

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Michael M. Gibson, Chairman  
Dr. Richard E. Wardwell  
Brian K. Hajek  
Alan S. Rosenthal (Special Assistant to the Board)

In the Matter of

CROW BUTTE RESOURCES, INC.

(License Renewal for the  
In Situ Leach Facility, Crawford, Nebraska)

Docket No. 40-8943

ASLBP No. 08-867-02-OLA-BD01

March 16, 2015

MEMORANDUM AND ORDER

(Ruling on Proposed Contentions Related to the Environmental Assessment)

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## I. INTRODUCTION

This proceeding challenges the application of Crow Butte Resources, Inc. (Crow Butte) to renew its Source Materials License No. SUA-1534 for continued operation of its in-situ leach uranium recovery (ISL) facility near Crawford, Nebraska.<sup>1</sup> Crow Butte's license was first issued in 1988 for a ten-year term, and renewed in 1998 for an additional ten-year term. On November 27, 2007 (three months before its license that had been renewed in 1998 was set to expire), Crow Butte filed a second license renewal application (LRA).<sup>2</sup> On March 28, 2008, the Staff accepted the renewal application for technical review, and on May 27, 2008, a notice of opportunity for a hearing to contest the license renewal was published in the Federal Register.<sup>3</sup> On July 28, 2008, three hearing requests were received in response to that notice.<sup>4</sup>

In August 2008, this Board was established and, on November 21, 2008, the Board ruled on the three petitions to intervene and requests for hearing, admitting the Oglala Sioux Tribe (the Tribe or OST) and Consolidated Intervenors (CI) as intervenors (together Intervenors).<sup>5</sup> The Great Sioux Nation Treaty Council was also admitted, not as an intervenor, but as an

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<sup>1</sup> Application for 2007 License Renewal USNRC Source Materials License SUA-1534 Crow Butte License Area (Nov. 2007) (ADAMS Accession No. ML073480264) [hereinafter LRA].

<sup>2</sup> Final Environmental Assessment for the License Renewal of U.S. Nuclear Regulatory Commission License No. SUA-1534 (Oct. 2014) at viii (ADAMS Accession No. ML14288A517) [hereinafter EA]. Despite the expiration of its license, Crow Butte has continued to operate this mine under the NRC's regulation implementing the "timely renewal" provision of the Administrative Procedure Act. 10 C.F.R. § 40.42(a); see also 5 U.S.C. § 558(c) ("When the licensee has made timely and sufficient application for a renewal . . . , a license with reference to an activity of a continuing nature does not expire until the application has been finally determined by the agency.").

<sup>3</sup> Notice of Opportunity for Hearing, Crow Butte Resources, Inc., Crawford, NE, In Situ Leach Recovery Facility, 73 Fed. Reg. 30,426 (May 27, 2008).

<sup>4</sup> See Request for Hearing and/or Petition to Intervene, Oglala Sioux Tribe (July 28, 2008); Consolidated Request for Hearing and Petition for Leave to Intervene (July 28, 2008); Request for Hearing and Petition for Leave to Intervene, Oglala Delegation of the Great Sioux Nation Treaty Council (July 28, 2008).

<sup>5</sup> LBP-08-24, 68 NRC 691, 698 (2008).

interested local governmental body.<sup>6</sup> The Board also admitted Environmental Contentions A, C, and D proposed by the Tribe and Technical Contention F proposed by CI.<sup>7</sup>

After six years and eight months of reviewing the environmental matters at issue,<sup>8</sup> the NRC Staff notified the Board and parties on October 27, 2014 that it had completed an Environmental Assessment (EA) for the proposed license renewal.<sup>9</sup> The completion of this EA triggered the deadline for filing new/amended contentions, which the Board had set after an extension request from the parties.<sup>10</sup> On January 5, 2015 the Tribe<sup>11</sup> and CI<sup>12</sup> moved to admit new contentions based on the EA. On January 30, 2015 Crow Butte<sup>13</sup> and the NRC Staff<sup>14</sup> filed

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<sup>6</sup> Id. at 715. If the Great Sioux Nation Treaty Council wishes to participate as a nonparty in this proceeding, its representative must “identify those contentions on which [it] will participate in advance of any hearing held.” 10 C.F.R. § 2.315(c).

<sup>7</sup> LBP-08-24, 68 NRC at 760. On appeal, other contentions admitted by the Board were found inadmissible by the Commission. See CLI-09-09, 69 NRC 331, 366 (2009).

<sup>8</sup> See LBP-15-2, 81 NRC \_\_ (slip op. at 15–18) (Jan. 21, 2015) (commenting on the length of this review process).

<sup>9</sup> Environmental Assessment Availability Notification, Letter from Marcia Simon, NRC Staff Counsel, to Administrative Judges and Parties (Oct. 27, 2014). On November 6, 2014, the NRC Staff issued renewed license SUA-1534 to Crow Butte, with an expiration date of November 5, 2024. License Renewal Notification, Letter from Marcia Simon, NRC Staff Counsel, to Administrative Judges and Parties (Nov. 6, 2014).

<sup>10</sup> See Licensing Board Order (Granting Intervenors’ Unopposed Motion for Extension of Time to File New/Amended Contentions) (Nov. 24, 2014) (unpublished); Unopposed Motion by the Oglala Sioux Tribe for an Extension of Time to File New/Amended Contentions (Nov. 21, 2014).

<sup>11</sup> The Oglala Sioux Tribe’s Renewed and New Contentions Based on the Final Environmental Assessment (October 2014) (Jan. 5, 2015) [hereinafter OST Proposed Contentions].

<sup>12</sup> Consolidated Intervenors’ New Contentions Based on the Final Environmental Assessment (October 2014) (Jan. 5, 2015) [hereinafter CI Proposed Contentions].

<sup>13</sup> Crow Butte Resources’ Response to Proposed New Contentions Based on Final Environmental Assessment (Jan. 30, 2015) [hereinafter Crow Butte Answer].

<sup>14</sup> NRC Staff’s Combined Answer to New Contentions Filed by Consolidated Intervenors and the Oglala Sioux Tribe (Jan. 30, 2015) [hereinafter NRC Staff Answer].

answers opposing these motions. On February 6, 2015, the Tribe<sup>15</sup> and CI<sup>16</sup> filed replies. Also on February 6, 2015, the NRC Staff moved to amend its response to Contention 13.<sup>17</sup> CI filed a response and motion to strike the change of position reflected in the proposed amendment<sup>18</sup> and NRC Staff<sup>19</sup> and Crow Butte<sup>20</sup> opposed the motion to strike. The NRC Staff's motion has been denied in a separate order. The Board held an oral argument on the newly proffered contentions on February 17, 2015.<sup>21</sup>

As explained below, we rule as follows:

1. Environmental Contentions A, C, D, and Technical Contention F, originally admitted in our previous 2008 order, migrate from a challenge of Crow Butte's LRA to a challenge to the NRC Staff's EA as Contentions A, C, D, and F.
2. EA Contentions 3 and 10 are admitted in part and merged with migrated Contention D. The portion of EA Contention 5 that is admissible is encompassed within the language of Contention D.

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<sup>15</sup> Oglala Sioux Tribe's Combined Reply to NRC Staff's and Crow Butte Resources' Responses to Tribe's Renewed and New Contentions Based on the Final Environmental Assessment (Feb. 6, 2015) [hereinafter OST Reply].

<sup>16</sup> Consolidated Intervenor's Combined Reply to NRC Staff and Applicant's Responses to Newly Filed EA Contentions (Feb. 6, 2015) [hereinafter CI Reply].

<sup>17</sup> NRC Staff's Notice of Change in Position and Motion to Amend Response to Contention 13 (Feb. 6, 2015). The Board ordered the Staff to file its proposed amendment to its answer, (Licensing Board Order (Seeking Additional Information and Replies on NRC Staff's Motion to Amend Answer to EA Contention 13) (Feb. 6, 2015) (unpublished)), which the Staff did. NRC Staff's Proposed Amended Response to Contention 13 (Feb. 6, 2015).

<sup>18</sup> Consolidated Intervenor's Response and Motion to Strike Late-Filed NRC Staff Change of Position RE: Contention 13 (Feb. 10, 2015).

<sup>19</sup> NRC Staff's Opposition to Consolidated Intervenor's Motion to Strike (Feb. 12, 2015).

<sup>20</sup> Crow Butte Resources' Response to Motion to Strike (Feb. 20, 2015).

<sup>21</sup> Tr. at 590–881.

3. EA Contentions 1 and 2 are admitted in part and combined into a single “EA Contention 1.”
4. EA Contentions 6, 9, and 12 are admitted in part as narrowed by the Board.
5. EA Contention 14 is admitted as proffered.
6. The Tribes’ EA Contention F, as well as EA Contentions 4, 7, 8, and 11, are not admitted.
7. EA Contention 13 is denied admission as moot.

All admitted contentions, as they will be considered at the evidentiary hearing, are set forth in Appendix A to this Order.

## II. LEGAL STANDARDS

### A. New and Amended Contentions

To be admissible, a new or amended contention must satisfy the substantive contention admissibility standards set forth in 10 C.F.R. § 2.309(f)(1). Namely, the contention must:

- (i) Provide a specific statement of the issue of law or fact to be raised or controverted . . . ;
- (ii) Provide a brief explanation of the basis for the contention;
- (iii) Demonstrate that the issue raised in the contention is within the scope of the proceeding;
- (iv) Demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding;
- (v) Provide a concise statement of the alleged facts or expert opinions which support the requestor’s/petitioner’s position on the issue . . . ;
- [and] (vi) . . . . [P]rovide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact.<sup>22</sup>

A failure to meet any of these criteria renders a contention inadmissible. These rules are “strict by design,”<sup>23</sup> and exist to “focus litigation on concrete issues and result in a clearer and more focused record for decision.”<sup>24</sup> The failure of an intervenor to comply with any of these requirements is grounds for the Board not to admit a contention.

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<sup>22</sup> 10 C.F.R. § 2.309(f)(1).

<sup>23</sup> Dominion Nuclear Conn., Inc. (Millstone Nuclear Power Station, Unit 2), CLI-03-14, 58 NRC 207, 213 (2003).

<sup>24</sup> Changes to Adjudicatory Process, 69 Fed. Reg. 2,182, 2,202 (Jan. 14, 2004).

Additionally, pursuant to 10 C.F.R. § 2.309(c),<sup>25</sup> if a party submits a proposed contention after the initial filing deadline announced in the applicable Federal Register notice for submitting a hearing petition, it “will not be entertained absent a determination by the presiding officer that a participant has demonstrated good cause.”<sup>26</sup> “Good cause” exists when:

- (i) [t]he information upon which the filing is based was not previously available;
- (ii) [t]he information upon which the filing is based is materially different from information previously available; and (iii) [t]he filing has been submitted in a timely fashion based on the availability of the subsequent information.<sup>27</sup>

The first two “good cause” factors relate to the nature of the information that serves as the basis for the new/amended contention. The third factor concerns whether the new/amended contention and any supporting information—even if newly available and materially different from any information that was previously available—nonetheless was seasonably submitted. In contrast to section 2.309(b)’s provisions relating to an initial hearing petition,<sup>28</sup> section 2.309(c)(1)(iii) does not stipulate what is considered “timely.”

To determine what constitutes a timely filing under section 2.309(c)(1)(iii), the Board looks to Commission precedent. First, timely filing of an intervenor’s challenge to the adequacy of the NRC Staff’s National Environmental Policy Act [NEPA] review process is generally triggered by the release of a NEPA document. As the Commission commented in this case, in CLI-09-09, the adequacy of the NRC Staff’s fulfillment of its NEPA obligations can form the basis for a new contention, and “such a contention is usually considered timely if filed within 30

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<sup>25</sup> The current section 2.309(c) was promulgated on August 3, 2012. Amendments to Adjudicatory Process Rules and Related Requirements, 77 Fed. Reg. 46,562, 46,591 (Aug. 3, 2012). Shortly thereafter, the Board advised the parties that the standards set forth in the now-current § 2.309(c) would apply to any new or amended contentions in this proceeding. Licensing Board Order (Concerning Amended Rules of Practice) (Aug. 17, 2012) at 1 (unpublished).

<sup>26</sup> 10 C.F.R. § 2.309(c).

<sup>27</sup> Id. § 2.309(c)(1)(i)–(iii).

<sup>28</sup> Id. § 2.309(b) (defining the timeliness of an initial hearing petition in different situations as being filed between twenty and sixty days after certain specified events).

days of publication of” a NEPA document.<sup>29</sup> Referring to the pre-2012 version of 10 C.F.R. § 2.309(f)(2), the Commission also stated that “with respect to issues arising under NEPA, the petitioner may file new contentions ‘if there are data or conclusions in the NRC draft or final environmental impact statement [or here, EA] . . . that differ significantly from the data or conclusions in the applicant’s documents.’”<sup>30</sup> Finally, in its 2008 Diablo Canyon decision, the Commission made clear that the NRC Staff’s first attempt to analyze a NEPA issue gives rise to an Intervenor’s “first opportunity to raise contentions on the adequacy of this assessment.”<sup>31</sup>

Second, timely filing of an Intervenor’s challenge to the information or analysis in an applicant’s license application is triggered on the date of public disclosure of that information or analysis. Intervenor’s are not allowed to postpone filing a contention challenging this information or analysis until the NRC Staff issues some document “that collects, summarizes, and places into context the facts supporting that contention.”<sup>32</sup> Thus, in Prairie Island the Intervenor filed a contention challenging the applicant’s safety culture and claimed to rely on the NRC Staff’s Safety Evaluation Report issued in that proceeding.<sup>33</sup> That Safety Evaluation Report, however,

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<sup>29</sup> CLI-09-09, 69 NRC at 351 n.105.

<sup>30</sup> Id. at 351 n.104 (quoting 10 C.F.R. § 2.309 (2009)). Though this 2009 version of 10 C.F.R. § 2.309 was amended in 2012, the purpose of the amendment was to simplify the rules, not fundamentally change the rationale Boards use to admit new/amended contentions. See 77 Fed. Reg. at 46,571; see also FirstEnergy Nuclear Operating Co. (Davis-Besse Nuclear Power Station, Unit 1), LBP-15-1, 81 NRC \_\_\_ (slip op. at 14–15 n.72) (Jan. 15, 2015) (“Therefore, despite the change in the rules, it appears in general that contentions proposed after the filing deadline, which would have been allowable under the previous 10 C.F.R. § 2.309(f)(2) requirements, will also be allowable under the current 10 C.F.R. § 2.309(c)(1) requirements.”).

<sup>31</sup> Pac. Gas & Elec. Co. (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-1, 67 NRC 1, 6 (2008).

<sup>32</sup> N. States Power Co. (Prairie Island Nuclear Generating Plant, Units 1 and 2), CLI-10-27, 72 NRC 481, 496 (2010). This requirement also must be considered keeping in mind the Commission’s interest in promoting efficient adjudication. See Entergy Nuclear Operations & Entergy Nuclear Palisades, LLC (Palisades Nuclear Plant), et al., CLI-08-19, 68 NRC 251, 262 (2008). Efficiency would not be served by a licensing board having to rule on contention admissibility after every minor staff publication or request for more information.

<sup>33</sup> Id. at 484–85.



did “not discuss safety culture as a general matter” and could not serve as “a ‘reasonably apparent’ foundation for a safety culture contention.”<sup>34</sup> In reality, the Intervenor was relying on long-available documents regarding leakages and notices of violation, which made the contention untimely as filed.<sup>35</sup>

In accordance with the Commission’s express statements in this proceeding, the Board’s October 28, 2014 Order established that the deadline for filing timely new environmental contentions would be thirty days (later extended following a joint request from the parties) after the release of the EA.<sup>36</sup>

B. The “Migration” Tenet

In certain circumstances, “[a]dmitted contentions challenging an applicant’s Environmental Report (ER) may function as challenges to similar portions of the Staff’s” NEPA document.<sup>37</sup> When applicable, a party need not file a new or amended contention; the previously admitted contention will simply be viewed as applying to the relevant portion of the

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<sup>34</sup> Id. at 494.

<sup>35</sup> Id. at 494–95.

