

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Kristine L. Svinicki, Chairman  
Jeff Baran  
Annie Caputo  
David A. Wright

In the Matter of

CROW BUTTE RESOURCES, INC.

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

Docket No. 40-8943-OLA

**CLI-19-05**

**MEMORANDUM AND ORDER**

Today we address Crow Butte Resources, Inc.'s petition for review of the Atomic Safety and Licensing Board's second partial initial decision, LBP-16-13, and its earlier decision admitting certain new and amended contentions, LBP-15-11.<sup>1</sup> As discussed below, we grant in part Crow Butte's petition for review, which pertains to Contention 12B. We take review of LBP-15-11 and find that Contention 12B was untimely filed without good cause shown and reverse the Board's contention admissibility decision. Therefore, we vacate the Board's ensuing merits decision on Contention 12B in LBP-16-13. In light of these holdings, we do not reach Crow Butte's petition for review with respect to LBP-16-13. As a matter of discretion, we consider the environmental record developed during the adjudication of Contention 12B and

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<sup>1</sup> *Petition for Review of LBP-15-11 and LBP-16-13* (Dec. 29, 2016) (Crow Butte Petition); see LBP-16-13, 84 NRC 271 (2016); LBP-15-11, 81 NRC 401 (2015).

determine that the NRC Staff's environmental review of the issues raised by Contention 12B, as supplemented by the adjudicatory record in this proceeding, is sufficient.

## I. BACKGROUND

Crow Butte holds a license for an *in situ* leach (ISL) uranium recovery facility in Crawford, Nebraska; the license was first issued in 1989 and renewed for a ten-year term in 1998.<sup>2</sup> In 2007, Crow Butte applied to renew the license a second time.<sup>3</sup> In response to a notice of opportunity to request a hearing,<sup>4</sup> Consolidated Intervenor and the Oglala Sioux Tribe (the Tribe) (together, the Intervenor) sought to intervene in the proceeding and were granted a hearing.<sup>5</sup> At that time, the Board admitted nine environmental and technical contentions.<sup>6</sup>

The Staff completed its review of the application with the publication of its final Environmental Assessment in October 2014.<sup>7</sup> Consistent with its findings in the Environmental

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<sup>2</sup> See Ex. CBR-011, Application for 2007 License Renewal USNRC Source Materials License SUA-1534 Crow Butte License Area (Nov. 27, 2007), at 1-1, 10-2 (updated and compiled through November 2014) (LRA).

<sup>3</sup> See *id.*

<sup>4</sup> Notice of Opportunity for Hearing, Crow Butte Resources, Inc., Crawford, NE, In Situ Leach Recovery Facility, and Order Imposing Procedures for Access to Sensitive Unclassified Non-Safeguards Information (SUNSI) for Contention Preparation, 73 Fed. Reg. 30,426 (May 27, 2008).

<sup>5</sup> LBP-08-24, 68 NRC 691 (2008); see CLI-09-9, 69 NRC 331, 366 (2009) (affirming in large part the Board's ruling with respect to standing and reversing the Board's decision to admit several contentions not at issue here). At the time, Consolidated Intervenor included Beatrice Long Visitor Holy Dance (now deceased); Joe American Horse, Sr.; Debra White Plume; Loretta Afraid of Bear Cook; Thomas Kanatakeniate Cook; Afraid of Bear/Cook Tiwahe; American Horse Tiospaye; Owe Aku/Bring Back the Way; and Western Nebraska Resources Council. See LBP-08-24, 68 NRC at 760.

<sup>6</sup> LBP-08-24, 68 NRC at 760-61.

<sup>7</sup> See Ex. NRC-010, Final Environmental Assessment for the License Renewal of U.S. Nuclear Regulatory Commission License No. SUA-1534 (Oct. 2014) (EA). The Staff's Safety Evaluation Report was completed in December 2012 and supplemented in August 2014. See Safety

Assessment, the Staff published a Finding of No Significant Impact (FONSI) on October 30, 2014.<sup>8</sup> Shortly thereafter, the Staff issued the renewed license.<sup>9</sup>

In January 2015, the Intervenors moved to admit new and amended contentions based on the Environmental Assessment.<sup>10</sup> Among these was Contention 12, in which the Intervenors asserted (in relevant part) that “the Final EA fails to properly account for impacts to wildlife resulting from land application of ISL wastes.”<sup>11</sup> In support of the contention, the Intervenors referenced two documents. The first was a 2007 letter to the NRC from the U.S. Fish and

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Evaluation Report, License Renewal of the Crow Butte Resources ISR Facility, Dawes County, Nebraska, Materials License No. SUA-1534 (Dec. 2012) (ADAMS accession no. ML103470470); Ex. NRC-009, Safety Evaluation Report (Revised), License Renewal of the Crow Butte Resources ISR Facility, Dawes County, Nebraska, Materials License No. SUA-1534 (Aug. 2014) (SER).

<sup>8</sup> See Ex. NRC-011, License Renewal of Crow Butte ISR, Uranium In Situ Recovery Project; Environmental Assessment and Finding of No Significant Impact; Issuance, 79 Fed. Reg. 64,629 (Oct. 30, 2014).

<sup>9</sup> See Ex. NRC-012, Materials License No. SUA-1534 (Nov. 5, 2014) (License). NRC regulations authorize the Staff to issue a license when it has completed its review during the pendency of a hearing if it gives the Board and parties notice and an “explanation why the public health and safety is protected and why the action is in accord with the common defense and security despite the pendency of the contested matter.” 10 C.F.R. § 2.1202(a). The Intervenors sought to stay the effectiveness of the renewed license; the Board declined to issue a stay. LBP-15-2, 81 NRC 48, *interlocutory review denied*, CLI-15-17, 82 NRC 33 (2015).

<sup>10</sup> See *Consolidated Intervenors’ New Contentions Based on the Final Environmental Assessment (October 2014)* (Jan. 5, 2015) (Consolidated Intervenors’ New Contentions); *The Oglala Sioux Tribe’s Renewed and New Contentions Based on the Final Environmental Assessment (October 2014)* (Jan. 5, 2015) (Tribe’s New Contentions). The Tribe “join[ed], adopt[ed], and restate[d] . . . in large part the Final EA Contentions contained” in the Consolidated Intervenors’ filing; the Board considered them as joint contentions. See Tribe’s New Contentions at 1; LBP-15-11, 81 NRC at 435 nn.216-17, 219.

<sup>11</sup> Consolidated Intervenors’ New Contentions at 96; Tribe’s New Contentions at 108. “Land application uses agricultural irrigation equipment to apply treated water to land where the water can evaporate directly or be transpired by plants.” “Generic Environmental Impact Statement for Uranium Milling Facilities” (Final Report), NUREG-1910, vols. 1-2 (May 2009), at 2-37 (ML15093A368 (package) & ML15093A486 (package)) (ISL GEIS).

Wildlife Service (FWS) submitted in response to a notice of intent to prepare a generic environmental impact statement on ISL uranium milling facilities (the ISL GEIS).<sup>12</sup> In its letter, FWS cited a second document, a 1998 study of grassland irrigated with treated wastewater from an ISL facility in Wyoming; the Intervenor also referenced that study.<sup>13</sup> The Intervenor argued that the final Environmental Assessment failed to account for the impacts of selenium and presented no “credible evidence and scientific evaluation addressing” why the concerns raised in the 2007 FWS Letter and the FWS Selenium Study did not apply to the Crow Butte site.<sup>14</sup>

In LBP-15-11, the Board admitted in part and rejected in part the new and amended contentions.<sup>15</sup> Relevant here, the Board at that time admitted a narrowed Contention 12: “The Final [Environmental Assessment] . . . inadequately discusses the potential impacts from land

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<sup>12</sup> See Consolidated Intervenor’s New Contentions at 96 & Ex. N, Letter from Mike Stempel, Assistant Regional Director, United States Department of the Interior, FWS, to Patrice Bubar, Deputy Director, Division of Intergovernmental Liaison and Rulemaking, NRC (Sept. 5, 2007) (2007 FWS Letter) (entered into the record as Ex. INT-018); see ISL GEIS.

