a COL application from the Tennessee Valley Authority (TVA), an applicant that also lacks access to the Barnwell disposal facility, "this closure would preclude TVA from disposing its low-level waste at Barnwell and would force TVA to store that waste onsite instead – at least until another low-level waste disposal facility agrees to accept such waste from Alabama nuclear facilities."[121] DTE is in the same situation as TVA. The Applicant acknowledged at oral argument that the current design for Fermi Unit 3 includes only six months storage capacity for LLRW.[122] By contrast, the Applicant requests a forty-year license for Fermi Unit 3.[123] Thus, the closure of Barnwell will force DTE to store its Class B and

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[120] The ER's failure to include an environmental analysis of the environmental consequences of extended onsite storage is best characterized as a contention of omission. Even if, however, we were to agree with the Staff that the contention is not one of omission but rather one "that challenges the adequacy of the ER's treatment of the environmental effects of LLRW management at the Fermi [Unit] 3 site," NRC Ans. at 33, that would not change our conclusion that reformulated Contention 3 complies with Section 2.309(f)(v). Regardless of how the defect in the ER is characterized, the factual support described in the text, infra, is sufficient to satisfy the Petitioners' burden under Section 2.309(f)(1)(v).

[121] Bellefonte, CLI-09-03, 69 NRC at __ (slip op. at 4).

[122] Tr. at 51. See also ESBWR DCD, Rev. 5, § 11.4.1.

[123] See 10 C.F.R. § 52.104 (a combined license is issued for a period of 40 years).

C wastes onsite unless it can develop an alternative solution, such as entering into a contract with an offsite facility to store the wastes indefinitely. However, the ER neither discusses the need for extended onsite storage during the license term, nor analyzes the environmental consequences of extended onsite storage. It also does not reveal any plan for an alternative to extended onsite storage.

Furthermore, the Commission "has acknowledged that the future availability of disposal capacity for low-level radioactive waste remains highly uncertain."[124] This uncertainty further increases the likelihood that long-term storage of LLRW will be necessary at the Fermi Unit 3 site. Thus, the Petitioners have provided facts to show that the closure of the Barnwell facility could force the Applicant to store LLRW onsite for a period far longer than the capacity of its existing storage facility.

The Applicant argues that the Class B and C wastes need not remain onsite indefinitely because there is a "foreseeable disposition path" for removing the wastes from the Fermi Unit 3 site. App. Ans. at 28. The Applicant states that it "could" send its Class B and C wastes to another licensee that would accept and treat the waste or store the waste at its facility.[125] Id. But the Applicant does not state it has actually entered into such a contract with an offsite licensee. Absent such a contract, it is foreseeable, as the Commission has noted, that the lack of an offsite disposal facility will result in extended onsite storage of LLRW.[126] Furthermore, we see nothing in the mere possibility of a contract with an offsite licensee that relieves the Applicant from the responsibility to explain in the ER how it intends to address the problem of

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[124] Bellefonte, CLI-09-03, 69 NRC at __ (slip op. at 10).

[125] The Applicant quotes a press release from "Studsvik," which operates a facility in Erwin, Tennessee, indicating that it plans to treat and assume responsibility for the storage and final disposal of Class B and C wastes from "FPL Group." App. Ans. at 28 n.23 (quoting DTE Exh. 1). The Petitioners note, however, that the press release concerns Studsvik's contract with a different nuclear utility to take that other utility's Class B and C wastes. Reply at 27. It does not show that Studsvik (or any other vendor) will accept waste from Fermi Unit 3. Moreover, Studsvik's agreement with FPL Group relies on an additional agreement with another company located in Texas to take the LLRW for storage. The Applicant has not shown that the Texas Company would accept its Class B and C wastes for storage.

[126] Bellefonte, CLI-09-03, 69 NRC at __ (slip op. at 4).

management of Class B and C wastes, given that it now lacks access to an offsite disposal facility. For purposes of this NEPA contention, the crucial question is not merely whether the Applicant has a plan for managing its Class B and C wastes but whether that plan, and any onsite environmental impacts it may produce, is disclosed in the ER. NEPA Section 102(2)(C) requires a "detailed statement" from the agency of the environmental consequences of the planned federal action. Similarly, Section 51.45(b) directs that the ER "discuss" the environmental consequences that will be the subject of the agency's detailed statement. As we have explained, these requirements mean, among other things, that the ER must disclose any plan to mitigate potential adverse environmental consequences. Thus, if DTE has a plan to avoid extended onsite storage of Class B and C wastes, the ER must disclose the plan. The ER fails to do that. The Petitioners have therefore alleged facts sufficient to show that the ER fails to contain information required by 10 C.F.R. § 51.45(b) and NEPA, and they have provided references to support their allegations. 10 C.F.R. § 2.309(f)(1)(v).

The same reasoning applies to other points made by the Applicant and the Staff. The Applicant notes that the Commission has found, as a general matter, that nuclear power plant operators have been safely storing and managing LLRW onsite for years. App. Ans. at 30. At most, this suggests that the Applicant may have one or more options for managing its Class B and C wastes after the partial closure of the Barnwell facility. This does not relieve the Applicant of the burden of disclosing its actual plan in the ER, or of explaining the environmental consequences that its plan will entail.

The Staff faults the Petitioners because they "have not addressed any of the technical information concerning LLRW handling, for example the capacity issue, that is contained in Revision 4 of the ESBWR DCD and incorporated into the Fermi 3 COLA by reference." NRC Ans. at 33-34. Although the Staff did not identify the specific pages of the COLA or the DCD it had in mind, we believe it was referring to ER Section 3.5.2.3, entitled "Solid Waste Management System," and the parts of the DCD cited therein. ER Section 3.5.2.3 states that "[t]he Solid Waste Management System (SWMS) collects, processes, packages, and

temporarily stores . . . solid radioactive wastes for offsite shipment and permanent disposal." It is precisely this erroneous assumption of an offsite disposal facility that forms the basis of Contention 3. The same ER section subsequently explains that "[t]he SWMS processes and components are described in DCD Section 11.4." Section 11.4 of the DCD states that "[o]n-site storage space for a six-month volume of packaged waste is provided in the radwaste building," and then explains that "[d]epending on the availability and accessibility of adequate waste repositories in the future," additional temporary storage could be made available.

The DCD merely suggests one option, adding temporary LLRW storage capacity, that might be developed by a utility that intends to use the U.S. ESBWR design. The Applicant acknowledged that it has not yet designed such a temporary LLRW storage facility, Tr. at 53, and the ER provides no indication that DTE intends to pursue that option. The mere possibility that the Applicant might someday choose to pursue that option is not a plan for the management of LLRW at Fermi. We cannot fault the Petitioners for not demonstrating an inadequacy in a plan the Applicant has not yet developed, much less presented in the ER. It is sufficient that the Petitioners have provided facts to support their claim that the ER must be updated to take into account the absence of an offsite disposal facility.

d. Genuine dispute with the Application on a material issue

Under Section 2.309(f)(1)(vi), when an application is alleged to be deficient, the petitioner must identify the deficiencies and provide supporting reasons for its position that such information is required.

The Petitioners have identified the deficiency by pointing to specific pages in the ER where the Applicant presumes the existence of an offsite disposal facility for LLRW, while omitting any mention of the potential need for extended onsite storage, failing to explain its plan for such storage, and failing to address the resulting environmental consequences. Cont. at 37-38. As the Petitioners explain, the ER gives the impression that "the facility will prepare waste for routine shipment to a disposal site throughout Fermi's entire operating life, despite the fact that no such disposal site is currently available, let alone available in future decades. The plan

for Fermi omits this essential information despite the reality that the waste involved is potentially hazardous for far more than 60 years." Id. at 38.

The Petitioner has also shown that that the deficiency in the ER must be corrected to comply with NEPA (and implicitly with Part 51). Cont. at 40-41. For the reasons we have already discussed, given the absence of an offsite disposal facility the ER must explain the Applicant's plan for extended onsite storage of LLRW and assess the environmental consequences of its plan. The information that the ER provides concerning these issues must be accurate and up-to-date.[127] The Petitioner has adequately demonstrated a genuine dispute as to whether the ER meets these requirements. Accordingly, Contention 3 identifies a material dispute with the sufficiency of the Application, as required by 10 C.F.R. § 2.309(f)(1)(vi).

We therefore find Contention 3 admissible as reformulated above.

D. Contention 4

The Petitioners state in Contention 4:

> The Commission must suspend the COL adjudication pending completion of the NRC review of the ESBWR reactor design and the obligatory design rulemaking.[128]

The Petitioners contend that the nuclear reactor design chosen by the Applicant for Fermi Unit 3, the ESBWR, is yet to be completed, accepted or certified, and thus, the Commission must suspend the proceeding "pending completion of the NRC review of the ESBWR reactor design and the obligatory design certification rulemaking."[129] If the Commission allows the proceeding to move forward, the Petitioners allege they would be deprived of a "fair and meaningful opportunity for a hearing on the Fermi COLA," in violation of AEA, Administrative Procedure Act, NEPA, and NRC regulations. Cont. at 46. Moreover, the Petitioners argue that the uncertainties associated with the Applicant citing to an uncertified

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[127] See Ocean Advocates v. U.S. Army Corps of Engineers, 402 F.3d 846, 866 (9th Cir. 2005) ("A patently inaccurate factual contention can never support an agency's determination that a project will have 'no significant impact' on the environment.").

[128] Cont. at 45.

[129] Id.; see also id. at 46.

nuclear reactor design in its COLA results is a denial of the Petitioners' due process rights. Id. at 46.

Discussion

We may not admit Contention 4 because it impermissibly challenges an existing Commission regulation and is directly contrary to Commission precedent. App. Ans. at 33. As the Applicant notes, 10 C.F.R. § 52.55(c) allows an applicant to reference a design certification that the Commission has docketed but not granted. Id. at 34. Citing this regulation, the Commission has previously rejected a request to hold a license application in abeyance until the design certification rulemaking is completed.[130] We must reach the same result. We therefore find Contention 4 inadmissible.

E. Contention 5

The Petitioners state in Contention 5:

> The Fermi site may have problematic hydrology likely to allow offsite transport of chemical and radiological contaminants.[131]

Contention 5 addresses what the Petitioners assert are deficiencies in the hydrological radionuclide transport analysis in section 2.4.13 of the Applicant's COLA. Using a Staff Request for Additional Information (RAI) concerning the Applicant's FSAR section 2.4.13 analysis as their primary support, the Petitioners assert that the Applicant's "current hydrological studies are woefully inadequate" due to the omission of key hydrogeological data in the form of adequate on-site measurements. Cont. at 50. As additional support for this claim, the Petitioners cite to a provision in 10 C.F.R. § 100.20 requiring that certain factors related to hydrological radionuclide transport "be obtained from on-site measurements." Id. at 50. In particular, the Petitioners assert that the Applicant omits factors "such as soil, sediment, and rock characteristics, adsorption and retention coefficients, ground water velocity, and distances to the nearest

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[130] See Progress Energy Carolinas, Inc. (Shearon Harris Nuclear Power Plant, Units 2 and 3), CLI-08-15, 67 NRC __, __ (slip op. at 3) (July 23, 2008) (citing 10 C.F.R. §§ 52.55(c) and 2.335(a)).

[131] Cont at 50.

surface body of water" in its hydrological radionuclide transport analysis. Id. at 50. The Petitioners note that the RAIs "highlight key missing data and measurements" that are needed to prepare contentions in this proceeding; thus, the Petitioners request at least sixty days to modify the contention following the Applicant's submittal of the information requested in the RAIs. Id. at 52.

The Petitioners also dispute the Applicant's reassurance that chelating agents[132] would not be used in relation to the liquid radwaste processing facilities for the proposed Fermi Unit 3 noting that Section 5.5 of the Applicant's COLA contradicts this claim. Id. at 54. The Petitioners maintain that such chelating agents "could serve to accelerate the transport of hazardous radioactive substances" that could leak onto the soil or spill into the groundwater affecting drinking water sources, including the Bass Islands Group Aquifer. Id. at 55. The Petitioners document several types of chelating agents that raise concerns including "naturally and artificially occurring chelates . . . present in the flora, fauna, and Lake Erie Waters" that could potentially accelerate the release of hazardous radioactive substances resulting from accidental releases associated with the proposed Fermi Unit 3.[133]

Specifically, the Petitioners are concerned that radiological or toxicological releases from Fermi Unit 3 could endanger not only the Bass Island Aquifer at Catawba Island, which is a sole source of drinking water downstream, but also other groundwater aquifers sharing a hydrological connection with the Bass Islands Aquifer throughout the area. Cont. at 61. Moreover, the Petitioners challenge the Applicant's assumption that contaminated groundwater associated with Fermi Unit 3 is limited to only two possible receptors not including the Bass Island Aquifer. The Petitioners assert that the Applicant "lacks an adequate understanding of

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[132] Webster's College Dictionary (Random House 1991) defines a chelate as "a heterocyclic compound having a central metallic ion attached by covalent bonds to two or more nonmetallic atoms in the same molecule." With regard to this contention, a chelating agent (or strong complexing chemical) can be of concern because it may chemically bind radioactive metal compounds and allow them to move unimpeded with groundwater flow instead of allowing the metal compounds to interact with soil which would decrease their mobility.

[133] Cont. at 59; see also id. at 55-59.

hydrology in the surrounding area," including the effects that various quarries in Monroe County may have on a draw down effect pulling radioactively and toxicologically contaminated water into various aquifers. Id. at 62-63.

Finally, citing to the Applicant's commitment in its RAI response to relax conservatisms in its laboratory testing and radiological contamination analysis in such ways as crediting dilution in the Radwaste Building prior to release, the Petitioners allege that the Applicant is not presenting an acceptable method of protecting water resources in the area. Id. at 65. Furthermore, the Petitioners state concern that the Applicant will manipulate its "distribution coefficient and retardation factors" in order to achieve compliance with NRC regulations. Id. at 65-66.