<sup>36</sup> Licensing Board Order (Scheduling Filing of New/Amended Contentions and Requesting Proposed Evidentiary Hearing Dates) at 1 (Oct. 28, 2014) (unpublished) (“Following the public availability of the Final EA, new/amended contentions from the intervenors are due within 30 days of issuance of the Final NEPA document.”). This is different from contentions challenging the licensee’s analysis of environmental impacts following publication of the environmental report. Crow Butte did not significantly amend its ER since its filing in 2008. This recent order clarified—though it did not overrule—the Board’s standard rule that “new or amended contentions are to be filed within thirty days after the moving party acquires information giving rise to the new or amended contention,” i.e., contentions challenging the adequacy of the NRC Staff’s NEPA analysis require the NRC Staff first to make that analysis available to the public, which occurred here when the EA was issued. Licensing Board Order (Regarding Schedule and Guidance for Proceedings) (Aug. 21, 2008) at 3 (unpublished). Because the NRC Staff did not publish a draft EA, there was no prior opportunity for Intervenor to review the NRC Staff’s analysis of the project’s environmental impacts before publication of the EA.

<sup>37</sup> Powertech USA, Inc. (Dewey-Burdock in Situ Uranium Recovery Facility), LBP-13-9, 78 NRC 37, 46 (2013) (citing Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), LBP-01-23, 54 NRC 163, 172 n.3 (2001)); see also La. Energy Servs., L.P. (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 84 (1998).

EA.<sup>38</sup> This is appropriate, however, only where the EA analysis or discussion at issue is essentially in pari materia with the applicant's analysis or discussion that is the focus of the contention.<sup>39</sup>

### III. DISCUSSION

#### A. Previously Admitted Contentions

Previously admitted Contentions A, C, D, and F migrate from challenging the LRA to challenging the EA. No party opposed the migration of these contentions.<sup>40</sup> Contentions A, C, D, and F as previously admitted and revised herein by the Board to reflect this mitigation appear in Appendix A.

#### B. EA Contention F – Federal Jurisdiction

##### 1. The Tribe's Position

The Tribe titles newly proffered EA Contention F (not to be confused with the above-mentioned previously admitted Contention F), "Failure to Discuss or Demonstrate Lawful Federal Jurisdiction and Authority over Crow Butte's Activities." In this contention, the Tribe states:

The Final EA fails to discuss, let alone demonstrate, lawful federal jurisdiction and NRC authority over the territory and lands upon which Crow Butte seeks the renewal of its license.<sup>41</sup>

The Tribe claims to possess sovereign jurisdiction over the land Crow Butte uses to operate its ISL mine. The Tribe therefore denies that the United States has the jurisdiction to

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<sup>38</sup> Detroit Edison Co. (Fermi Nuclear Power Plant, Unit 3), LBP-12-23, 76 NRC 445, 470–71. (2012) ("The Board may construe an admitted contention contesting the ER as a challenge to a subsequently issued DEIS or FEIS without the necessity for Intervenor to file a new or amended contention.").

<sup>39</sup> S. Nuclear Operating Co. (Early Site Permit for Vogtle ESP Site), LBP-08-2, 67 NRC 54, 63–64 (2008).

<sup>40</sup> Tr. at 605.

<sup>41</sup> OST Proposed Contentions at 4.

license Crow Butte's activity on this land.<sup>42</sup> In support of this claim the Tribe cites the Fort Laramie Treaties of 1851<sup>43</sup> and 1868<sup>44</sup> as having secured for the Tribe's use the land on which Crow Butte is now mining.<sup>45</sup> The Tribe also reviews principles of international law and treaties,<sup>46</sup> arguing that the United States does not lawfully exercise control over "the territory, lands, and natural resources at issue here."<sup>47</sup> The Tribe contends that the EA is deficient in not demonstrating or discussing the lawful jurisdiction of the NRC to issue a license authorizing activity upon the land housing Crow Butte's ISL facility.<sup>48</sup>

## 2. Board Ruling

EA Contention F is inadmissible. The Board previously assessed the Supreme Court's review of the Fort Laramie Treaties, and determined that the Court had both confirmed Congress' power to abrogate treaties with Native American nations, and specifically concluded that the United States is not bound by the terms of the 1868 Fort Laramie Treaty.<sup>49</sup> The Commission agreed with this determination.<sup>50</sup> Therefore, the Tribe's treaty-based claims of

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<sup>42</sup> Id. at 4–5.

<sup>43</sup> Treaty of Fort Laramie with Sioux, Etc., Sept. 17, 1851, 11 Stat. 749.

<sup>44</sup> Treaty with the Sioux—Brule, Oglala, Miniconjou, Yanktonai, Hunkpapa, Blackfeet, Cuthead, Two Kettle, Sans Arcs, and Santee—And Arapaho, Apr. 29, 1868, 15 Stat. 635.

<sup>45</sup> OST Proposed Contentions at 5.

<sup>46</sup> Id. at 7–14. The Tribe's reply also contends that "many federal administrative tribunals" have entertained international law issues, citing decisions by the Federal Communications Commission, the Board of Immigration Appeals, and the General Claims Commission. OST Reply at 8. We note, however, that the Tribe did not cite to decisions by the NRC that lend support to its position in this regard.

<sup>47</sup> OST Proposed Contentions at 14.

<sup>48</sup> Id.

<sup>49</sup> LBP-08-24, 68 NRC at 712.

<sup>50</sup> CLI-09-09, 69 NRC at 337.

ownership of the Crow Butte mining site and international treaty-based claims cannot support the admission of EA Contention F.

C. EA Contentions 1 and 2 – Cultural Resources and Consultation

Due to the overlapping issues presented in EA Contentions 1 and 2, the Board will consider these contentions jointly.

1. Parties' Positions

The Tribe and CI title Contention 1, "Failure to Meet Applicable Legal Requirements Regarding Protection of Historical and Cultural Resources, and Failure to Involve or Consult the Oglala Sioux Tribe as Required by Federal Law." In this contention, the Tribe states:

By these Environmental Assessment Contentions 1 and 2 jointly asserted herein with the Consolidated Intervenor, the Tribe hereby renews its previous Contention B which the Commission ruled had been prematurely asserted. In the Matter of Crow Butte Resources, Inc. (License Renewal for in Situ Leach Facility, Crawford, Nebraska), CLI-09-09, Dkt. No. 40-8943-OLA (May 18, 2009).

The Final EA fails to meet the requirements of NEPA, the [National Historic Preservation Act] NHPA, and 40 C.F.R. §§ 51.10, 51.70 and 51.71, along with the NRC, [Advisory Council on Historic Preservation] ACHP, and [Council on Environmental Quality] CEQ regulations because it lacks an adequate description of either the affected environment or the impacts of the project on archaeological, historical, and traditional cultural resources.

As a result, the Final EA fails to comply with Section 51.60 because its analyses are not adequate, accurate and complete in all material respects concerning archaeological sites and materials within the project area. No specific survey was performed for this license renewal in order to demonstrate that archaeological sites within the project area are properly identified, evaluated and protected and to show that it has submitted a proper analytic discussion under Sections 51.45 and 51.60 and the NRC Staff relied on old survey that were done in 1982 and 1987. Not all interested tribes were 'meaningfully' consulted, particularly including the Tribe, and the prior, informed consent of the Tribe to proceed with Crow Butte's activities was not obtained. Proper baseline information is lacking in the Final EA and it fails to demonstrate adequate confinement and protection of cultural resources.<sup>51</sup>

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<sup>51</sup> OST Proposed Contentions at 14–15. CI plead the same contention, with the exclusion of the first paragraph and the addition of the comment that "the prior, informed consent of the Tribe to proceed with Crow Butte's activities was not obtained." CI Proposed Contentions at 4–5.

The Tribe titles EA Contention 2, “Failure to do EIS; Failure to Involve OST with surveys being conducted by Crow Butte at Crow Butte’s expense.”<sup>52</sup> In this contention Intervenor’s state:

The Oglala Sioux Tribe has not been ‘meaningfully’ consulted with regarding the cultural resources that may be in the license renewal area. As stated above, the 2013 Redmond Opinion indicates that two or more of Crow Butte’s [Traditional Cultural Properties] TCP surveys were conducted during winter months when snow and ice typically covers the ground obscuring the discovery of TCPs.

Crow Butte has identified what it believes to be cultural resources in the area, and the NRC Staff has relied on Crow Butte’s assertions in preparing the Final EA. However, Crow Butte and the NRC Staff are working with inventories of TCPs that have been prepared for decades without the involvement of officials or members of the Tribe.

An Environmental Impact Statement should be prepared, made available for public comment in accordance with NEPA.<sup>53</sup>

In part, these contentions seek to renew the Tribe’s Contention B, which was previously pled with the request for hearing and/or petition to intervene in 2008.<sup>54</sup> Intervenor’s contend that the EA lacks an “adequate description of either the affected environment or the impacts of the project on archaeological, historical, and traditional cultural resources.”<sup>55</sup> Intervenor’s maintain that surveys from 1982 and 1987 do not provide proper baseline information, and claim that the NRC Staff should have conducted a new survey of the license area.<sup>56</sup>

Intervenor’s also fault the NRC Staff for not meaningfully consulting with the Tribe.<sup>57</sup> The Tribe alleges that only large group meetings were held between NRC representatives and a gathering of potentially affected tribes, and that NRC response letters contained only non-

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<sup>52</sup> CI provides the same title, but includes that the “Conduct of TCP Survey Designed to Fail to Discover TCPs.” CI Proposed Contentions at 21.

<sup>53</sup> OST Proposed Contentions at 32–33; CI Proposed Contentions at 21–22.

<sup>54</sup> OST Proposed Contentions at 14.

<sup>55</sup> Id. at 15; CI Proposed Contentions at 4.

<sup>56</sup> OST Proposed Contentions at 15; CI Proposed Contentions at 5.

<sup>57</sup> OST Proposed Contentions at 15; CI Proposed Contentions at 4.

substantive responses to the Tribe's concerns.<sup>58</sup> Intervenors also complain that Crow Butte made no effort to involve the Tribe's representatives and elders in the surveys.<sup>59</sup> Intervenors assert that while the State Historic Preservation Officer (SHPO) was involved in the consultation process, this is not relevant in determining whether the Tribe has been adequately consulted.<sup>60</sup> Based on these alleged cultural resources deficiencies in the EA, Intervenors contend that an Environmental Impact Statement (EIS) should be prepared for the Crow Butte renewal.<sup>61</sup>

Regarding Intervenors' consultation concerns, Crow Butte responds that the Tribe had several opportunities to consult with the NRC.<sup>62</sup> Crow Butte also claims that Intervenors' contentions are not timely, as they have made no comments on a draft Section 106 document posted on the NRC's public website on September 30, 2013.<sup>63</sup>

Regarding consultation, the NRC Staff insists that it is only required to make a "reasonable and good faith" effort to find historic resources,<sup>64</sup> and that a reasonable and good faith effort does not require approval by any consulting party, identification of every historic property in the affected area, investigations outside the affected area, or ground verification of the affected area.<sup>65</sup> Thus, the NRC Staff argues that they acted reasonably, despite

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<sup>58</sup> OST Proposed Contentions at 19–21; CI Proposed Contentions at 7–9.

<sup>59</sup> OST Proposed Contentions at 21; CI Proposed Contentions at 9.

<sup>60</sup> OST Proposed Contentions at 38; CI Proposed Contentions at 27.

<sup>61</sup> OST Proposed Contentions at 33; CI Proposed Contentions at 22.

<sup>62</sup> Crow Butte Answer at 8–9.

<sup>63</sup> Id. at 10–12, 15.

<sup>64</sup> NRC Staff Answer at 12.

<sup>65</sup> Id. at 13.

Intervenors' criticism of the NRC Staff's effort, and their demands for the NRC Staff to expand its investigation.<sup>66</sup>

The NRC Staff claims it gave the Tribe a reasonable opportunity to identify all of the Tribe's concerns, based on a series of meetings and correspondence between the two parties.<sup>67</sup> The NRC Staff also disagrees with Intervenors that the 1982 and 1987 site surveys are so out-of-date as to make these surveys deficient.<sup>68</sup>

## 2. Board Ruling

EA Contentions 1 and 2 are admissible in part. In 2008 the Board admitted a cultural resources consultation contention,<sup>69</sup> but on appeal the Commission ruled that the contention was not yet ripe for adjudication.<sup>70</sup> The Commission, however, stated that the NRC Staff's fulfillment of its National Historic Preservation Act (NHPA) obligations could form the basis for a

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<sup>66</sup> See id.

<sup>67</sup> Id. at 13–16. The NRC Staff also asserts that it gave all consulting Tribes, and Tribal elders, an invitation to complete a TCP survey of the Crow Butte facility, and that two of these Tribes, but not the Oglala Sioux Tribe, participated. Id. at 15. Following oral argument, the NRC Staff filed a chart detailing consultation between the NRC Staff and the Tribe. Consultation Communications Between NRC and OST, Letter from David Cylkowski, NRC Staff Counsel, to Administrative Judges (Feb. 24, 2015).

<sup>68</sup> See NRC Staff Answer at 18.

<sup>69</sup> As set forth by the Board in LBP-08-24, 68 NRC at 719, OST Environmental Contention B stated:

The Oglala Sioux Tribe has not been consulted with [sic] regarding the cultural resources that may be in the license renewal area. [Crow Butte] has identified what it believes to be cultural resources in the area, but the Tribe has had no input on this list, and it therefore cannot be complete. Furthermore, [Crow Butte] has provided that it will work in conjunction with the Nebraska State Historical Society to avoid the identified resources, but this ignores mandated participation of the Oglala Sioux Tribe.

<sup>70</sup> CLI-09-09, 69 NRC at 350–51.

new contention,<sup>71</sup> and that new contentions are “usually considered timely if filed within 30 days of publication” of a NEPA document.<sup>72</sup> Accordingly, contentions 1 and 2 were timely filed.

Contentions 1 and 2 encompass four separate issues: (1) whether an EIS is required, (2) whether there was meaningful consultation with the Tribe, (3) whether a class III archaeological study—even if adequate under the NHPA—satisfies the “hard look” requirement under NEPA, and (4) whether the surveys performed and incorporated into the EA formed a sufficient basis on which to renew Crow Butte’s permit.

First, insofar as Contentions 1 and 2 seek to require the NRC Staff to prepare an EIS, they are inadmissible. Issuance of an EA is appropriate where the NRC Staff determines that the proposed project will result in no significant impacts,<sup>73</sup> as the NRC Staff did here.<sup>74</sup> Intervenor’s have not provided sufficient information to identify significant impacts from the license renewal that would obligate the NRC Staff to prepare an EIS. While a Board could rule that an EIS must be prepared if a significant impact is eventually identified, Intervenor’s claims here cannot support a stand-alone contention on this issue.

Second, insofar as Contentions 1 and 2 challenge whether there has been meaningful consultation with the Tribe and whether a class III archaeological study represents a hard look under NEPA, they are admissible. Based on the pleadings, as well as on the parties’ responses to the Board’s questions during oral argument, the Board has concluded, however, that these are issues of law without factual dispute. The Board may request further legal briefing on this point, and if it does, a schedule for such briefing will be issued in a subsequent Order.

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<sup>71</sup> Id. at 351.

<sup>72</sup> Id. at 351 n.105.

<sup>73</sup> 10 C.F.R. § 51.32.

<sup>74</sup> Environmental Assessment and Finding of No Significant Impact; Issuance, 79 Fed. Reg. 64,629, 64,630 (Oct. 30, 2014).



Finally, insofar as Contentions 1 and 2 challenge whether the cultural surveys performed and incorporated into the EA are not adequate support for the EA's conclusions in this regard, they are admissible. Factual issues remain regarding what the NRC Staff did and whether it was sufficient to comply with NEPA, both of which will be explored in pre-filed witness testimony and at the upcoming evidentiary hearing.

Contentions 1 and 2, as revised by the Board, are set forth in Appendix A to this Order.

D. EA Contention 3 – Environmental Justice

1. Parties' Positions

The Tribe titles EA Contention 3 “Failure to take the requisite ‘Hard Look’ at environmental justice impacts.”<sup>75</sup> CI title EA Contention 3, “Failure to Describe All Relevant Environmental Justice Impacts.”<sup>76</sup> In this contention the Tribe states:

The EA fails to take the requisite “hard look” at whether relicensing the Crow Butte facility would cause disproportionate and adverse impacts on minority and low-income populations within the 50-mile environmental impact area around the facility when compared to the impacts on the non-Environmental Justice (“EJ”) population.<sup>77</sup>

The EA confined its evaluation of environmental justice impacts to only a four mile radius of the project site,<sup>78</sup> while the Pine Ridge Reservation is fifty miles from the site.<sup>79</sup> To support their requested fifty mile review, based on Dr. LaGarry's<sup>80</sup> opinion, the Intervenors contend that

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<sup>75</sup> OST Proposed Contentions at 40.