<sup>13</sup> See Consolidated Intervenor’s New Contentions at 96 & Ex. O, Pedro Ramirez, Jr. & Brad Rogers, FWS Region 6, Selenium in a Wyoming Grassland Community Receiving Wastewater from an *In Situ* Uranium Mine (Sept. 2000) (FWS Selenium Study) (admitted into the record as Ex. INT-019). The FWS Selenium Study “was designed to: determine selenium concentrations in water, soil, terrestrial invertebrates, vegetation, birds, and bird eggs; determine pathways of selenium in the food chain; and document potential adverse effects to migratory birds resulting from selenium bioaccumulation. *Id.* at 2. FWS concluded that selenium from the wastewater had been mobilized into, and had bioaccumulated in, the food chain. *Id.* at 16. FWS therefore recommended that red-winged blackbirds be discouraged from nesting at the irrigated area. Further study was recommended as to the sensitivity of two other grassland bird species. *Id.*

<sup>14</sup> Consolidated Intervenor’s New Contentions at 96; Tribe’s New Contentions at 109.

<sup>15</sup> LBP-15-11, 81 NRC at 449. As tallied by the Board, the total number of admitted contentions remained at nine. *Id.*

application of ISL mining wastewater.”<sup>16</sup> The Board later designated this portion of the contention as “Contention 12B.”<sup>17</sup>

Crow Butte sought interlocutory review of LBP-15-11 and argued that the Board’s timeliness rulings were so overbroad as to “affect[] the basic structure of the proceeding in a pervasive or unusual manner.”<sup>18</sup> Crow Butte made no argument specific to Contention 12 in that petition but argued generally that the Board disregarded the requirement that a new contention filed on a staff document prepared pursuant to the National Environmental Policy Act (NEPA) must still meet the timeliness requirements of 10 C.F.R. § 2.309(c).<sup>19</sup> In CLI-15-17, we denied review consistent with our longstanding policy that routine contention admissibility rulings do not warrant the extraordinary step of interlocutory review.<sup>20</sup>

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<sup>16</sup> *Id.* at 434-42, 451; *see id.* at 438 (“Intervenors have properly pled a contention of inadequacy and omission regarding the [Environmental Assessment’s] discussion of land application of ISL wastewater and selenium contamination, supported by documents from [the U.S. Fish and Wildlife Service].”).

<sup>17</sup> LBP-16-13, 84 NRC at 422, 425. The Board designated another portion of the contention that challenged the environmental impacts of tornados as Contention 12A. With respect to that contention, the Board ultimately held that the discussion in the Environmental Assessment was sufficient. LBP-16-13, 84 NRC at 422-24.

<sup>18</sup> *Petition for Interlocutory Review of LBP-15-11* (Mar. 25, 2015), at 2-4 (citing 10 C.F.R. § 2.341(f)(2)(ii)) (Crow Butte LBP-15-11 Petition). The Staff also petitioned for review but did not challenge the admission of Contention 12. *See NRC Staff’s Petition for Review of LBP-15-11* (Apr. 10, 2015).

<sup>19</sup> Crow Butte LBP-15-11 Petition at 4-6; *see* 10 C.F.R. § 2.309(f)(2).

<sup>20</sup> CLI-15-17, 82 NRC 33, 44 (2015) (citing, among others, *Connecticut Yankee Atomic Power Co.* (Haddam Neck Plant), CLI-01-25, 54 NRC 368, 374 (2001) (mere increase in the litigation burden caused by the Board’s admission of an additional contention is not a pervasive and unusual effect on the litigation or an irreparable harm warranting interlocutory review)); *see also Sacramento Municipal Utility District* (Rancho Seco Nuclear Generating Station), CLI-94-2, 39 NRC 91, 93-94 (1994) (“mere expansion of issues” due to admission of a contention “rarely, if ever,” warrants interlocutory review); *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-11-14, 74 NRC 801, 811-12 (2011) (where the Board granted summary disposition in favor of intervenors on NEPA contention, neither the potential that the Board erred nor the need

The Board held an evidentiary hearing in 2015.<sup>21</sup> It issued LBP-16-7, its first partial initial decision resolving only Contention 1, in May 2016.<sup>22</sup> In LBP-16-13, the Board resolved the eight remaining contentions, all but a portion of one in favor of Crow Butte and the Staff.<sup>23</sup>

Although the Board's comprehensive decision resolved many distinct issues, only one concerns us here. With respect to Contention 12B, the Board found that the Environmental Assessment had not adequately considered the potential impact to wildlife should Crow Butte use land application to dispose of ISL wastewater.<sup>24</sup> Crow Butte has not, to date, used land application to dispose of excess wastewater. But it holds a National Pollutant Discharge Elimination System (NPDES) permit from the Nebraska Department of Environmental Quality (Nebraska DEQ) that would allow land application of treated wastewater.<sup>25</sup> Its NRC license also

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for the Staff to perform potentially unnecessary analysis in the environmental impact statement presented a compelling case for interlocutory review). We likewise rejected the Staff's petition for interlocutory review. *Id.* at 46-47.

<sup>21</sup> See Atomic Safety and Licensing Board; Before Administrative Judges: Michael M. Gibson, Chair, 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); Notice of Hearing, 80 Fed. Reg. 42,552 (July 17, 2015).

<sup>22</sup> LBP-16-7, 83 NRC 340 (2016). Crow Butte has appealed LBP-16-7; we will address that appeal separately. See *Petition for Review of LBP-15-11 and LBP-16-07* (June 20, 2016) (pending).

<sup>23</sup> LBP-16-13, 84 NRC at 441. Consolidated Intervenors petitioned for review of LBP-16-13, which was denied. See CLI-18-8, 88 NRC 141 (2018).

<sup>24</sup> LBP-16-13, 84 NRC at 429-38; see Ex. CBR-043, Nebraska Department of Environmental Quality, Authorization to Discharge Under the National Pollutant Discharge Elimination System (NPDES) (Oct. 1, 2011) (NPDES Permit).

<sup>25</sup> See Ex. NRC-062, Letter from Stephen P. Collings, President, Ferret Exploration Company of Nebraska, Inc. to Ramon Hall, NRC Region IV Uranium Recovery Field Office (June 7, 1993) (enclosing NPDES permit application to Nebraska DEQ) (Crow Butte NPDES Permit Application) (Crow Butte's predecessor describing the reverse osmosis process); Ex. CBR-043, NPDES Permit.

expressly authorizes this activity.<sup>26</sup> Although the water must be treated to maximum contaminant levels for groundwater as set by the Nebraska DEQ—50 micrograms per liter (50µg/L) for selenium<sup>27</sup>—the Intervenors argued that selenium at this level could nevertheless be harmful to wildlife.

The Board found that the Intervenors had shown that “selenium in ISL wastewater poses potentially significant risks to wildlife”<sup>28</sup> and that the Environmental Assessment had not considered these effects.<sup>29</sup> Specifically, the Board found that the presence of selenium in ISL wastewater was undisputed.<sup>30</sup> The Board further found—particularly given the terms of the NRC license—that it was reasonably foreseeable that Crow Butte will use land application in the future.<sup>31</sup> And it found that the Intervenors presented substantial testimony on the toxicity of

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<sup>26</sup> Ex. NRC-012, License, License Condition 10.17.