The Applicant opposes this contention for making unfounded assertions regarding site hydrology and "utterly fail[ing] to demonstrate the existence of a genuine dispute between the Petitioners and the Applicant." App. Ans. at 35. Citing to Commission precedent, the Applicant notes that the Commission has made clear that a petitioner may not merely rely on an RAI for a contention.[134] The RAI cited in this contention concerns the analysis in FSAR section 2.4.13, which the Applicant maintains is immaterial because "the ESBWR design conservatively addresses a negative outcome of the analysis," or otherwise stated, the proposed ESBWR design already includes mitigative measures needed to preclude an accidental release of radioactive liquids predicted by a 2.4.13 analysis. App. Ans. at 36.[135] Because the assumptions underwriting the COLA analysis in section 2.4.13 took into account that the ESBWR design would mitigate any conservative results, the Applicant concludes that the Petitioners do not raise a dispute that would result in any further relief in this proceeding. Id. at 37. Moreover, the

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[134] App. Ans. at 35 (citing Oconee, CLI-99-11, 49 NRC at 336 (the issuance of RAIs "does not alone establish deficiencies in the application")).

[135] As explanation for the conservative calculations provided for in section 2.4.13, the Applicant provides that a qualified laboratory that could test and measure dispersion coefficients for the fractured rock conditions had not yet been identified; therefore, the COLA incorporated calculations using limiting conservative values that resulted in the exceedance of certain values. App. Ans. at 36-37.

Applicant asserts that the Petitioners' challenges to the COLA analysis are "effectively mooted by the Applicant's commitment to provide a new analysis." Id. at 38. The remaining details in the contention, the Applicant argues, are based on "an erroneous reading of the record," id. at 37, and "broad and unfounded suppositions do not provide adequate support for an admissible contention," id. at 40.

The Staff does not object to the admission of this contention inasmuch as it "asserts that on-site measurements of distribution coefficients, retardation factors, and porosity are omitted from the Application." NRC Ans. at 48. However, the Staff maintains that the remainder of this contention is inadmissible for lacking adequate factual or expert support and failing to raise a genuine dispute with the Applicant. Id. at 48. Agreeing with the Applicant, the Staff adds that "[t]he Commission has stated that the mere issuance of an RAI does not establish deficiencies in an application."[136] Therefore, the Staff asserts that the Petitioners must do more than simply quote from an RAI and must provide "'analysis, discussion, or information of their own on . . . the issues raised in the RAIs.'"[137]

The Staff argues that the remainder of the contention is inadmissible because it lacks adequate factual or expert support and fails to raise a genuine issue with the Applicant.[138] Further, the Staff maintains that although the Petitioners cite to several sections of the COLA, they do not challenge the referenced information as required to demonstrate a material dispute.[139]

Finally, the Staff asserts that the Petitioners do not provide any support suggesting the ability of a radioactive plume to reach the Bass Islands Aquifer at Catawba Island nor do the Petitioners provide information to dispute conclusory statements in the COLA regarding the

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[136] NRC Ans. at 48 (citing Oconee, CLI-99-11, 49 NRC at 336).

[137] Id. at 48 (citing Oconee, CLI-99-11, 49 NRC at 337).

[138] Id. at 49. For example, the Petitioners fail to provide a link between the assertion that chelating agents might accelerate transport of radioactive materials in groundwater and the proposed contention, which states that "the Fermi site may have problematic hydrology." Id. at 51.

[139] NRC Ans. at 53; see also 10 C.F.R. § 2.309(f)(1)(vi).

hydrologic characteristics of the area. NRC Ans. at 53-54. The Staff notes that the Petitioners' reliance on the RAI for this information is incorrect because the Bass Islands Group addressed in the RAI is part of the bedrock aquifer at the proposed Fermi Unit 3 site and is not the Bass Islands Aquifer at Catawba Island in Ottawa County, Ohio. Id. at 53. The Staff also argues that the Petitioners have not adequately supported their assertion that quarries will draw contaminated groundwater into drinking water with the exception of a citation to an RAI discussing groundwater flow conditions expected during and after construction. Id. at 55.

Discussion

The Board finds Contention 5 admissible, in part, as it relates to the omission from the COLA of on-site measurements of distribution coefficients, retardation factors, and porosity. We also find Contention 5 admissible as it relates to exceedance of effluent concentration limits in the analysis of radionuclide transport in groundwater presented in FSAR 2.4.13 (Rev 1). We deny the remainder of Contention 5 for failing to provide alleged facts or expert support and failing to demonstrate a genuine dispute with the application on a material issue of fact or law. See 10 C.F.R. § 2.309(f)(1)(v) and (vi).

Contention 5 properly asserts a contention of omission with regard to on-site measurements of distribution coefficients, retardation factors, and porosity from the COLA. The Petitioners provide a regulatory citation to 10 C.F.R. § 100.20(c)(3), which states that "[f]actors important to hydrological radionuclide transport (such as soil, sediment, and rock characteristics, adsorption and retention coefficients, ground water velocity, and distances to the nearest surface body of water) must be obtained from on-site measurements." 10 C.F.R. § 100.20(c)(3) The Petitioners contend that the Applicant itself acknowledges in its response to the RAI that the COLA does not present site-specific measurements of adsorption and retention coefficients. Cont. at 52-53. Thus, this is a properly pleaded contention of omission and we admit it as such. We do, however, restrict the Petitioners' broad assertion that "key data" and onsite measurements have been omitted to the parameters required by 10 C.F.R. § 100.20(c)(3) – including distribution coefficients, retardation factors, and porosity.

Contention 5 is also admissible as the Petitioners identify an exceedance of regulatory limits in the Applicant's radionuclide transport in groundwater as documented in FSAR 2.4.13 (Rev 1). The Applicant stated in its FSAR that its proposed mitigating design features preclude an accidental release of liquid effluents, and thus an accidental release to ground and surface water was not assessed in FSAR 2.4.13 (Rev 0). App. Ans. at 37. The Staff, however, requested that the Applicant provide an analysis of such a release. Id.

In response to the Staff's RAI, the Applicant has acknowledged that some on-site hydrogeologic data was not available, and provided an analysis of liquid effluent release to groundwater based on conservative assumptions (such assumptions result in increasing the calculated exposure concentration).[140] The results from this accidental release to groundwater are presented by the Applicant in response to the RAI, and in FSAR 2.4.13 (Rev 1), with the result from the modeled scenario that concentrations of a number of radionuclides calculated at potential exposure locations exceeded effluent concentration limits (ECF) as specified in 10 C.F.R. Part 20 Appendix B, Table 2.[141] Acknowledgment of this exceedance of ECF values is directly noted by the Petitioners with citation to 10 C.F.R. Part 20 Appendix B, Table 2. Cont. at 52. Even though the Applicant asserts that this issue is not material because of forthcoming data and analysis, App. Ans. at 37, this Board must analyze issues based on information currently at hand. Thus, the Petitioners have correctly demonstrated a dispute with the Applicant on a material issue of law. See 10 C.F.R. § 2.309(f)(1)(vi).

Other references within the contention to "problematic hydrology" and questions of adequate hydrogeologic site characterization are not admitted because the Petitioners have not provided alleged factual or expert support to raise a dispute with the Applicant. See 10 C.F.R. § 2.309(f)(1)(v).

With regard to the remaining parts of the contention, the Petitioners have failed to demonstrate a genuine dispute with the Applicant, have provided no alleged fact or expert

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[140] Cont. at 63 (citing NRC RAI 2.4.13-6).

[141] Id. at 63-64 (citing RAI 2.4.13-6).

opinion support for their assertions, and have raised issues that are outside of the scope of this proceeding as discussed below. See 10 C.F.R. § 2.309(f)(1)(vi),(v), and (iii).

First, the Petitioners assert impacts to the Bass Islands Aquifer at Catawba Island sole source aquifer due to "fast moving plumes of radioactive contamination." Cont. at 53. However, in addition to failing to provide the basis for such a contaminant plume, they fail to provide any basis for suggesting that this sole source aquifer is in hydrogeologic communication with the bedrock aquifer beneath the site, especially in light of the immediate and significant influence of Lake Erie. Such a bare assertion without the requisite support for those claims is inadequate to support the admission of a contention.[142] See 10 C.F.R. § 2.309(f)(1)(v).

Second, in both the Petition and the Reply to the Staff's and the Applicant's responses, the Petitioners provide lengthy discussion of chelating agents, including those naturally occurring and used in industrial processes, with a focus on the use of those chelating agents in radioactive waste processing.[143] The Applicant notes that the COLA does not mention the use of chelating agents with processing radioactive waste streams. App. Ans. at 38. Phosphoric acid is mentioned for possible use as a corrosion inhibitor with the cooling system, which may be discharged to Lake Erie as permitted by the facility's NPDES permit.[144] The Petitioners provide no basis, however, to suggest how this agent could intermingle with leaked or spilled radioactive materials (on land) to cause accelerated groundwater contaminant plume migration. Instead, the Petitioners support their assertions by providing excerpts from several parts of the COLA to demonstrate that certain agents (not identified as chelating agents) might be present in systematic plant components.[145] These excerpts merely provide information that certain agents might be present, but the Petitioners fail to link these agents with "problematic hydrology," which is the focus of the contention. Moreover, the Petitioners do not provide alleged factual data to

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[142] See Fansteel, Inc. (Muskogee, Oklahoma Site), CLI-03-13, 58 NRC 195, 203 (2003); see also USEC, Inc., LBP-05-28, 62 NRC 585, 597 (2005), aff'd CLI-06-10, 63 NRC 451 (2006).

[143] See Cont. at 54-59; see also Reply at 43-49.

[144] Cont. at 56 (citing ER, Table 3.6-1).

[145] See id. at 54-59 (quoting ER at 5-123, 5-128, 5-14 to 5-15, 3-46, 5-202).

support the assertion that these agents could result in a safety concern by negatively reacting with radioactive materials. Consequently, this part of the contention does not provide the necessary support required for admissibility. See 10 C.F.R. § 2.309(f)(1)(v).

Third, issues associated with the Applicant's compliance, or lack thereof, with NRC facility decommissioning regulations are outside of the scope of this proceeding. This issue addresses a concern that is purely speculative at this juncture, and will more appropriately be addressed at the license termination stage. Thus, the claims related to the decommissioning of the facility are not currently ripe for review and outside the scope of this proceeding. See 10 C.F.R. § 2.309(f)(1)(iii).

Fourth, the Petitioners' concerns regarding the Applicant's commitments to "relax conservatisms" in its laboratory testing and groundwater release analysis are in regard to the revised analysis to be submitted in response to the Staff RAI and therefore are not issues currently before the Board. These are dismissed as outside the scope of this proceeding. See 10 C.F.R. § 2.309(f)(1)(iii).

And finally, we deny the Petitioners' request for an opportunity to modify this contention. The rules for filing of new or amended contentions based on previously unavailable information, as well as untimely contentions, 10 C.F.R. § 2.309(f)(2)(c), allow procedural opportunities for the Petitioners to raise these concerns at a time more appropriate for addressing them.

In sum, we admit in part Contention 5 as a contention of omission with regard to the regulatory requirement that certain factors related to hydrological transport "must be obtained from on-site measurements." 10 C.F.R. § 100.20(c)(3), and with regard to exceedance of ECLs in accidental releases to groundwater as presented in FSAR Section 2.4.13. We deny, however, the remainder of this contention because the Petitioners fail to provide the alleged facts in a form other than the referenced NRC RAI and the Applicant's response to that RAI, which is inappropriate both to inform the contention and demonstrate a genuine dispute with the application on a material issue of fact or law. Thus, we find that the remaining parts of this

contention fall short of providing the necessary support and demonstration of a dispute with the application as required under 10 C.F.R. § 2.309(f)(1)(v) and (vi).

F. Contention 6

The Petitioners state in Contention 6:

> The COLA omits critical information disclosing environmental impacts to Lake Erie's Western Basin and Maumee River/Maumee Bay.[146]

The issues raised in Contention 6 focus on the potential "disproportionate impacts" the proposed Fermi Unit 3 would have on the "biologically-rich, but remarkably shallow . . . western basin" of Lake Erie. Cont. at 67. The overarching issue throughout this contention is the Petitioners' assertion that the greater vulnerability of Lake Erie's western basin to impacts from the proposed Fermi Unit 3 warrants a "western basin-specific analysis" rather than "'watering down' Fermi [Unit] 3's negative impacts by averaging them out over the entire expanse of Lake Erie." Id. In support of this contention, the Petitioners provide numerous references to sections of the ER that discuss the western basin of Lake Erie to highlight the need for "significant corrections and additional information."[147]

First, the Petitioners note the environmental detriment to the water quality of the western Lake Erie Basin and the Maumee River from nutrient loading, water consumption, and thermal heating that could occur as a result of the proposed Fermi Unit 3.[148] The Petitioners contend that the Applicant should analyze impacts from these environmental effects including algae production, water quality impacts, and thermal plume effects. Cont. at 69. Specifically, the Petitioners contend that the proposed Fermi Unit 3 effluent discharge may trigger an increase in algal blooms and the potential proliferation of a newly identified species of harmful algae in the western Lake Erie basin. Id. at 70.

Second, the Petitioners assert the need for the ER to address the potential negative impacts to the western Lake Erie Basin and the Maumee River from both a dramatic drop in

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[146] Cont. at 67.

[147] Cont. at 67; see also id. at 67-76.

[148] Id. at 70-73; see also Tr. at 22-23, 43-44.

water levels due to global warming and consumptive and non-consumptive water uses, and fluctuating waters levels from seiches, or strong winds.[149] The Petitioners assert that the ER should analyze: (1) the potential for lower water levels to influence the availability of cooling and makeup water for the proposed Fermi Unit 3 plant, and (2) the risks associated with the water growing too warm for use in the plant's cooling system. Cont. at 68-69. The Petitioners highlight recent occurrences in the nuclear industry in which nuclear power plants were "forced to shut down for varying periods" due to the cooling water source becoming too warm. Id. at 69. The Petitioners also challenge the Applicant's statement that the intake structure for the proposed Fermi Unit 3 would allow the unit to function at full capacity in historically low water levels. Id.

Third, the Petitioners assert that the analysis in the COLA regarding "fish kills" is inadequate. Id. at 70. According to the Petitioners, the Applicant uses "outdated Fermi [Unit] 2 studies on fish kills," and thus, the Applicant needs to update the analyses on "the estimated number, and type, of fish that would be killed in the Fermi [Unit] 3 intakes." Id. The Petitioners also contend that these studies need to expand beyond analyses of Fermi Unit 2 and the newly proposed Fermi Unit 3 to include the Monroe coal burning power plant, as well as other nuclear and coal burning power plants along Lake Erie's western basin, to determine the effects that projected fish kills from the proposed Fermi Unit 3 would have on "overall fish populations." Id.