<sup>76</sup> CI Proposed Contentions at 29.

<sup>77</sup> OST Proposed Contentions at 40.

<sup>78</sup> Id. at 44; CI Proposed Contentions at 31.

<sup>79</sup> OST Proposed Contentions at 44. The Tribe maintains that the resident low income and minority population on the reservation would trigger consideration of environmental justice “in greater detail” by the NRC Staff. Id. at 47. The Tribe supplies a figure of “96% minority population living at Pine Ridge Indian Reservation.” Id.

<sup>80</sup> Dr. Hannan LaGarry offered opinions supporting CI, based on experience with northwestern Nebraska geology, in 2008 and 2015. See CI Proposed Contentions Ex. A, LaGarry Opinion.

ground and surface water impacts from the Crow Butte site could affect resources in the Pine Ridge reservation.<sup>81</sup>

In response, Crow Butte first argues that this contention is untimely because Intervenorors have failed to identify new or materially different information in the EA relative to Crow Butte's license renewal application.<sup>82</sup> Crow Butte also argues that EA Contention 3 fails to raise a genuine dispute on a material issue because there is no factual support for the claim that Crow Butte's operation will cause disproportionate impacts on minority or low-income populations.<sup>83</sup>

The NRC Staff defends its decision to use a four mile range for its environmental justice analysis by referring to agency policy documents.<sup>84</sup> According to the NRC Staff, Intervenorors have offered no justification for a different area for environmental justice analyses, and have not pointed to any specific harm to OST or members of CI who reside in Pine Ridge.<sup>85</sup>

## 2. Board Ruling

This contention is a challenge specifically hinged on the adequacy of the NRC Staff's NEPA analysis, and so was timely filed.

In 2008, the Board admitted the Tribe's Contention D, which states that "the Basal Chadron aquifer, where mining occurs, and the aquifer, which provides drinking water to the Pine Ridge Indian Reservation, communicate with each other, resulting in the possibility of contamination of the potable water."<sup>86</sup> The Board found that the Tribe's claim raised a genuine

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<sup>81</sup> OST Proposed Contentions at 45–46; CI Proposed Contentions at 30.

<sup>82</sup> Crow Butte Answer at 17. Crow Butte acknowledges that neither the LRA nor the EA considered "the potential for contamination at Pine Ridge from discharge to the White River." Id. CI's reply alleges that "[t]he LRA makes no reference to Pine Ridge Indian Reservation and Section 4.9 of the EA does." CI Reply at 10.

<sup>83</sup> Crow Butte Answer at 15.

<sup>84</sup> NRC Staff Answer at 22.

<sup>85</sup> Id. at 22–23.

<sup>86</sup> LBP-08-24, 68 NRC at 725.

dispute that warranted further inquiry into the potential contamination of water on the Pine Ridge Indian Reservation.<sup>87</sup>

In EA Contention 3, the Tribe relies on Dr. LaGarry's hydrogeology opinion to support extending the geographic scope of the environmental justice analysis in the EA. Dr. LaGarry's opinion states that it is a "likely" possibility that any contamination resulting from discharges into ground and surface water from Crow Butte's ISL mine would spread throughout the White River drainage area.<sup>88</sup> Because the possibility of contamination of the Tribe's potable water in Contention D was an admissible issue, the issue whether the EA's environmental justice analysis<sup>89</sup> should be based on the extent of possible contamination impacts, and not limited to a four mile review, is also an admissible issue.<sup>90</sup> This contention will be merged into previously admitted Contention D, which is reproduced in Appendix A attached to this Order.

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<sup>87</sup> Id. at 727.

<sup>88</sup> OST Proposed Contentions at 45–46; OST Proposed Contentions, Ex. A, Hannan E. LaGarry, Supplemental Expert Opinion Regarding the Renewal of ISL Uranium Mining (Crow Butte Resources) Near Crawford, Nebraska at 6 (Jan. 5, 2015) [hereinafter 2015 LaGarry Opinion].

<sup>89</sup> Commission policy states that EAs are appropriate when there are "little or no offsite impacts," and so environmental justice reviews are normally not necessary. Policy Statement on the Treatment of Environmental Justice Matters in NRC Regulatory and Licensing Actions, 69 Fed. Reg. 52,040, 52,047 (Aug. 24, 2004). Here, however, the potential impacts of the Crow Butte relicensing rendered an environmental justice analysis necessary in the EA.

<sup>90</sup> The Board notes that in the NRC Staff's cumulative impacts analysis, the NRC Staff chose a "50 mile (80 km) radius from the CBR facility as this geographical range encompasses the proposed action, all reasonably foreseeable actions in the area, and a reasonable buffer surrounding these areas." EA § 4.13. This 50 mile radius was apparently appropriate as the areal extent for cumulative impacts analysis—and for this reason as well, it may be equally reasonable for it to serve as the areal extent for environmental justice analysis.

E. EA Contention 4 – Baseline Water Quality

1. Intervenors' Position

Intervenors title EA Contention 4, "The Final EA Fails to Take the 'Hard Look' at and Failure to Include Necessary Information for Adequate Determination of Baseline Ground Water and Surface Water Quality."<sup>91</sup> In this contention Intervenors state:

The Final EA violates 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations – each requiring a description of the affected environment and impacts to the environment – in that it fails to provide an adequate baseline groundwater characterization or demonstrate that ground water and surface water samples were collected in a scientifically defensible manner, using proper sample methodologies.<sup>92</sup>

The crux of Intervenors' contention is that the NRC staff must conduct a new baseline study of the license renewal area rather than relying on the baseline study conducted during the original license application.<sup>93</sup> Intervenors also allege elevated lead-210 concentrations in the renewal area.<sup>94</sup>

2. Board Ruling

EA Contention 4 is untimely. Crow Butte discusses its approach for determining baseline groundwater and surface water quality at LRA section 2.9, "Background Nonradiological Characteristics."<sup>95</sup> This section of the LRA states that baseline data comes from a 1982–83 "preoperational nonradiological environmental monitoring program."<sup>96</sup> The discussion in the LRA of baseline groundwater and surface water quality references both the

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<sup>91</sup> OST Proposed Contentions at 48; CI Proposed Contentions at 32.

<sup>92</sup> OST Proposed Contentions at 48; CI Proposed Contentions at 32.

<sup>93</sup> OST Proposed Contentions at 50; CI Proposed Contentions at 34.

<sup>94</sup> OST Proposed Contentions at 52–54; CI Proposed Contentions at 35–38.

<sup>95</sup> LRA § 2.9 (emphasis and capitalization omitted).

<sup>96</sup> Id.

1982 and 1983 data, as well as some supplements from studies conducted in the 1990s.<sup>97</sup> New contentions cannot be based on previously available information.<sup>98</sup> Intervenors could have brought their concerns about Crow Butte's reliance on 1982 water quality studies at the time the LRA was filed.<sup>99</sup>

As the contention is untimely, the Board does not need to decide whether the contention would otherwise have been admissible. We note, however, that the information presented in support of EA Contention 4 might well be relevant to already-admitted Contentions C and D, insofar as both concern impacts to ground and surface waters.<sup>100</sup> In addition, any information supporting Intervenors' general claim that the NRC Staff failed to use recent research in determining baseline water quality can be applied to already-admitted Contention F.<sup>101</sup>

#### F. EA Contention 5 – Water Quality Impacts

##### 1. Parties' Positions

Intervenors title EA Contention 5, "The Final EA Fails to Include An Adequate Hydrogeological Analysis To Assess Potential Impacts to Groundwater and Surface Water; the

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<sup>97</sup> See, e.g., LRA §§ 2.9.1, 2.9.4; see also EA §§ 3.5.1.2, 3.5.2.4 (discussing baseline water quality).

<sup>98</sup> 10 C.F.R. § 2.309(c)(1)(i).

<sup>99</sup> Indeed, this contention relies entirely on the exhibits submitted in 2008 with CI's petition to intervene, including Exhibit C, Richard J. Abitz (July 28, 2008) [hereinafter 2008 Abitz Opinion], Exhibit D, Paul G. Ivancie and W. Austin Creswell of JR Engineering, Summary of Recommendations and Opinions on CBR (July 28, 2008), and Exhibit F, Shane Robinson, CBR Violations, Spills, and Leaks as of July 28, 2008 (July 28, 2008). See OST Proposed Contentions at 50–64; CI Proposed Contentions at 34–49. In addition, CI's previously proposed Technical Contention D, "Failure to follow statistical analysis protocols," repeats some of the claims brought under this contention. See CI Petition to Intervene at 30; LBP-08-24, 68 NRC at 737.

<sup>100</sup> See LBP-08-24, 68 NRC at 724–27.

<sup>101</sup> See id. at 739 (concerning "whether Crow Butte has simply cherry-picked its supporting data" instead of using the most recent research available).

NRC Staff Failed to Take the 'Hard Look' at the Proposal Even After Expert Criticisms."<sup>102</sup> In the contention Intervenor's state:

The Final EA fails to provide sufficient information regarding the hydrologic and geological setting of the area to meet the requirements of 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations. As a result, the Final EA similarly fails to provide sufficient information to establish potential effects of the project on the adjacent surface and ground-water resources, as required by 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations.<sup>103</sup>

Intervenor's support their position primarily through reference to Exhibit A, the 2015 Dr. LaGarry opinion.<sup>104</sup> In his opinion, Dr. LaGarry states that groundwater quality may be impacted by flow from artesian conditions, flow in secondary porosity, and flow in the natural horizontal seams of the aquifer confining layers, and that together these can lead to the escape of extraction fluids from the Crow Butte site, in violation of the NRC's regulations.<sup>105</sup> Intervenor's also argue that EA section 3.4.2, "Regional Structure," fails to address how the concerns raised in the 2015 opinion of Dr. LaGarry "might impact the containment of the mining operation."<sup>106</sup> They add that the NRC's Staff's conclusion in EA section 3.5.2.3.2, that there is only a "minor amount of leakage" from the mine's operational areas, ignores the material concerns raised by Dr. LaGarry.<sup>107</sup>

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<sup>102</sup> OST Proposed Contentions at 64; CI Proposed Contentions at 49 (CI makes a minor change in the title of their contention, and state "Take a 'Hard Look' at Proposal" instead "Take the 'Hard Look' at the Proposal" (emphasis added)).

<sup>103</sup> OST Proposed Contentions at 64–65; CI Proposed Contentions at 49.

<sup>104</sup> See OST Proposed Contentions at 66–70; CI Proposed Contentions at 51–56.

<sup>105</sup> See 2015 LaGarry Opinion at 2–6.

<sup>106</sup> See OST Proposed Contentions at 66, 71–74; CI Proposed Contentions at 51, 56–59.

<sup>107</sup> See OST Proposed Contentions at 71–76; CI Proposed Contentions at 56–61. Intervenor's also argue that EA section 4.6.1.2 inadequately discusses the potential of surface water contamination due to spills or leaks, affecting in particular Squaw Creek and English Creek. OST Proposed Contentions at 79–80; CI Proposed Contentions at 65–66. Intervenor's argue that the EA fails to consider "Uranium and radioactive daughters such as Lead-210" in the creek

Intervenors next claim that the NRC Staff did not take a hard look before concluding that the White River geologic feature is a “fold,” and not a “fault.”<sup>108</sup> Citing again to Dr. LaGarry for support, Intervenors claim that “Dr. LaGarry would argue that since wetlands form along water-bearing faults . . . the English Creek and Squaw Creek wetlands could evidence a proper interpretation of the White River Fault as a ‘Fault’ and not a ‘Fold.’”<sup>109</sup> Intervenors also assert that the EA’s computer modeling of the White River geology fails NEPA’s hard look analysis because the NRC Staff’s analysis is not based on hydrogeologic parameters derived from the licensed area but rather is based on the North Trend Expansion Area conditions.<sup>110</sup>

Crow Butte and the NRC Staff argue that the contention is untimely because it references data available in 2008, and that even Dr. LaGarry’s 2015 opinion merely references his 2008 opinion.<sup>111</sup> Crow Butte also asserts that Intervenors’ arguments about connectivity are generally untimely because “the potential for groundwater from the mined aquifer to make its way to Squaw Creek, English Creek, and other surface waters was specifically addressed in the LRA.”<sup>112</sup> Concerning the argument that the White River ‘fold’ is instead a ‘fault,’ Crow Butte responds that this argument is untimely as it repeats materials from the Safety Evaluation

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area, as well as the possibility of more complex interactions between the creeks and the mining area. OST Proposed Contentions at 79–80; CI Proposed Contentions at 65–66.

<sup>108</sup> OST Proposed Contentions at 77; CI Proposed Contentions at 62–63. A fault is a fracture in the earth’s crust whereas a fold is a bend in the strata.

<sup>109</sup> OST Proposed Contentions at 77; CI Proposed Contentions at 63.

<sup>110</sup> See OST Proposed Contentions at 78; CI Proposed Contentions at 63–64.

<sup>111</sup> Crow Butte Answer at 21; NRC Staff Answer at 32.

<sup>112</sup> Crow Butte Answer at 24 (citing LRA § 7.4.2.2).

Report (SER).<sup>113</sup> CI reply that the NRC Staff's modeling of the White River structural feature in EA section 3.5.2.3.3 is not in the LRA.<sup>114</sup>

As to admissibility, Crow Butte argues that "[t]he 2015 LaGarry opinion does not address or dispute the adequacy of the data provided by Crow Butte or the NRC Staff's evaluation in the SER or EA."<sup>115</sup> The NRC Staff adds that although Intervenor's argue that the White River modeling is flawed because it uses data from the North Trend Expansion area, "the White River Fault is [instead] located along the southeast boundary of the North Trend area," and does not extend into the licensed site, precluding the use of data from this location.<sup>116</sup> Finally, Crow Butte and the NRC Staff both argue that this contention lacks sufficient support to validate Intervenor's concerns regarding porosity and confinement of the uranium bearing aquifers.<sup>117</sup>

## 2. Board Ruling

EA Contention 5 duplicates issues covered under already-admitted Contentions C and D. Contention C states:

In 7.4.2.2 in its application for renewal, [Crow Butte's] characterization that the impact of surface waters from an accident is "minimal since there are no nearby surface water features," does not accurately address the potential for environmental harm to the White River.<sup>118</sup>

Contention D states:

In 7.4.3 [Crow Butte's] Application incorrectly states there is no communication among the aquifers, when in fact, the Basal Chadron aquifer, where mining

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<sup>113</sup> Id. at 23 (citing Safety Evaluation Report, License Renewal of the Crow Butte Resources ISR Facility Dawes County, Nebraska Materials License No. SUA-1534 (Dec. 2012) § 2.4.3.3 (ADAMS Accession No. ML103470470) [hereinafter 2012 SER]).

<sup>114</sup> CI Reply at 11 (asserting that, the NRC Staff's analysis at EA section 3.5.2.3.3, "is comprised of NRC Staff actions, reports, analyses and activities that are not described in the LRA").

<sup>115</sup> Crow Butte Answer at 23.

<sup>116</sup> NRC Staff Answer at 36.

<sup>117</sup> Crow Butte Answer at 22; NRC Staff Answer at 35.

<sup>118</sup> LBP-08-24, 68 NRC at 724.



occurs, and the aquifer, which provides drinking water to the Pine Ridge Indian Reservation, communicate with each other, resulting in the possibility of contamination of the potable water.<sup>119</sup>

These contentions broadly cover hydrogeological connectivity between the Crow Butte mining areas and nearby features, in particular the White River.<sup>120</sup> Therefore, while Intervenor's supporting material for this contention is potentially relevant to migrated Contentions C and D, the Board will not admit EA Contention 5 to the extent it is repetitive of these other contentions.

Insofar, however, as it challenges the modeling of the White River discussed in section 3.5.2.3.3 of the EA, EA Contention 5 does raise a new issue.<sup>121</sup> That section acknowledges that Crow Butte expressed some uncertainty as to whether the White River feature is a "fault" or a "fold."<sup>122</sup> The EA, after discussing modeling undertaken to answer this question, concludes that the White River feature is a "fold," not a "fault."<sup>123</sup>

Although the NRC Staff asserts that the White River feature<sup>124</sup> is only in the North Trend area, and thus cannot be modeled using data from the license renewal area,<sup>125</sup> Intervenor's

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<sup>119</sup> Id. at 725.