<sup>27</sup> See Ex. NRC-062, Crow Butte NPDES Permit Application, at 18 (proposing a selenium limit of .05 milligrams per liter (mg/L), consistent with Nebraska DEQ maximum contaminant levels). See 118 Neb. Admin. Code ch. 4 § 002. The .05 mg/L (or 50 micrograms per liter (µg/L)) limit for selenium is the same maximum contaminant level as set by the U.S. Environmental Protection Agency (EPA) pursuant the Safe Drinking Water Act, 42 U.S.C §§ 300f-300j. See 40 C.F.R. § 141.62; see also Ex. CBR-043, NPDES Permit, app. A, Condition 2 (requiring compliance with effluent standards established under section 307(a) of the Clean Water Act for “toxic pollutants”). “Selenium and its compounds” are included in the list of “toxic pollutants” set forth in 40 C.F.R. § 401.15.

<sup>28</sup> LBP-16-13, 84 NRC at 427.

<sup>29</sup> *Id.* at 427, 429-32, 434.

<sup>30</sup> *Id.* at 427.

<sup>31</sup> *Id.* at 429. The Board particularly noted that Crow Butte sought approval for land application in 1993, obtained the requisite federal and state permits, and testified that it intends to renew its Nebraska DEQ permit authorizing land application. *Id.* While initiating land application would involve installation of additional infrastructure, the Board found that testimony given by Crow Butte’s expert witness demonstrated “considerable knowledge” of how Crow Butte would install such a system. *Id.* The Board stated that it was undisputed that initiating land application would require a license amendment from the Staff. *Id.* It is not completely clear from the record, however, that this is so. See, e.g., Tr. at 1936 (“We would be required to submit the plans [for

selenium and its potential harm to wildlife; neither the Staff's nor Crow Butte's witnesses "disputed the general science on selenium toxicity" as set forth in the Intervenor's testimony.<sup>32</sup> The Board rejected Crow Butte's and the Staff's argument that other documents, such as the ISL GEIS, concluded that "there would be minimal adverse effects to soils, surface water, and wildlife."<sup>33</sup> The Board further found that the documents in question (the ISL GEIS, an Environmental Assessment associated with the 1998 license renewal, and the Safety Evaluation Report issued in conjunction with the instant application) have not been properly incorporated into the Environmental Assessment.<sup>34</sup>

The Board also found that the Staff could not rely on the pollutant limits in the NPDES Permit as a substitute for its own independent NEPA review because there was no record evidence demonstrating that Nebraska DEQ considered impacts to wildlife in issuing that permit.<sup>35</sup> The Board therefore concluded that the Staff's Environmental Assessment and FONSI

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installation of infrastructure to the NRC] and, through [the NRC's] review process, [the NRC] would issue a license amendment, or at least [perform] a technical review.") (Mr. Teahon for Crow Butte). Our decision today does not require that we determine whether a separate license amendment would be needed.

<sup>32</sup> LBP-16-13, 84 NRC at 428; see Ex. INT-048, *Expert Opinion Testimony of Linsey McLean* (May 1, 2015) (McLean Testimony).

<sup>33</sup> LBP-16-13, 84 NRC at 429-30. The Board noted that nothing in the Environmental Assessment explained how these documents supported the Staff's conclusion on possible land application of ISL wastewater. *Id.* at 430. In addition, the Board observed that the ISL GEIS did not establish that the overall effects of land application in the license area would be small; the ISL GEIS "does not even discuss the impact of land application on fauna." *Id.* at 432. In a similar vein, the Board observed that the SER states, without additional discussion or analysis, that land application of wastewater is an option that Crow Butte has no current plan to pursue. *Id.* at 431; see Ex. NRC-009, SER §§ 3.1.3.5.4, 4.2.3.1.1.

<sup>34</sup> LBP-16-13, 84 NRC at 430. The Board determined that the Staff did not properly tier to the ISL GEIS. *Id.*

<sup>35</sup> *Id.* at 433. The Board noted that the selenium concentration limit imposed in the NPDES Permit "appears to be based solely on a regulation designed to protect drinking water quality for



were deficient with respect to the discussion of the land application of ISL wastewater with respect to the potential impacts from selenium on wildlife.<sup>36</sup> The Board declined, however, to make the finding itself that land application of ISL wastewater at selenium concentrations of 50 µg/L would cause a significant impact to wildlife and instead ruled that the Staff must “reach its own independent conclusion” when it cures the deficiencies in the Environmental Assessment.<sup>37</sup>

Crow Butte now petitions for review of the Board’s ruling on Contention 12B.

Consolidated Intervenors oppose the petition.<sup>38</sup>

## II. DISCUSSION

### A. Standard of Review

When acting in our adjudicatory capacity, we will grant a petition for review at our discretion, upon a showing that the petitioner has raised a substantial question as to the following considerations:

- (i) a finding of material fact is clearly erroneous or in conflict with a finding as to the same fact in a different proceeding;
- (ii) a necessary legal conclusion is without governing precedent or is a departure from or contrary to established law;
- (iii) a substantial and important question of law, policy, or discretion has been raised;

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humans and does not in any way address possible ingestion and ultimate bioaccumulation in wildlife.” *Id.*

<sup>36</sup> *Id.* at 434, 439.

<sup>37</sup> *Id.* at 434. The Board did not direct the Staff’s actions in resolving the issue, although it observed that “the most efficient method for curing this NEPA deficiency would be for the NRC Staff to publicly supplement its [Environmental Assessment] with additional analyses and findings with respect to the plausible impacts on wildlife from the land application of [in situ uranium recovery] wastewater.” *Id.* at 440.

<sup>38</sup> *Consolidated Intervenors Answer Opposing Crow Butte’s Petition for Review* (Jan. 23, 2017) (Consolidated Intervenors’ Answer).

(iv) the conduct of the proceeding involved a prejudicial procedural error; or

(v) any other consideration that we may deem to be in the public interest.<sup>39</sup>

Crow Butte claims that the Board erred in admitting Contention 12B, and it also claims that the Board made certain errors of material fact in its merits decision. We defer to the Board on issues of contention admissibility unless the Board made an error of law—that is, the contention rests on an erroneous legal premise—or abused its discretion.<sup>40</sup> And we defer to the Board's findings with respect to the facts in a merits decision unless the findings are "clearly erroneous."<sup>41</sup> The standard for showing "clear error" is deliberately high: a petitioner must show that, in light of the record as a whole, the Board's determination is "not even plausible."<sup>42</sup> "[W]here a petition for review relies primarily on claims that the Board erred in weighing the evidence in a merits decision, we seldom grant review."<sup>43</sup>

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<sup>39</sup> 10 C.F.R. § 2.341(b)(4).

<sup>40</sup> *Southern Nuclear Operating Co.* (Vogtle Electric Generating Plant, Units 3 and 4), CLI-09-16, 70 NRC 33, 35 (2009); *Calvert Cliffs 3 Nuclear Project, LLC, and UniStar Nuclear Operating Services, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-09-20, 70 NRC 911, 914 (2009). We generally defer to the Board's judgment as to whether a proposed contention has a sufficient factual basis to be admitted. *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), CLI-15-6, 81 NRC 340, 354-55 (2015); *Crow Butte Resources, Inc.* (Marsland Expansion Area), CLI-14-2, 79 NRC 11, 26 (2014).

<sup>41</sup> See, e.g., *Honeywell International, Inc.* (Metropolis Works Uranium Conversion Facility), CLI-13-1, 77 NRC 1, 18-19 (2013) (citing *David Geisen*, CLI-10-23, 72 NRC 210, 224-25 & n.61 (2010) and *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-03-8, 58 NRC 11, 26 (2003)).

