

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
CROW BUTTE RESOURCES, INC.	)	Docket No. 40-8943
	)	
(License Renewal for the In Situ Leach	)	ASLBP No. 08-867-02-OLA-BD01
Facility, Crawford, Nebraska)	)	
	)	

NRC STAFF'S REPLY FINDINGS OF FACT  
AND CONCLUSIONS OF LAW

I. INTRODUCTION

In accordance with 10 C.F.R. § 2.1209 and the Atomic Safety and Licensing Board's (Board's) September 24, 2015 scheduling order in this proceeding,<sup>1</sup> the NRC Staff (Staff) hereby submits its reply findings of fact and conclusions of law ("Reply Findings" or "RFF") regarding Contentions A, C, D, F, 1, 6, 9, 12, and 14.<sup>2</sup> In these Reply Findings, the Staff sets forth its reply to the proposed findings of fact and conclusions of law submitted by the Consolidated Intervenors (CI) and the Oglala Sioux Tribe (OST) (collectively Intervenors) concerning the adequacy of the Staff's environmental review of Crow Butte Resources, Inc.'s (CBR's) application for renewal of its combined NRC source and 11e.(2) byproduct material license to be used in connection with the Crow Butte in-situ uranium recovery (ISR) facility in Dawes County, Nebraska.<sup>3</sup> For the reasons set forth in the Staff's Proposed Findings of Fact

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<sup>1</sup> Order (Setting Supplemental Hearing Date & Post-Hearing Briefing Schedule) at 3 (Sept. 24, 2015) (unpublished).

<sup>2</sup> The Staff filed its Proposed Findings on November 23, 2015. See NRC Staff's Proposed Findings of Fact and Conclusions of Law (Nov. 23, 2015) ("Staff's Proposed Findings" or "Staff's PFF"). In these Reply Findings, the Staff continues the paragraph numbering sequence from Sections V, VI, and VII of the Staff's PFF in Sections II, III and IV below.

<sup>3</sup> See Oglala Sioux Tribe and Consolidated Intervenors Joint Filing of Proposed Findings of Fact and Conclusions of Law (Nov. 23, 2015) ("Intervenors' Proposed Findings" or "Intervenors' PFF"). While the Staff responds to many of the statements made in the Intervenors' Proposed Findings, for those that are

and Conclusions of Law, and in the Reply Findings set forth below, the Staff submits that the Board should dismiss Contentions A, C, D, F, 1, 6, 9, 12, and 14, and affirm that the Staff has met its burden of demonstrating that the environmental assessment (EA) complies with applicable law.<sup>4</sup>

## II. RULINGS ON LEGAL ISSUES

5.9. The Intervenors cite several cases in support of their assertions that the Staff's EA is deficient. But much of this case law does not support the Intervenors' position as directly as is implied. For example, the Intervenors cite *Citizens Against Toxic Sprays, Inc. v. Bergeland*<sup>5</sup> for the proposition that "NEPA prohibits reliance upon conclusions or assumptions that are not supported by scientific or objective data."<sup>6</sup> The Intervenors likewise quote *Seattle Audubon Society v. Moseley*<sup>7</sup> for its declaration that "[a] conclusory statement unsupported by empirical or experimental data, scientific authorities, or explanatory information of any kind not only fails to crystallize the issues, but affords no basis for a comparison of the problems involved with the proposed project and the difficulties involved in the alternatives."<sup>8</sup> *Bergeland*, *Moseley*, and the cases they rely upon, however, concern the adequacy of an environmental impact statement (EIS), not an EA, the type of environmental review document under review in

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not addressed in these Reply Findings, the Staff maintains its objections to the Intervenors' positions as set forth in the Staff's previous legal and evidentiary filings in this matter.

<sup>4</sup> The Staff does not address CBR's proposed findings of fact and conclusions of law herein, having identified no substantial disagreement therewith. See Crow Butte Resources' Proposed Findings of Fact and Conclusions of Law (Nov. 23, 2014) ("CBR's Proposed Findings" or "CBR's PFF").

<sup>5</sup> 428 F. Supp. 908 (1977).

<sup>6</sup> Intervenors' PFF at 2.

<sup>7</sup> 798 F. Supp. 1473, 1479 (W.D. Wash. 1992), *aff'd* 998 F.2d (9th Cir. 1993).

<sup>8</sup> Intervenors' PFF at 3-4.

this proceeding.<sup>9</sup> Unlike an EIS, which is subject to a number of specified regulatory requirements,<sup>10</sup> there is no “universal formula for what an EA must contain and consider.”<sup>11</sup>

5.10. In addition, *Bergeland* acknowledges that even where an agency must prepare a more detailed environmental review document in the form of an EIS, “[t]he adequacy of any particular EIS necessarily depends . . . upon the facts and circumstances surrounding the proposed federal action to which it is directed.”<sup>12</sup> Consequently it does not follow that *Bergeland* can stand for the proposition that every conclusion in an EA must rest upon a full elucidation of scientific or objective data. Rather, an EA must “identify the proposed action” and include a “brief discussion” of the need for the proposed action, alternatives, the environmental impacts of the proposed action and alternatives, as appropriate, and a list of agencies and persons consulted and identification of sources used.<sup>13</sup> Nor is it apparent that *Moseley* or the other EIS-based cases cited by the Intervenor directly govern the specific type, level, and amount of information that must be contained in an EA. Therefore, while the principles expounded in these cases inform our review of the Staff’s EA for the Crow Butte license renewal, we look to the standards established by the NRC, the Council on Environmental Quality (CEQ), and relevant EA-based case law to govern our decision.