Fourth, the Petitioners dispute the Applicant's hydrological assessment that no significant estuaries exist within the Fermi Unit 3 area of impact because the Maumee Bay and Lower Maumee River constitute estuaries "that would be significantly impacted" by the proposal. Id. at 73. Thus, the Petitioners assert that the Applicant needs to expand its analysis, which it claims is limited to the Detroit River and the River Raisin, to address the effects of Fermi Unit 3 on these additional water resources. Id. at 73-74.

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[149] Cont. at 68. The Petitioners note the shallow nature of the western basin of approximately 24 feet, and the downward trend of the water level, including a 10 inch water level reduction from the late 1990's to the present day. According to the Petitioners, climate change is expected to lower the water levels in Lake Erie by three to 6.5 feet in the next 70 years.

In response, the Applicant generally disputes each of the Petitioners' allegations by providing a discussion of the detailed analysis provided in the COLA for each claim. The Applicant maintains that the Petitioners provide no expert opinion or factual support to suggest that the analyses and conclusions provided in the ER or the FSAR regarding environmental and safety concerns are incorrect. App. Ans. at 46-51. The Applicant also asserts that the impacts of Fermi Unit 3 on Lake Erie, including impacts to the western basin and Maumee Bay, are documented and addressed in the COLA. Id. at 40. Specifically, the Applicant notes that "[c]onsistent with its focus on the western basin as the area of greatest concern, Detroit Edison considered the impacts to the western basin throughout the ER."[150] Furthermore, the analyses provided in the COLA on the impacts to the western basin include a "comprehensive and in-depth discussion of both the environmental baseline for and the impacts" to this region. App. Ans. at 42.

The Staff adds that a contention "challenging the substantive adequacy of multiple sections" of an applicant's COLA does not meet the requirement for a contention of omission. NRC Ans. at 60. The Staff addresses each of the issues underlying Contention 6 to show that, contrary to the Petitioners' allegations, the Applicant discusses each of the alleged omissions specific to the western basin of Lake Erie in its COLA. The Staff notes that the Petitioners provide no expert or factual support to contradict the Applicant's assertions documented in the COLA with regard to water withdrawal, thermal emissions, water quality, fish kills, and the Maumee Bay and River. See id. at 62-67.

Discussion

The Board admits Contention 6 insofar as it relates to the adequacy of the Applicant's water quality analysis in the ER regarding the potential for increasing algal blooms and the proliferation of a newly identified species of harmful algae in the western Lake Erie basin. We deny the remainder of Contention 6 for failing to demonstrate a genuine dispute with the

[150] App. Ans. at 41 (citing multiple sections of the ER where potential impacts to the western basin were analyzed).

Applicant or providing no alleged facts or expert opinion to support the Petitioners' assertions. See 10 C.F.R. § 2.309(f)(1)(vi) and (v).

The Petitioners assert that the ER should include an assessment of the algal bloom potential as a result of the proposed chemical discharge (i.e., phosphorus) combined with thermal pollution expected during operation of Fermi Unit 3. Tr. at 22. The Petitioners maintain that these impacts would contribute to increasing algal blooms and microcystis problems augmenting the growth of dead zones in Lake Erie. Cont. at 73. Claiming that the technical information used by the Applicant is "old and outdated," the Petitioners maintain that the statement in the ER that the water quality in the western basin has improved, and that the phosphorous concentrations are decreasing, is "simply not true." Id. at 70. In support, the Petitioners reference two university studies documenting the growing problems with "greening" in the western basin and the increasing "dead zones." Id. The Petitioners add that the Lake Erie Protection Fund and the U.S. Environmental Protection Agency Great Lakes office are currently seeking grant proposals to find ways to reduce phosphorous and algal blooms in western Lake Erie. Id. at 76. Specifically, the Petitioners highlight a new algae, Lyngbya Wollei, which "seems to be centered" in warm waters at the Applicant's Monroe coal burning power plant. The Petitioners contend that the Applicant needs to address potential proliferation of this new species in relation to Fermi Unit 3. Id. at 70.

We find that this part of the contention satisfies 10 C.F.R. § 2.309(f)(1). The contention provides a specific statement of the issue of fact to be controverted and a brief explanation for the basis of the contention. See 10 C.F.R. § 2.309(f)(1)(i) and (ii). We also find that, contrary to the arguments provided by the Staff, these issues are within the scope of this proceeding and material to the findings the NRC must make. See 10 C.F.R. § 2.309(f)(1)(iii) and (iv). And we find that this part of the contention is supported by alleged facts and referenced sources that demonstrate a genuine dispute with the Applicant on the adequacy of the water quality analysis, specifically the potential for algal production in the western Lake Erie basin as a result of chemical and thermal discharge from Fermi Unit 3. See 10 C.F.R. § 2.309(f)(1)(v) and (vi).

The Staff asserts that these issues are outside the scope of this proceeding because discharge effluents resulting from the proposed Fermi Unit 3 that could affect water quality are "regulated not under NRC regulations, but under the NPDES program established by Section 402 of the Federal Water Pollution Control Act [FWPCA]."[151] The Staff further asserts that the FWPCA specifically prohibits Federal agencies from imposing effluent limits in addition to those required by that statute; and therefore, the NRC must analyze the environmental impacts of a project under NEPA, but it cannot go beyond and "impose effluent limits of its own." NRC Ans. at 64.

We reject the Staff's argument that this Contention is barred by the FWPCA. Contrary to this assertion, the D.C. Circuit has held that abdicating water quality effects entirely to other agencies' certifications subverts the special purpose of NEPA.[152] The fact that an environmental impact is regulated by another Federal agency or by a State does not justify the exclusion of the analysis in the Applicant's ER or the NRC's EIS.[153] Thus, we are not persuaded by the Staff's argument that the impact to water quality from effluent discharge at the proposed Fermi Unit 3 is outside the scope of this proceeding simply because FWPCA prohibits Federal agencies other than EPA from imposing their own effluent limits. While NEPA requires the consideration of information regarding other regulatory requirements and permits, the fact that the applicant is subject to and complying with them "does not obviate the NEPA mandate

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[151] NRC Ans. at 63 (citing 33 U.S.C. § 1342). The Applicant's ER states that "[t]he water volume, water temperature and chemical composition are regulated by the MDEQ [Michigan Department of Environmental Quality] through the NPDES permit program. . . .Under regulations, the MDEQ is required to take into consideration the cumulative impacts of multiple discharges to the same body of water. Therefore, discharges from Fermi and other area facilities are included in the review and development of permit requirements (including measures to minimize any cumulative effects) for a new Fermi [Unit] 3 and for subsequent renewal of permits for combined Fermi [Unit] 2 and 3 operations." Id. at 63-64 (citing ER at 5-207).

[152] Calvert Cliffs Coordinating Comm., Inc. v. U.S. Atomic Energy Comm'n, 449 F.2d at 1123.

[153] See 10 C.F.R. § 51.71(d) n.3 and Part 51 Appendix A § 5. See also 40 C.F.R. § 1502.14(c); Natural Res. Def. Council v. Morton, 458 F.2d 827, 834-36 (D.C. Cir. 1972).

that the federal agency perform an EIS covering these topics."[154] We thus hold that the impacts raised by the Petitioners speak precisely to the mandates of NEPA, and thus these issues are material to findings the NRC must make prior to issuance of the COL for Fermi Unit 3.

The Applicant avers that the Petitioners provide no expert or factual support for the argument that the ER should include an analysis of the potential contributions that Fermi Unit 3 could have on algal production, and "point to no studies indicating that power plants have a direct correlative impact on algal growth in the western basin." App. Ans. at 45. We disagree.

The Applicant notes that data pertaining to algal production is primarily caused by "nutrient run-off (phosphorous), water clarity, and hydrology rather than water temperature,"[155] and that no issues with algal blooms have been observed at Fermi Unit 2 "or at any of the other Detroit Edison plants." Tr. at 35-36. The Applicant maintains that impacts to aquatic ecosystems at Fermi Unit 3, and specifically those associated with the chemical components of effluent for this proposed plant, would be limited to the constituents listed in the NPDES permit.[156] In particular, the Applicant points out that the phosphoric acid that is proposed for use as a corrosion inhibitor at Fermi Unit 3 will be discharged into Lake Erie at levels no higher than that permitted by the NPDES permit. Tr. at 34.

The ER includes a detailed analysis of the physical impacts of Fermi Unit 3 to surrounding waters, including the effects of cooling water discharges on water quality in the western basin of Lake Erie, see ER at 5-28; the impacts of thermal discharges on aquatic ecosystems, see ER at 5-37; the impacts to aquatic ecosystems associated with chemical components (assuming effluent limits will not exceed NPDES permitted levels), see ER at 5-40; and the water-use impacts from operational activities, see ER at 5-15. But the ER is devoid of

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[154] Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc. (Vermont Yankee Nuclear Power Station), LBP-06-20, 64 NRC 131, 179 (2006), rev'd on other grounds CLI-07-16, 65 NRC 371, 381-385 (2007).

[155] App. Ans. at 46; see also Tr. at 34-36. The Staff takes another view, claiming that the ER mentions the potential for algae growth in connection with thermal emissions, and dismisses the Petitioners argument by referencing the thorough thermal plume analysis documented in the ER. NRC Ans. at 65 (citing ER at 5-47).

[156] App. Ans. at 87; see also ER at 5-40.

an analysis on the potential for these chemical and thermal discharges to foster algal production in the vicinity of the proposed Fermi Unit 3. This omission is particularly troubling because the ER appears to dismiss the need for such an analysis on the basis that no algal blooms have been observed at Fermi Unit 2, but the Applicant stated at oral argument that Fermi Unit 2 does not use phosphoric acid as a corrosion inhibitor (which the Applicant itself acknowledged was one of the aggravating factors for algal production). Tr. at 35.

We therefore find Contention 6 admissible insofar as it challenges to the adequacy of the ER's analysis of the potential contribution of chemical and thermal effluent from the proposed Fermi Unit 3 to algal production and the potential proliferation of the newly identified species of harmful algae. We find, however, that the remaining issues in Contention 6 do not meet the requirements to support admissibility of a contention.

The Petitioners' assertions that the ER should address the potential negative impacts from changes in water level overlook the information that was provided by the Applicant in the ER. With regard to safety, the proposed "Ultimate Heat Sink" for Fermi Unit 3 as described in the FSAR contains a separate water supply for safety-related cooling preventing a seiche event or dramatic drop in water level from affecting the safety-related water supply.[157] Potential impacts on operations from water level variations are also discussed in the COLA for a range in water levels that extend beyond that possible due to climate variability,[158] and contrary to the Petitioners' assertions, the ER discusses seiches in detail.[159] The Petitioners fail to

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[157] See App. Ans. at 44.

[158] The Petitioners suggest a potential lowering of water levels of up to 6 feet over the next 70 years and argue that the Applicant must address this change. See Cont. at 68. In this regard, we note that the COLA considers water level variations well within the range of a water loss in excess of six feet. 10 C.F.R. Part 50, Appendix A, General Design Criterion (GDC) 2 requires "consideration of the most severe of the natural phenomena that have been historically reported for the site and surrounding area, with sufficient margin for the limited accuracy, quantity, and period of time in which the historical data have been accumulated." The ER indicates that "the design of the intake structure is based on record low water levels for Lake Erie, thus even under these conditions plant operation is able to carry on normally." App. Ans. at 42. The elevation of the Fermi Unit 3 intake in Lake Erie is more than 10 feet below the record low water level for Lake Erie. Id. at 43; see also ER § 3.4.2.1.

[159] See ER § 2.4.2.2.2; see also §§ 3.3.1, 5.3.2.1.1.7.

acknowledge that the Applicant included such analyses in its ER and to challenge those analyses through alleged facts or expert opinion. Thus, Petitioners have not shown a material factual dispute with the Applicant. See 10 C.F.R. § 2.309(f)(1)(vi).

The Petitioners are also concerned about impacts to the aquatic ecosystem from adding an additional power plant to the five existing operational plants currently heating "billions of gallons of water" in the western basin. Cont. at 75. Contrary to the Petitioners allegations that the Applicant does not address the risk that the waters of the western basin could grow too warm, the Applicant does provide an analysis of thermal impacts from Fermi Unit 3. We also note that the thermal effects from nearby facilities are implicitly included in the cumulative effects analysis.[160] Moreover, the Applicant's analysis in its ER of the thermal discharge impacts demonstrates that there are no thermal plume effects from nearby facilities. App. Ans. at 44-45. The Petitioners do not acknowledge these analyses and as a result fail to challenge this analysis or otherwise raise a dispute with the conclusions reached therein. See 10 C.F.R. § 2.309(f)(1)(vi).

With regard to fish kills, the Applicant's ER includes a detailed analysis of the overall potential impacts to fish in Lake Erie's western basin that uses historical data from Fermi Unit 2 to demonstrate that the number of fish impinged is relatively low in comparison to other plants in the region.[161] The Petitioners question the underlying analysis of fish kills in the ER as being "outdated," yet they fail to provide any information to support that the results of the 1990s study are no longer representative.[162] The historical analysis used by the Applicant in support of its conclusion that the impacts to fish from the proposed Fermi Unit 3 would be "small," dates back to an impingement and entrainment impact study of Fermi Unit 2 performed in 1991-1992.[163] Although the data used by the Applicant for this analysis is clearly dated, the Petitioners provide

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[160] See discussion of Contention 1, supra, Section V.A.

[161] See ER § 5.3.1.2.3.2; see also App. Ans. at 48.

[162] See 10 C.F.R. § 2.309(f)(1)(v); see also NRC Ans. at 66.

[163] See ER § 5.3.1.2.4.

no support, either through alleged facts or expert opinion, to show that this data is therefore obsolete. See 10 C.F.R. § 2.309(f)(1)(v). Bare assertions and speculation are not enough to support the admissibility of a contention.[164] Moreover, the cumulative impacts related to "fish kills" were also evaluated by the Applicant in the ER utilizing the Applicant's experience with the Fermi Unit 2 operations.[165] The Petitioners, again, do not provide any alleged facts or expert opinion to challenge this information.[166]

Finally, the Petitioners' assertion that the Applicant's analysis in its ER should be expanded to address impacts to the Maumee Bay and Maumee River are not substantiated. The Applicant, in its ER, analyzes the thermal emission plume from the cooling water discharge of the proposed Fermi Unit 3 discharge location, and has found such impacts to be small. App. Ans. at 83. The Maumee Bay and Maumee River are located at much larger distances from the facility.[167] The Petitioners provide no alleged facts or expert opinion to suggest, contrary to the conclusions in the ER, that these regions could be adversely impacted by Fermi Unit 3 operations and should be included in the ER. See 10 C.F.R. § 2.309(f)(1)(v).