<sup>42</sup> See, e.g., *Shaw AREVA MOX Services, LLC* (Mixed Oxide Fuel Fabrication Facility), CLI-15-9, 81 NRC 512, 519 (2015) (citations omitted).

<sup>43</sup> *Strata Energy, Inc.* (Ross In Situ Recovery Uranium Project), CLI-16-13, 83 NRC 566, 573 (2016) (citing *DTE Electric Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-14-10, 80 NRC 157, 162-63 (2014); *Entergy Nuclear Generation Co. & Entergy Nuclear Operations, Inc.* (Pilgrim

## **B. Crow Butte's Appeal**

The lengthy procedural history of this case is set forth in LBP-16-7. We do not repeat it here except as it relates to Crow Butte's instant appeal.<sup>44</sup>

### *1. LBP-15-11—Contention Admissibility*

Crow Butte argues that Contention 12B was untimely and inadequately supported and therefore should not have been admitted for hearing in the first instance.<sup>45</sup> As discussed above, Contention 12 was among the contentions first proposed as a challenge to the Staff's Environmental Assessment.<sup>46</sup> At that time, both Crow Butte and the Staff opposed the proposed contention. The Staff argued that the contention could have been raised at the outset of the proceeding. Specifically, the license renewal application had identified land application as an option for disposal of wastewater, and the exhibits on which the Intervenors relied in 2015 were publicly available at the time the application was submitted. Further, the Staff argued that the Environmental Assessment contained no analysis or conclusions that were materially

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Nuclear Power Station), CLI-12-1, 75 NRC 39, 45-46 (2012)), *aff'd sub nom. NRDC & Powder River Basin Res. Council v. NRC*, 879 F.3d 1202 (D.C. Cir. 2018).

<sup>44</sup> See LBP-16-7, 83 NRC at 347-49.

<sup>45</sup> Crow Butte Petition at 5-11.

<sup>46</sup> See Consolidated Intervenors' New Contentions at 94-97; Tribe's New Contentions at 107-09; see also LBP-15-11, 81 NRC at 437-42.

different from those in the application.<sup>47</sup> As to timeliness, Crow Butte asserted generally that the Intervenor had “failed to . . . address the basis for a timely filing.”<sup>48</sup>

The Board found Contention 12B to be timely because statements in the Environmental Assessment “differ[ed] materially” from statements in the application.<sup>49</sup> Citing various conflicting statements both within the application and between the application and the Environmental Assessment, the Board reasoned that the Environmental Assessment included two rationales for not discussing the impacts of land application of wastewater: first, that Crow Butte is not pursuing the option of land application and second, that Crow Butte was not likely to use land application “because it [lacked] an appropriate state permit, or has ‘not indicated’ it will use the permit it has at this time.”<sup>50</sup> The Board found that this information in the Environmental

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<sup>47</sup> See *NRC Staff’s Combined Answer to New Contentions Filed by Consolidated Intervenor and the Oglala Sioux Tribe* (Jan. 30, 2015), at 59 (Staff’s Answer to New Contentions). The Staff also argued that the Intervenor had not raised a genuine dispute with the Environmental Assessment. For example, the Staff argued that the ISL GEIS had considered land application, cited requirements at NRC-licensed *in situ* uranium recovery facilities to monitor and control irrigation areas to maintain levels of constituents (including selenium) within allowable release standards, and concluded that the impacts of land application on ecological resources would be small. See *id.* at 59-60.

<sup>48</sup> See *Crow Butte Resources’ Response to Proposed New Contentions Based on Final Environmental Assessment* (Jan. 30, 2015), at 5, 37 (Crow Butte Answer to New Contentions). Crow Butte asserted that information regarding land application was available in the 2014 Safety Evaluation Report associated with the application. *Id.* at 36-37. But Crow Butte principally argued that, while Crow Butte has a permit to discharge treated wastewater via land application, it has not used the permit “and has not indicated that it will in the future.” *Id.* at 36 (citation omitted).

<sup>49</sup> LBP-15-11, 81 NRC at 442.

<sup>50</sup> *Id.* (citing Ex. NRC-010, EA §§ 2.4, 4.6.1.3; Tr. at 794-95).

Assessment differed from the application, which acknowledged that land application “is being considered or employed” at the facility.<sup>51</sup>

On appeal, Crow Butte argues that the Board incorrectly applied the timeliness criteria in 10 C.F.R. §§ 2.309(f)(2) and (c). We find that Crow Butte has raised a substantial question warranting review of the Board’s admissibility ruling with respect to Contention 12B.

We agree with Crow Butte that the contention was untimely. As relevant here, section 2.309(f)(2) of our regulations states that a participant in an adjudication may file a new environmental contention after the deadline for initial intervention petitions based on a draft or final environmental review document (here, the final Environmental Assessment) if that contention complies with the requirements of 10 C.F.R. § 2.309(c). Section 2.309(c)(1), in turn, provides that a contention filed after the deadline for initial petitions will not be entertained absent a determination that the petitioner has demonstrated good cause by showing that: (1) the information on which the filing is based was not previously available, (2) that information is materially different from information that was previously available, and (3) the contention is timely filed based on the availability of the subsequent information.

In this case, the information that the Intervenors provided to support Contention 12B—particularly, the two FWS documents—predated the application and was publicly available at the time of the initial intervention petition. The application disclosed the potential for land disposal of treated wastewater.<sup>52</sup> Further, the application did not address any potential adverse effects that land disposal of wastewater could have on wildlife.

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<sup>51</sup> *Id.* The Board also noted that the Environmental Assessment omitted limited discussions of selenium and heavy metal contamination that had been included in the license renewal application. See *id.* at 442 n.273.

<sup>52</sup> See Ex. CBR-011, 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

Although there were some differences between information in the license renewal application and the Environmental Assessment, the Intervenors did not identify any information that was materially different from information previously available to provide a basis for a timely new contention. First, the Board erred in finding that the Environmental Assessment’s “new rationales” for not discussing the effects of selenium could form the basis of a timely new contention. The Board found that the Environmental Assessment’s statement that land application was not being used was new information because it was a “new rationale” for not discussing selenium impacts. Although the Board was correct that the license renewal application was inconsistent as to the status of land disposal of ISL wastewater at the site, the Board erred with respect to the materiality of that fact. Despite its inconsistencies, the application nonetheless disclosed to the Intervenors the fact that Crow Butte was at the time permitted to use such land application as a wastewater disposal method. Therefore, information regarding the ability of Crow Butte to undertake land application of ISL wastewater was available prior to the issuance of the Environmental Assessment. The Environmental Assessment’s clarification—that land disposal is not *currently* being used—did not change the fact that such disposal could occur during the license term.<sup>53</sup>

Second, the statements in the Environmental Assessment suggesting that Crow Butte would need additional permits before it could use land application did not constitute “materially different information” on which Contention 12B was based. The Board appears to have

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land application. All three methods are currently being employed at Crow Butte.”). But the application also stated accurately elsewhere that land application is permitted but not currently being pursued. *Id.* § 8.3.1.3. The Environmental Assessment clarifies that, as discussed *supra*, land application has not been used at the site to date. See Ex. NRC-010, EA § 4.6.1.3.