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<sup>9</sup> See *Bergeland*, 428 F. Supp. at 922-23 (citing *Trout Unlimited v. Morton*, 509 F.2d 1276, 1283, 1284 (9th Cir. 1974); *Natural Resources Defense Council, Inc. v. Grant*, 355 F. Supp. 280, 287 (E.D.N.C. 1973)); *Moseley*, 798 F. Supp. at 1479 (quoting *Silva v. Lynn*, 482 F.2d 1282, 1285 (1st Cir. 1973)).

<sup>10</sup> See, e.g., 10 C.F.R. §§ 51.70 and 51.71 (draft EIS), 10 C.F.R. §§ 51.90 and 51.91 (final EIS), 40 C.F.R. §§ 1502.15 and 1502.16 (all EISs).

<sup>11</sup> *Friends of Congaree Swamp v. Fed. Highway Admin.*, 786 F. Supp. 2d 1054, 1062 (D.S.C. 2011).

<sup>12</sup> *Id.* at 922 (citing *Sierra Club v. Froehlke*, 534 F.2d 1289, 1299 (8th Cir. 1976); *Trout Unlimited*, 509 F.2d at 1282-83).

<sup>13</sup> 10 C.F.R. § 51.30(a).

5.11. Finally, the Intervenor's cite several cases for the proposition that the adequacy of an EIS must be judged solely by the information contained in the document.<sup>14</sup> But the Commission's longstanding practice has been to allow the environmental record of decision to be supplemented by the hearing and relevant Board and Commission decisions,<sup>15</sup> an approach that has been approved by federal courts of appeal.<sup>16</sup> The Commission recently affirmed this practice in *Indian Point*, rejecting the argument that its "longstanding practice of supplementing the Staff's environmental review document with the hearing record and adjudicatory findings is contrary to NEPA."<sup>17</sup> The Commission explained that it has "consistently interpreted [10 C.F.R. §] 51.102(c) to provide that environmental impact statements are modified by any subsequent Board or Commission decision," citing the "additional and . . . more rigorous public scrutiny" afforded by the Commission's hearing procedures.<sup>18</sup> Although 10 C.F.R. § 51.102(c) applies to cases where an EIS is required, the Commission has also applied the same reasoning when the Staff's environmental document is an environmental assessment.<sup>19</sup> We will follow Commission precedent here.

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<sup>14</sup> Intervenor's PFF at 20 (citing *Massachusetts v. Watt*, 716 F.2d 946, 951 (1st Cir. 1983); *Village of False Pass v. Watt*, 565 F. Supp. 1123, 1141 (D. Alaska 1983); *Dubois v. U.S. Dept. of Agriculture*, 102 F.3d 1273, 1287 (1st Cir. 1996); *Grazing Fields Farm v. Goldschmidt*, 626 F.2d 1068, 1070 (1st Cir. 1980)).

<sup>15</sup> *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Station Units 2 and 3), CLI-15-6, 81 NRC 340, 388 (2015).

<sup>16</sup> See *id.* at 388 n.255 (citing *New England Coalition on Nuclear Pollution v. U. S. Nuclear Regulatory Comm'n*, 582 F.2d 87, 93-94 (1st Cir. 1978), and *Citizens for Safe Power, Inc. v. NRC*, 524 F.2d 1291, 1294 & n.5 (D.C. Cir. 1975)).

<sup>17</sup> *Indian Point*, CLI-15-6, 81 NRC at 387.

<sup>18</sup> *Id.* at 388. As in *Indian Point*, the Intervenor's in this case "had months to marshal [their] evidence for hearing, had the opportunity to respond to the Staff's and [CBR]'s evidence, and had the benefit of extensive Board questions to party witnesses." *Id.*

<sup>19</sup> *Pacific Gas & Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-26, 68 NRC 509, 526 (2008), *petition for review denied on other grounds*, *San Luis Obispo Mothers for Peace v. NRC*, 635 F.3d 1109 (9th Cir. 2011).

III. FINDINGS OF FACT

A. Contention A

6.227. On page 4 of their Proposed Findings, the Intervenors assert that CBR “does not currently test for organic forms of metals, including uranium, and is not required to do so.” This statement is incorrect. As the Staff explained in its testimony, CBR is currently required to sample for natural uranium in two mine units, and this requirement is described in the EA.<sup>20</sup> In addition, in connection with its effluent and environmental monitoring program, conducted in accordance with license condition (LC) 11.13,<sup>21</sup> CBR is required to sample private wells within one kilometer of the wellfield area quarterly for uranium and radium.<sup>22</sup> This requirement is likewise described in the EA.<sup>23</sup>

6.228. To the extent the Intervenors’ assertion is directed at CBR’s excursion monitoring program – which currently requires CBR to sample for chloride, conductivity, and total alkalinity<sup>24</sup> – the Intervenors do not explain how the omission of uranium from this sampling program results in the “demonstrable non-radiological health impacts” they allege have occurred. And because the contention as admitted concerns whether uranium should be sampled as a leading-edge excursion indicator, we do not address the Intervenors’ assertions regarding other organic forms of metals.

6.229. On page 4 of their Proposed Findings, the Intervenors also assert that reduced water quality and water levels in domestic and agricultural wells can cause economic hardship

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<sup>20</sup> See Ex. NRC-001-R at 8-9, 14; Ex. NRC-010 at 78; Tr. at 1632, 1638 (Striz).

<sup>21</sup> Ex. NRC-012 at 14.

<sup>22</sup> Ex. NRC-076-R2 at 19; *see also* Ex. NRC-009 at 129. CBR also samples sediments from locations upstream and downstream from the Crow Butte facility on an annual basis for natural uranium, radium-226, thorium-230, and lead-210. Ex. NRC-010 at 70.

<sup>23</sup> Ex. NRC-010 at 81.

<sup>24</sup> Ex. NRC-001-R at 10-11.

and present potential hazards to livestock; that the lowering of the potentiometric surface can cause diminished spring flow and wetland habitat loss; and that the EA does not explain the high levels of lead-210 in English Creek and Squaw Creek. Because these various claims do not relate to the matters in contention – i.e., whether uranium should be required as an excursion indicator and whether the biweekly sampling frequency for excursions is adequate – we decline to consider them in relation to Contention A.