The Petitioners incidentally mention several other concerns including, inter alia, cooling tower and mercury pollution control equipment at the Monroe Power Plant; risk of terrorist attack on the power plants in the area; surface water impacts in counties in Michigan and Ohio; and assessment of sediments and water quality at the Toledo water intake. Cont. at 74-75. None of

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[164] Fansteel, Inc., CLI-03-13, 58 NRC at 203.

[165] See ER § 5.11.4.2.

[166] The Petitioners also note that due to the amount of daily water withdrawal proposed for Fermi Unit 3, the Applicant must conduct a full Section 316(b) Clean Water Act analysis of the potential fish kills. Cont. at 72. According to the Petitioners, the requirement for a Section 316(b) analysis is triggered by water withdrawals in excess of 50 million gallons per day, and the Applicant's 49 million gallons per day of water usage at the proposed Fermi Unit 3 is close enough to this threshold to mandate that such an analysis be conducted. Id. This issue is outside the scope of this proceeding because it is beyond the Board's jurisdiction to mandate that a Section 316(b) analysis be conducted.

[167] The distance from the Fermi Unit 3 site to the Maumee River is greater than five miles as indicated in the Applicant's FSAR. See Fermi: Combined License Application; Part 2: Final Safety Analysis Report (Rev. 1) at 2-94, Figure 2.1-216 (Mar. 2009) [hereinafter FSAR].

these concerns are developed with sufficient detail to provide a basis for contention admissibility.

We therefore admit in part and reject in part Contention 6 as discussed above.

G. Contention 7

The Petitioners state in Contention 7:

> Routine operations of Fermi 3 will endanger workers and the public with radionuclide emissions.[168]

The Petitioners allege in Contention 7 that the construction and operation of Fermi Unit 3 "will produce radioactive contamination" exposing the power plant workers and the general public to an "increased risk of negative health effects." Cont. at 77. Citing to Part 7 of the COLA titled, "Departures Report," the Petitioners assert that the ESBWR, by design, intentionally vents radiological gaseous effluents, which has "safety significance because it aids and abets the release of known carcinogenic agents." Id. The Petitioners also request a list of remedies for all the potential sources of radiation resulting from the construction and operation of Fermi Unit 3.[169] Cont. at 88.

In support of the liquid effluent portion of this contention, the Petitioners reference several lengthy excerpts from the NRC's RAI 2.4.13-6,[170] and the Applicant's RAI response. Specifically, the Petitioners dispute the Applicant's conclusion that "dilution can be the solution to radiological pollution," and argue that "Lake Erie and the surrounding environs" will be greatly impacted by the methodology the Applicant proposes to the NRC. Cont. at 79.

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[168] Cont. at 77.

[169] The Petitioners' requested list of remedies includes the following: an Agency for Toxic Substances and Disease Registry (ATSDR) evaluation of cancer rates near the plant; annually updated epidemiological studies; monitoring for worker exposure; a two dosimeter per worker provision allowing review by the Applicant and the union; biannual screening of workers for blood cancer and cancer markers; the availability to the public of worker records in auditable format; workforce and local community education programs for cancer awareness; rejection of dilution as a practice for managing releases; adherence to effluent limits; and compliance with all regulatory standards, without waiver, relaxation, exemption, or methodological concealment of true and accurate radiological reporting. Cont. at 88.

[170] The Petitioners reference the identical RAI in support of Contention 5. See supra at 41.

In addition, the Petitioners provide an extensive recitation of multiple sections of the COLA discussing the calculated dose rates to workers and the public from the operation of Fermi Unit 2. Id. at 79-84. The Petitioners note that the accumulation doses discussed in the referenced passages from the COLA indicate considerable radiation exposure for workers, which they argue conflicts with the conclusions in the BEIR VII report that "no exposure to radiation is without an associated risk."[171] Cont. at 84.

The Applicant opposes Contention 7 for failing "to establish any non-compliance with NRC regulations and [ ] to demonstrate a genuine dispute" with the application. App. Ans. at 52. The Petitioners' challenges to the ER that were excerpted in the contention, the Applicant asserts, do not contain the requisite support to establish an admissible issue. According to the Applicant, the COLA sections referenced by the Petitioners "actually demonstrate[ ] that construction workers will not receive exposures above specified regulatory limits for members of the public." Id. at 56.

The Staff also opposes the admissibility of this contention claiming it fails to meet contention pleading requirements, raises an impermissible challenge to NRC regulations, and raises issues that fall outside the scope of this proceeding. NRC Ans. at 69. The Staff points out that the Petitioners' discussion regarding liquid effluents is "duplicative of material found in Contention 5 and should be subsumed under that contention." Id. at 70. The Staff asserts that the Petitioners' arguments related to gaseous effluents and the Departures Report "simply does not say what the Petitioners allege that it says," and that "[n]either the Departures Report nor any of the FSAR subsections cited therein mention any increase in radioactive effluents in connection with this design change." Id. at 69. Moreover, the Staff notes that the challenges to the design are not properly raised in this proceeding and should instead be submitted as part of the design certification rulemaking. Id. at 70.

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[171] The Petitioners provide additional references supplying information on the alleged health effects of radiation including references to a study by the National Academy of Science (BEIR VII), the publications of Joseph Mangano of the Radiation and Public Health Project, the publications of Janette Sherman, MD, of the Environmental Institute at Western Michigan University, and several articles published in the Michigan Messanger. Cont. at 84, 86-88.

Discussion

We agree with the arguments advanced by the Applicant and the Staff and find Contention 7 inadmissible. The Petitioners have failed to demonstrate a genuine dispute with the Applicant and have provided no alleged facts or expert opinion support for the assertions advanced in this Contention. 10 C.F.R. § 2.309(f)(1)(vi) and (v).[172]

First, the Petitioners' allegation that the Fermi Unit 3 gaseous effluent vent system design will result in a negative impact on workers and the public is unsupported. Cont. at 77. The Petitioners merely reference the departure from the ESBWR certified design identified in Part 7 of the COLA, but provide no alleged facts or expert opinion to support that the doses to members of the public and plant workers will exceed NRC regulatory limits as a result of the modified vent path. See 10 C.F.R. § 2.309(f)(1)(v). In addition, the Petitioners make no attempt to identify any issues or errors with the Applicant's results contained in Section 12.2.2 of the COLA FSAR regarding radiological consequences in support of the multi-stack vent system,[173] thereby failing to demonstrate a dispute with the applicant on a material issue of fact or law. See 10 C.F.R. § 2.309(f)(1)(vi).

Second, the Petitioners address liquid effluents from Fermi Unit 3 by citing the text of an RAI and the Applicant's relevant response. Cont. at 79. As pointed out by the Staff, however, the Petitioners' treatment of this issue provides no additional arguments to that presented in support of Contention 5 and will be dealt with therein.

Third, Contention 7 addresses the impact of radiation from the operation of Fermi Unit 2 on the construction workers at Fermi Unit 3. Quoting extensively from the ER, the Petitioners challenge the Applicant's conclusion that the impact on the Fermi Unit 3 workers would be

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[172] This contention as pled asserts that the radionuclide emissions from the construction and operation of Fermi Unit 3 will endanger the workers and the public. The Board was unable to discern any argument in support of the assertion that construction activities at Fermi Unit 3 would generate radionuclide emissions and subsequently cause harm to workers or members of the public.

[173] The departure material provided in Part 7 and referenced in the Petition points to Section 12.2.2.1, which contains the results of the Applicant's radiological dose calculations demonstrating compliance with NRC regulations.

small. Id. at 79-84. Such a presentation of excerpts from the COLA without further explanation does not provide sufficient support for a contention.[174] Instead, the only support offered for this portion of Contention 7 is the conclusion from the BEIR VII report stating that there is no safe level of exposure. Cont. at 84. The NRC has determined that a minimum threshold of exposure is considered safe. This acceptable level of exposure is documented in the agency's regulations where dose limits are established for safe levels of exposure from normal operation of a nuclear power plant to both workers and members of the public. See 10 C.F.R. §§ 20.1201 and 20.1301. The Petitioners' assertion that no exposure levels are safe is therefore an impermissible challenge to the exposure limits set forth in the NRC's regulations. See 10 C.F.R. § 2.335(a).

Moreover, although the Petitioners' referenced excerpts from the ER provide projected doses of exposure to the plant workers and the public, this contention lacks any analysis of the excerpted material; the Petitioners do not challenge the Applicant's methods used to form those projections nor do they dispute the numbers themselves. In contrast, the Petitioners simply disagree with the Applicant's conclusion that projected impacts to plant workers and the public are small because the doses are within regulatory limits by arguing that "[t]here is no safe level of exposure." Cont. at 84. The Petitioners therefore fail to identify any violation of NRC regulations or identify any error in the Applicant's analysis to establish a genuine dispute with the Applicant. Therefore, it does not meet the necessary contention admissibility requirements, and it impermissibly challenges the dose limits in NRC regulations.[175]

Fourth, the Petitioners assert that routine radioactive releases, particularly of potential tritium releases (both planned and unplanned) from Fermi Unit 3, would harm human health. The Petitioners' support for this assertion is provided through a series of anecdotal references to releases at other facilities. Cont. at 84-85. The Petitioners, however, do not specifically

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[174] See USEC, Inc. (American Centrifuge Plant), LBP-05-28, 62 NRC 585, 597 (2005), aff'd CLI-06-10, 63 NRC 451, 472 (2006).

[175] See 10 C.F.R. § 2.309(f)(1)(vi); see also id. § 2.335(a).

challenge the Applicant's radioactive emission analyses for Fermi Unit 3 provided in the COLA, again failing to demonstrate a genuine dispute with the Applicant. See 10 C.F.R. § 2.309(f)(1)(vi).

Finally, the Petitioners raise a number of peripheral issues related to releases from the nuclear fuel cycle in general, incidences of childhood cancers near nuclear power plants, and a request for the NRC to address radioactive releases from "…burning of coal at Monroe County's two fossil fuel plants." Cont. at 86. None of these issues fall within the scope of this proceeding nor are they material to a decision that the NRC must make. See 10 C.F.R. § 2.309(f)(1)(iii) and (iv).

For the reasons set forth above, the Board finds Contention 7 inadmissible.

H. Contention 8

Petitioners state in Contention 8:

Threatened and Endangered Species have not been properly mitigated.[176]

In this contention, the Petitioners assert that "inadequate mitigation has been considered" for four endangered and threatened animal species and three species of threatened plants on the proposed Fermi Unit 3 site. Cont. at 89. The primary focus of the contention is the eastern fox snake, which is listed as a threatened species by the Michigan Department of Natural Resources (MDNR). Petitioners restate and adopt in Contention 8 the MDNR's comments on the Applicant's ER.[177] The comments highlight discrepancies between recorded MDNR sightings of the eastern fox snake at the Fermi property in June 2008 and the Applicant's statement in the ER that this species has not been observed on the property. The MDNR comments further state that construction activities for the new reactor will kill snakes, destroy their habitat, and may eliminate them from the area. Cont. at 89-90.

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[176] Cont. at 89.

[177] Cont. at 89-90 (citing Email from Lori Sargent, MDNR, to NRC (Feb. 9, 2009) (ADAMS Accession No. ML090401014)). A copy of the comments was also sent to the NRC on February 9, 2009.

Both the Applicant and the Staff assert that Contention 8 is inadmissible for failing to demonstrate a genuine dispute on a material issue.[178] The Applicant maintains that the Petitioners fail to cite any regulations or statutes requiring it to mitigate the impacts of the project on a state-listed species. App. Ans. at 57. Moreover, the Applicant notes that the COLA provides a discussion of potential impacts to the eastern fox snake during construction and concludes that no mitigation is necessary. The Applicant asserts that the Petitioners have not argued that this conclusion is incorrect. Id. at 58.

The Staff adds that the Petitioners' claims are "vague and conclusory," NRC Ans. at 75, and that no explanation or additional support for the issues raised in Contention 8 is provided "other than the EPA and MDNR comments themselves," Id. at 76. In particular, the Staff asserts that the Petitioners have not identified specific sections of the ER that are in dispute or lack required information, nor do the Petitioners take issue with the resulting conclusions or specific mitigation plans provided by the Applicant's analyses in the ER. Id. at 76-77.

Discussion

We construe Contention 8 as a NEPA contention alleging that the ER fails to adequately assess the project's impacts on the eastern fox snake and to consider alternatives that would reduce or eliminate those impacts. We find the contention as so construed to be admissible. It is not admissible with respect to any other species or issue, nor is it admissible to the extent it asks that we order the applicant to adopt additional mitigation measures for the protection of the eastern fox snake.

The Petitioners allege, in their explanation of Contention 8, that the Applicant failed to take a "hard look" at impacts to the eastern fox snake and at alternatives that would reduce or eliminate those impacts. Cont. at 89. We construe Contention 8 as a NEPA contention because NEPA is the statute that requires federal agencies to take a "hard look" at the

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[178] App. Ans. at 57; NRC Ans. at 75.

environmental consequences of their actions.[179] The agency's regulations in 10 C.F.R. Part 51 impose upon the Applicant the obligation to supply much of the information that the agency must include in the EIS it prepares pursuant to NEPA. Thus, we construe Contention 8 to allege that the ER failed to adequately discuss impacts on the eastern fox snake and alternatives that would reduce or eliminate those impacts, in violation of the requirements of 10 C.F.R. § 51.45(b) and (e).

To be sure, neither NEPA nor Part 51 requires applicants to eliminate adverse environmental impacts. Courts have consistently interpreted NEPA as a procedural statute that requires disclosure and analysis of environmental impacts, not one that imposes substantive obligations for the protection of natural resources.[180] Thus, to the extent Contention 8 asks that we require the Applicant to adopt additional mitigation measures for the protection of the eastern fox snake, it exceeds our authority under NEPA and Part 51. But we may narrow a contention in a manner that avoids such legal difficulties.[181] We will therefore narrow the contention to disputing the adequacy of the ER's analysis of impacts to the eastern fox snake and alternatives that would reduce or eliminate those impacts.