<sup>53</sup> See 10 C.F.R. § 2.309(c)(1)(i).

misinterpreted the Environmental Assessment, which did not state that Crow Butte needed additional permits before it could use land application.<sup>54</sup> At the time of the Board's contention admissibility ruling, the Environmental Assessment stated that "[i]and application after wet weather events will not be utilized by [Crow Butte] since it is not included in the current NPDES permit NE0130613 from the State of Nebraska."<sup>55</sup> In July 2015, the Staff clarified that the converse was true—Crow Butte's NPDES Permit *only* allows land application "during and immediately after" wet weather events.<sup>56</sup> But regardless of the conditions under which the NPDES Permit allows land application, the Environmental Assessment acknowledges that the permit currently allows land application at times. Sections 2.4.1, 2.4.2, and 2.4.3 of the Environmental Assessment all note that "[i]f there is any land application activity associated with the disposal of the pond water that is not included in Crow Butte's NPDES permit . . . [Crow Butte] will be required to apply for additional permits." These statements do not imply that Crow Butte's current NPDES Permit does not allow any land application of ISL wastewater. But fundamentally, regardless of whether Crow Butte will need to seek additional permits before using land disposal, the Intervenor knew from information in the license renewal application that land disposal was contemplated and allowed by the NPDES Permit and the NRC license. The Board therefore erred in finding Contention 12B timely on this basis.

Neither of the differences that the Board highlighted in LBP-15-11 altered the fact that the Intervenor could have raised their contention at the outset.<sup>57</sup> For these reasons, we

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<sup>54</sup> See LBP-15-11, 81 NRC at 442 (citing Ex. NRC-010, EA § 2.4).

<sup>55</sup> Ex. NRC-010, EA § 2.4.1.

<sup>56</sup> Ex. NRC-092, Errata to the Final Environmental Assessment (July 23, 2015) (EA Errata).

<sup>57</sup> We are not persuaded by Consolidated Intervenor's argument that broadly interprets our 2009 decision in this proceeding as allowing an intervenor to defer filing all "NEPA-based contentions"

reverse the Board's decision in LBP-15-11 to admit Contention 12B.<sup>58</sup> Because the Board should not have admitted the contention in the first instance, it should have been dismissed and not adjudicated on the merits. We therefore vacate the Board's decision in LBP-16-13 as it relates to Contention 12B.<sup>59</sup>

This case presents us with an unusual situation. While we find that Contention 12B was improperly admitted, we nonetheless have before us the Board's merits ruling, issued following a comprehensive evidentiary hearing, that the Environmental Assessment fails to discuss the environmental effects of land application of ISL wastewater on wildlife. We need not consider Crow Butte's merits challenges due to our timeliness ruling and vacatur. Nonetheless, the agency has a duty under NEPA to examine all reasonably foreseeable environmental impacts of the proposed action regardless of the pendency of a contested issue. As a discretionary matter, we decline to disregard the extensive adjudicatory record that has been compiled on the issue. Rather, we consider, as an exercise of our inherent supervisory authority over the Staff, whether any additional information developed during the adjudication necessitates further NEPA

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until after the Staff has issued its environmental review document. See Consolidated Intervenor's Answer at 2-3 (citing CLI-09-9, 69 NRC at 348-51). That decision concerned Contention 1 and pertained to the Staff's consultation obligations under the National Historic Preservation Act, as amended, 54 U.S.C. §§ 300101-307108 (previously codified at 16 U.S.C. §§ 470(a)-470x-6). See CLI-09-9, 69 NRC at 350-51. Our decision in no way implied that any environmental contentions should, as a general matter, be delayed until after completion of the Staff's review.

<sup>58</sup> Crow Butte also argues that "[e]ven if [the contention] were timely, it was still inadmissible." Crow Butte Petition at 11. Because we find that Contention 12B was not timely, we need not reach these arguments. See *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-15-21, 82 NRC 295, 305 n.50 (2015).

<sup>59</sup> Cf. *Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), CLI-13-9, 78 NRC 551 (2013) (noting that the Commission "will vacate [unreviewed Board decisions] when appellate review is cut short by mootness").



activities.<sup>60</sup> Because we undertake this consideration outside of our adjudicatory role, our normal standards of appellate review do not apply. Based on our evaluation in this supervisory capacity, we determine that the information in the record, as reflected in our discussion today, continues to support issuance of the renewed license.

The purpose of an environmental assessment informs our consideration of this issue. Among other things, an environmental assessment must include a “brief discussion of . . . [t]he environmental impacts of a proposed action.”<sup>61</sup> Additionally, an environmental assessment should provide “sufficient evidence and analysis for determining whether to prepare an [environmental impact statement] or a finding of no significant impact (FONSI). If the [environmental assessment] supports a FONSI, the environmental process is complete. [If not,] the environmental review activities transition to the process to develop an” environmental impact statement, which is a longer environmental review document.<sup>62</sup> In considering the adequacy of the Staff’s environmental analysis, we are not limited to the discussion in the Environmental Assessment itself. “We have previously held that a Board’s hearing, hearing record, and

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<sup>60</sup> See *U.S. Department of Energy* (High-Level Waste Repository), CLI-14-1, 79 NRC 1, 2 (2014) (“We undertook CLI-13-8 and the companion SRM pursuant to our inherent authority to supervise the Staff’s work and adjudicatory proceedings related to license applications.”); see also *Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), CLI-16-12, 83 NRC 542, 558 (2016) (noting that generally Commission direction to the Staff is not reviewable in an NRC adjudication but deciding to consider such a petition discretionarily).

<sup>61</sup> 10 C.F.R. § 51.30(a)(1)(iii).

<sup>62</sup> “Environmental Review Guidance for Licensing Actions Associated with NMSS Programs” (Final Report), NUREG-1748 (Aug. 2003), at 1-2 (ML032450279); see also 10 C.F.R. § 51.31.

subsequent decision on a contested environmental record augment the environmental record of decision developed by the Staff . . . .”<sup>63</sup>

Here, we discern that the discussion in the Environmental Assessment, the documents referenced in the Environmental Assessment, and the additional testimony from expert witnesses provide sufficient information to conclude that the environmental impacts on wildlife through land application of ISL wastewater will be small and would not constitute a significant impact. Therefore, we decline to direct the Staff to undertake additional analysis or prepare additional NEPA documentation or condition or otherwise modify the terms of the license renewal.

First, as noted in the Environmental Assessment itself, the licensee has not used land application at the Crow Butte site and has no plans to use this approach.<sup>64</sup> Even if it were to do so, it must comply with the terms of its NPDES Permit, which contains limits for several hazardous substances, including a 50 µg/L limit for selenium that is identical to the EPA’s standard for safe drinking water.<sup>65</sup> In challenging the Environmental Assessment, the Intervenor relied on a letter from FWS transmitting comments on the ISL GEIS and the 2007 FWS study suggesting that land application of ISL wastewater containing selenium could be

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<sup>63</sup> *Strata*, CLI-16-13, 83 NRC at 595; see *NRDC*, 879 F.3d at 1210-12 (where Board augmented environmental record of decision with additional information but the information did not alter Board’s conclusion, no “harmful consequence of the supplementation” was identified, and there was therefore “nothing to be gained by . . . consider[ing] the same information again”).

<sup>64</sup> Ex. NRC-010, EA §§ 2.4.1, 4.6.1.3; see Tr. at 1923 (explaining that Crow Butte has no plans to use land application of wastewater and noting additional infrastructure will be required to implement land application of wastewater); Ex. CBR-010, *Initial Written Testimony of Crow Butte Resources Witness Larry Teahon on Contention 12* (May 8, 2015), at 4-5 (Teahon Testimony).