B. Contention C

6.230. On page 5 of their Proposed Findings, the Intervenors quoted two statements by the NRC Staff and assert that the Staff has “presented no data to support these conclusions” in the EA or SER. The first statement the Intervenors cite, “we don’t see a detrimental effects [sic] to wetland or stream recharge,” addresses recharge, which is an issue related to water quantity, not water quality.<sup>25</sup> The second statement, “we knew there would not be any impact to surface water,” was also made in the context of water quantity impacts. Specifically, this statement was made during the Staff’s testimony that the Basal Chadron Sandstone aquifer would remain saturated, that there are very few wells in that aquifer, and that there had not been reports of poor performance (i.e., loss of flow) in Basal Chadron wells.<sup>26</sup> The Intervenors do not explain the relevance of these statements to Contention C, which addresses potential impacts on surface water quality. Therefore, we find that neither of these statements is relevant to Contention C.

6.231. On page 5 of their Proposed Findings, the Intervenors state that “[t]here is nothing in the record to indicate whether the high water table in the vicinity of English Creek and

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<sup>25</sup> Tr. at 1403 (Back). We note that the statement reads, “. . . it was also tied to the water quality impacts, because since the aquifer is confined, we don’t see a detrimental effect to say wetlands or stream recharge.” *Id.* Given that this remark was made in the context of a discussion of water quantity impacts, we find it is not significant given the considerable evidence in the record concerning impacts on surface water quality. See Staff’s PFF at 44-58.

<sup>26</sup> *Id.* at 1406-07 (Back).

Mine Units (MU) 6 and 8 is the result of discharge from the Brule or the Basal Chadron/Chamberlain Pass Formation.” At the hearing, CBR discussed the depth of water table in the Brule across the site, stating that it ranges from 10 feet near Mine Units 6 and 8 to hundreds of feet elsewhere.<sup>27</sup> CBR also discussed the presence of perched water table in the area of Mine Units 6 and 8.<sup>28</sup> The Intervenors have not pointed to any evidence in the record showing that the high water table is a result of discharge from the Basal Chadron Sandstone, and the record shows that there is a downward hydraulic gradient over the entire site that would prevent such upward flow.<sup>29</sup>

6.232. On page 5 of their Proposed Findings, the Intervenors state that “[n]umerous excursion events in Mine Units 6 and 8 have been attributed to precipitation events” and claim this conclusion was not challenged by the NRC Staff. This statement mischaracterizes the Staff’s review and is contradicted by the evidentiary record. The Staff specifically addressed the potential cause of excursion events in Mine Units 6 and 8 in its safety and environmental reviews and discussed it in the SER and EA.<sup>30</sup> The Staff explained that it did not disagree with CBR’s explanation that these events were caused by precipitation because the excursion events did not have the signatures of true excursions of mining fluids and were quickly resolved.<sup>31</sup> But in order to verify this, the Staff imposed License Condition 11.12 requiring uranium monitoring when wells in Mine Units 6 and 8 go on excursion status.<sup>32</sup> Also, although the Intervenors assert in their Proposed Findings that vertical communication between the Basal

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<sup>27</sup> *Id.* at 2470-73 (Beins).

<sup>28</sup> *Id.*

<sup>29</sup> Ex. CBR-062; Tr. at 1435-36 (Beins); Tr. at 2477 (Wireman).

<sup>30</sup> Ex. NRC-009 at 124-127; Ex. NRC-010 at 77-79.

<sup>31</sup> Ex. NRC-010 at 78; Tr. at 1618 (Striz).

<sup>32</sup> Ex. NRC-009 at 126; Tr. at 1632 (Striz).

Chadron Sandstone and the Brule aquifer is occurring near Mine Units 6 and 8, they have not cited any evidence in record for support of this statement. We therefore find that the Staff sufficiently considered this issue.

6.233. On page 6 of their Proposed Findings, the Intervenors state that “[t]here are PWS springs for Crawford” that “may represent groundwater discharge” but the water source of these features is unknown because they have not been sampled. The Intervenors did not cite to the evidentiary record for this statement, nor have they explained what “PWS” stands for or where these springs are located in relation to the License Area. If PWS stands for public water supply, the public water supply sources for Crawford are an infiltration gallery near Fort Robinson State Park and a wellfield approximately 1.5 miles south of the city.<sup>33</sup> These locations are several miles west of the CBR License Area and upstream on the White River. In addition, the Intervenors’ witness, Mr. Wireman, indicated that the city of Crawford’s public water supply is not impacted by CBR’s activities.<sup>34</sup>

6.234. On page 6 of their Proposed Findings, the Intervenors state that there is potential for discharge from the Basal Chadron/Chamberlain Pass Formation to the Brule, the White River alluvium, and streams across the area because the pre-operational potentiometric surface of the Basal Chadron Sandstone aquifer was above ground level. Although the SER does indicate that in some places the pre-operational potentiometric surface was above ground level, that is irrelevant here because after 24 years of operations the potentiometric surface is now below ground level and there is a downward gradient across entire CBR site.<sup>35</sup>

6.235. On page 6 of their Proposed Findings, the Intervenors state that “[d]ischarge to the White River is likely where the [Basal Chadron Sandstone] subcrops under the alluvium a

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<sup>33</sup> Ex. CBR-019 at 26. Neither of these water sources lie within the ore body. *Id.*

<sup>34</sup> Tr. at 1685 (Wireman).