<sup>120</sup> Id. ("[W]e find the Tribe has supplied sufficient expert opinion to draw into question whether these aquifers are interconnected and so could be the potential pathway for contaminant migration to surface waters."); id. at 727 ("Dr. LaGarry notes a fault along the White River that, based on the regional geology, could act as a pathway to transport contaminants to the White River from the current ISL mining location.").

<sup>121</sup> OST Proposed Contentions at 78; CI Proposed Contentions at 63–64.

<sup>122</sup> See EA § 3.5.2.3.3 ("In the ER, the applicant expressed uncertainty as to whether this feature is expressed as a fault through the Brule and Basal Chadron formations or a fold (CBR, 2007A). If the feature is present as a conductive fault, it could provide a pathway for fluids to flow between the two formations.").

<sup>123</sup> Id.

<sup>124</sup> "Feature" is a generic term that refers to any type of geologic or structural formation or topography, such as a canyons, caves, faults, folds, or basins. See EA §§ 3.4.2 (discussing various "features" in western Nebraska), 3.5.2.3.3 (discussing modelling of the "White River structural feature"); National Park Geologic Resources, Nat'l Park Serv., <http://www.nature.nps.gov/geology/> (last updated Jan. 28, 2014).

<sup>125</sup> NRC Staff Answer at 36.

nonetheless raise a factual question both as to the model's accuracy, and as to the accuracy of the NRC Staff's analysis that the White River feature is a "fold" versus a "fault."<sup>126</sup>

Intervenors have already demonstrated the plausibility of their concerns about hydrogeological connectivity, as expressed in admitted Contentions C and D.<sup>127</sup> The NRC Staff cannot simply nullify the plausibility of Intervenors' arguments by reaching a contrary conclusion in the EA. "NEPA requires a 'hard look' at the environmental effects of the planned action," not a circular restatement of the NRC Staff's own conclusions.<sup>128</sup>

Regarding the timeliness of this contention, it is true that the SER discusses the NRC Staff's "modeling exercise to assess conclusions drawn by the applicant that the White River Fault may not be expressed as a fault within the Basal Chadron and Brule formations."<sup>129</sup> As discussed above, however, the Commission explained in CLI-09-09 that Intervenors were to wait until the publication of the EA before proffering any NEPA-related new contentions, as long as the new contentions were based on data or conclusions not available at the time of the LRA.<sup>130</sup> The Board's scheduling order reaffirms the Commission's directive.<sup>131</sup> Moreover,

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<sup>126</sup> Intervenors claim that "Dr. LaGarry would argue that since wetlands form along water-bearing faults . . . the English Creek and Squaw Creek wetlands could evidence a proper interpretation of the White River Fault as a 'Fault' and not a 'Fold.'" OST Proposed Contentions at 77; CI Proposed Contentions at 63.

<sup>127</sup> See generally LBP-08-24, 76 NRC at 725.

<sup>128</sup> Nextera Energy Seabrook, LLC (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 341 (2012).

<sup>129</sup> Safety Evaluation Report (Revised), License Renewal of the Crow Butte Resources ISR Facility Dawes County, Nebraska Materials License No. SUA-1534 (Aug. 2014) § 2.4.3.3 (ADAMS Accession No. ML1419A433) [hereinafter SER Revised]; see also 2012 SER § 2.4.3.3. Although Crow Butte, using drilling data, proposed that the White River feature "may instead be interpreted" a fold in its LRA, LRA § 2.6.2.5, it did not model the feature. The NRC Staff was the first to perform a probabilistic analysis and model the White River feature. See SER Revised § 2.3.3.2.

<sup>130</sup> See CLI-09-09, 69 NRC at 351 n.104 ("[W]ith respect to issues arising under NEPA, the petitioner may file new contentions 'if there are data or conclusions in the NRC draft or final environmental impact statement . . . that differ significantly from the data or conclusions in the

Intervenors had no obligation to proffer new or amended environmental contentions to challenge information in the SER, which concerns safety findings.<sup>132</sup> Instead, Intervenors were constrained to await the issuance of the EA, which came out shortly thereafter, as the triggering event for filing new or amended environmental contentions.<sup>133</sup>

Contentions C and D, as admitted, encompass the newly admissible portion of EA Contention 5. These contentions are set forth in Appendix A to this Order.

G. EA Contention 6 – Water Quantity Impacts

1. Parties' Positions

Intervenors title EA Contention 6 “The Final EA Fails to Adequately Analyze Ground Water Quantity Impacts.”<sup>134</sup> In the contention, Intervenors state:

The Final EA violates the National Environmental Policy Act in its failure to provide an analysis of the ground water quantity impacts of the project. Further,

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applicant’s documents[.]” In such a case, the ‘late-filing’ standards are no bar to the admission of properly supported contentions.” (quoting 10 C.F.R. § 2.309(f)(2) (2009))).

<sup>131</sup> See Licensing Board Order (Scheduling Filing of New/Amended Contentions and Requesting Proposed Evidentiary Hearing Dates) (Oct. 28, 2014) (unpublished) [hereinafter EA Contentions Scheduling Order] (“Following the public availability of the Final EA, new/amended contentions from the intervenors are due within 30 days of issuance of the Final NEPA document.”). This order was not challenged by Crow Butte or the NRC Staff.

<sup>132</sup> As stated in the Crow Butte SER, “sections addressing environmental aspects are not included in the SER as they are addressed in the EA.” SER Revised at ix. As the NRC Staff’s safety analysis and environmental analysis occur separately, intervenors are expected to raise safety challenges in response to the safety reports and environmental challenges in response to the environmental statements. See Duke Power Co., et al. (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1048–49 (1983); Calvert Cliffs 3 Nuclear Project, LLC et al. (Combined License Application for Calvert Cliffs Nuclear Power Plant, Unit 3), LBP-09-4, 69 NRC 170, 228 (2009) (also noting that environmental contentions are expected in response to the applicant’s or NRC Staff’s environmental reviews, and that “contentions regarding their adequacy cannot be expected to be proffered at an earlier stage of the proceeding before the documents are available” (quoting Catawba, CLI-83-19, 17 NRC at 1049)), aff’d, CLI-09-20, 70 NRC 911 (2009).

<sup>133</sup> In addition, Intervenors remain free to discuss the NRC Staff’s modeling efforts at the evidentiary hearing insofar as it is relevant in deciding migrated Contentions C and D, which were originally admitted long before the NRC Staff introduced this model in its revised SER.

<sup>134</sup> OST Proposed Contentions at 83; CI Proposed Contentions at 69.

the Final EA presents conflicting information on ground water consumption such that the water consumption impacts of the project cannot be accurately evaluated. These failings violate 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations.<sup>135</sup>

Intervenors argue that the EA's estimate of water usage (9,000 gallons per minute or gpm)<sup>136</sup> ignores the significant consumption of water required for restoration and decommissioning of old mines.<sup>137</sup> Intervenors state that after twelve years, "Crow Butte is still restoring Mine Units 2-6 consuming vast quantities of groundwater in the process with no end in sight," and that the flow rate for restoration was recently increased from 200 to 1,200 gpm.<sup>138</sup> Intervenors also disagree with the NRC Staff's conclusions as to the rate of decrease of Basal Chadron aquifer water quantity,<sup>139</sup> as well as with the conclusion that this decrease results only in a MODERATE environmental impact.<sup>140</sup>

Crow Butte argues that EA Contention 6 is untimely because the EA's discussion of groundwater consumption for mining reflects "no change from the original LRA."<sup>141</sup> Crow Butte asserts the same defect with respect to Intervenors' concerns with aquifer drawdown.<sup>142</sup> CI's reply argues that EA section 4.6.2.2.1, concerning the "piezometric surface of the Basal

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<sup>135</sup> OST Proposed Contentions at 83; CI Proposed Contentions at 69.

<sup>136</sup> EA § 4.6.2.2.1.

<sup>137</sup> OST Proposed Contentions at 84; CI Proposed Contentions at 70.

<sup>138</sup> OST Proposed Contentions at 84; CI Proposed Contentions at 70.

<sup>139</sup> Intervenors at times refer to the "piezometric surface of the Basal Chadron" when referring to the Chadron's water quantity. See OST Proposed Contentions at 84; CI Proposed Contentions at 70. So does EA section 4.6.2.2.1. The term "piezometric surface" in this circumstance refers to the pressure level of groundwater in a confined aquifer. Id.

<sup>140</sup> OST Proposed Contentions at 84; CI Proposed Contentions at 70.

<sup>141</sup> Crow Butte Answer at 25.

<sup>142</sup> Id.

Chadron,” is not in the LRA,<sup>143</sup> and that statements in the EA on current<sup>144</sup> and expected<sup>145</sup> water usage for groundwater restoration comprise new and material information.

Crow Butte and the NRC Staff both also argue that the current contention does not raise a genuine dispute, as the EA fully considered the impacts of groundwater drawdown for mining and restoration.<sup>146</sup> Crow Butte notes that the EA states that ““consumptive use of ground water from bleed during aquifer restoration is generally greater than during ISR operations.””<sup>147</sup> The NRC Staff also defends its finding of MODERATE short term and SMALL long term impacts from mine restoration, asserting that, over the entire restoration period, the aquifers will remain saturated, and afterwards will recover quickly.<sup>148</sup> CI’s reply maintains that a genuine impact exists because, although the NRC Staff claims these restoration concerns are of no more than MODERATE importance, CI maintains they are far more significant.<sup>149</sup>

## 2. Board Ruling

EA Contention 6 is admissible in part. Intervenors are incorrect in stating that the EA omits discussion of the consumptive impacts of mine restoration on groundwater quantity. The

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<sup>143</sup> CI Reply at 12–13.

<sup>144</sup> Id. at 12 (“To accelerate ground water restoration, CBR has increased the flow capacity through the RO circuit from 200 to 1,150 gpm [757 to 4352 lpm], and the flow through the IX [ion exchange] circuit has been increased from 200 to 1,200 gpm [757 to 4542 lpm] (CBR, 2012).” (emphasis omitted) (first and third brackets in original) (quoting EA § 4.6.2.3)).

<sup>145</sup> Id. at 13 (“Given the historical flow rates, it is anticipated that CBR may need to extract more than eleven restoration pore volumes for all mine units; thus, the restoration schedule may extend beyond that proposed by CBR.” (emphasis omitted) (quoting EA § 4.6.2.2.1)).

<sup>146</sup> Crow Butte Answer at 26 (citing EA § 4.6.2.3); NRC Staff Answer at 39 (citing EA §§ 4.6.2.2.1, 4.6.2.3, 4.13.6.2.1, 4.13.6.2.2, and 4.13.6.2.3).

<sup>147</sup> Crow Butte Answer at 26 (citing EA § 4.6.2.3).

<sup>148</sup> NRC Staff Answer at 40 (“[R]ecover rates of confined aquifers, such as the Basal Chadron aquifer, are generally far more rapid than those observed in water table aquifers.” (quoting EA § 4.13.6.2.3)).

<sup>149</sup> See CI Reply at 12–13.

EA clearly states that, although “[t]he current Crow Butte ISR facility is capable of processing in excess of 9,000 gpm of leach solution,”<sup>150</sup> this is “excluding restoration flow.”<sup>151</sup> The EA discusses water use for restoration extensively under section 4.6.2.2, “Operation Impacts on Groundwater.” Indeed, Intervenor’s cite to this section of the EA in their pleadings.<sup>152</sup> Thus, this portion of the contention does not contain a material dispute with the EA. Moreover, the LRA discusses Crow Butte’s water usage projections, also rendering this portion of Intervenor’s contention untimely.<sup>153</sup>

Nonetheless, Intervenor’s claim that the short-term impact of mine restoration is greater than MODERATE is admissible.<sup>154</sup> Intervenor’s support their position with reference to section 4.6.2.2.1 of the EA, which indicates that restoration of mines in the license renewal area is consuming more water than previously thought necessary.<sup>155</sup> Intervenor’s also plead alleged facts that, even though restoration of mine unit 1 is complete, unit 1 was the smallest mine on the site, and restoration of the larger mines units 2 through 6 is “consuming vast quantities of groundwater,” and specifically, more than had been projected in the EA.<sup>156</sup> This is sufficient to proffer an admissible contention.<sup>157</sup>

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<sup>150</sup> EA § 2.1.

<sup>151</sup> Id. § 2.1.1.

<sup>152</sup> OST Proposed Contentions at 84; CI Proposed Contentions at 70; CI Reply at 12–13.

<sup>153</sup> See LRA § 3.1.3 (“Injection of solutions for mining will be at a rate of 9,000 gpm with a 0.5 percent to 1.0 percent production bleed stream.”); id. § 7.12.3.1, tbl. 7.12-6 (indicating that groundwater consumption for restoration will consume 1,000 gpm).

<sup>154</sup> OST Proposed Contentions at 84; CI Proposed Contentions at 70.

<sup>155</sup> EA § 4.6.2.3 (“Given the historical flow rates, it is anticipated that CBR may need to extract more than eleven restoration pore volumes for all mine units; thus, the restoration schedule may extend beyond that proposed by CBR.”).

<sup>156</sup> OST Proposed Contentions at 84; CI Proposed Contentions at 70. This allegation disputes the EA. See EA § 2.1.1 (indicating that restoration of mine units 2 through 5 will proceed similarly as restoration of mine unit 1). This Board views Intervenor’s allegations in a light

This basis of the contention is timely because it challenges the NRC Staff's interpretation of facts that were not included in the LRA. The latter only vaguely touched on restoration and did not address the increasing amount of water that has recently been demonstrated is necessary for restoration of the mines.<sup>158</sup> Moreover, the conclusion that these newly discussed impacts are MODERATE is unique to the EA. The issuance of the NRC Staff's NEPA document represents the "first opportunity to raise contentions on the adequacy" of the NRC Staff's assessments and conclusions.<sup>159</sup>

EA Contention 6, as narrowed by the Board, is set forth in Appendix A to this Order.

H. EA Contention 7 – Information is not Presented in a Clear Concise Manner

1. Intervenors' Position

Intervenors title EA Contention 7, "The Final EA Fails to Demonstrate Adequate technical sufficiency and fails to present information in a 'clear, concise' manner to enable effective public review and omits material information and analysis."<sup>160</sup> In the contention Intervenors state:

The Final EA fails to present relevant information in a clear and concise manner that is readily accessible to the public and other reviewers, as required by 10 C.F.R. §§ 51.70(b), 51.120, Part 51 Appendix A to Subpart A, the Administrative

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favorable to Intervenors. See Ariz. Pub. Serv. Co. (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 NRC 149, 155 (1991).

<sup>157</sup> "At the contention filing stage the factual support necessary to show that a genuine dispute exists need not be in affidavit or formal evidentiary form and need not be of the quality necessary to withstand a summary disposition motion." Pac. Gas & Elec. Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-11-11, 74 NRC 427, 442 n.81 (2011) (quoting Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,171 (Aug. 11, 1989)).

<sup>158</sup> Compare LRA tbl. 7.12-6 (indicating that groundwater consumption for restoration would only consume 1,000 gpm) with EA § 4.6.2.3 ("The extension of the restoration periods, as well as the greater than expected consumptive use rates, could significantly increase the drawdown in the potentiometric surface of the Basal Chadron aquifer, but it should still remain saturated.").

<sup>159</sup> See Diablo Canyon ISFSI, CLI-08-1, 67 NRC at 6.

<sup>160</sup> OST Proposed Contentions at 86; CI Proposed Contentions at 73.

Procedure Act, the National Environmental Policy Act and implementing regulations. [This is a contention of omission.]<sup>161</sup>

According to Intervenors, the NRC failed to present information clearly or to make key reference documents available “for a large number of assumptions made in the Final EA.”<sup>162</sup> Intervenors cite recommendations from the 2008 Dr. Abitz Opinion<sup>163</sup> for support.<sup>164</sup> Intervenors also identified several apparent typos and alleged the EA lacked specificity.<sup>165</sup>

## 2. Board Ruling

EA Contention 7 is inadmissible. Intervenors have not demonstrated that an alleged generalized lack of clarity and typos in the EA rise to the requisite level of materiality regarding relicensing Crow Butte’s facility.<sup>166</sup>

### I. EA Contention 8 – Air Quality Impacts

#### 1. Intervenors’ Position

Intervenors title EA Contention 8 “Failure to Adequately Describe Air Quality Impacts.”<sup>167</sup>

In this contention Intervenors state:

The Final EA fails to provide sufficient information regarding the air quality impacts to meet the requirements of 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations. As a result, the Final EA similarly fails to provide sufficient information to establish potential effects of the project on the adjacent surface and ground-water resources, as

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<sup>161</sup> OST Proposed Contentions at 87; CI Proposed Contentions at 73.