As so narrowed and construed, we find that Contention 8 satisfies the admissibility criteria of 10 C.F.R. § 2.309(f)(1). This contention includes a specific statement of law or fact to be raised or controverted. It provides a brief explanation of the basis for the contention, alleging that the eastern fox snake inhabits the Fermi Unit 3 site and that construction activities for the new reactor will kill snakes, destroy their habitat, and might eliminate them from the area. Contention 8 is within the scope of the proceeding, since it concerns the adequacy of the ER for Fermi Unit 3. See 10 C.F.R. § 2.309(f)(1)(i)-(iii).

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[179] See Robertson v. Methow Valley Citizens Council, 490 U.S. at 350.

[180] See Robertson v. Methow Valley Citizens Council, 490 U.S. at 350 ("it is now well settled that NEPA itself does not mandate particular results, but simply prescribes the necessary process.") (citations omitted); Strycker's Bay Neighborhood Council, Inc. v. Karlen, 444 U.S. 223, 227 (1980) ("If the adverse environmental impacts of the proposed action are adequately identified and evaluated, the agency is not constrained by NEPA from deciding that other values outweigh the environmental costs.").

[181] See cases cited at Note 79, supra.

Contention 8 is material to compliance with NEPA and the NRC's regulations implementing NEPA, and it therefore satisfies the requirement of 10 C.F.R. § 2.309(f)(1)(iv). Contention 8 alleges omissions from and errors in the analysis required by 10 C.F.R. § 51.45(b) and (e) and NEPA. In substance, it alleges that the ER fails to adequately evaluate the proposed action's impact on a threatened species and alternatives that would reduce those impacts. The NRC Staff agreed that the ER must address any impacts to a species listed as threatened under a state statute and that the agency's EIS must also address any such impacts. Tr. at 134. Accordingly, Contention 8 is material to the ER's compliance with the NRC's regulations, and ultimately to the NRC's compliance with NEPA.

The Petitioners have provided sufficient factual support for Contention 8, as required by 10 C.F.R. § 2.309(f)(2)(v). In support of their claim that construction activities at the Fermi Unit 3 site will harm the eastern fox snake, the Petitioners rely on the MDNR's February 9, 2009 comments on the ER. The author of the MDNR comments is Lori Sargent, a Nongame Wildlife Biologist in the MDNR's Wildlife Division. She states that MDNR had previously identified four endangered or threatened animal species and three species of threatened plants that are present in the project area. Subsequently, MDNR obtained or was provided with a copy of the ER for comment. In its February 9, 2009 comments on the ER, the MDNR stated that "the animal species that is of primary concern in the area is the eastern fox snake (Pantherophis gloydi)." Ms. Sargent noted a "discrepancy" in the ER's analysis of potential impacts to this species.

> On page 2-333 of the Environmental Report it states that "nine occurrences were reported in Monroe County…the snake was sighted two times on the Fermi property in June 2008." There is a discrepancy to this statement on page 4-45 where it states "The eastern fox snake (a Michigan threatened species) has not been observed on the Fermi property, but the potential for its occurrence on the property does exist.

Ms. Sargent further reported that the MDNR's own records show "a viable population of Eastern fox snake at the site of the proposed project." Ms. Sargent concluded that "going forward with the construction would not only kill snakes but destroy the habitat in which they live and possibly

exterminate the species from the area."[182] She recommended the development of a "plan for protection of this rare species with regard to this new reactor project." The MDNR comments provide the necessary support for the Petitioners' contention that members of the species inhabit the site of the proposed project and will be significantly harmed, and might be eliminated from the area, by construction of the new nuclear power plant.

The Petitioners have also demonstrated a genuine dispute with the Applicant on a material issue of fact. 10 C.F.R. § 2.309(f)(1)(vi). Contention 8 restates and adopts the MDNR comments summarized above, which dispute the statement on page 4-45 of the ER regarding the presence of the eastern fox snake at the site and the potential impact of construction activities upon the snake.[183] The disputed page of the ER states:

> The eastern fox snake (a Michigan threatened species) has not been observed on the Fermi property, but the potential for its occurrence on the property does exist. The Michigan Natural Features Inventory has recorded nine occurrences for Monroe County, with the most recent report in 2007. . . . If present, the snake would most likely be found along the cattail marshes or wetland shorelines around woody debris. . . . Fermi [Unit] 3 construction activities are primarily located away from potential habitat for the eastern fox snake and the snake would be expected to move away from these activities. Therefore, the impact to this species from the project is considered SMALL, and no mitigative measures are needed.[184]

Thus, while the MDNR maintains that a viable population of eastern fox snake is present at the site of the proposed project, the ER reports that the species has not been observed on the Fermi property. ER at 4-45. Because it believes a snake population inhabits the project area, the MDNR contends that construction of the project will kill those snakes, destroy their habitat, and might eliminate the species from the project area. The ER, in contrast, assumes that any snakes that might hypothetically be present at the project site will inhabit areas not affected by construction activities and that therefore any impact upon the species will be small. MDNR recommends that a mitigation plan be developed, but the ER maintains no mitigation measures

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[182] Cont. at 90 (citing Email from Lori Sargent, MDNR, to NRC (Feb. 9, 2009) (ADAMS Accession No. ML090401014)).

[183] Thus, contrary to the Staff's argument, NRC Ans. at 76, the Petitioners have identified the specific part of the ER that is in dispute.

[184] ER at 4-45.

are needed. If MDNR is correct that an eastern fox snake population is present at the project site (i.e., in the area where the nuclear power plant will be constructed), then it is certainly reasonable to conclude, as MDNR does, that the population's survival is at risk. Thus, the primary factual dispute is whether a population of eastern fox snake is present at the site of the proposed project, as MDNR and the Petitioners maintain, or whether the Applicant is correct in stating in its ER on page 4-45 of the ER (in contradiction to page 2-333 of the same document) that no such population has been observed. This is a typical dispute of fact or expert opinion that is appropriate for resolution in an evidentiary hearing.

NRC Staff suggests that the MDNR comments are insufficiently detailed and specific to support Contention 8.[185] We disagree. The Staff overstates the burden on the Petitioners at this stage of the proceeding, attempting to convert our review of the proffered factual support for the contention into a trial on the merits. Explaining the level of support necessary for an admissible contention, the Commission observed:

> Although [the contention admissibility rule] imposes on a petitioner the burden of going forward with a sufficient factual basis, it does not shift the ultimate burden of proof from the applicant to the petitioner. . . . Nor does [the rule] require a petitioner to prove its case at the contention stage. For factual disputes, a petitioner need not proffer facts in "formal affidavit or evidentiary form," sufficient "to withstand a summary disposition motion." . . . On the other hand, a petitioner "must present sufficient information to show a genuine dispute" and reasonably "indicating that a further inquiry is appropriate."[186]

By quoting and citing the MDNR comments, the Petitioners have provided the required "concise statement" and supporting references. 10 C.F.R. § 2.309(f)(1)(v).

The cases cited by the Staff to support its argument do not impose a more demanding burden. In Fansteel, Inc., the Commission explained that "[a] petitioner's issue will be ruled inadmissible if the petitioner 'has offered no tangible information, no experts, no substantive affidavits,' but instead only 'bare assertions and speculation.'"[187] Here, the Petitioners have

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[185] NRC Ans. at 76-77.

[186] Yankee Atomic Elec. Co. (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 249 (1996) (citations omitted); see also Gulf States Utilities Co. (River Bend Station, Unit 1), CLI-94-10, 40 NRC 43, 51 (1994).

[187] Fansteel, CLI-03-13, 58 NRC at 203.

provided more than bare assertions and speculation; they have provided tangible information supporting their contention by quoting and citing the MDNR comments. In USEC, Inc, the Commission stated that "'an expert opinion that merely states a conclusion (e.g., the application is "deficient," "inadequate," or "wrong") without providing a reasoned basis or explanation for that conclusion is inadequate because it deprives the Board of the ability to make the necessary, reflective assessment of the opinion . . . .'"[188] The MDNR comments do not merely state that the application is "deficient," "inadequate," or "wrong." Instead, the MDNR wildlife biologist explained, based upon that agency's records, that there is in fact a viable population of the eastern fox snake at the site of the proposed project. Because a viable snake population is present and the Applicant is proposing to undertake a large-scale construction project at the site, the agency concluded that "going forward with construction would not only kill snakes but destroy the habitat in which they live and possibly exterminate the species from the area." The MDNR comments accordingly provide a sufficient explanation of the MDNR's conclusion, not just an assertion that the ER is incorrect.

Moreover, the MDNR comments differ from the expert opinion at issue in USEC, Inc. in that the comments represent the opinion of the state agency charged with enforcing Michigan law concerning the protection of the threatened species at issue. Indeed, the Applicant informed us at oral argument that it might be required to obtain a permit from MDNR related to the project's effects on the eastern fox snake, and that it is working with MDNR to mitigate impacts to the snake. See Tr. at 128-29. The Commission has long recognized "'the benefits of participation in our proceedings by representatives of interested states.'"[189] Licensing boards have granted state agencies the right to participate in our proceedings as the State's representative.[190] In this case, neither the State of Michigan nor MDNR has asked to participate

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[188] USEC, CLI-06-10, 63 NRC at 472.

[189] Fansteel, CLI-03-13, 58 NRC at 202 (quoting Niagara Mohawk Power Corp. (Nine Mile Point Nuclear Station, Units 1 and 2), CLI-99-30, 59 NRC 333, 344 (1999)).

[190] See, e.g., Connecticut Yankee Atomic Power Co. (Haddam Neck Plant), LBP-03-18, 58 NRC 262, 264 (2003); Pacific Gas & Elec. Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2),

in the proceeding, but the Commission's recognition of the benefits of state participation makes particularly relevant the opinion of the State agency charged with protecting the threatened species at issue in the contention before us.

Therefore, the Petitioners have established a dispute of material fact concerning the presence of the eastern fox snake at the site and the impact of Fermi Unit 3 construction activities on the population. We do not, however, admit Contention 8 with respect to any other species. Although Contention 8 refers generally to four endangered and threatened animal species and three species of threatened plants on the proposed Fermi Unit 3 site, Cont. at 89, the Petitioners have not identified any species other than the eastern fox snake. The Petitioners informed us at oral argument that they have asked MDNR to identify the other species, but they have not yet received a response. Tr. at 121. If the Petitioners elect to file a contention regarding any other species, it must meet the requirements of 10 C.F.R. §§ 2.309(f)(2) or 2.309(c).

Contention 8 also refers to a February 9, 2009 letter sent from Region 5 of the U.S. Environmental Protection Agency to the NRC, offering recommendations regarding the scope of the EIS and encouraging the selection of alternatives with the least impact to wetlands.[191] We agree with the Applicant that the Petitioners have not identified in Contention 8 any impacts to wetlands that were "overlooked or otherwise not considered" in the ER. App. Ans. at 58. The Petitioners will have to wait until the draft of final EIS is issued to file any contentions alleging that the EIS fails to adequately assess wetlands impacts or consider alternatives that would minimize those impacts.[192] For the present, wetlands impacts are relevant to Contention 8 only to the extent that they concern the effect of the project on the eastern fox snake.

We find Contention 8 admissible as construed and narrowed above.

LBP-93-1, 37 NRC 5, 37 (1993) (granting non-party interested State status to State utility commissions under 10 C.F.R. § 2.715(c), the predecessor to 10 C.F.R. § 2.315(c)).

[191] Cont. at 90 (citing Letter from Kenneth A. Westlake, EPA Region 5, to Michael Lesar, NRC re: Fermi Nuclear Power Plant, Unit 3 – Notice of Intent and Scoping Request (Feb. 9, 2009) (ADAMS Accession No. ML090650467)).

[192] 10 C.F.R. § 2.309(f)(2).

I. Contention 9

The Petitioners state in Contention 9:

> The Commission must require completion of an EIS and selection of a 'preferred alternative' prior to authorizing any construction activity of any sort.[193]

In this contention, the Petitioners challenge the Commission's Limited Work Authorization (LWA) rule as promulgated under 10 C.F.R. § 50.10(d)(1). As the Petitioners correctly note, the holder of an LWA is permitted to drive pilings; conduct subsurface preparations; place backfill, concrete, or permanent retaining walls within an excavation; and install the foundation.[194] The Petitioners contend that this regulation circumvents NEPA by allowing an "irretrievable commitment to a large, baseload plant, probably nuclear-fired, long before the completion of an Environmental Impact Statement." Cont. at 91. According to the Petitioners, this "manifests an undeniable bias toward central baseload plant construction and precludes substantive consideration of any other decentralized alternatives such as wind, solar, geothermal and energy conservation." Id. at 91-92.

The Applicant and the Staff both oppose the admissibility of Contention 9 because, inter alia, it is an impermissible challenge to a NRC regulation.[195] We agree. The Petitioners ask that we prohibit the Applicant from doing precisely what the challenged regulation authorizes. Under 10 C.F.R. § 2.335(a), we may not admit a contention that challenges a NRC regulation. The Staff also points out that the Applicant has not sought a LWA in the Fermi Unit 3 COLA. NRC Ans. at 78. The Petitioners agree that there is no pending LWA request. Reply at 63. Accordingly, the Petitioners have not presented a challenge to the application as required under 10 C.F.R. § 2.309(f)(1)(vi). Therefore, we find Contention 9 inadmissible.

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[193] Cont. at 91.

[194] Id. (citing 10 C.F.R. § 50.10(d)(1)).

[195] App. Ans. at 61; NRC Ans. at 78.

J. Contention 11[196]

The Petitioners State in Contention 11:

> Spent fuel reprocessing is not an option.[197]

The Petitioners contend that the NRC should reject any future bid by DTE to reprocess the irradiated nuclear fuel generated at Fermi Unit 3 due to the "risks of nuclear weapons proliferation, environmental devastation, and astronomical cost to taxpayers." Cont. at 103. The Petitioners note that the COLA explicitly states that only a "no recycle" option was considered and that the United States does not currently reprocess spent fuel. The Petitioners nevertheless assert that, because DTE is a member of the Nuclear Energy Institute (NEI), which advocates spent fuel reprocessing, the contention is admissible. Id.