<sup>35</sup> Ex. CBR-062; Tr. at 1435-36 (Beins); Tr. at 2477 (Wireman).

few miles northwest of Crawford.” But the Intervenor’s cite to testimony by Dr. LaGarry and the Staff regarding outcrops of the Basal Chadron Sandstone that are located approximately 12-15 miles north of Crawford.<sup>36</sup> We addressed this potential pathway in paragraphs 6.46 to 6.50 *supra*,<sup>37</sup> noting, among other things, that these outcrops are a significant distance from the White River. For the reasons stated in those paragraphs we do not agree that discharge from the Basal Chadron Sandstone to the White River is likely, or even plausible, at that location.

6.236. Finally, on page 7 of their Proposed Findings, the Intervenor’s state that the NRC does not require testing of the White River itself, so no informed conclusions can be drawn regarding contamination events by the NRC Staff. The Intervenor’s have not pointed to evidence in the record supporting their claim that the White River has been contaminated. In Exhibit NRC-022, the NRC Staff provided water quality data from the South Dakota Department of Environmental and Natural Resources (SD DENR) showing no contamination of the White River near Oglala, South Dakota (on the Pine Ridge Reservation). In addition, the Staff’s EA and SER document the results of its review of on-site surface water testing data showing no significant trends in contaminant levels in streams flowing through the License Area that are tributaries to White River.

C. Contention D

1. Communication Among Aquifers and Confinement of the Mined Aquifer

6.237. On page 8 of their Proposed Findings, the Intervenor’s, referring to Exhibits INT-044 and INT-045, state that “[t]he map drawn up for the Wyoming Fuels Company, the predecessor to CBR, identifies numerous faults in the license area that have neither been explained nor refuted by the Applicant of [sic] NRC Staff.” This statement mischaracterizes the exhibits and Dr. LaGarry’s testimony about them. CBR testified that these maps were water use

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<sup>36</sup> Tr. at 1076 (LaGarry); Tr. at 1081 (Back).

<sup>37</sup> Staff’s PFF at 55-57.

maps that were not created to show geological features such as faults.<sup>38</sup> Dr. LaGarry drew two lines on this map that he stated “are faults that inferred because of the kink in the linear trend portrayed on the map.”<sup>39</sup> However, he did not have access to the License Area to perform any field verification to show that these lines are in fact faults. Contrary to the Intervenor’s statement, these alleged faults were refuted by both the Staff and CBR, who testified that there is no evidence of faults in the area based on multiple lines of evidence, including over 10,000 boreholes and geophysical logs.<sup>40</sup> We therefore find that Exhibits INT-044 and INT-045 do not demonstrate the existence of faults in the CBR License Area.

6.238. On page 8 of their Proposed Findings, the Intervenor’s state that the rate at which water is transmitted vertically in the upper confining unit has not been established. But as shown in Exhibit CBR-061, CBR has determined the vertical hydraulic conductivity of the upper confining layers based on one-dimensional consolidation tests of core samples, and those values are extremely low, averaging  $3.5 \times 10^{-11}$  cm/sec. We therefore find that, contrary to Intervenor’s statement, the rate of vertical transmission in the upper confining unit has been established.

6.239. On pages 8-9 of their Proposed Findings, the Intervenor’s state that the NRC Staff “relies on hypothetical ‘self-healing’ properties of the clay in the upper confining unit to explain the lack of hydraulic connectivity that would otherwise be expected in a region with so many faults and fractures.” The Intervenor’s then state that the Staff refers to “multiple lines of evidence” that show there is no intercommunication between the aquifers to deduce that the ‘self-healing’ clay must be responsible.” These statements mischaracterize the Staff’s testimony. The Staff testified that it has no evidence of faulting within the License Area, and did

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<sup>38</sup> Ex. CBR-045 at 12.

<sup>39</sup> Tr. at 1199 (LaGarry).

<sup>40</sup> Ex. NRC-001-R at 34-35; Ex. CBR-045 at 5, 6, 13.

not rely on “self-healing” clay properties for this statement. One of the lines of evidence the Staff cited to support its conclusion about confinement was the hydrologic properties of the upper confining layers, including their high clay content. Specifically, the Staff stated that the upper confining units at the CBR site contain an abundance of clays, including swelling clays such as montmorillonite and bentonite, and that if a fault or fracture were to occur in the upper confining layers, it would likely “self-heal” due to swelling of the clay.<sup>41</sup> The Staff also stated, in response to questions at the evidentiary hearing, that if fractures or faults were present to the extent that the Intervenors were alleging, self-healing must be occurring because there is no evidence of faults or fractures having an impact on confinement.<sup>42</sup>

6.240. We find nothing in the evidentiary record to support the Intervenors’ statement that the Staff relied on multiple lines of evidence “to deduce that self-healing properties of the clay were responsible for providing confinement.” The Staff did rely on several lines of evidence, discussed in paragraphs 6.58 to 6.76, *supra*,<sup>43</sup> to reach its conclusion about confinement of the mined aquifer at the CBR facility. The hydrological properties of the upper confinement were only one line of evidence. Furthermore, the self-healing ability of the clay in the upper confinement is only one of several physical characteristics of the upper confinement that supports the Staff’s position. Regardless of whether the clays are self-healing, the thickness of the upper confinement over the License Area, the composition of the units (fine-grained siltstones, mudstones, and clays), and the low hydraulic conductivity of the upper confinement<sup>44</sup> support the Staff’s conclusion on confinement.

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<sup>41</sup> Ex. NRC-001-R at 35; Ex. NRC-076-R2 at 39.

<sup>42</sup> See Tr. at 1132-35 (Back).

<sup>43</sup> Staff’s PFF at 59-69.

<sup>44</sup> See Ex. CBR-061.