<sup>162</sup> OST Proposed Contentions at 87; CI Proposed Contentions at 73–74.

<sup>163</sup> Dr. Richard Abitz, Principal Geochemist/Owner of Geochemical Consulting Services, LLC, offered an opinion supporting CI in 2008. See CI Proposed Contentions Ex. C, Abitz Opinion.

<sup>164</sup> OST Proposed Contentions at 89–92; CI Proposed Contentions at 76–79.

<sup>165</sup> OST Proposed Contentions at 88–91; CI Proposed Contentions at 74–77. Most of Intervenors’ allegations, such as missing seismic information, are also alleged throughout other contentions addressed in this Order.

<sup>166</sup> See 10 C.F.R. § 2.309(f)(1)(iv). The Board, however, expects the NRC Staff to issue as error free a document as possible, and to correct any errors brought to its attention.

<sup>167</sup> OST Proposed Contentions at 92; CI Proposed Contentions at 79.



required by 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations.<sup>168</sup>

Relying in particular on the 2008 Dr. Abitz opinion, Intervenor's argue that the EA omits discussion of two potential sources of radiation exposure or air pollution: emissions of radioactive substances other than radon-222 gas,<sup>169</sup> and mist from the evaporation ponds.<sup>170</sup>

Intervenor's also argue that in lieu of on-site testing, the EA improperly relies on estimates from Rapid City, South Dakota of concentrations of particulate matter smaller than 10 microns (P10 concentrations).<sup>171</sup>

## 2. Board Ruling

EA Contention 8 is untimely. The thrust of Intervenor's contention is that the EA either omits or inadequately discusses the impacts of (i) airborne radioactive emissions other than

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<sup>168</sup> OST Proposed Contentions at 92; CI Proposed Contentions at 79. OST states that this is a contention of omission, but CI does not. OST Proposed Contentions at 92; CI Proposed Contentions at 79–80. Under questioning by the Board during oral argument, Intervenor's conceded that the second sentence of this contention: "As a result, the Final EA similarly fails to provide sufficient information to establish potential effects of the project on the adjacent surface and ground-water resources, as required by 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations," has nothing to do with their air quality claims. It apparently was the result of cutting and pasting from another place in the petition. Tr. at 782–84.

<sup>169</sup> OST Proposed Contentions at 93–94; CI Proposed Contentions at 80–81; see also EA § 4.12.2. Intervenor's also quote from Dr. Abitz's 2008 opinion, which alleges the software used to model radon dose is inadequately explained in the LRA. See OST Proposed Contentions at 95; CI Proposed Contentions at 82.

<sup>170</sup> OST Proposed Contentions at 95 (citing 2008 Dr. Abitz Opinion at 13); CI Proposed Contentions at 82 (citing 2008 Dr. Abitz Opinion at 13).

<sup>171</sup> OST Proposed Contentions at 94 (citing EA § 3.3.5); CI Proposed Contentions at 81 (same). "P10," or PM-10, refers to "particles with a diameter of 10 micrometers or less (0.0004 inches or one-seventh the width of a human hair). . . . Major concerns for human health from exposure to PM-10 include: effects on breathing and respiratory systems, damage to lung tissue, cancer, and premature death." AIR Trends 1995 Summary, Particulate Matter (PM-10), Env'tl. Prot. Agency, <http://www.epa.gov/airtrends/aqtrnd95/pm10.html> (last updated Jan. 5, 2012).

radon, (ii) mist from evaporation ponds, and (iii) P10 concentrations. CI has failed to demonstrate that these issues were not previously discussed in the LRA.<sup>172</sup>

Regarding airborne radioactive materials, section 1.8.1 of the LRA states “[t]he only radioactive airborne effluent at the Crow Butte Project is radon-222 gas.”<sup>173</sup> Regarding mist from evaporation ponds, section 7.6 of the LRA discusses air quality impacts, but leaves out mist from evaporation ponds as a potential air release. The 2008 Abitz Opinion thus raises this alleged omission: “Particulate from contaminated soil and mist from the evaporation ponds are also air exposure concerns. Why is there no discussion of these sources?”<sup>174</sup> Regarding P10 concentrations, section 7.6 of the LRA states: “Although there are no ambient air quality monitoring data for these non-radiological pollutants in the License Area, PM10 concentrations have been measured in Rapid City, South Dakota and Badlands National Park in South Dakota. Both locations are geographically similar to the License Area.”<sup>175</sup>

Intervenors do not explain how the EA introduces new or materially different information from the LRA. Indeed, Intervenors state that their asserted defects with the EA were “carried forward” from the LRA.<sup>176</sup> Moreover, the support for all of Intervenors’ claims comes from the 2008 Abitz Opinion, which references the LRA, not the EA.<sup>177</sup> Because it is not based on new information, EA Contention 8 is inadmissible as untimely.

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<sup>172</sup> CI Reply at 13.

<sup>173</sup> The EA similarly states that “[t]he routine radioactive emission will therefore, be radon-222 (radon) gas.” EA § 7.12.2.

<sup>174</sup> 2008 Abitz Opinion at 13. EA section 4.4 repeats the LRA’s air quality discussion and does not add any new or material information.

<sup>175</sup> This is repeated in EA section 7.6.

<sup>176</sup> OST Proposed Contentions at 94; CI Proposed Contentions at 80.

<sup>177</sup> OST Proposed Contentions at 93–95; CI Proposed Contentions at 80–82. As Intervenors’ claims are untimely, the Board does not reach whether this contention meets the admissibility requirements of 10 C.F.R. § 2.309(f)(1).

J. EA Contention 9 – Mitigation Measures

1. Parties' Positions

Intervenors title EA Contention 9 “Failure to Adequately Describe or Analyze Proposed Mitigation Measures.”<sup>178</sup> In this contention Intervenors allege that:

The Final EA violates 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act and implementing regulations by failing to include the required discussion of mitigation measures. This contention is one of omission and thus requires no expert opinion in support.<sup>179</sup>

Noting that NEPA requires a “reasonably complete discussion of possible mitigation measures,” Intervenors argue that the EA fails to describe Crow Butte’s mitigation plans with sufficient detail, lacks supporting data and analysis, and contains unsupported judgments of their potential effectiveness.<sup>180</sup> According to Intervenors, proposed mitigation measures in the EA, including aquifer restoration impacts on ground water, often consist only of vague plans to be developed later.<sup>181</sup>

Crow Butte first responds that this contention is not based on new information because many of Intervenors’ concerns with the EA were carried forward from the LRA.<sup>182</sup> Second, Crow Butte argues that Intervenors include no support for their claims, and merely “restate[] portions of the EA” with the assumption that consumptive use of groundwater tests were faulty.<sup>183</sup>

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<sup>178</sup> OST Proposed Contentions at 96; CI Proposed Contentions at 83.

<sup>179</sup> OST Proposed Contentions at 96; CI Proposed Contentions at 83.

<sup>180</sup> OST Proposed Contentions at 96–97; CI Proposed Contentions at 83–84 (quoting Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 352 (1989)).

<sup>181</sup> Intervenors specifically allege that the NRC Staff has not justified its assumption that aquifer levels will eventually be restored naturally, and that runoff control procedures and monitoring and mitigation activities for ground water have not been developed. OST Proposed Contentions at 97–98, 100–101; CI Proposed Contentions at 84–86, 88–90.

<sup>182</sup> Crow Butte Answer at 31–32.

<sup>183</sup> Id. at 32.

The NRC Staff answers that Intervenor's claims are addressed in the EA, are baseless, or make the forbidden assumption that Crow Butte will not follow the procedures prescribed in the EA.<sup>184</sup> The NRC Staff also claims that specific sections of the EA address each of Intervenor's concerns.<sup>185</sup> Regarding pollutant discharges, the NRC Staff insists that Crow Butte's mitigation measures have been implemented "in accordance with its National Pollutant Discharge Elimination System (NPDES) permit and Nebraska Department of Environmental Quality (NDEQ) requirements."<sup>186</sup>

CI's reply argues that the NRC Staff's reliance on Nebraska permits for NEPA purposes is improper.<sup>187</sup> The reply also argues that while the EA discusses "four activities" for ground water restoration, the EA fails to indicate that these activities have, in the past, "utterly and completely failed to restore the aquifer to baseline characteristics."<sup>188</sup> Without this disclosure, CI argues that the aquifer restoration discussion is not "reasonably complete" and an adequate assessment of whether the mitigation can be effective is not possible.<sup>189</sup>

## 2. Board Ruling

EA Contention 9 is admissible in part, solely as it alleges the EA's discussion of ground water restoration mitigation measures is inadequate. The Board notes "that NEPA does not

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<sup>184</sup> NRC Staff Answer at 47–48.

<sup>185</sup> Id. at 49–54.

<sup>186</sup> Id. at 48.

<sup>187</sup> CI Reply at 15–16 (citing 42 U.S.C. § 4332(2)(D) and S. Fork Band Council v. BLM, 588 F.3d 718, 726 (9th Cir. 2009) ("A non-NEPA document—let alone one prepared and adopted by a state government—cannot satisfy a federal agency's obligations under NEPA.")).

<sup>188</sup> CI Reply at 14.

<sup>189</sup> Id. (quoting Methow Valley Citizens Council, 490 U.S. at 353). CI also cite the Fermi 3 decision, for the proposition that "under NEPA, an EIS must discuss 'any adverse environmental effects which cannot be avoided should the proposal be implemented.' and must provide a reasonably complete discussion of possible mitigation measures." Id. (quoting Fermi 3, LBP-12-23, 76 NRC at 486).

require that Environmental Assessments include a discussion of mitigation strategies.”<sup>190</sup> But where, as here, the agency has found mitigation strategies necessary to alleviate a potential impact, the associated discussion should be “reasonably complete . . . . [to] properly evaluate the severity of the adverse effects.”<sup>191</sup>

CI allege that the EA’s ground water restoration mitigation plan ignores a previously completed restoration that resulted in “uranium contaminant levels 18 times greater than baseline.”<sup>192</sup> CI also note that a previous aquifer restoration required “36.47 pore volumes,” and quote Crow Butte as stating, “restoration efforts in Mine Unit 1 proceeded beyond the point where significant improvement was possible with continuing treatment.”<sup>193</sup> The Board’s review of mitigation measures discussed in aquifer and ground water impacts EA sections 4.6.2.2 and 4.6.2.3 revealed a cursory discussion, without substantive analysis, of mitigating the effect of increased pore volumes and ground water restoration quality and quantity impacts.<sup>194</sup>

An NPDES permit may form the basis of a mitigation strategy, but again, this strategy must actually be discussed. Another Board, in reviewing CEQ Guidance in the context of a Draft Environmental Impact Statement [DEIS], commented that while an agency may rely on mitigation imposed by another governmental entity, the agency preparing the NEPA document must still “explain the statutory or regulatory requirements it is relying on and its reasons for

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<sup>190</sup> Akiak Native Cmty. v. U.S. Postal Serv., 213 F.3d 1140, 1147 (9th Cir. 2000). 40 C.F.R. § 1502.16(h) only explicitly requires a mitigation discussion in Environmental Impact Statements.

<sup>191</sup> Methow Valley Citizens Council, 490 U.S. at 352.

<sup>192</sup> CI Reply at 15 (emphasis removed). CI also add that permits issued by Nebraska allow for uranium contaminant levels “54 times greater than baseline.” Id.

<sup>193</sup> Id. at 16–17.

<sup>194</sup> Where aquifer mitigation pore volumes were discussed, the NRC Staff anticipated restoration may need more than the eleven pore volumes proposed by Crow Butte. Assigning a short term MODERATE impact, the NRC Staff then commented, without further discussion, that “water levels would eventually recover” and so settled on a SMALL impact. EA § 4.6.2.3.

concluding that the application of those requirements will actually result in the mitigation and monitoring it assumes will occur.”<sup>195</sup>

Based on the allegations regarding mitigation of Crow Butte’s quality and quantity impacts on ground water aquifer restoration, a material, genuine dispute exists with the NRC Staff’s EA. With respect to all other portions of this contention, Intervenor’s claims lack specificity and do not support admissible issues.

EA Contention 9, as amended, is reproduced in Appendix A to this Order.

K. EA Contention 10 – Cumulative Impacts

1. Parties’ Positions

Intervenor’s title EA Contention 10 “The Final EA Fails to Adequately Analyze Cumulative Impacts.”<sup>196</sup> In this contention Intervenor’s state:

The Final EA fails to adequately analyze cumulative impacts associated with the proposal as required by 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations. This contention is one of omission.<sup>197</sup>

Intervenor’s assert that the EA does not adequately analyze or quantify the cumulative impacts of proposed expansions in nearby uranium mining areas, such as the North Trend Expansion Area, the Marsland Expansion Area, and the Three Crows Expansion Area.<sup>198</sup> Intervenor’s maintain that the EA does not “include the cumulative impacts of these CBR Expansion Areas to all areas of the Final EA.”<sup>199</sup>

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<sup>195</sup> Fermi 3, LBP-12-23, 76 NRC at 469.

<sup>196</sup> OST Proposed Contentions at 103; CI Proposed Contentions at 90.

<sup>197</sup> OST Proposed Contentions at 103; CI Proposed Contentions at 90.

<sup>198</sup> OST Proposed Contentions at 103–04; CI Proposed Contentions at 90–92.

<sup>199</sup> OST Proposed Contentions at 104; CI Proposed Contentions at 92. Although there is some discussion of cumulative impacts in the cultural resources section, Intervenor’s assert that cumulative impacts must be addressed throughout the EA and not merely in the cultural resources section. Id.

Crow Butte responds that “the EA specifically discusses the North Trend Expansion Area, the Marsland Expansion Area, and the Three Crows Expansion Area in the context of cumulative impacts,” and refers to impacts on multiple types of resources.<sup>200</sup> Crow Butte adds that Intervenor’s point to no specific overlooked impacts, and fail to raise a genuine dispute.<sup>201</sup> The NRC Staff raises the same arguments in its response.<sup>202</sup>

CI’s reply links the discussion of cumulative impacts with their restoration claims under EA Contention 9. CI allege that, regarding potential expansion site mines, “it is only reasonable to assume that the other mine units will suffer the same fate” in restoration to below baseline conditions as the license renewal area mines.<sup>203</sup>

## 2. Board Ruling

EA Contention 10 is partially admissible. The EA extensively discusses cumulative impacts, and does, in fact, address Crow Butte’s potential expansion areas.<sup>204</sup> In most respects, Intervenor’s do not make clear the specific sections of the EA that they challenge. Because the mitigation of ground water restoration impacts are addressed in Contention 9, no material genuine dispute exists with most sections of the NRC Staff’s EA.<sup>205</sup> Although the NRC Staff asserts that “the proposed CBR ISR expansion areas are all at least 50 miles from the Pine Ridge Indian Reservation,”<sup>206</sup> it is beyond dispute that a portion of the Pine Ridge Indian

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<sup>200</sup> Crow Butte Answer at 33.

<sup>201</sup> Id.

<sup>202</sup> NRC Staff Answer at 55.

<sup>203</sup> CI Reply at 16.

<sup>204</sup> EA § 4.13. “Based on the above information, the staff has analyzed whether cumulative impacts could result from the incremental impact of the proposed action (license renewal) when added to the impacts from the proposed CBR ISR expansion areas.” Id.

<sup>205</sup> 10 C.F.R. § 2.309(f)(1).

<sup>206</sup> EA § 4.13.9.

Reservation lies within 50 miles of all of the proposed CBR ISR expansion areas.<sup>207</sup> Additional analysis on the cumulative impacts with respect to environmental justice may be necessary, which the Board admits under merged Contention D and Contention 3.