<sup>65</sup> Ex. NRC-010, EA §§ 2.4.1, 4.6.1.3; see also Ex. NRC-092, EA Errata; Ex. NRC-001-R, *NRC Staff’s Initial Testimony* (May 8, 2015), at 101-02 (Staff Testimony).

hazardous to wildlife, particularly red-winged blackbirds, lark buntings, and western meadowlarks.<sup>66</sup> In response, the Staff noted that the FWS Selenium Study was “unable to determine whether elevated selenium concentrations caused reproductive or other effects on red-wing blackbirds [and] the effects of selenium on lark buntings and western meadowlarks.”<sup>67</sup> Moreover, the Staff observed that recorded selenium levels at the site of the FWS Selenium Study greatly exceeded the 50 µg/L enforceable limit in Crow Butte’s NPDES permit for land application.<sup>68</sup> The Staff therefore concluded that the results of the FWS Selenium Study did not indicate similar environmental impacts at the Crow Butte site.<sup>69</sup> Additionally, both the FWS Selenium Study and the Intervenors’ challenges concerning potential environmental impacts of land application cited generic concerns rather than site-specific conditions or regulatory requirements in place at the Crow Butte site.<sup>70</sup>

While the FWS also expressed concern about selenium levels in excess of 2 µg/L, it raised these concerns in relation to evaporation ponds, a different form of disposal than land application.<sup>71</sup> And contrary to the Board’s suggestion, the Staff considered the FWS concerns

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<sup>66</sup> Ex. INT-018, 2007 FWS Letter; Ex. INT-019, FWS Selenium Study.

<sup>67</sup> Ex. NRC-001-R, Staff Testimony, at 103.

<sup>68</sup> *Id.* at 103-04; see Ex. CBR-043, NPDES Permit, app. A, Condition 2; Ex. NRC-012, License, License Condition 10.17; Ex. CBR-010, Teahon Testimony, at 10-11 (explaining that the level of selenium in wastewater after required reprocessing is expected to be “1000 to 2000 times lower than levels at the FWS Report site”).

<sup>69</sup> Ex. NRC-001-R, Staff Testimony, at 104.

<sup>70</sup> See Ex. CBR-054, *Rebuttal Testimony of Crow Butte Resources Witness Larry Teahon on Contention 12* (June 8, 2015), at 5; see also Ex. NRC-071, *Rebuttal Testimony of Linsey McLean* (July 31, 2015), at 5-6 (asserting that “[t]he potential impacts for Crow Butte for selenium contamination are the same as have been recognized at all other ISL sites”).

<sup>71</sup> Ex. INT-018, 2007 FWS Letter, at 1.

related to the selenium levels above 2 µg/L in evaporation ponds and responded to those concerns in the ISL GEIS.<sup>72</sup> In particular, the ISL GEIS concluded that the impacts would be small based on mitigation measures such as fencing, netting, and best management practices.<sup>73</sup> Moreover, Crow Butte stated that the reverse osmosis process used at the site was capable of reducing selenium levels to 1 µg/L, as reflected in the Staff's memorandum evaluating the proposed land application of restoration wastewater.<sup>74</sup> Notably, the Board acknowledged that the Intervenor neither rebutted Crow Butte's evidence that its reverse osmosis process could reduce selenium concentrations nor suggested that "concentrations at or less than 2 µg/L pose any threat to wildlife."<sup>75</sup> Consequently, we conclude that the Environmental Assessment, as supplemented by the record developed by the Board in this adjudication, is sufficient to support the Staff's determination that the environmental impacts of wildlife exposure to selenium and other hazards through land application of ISL wastewater would be small. Accordingly, we decline to direct the Staff to undertake further action.<sup>76</sup>

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<sup>72</sup> Compare LBP-16-13, 84 NRC at 431-32, with ISL GEIS § G5.25.1.

<sup>73</sup> ISL GEIS §§ 4.2.5.2, G5.25.1.

<sup>74</sup> Ex. CBR-010, Teahon Testimony, at 10-11 (explaining that "due to the required processing and treatment of wastewater before land application the expected level of selenium in discharged wastewater at Crow Butte would be . . . 1000 to 2000 times lower than levels at the FWS Report site"); Ex. CBR-042, Memorandum from Joel Grimm, Project Manager, NRC to Docket File 40-8943 regarding Land Application of Restoration Waste Water—Ferret's Crow Butte ISL Facility (Nov. 16, 1993), at 4, tbl. 1 (Grimm Memorandum). As noted at the hearing, the Staff considered the land application proposal at the time it was approved. Tr. at 1927; see Ex. CBR-042, Grimm Memorandum, at 6 (finding that "proposed changes to [the licensee's] water land application program . . . will not affect the average operating conditions of the land application system").

<sup>75</sup> LBP-16-13, 84 NRC at 434.

<sup>76</sup> During the pendency of this appeal, the Staff, at Crow Butte's request, suspended work on curative actions associated with the Board's merits decisions on Contentions 1 and 12B. See Letter from Mike Thomas, Cameco Resources, to Marc Dapas, NRC (Dec. 7, 2016).

### III. CONCLUSION

For the reasons discussed above, we *grant* in part Crow Butte's petition for review. We *grant review* of the Board's contention admissibility decision in LBP-15-11, and we *reverse* the Board's decision with respect to the admissibility of Contention 12B. We therefore *vacate* the Board's merits decision in LBP-16-13 with respect to Contention 12B, and therefore we need not consider Crow Butte's petition for review of that decision. Nevertheless, as a matter of discretion, we *consider* the issues raised by Contention 12B and *determine* that the environmental record in this case is sufficient to satisfy NEPA with respect to those issues.

IT IS SO ORDERED.

For the Commission

**NRC Seal**

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Annette L. Vietti-Cook  
Secretary of the Commission

Dated at Rockville, Maryland,  
this 30th day of May 2019.

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(ML16349A381); Letter from Mike Thomas, Cameco Resources, to Mark Dapas, NRC (Jan. 10, 2017) (attached to Letter from Marcia J. Simon, NRC, to the Administrative Judges (Jan. 11, 2017)). In their answer to Crow Butte's appeal, Consolidated Intervenor ask that we direct the Staff to re-commence its activities. Because we have not directed the Staff to take further action with respect to the Environmental Assessment, we need not consider Consolidated Intervenor's request with respect to Contention 12B.

## **Dissenting Views of Commissioner Baran**

In my view, the Commission should affirm the Board's decision in LBP-15-11 that Contention 12B is admissible and leave the Board's merits decision in LBP-16-13 in place. Therefore, I respectfully dissent.

### **A. Contention Admissibility**

Crow Butte contends that Contention 12B should not have been admitted for hearing, arguing that it was untimely and inadequately supported.<sup>1</sup> Citing various conflicting statements both within the application and between the application and the Environmental Assessment, the Board found that the contention was timely filed.<sup>2</sup> On appeal, Crow Butte argues that the Board incorrectly applied the timeliness criteria in 10 C.F.R. §§ 2.309(f)(2) and (c). I agree with the majority that Crow Butte has raised a substantial question warranting review of the Board's admissibility ruling on Contention 12B.

As the majority decision notes, Section 2.309(c)(1) provides that a contention filed after the deadline for initial petitions will not be entertained absent a determination that the petitioner has demonstrated good cause by showing that: (1) the information on which the filing is based was not previously available, (2) that information is materially different from information that was previously available, and (3) the contention is timely filed based on the availability of the subsequent information.

Here, there were material differences between information in the license renewal application and the Environmental Assessment that provide the basis for a timely new

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<sup>1</sup> Crow Butte Petition at 5-11.