6.241. The Intervenor's stated on page 12 of their Proposed Findings that "Whether the White River Feature is actually a fault or a fold, it *undoubtedly* contains some fractured rocks that can have high permeabilities" (emphasis added). The Intervenor's cite testimony by their witness, Mr. Wireman, who stated that the feature "is likely to have an effect on the potentiometric surface."<sup>45</sup> The Intervenor's do not explain what that effect would be and how it supports a finding that the White River feature contains fractured rocks with high permeabilities. The Intervenor's also testified that folds often contain "micro faults" or "many folds of different sizes," but did not point to any evidence in the record supporting this interpretation for the White River feature in particular.<sup>46</sup> Neither of these statements, nor any other evidence in the record, leads us to conclude that the White River feature "undoubtedly" contains fractured rocks with high permeabilities.

6.242. The Intervenor's state on page 12 of their Proposed Findings that the steepening of the hydraulic gradient in the Brule described in the SER<sup>47</sup> "is not thoroughly understood nor analyzed in sufficient detail" to rule out causes related to CBR's ISR activities. The Intervenor's refer to a reported increase in gradient from 0.012 (based on 1982-83 data) to 0.025-0.043 (based on 2008-09 data).<sup>48</sup> But, as the Staff explained, the Staff originally calculated gradients based on the small number of data points available from 1982-83 data, and then calculated new gradients based on more extensive data in the LRA from 2008-09.<sup>49</sup> The Staff explained the differences in gradient as "an artifact of having more points available to do the gradient calculation instead of the paucity of points that were available in the 1982 and '83 water level

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<sup>45</sup> Tr. at 2605 (Wireman).

<sup>46</sup> Tr. at 2606-07 (Kreamer).

<sup>47</sup> Ex. NRC-009.

<sup>48</sup> *Id.* at 22-23.

<sup>49</sup> Tr. at 2460-63 (Striz).

measurements,” because more points lead to a more accurate calculation.<sup>50</sup> The Intervenors’ witness, Mr. Wireman, agreed that the number of points available could affect the calculations.<sup>51</sup> Although Mr. Wireman also suggested that “local steepening” of the gradient from a decline in Brule water levels “should at least be entertained” as a possible explanation, the Intervenors did not point to any information in the record to support this assertion. We therefore find that the Staff’s explanation of the gradient difference is reasonable.

## 2. Environmental Justice

6.243. On pages 13-16 of their Proposed Findings, the Intervenors repeat a number of statements from their Joint Position Statement regarding alleged failures of the Staff to evaluate environmental justice (EJ) in the context of cultural resources.<sup>52</sup> However, the EJ portion of Contention D was specifically limited to EJ as it pertains to impacts on drinking water aquifers on the Pine Ridge Reservation, and the Intervenors presented no testimony or exhibits related to EJ in that limited context. Therefore, with the exception of two paragraphs discussed below, the statements in the Intervenors’ Proposed Findings addressing EJ in the context of cultural resources are outside the scope of the EJ portion of Contention D, and we will not consider them further.

6.244. On page 14 of their Proposed Findings, the Intervenors make general assertions related to movement of contaminants from the CBR facility to the Pine Ridge Reservation. First, the Intervenors state that contaminants from the CBR facility “may move along the course of the White River and into the domestic water resources on the Pine Ridge Indian Reservation.” This statement merely restates the Intervenors’ original concern raised in Contention D; it is not a factual finding. The Intervenors also state that “[a]dditional investigation is required to

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<sup>50</sup> *Id.* at 2462, 2464-65 (Striz).

<sup>51</sup> *Id.* at 2463 (Wireman).

<sup>52</sup> See Joint Position Statement at 98-101.

determine whether and the course of contaminant movement from the Crow Butte facility to the Pine Ridge Indian Reservation,” and that “[t]he data utilized by CBR and the NRC Staff were outdated.” These statements by the Intervenor are also general assertions, not specific factual findings. The Intervenor fails to explain how the cited portions of the record support these general statements, or how these general statements constitute facts that are relevant to our consideration of EJ with respect to impacts on drinking water sources at the Pine Ridge Reservation. These general assertions do not persuade us that there are significant impacts to drinking water on the reservation from CBR’s operations, or that such impacts have a disproportionately high and adverse effect on the residents of the Pine Ridge Reservation.

D. Contention F

6.245. On page 21 of their Proposed Findings, the Intervenor cite several statements by Dr. LaGarry regarding differences in the characterization of the Chamberlain Pass Formation and the Basal Chadron Sandstone. These statements cite general differences in chemistry, hydrology, depositional environment, and geological history.<sup>53</sup> But Dr. LaGarry’s statements do not explain how CBR has failed to provide sufficient information on the characteristics of the Basal Chadron Sandstone that are relevant and important to CBR’s operations and the Staff’s evaluation of environmental impacts. The Intervenor also fail to explain how the information that CBR provided, based on site-specific geophysical logs and testing, is inadequate, or why the adoption of the Intervenor’s preferred terminology would have any material effect on the operations or impacts of the CBR facility. We are not persuaded that, for the purposes of the Staff’s review of this license renewal application, the difference between the Chamberlain Pass Formation and the Basal Chadron Sandstone aquifer amounts to anything more than a dispute over nomenclature.

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<sup>53</sup> Tr. at 1054-55, 1059, 2471 (LaGarry).

E. Contention 1

6.246. On page 24 of their Proposed Findings, the Intervenors assert that “12 of the 18 sites listed in the Bozell study as potentially needing protection, including a potential burial site, were excluded without explanation from the historic resources project resources map in or near the Crow Butte license renewal area and . . . require further investigation.” The Intervenors cite Dr. Redmond’s testimony in the closed session we held on August 24, 2015.<sup>54</sup> On August 28, 2015, we held a second closed session in which Dr. Nickens, the NRC Staff’s cultural resources expert, testified regarding his efforts to investigate the site and why he was unable to substantiate it as a potential burial site.<sup>55</sup> We are satisfied that Dr. Nickens’ testimony demonstrates a hard look at these potential sites.