L. EA Contention 11 – Reasonable Alternatives

1. Intervenors’ Position

Intervenors title EA Contention 11 “The Final EA Failed to Consider All Reasonable Alternatives.”<sup>208</sup> In this contention Intervenors allege that:

The Final EA fails to adequately analyze all reasonable alternatives as required by 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations. This contention is one of omission.<sup>209</sup>

Intervenors generally assert that the EA failed to review a large enough range of alternatives to the proposed mining project.<sup>210</sup> Intervenors offer two alternatives that they claim should have been considered: first, “an alternative that precludes adoption of any Alternate Concentration Limits (ACL’s) for ground water restoration,” and second, an alternative that “require[s] CBR to complete the restoration of the groundwater and surface waters to limits that make it acceptable for domestic and agricultural uses.”<sup>211</sup>

2. Board Ruling

EA Contention 11 is inadmissible. NRC regulations explicitly allow the use of ACLs.<sup>212</sup> To the extent Intervenors challenge the use of an ACL, this is an impermissible challenge to an

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<sup>207</sup> This can easily be confirmed merely by using the Google Maps measurement tool.

<sup>208</sup> OST Proposed Contentions at 105; CI Proposed Contentions at 92.

<sup>209</sup> OST Proposed Contentions at 105; CI Proposed Contentions at 92.

<sup>210</sup> OST Proposed Contentions at 105–06; CI Proposed Contentions at 92.

<sup>211</sup> OST Proposed Contentions at 106; CI Proposed Contentions at 93–94.

<sup>212</sup> “The concentration of a hazardous constituent must not exceed . . . (c) An alternate concentration limit established by the Commission.” 10 C.F.R. Part 40, Appendix A, Criterion 5B(5)(c).



NRC regulation.<sup>213</sup> To the extent this contention challenges how an ACL is selected, Intervenor provide no data or analysis disputing the rationale behind a specific ACL.<sup>214</sup>

J. EA Contention 12 – Air Emissions and Liquid Waste

1. Parties' Positions

Intervenor title EA Contention 12 “Failure to Take a Hard Look at Impacts Such As Those Related to Selenium and Those Associated with Air Emissions and Liquid Waste.”<sup>215</sup> In this contention Intervenor state:

The Final EA violates 10 C.F.R. §§ 51.10, 51.70, 51.71, the National Environmental Policy Act and implementing regulations, by failing to conduct the required “hard look” analysis at impacts of the proposed mine associated with air emissions and liquid waste disposal.<sup>216</sup>

The contention has two parts. First, Intervenor argue that “the Final EA lacks current and confirmed information on air emissions and their impacts on various ‘receptors’ in the region.”<sup>217</sup>

In support, Intervenor assert that the EA fails to analyze “liquid 11e2<sup>[218]</sup> byproduct via evaporation” and “the foreseeable impact of major wind storm events, including tornadoes, on

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<sup>213</sup> “No rule or regulation of the Commission . . . is subject to attack . . . in any adjudicatory proceeding subject to this part.” 10 C.F.R. § 2.335(a).

<sup>214</sup> Intervenor suggest that all or any unreviewed alternatives could be explored, but provide no support for the exploration of any specific alternatives. OST Proposed Contentions at 106; CI Proposed Contentions at 93–94.

<sup>215</sup> CI Proposed Contentions at 94. The Tribe titles the contention slightly differently, omitting references to selenium, “Failure to Take a Hard Look at Impacts Associated with Air Emissions and Liquid Waste.” OST Proposed Contentions at 107.

<sup>216</sup> CI Proposed Contentions at 94. The Tribe also adds that the contention is one of omission. OST Proposed Contentions at 107 (“This contention is one of omission and thus does not require expert support.”).

<sup>217</sup> OST Proposed Contentions at 108; CI Proposed Contentions at 95. According to Intervenor, “receptors” include people, plants, animals, water bodies, soil, and parks. OST Proposed Contentions at 108; CI Proposed Contentions at 95.

<sup>218</sup> Intervenor refer to “byproduct material” categorized under section 11(e)(2) of the Atomic Energy Act, i.e., “the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content.” 42 U.S.C. § 2014(e)(2).

the facility.”<sup>219</sup> Second, relying on a U.S. Fish and Wildlife Service (FWS) letter and report, Intervenor argue that the EA fails to “properly account” for impacts to wildlife from the “land application of ISL wastes”<sup>220</sup> such as irrigation from a center pivot.<sup>221</sup> They add that FWS “has published detailed information on the risks of selenium contamination resulting from disposal of ISL wastes via land application,” which were ignored in the EA.<sup>222</sup>

Crow Butte claims the first portion of the contention is untimely, as the LRA and the SER both discuss air quality and wind storm hazards, including tornadoes.<sup>223</sup> The NRC Staff maintains that the second portion of the contention is also untimely, arguing that the

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<sup>219</sup> OST Proposed Contentions at 108; CI Proposed Contentions at 96.

<sup>220</sup> “ISL wastes,” as referenced by Intervenor, refers to wastewater produced in the mining of uranium. See EA § 2.2.2; OST Proposed Contentions at 81, 108; CI Proposed Contentions at 67, 96. Although ISL mining also produces solid wastes, LRA § 7.13, Contention 12 specifically focuses on impacts from liquid wastes. OST Proposed Contentions at 107; CI Proposed Contentions at 94.

<sup>221</sup> OST Proposed Contentions at 108 (CI Proposed Contentions, Ex. N, (Letter from Mike Stempel, Fish and Wildlife Service, U.S. Department of the Interior to Patrice Bubar, Division of Intergovernmental Liason and Rulemaking, U.S. NRC at 1 (Sept. 5, 2007) [hereinafter FWS Letter]); CI Proposed Contentions at 96 (same).

<sup>222</sup> OST Proposed Contentions at 108 (citing CI Proposed Contentions, Ex. O, U.S. Fish & Wildlife Service, Selenium in a Wyoming Grassland Community Receiving Wastewater from an In Situ Uranium Mine, Pedro Ramirez Jr. and Brad Rogers (Sept. 2000) [hereinafter FWS Report]); CI Proposed Contentions at 96 (same). At oral argument, Intervenor indicated that selenium is one of many “heavy metals or carcinogenic substances or toxic substances” that present concerns during ISL waste disposal. Tr. at 842–43. The Board also finds support for this argument provided within Intervenor’s discussion of other contentions. See, e.g., OST Proposed Contentions at 79–83; CI Proposed Contentions at 65–68 (discussing selenium contamination and land application of ISL wastes in the context of EA Contention 5); CI Reply at 15; Tr. at 789–95 (discussing use of state permits in NEPA documents in the context of related contentions on mitigation and water quality).

<sup>223</sup> Crow Butte Answer at 35–36 (citing LRA § 2.5.5; SER Revised § 7.3.5). Crow Butte also argues that this portion of the contention does not raise a genuine dispute, as EA section 3.11.2 discusses air impacts from mine operation, which are minimal due to the use of a vacuum dryer system. Crow Butte Answer at 35.

contention's support, i.e., the FWS letter and report, were published in 2007 and 2000 respectively.<sup>224</sup>

As to admissibility, Crow Butte argues that Intervenor's claims about ISL wastes do not dispute the EA, because the EA states that these concerns will be addressed as the company applies for additional permits from Nebraska.<sup>225</sup> The NRC Staff takes a different tack, and argues that the EA does not need to address selenium or land application of ISL wastewater. The NRC Staff states that "[s]ections 4.2.5.2 and 4.2.12.2 of the GEIS [Generic Environmental Impact Statement for In Situ Leach Uranium Milling Facilities<sup>226</sup>] discuss potential impacts of land application on ecological resources and conclude they will be small."<sup>227</sup> The NRC Staff also posits that because the mining site contains a state NPDES permit for land application of ISL wastes, enforced by Nebraska DEQ, "[i]t is appropriate for the Staff to give substantial weight to NDEQ's decision that issuing the [NPDES] permit would be environmentally acceptable."<sup>228</sup>

The NRC Staff emphasizes that Intervenor's bear the burden of showing support that the impacts of selenium are "significant" enough to warrant mention in the EA.<sup>229</sup> The NRC Staff challenges Intervenor's support, noting for example that the FWS report addresses selenium

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<sup>224</sup> NRC Staff Answer at 59.

<sup>225</sup> Crow Butte Answer at 36.

<sup>226</sup> Office of Federal and State Materials and Environmental Management Programs, Generic Environmental Impact Statement for In-Situ Leach Uranium Milling Facilities, NUREG-1910 (May 2009) (ADAMS Accession Nos. ML091480244 and ML091480188) [hereinafter ISL Mining GEIS].

<sup>227</sup> NRC Staff Answer at 60. The NRC Staff adds that the ISL Mining GEIS also "cites requirements at NRC licensed ISR facilities to monitor and control irrigation areas to maintain levels of radioactive and other constituents, including selenium, within allowable release standards." Id.

<sup>228</sup> Id. at 61 (citing Pub. Serv. Co. of N.H., et al. (Seabrook Station, Units 1 and 2), CLI-77-8, 5 NRC 503, 527 (1977)).

<sup>229</sup> NRC Staff Answer at 60.

contamination in Wyoming, but “Intervenors have not demonstrated that similar concentrations occur at the CBR facility.”<sup>230</sup> CI responds that “no expert support is required for the admission of this contention.”<sup>231</sup>

## 2. Board Ruling

EA Contention 12 is admissible in part. The first portion of the contention, asserting that the EA omits discussion of wind storms, tornadoes, and certain air emissions,<sup>232</sup> is admissible solely as it pertains to the discussion of tornadoes. The LRA discusses storms and precipitation,<sup>233</sup> tornadoes,<sup>234</sup> and management of air emissions,<sup>235</sup> and its discussions of storms, precipitation, and management of air emissions are transferred over to the EA.<sup>236</sup> However, the EA, without explanation, leaves out any discussion of tornadoes. While Intervenors have not pointed to any new or material information which allows for bringing storms, precipitation, or air emissions now,<sup>237</sup> the lack of discussion on tornadoes in the EA represents a new and material change that permits the filing of a new contention under 10

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<sup>230</sup> Id. at 59–60.

<sup>231</sup> CI Reply at 17.

<sup>232</sup> OST Proposed Contentions at 107–08; CI Proposed Contentions at 95–96.

<sup>233</sup> LRA §§ 2.5.3 (discussing precipitation in the Crow Butte area), 2.7.1.4 (discussing flooding concerns).

<sup>234</sup> Id. § 2.5.3 (concluding that “[t]ornadoes are rare”).

<sup>235</sup> See id. §§ 3.1.5.1 (discussing air emissions), 7.6 (discussing air quality impacts), 7.12.2 (discussing use of a vacuum dryer system to capture particulate air emissions).

<sup>236</sup> See EA §§ 3.3.3 (discussing precipitation), 3.5.1.1 (discussing flooding), 3.11.2 (discussing the vacuum dryer system), 4.4 (discussing air quality impacts).

<sup>237</sup> In addition, as the EA addresses storms and precipitation, as well as management of air emissions, Intervenors’ contention does not raise a genuine dispute relative to the EA discussion of these topics.

C.F.R. § 2.309(c)(1).<sup>238</sup> The omission of a discussion of tornadoes presents a genuine dispute of the EA on a material issue. In light of the fact that the agency has found wind events worthy of discussion in the EA (as they have a potential for adverse impacts),<sup>239</sup> we would expect that any associated discussion would only be “reasonably complete . . . [were it to] properly evaluate the severity of the adverse effects.”<sup>240</sup> Although the contention is not supported by alleged facts or expert opinion, contentions of omission do not require such support.<sup>241</sup>

The second portion of the contention, which asserts that the EA omits or inadequately discusses the effects of land application of ISL wastes,<sup>242</sup> is also admissible. Intervenors have

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<sup>238</sup> Although the SER discusses tornadoes, see SER Revised § 7.3.5, this does not allow for the issue to be ignored in the agency’s separate discussion of environmental consequences. As stated in the Crow Butte Revised SER, “sections addressing environmental aspects are not included in the SER as they are addressed in the EA.” SER at ix. “The EIS [or EA] must describe the potential environmental impact of a proposed action and discuss any reasonable alternatives.” Claiborne, CLI-98-3, 47 NRC at 87. In any event, as discussed above, Intervenors had no obligation to proffer new or amended environmental contentions after issuance of the SER, and instead could wait until the EA was published. See CLI-09-09, 69 NRC at 351 n.104.

<sup>239</sup> EA § 3.3.4 (discussing wind monitoring on the site), 4.3.2 (noting that “[s]oil erosion due to wind at the CBR facility has the potential for adverse impacts”), 4.4 (discussing air quality impacts from wind erosion).

<sup>240</sup> Methow Valley Citizens Council, 490 U.S. at 352.

<sup>241</sup> Calvert Cliffs 3, LBP-09-4, 69 NRC at 190 (“[T]he 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 of omission beyond identifying the regulatively required missing information.” (quoting Va. Electric & Power Co. (North Anna Power Station, Unit 3), LBP-08-15, 68 NRC 294, 317 (2008))).

<sup>242</sup> The Tribe states that the contention, in its entirety, “is one of omission.” OST Proposed Contentions at 107. However, CI does not take this position. CI Proposed Contentions at 95. This Board reads Intervenors’ statements in a light favorable towards Intervenors, and reads this contention as asserting omission as to part of the claims and inadequacy as to the remainder of the claims. See Palo Verde, CLI-91-12, 34 NRC at 155. In the discussion of the contention, CI indicates that the first portion of the contention, relating to air emissions and wind storms, is an allegation of omission because the EA “lacks” discussion of these topics. CI Proposed Contentions at 95–96. However, the portion of the contention concerning ISL waste appears to be pled as one of inadequacy. See CI Proposed Contentions at 96 (arguing that the EA fails to “properly account” for impacts from land application of ISL wastes). The NRC Staff itself prefers to rely on CI’s statement of the contention as the authoritative version. NRC Staff Answer at 8–9.

properly pled a contention of inadequacy and omission regarding the EA's discussion of land application of ISL wastewater and selenium contamination, supported by documents from FWS. At the outset, Intervenor correctly note that the EA's discussion of wastewater contaminants does not include any discussion of selenium contamination. Likewise, while the EA mentions land application of ISL wastewater,<sup>243</sup> it only mentions it is an option,<sup>244</sup> and does not discuss any environmental effects.

The EA gives two reasons for declining to engage in this discussion. Regarding disposal of pond wastewater, the EA states that land application "is not included in the current NPDES permit No. NE0130613 from the State of Nebraska."<sup>245</sup> It adds that Crow Butte "will be required to apply for additional permits from the State of Nebraska" if it intends to dispose of pond water or sludge on land.<sup>246</sup> A different section of the EA states that Crow Butte has a permit for land application of treated wastewater when performing mine restoration, but it has not used the option and has "not indicated they will" in the future.<sup>247</sup>

The Board is troubled with the EA's reliance on state permits as a justification for not discussing the environmental impacts of land application of ISL wastewater. Intervenor maintain that the decision of the United States Court of Appeals for the Ninth Circuit in South Fork Band Council v. BLM makes clear that reliance on a state permit, "let alone one prepared and adopted by a state government—cannot satisfy a federal agency's obligations under NEPA."<sup>248</sup> That this case involved an EIS, rather than an EA, is of no consequence.<sup>249</sup> The

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<sup>243</sup> EA § 2.4.

<sup>244</sup> Id. § 4.6.1.3.

<sup>245</sup> Id. § 2.4.1.

<sup>246</sup> Id. §§ 2.4.1, 2.4.2, 2.4.3.

<sup>247</sup> Id. § 4.6.1.3.

<sup>248</sup> Tr. at 790–92 (discussing S. Fork Band Council v. BLM, 588 F.3d 718, 726 (9th Cir. 2009)). It is a general rule that the agency conducting a NEPA review "shall independently evaluate the

NRC's regulations instruct the NRC Staff to discuss the impact of a proposed action regardless of whether there is a state permit regulating those impacts: "[c]ompliance with the environmental quality standards and requirements of the Federal Water Pollution Control Act (imposed by EPA or designated permitting states) is not a substitute for, and does not negate the requirement for NRC to weigh all environmental effects of the proposed action, including the degradation, if any, of water quality . . . ." <sup>250</sup>

Although its counsel states that the NRC Staff is "not relying on that permit as a basis for their Environmental Assessment," <sup>251</sup> it is difficult to square this claim with the actual language of the EA. The environmental conclusions drawn in the EA clearly rely on the fact that Crow Butte not only will not use its existing state-issued permits, but also does not have the necessary state permits to authorize land application of ISL wastewater. The NRC Staff argues that the EA properly could assume that Crow Butte will comply with whatever permits the State of Nebraska will issue, <sup>252</sup> and that deference can be given to a state permit's findings as to the acceptability

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information submitted and shall be responsible for its accuracy." 40 C.F.R. § 1506.5. While NEPA encourages state participation when appropriate and authorized, see id. § 1506.2(a), coordination between a federal agency and a state requires active involvement between the two in order for the federal agency to meet its independent review burden. See 42 U.S.C. § 4332(D)(ii); 40 C.F.R. § 1506.2(b) (encouraging joint planning when the federal agency plans to rely on a state environmental document).