<sup>2</sup> LBP-15-11, 81 NRC at 442.

contention. The Board correctly observed that the license renewal application contained conflicting statements regarding disposal of wastewater by land application. In Chapter 7 of the application, Crow Butte stated that it used three methods for handling wastewater — one of which was land application — and that all three methods “are currently being employed at Crow Butte.”<sup>3</sup> In the next chapter, however, Crow Butte made the contradictory statement that, of the three methods it could use to handle liquid wastes, “only solar evaporation ponds and deep disposal have been implemented.”<sup>4</sup>

The Staff’s Environmental Assessment exacerbated the confusion. As the Board correctly noted, the Environmental Assessment stated, at the time of the Board’s admissibility determination, that “[l]and application . . . will not be utilized by [Crow Butte] since it is not included in the current NPDES permit.”<sup>5</sup> However, in another section of the Environmental Assessment, the Staff states that Crow Butte did indeed have a permit for land application for wastewater disposal but that Crow Butte had not used land application and had “not indicated they will in the future.”<sup>6</sup> Though the Staff later attempted to clarify these ambiguities, the Board had already made its admissibility determination.<sup>7</sup>

Thus, the statements of both Crow Butte in the license renewal application and the Staff in its Environmental Assessment, created significant confusion about the status of land application of wastewater by Crow Butte. Given the conflicting statements about whether land application was authorized and whether it was actually being implemented, the information on

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<sup>3</sup> See Ex. CBR-011, LRA § 7.13.

<sup>4</sup> *Id.* § 8.3.1.3.

<sup>5</sup> See LBP-15-11, 81 NRC at 441 (citing Ex. NRC-010, EA § 2.4.1).

<sup>6</sup> Ex. NRC-010, EA § 4.6.1.3.

<sup>7</sup> Ex. NRC-092, Errata to the Final Environmental Assessment (July 23, 2015).

which the contention is based cannot be considered “available” to the Intervenors at the time of the license renewal application. The application did not effectively disclose to the Intervenors that they needed to file their contention regarding land application of wastewater. Therefore, the Intervenors could not reasonably be expected to file a contention at that time, even though the U.S. Fish and Wildlife Service (FWS) documents relied upon for the contention pre-dated the application. While NRC’s procedural rules require a petitioner to bear the burden of meeting strict contention admissibility standards, they do not require Intervenors to untangle and decipher a series of conflicting statements made by both Crow Butte and the Staff. That is not a reasonable burden to place on interested persons who may have safety or environmental concerns about a licensing action.

I therefore conclude that the record before the Board supported a finding of a material difference between the license application and the Environmental Assessment, such that the Intervenors could not reasonably have been expected to formulate a Contention 12B prior to issuance of the EA. Because I conclude that the Board’s admissibility determination was not an error of law or abuse of discretion, I believe the Commission should defer to the Board’s judgment in admitting contention 12B as timely and adequately supported. I agree with the Board’s determination that Contention 12B, as pled by the Intervenors, constituted an admissible “contention of inadequacy and omission” that was “supported by documents from FWS.”<sup>8</sup> Contention 12B contained the required statement of law along with an explanation of the bases for the contention, with adequate document support, and a specific discussion concerning the Environmental Assessment’s omission of an analysis of impacts to wildlife resulting from land application of ISL wastewater.<sup>9</sup>

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<sup>8</sup> See LBP-15-11, 81 NRC at 438.

<sup>9</sup> See Consolidated Intervenors’ New Contentions at 94-97; Tribe’s New Contentions at 108-109.



**B. Merits Decision**

Crow Butte additionally challenges the Board's merits ruling that the Staff's Environmental Assessment is insufficient as to its discussion of the impacts of selenium on wildlife that could result from the land application of ISL wastewater. I would deny review of the Board's merits ruling.

Crow Butte advances one principal argument with respect to the Board's decision on the merits: that the Board should have found the Environmental Assessment sufficient because "Crow Butte has no plans to perform land application and has never even constructed the facilities that would be needed to do so."<sup>10</sup> Crow Butte asserts that the Staff was therefore "well within its discretion to include minimal discussion" of land application in the Environmental Assessment.<sup>11</sup> And Crow Butte argues that, in the unlikely event it were to use land application in the future, the stringent contaminant concentration limits in its NPDES Permit and its NRC license would minimize adverse effects.

In my view, Crow Butte has not raised a substantial question as to the Board's determination that it is reasonably foreseeable that Crow Butte will employ land application of wastewater in the future. Under NEPA, an environmental impact is "reasonably foreseeable" if it is "sufficiently likely to occur that a person of ordinary prudence would take it into account in reaching a decision."<sup>12</sup> Whether an impact is reasonably foreseeable, or whether a person of ordinary prudence would consider it, is a question of fact.

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<sup>10</sup> Crow Butte Petition at 13.

<sup>11</sup> *Id.* at 13-14.

<sup>12</sup> *Sierra Club v. Marsh*, 976 F.2d 763, 767 (1st Cir. 1992).

Crow Butte argues that because NEPA only requires consideration of the “likely” consequences of a licensing decision, the Environmental Assessment satisfied the law by explaining that land application is not likely to happen.<sup>13</sup> There is evidence in the record to support the assertion that land application is unlikely to be used by Crow Butte. Although Crow Butte has held an NPDES permit that allows land application since 1993, it has not, to date, used this disposal method.<sup>14</sup> Moreover, at the evidentiary hearing, Crow Butte’s witness, Mr. Teahon, testified that Crow Butte does not currently have the equipment in place to dispose of wastewater via land application as described in its NPDES permit.<sup>15</sup> Mr. Teahon further testified that Crow Butte has no current plans to use land application and that it would be costly to do so.<sup>16</sup>

But other record evidence convinced the Board that it is reasonably foreseeable that Crow Butte could use land application in the future.<sup>17</sup> It is undisputed that Crow Butte’s renewed license expressly authorizes land application of ISL wastewater and that Crow Butte

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<sup>13</sup> Crow Butte Petition at 13-14.

<sup>14</sup> See Ex. CBR-043, NPDES Permit. This permit expired on September 30, 2016. Crow Butte’s representative testified at the evidentiary hearing that Crow Butte intended to renew the permit. See Tr. at 1924 (Mr. Teahon). Crow Butte has since done so. See State of Nebraska, Authorization to Discharge under the National Pollutant Discharge Elimination System (NPDES), Permit No. NE0130613, Facility ID 63416 (Cameco Resources) (Sept 30, 2016).

<sup>15</sup> See Tr. at 1918-19 (Mr. Teahon).

<sup>16</sup> *Id.* at 1923. To use land application, Crow Butte testified that it would have to construct infrastructure to withdraw wastewater from the existing evaporation ponds and return it to the treatment facility, as well as additional infrastructure to pipe the water to the two outfalls designated in its NPDES Permit. See Tr. at 1919-20 (Mr. Teahon).

<sup>17</sup> See LBP-16-13, 84 NRC at 429.

has in hand an NPDES Permit that authorizes the activity.<sup>18</sup> Mr. Teahon also testified that Crow Butte might use land application if, for example, its deep injection wells were to fail.<sup>19</sup>

Based on its consideration of all of the available evidence, the Board plausibly found that Crow Butte's current lack of interest in pursuing land application was not sufficient to excuse the Staff from considering the reasonably foreseeable environmental impacts of the activity should Crow Butte decide to do so. The Board determined that, in view of its NRC license and NPDES Permit, the decision whether to use such a disposal method is entirely in Crow Butte's hands. Furthermore, the record reflects that Crow Butte has taken steps to ensure that the option remains available.<sup>20</sup> And the Staff testified that it would not reconsider the environmental consequences should Crow Butte decide to use land application because the Environmental Assessment the Staff performed for this license renewal application has addressed this option.<sup>21</sup> What Crow Butte presents here is a dispute with how the Board weighed the evidence; Crow Butte disagrees with the Board's finding that it is reasonably foreseeable that Crow Butte will use land application of ISL wastewater at some point during the renewed license term. But Crow Butte does not point to any facts not considered by the Board or otherwise identify error in the Board's reasoning that would render its conclusions implausible.