6.247. On page 24 of their Proposed Findings, the Intervenors assert that “[a]dequate subsurface testing for possible historic or cultural resources or properties was not conducted within or near the Crow Butte license renewal area.” But subsurface testing would be of limited use for the CBR license renewal area – because mining activities are nearing completion, no significant construction or other ground-disturbing activities are expected.<sup>56</sup>

6.248. On page 24 of their Proposed Findings, citing a letter from Dr. Redmond,<sup>57</sup> the Intervenors assert that “[t]he name and credentials of the person supervising the ‘class III’ survey have not been provided as necessary . . . .” It is unclear to us why the Intervenors make this claim, as those individuals are clearly listed on the 1987 survey report.<sup>58</sup> Furthermore, Dr.

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<sup>54</sup> *Id.* at 997-98, 1000-03 (Redmond) (nonpublic).

<sup>55</sup> Tr. at 2369-72 (Nickens) (nonpublic).

<sup>56</sup> *E.g.*, Ex. NRC-076-R2 at 53-54.

<sup>57</sup> Ex. INT-022.

<sup>58</sup> Ex. CBR-027.

Redmond himself testified at the evidentiary hearing that he was not challenging the qualifications of the archeologists involved in the Class III surveys of the license area.<sup>59</sup>

6.249. On page 24 of their Proposed Findings, the Intervenors assert that “[a] proper survey for traditional cultural properties [(TCPs)] must involve the Tribal elders of the Lakota people and their extended families and extended site visits by them.” The Intervenors cite to no statute, regulation, or case with such a standard. In fact, the Advisory Council on Historic Properties (ACHP), the agency charged with implementing the National Historic Preservation Act (NHPA), requires only “a reasonable and good faith effort to identify historic properties,” which may include, “at a minimum,” simply “a review of existing information on historic properties that are located or may be located within the [area of potential effects].”<sup>60</sup>

6.250. On page 28 of their Proposed Findings, the Intervenors assert that “[f]ree, prior, informed consent is required by the OST to the renewal of the activities at the Crow Butte site.” The Intervenors cite no statute, regulation, or case with such a standard. And in fact, the ACHP explicitly rejects this standard, making clear that “a reasonable and good faith identification effort does *not* require . . . [t]he ‘approval’ of a . . . Tribal Historic Preservation Officer, or other consulting party.”<sup>61</sup>

6.251. On page 29 of their Proposed Findings, the Intervenors assert that “[t]he ‘consultation’ process was one involving a single large collective meeting involving the NRC, several tribes and representatives of more than one uranium company (Crow Butte and

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<sup>59</sup> Tr. at 982-83, 988 (Redmond).

<sup>60</sup> *Meeting the “Reasonable and Good Faith” Identification Standard in Section 106 Review (ACHP)* (available at [http://www.achp.gov/docs/reasonable\\_good\\_faith\\_identification.pdf](http://www.achp.gov/docs/reasonable_good_faith_identification.pdf)) (last retrieved December 8, 2015) (ACHP Guidance).

<sup>61</sup> ACHP Guidance at 3 (emphasis in original).

Powertech-Dewey Burdock) in June 2011.” This factual assertion is plainly contradicted by the record<sup>62</sup> and unsupported by the testimony of any witness.

6.252. On pages 29-31 of their Proposed Findings, the Intervenor cite the recent *Powertech*<sup>63</sup> decision and assert that the facts underlying that case and the case before us are “identical.” However, it is plain from the record that the OST was more engaged in the consultation process in *Powertech* than they were for this project. For example, the OST, along with a number of other Tribes, submitted a proposed Statement of Work (SOW) for a potential TCP survey of the Dewey-Burdock license area.<sup>64</sup> Neither the OST nor any other consulting Tribe submitted a SOW for the CBR license renewal in response to the Staff’s requests. The Intervenor also submit evidence that the OST was responsive to communications from the NRC in *Powertech*, as demonstrated by the OST’s March 15, 2013 email withdrawing from participation in a survey of the Dewey-Burdock license area.<sup>65</sup> Here, the Tribe frequently did not respond to consultation communications from the Staff, even to note that they would not be participating in consultation activities.<sup>66</sup> We cannot extend *Powertech*’s ruling to the Staff’s consultation efforts here based simply on the fact that some meetings and communications were common to both projects.

6.253. Two further points distinguish *Powertech* from this proceeding. First, *Powertech* involved the licensing of a new facility, whereas here we are considering a license renewal. The risk of impacts to cultural resources is thus significantly smaller here – not only does CBR have

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<sup>62</sup> *E.g.*, Ex. NRC-038 (detailing multiple meetings, letters, emails, and phone calls throughout the consultation process).

<sup>63</sup> *Powertech USA, Inc.* (Dewey-Burdock In Situ Uranium Recovery Facility), LBP-15-16, 81 NRC 618 (2015).

<sup>64</sup> Ex. BRD-022.

<sup>65</sup> Ex. INT-038.

<sup>66</sup> Ex. NRC-001-R at 64-66.

no plans for construction or other ground-disturbing activities, but CBR has already, for years, effectively practiced avoidance of potential cultural resource sites per the terms of its license.<sup>67</sup> Second, to the extent the Intervenor challenge the level of detail provided in the EA, we note that the environmental review document at issue in *Powertech* was an EIS, which is subject to stricter standards than the EA at issue here.<sup>68</sup>

6.254. On page 32 of their Proposed Findings, the Intervenor assert that the Staff “refused to accept, or fund, the TCP survey design protocol proposed by the tribes as to their own cultural resources . . . .” The Intervenor appear to be referencing the SOW submitted for the project at issue in *Powertech*<sup>69</sup> and cite in support portions of the hearing transcript in that proceeding discussing the SOW,<sup>70</sup> as well as a March 15, 2013 email from the OST to the Staff withdrawing from participation in the planned TCP survey.<sup>71</sup> No SOW was submitted by or on behalf of the Tribes for the project at issue here.