<sup>249</sup> "It is only in the depth of the consideration and in the level of detail provided in the corresponding environmental documents that an EA and an EIS will differ." Pa'ina Hawaii LLC (Materials License Application), CLI-10-18, 72 NRC 56, 75 (2010) (considering the reasonable alternatives analysis in an EA).

<sup>250</sup> See 10 C.F.R. § 51.71(d)(n.3).

<sup>251</sup> Tr. at 794.

<sup>252</sup> NRC Staff Answer at 53 (citing Strata Energy, Inc. (Ross In Situ Recovery Uranium Project), LBP-15-3, 81 NRC \_\_\_ (slip op. at 82) (Jan. 15, 2015) ("[T]here is nothing in the record to suggest that [the applicant] (or the staff) will not act in good faith to ensure that [the applicant's] regulatory responsibilities, including its license conditions, are honored, and the Board cannot assume non-compliance.") (citing GPU Nuclear, Inc. (Oyster Creek Nuclear Generating Station), CLI-00-06, 51 NRC 193, 207 (2000)).

of environmental impacts.<sup>253</sup> But this is beside the point because the argument Intervenors advance is that the NRC Staff is not undertaking an adequate discussion of ISL wastes in the EA, including whether the impacts of land application of wastes are acceptable.<sup>254</sup> To the extent the NRC Staff intends to rely on state permits or other non-NEPA documents for its discussion of the environmental impacts of disposal of ISL wastewater and selenium constituents, there is at least a genuine dispute as to whether this approach will satisfy NEPA's "hard look" requirement, especially considering that Crow Butte has not affirmatively stated that land application of ISL wastewater is off the table.<sup>255</sup>

The NRC Staff also insists that the discussion of land application of ISL wastewater is not necessary in the EA because the ISL Mining GEIS discusses the topic.<sup>256</sup> At the outset, it is unclear how the NRC Staff can turn to the GEIS when the EA never cited that document in discussing selenium contamination or land application of ISL wastewater. Although the EA makes selective references to other portions of the ISL Mining GEIS, it appears to leave out

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<sup>253</sup> NRC Staff Answer at 61 (citing Seabrook, CLI-77-8, 5 NRC at 527 ("The fact that a competent and responsible state authority has approved the environmental acceptability of a site or a project after extensive and thorough environmentally sensitive hearings is properly entitled to 'substantial weight' in the conduct of our own NEPA analysis." (citing Va. Electric and Power Co. (North Anna Nuclear Power Station, Units 1 and 2), LBP-75-50, 2 NRC 879, 890 (1975), aff'd, ALAB-325, 3 NRC 404 (1976); petition for rev. dismissed sub nom., Culpeper League for Protection v. NRC, 574 F.2d 633 (D.C. Cir. 1978)).

<sup>254</sup> OST Proposed Contentions at 108; CI Proposed Contentions at 96; Tr. at 794–95. This portion of Contention 12 can also be viewed as a contention of omission, arguing that the EA simply does not discuss selenium contamination and land application of ISL wastewater.

<sup>255</sup> EA § 2.4 (indicating that Crow Butte can commence land application of ISL wastewater after receiving the appropriate Nebraska permits); id. § 4.6.1.3 (stating that Crow Butte "has not indicated" it will resort to land application of ISL wastewater in the future, but is not ruling out the option); see also LRA § 7.13 (indicating that disposal of ISL wastewater by land application is "currently being employed").

<sup>256</sup> NRC Staff Answer at 60.



reference to the GEIS for the sections at issue.<sup>257</sup> If the NRC Staff intended to rely on analysis in the ISL Mining GEIS, the NRC Staff should have cited the GEIS.<sup>258</sup>

To be sure, the ISL mining GEIS does discuss impacts of selenium on wildlife, stating that “[p]otential impacts to migratory birds and other wildlife from exposure to selenium concentrations and radioactive materials in the evaporation ponds may occur.”<sup>259</sup> Moreover, it concludes that “[m]itigative measures including perimeter fencing and surface netting would limit potential impacts to wildlife from evaporation ponds to SMALL.”<sup>260</sup> The GEIS also discusses the land application of ISL wastewater, stating that this “could potentially impact soils by allowing accumulation of residual radiological or chemical constituents in the irrigated soils that were not removed from the water during treatment.”<sup>261</sup> The GEIS again concludes that these impacts are nonetheless SMALL: “Because of the NRC review of site-specific conditions prior to approval, the routine monitoring program, and the inclusion of irrigated areas in decommissioning surveys, the impacts from land application of treated wastewater would be SMALL.”<sup>262</sup>

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<sup>257</sup> In fact, it appears that the EA has incorporated the ISL Mining GEIS only in its discussion of cultural resources in section 3.9.3, worker exposure to hazardous chemicals in section 4.12.1, and cumulative impacts in section 4.13.

<sup>258</sup> PowerTech, LBP-13-9, 78 NRC at 67 (noting “it is not clear NRC Staff relied upon this section of the GEIS when preparing the DSEIS, as it was not incorporated by reference or mentioned in any other manner”); id. at 67 n.181 (discussing the principle of expressio unis est exclusio alterius); see also Council on Env'tl. Quality and the California Governor's Office of Planning and Research, NEPA Handbook, NEPA and CEQA: Integrating Federal and State Environmental Reviews 17 (Feb. 2014), available at <http://www.whitehouse.gov/administration/eop/ceq/initiatives/nepa/handbooks> (“Agencies can, consistent with NEPA . . . Regulations, incorporate by reference analyses and information from existing documents into an EA or EIS provided the material has been appropriately cited and described . . .”).

<sup>259</sup> ISL Mining GEIS, § 4.2.5.2.

<sup>260</sup> Id.

<sup>261</sup> Id. § 4.2.12.2.

<sup>262</sup> Id.

The presence of a brief discussion of land application of ISL wastewater and selenium in the GEIS does not, however, prevent a challenge that this discussion is inadequate. “In contrast to the GEIS associated with power reactor license renewals that has been incorporated into the agency’s regulations, the GEIS for ISL mining is subject to an appropriate challenge in an adjudicatory proceeding.”<sup>263</sup> To the extent the NRC Staff has incorporated the GEIS into the EA on this topic, Intervenors challenge the adequacy of the overall discussion as it is applicable to this particular facility.<sup>264</sup>

Intervenors provide sufficient support for their contention through reference to the FWS letters and reports on the hazards of ISL mining waste disposal.<sup>265</sup> In contrast to the GEIS’s conclusion that “[p]ast experience at NRC-licensed ISL facilities has not identified impacts to wildlife from evaporation ponds,”<sup>266</sup> the FWS letter to the NRC notes that “[i]n 1998, the Service conducted a study of a grassland irrigated with wastewater from an in-situ uranium mine and found that selenium was mobilized into the food chain and bioaccumulated by grasshoppers and songbirds.”<sup>267</sup> While the GEIS finds that basic mitigation measures “including perimeter fencing and surface netting” will limit impacts to wildlife,<sup>268</sup> the FWS letter instructs that more need be done.<sup>269</sup> The FWS report on ISL mining in the nearby state of Wyoming also raises material concerns that do not appear to be covered in the GEIS.<sup>270</sup> Contrary to the NRC Staff’s

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<sup>263</sup> Strata Energy, Inc. (Ross In Situ Recovery Uranium Project), LBP-12-3, 75 NRC 164, 207 (2012) (internal citation omitted), aff’d on other grounds, CLI-12-12, 75 NRC 603 (2012).

<sup>264</sup> OST Proposed Contentions at 79–83; CI Proposed Contentions at 65–68.

<sup>265</sup> OST Proposed Contentions at 108 (citing Exs. N, O); CI Proposed Contentions at 96 (same).

<sup>266</sup> ISL Mining GEIS § 4.2.5.2.

<sup>267</sup> FWS Letter at 1.

<sup>268</sup> ISL Mining GEIS § 4.2.5.2.

<sup>269</sup> FWS Letter at 2.

claim, Intervenor have provided a sufficient explanation for how these documents support their contention, at least at the contention admissibility stage.<sup>271</sup>

This portion of the contention is also timely. The NRC Staff claims that the FWS report and letter were available in 2007 and 2000, and thus should have been discussed earlier.<sup>272</sup> But what is relevant is that the EA's discussion about Crow Butte's use of ISL wastewater differs materially from the LRA. The LRA acknowledges that land application of ISL wastewater is being considered or employed at the mine.<sup>273</sup> Moreover, the LRA did not conclude that the lack of state permits was a barrier to land application of ISL wastewater.<sup>274</sup> The NRC Staff takes a different tack in the EA and raises for the first time the claim that a discussion of land application of ISL wastewater is not warranted, because Crow Butte is not pursuing the approach.<sup>275</sup> The NRC Staff also raises for the first time the argument that Crow Butte is not pursuing land

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<sup>270</sup> See, e.g., FWS Report at 2 (“During migration, birds are very stressed and become much more susceptible to the effects of environmental contaminants.”).

<sup>271</sup> Diablo Canyon, CLI-11-11, 74 NRC at 442 (“At the contention filing stage the factual support necessary to show that a genuine dispute exists need not be in affidavit or formal evidentiary form and need not be of the quality necessary to withstand a summary disposition motion.” (quoting 54 Fed. Reg. at 33,171)). The NRC Staff also alleges that the FWS report is irrelevant because it covers a different area than the Crow Butte mine, with allegedly higher concentrations of selenium. NRC Staff Answer at 59–60. However, the EA provides little useful information on these topics. This is a factual dispute that will be resolved at our August hearing.

<sup>272</sup> NRC Staff Answer at 59.

<sup>273</sup> LRA § 7.13 (“Liquid wastes generated from production and restoration activities are handled by one of three methods: solar evaporation ponds, deep well injection, or land application. All three methods are currently being employed at Crow Butte.”). The LRA later states, in contrast, that land application is permitted but not currently being pursued, but without indicating that land application will not be pursued in the future. Id. § 8.3.1.3. The LRA also engages in a limited discussion of the effects of selenium and heavy metal contamination on soils, although in the context of mining rather than waste disposal. Id. §§ 2.7.3, 2.9.6, 6.1.2.4.

<sup>274</sup> Id. §§ 7.13, 8.3.1.3.

<sup>275</sup> See EA §§ 2.4, 4.6.1.3; see also Claiborne Enrichment Ctr., CLI-98-3, 47 NRC at 89 (“To the extent that the FEIS may differ from the ER, an intervenor is provided a second opportunity to file contentions on environmental issues.”). The EA also drops any discussion of selenium, as noted by Intervenor. OST Proposed Contentions at 82; CI Proposed Contentions at 68.

application because it lacks an appropriate state permit, or has “not indicated” it will use the permit it has at this time.<sup>276</sup>

EA Contention 12, as narrowed by the Board (i.e. dismissing allegations relating to wind storms exclusive of tornadoes and air emissions), is set forth in Appendix A to this Order.

K. EA Contention 13 – Wildlife Impacts

1. Parties’ Positions

Intervenors title EA Contention 13 “The Final EA Fails to Comply with NEPA With Regard to Impacts on Wildlife, and Fails to Comply with the Endangered Species Act” (ESA).<sup>277</sup>

In this contention, Intervenors state:

The Final EA violates 10 C.F.R. §§ 51.10, 51.70, 51.71, the National Environmental Policy Act and implementing regulations, and the Endangered Species Act, 16 U.S.C. § 1531, et seq. and implementing regulations, by failing to conduct the required “hard look” analysis at impacts of the proposed mine and the Endangered Species Act, 16 U.S.C. §§ 1531, et seq., by failing to consult as required with the U.S. Fish & Wildlife Service.<sup>278</sup>

Intervenors argue that consultation with FWS is legally mandated for any agency action that “may affect listed species or critical habitat.”<sup>279</sup> Noting that the EA found “small” impacts on listed species and that “suitable habitat exists within the project area,” Intervenors allege that NRC Staff was required to consult with FWS concerning the potential impacts on four species: the swift fox, the bald eagle, the black-footed ferret, and the whooping crane.<sup>280</sup>

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<sup>276</sup> See EA §§ 2.4, 4.6.1.3; Tr. at 794-95.

<sup>277</sup> OST Proposed Contentions at 109; CI Proposed Contentions at 97.

<sup>278</sup> OST Proposed Contentions at 109; CI Proposed Contentions at 97.

<sup>279</sup> OST Proposed Contentions at 110–12 (quoting 50 C.F.R. § 402.14); CI Proposed Contentions at 97–101 (same); see also 16 U.S.C. § 1536(a)(2).

<sup>280</sup> OST Proposed Contentions at 112–14 (citing EA §§ 4.10.5, 4.10.6); CI Proposed Contentions at 100–02 (same); see also EA tbl. 3-16. Intervenors also note that the sharp-tailed grouse “are commonly found in prairie areas such as the licensed area.” OST Proposed Contentions at 112; CI Proposed Contentions at 100. However, Intervenors do not appear to allege that the sharp-tailed grouse is a protected species under either federal or state law. See OST Proposed Contentions at 112; CI Proposed Contentions at 100.

Crow Butte initially argues the contention is untimely because the information from the EA is available in the LRA.<sup>281</sup> As to admissibility of the four allegedly protected species discussed by Intervenor, Crow Butte states that the EA found “the ‘only species with a reasonable possibility of occurring on or near the project site are the bald eagle and swift fox,’” and neither are listed as threatened or endangered by FWS.<sup>282</sup> Regarding the two other species, the whooping crane and black-footed ferret, Crow Butte argues that, although they are listed and are found generally in Dawes County Nebraska, “the NRC Staff determined that Crow Butte’s activities would have ‘no effect’ on either species,”<sup>283</sup> and thus consultation was not required under the ESA.<sup>284</sup>

On the other hand, the NRC Staff stated this contention was admissible<sup>285</sup> “with respect to the Staff’s failure to complete the informal Section 7 consultation process by receiving concurrence from FWS on the Staff’s determination that threatened and endangered species will not be affected.”<sup>286</sup> The NRC Staff stated that “when engaging in informal consultation, an agency must provide its determination as to whether the proposed action will affect threatened

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<sup>281</sup> Crow Butte Answer at 38 (citing LRA § 7.5.11).

<sup>282</sup> Id. at 37 (citing EA § 4.10.8).

<sup>283</sup> Id. at 37–38 (citing EA § 4.10.8).

<sup>284</sup> Id. at 38 (citing Sw. Ctr. for Biological Diversity v. U.S. Forest Serv., 100 F.3d 1443, 1447–48 (9th Cir. 1996) (“[I]f the agency determines that a particular action will have no effect on an endangered or threatened species, the consultation requirements are not triggered.”)).

<sup>285</sup> Shortly after filing its Answer, the NRC Staff moved to change its position on Contention 13. NRC Staff’s Notice of Change in Position and Motion to Amend Response to Contention 13 (Feb. 6, 2015); NRC Staff’s Proposed Amended Response to Contention 13, attach. 1 (Feb. 6, 2015). CI and Crow Butte both filed responses to the motion. Consolidated Intervenor’s Response and Motion to Strike Late-Filed NRC Staff Change of Position Re: Contention 13 at 1–2 (Feb. 10, 2015); Crow Butte Resources’ Response to Motion to Strike (Feb. 20, 2015). This motion has been denied in a separate order.