Contention 11 provides several citations to pages in the ER where spent fuel reprocessing is mentioned as an option for managing high level waste, which the Petitioners imply places that issue within the scope of this proceeding. Id. In addition, the Petitioners also mention the Applicant's citation of Table S-3, which the Petitioners object to on the ground that it does not include impacts from spent fuel reprocessing for plutonium recovery. The Petitioners object to the NRC's "lack of conservatism" in Table S-3. Id. at 103-104. As additional support for this contention, the Petitioners provide citations from publications by Arjun Makhijani and other authors who oppose spent fuel reprocessing for policy reasons.

Discussion

This contention is not admissible because it does not present a genuine dispute with the application, but rather seeks to litigate broad public policy issues related to the reprocessing of spent nuclear fuel. The Petitioners themselves note that the application contains an explicit statement that the United States does not currently reprocess spent fuel and that only a "no

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[196] The Petitioners formerly withdrew Contention 10 during oral argument on May 5, 2009. See Tr. at 142.

[197] Cont. at 103.

recycle" option is considered in the ER.[198] The COLA does not include any plan by the Applicant to reprocess spent fuel, nor does it rely on the existence of spent fuel reprocessing facilities elsewhere to support its conclusions on safety and environmental issues. Spent fuel reprocessing is thus unrelated to any decision the NRC might make in this proceeding. As the Staff notes, the Petitioners and the Applicant "appear to be in broad agreement that spent fuel reprocessing is not to be relied upon in the Fermi [Unit] 3 COLA." NRC Ans. at 86. The Petitioners' broad objections to spent fuel reprocessing are therefore outside the scope of this proceeding and fail to present a genuine dispute with the COLA. See 10 C.F.R. § 2.309(iii) and (vi). For reasons previously explained, we may not consider challenges to Table S-3 of 10 C.F.R. § 51.51(b). We therefore find Contention 11 inadmissible.

K. Contention 12

The Petitioners state in Contention 12:

> The Emergency and Radiological Response Plan is deficient.[199]

In this Contention, the Petitioners suggest several inadequacies in the Applicant's "Emergency and Radiological Response Plan" ("Emergency Plan") for the proposed Fermi Unit 3. These purported inadequacies include severe weather issues, contingencies during construction of Fermi Unit 3, extending the emergency planning zone (EPZ) to 50 miles, evacuating children from the Jefferson public school system, and increasing the minimal supply of potassium iodide tablets. Cont. at 106-07. Also, as part of Contention 12, the Petitioners propose a list of mitigation measures it deems "necessary to protect the public." Id. at 107.

First, the Petitioners contend that during severe winter weather, the current road clearing capabilities are "woefully inadequate." Id. at 106. The Petitioners provide two references, a letter to the editor of the local newspaper and an article from a local media website, which purportedly demonstrate that the inadequacies are "common knowledge" in the community of Monroe. Id. Second, the Petitioners assert that the EPZ should extend from the

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[198] Cont. at 103 (citing ER at 5-141).

[199] Cont. at 106.

current 10-mile radius used by the Applicant to "at least 50 miles," and include the surrounding "major population centers" such as Detroit and Ann Arbor, Michigan, and Toledo, Ohio. Id. The Petitioners add that the evacuation routes are "too narrow," and therefore need to be expanded to accommodate a "mass exodus" during an emergency evacuation. Id. Third, the Petitioners assert that potassium iodide tablets are not readily available, and therefore, should be distributed regularly within the 50-mile EPZ. Id. at 107.

Finally, the Petitioners challenge the attention paid in the Applicant's ER to the feasibility of the current Fermi Unit 2 Emergency Evacuation Plan during the construction phase of the proposed Fermi Unit 3. Id. at 106. The Petitioners reference the Applicant's analysis in its ER of transportation impacts[200] to highlight that traffic impacts during construction of the proposed new facility are likely to be a "serious problem." Cont. at 106. From the ER, the Petitioners gather information regarding the projected Fermi Unit 3 workforce being expected to commute between 50 and 70 miles to the work site (2,900 workers), and the associated traffic congestion related to the increase in the number of workers particularly when Fermi Unit 3 construction coincides with a scheduled Fermi Unit 2 outage.[201] The Petitioners also note the limited access routes between the Fermi site and the major freeways aggravating the feasibility of the evacuation routes, and further contend that there is an inadequate school bus fleet to perform emergency evacuation of the area public schools. Cont. at 107.

The Applicant maintains that Contention 12 includes "no basis, references, documentary support, or expert opinions to demonstrate a genuine dispute with respect to the EPZ, the ETEs [evacuation time estimate studies] or any other aspect of the evacuation planning." App. Ans. at 70-71. The Applicant states that no reference is provided to the particular Emergency Plan in dispute nor do the Petitioners challenge the time estimate ranges from the 14 different scenarios analyzed in the COLA. Id. at 68. The Applicant also avers that any challenge to the adequacy of the emergency preparedness for Fermi Unit 2 is outside the scope of this

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[200] See ER at 4-81 to 4-82 (section 4.4.2.4.2, Environmental Impacts of Construction).

[201] Cont. at 106 (citing ER at 4-81 (section 4.4.1)).

proceeding, and a contention asserting the need for a larger EPZ is a direct attack on an NRC regulation.[202] And finally, the Applicant asserts that any details regarding the distribution of potassium iodide tablets is a responsibility delegated by the NRC to the state of Michigan; thus, this issue is beyond the scope of this proceeding.[203]

The Staff is in agreement with the Applicant that Contention 12 is inadmissible because the Petitioners fail to challenge any aspect of the COLA, with one exception. The Staff notes that the basis addressing the emergency evacuation plan for Fermi Unit 2 during construction of Fermi Unit 3 properly challenges the COLA; however, the Staff argues, this basis is not adequately supported and the Petitioners fail to demonstrate the Applicant's noncompliance with applicable laws by addressing deficiencies in the emergency plan at issue. NRC Ans. at 87-88. The Staff maintains, inter alia, that the aspect of this contention regarding the capacity of local roads especially troublesome considering that the Applicant provides an extensive (totaling more than 300 pages) assessment of the entire highway system within the EPZ, yet none of this information is challenged by the Petitioners. Id. at 91.

Discussion

The Petitioners raise three distinct issues with regard to the Fermi Unit 3 Emergency Plan. Cont. at 106-108. The first issue relates to the impact of current road clearing capabilities during severe winter weather on facility emergency evacuation times. Id. at 106. The evacuation time for the Petitioners' postulated scenario in Contention 12 is analyzed by the Applicant and the evacuation time estimates are documented in the Fermi Unit 3 COLA. App. Ans. at 71. Furthermore, the Petitioners have not challenged the specifics of this analysis nor have they indicated any failure of these studies to meet NRC requirements; thus failing to demonstrate a genuine dispute with the Applicant as required under 10 C.F.R. § 2.309(f)(1)(vi).

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[202] App. Ans. at 71; see also id. at 69.

[203] App. Ans. at 72. The Staff also notes that 10 C.F.R.§ 50.47(b)(10) and Part 50, Appendix E.IV.D.2 discusses the use of potassium iodide (KI) and the requirements for distributing emergency planning information; the regulations provide that KI distribution beyond the 10-mile EPZ Is not necessary. NRC Ans. at 90.

In the second issue, the Petitioners argue that the EPZ should be extended to an area encompassing a minimum 50-mile radius from the Fermi site. Cont. at 106. NRC regulations require that procedures be established to provide for early notification and clear instructions to the populace within the plume exposure pathway EPZ. See 10 C.F.R. § 50.47(b)(5). In accordance with the regulations, the plume exposure pathway EPZ shall generally consist of an area covering a radius of "about 10 miles". See 10 C.F.R. § 50.47(c)(2). As pled, the Petitioners provide no basis for the assertion that the EPZ should be increased to a 50-mile radius. 10 C.F.R. § 2.309(f)(1)(ii). In addition, the Petitioners provide no alleged facts or expert opinion to support their assertion that the EPZ should be increased. 10 C.F.R. § 2.309(f)(1)(v).

Finally, the third issue involves a challenge to the Evacuation Plan for Fermi Unit 2 during the construction of the proposed Fermi Unit 3; the issue of concern being the need to evacuate with the projected increase in workforce during construction. Specifically, the Petitioners raise a series of challenges to the adequacy of the Applicant's Emergency Plan. Cont. at 106. In doing so, however, the Petitioners fail to provide a specific reference to the Applicant's Emergency Plan submitted as Part 5 of the COLA to challenge the adequacy of that analysis. In fact, for Contention 12, the Petitioners' only reference to the COLA is to the Applicant's assessment of the construction impacts on local traffic in the ER. Id. at 106-107. Such a reference provides a potential starting point for a contention, but does not challenge the extensive analysis of evacuation times provided in the Applicant's Emergency Plan including the impact of the proposed Fermi Unit 3 construction workforce, which appears to be the Petitioners' primary concern in this regard.

Although it might be argued that the Fermi Unit 2 Evacuation Plan is outside the scope of this Fermi Unit 3 COL proceeding, contrary to the Petitioners' assertions the Applicant did provide an analysis of the evacuation times for exactly this scenario, as noted above. The Petitioners do not challenge this analysis or the resulting evacuation times documented in the

Applicant's Emergency Plan, particularly in Scenario 14, which is applicable here.[204] In fact, Contention 12 fails to challenge the COLA in any way, thus lacking the necessary demonstration of a genuine dispute with the Applicant on a material issue. See 10 C.F.R. § 2.309(f)(1)(vi).

In addition to the challenges made against the Applicant's Emergency Plan, the Petitioners request that the Applicant fund seven remediation measures. Cont. at 106-108. In regard to these seven requested remedies, each is a measure to be taken by the Applicant in consort with state and local officials. Not one of the requested remedial actions constitute an action that the NRC must take in this proceeding to grant a combined license for a new nuclear reactor nor do they fall within the jurisdiction of the NRC in any regard. Moreover, denial of the license in this proceeding would not provide the resulting remedies the Petitioners desire. Thus, as they pertain to these remediation measures, the Petitioners' requests are clearly outside the scope of this proceeding.

Based on the foregoing, the Board finds Contention 12 inadmissible.

L. Contention 13

The Petitioners state in Contention 13:

> The identification, characterization and analysis of need, alternatives to construction, and the mix of conservation and renewable energy sources is wholly inadequate and violates NEPA.[205]

The Petitioners contend that the Applicant's alternatives analysis in its ER is deficient for failing to "contain complete data for meaningful understanding of the reasonable alternatives" as NEPA requires. Cont. at 109. The Petitioners accuse the Applicant of systematically exaggerating the risks for the alternatives and failing to assess "all reasonable options in a comprehensive fashion." Id. at 111. The Petitioners contend that the Applicant has "grossly" underestimated the cost of the facility, has provided an outdated argument regarding its need

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[204] See Fermi: Combined License Application; Part 5: Emergency Plan (Rev. 1) at ES-8, Table 6-2, Scenario 14 (Mar. 2009).

[205] Cont. at 109.

for power, has provided a disingenuous discussion of energy efficiency, and has not provided adequate consideration of solar and wind energy alternatives. See id. at 111-122. Both the Applicant and the Staff oppose admission of Contention 13 for failing to meet the requirements in 10 C.F.R. § 2.309(f)(1).

This contention raises four distinct issues concerning alternatives to and the need for the proposed new reactor. We will separately summarize and analyze each of those issues.

1. Cost of the new facility. The Petitioners allege that the Applicant significantly underestimated the cost of Fermi Unit 3, thereby skewing the analysis of alternatives. The Petitioners provide testimony from a pending rate case before the Michigan Public Service Commission (MPSC) stating that, based on recent developments in the industry, the costs at issue in the testimony were "grossly underestimated," and that use of "inaccurate resource costs will portray an inaccurate resource economic assessment."[206] The Petitioners assert that more accurate costs scenarios are missing from the ER, which has "direct implications for comparing the economics and relative environmental impacts of sustainable alternatives to nuclear." Cont. at 111.

The Applicant argues that the Petitioners fail to directly controvert the application or provide adequate support to demonstrate a genuine dispute. App. Ans. at 75. The Staff maintains that the information in the testimonial excerpt does not support the Petitioners' assertion. The Staff adds that the accuracy of an applicant's cost estimate is not material to the findings the NRC must make under NEPA.[207]

This contention concerns the ER's analysis of alternatives to the proposed action. Under the NRC's Part 51 regulations, the ER must "contain a description of the proposed action, a statement of its purposes, [and] a description of the environment affected," 10 C.F.R. § 51.45(b), and it must also discuss "[a]lternatives to the proposed action . . . . " Id. §

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[206] Cont. at 112 (citing Testimony of Geoffrey C. Crandall, former technical staff member of the MPSC and private utility economist, July 2008).

[207] NRC Ans. at 94 (citing Progress Energy Carolinas, Inc. (Shearon Harris Nuclear Power Plant, Units 2 & 3), LBP-08-21, 68 NRC __, __ (slip op. at 25) (Oct. 30, 2008)).

51.45(b)(3). The requirement to discuss alternatives in the ER parallels NEPA's requirement that an EIS provide a detailed statement of reasonable alternatives to a proposed action.[208] The alternatives discussion in the ER or EIS, however, need not include "every possible alternative, but every reasonable alternative."[209] Reasonable alternatives do not include alternatives that are "impractical[;] . . . that present unique problems; or that cause extraordinary costs."[210] Thus, an alternative need not be considered in detail if it is technologically unproven, unsafe, too costly, or otherwise impracticable.[211]

If the Applicant disqualified an environmentally preferable alternative on the ground that it was too costly compared to the cost of the proposed new reactor, then the reasonableness of the Applicant's cost estimate for the new reactor could be a material issue under NEPA. But we agree with the Staff and the Applicant that this aspect of Contention 13 is inadequately supported by fact or expert opinion and fails to demonstrate a genuine dispute with the COLA. See 10 C.F.R. § 2.309(f)(1)(v) and (vi). The Petitioners have not clearly identified any environmentally preferable alternative that would have merited further consideration (i.e., that would have constituted a reasonable alternative to constructing the new reactor) if a more accurate cost estimate for the new reactor had been used. In fact, the ER disqualified

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[208] 42 U.S.C. § 4332(2)(C)(iii); see also Claiborne, CLI-98-3, 47 NRC at 104.