6.255. Finally, on pages 33-35 of their Proposed Findings, the Intervenor invoke the United Nations Declaration of the Rights of Indigenous Peoples (UN DRIP) and the International Labour Organisation (ILO) Convention 169, two international agreements that describe consultation obligations beyond those required under the NHPA. However, neither of these international agreements has any binding effect on the United States or its agencies. With respect to the United Nations Declaration of the Rights of Indigenous Peoples (UN DRIP), the U.S. Department of State has clarified that this declaration is “not legally binding or a statement

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<sup>67</sup> Ex. NRC-012 at 6.

<sup>68</sup> See 10 C.F.R. § 51.30(a) (requiring only that an EA include (1) a “brief discussion” of the need for the proposed action, reasonable alternatives, and environmental impacts of the proposed action and alternatives “as appropriate,” and (2) a list of consulted parties and other sources).

<sup>69</sup> Ex. BRD-022.

<sup>70</sup> Ex. INT-027.

<sup>71</sup> Ex. INT-038. The Intervenor also cite pages 2101-16 of the hearing transcript in this proceeding; however, those pages do not appear to be relevant to the Intervenor’s assertion.

of international law . . . .”<sup>72</sup> Furthermore, the United Nations itself states that the declaration is not legally binding on any nation.<sup>73</sup> In fact, in the United Nations General Assembly, “[a]side from budgetary matters, resolutions are non-binding on member states.”<sup>74</sup> With respect to the International Labour Organisation (ILO) Convention 169, the United States has not ratified that convention.<sup>75</sup> By its own terms, ILO Convention 160 “shall be binding only upon those Members of the International Labour Organisation whose ratifications have been registered with the Director-General.”<sup>76</sup>

F. Contention 6

6.256. On page 36 of their Proposed Findings, the Intervenors assert that the Staff accepted CBR’s “model-based pore volume estimate despite it being less than 1/3 of the pore volumes actually used in the mine units restored or nearing the end of restoration.” The Intervenors further assert that the Staff “indicated that there is no limit to the number of pore volumes that [CBR] could use in restoring the various mine units.”<sup>77</sup> But the Intervenors’ contention challenges the EA’s conclusion concerning short-term water quantity *impacts* from

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<sup>72</sup> U.S. Department of State, “UN Declaration on the Rights of Indigenous Peoples Review” (available at [www.state.gov/s/tribalconsultation/declaration](http://www.state.gov/s/tribalconsultation/declaration)) (last retrieved Dec. 8, 2015).

<sup>73</sup> United Nations, “Declaration on the Rights of Indigenous Peoples FAQ” (available at [www.un.org/esa/socdev/unpfii/documents/faq\\_drips\\_en.pdf](http://www.un.org/esa/socdev/unpfii/documents/faq_drips_en.pdf)) (last retrieved Dec. 8, 2015) (“UN Declarations are not legally binding . . . [t]he Declaration . . . is widely viewed as not creating new rights.”).

<sup>74</sup> United Nations Foundation, “What We Do: The General Assembly” (available at [www.unfoundation.org/what-we-do/issues/united-nations/the-general-assembly.html](http://www.unfoundation.org/what-we-do/issues/united-nations/the-general-assembly.html)) (last retrieved Dec. 8, 2015).

<sup>75</sup> ILO, “Ratifications of C169 – Indigenous and Tribal Peoples Convention, 1989” (available at [www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11300:0::NO:11300:P11300\\_INSTRUMENT\\_ID:312314:NO](http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11300:0::NO:11300:P11300_INSTRUMENT_ID:312314:NO)) (last retrieved Dec. 8, 2015); see also ILO, “Up-to-date Conventions not ratified by United States” (available at [www.ilo.org/dyn/normlex/en/f?p=1000:11210:0::NO:11210:P11210\\_COUNTRY\\_ID:102871](http://www.ilo.org/dyn/normlex/en/f?p=1000:11210:0::NO:11210:P11210_COUNTRY_ID:102871)) (last retrieved Dec. 8, 2015).

<sup>76</sup> ILO Convention 169, Article 38.1 (available at [www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100\\_ILO\\_CODE:C169#A38](http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_ILO_CODE:C169#A38)) (last retrieved Dec. 8, 2015).

<sup>77</sup> *Id.*

consumptive use, not the total volume of water used in restoration activities.<sup>78</sup> As has been explained, the consumptive use rate, not the total number of pore volumes, is the more important factor in determining water quantity impacts.<sup>79</sup>

6.257. On pages 36-37 of their Proposed Findings, the Intervenor assert that groundwater transfer, one of the available restoration steps described in the EA,<sup>80</sup> will not be used by CBR to restore any remaining mine units. It is true that because no mine units remain on-site that have not been put into production, groundwater transfer – which involves transferring the lixiviant from a mine unit in restoration into another mine unit that has not begun production – will not be used by CBR.<sup>81</sup> But this is of limited relevance to the Intervenor's contention. The Intervenor do not explain why not using groundwater transfer will make it any more likely that consumptive use rates during restoration will rise to the level necessary to drop the head below the top of the confining unit in the Basal Chadron Sandstone aquifer and begin pumping the aquifer at a rate beyond its sustainable yield, thereby destabilizing the resource. In other words, the Intervenor fail to explain why their concern regarding groundwater transfer has anything to do with their contention that the EA should have concluded that short-term water quantity impacts from consumptive use during aquifer restoration are LARGE.

6.258. Finally, on page 37 of their Proposed Findings, the Intervenor state that “[n]o actual water balance is included in the record.” But as the Staff clarified at hearing,<sup>82</sup> the Staff

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<sup>78</sup> *Crow Butte Resources, Inc.* (License Renewal for the In-Situ Leach Facility, Crawford, Nebraska), LBP-15-11, 81 NRC 401, 425-26 (2015) (LBP-15-11).