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<sup>18</sup> See Ex. NRC-012, License, License Condition 10.17. Crow Butte originally sought and received NRC approval for land application in 1993. See Ex. NRC-062, Crow Butte NPDES Permit Application; Ex. CBR-042, Memorandum from Joel Grimm, Project Manager, NRC to Docket File 40-8943 regarding Land Application of Restoration Waste Water—Ferret's Crow Butte ISL Facility (Nov. 16, 1993) (Grimm Memo).

<sup>19</sup> Tr. at 1928-29 (Mr. Teahon).

<sup>20</sup> LBP-16-13, 84 NRC at 429 (citing Tr. 1928-29 (Mr. Teahon)).

<sup>21</sup> Tr. at 1935-36, 37 (Mr. Goodman).

Crow Butte also asks the Commission to reverse the Board's decision and find that the Environmental Assessment "passes muster under NEPA" because it addresses the environmental impacts of the "likely" disposal methods of ISL wastewater.<sup>22</sup> Crow Butte argues that the Staff's discussion of potential environmental impacts met NEPA's "rule of reason."<sup>23</sup> The question is whether Crow Butte has raised a substantial question for review with respect to the Board's finding that the Staff failed to review the potential environmental impacts of selenium on wildlife.

The evidentiary hearing generated substantial evidence concerning the environmental impacts of selenium on wildlife. The Intervenors sought to show that even small concentrations of selenium, if deposited on land, will accumulate on the surface of the land and then up the food chain, causing adverse impacts to wildlife. The FWS Selenium Study that the Intervenors used to support Contention 12B found that "elevated selenium concentrations in water, soil, grasshoppers, and [certain bird eggs and livers] collected from the Study Area [the Highland Uranium Project in Wyoming] demonstrate that selenium is being mobilized and bioaccumulated in the food chain."<sup>24</sup> The Intervenors' expert, Ms. McLean, described toxic effects to wildlife and humans of selenium found in uranium recovery process wastewater.<sup>25</sup> She also testified that selenium may bioaccumulate in the food chain.<sup>26</sup> She explained that selenium can exist in both

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<sup>22</sup> Crow Butte Petition at 12-14.

<sup>23</sup> *Id.* at 13-14.

<sup>24</sup> Ex. INT-019, FWS Selenium Study, at 14; *see id.* at 16 ("Selenium concentrations in [the bird eggs] were at levels suspected of causing reduced hatchability in this species.").

<sup>25</sup> *See* Ex. INT-048, McLean Testimony, at 6-9 (effects of heavy metals, including selenium), 12-28, 19-20 (effects of selenium specifically).

<sup>26</sup> *Id.* at 5, 20, 22.

organic and inorganic forms and is more biologically available in its organic forms.<sup>27</sup> Ms. McLean also testified that reverse osmosis, the type of purification employed at Crow Butte, is not effective at removing organic forms of metals.<sup>28</sup> The Board found that “none of the witnesses for the NRC Staff or Crow Butte disputed the general science on toxicity as set forth in Ms. McLean’s testimony.”<sup>29</sup>

Witnesses for both the Staff and Crow Butte argued that the 50 µg/L limit in the NPDES Permit is sufficient to prevent any significant environmental impacts.<sup>30</sup> Mr. Goodman, testifying for the Staff, stated that the 50 µg/L limit is identical to the EPA’s maximum contaminant level for drinking water, which in turn is “based on the best available science.”<sup>31</sup> Mr. Teahon also testified for Crow Butte that its treatment processes are capable of reducing selenium concentrations to 1 µg/L,<sup>32</sup> although Crow Butte was “not committing” to reducing selenium to concentrations any less than the permitted limit of 50 µg/L.<sup>33</sup> But the Board observed that the Environmental Assessment had failed to examine the environmental impacts of either a 50 µg/L or 2 µg/L concentration of selenium on wildlife.<sup>34</sup>

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<sup>27</sup> Tr. at 1937-38 (Ms. McLean).

<sup>28</sup> See Ex. INT-048, McLean Testimony, at 4; Tr. at 1937-38 (Ms. McLean).

<sup>29</sup> LBP-16-13, 84 NRC at 428.

<sup>30</sup> See *id.* at 432-33.

<sup>31</sup> Ex. NRC-001-R, NRC Staff’s Initial Testimony, at 102 (May 8, 2015) (testimony of Mr. Goodman).

<sup>32</sup> Tr. at 1941 (Mr. Teahon); see *also* Ex. CBR-010, Teahon Testimony, at 10.

<sup>33</sup> Tr. at 1941 (Mr. Teahon).

<sup>34</sup> LBP-16-13, 84 NRC at 434.

In my view, Crow Butte has not raised a substantial question as to whether the Board erred in its determination that adverse effects to wildlife from ISL wastewater disposal are reasonably foreseeable and have not been adequately considered in the Environmental Assessment. Mere disagreement on how the Board weighed conflicting evidence does not raise a substantial question for our review.<sup>35</sup> Therefore, the Commission should decline to review the Board's ruling that the NRC Staff should consider these impacts.

A decision to decline review on the merits would leave in place the Board's conclusion that the Environmental Assessment is deficient as to its discussion of the environmental impacts associated with Crow Butte's possible land application of ISL wastewater, specifically as to the impacts of selenium on wildlife. The Board, which cannot direct the Staff's curative action, suggested that the "most efficient method" for curing the deficiency would be for the Staff to issue a public supplement to its Environmental Assessment "with additional analyses and findings with respect to" the reasonably foreseeable impacts on wildlife from the land application of ISL wastewater.<sup>36</sup> I agree that preparation of a short supplement to the Environmental Assessment would be an effective curative action.

In completing the supplement, I would have the Staff consider relevant available information, including evidence adduced at the hearing, and how the supplement affects the Finding of No Significant Impact. I believe the Commission should direct the Staff to provide, within 30 days of the date of this decision, a status report to the Board that lays out its timeline

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<sup>35</sup> See, e.g., *Strata*, CLI-16-13, 83 NRC at 586. In this case, I also do not believe that an exercise of the Commission's inherent supervisory authority is warranted.

<sup>36</sup> LBP-16-13, 84 NRC at 440.

and plans for completing the supplement.<sup>37</sup> Absent compelling circumstances, I would require the Staff's effort to be completed within four months.

### **C. CONCLUSION**

For the reasons discussed above, I would grant in part and deny in part Crow Butte's petition for review. I would grant review of the Board's contention admissibility decision in LBP-15-11 and affirm the Board's decision with respect to the admissibility of Contention 12B. I would deny review of the Board's merits decision in LBP-16-13. Because I would not disturb the Board's decision as to the Environmental Assessment, I would direct the Staff to provide a status report to the Board detailing its plans for completing curative actions within 30 days of the date of its decision, with the objective of completing the supplement within four months.

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<sup>37</sup> Because the Board has now ruled on all pending contentions in this matter, ordinarily its jurisdiction in the case would be terminated. *Virginia Electric & Power Co. d/b/a Virginia Power & Old Dominion Electric Cooperative* (North Anna Power Station, Unit 3), CLI-12-14, 75 NRC 692 (2012). In this case, the Board retained jurisdiction for the purpose of affording the Intervenors the opportunity to file new contentions to contest the adequacy of the Staff's chosen curative action with respect to Contention 12B. LBP-16-13, 84 NRC at 441. As an exercise of adjudicatory efficiency, the Commission should leave in place the Board's decision to retain jurisdiction.

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 **COMMISSION MEMORANDUM AND ORDER (CLI-19-05)** have been served upon the following persons by Electronic Information Exchange, and by electronic mail as indicated by an asterisk.

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**COMMISSION MEMORANDUM AND ORDER (CLI-19-05)**

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[Original signed by Clara Sola \_\_\_\_\_]  
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Dated at Rockville, Maryland  
 The 30<sup>th</sup> day of May 2019