[209] Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), CLI-91-2, 33 NRC 61, 71 (1999) (emphasis added).

[210] Private Fuel Storage, LLC (Independent Spent Fuel Storage Installation), LBP-03-30, 58 NRC 454, 479 (2003) (citing Airport Neighbors Alliance v. United States, 90 F.3d 426, 432 (10th Cir. 1996), Communities, Inc. v. Busey, 956 F.2d 619, 627 (6th Cir. 1992)).

[211] See Kelley v. Selin, 42 F.3d 1501, 1521 (6th Cir. 1995) (upholding NRC decision not to consider additional alternative spent fuel storage technologies that were "neither sufficiently demonstrated nor practicable for use" for the application in question); NRDC v. Morton, 458 F.2d at 837 (approving exclusion from alternatives discussion of alternative energy sources that "will be dependent on [future] environmental safeguards and [technological] developments"); Busey, 956 F.2d at 627 (upholding rejection of alternatives that "presented severe engineering requirements" or were "imprudent for reasons including their high cost, safety hazards, [and] operational difficulties").

alternatives preferred by the Petitioners, including wind and solar power, not because they were too costly but because they would not provide a reliable source of baseload power.[212]

In addition, the only support the Petitioners provide for their claim that the ER underestimates the cost of Fermi Unit 3 is an excerpt of the testimony of Geoffrey C. Crandall, a private utility economist, in a Michigan Public Service Commission (MPSC) rate case. Cont. at 111-112. The cost estimate at issue in that case was not from the ER for Fermi Unit 3, but rather from Michigan's 21st Century Electric Energy Plan, a document prepared and issued by the MPSC. Although Mr. Crandall disputed the "$2352/kW" estimate for Fermi Unit 3 in the Energy Plan, he said nothing about the total estimated cost provided in the ER, which is $3500 to $4500/kWe.[213] The Petitioners have not provided any meaningful basis for comparing the cost estimates referred to in the testimony with the Fermi Unit 3 estimate, nor have they provided any other facts or expert opinion that contradict the ER's cost estimate.

We therefore find this aspect of Contention 13 inadmissible.

2. The need for power. The Petitioners claim that the ER does not include data that reflects the recent economic downturn in Michigan and the likely resulting reduction in the need for power. Cont. at 113. The Petitioners note that the analysis in the ER regarding the need for power was premised on Michigan's 21st Century Electric Energy Plan, which purportedly "forms the core data projections in the ER supporting endless growth in electrical consumption and…the 'need' for Fermi 3." Id. As the data in the report was gathered in 2006, the Petitioners highlight that the information is 2.5 years old and "has been overtaken by history." Id. The Petitioners maintain that "the economic prognosis for Michigan, and consequent implications for energy usage and need, have shifted sharply" in the last six months. Id. at 115-116. Moreover, the Petitioners assert that, contrary to data the Applicant cites in its ER, Detroit Edison's most recent rate case filing (U-15677 of 9/30/2008) "reflects current negative trends and forecasts a drop in electric peak demand." Id. at 114. The Petitioners argue that the data and the

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[212] See ER at 9-9 through 9-11.

[213] Cont. at 112; COL, Part 1 at 7.

assessment of need in the COLA must be updated to reflect the current economic environment in Michigan. Id. at 116.

The Applicant and the Staff assert that the Petitioners fail to present expert or factual support to establish a genuine dispute with the application.[214] The Applicant asserts that this contention challenges the Michigan 21st Century Plan and not the Applicant's analysis in its COLA. App. Ans. at 75. Moreover, the Applicant notes that the forecasting process described in the ER encompasses a twenty-year planning cycle based on a wide variety of factors, unlike the Petitioners "narrow focus on perceived near-term economic conditions." Id. at 77. The Staff argues that the outdated nature of the Applicant's need for power would only be material to this proceeding if the contention were to plead that there was "no need for power whatsoever in 2020, when Fermi [Unit] 3 is projected to begin operations. NRC Ans. at 96.

The Commission's NEPA regulations provide:

> [I]n a proceeding for the issuance of a combined license for a nuclear power reactor under part 52 of this chapter, the presiding officer will:
>
> > (1) Determine whether the requirements of Sections 102(2)(A), (C), and (E) of NEPA and the regulations in this subpart have been met;
> >
> > (2) Independently consider the final balance among conflicting factors contained in the record of the proceeding with a view to determining the appropriate action to be taken; [and]
> >
> > (3) Determine, after weighing the environmental, economic, technical, and other benefits against environmental and other costs, and considering reasonable alternatives, whether the combined license should be issued, denied, or appropriately conditioned to protect environmental values.[215]

Thus, the NRC's NEPA regulations mandate balancing the economic and other benefits of the proposed new reactor against the environmental and other costs that the project might incur. The need for power is therefore a material issue under NEPA when the Applicant claims, as it does here, that the benefit of the project is satisfying the need for power. The Commission so ruled in denying a request for rulemaking from the Nuclear Energy Institute that would have

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[214] App. Ans. at 75; NRC Ans. at 96.

[215] 10 C.F.R. § 51.107(a)(1)-(3) (emphasis added).

removed from the agency's regulations any requirement that applicants and licensees analyze, and the NRC evaluate, "alternative energy sources and the need for power with respect to the siting, construction, and operation of nuclear power plants."[216] The Commission explained that "the NRC must continue to consider alternative energy sources and the need for power to fulfill its responsibilities under [NEPA]."[217] This is necessary, the Commission explained, because "the NRC's NEPA analysis associated with nuclear power plant licensing . . . must include a balancing of costs and benefits," and the NRC has generally equated the need for power with the benefit side of the cost/benefit balance.[218] Although the Commission acknowledged "the primacy of State regulatory decisions regarding future energy options," it also made clear that "this acknowledgement does not relieve the NRC from the need to perform a reasonable assessment of the need for power."[219]

This conclusion follows from the D.C. Circuit's decision in Calvert Cliffs' Coordinating Committee, Inc. v. U. S. Atomic Energy Commission,[220] which requires that the NRC evaluate and balance both the claimed benefits and the environmental costs of a proposed new reactor. The D.C. Circuit stated:

> NEPA mandates a case-by-case balancing judgment on the part of federal agencies. In each individual case, the particular economic and technical benefits of planned action must be assessed and then weighed against the environmental costs; alternatives must be considered which would affect the balance of values. . . . The magnitude of possible benefits and possible costs may lie anywhere on a broad spectrum. Much will depend on the particular magnitudes involved in particular cases. In some cases, the benefits will be great enough to justify a certain quantum of environmental costs; in other cases, they will not be so great and the proposed action may have to be abandoned or significantly altered so as to bring the benefits and costs into a proper balance. The point of the individualized balancing analysis is to ensure that, with possible alterations, the optimally beneficial action is finally taken.[221]

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[216] Nuclear Energy Institute, Denial of Petition for Rulemaking, 68 Fed. Reg. 55,905, 55,905 (Sept. 29, 2003).

[217] Id. at 55,905.

[218] Id. at 55,909

[219] Id.

[220] 449 F.2d 1109.

[221] 449 F.2d at 1123 (internal citation omitted).

This implies that the NRC must analyze the need for additional power when it relies upon such a benefit in performing the balancing of benefits and costs required by 10 C.F.R. § 51.107(a)(3). The issue of the need for power may therefore fall within the scope of the findings the NRC must make under NEPA when reviewing an application for a new reactor, and a petitioner may obtain a hearing on the issue if it satisfies the other requirements of Section 2.309(f)(1).

We find, however, that the Petitioners have failed to provide supporting facts or expert opinion sufficient to demonstrate a genuine dispute with the COLA concerning the need for power. 10 C.F.R. § 2.309(f)(1)(v) and (vi). We do not find a genuine dispute here because, contrary to the Petitioners' claim, the Applicant's analysis of the need for power accounts for economic conditions in Michigan that might reduce the growth in demand, acknowledges sources of uncertainty, and recognizes that energy efficiency and conservation may also reduce the need for power.[222] The analysis, which is based on the MPSC's 21st Century Electric Energy Plan, considers several sources of uncertainty, including business cycles and economic conditions.[223] The uncertainty analysis explicitly recognizes that the automobile industry is a "major uncertainty,"[224] and includes the low-growth scenario cited by the Petitioners in their contention.[225] In order to take account of the various factors and uncertainties that may affect the future need for power, both the annual sales forecast and peak demand forecast in the ER include a high growth case, a base case, and a low growth case. The Petitioners have at most provided some alleged facts suggesting that the future need for power might be closer to the low growth case identified in the ER than to the high growth case or the base case. The Petitioners have not, however, provided facts or expert opinion to indicate that the future need for power will likely fall below the low growth case, nor have they identified an issue affecting the

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[222] ER at 8-25 to 8-29, 8-32 to 8-38.

[223] See ER at 8-9; 8-25 to 8-27.

[224] Id. at 8-9.

[225] Cont. at 114; ER at 8-9, 8-27, 8-34, 8-37.

need for power or a source of uncertainty that was not considered in the ER. They have therefore failed to demonstrate a genuine dispute with the Application.

We therefore decline to admit this aspect of Contention 13.

c. Energy efficiency. The Petitioners criticize the Applicant for concluding that a combination of conservation and power purchases will not provide the necessary baseload power needed to satisfy target reliability levels. Cont. at 116. The Petitioners provide witness testimony from a rate case before the MPSC and cite a book written by Dr. Arjun Makhijani to support the claim that, in its COLA, the Applicant relies on "severely out-of-date" forecasts and unreasonable assumptions, and should instead be required to provide "contemporaneous data and need projections." Id. at 119.

The Applicant and the Staff argue that the Petitioners fail to raise a material dispute with the application or to provide the requisite factual or expert support. The Applicant asserts that, contrary to the Petitioners' claims, the ER discusses energy conservation, but concludes "that there is a need for additional electric generating resources in order to preserve electric reliability and provide affordable energy over the next 20 years even in the presence of increased use of energy efficiency and renewable resources."[226] The Staff agrees that the Petitioners fail to address the ER's discussion of energy conservation, and that they fail to provide a basis for their claim that the Applicant's materials are incomplete. NRC Ans. at 100.

The Applicant discusses conservation and demand-side management measures in Section 9.2.1.3 of the ER.[227] The Petitioners fail to establish a genuine dispute with this or any other relevant part of the ER. On the contrary, the Petitioners again present a quotation from testimony in a case before the MPSC. Cont. at 117. As with the cost issue discussed above, it is of no help to the Petitioners to merely show a dispute of fact with the Applicant in a rate-making proceeding before the MPSC. They must show a dispute with the ER, supported by sufficient facts or expert opinion. They fail, however, to establish any clear connection between

[226] App. Ans. at 78-79 (emphasis in original).

[227] ER at 9-6 to 9-7.

the dispute before the MPSC and the ER's discussion of energy conservation and demand-side management, much less one that would be sufficient to show a genuine dispute of material fact.

The Petitioners also cite general claims about potential reductions in energy use contained in a book by Dr. Arjun Makhijani. Cont. at 118. Dr. Makhijani's claims concern reductions in energy use he believes could be achieved on a national scale as a result of "'moderate investment in efficiency and combined heat and power systems . . . ." Id. As with the MPSC testimony, the statements in Dr. Makhijani's book do not take issue with any claim made in the ER. They are too general to create a genuine dispute with the Applicant on a material issue.

We therefore do not admit the energy efficiency aspect of Contention 13.

d. Alternative energy sources. The final aspect of Contention 13 challenges the Applicant's alternatives analysis because it allegedly omits facts concerning the feasibility of solar photovoltaic and wind power. According to the Petitioners, the alternatives analysis should have included an "objective, serious consideration" of various combinations of renewable energies. Instead, Petitioners claim, the ER evaluates only a 100 percent wind power alternative and alternatives based on out-of-date solar technologies. Cont. at 119-121.

The Applicant argues that, despite the Petitioners' allegations, the ER does consider various combinations of alternatives involving renewable fuels, and the Petitioners fail to challenge these conclusions. App. Ans. at 81. The Staff maintains that the Petitioners failed to take the Applicant's goal of baseline power generation into account when proposing alternatives for consideration. NRC Ans. at 102. As a result, the Petitioners do not address whether wind and solar technologies are appropriate for baseload generation, but instead the Petitioners "appear to be arguing against construction of baseload facilities in general." Id. at 103. The Staff argues that the Applicant analyzed the appropriate range of renewable and non-renewable energy sources within the framework determined by the Applicant's goal for baseload generation. Id.

Again, Petitioners fail to establish a genuine dispute of material fact with the ER. With respect to wind, the Petitioners offer only another statement from a book by Dr. Makhijani, in this case an assertion that renewables can be used during off-peak times to generate ice which can then be melted for air conditioning. Cont. at 119. This assertion is unsupported by facts or analysis to demonstrate the feasibility of using such a technology on a utility scale. With respect to solar power, the Petitioners offer two news stories describing new types of solar collectors. Id. at 120-21. As with wind power, they provide no support for the feasibility of using these technologies on a utility scale. The Petitioners have thus failed to provide facts or expert opinion sufficient to show that the ER disregarded a feasible alternative based on either wind power, solar power, or some combination of the two.

Similar contentions have been submitted and rejected in other COL proceedings.[228] Here, as in those cases, Petitioners have failed to provide factual or expert support sufficient to establish a genuine dispute of fact or law. This last part of Contention 13 will therefore not be admitted.

M. Contention 14

The Petitioners state in Contention 14:

> The Environmental Report fails to identify and consider direct, indirect, and cumulative impingement/entrainment and chemical and thermal effluent discharge impacts of the proposed cooling system intake and discharge structures on aquatic resources.[229]

Contention 14 primarily addresses the alleged effects of the proposed Fermi Unit 3 cooling system on aquatic resources. Cont. at 123. The Petitioners initially focus on the purported "massive thermal pollution" resulting from the cumulative discharge of heated water into Lake Erie from the Monroe Coal Plant, Fermi Unit 2, and the Whiting Coal Plant. Id. The Petitioners additionally allege that during certain conditions, the intake and outfall from the

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[228] See, e.g., South Carolina Elec. & Gas Co. & South Carolina Pub. Serv. Auth. (also referred to as Santee Cooper), (Virgil C. Summer Nuclear Station, Units 2 and 3), LBP-09-02, 69 NRC __, __ (slip op. at 24-25) (Feb. 18, 2009); Bellefonte, LBP-08-16, 68 NRC at __ (slip op. at 43-44).