<sup>286</sup> NRC Staff Answer at 61.

and endangered species to FWS and request FWS concurrence.<sup>287</sup> The NRC Staff then admitted that “it did not complete the informal consultation process by requesting and receiving concurrence from FWS . . . .”<sup>288</sup> At oral argument, however, the NRC Staff informed the Board that it had recently received a concurrence letter from FWS.<sup>289</sup>

## 2. Board Ruling

This contention is timely,<sup>290</sup> but moot. The thrust of this contention is that the NRC Staff failed to consult with FWS concerning impacts on a number of species, “and that such failure constituted a failure to conduct the required hard look” under NEPA.<sup>291</sup> Because only the whooping crane and black-footed ferret are actually listed as threatened or endangered under the ESA,<sup>292</sup> they are the only species covered by the act’s formal consultation requirements.<sup>293</sup>

Formal consultation is generally required if there is a finding that a project “may affect” a listed species or critical habitat.<sup>294</sup> Crow Butte’s characterization does not square with the exact words of the EA’s finding—which did not conclude that there would be “no effect” to the whooping crane or black-footed ferret, but instead that there would be “no adverse effect” to

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<sup>287</sup> Id. (citing 50 C.F.R. § 402.13(a)).

<sup>288</sup> Id. (footnote omitted).

<sup>289</sup> Tr. at 868.

<sup>290</sup> Crow Butte’s timeliness argument is mistaken. As consultation with FWS is to be done by the NRC Staff, it would not be feasible to proffer a contention challenging the NRC Staff’s consultation until after the NRC Staff has completed its environmental review.

<sup>291</sup> Tr. at 853.

<sup>292</sup> See 50 C.F.R. § 17.11; Listed Animals, FWS Env’tl. Conservation Online Sys., [http://ecos.fws.gov/tess\\_public/reports/ad-hoc-species-report?kingdom=V&kingdom=I&status=E&status=T&status=EmE&status=EmT&status=EXPE&status=EXPN&status=SAE&status=SAT&mapstatus=3&fcrithab=on&fstatus=on&fspecrule=on&fi nvpop=on&fgroup=on&header>Listed+Animals](http://ecos.fws.gov/tess_public/reports/ad-hoc-species-report?kingdom=V&kingdom=I&status=E&status=T&status=EmE&status=EmT&status=EXPE&status=EXPN&status=SAE&status=SAT&mapstatus=3&fcrithab=on&fstatus=on&fspecrule=on&fi nvpop=on&fgroup=on&header>Listed+Animals) (last accessed Mar. 11, 2015).

<sup>293</sup> 50 C.F.R. § 402.14(a) (requiring consultation only for “listed species or critical habitat”).

<sup>294</sup> Id.

those species.<sup>295</sup> Contrary to Crow Butte's assertion, a finding of "no adverse effect" is not the same as a finding of "no effect,"<sup>296</sup> and would normally trigger a requirement for formal consultation with FWS.<sup>297</sup>

However, even if there is a "may effect" finding, an exception to formal consultation exists under FWS regulations:

A Federal agency need not initiate formal consultation if, as a result of the preparation of a biological assessment under § 402.12 or as a result of informal consultation<sup>298</sup> with the Service under § 402.13, the Federal agency determines, with the written concurrence of the Director, that the proposed action is not likely to adversely affect any listed species or critical habitat.<sup>299</sup>

The NRC Staff appears to have engaged in an informal consultation process with FWS.<sup>300</sup>

Therefore, concurrence by FWS would discharge the NRC's consultation responsibilities.<sup>301</sup>

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<sup>295</sup> EA § 4.10.8.

<sup>296</sup> Compare Crow Butte Answer at 38 (alleging the NRC Staff determined that Crow Butte's activities would have "no effect" on either species) with EA § 4.10.8 (finding in actuality "no adverse effect").

<sup>297</sup> Sierra Club v. Van Antwerp, 661 F.3d 1147, 1155 (D.C. Cir. 2011) (discussing consultation requirements when the agency finds that a proposed action will have no adverse impact); Endangered Species, Frequently Asked Questions, FWS, <http://www.fws.gov/endangered/what-we-do/faq.html> (last updated July 15, 2013) ("A Federal agency is required to consult if an action 'may affect' listed species or designated critical habitat, even if the effects are expected to be beneficial. In many cases, projects with overall beneficial effects still include some aspects that will adversely affect individuals of listed species and such adverse effects require formal consultation. If an agency determines that its action is not likely to adversely affect listed species or critical habitat, it can request the concurrence of the Services with this determination.").

<sup>298</sup> As opposed to formal consultation, "informal" consultation "is an optional process that includes all discussions, correspondence, etc., between the [U.S. Fish and Wildlife] Service and the Federal agency . . . designed to assist the Federal agency in determining whether formal consultation or a conference is required." 50 C.F.R. § 402.13.

<sup>299</sup> Id. § 402.14(b)(1) (emphasis added).

<sup>300</sup> NRC Staff Answer at 61; see also EA § 5.

<sup>301</sup> See 10 C.F.R. § 402.14(b)(1).

It is somewhat odd that after taking seven years to prepare the EA,<sup>302</sup> the NRC Staff did not seek concurrence from FWS until January 22, 2015, after the EA was issued, after a license renewal was issued, and after Intervenor filed this contention.<sup>303</sup> Nonetheless, FWS responded on February 9, 2015, and “concur[red] with NRC’s determination that the license renewal will have no effect to federally listed species or designated critical habitat.”<sup>304</sup> Therefore, at that point the NRC Staff discharged its required consultation duties with FWS, and this contention became moot.<sup>305</sup>

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<sup>302</sup> See LBP-15-2, 81 NRC \_\_\_ (slip op. at 15) (commenting on NRC Staff delay).

<sup>303</sup> Letter from Lydia Chang, Chief, Environmental Review Branch, Division of Fuel Cycle Safety and Environmental Review, Office of Nuclear Material Safety and Safeguards, NRC, to John F. Cochran, Deputy Field Supervisor, FWS, Consultation for Endangered or Threatened Species and Critical Habitat for License Renewal for the Crow Butte In Situ Uranium Recovery Facility Near Dawes County, Nebraska (Jan. 22, 2015) (ADAMS Accession No. ML15022A217) (The letter proposed to FWS that “no adverse effects to federally threatened, endangered, or candidate species are expected.”) According to the letter, the NRC Staff determined that the license renewal “will not likely impact” listed species, but did not indicate that there would be “no effect” on any threatened or endangered species. Id.

<sup>304</sup> Letter from Eliza Hines, Acting Nebraska Field Supervisor, FWS, to Lydia Chang, Environmental Review Branch, NRC, Section 7 Consultation for License Renewal for the Crow Butte In Situ Uranium Recovery Facility, Dawes County, Nebraska at 2 (Feb. 9, 2015) (ADAMS Accession No. ML15044A080).

<sup>305</sup> FWS concurred with the NRC Staff’s finding “[b]ased on the information provided in the Final EA . . . since none [of the listed species] occurs in the project area.” Id. To the extent Intervenor view the FWS concurrence letter as materially contradicting the NRC Staff’s analysis in the EA, of course, Intervenor are free to timely file a new contention based off the FWS concurrence letter. Furthermore, as FWS relied on the EA in reaching its determination, if the EA is significantly amended in the future, the NRC Staff may be required to seek concurrence again from FWS. See id. (“However, should the project design change or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be initiated to assess any potential impacts on listed species.”).



M. EA Contention 14 – Seismic Activity

1. Parties' Positions

Intervenors title EA Contention 14 “The Final EA Fails to Adequately Describe or Analyze Impacts From Earthquakes; Fails to Take ‘Hard Look’ at Impacts on Secondary Porosity.”<sup>306</sup> In this contention Intervenors allege that:

The Final EA violates the National Environmental Policy Act in its failure to provide an analysis of the impacts on the project from earthquakes; especially as it concerns secondary porosity and adequate confinement. These failings violate 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations.<sup>307</sup>

Pointing to two earthquakes near Chadron in 2011 that were not discussed in the EA, Intervenors argue that the EA is deficient.<sup>308</sup> Based on the 2015 Dr. LaGarry opinion, Intervenors assert that even small earthquakes can alter the secondary porosity of an aquifer, and as a result modify groundwater flow patterns which has the potential to undermine the conclusion in the EA that the aquifers are confined.<sup>309</sup> Therefore, Intervenors assert that the EA’s analysis of seismic activity does not satisfy NEPA’s required hard look.

Crow Butte argues that EA Contention 14 is untimely because the NRC Staff previously addressed seismology concerns, and Intervenors have identified no material new information to support this contention.<sup>310</sup> Crow Butte also notes that the EA provides an analysis of seismic

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<sup>306</sup> OST Proposed Contentions at 114; CI Proposed Contentions at 102.

<sup>307</sup> OST Proposed Contentions at 114; CI Proposed Contentions at 102.

<sup>308</sup> OST Proposed Contentions at 115 (CI Proposed Contentions, Ex. I, Rapid City Journal/Chadron News, “Two Earthquakes Strike Area” (Nov. 15, 2011) [hereinafter Earthquake Article]; CI Proposed Contentions at 103 (citing Earthquake Article).

<sup>309</sup> OST Proposed Contentions at 115–16; CI Proposed Contentions at 103–04.

<sup>310</sup> Crow Butte Answer at 39–40.

events,<sup>311</sup> and that Intervenor fail to provide proof suggesting “earthquakes have had effects on Crow Butte operations, including on secondary porosity at Crow Butte.”<sup>312</sup>

The NRC Staff argues that Intervenor have not shown that the EA’s data or conclusions are materially different from the LRA, which also discussed seismic events.<sup>313</sup> The NRC Staff further contends that the 2015 LaGarry opinion referenced by Intervenor is not materially different from the 2008 Dr. LaGarry opinion.<sup>314</sup>

The NRC Staff admits that “Intervenor are correct that, given the more recent information in Exhibit I, the statement in the EA that no earthquakes have been felt in Nebraska since 2007 is inaccurate. But, according to the NRC Staff, Intervenor have not explained why the EA must include information on the two 2011 earthquakes in order to satisfy the ‘hard look’ standard of NEPA.”<sup>315</sup> The NRC Staff asserts that the EA was not written with the intent to catalog every earthquake in the Crow Butte area.<sup>316</sup>

## 2. Board Ruling

EA Contention 14 is admissible. First, Contention 14 is timely. Though the LRA did include a discussion on earthquakes, the challenge in this contention could not have been formulated in reference to the LRA. This contention challenges the EA on the specific grounds that the EA’s analysis neglected to analyze significant recent seismic information. While the Intervenor had the chance to review the LRA’s seismic analysis, at that point in time the

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<sup>311</sup> Id. at 39 (citing EA § 3.4).

<sup>312</sup> Id.

<sup>313</sup> NRC Staff Answer at 66.

<sup>314</sup> Id.

<sup>315</sup> Id.

<sup>316</sup> Id. at 65–66.

analysis presumably contained complete information. Now, however, Intervenor maintain that this same analysis, in the EA, neglects recent seismic information.

Intervenors alleged that every earthquake, regardless of size, can change the ground's porosity such that water flow is affected,<sup>317</sup> a valid material dispute presented in this contention. The EA analysis might also be incomplete because it only reviewed earthquakes recorded in Nebraska, neglecting earthquakes felt in nearby states.<sup>318</sup> In fact, the two earthquakes cited in the contention had epicenters in South Dakota, and so would have been missed in the NRC's analysis for the EA.<sup>319</sup> For example, the distance from the Crow Butte site to the South Dakota border is roughly 20–30 miles, to the Wyoming border roughly 30–40 miles, to the Colorado border roughly 115 miles, and to the Kansas border roughly 200 miles. And yet the EA contains no discussion of seismic activity in these nearby areas. In contrast, the distance from the Crow Butte site to the southeastern corner of Nebraska—which would have been encompassed in an analysis of Nebraska seismic activity—is roughly a distance of 400 miles.<sup>320</sup> As a result, Contention 14 raises genuine material disputes with the information included in the NRC Staff's EA, and is admitted.

#### IV. CONCLUSION AND ORDER

Based, therefore, upon the preceding findings and rulings, it is ordered that

- A. Environmental Contentions A, C, D, and Technical Contention F, originally admitted in our previous 2008 order, migrate from a challenge of Crow Butte's LRA to a challenge to the NRC Staff's EA as Contentions A, C, D, and F.

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<sup>317</sup> “Even small earthquakes represent shifting and flexing of the earth's crust, and are continuously crating, closing, and redistributing the secondary porosity of the region's rocks and changing the flow pathways of the region's groundwater.” 2015 LaGarry Opinion at 2.

<sup>318</sup> EA § 3.4.3.

<sup>319</sup> See Earthquake Article.

<sup>320</sup> All distances were measured using the Google Maps distance calculator tool.

- B. EA Contentions 3 and 10 are admitted in part and merged with migrated Contention D. The portion of EA Contention 5 that is admissible is encompassed within the current language of Contention D.
- C. EA Contention 1 and 2 are admitted in part and combined into a single "EA Contention 1."
- D. EA Contentions 6, 9, and 12 are admitted in part as narrowed by the Board.
- E. EA Contention 14 is admitted as proffered.
- F. The Tribes' EA Contention F, as well as EA Contentions 4, 7, 8, and 11, are not admitted.
- G. EA Contention 13 is denied admission as moot.
- H. As the Board ruled in LBP-08-24, regarding Contentions A, C, D, and F, Subpart L procedures are also appropriate for the adjudication of all newly admitted contentions.<sup>321</sup>

It is so ORDERED.

THE ATOMIC SAFETY  
AND LICENSING BOARD

*/RA/*

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Michael M. Gibson, Chair  
ADMINISTRATIVE JUDGE

*/RA/*

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Dr. Richard E. Wardwell  
ADMINISTRATIVE JUDGE

*/RA/*

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Brian K. Hajek  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
March 16, 2015

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<sup>321</sup> 10 C.F.R. § 2.310(a).

**Appendix A:  
Admitted Contentions to be heard at the evidentiary hearing**

**Contention A:** There is no evidence based science for [the NRC Staff's] conclusion that ISL mining has "no non radiological health impacts," or that non radiological impacts for possible excursions or spills are "small."

**Contention C:** [The NRC Staff's] characterization that the impact of surface waters from an accident is "minimal since there are no nearby surface water features," does not accurately address the potential for environmental harm to the White River.

**Contention D (merged with EA Contention 3 & 10):** [The NRC Staff] incorrectly states there is no communication among the aquifers, when in fact, the Basal Chadron aquifer, where mining occurs, and the aquifer, which provides drinking water to the Pine Ridge Indian Reservation, communicate with each other, resulting in the possibility of contamination of the potable water. Based on this potential communication between the aquifers, the EA's environmental justice analysis, including analysis of cumulative effects, should be expanded to consider potential impacts on the aquifer which provides drinking water to the Pine Ridge Indian Reservation.

**Contention F:** Failure to include recent research.

**EA Contention 1 (Merged Contentions 1 & 2):** Whether the cultural surveys performed and incorporated into the EA formed a sufficient basis on which to renew Crow Butte's permit.

**EA Contention 6:** The Final EA violates the National Environmental Policy Act in concluding that the short-term impacts from consumptive ground water use during aquifer restoration are MODERATE.

**EA Contention 9:** The Final EA violates 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act and implementing regulations by failing to include the required discussion of ground water restoration mitigation measures.

**EA Contention 12:** The Final EA omits a discussion of the impact of tornadoes on the license renewal area, and inadequately discusses the potential impacts from land application of ISL mining wastewater.

**EA Contention 14:** The Final EA violates the National Environmental Policy Act in its failure to provide an analysis of the impacts on the project from earthquakes; especially as it concerns secondary porosity and adequate confinement. These failings violate 10 C.F.R. §§ 51.10, 51.70 and 51.71, and the National Environmental Policy Act, and implementing regulations.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )  
)  
CROW BUTTE RESOURCES, INC. ) Docket No. 40-8943-OLA  
)  
In-Situ Leach Uranium Recovery Facility, )  
Crawford, Nebraska )  
)  
(License Renewal) )

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing **MEMORANDUM AND ORDER (Ruling on Proposed Contentions Related to the Environmental Assessment) (LBP-15-11)** have been served upon the following persons by Electronic Information Exchange, and by electronic mail as indicated by an asterisk.

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DOCKET NO. 40-8943-OLA

**MEMORANDUM AND ORDER (Ruling on Proposed Contentions Related to the Environmental Assessment) (LBP-15-11)**

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**MEMORANDUM AND ORDER (Ruling on Proposed Contentions Related to the Environmental Assessment) (LBP-15-11)**

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[Original signed by Clara Sola \_\_\_\_\_]  
Office of the Secretary of the Commission

Dated at Rockville, Maryland  
this 16<sup>th</sup> day of March, 2015