[229] Cont. at 123.

proposed Fermi Unit 3 could impact the Maumee Bay estuary; thus, "[s]uch impacts must be evaluated." Id. The remaining components of Contention 14 include the Petitioners' concerns regarding toxic discharges that could threaten aquatic ecosystems and contaminate drinking water, phosphorus contamination and algal blooms, and increased likelihood of "impingement and entrainment of Lake Erie biota." Id. at 124. The Petitioners also add that the Applicant neglected to analyze the human health effects of air emissions from the cooling tower exhaust resulting from the residual toxic agents and etiological agents used to "kill germs" in this part of the plant. Id. at 131. The Petitioners' support for these allegations consists of extensive quotations from the Applicant's COLA including statements that the contentions are "borne out by the [ER] on these matters." Id. at 135.

The Applicant and the Staff oppose the admission of Contention 14 because the Petitioners fail to provide a basis for this contention or demonstrate the existence of a material dispute with the Applicant. More importantly, the Petitioners fail to provide any factual or expert support for their positions. The Applicant also notes that many of the omissions alleged by the Petitioners are indeed included in the COLA and that the "Petitioners do not controvert any of these conclusions and therefore fail to demonstrate a genuine dispute with the application." App. Ans. at 83. The Staff adds that the content of Contention 14 regarding "water use and thermal discharges, toxic discharges, phosphorus contamination and algal blooms, and prevention of impingement and entrainment" are duplicative of Contention 6, and should therefore "be subsumed under Contention 6 and the two treated as a single contention." NRC Ans. at 106.

Discussion

Similar to the Applicant and the Staff, we are unable to discern the differences between the claims made in Contention 14 and those made in Contention 6, discussed herein. Because much of this contention is duplicative of Contention 6, we refer the reader to our ruling on Contention 6, see supra at 51, and do not further address these issues.

One exception is in regards to the Petitioners' concerns of health impacts from emissions from the cooling tower stacks and associated microorganisms. In support of this part of the contention, the Petitioners provide lengthy excerpts from the Applicant's ER, which in turn concludes that the human health impacts are localized and small. The Petitioners do not draw conflict with this conclusion nor do they challenge the methodology or analysis that led to the results summarized in the ER. No expert support is provided for this contention except for citations to the ER itself, and none of the conclusions from the ER are disputed in the contention; both of which are requirements needed for an admissible contention. See 10 C.F.R. § 2.309(f)(1)(v) and (vi).

For the reasons stated herein, and those provided for denying the admissibility of Contention 6, supra at 51, the Board finds Contention 14 inadmissible.

VI. Conclusion and Order

Based, therefore, upon the preceding findings and rulings, it is, this 31st day of July, 2009, ORDERED as follows:

A. Petitioners Beyond Nuclear, Citizens for Alternatives to Chemical Contamination, Citizens Environmental Alliance of Southwestern Ontario, Don't Waste Michigan, Sierra Club, Keith Gunter, Edward McArdle, Henry Newman, Derek Coronado, Sandra Bihn, Harold L. Stokes, Michael J. Keegan, Richard Coronado, George Steinman, Marilyn R. Timmer, Leonard Mandeville, Frank Mantei, Marcee Meyers, and Shirley Steinman are admitted as parties in this proceeding and their Request for Hearing and Petition to Intervene are granted. A hearing is granted with respect to Contention 3 and Contention 8 as narrowed by the Board; and Contention 5 and Contention 6 are admitted in part and denied in part, as set forth herein. We found all the remaining contentions advanced by the Petitioners inadmissible.

B. This Order is subject to appeal to the Commission in accordance with the provisions of 10 C.F.R. § 2.311. Any petitions for review meeting applicable requirements set forth in that section must be filed within ten (10) days of service of this Memorandum and Order.

It is so ORDERED:

FOR THE ATOMIC SAFETY
AND LICENSING BOARD

/RA/
Ronald M. Spritzer, Chairman
ADMINISTRATIVE JUDGE

/RA/
Michael F. Kennedy
ADMINISTRATIVE JUDGE

/RA/
Randall J. Charbeneau
ADMINISTRATIVE JUDGE

Rockville, Maryland
July 31, 2009

* Copies of this notice and order were sent this date by the agency's E-Filing system to the counsel/representatives for (1) Applicant Detroit Edison Company; (2) Petitioners Beyond Nuclear et al.; and (3) NRC Staff.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
DETROIT EDISON COMPANY	)	Docket No. 52-033-COL
	)	
(Fermi Nuclear Power Plant, Unit 3)	)	
	)	
(Combined License)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing LB MEMORANDUM AND ORDER (RULING ON HEARING REQUESTS) (LBP-09-16) have been served upon the following persons by Electronic Information Exchange.

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[Original signed by R. Giitter]
Office of the Secretary of the Commission

Dated at Rockville, Maryland
this 31st day of July 2009

PRELIMINARY DRAFT

Supplementary Requests for Additional Information (RAIs) to Address Contentions Admitted by the Atomic Safety and Licensing Board (ASLB) on the Fermi Nuclear Power Plant, Unit 3 (Fermi 3) Combined License Application Environmental Report
September 2, 2009

RAI Number	Question Summary (RAI)	Full Text (supporting information)
AE2.4.2-5 ESRP 2.4.2 10 CFR 51.71(d) ASLB Memorandum and Order (Ruling on Hearing Requests), July 31, 2009, Docket No. 53-033-COL, ASLBP No. 09-880-05-COL-BD01, In the Matter of Detroit Edison Company (Fermi Nuclear Power Plant Unit 2) ("Fermi Contention Order") Part V.F - Contention 6 (pp. 50-51)	Provide an analysis of the potential contribution of chemical and thermal effluent from the proposed Fermi 3 to algal production in the vicinity of the Fermi site and in the western basin of Lake Erie. This analysis should include, but not be limited to examination of the effects on the production of *Lyngbya wollei*, which has recently been identified as a problematic invasive blue-green algae in Lake Erie.	The Fermi Contention Order concluded that the analysis provided in the Environmental Report (ER) does not sufficiently evaluate the potential for discharges from the proposed Fermi 3 to increase production of algae in the western basin of Lake Erie, including *Lyngbya wollei*. Table 3.3-1 in the ER (Section 3.3.2.3) identifies the use of phosphoric acid as a corrosion inhibitor in the plant service water system and this could contribute to phosphorus loading. Expected quantities of chemical constituents that could be released to Lake Erie at the permitted discharge are described in Section 3.6.1 (including Table 3.6-1) and effluent concentrations are identified in Table 3.6-2; however, estimates of the increases in ambient concentrations of nutrients (primarily phosphorus and nitrogen) in the vicinity of the permitted discharge should be calculated. Information about historic trends regarding concentrations of nutrients in the vicinity of the Fermi site and the estimated changes in nutrient concentrations that would occur as a result of contributions from Fermi 3 operation would facilitate evaluation of potential changes in algal production. In addition, information pertaining to algal production should be provided. The analysis should estimate the change in algal production using information on chemical and thermal changes expected from Fermi 3 operations.
HH3.5-1 ESRP 3.5	Provide information on how the Class B and Class C low level radioactive waste	The Fermi Contention Order concluded that the management of Class B and Class C LLRW is not properly evaluated in the ER. The

RAI Number	Question Summary (RAI)	Full Text (supporting information)
10 CFR 51.71 Fermi Contention Order Part V.C - Contention 3 (pp. 38-39)	(LLRW) generated during Fermi 3 operations would be managed.	ER assumes the existence of an offsite disposal facility for those wastes. ER Section 3.5.2.3 mentions that "The SWMS [Solid Waste Management System] controls, collects, handles, processes, packages, and temporarily stores solid waste generated by the plant prior to shipping the waste offsite." ESBWR DCD Section 11.4.1 further states that "on-site storage space for a six-month volume of packages waste is provided in the radwaste building." In light of the current lack of a licensed offsite disposal facility and the uncertainty regarding the availability of a new disposal facility during the license term, Detroit Edison should describe the plan for storing Class B and C LLRW onsite during the license term and the environmental consequences of such extended onsite storage. Alternatively, if Detroit Edison has a plan for managing the wastes that does not require an offsite disposal facility or extended onsite storage, it should provide details for that plan.
HH5.4.3-4 ESRP 5.4.3 40 CFR 190.10 10 CFR 20.1301(e) 10 CFR 50 App. I Fermi Contention Order Part V.C - Contention 3 (pp. 38-39)	Provide radiation dose estimates for the maximally exposed individual from the onsite out-of-plant storage of solid waste.	The Fermi Contention Order concluded that the management of Class B and Class C LLRW is not properly evaluated in the ER. According to ESRP Section 5.4.2, data are needed for the exposure rates associated with the proposed plant and onsite out-of-plant storage of solid LLRW to meet the acceptance criterion of 40 CFR 190 and 10 CFR 20.1301(e).
HH5.4.3-5 ESRP 5.4.3 10 CFR 20.1201	Provide occupational dose calculations from onsite storage of Class B and Class C LLRW from Fermi Unit 3.	The Fermi Contention Order concluded that the management of Class B and Class C LLRW is not properly evaluated in the ER. Provide occupational doses from LLRW storage onsite from normal

RAI Number	Question Summary (RAI)	Full Text (supporting information)
Fermi Contention Order Part V.C - Contention 3 (pp. 38-39)		operations of Fermi 3. ESRP Section 5.4.3.III(3) recommends inclusion of an estimate of the collective occupational dose.
HY2.3.1 ESRP 2.3.1 10 CFR 51.71(d) Fermi Contention Order Part V.F - Contention 5 (pp. 40-48)	Provide onsite measurements of distribution coefficients, retardation factors, and porosity for fill materials, glacial drift units, and the bedrock.	The Fermi Contention Order concluded that the analysis provided in the ER does not provide site-specific parameters for distribution coefficients, retardation factors, and porosity. These should be supplied for fill materials, the glacial drift units, and the bedrock. Note that RAI Question No. 2.4.13-1 pertaining to the hydrology safety analysis calls for site-specific measurements of hydrogeologic parameters, including distribution coefficients, porosities, and retardation factors. Detroit Edison's response (February 16, 2009 letter from J.M. Davis, DTE to the NRC, NRC3-09-0001) states that a laboratory has been identified to determine distribution coefficients and retardation factors for the subsurface; however, it is not clear as to whether the work will target the bedrock only or whether it will also include measurements for various materials in the glacial drift and the fill. The February 16, 2009 RAI response does not promise porosity values, but it repeats the Final Safety Analysis Report's (FSAR's) approach of using bracketed ranges of porosity expected for limestone/dolomite, glacial till, and rock fill. Still, site-specific porosity measurements should be performed. In addition, effective porosity values are more appropriate for transport calculations, and should be provided.
TE2.4.1-12 ESRP 2.4.1 10 CFR 51.71 (d) Fermi Contention Order Part V.H - Contention 8 (pp.	Provide complete, up-to-date data on the locations and dates of sightings of the fox snake (*Pantherophis gloydi*) on the proposed Fermi 3 site, including sightings in the last 10 years.	The Fermi Contention Order concluded that the ER does not sufficiently assess the project impacts on the eastern fox snake or consider alternatives that would reduce or eliminate those impacts. Information about the numbers and locations of sightings of the snake in recent years would facilitate evaluation of the nature of the fox snake population on the project site. In a phone conversation with Ecology and Environment, the Michigan Department of Natural

RAI Number	Question Summary (RAI)	Full Text (supporting information)
62-68)		Resources (MDNR) indicated that its records of a viable population of the eastern fox snake on the Fermi property come at least in part from reports by Detroit Edison personnel. Detroit Edison should investigate its own records as well as coordinate with MDNR to determine the extent of recent and historical sightings data and to provide a basis for determining potential impacts to this snake.
TE 2.4.1-13 ESRP 2.4.1 10 CFR 51.71 (d) Fermi Contention Order Part V.H - Contention 8 (pp. 62-68)	Provide a complete delineation of potential eastern fox snake habitat within the proposed Fermi 3 site, including a map of known and potential habitat areas and quantification of the locations and sizes of these habitat areas. Provide information, including a map, describing the location of the revised project footprint with respect to potential eastern fox snake habitat.	The recent Contention Order concluded that the ER does not sufficiently assess the projects impacts on the eastern fox snake or consider alternatives that would reduce or eliminate those impacts. While the ER provided a general description of potential eastern fox snake habitat, a more complete analysis of the Fermi site with respect to its potential to provide habitat for the eastern fox snake and a graphical representation of where the revised project footprint would overlap potential eastern fox snake habitat would provide a more complete basis for assessing impacts to this snake.
TE4.3.1-8 ESRP 2.4.1 10 CFR 51.71 (d) Fermi Contention Order Part V.H - Contention 8 (pp. 62-68)	Provide a complete assessment of the potential impacts of the proposed Fermi 3 project, according to the most recent footprint, on: 1) potential eastern fox snake habitat; 2) individual eastern fox snakes; and 3) the viability of eastern fox snake populations within the Fermi 3 site area.	The recent Fermi Contention Order concluded that the ER does not sufficiently assess the project's impacts on the eastern fox snake or consider alternatives that would reduce or eliminate those impacts. Additional detail beyond the information provided in ER Section 4.3.2.1 is needed to adequately assess potential impacts on the eastern fox snake.
TE4.3.1-9 ESRP 2.4.1 10 CFR 51.71 (d)	Provide discussion of measures Detroit Edison would employ to mitigate potential impacts to the eastern fox snake and its habitat.	The Fermi Contention Order concluded that the ER does not sufficiently assess the projects impacts on the eastern fox snake or consider alternatives that would reduce or eliminate those impacts. This RAI is a request to document Detroit Edison's proposed

RAI Number	Question Summary (RAI)	Full Text (supporting information)
Fermi Contention Order Part H, Contention 8 (pp. 62-68)	Also provide complete documentation of any discussions or correspondence to date with the MDNR Natural Heritage Program related to the project's impact on the eastern fox snake and efforts Detroit Edison may employ to mitigate impacts to this snake.	mitigation measures to minimize impacts on the eastern fox snake. Since Detroit Edison testified to the ASLB that it has been working with the MDNR to mitigate impacts to this snake, documentation of those discussions is requested.