<sup>79</sup> Tr. at 1404 (Back) (“the number of pore volumes really doesn’t come into play since those pumping rates would be sustainable indefinitely . . . . It’s really a function of the pumping rate rather than the number of pore volumes with respect to the consumptive use impacts.”).

<sup>80</sup> Ex. NRC-010 at 82.

<sup>81</sup> Tr. at 1779 (Teahon).

<sup>82</sup> *Id.* at 1391 (Striz).

presented its water balance in Section 3.1.3.5.4 of the SER, which is an exhibit in this proceeding.<sup>83</sup>

G. Contention 9

6.259. On page 37 of their Proposed Findings, the Intervenors assert again that groundwater transfer will not be used by CBR to restore any remaining mine units. But the Intervenors again fail to show why this has any material effect on the EA's analysis. In our March 16, 2015 order admitting and narrowing this contention, we described the Intervenors' argument as asserting "that while the EA discusses 'four activities' for groundwater 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>84</sup> We noted that the EA's discussion of mitigative measures "should be reasonably complete . . . . [to] properly evaluate the severity of the adverse effects."<sup>85</sup> Regardless of the steps used, CBR must restore groundwater quality to the standards in 10 C.F.R. Part 40, Appendix A, Criterion 5B(5), which require restoration of constituents to (1) background levels, (2) maximum contaminant levels (for certain constituents), or (3) an approved alternate concentration limit (ACL). This is plainly explained in the EA.<sup>86</sup> Intervenors do not explain why the use of groundwater transfer, as opposed to the other methods of restoration identified for the project, would be necessary to achieve restoration to one of the three standards established in the Commission's regulations.

6.260. On page 37 of their Proposed Findings, the Intervenors assert that "[n]o information is presented that describes the presumptions in [CBR's] Model Based Restoration

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<sup>83</sup> Ex. NRC-009 at 51.

<sup>84</sup> LBP-15-11, 81 NRC at 430-31 (citing Consolidated Intervenors' Combined Reply to NRC Staff and Applicant's Responses to Newly Filed EA Contentions at 14 (Feb. 6, 2015)).

<sup>85</sup> *Id.* at 431 (quoting *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352 (1989)) (brackets in original).

<sup>86</sup> Ex. NRC-010 at 82.

Plan [(MBRP)] that projected only 4-6 pore volumes to restore the remaining mine units.” It is unclear to us why the Intervenor make such a claim, as the MBRP has been available to the Intervenor since the parties’ April 2015 hearing file updates and was submitted as an exhibit in this proceeding.<sup>87</sup> To the extent that the Intervenor argue that the detailed information in the MBRP should have been listed in the EA, we are mindful that an EA “is not intended to be ‘a research document’”<sup>88</sup> and need not include “every conceivable aspect” of a proposed project.”<sup>89</sup> Consequently, we do not find such detailed information is required to satisfy the Staff’s obligations under NEPA.

6.261. Finally, on page 37 of their Proposed Findings, the Intervenor assert that “[b]ased on the MBRP, [CBR] is likely to request ACLs earlier than with previous mine unit restorations.” First, that the efficiencies gained through the MBRP would inform CBR, if necessary, that further efforts to restore constituents to baseline would be futile is a feature, not a bug, of the MBRP. It is unclear to us why, if restoration to baseline is in fact impracticable, approval of an ACL earlier rather than later would have any adverse environmental impact. Second, the Intervenor fail to explain why the NRC’s approval of an ACL would pose a significant environmental hazard. Any ACL would have to meet 10 C.F.R. Part 40, Appendix A, Criterion 5B(6), which requires that an ACL “present no significant hazard” and represent limits that “are as low as reasonably achievable.” Therefore, to the extent that the Intervenor dispute that restoration to ACLs would effectively mitigate groundwater quality impacts, they impermissibly attack NRC regulations. As we have made clear, “NRC regulations explicitly

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<sup>87</sup> Ex. CBR-041. The MBRP describes in full the bases for reaching the 4-6 pore volume projection for restoration of the remaining mine units.

<sup>88</sup> *Entergy Nuclear Generation Co. (Pilgrim Nuclear Power Station)*, CLI-10-22, 72 NRC 202, 208 (2010) (citing *Town of Winthrop v. FAA*, 533 F.3d 1, 13 (1st Cir. 2008)).

<sup>89</sup> *Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation)*, CLI-02-25, 56 NRC 340 (2002).

allow the use of ACLs”; therefore, “[t]o the extent Intervenors challenge the use of an ACL, this is an impermissible challenge to an NRC regulation.”<sup>90</sup>

H. Contention 12

6.262. On page 38 of their Proposed Findings, the Intervenors assert that the Staff did not include a discussion of tornado impacts in the EA “because it asserted that no mitigative practices for tornadoes exist, despite contrary message in [NUREG/CR-6733].” This claim is, in isolation, an inaccurate portrayal of the Staff’s position. It is true that the Staff testified that, unlike measures available to mitigate the impacts of wind, mitigative measures relating to the impacts of tornadoes are not used.<sup>91</sup> However, this statement was intended to explain in part why the Staff determined a description of wind events, but not tornadoes, was warranted; it is clear that the Staff did not intend this as the sole basis for its decision not to incorporate tornadoes into its assessment of environmental effects.<sup>92</sup> The Staff’s comprehensive testimony on this issue indicates that it based its decision not to specifically discuss tornadoes in the EA on a number of considerations, including information in the SER, NUREG/CR-6733, NUREG-1748, the ISR GEIS, and the LRA.<sup>93</sup>

6.263. On page 38 of their Proposed Findings, the Intervenors also assert that the Staff copied information containing a transcription error from the LRA to the EA. The Staff acknowledged that it appears to have been the case that information on air quality in the Black

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<sup>90</sup> LBP-15-11, 81 NRC at 434 (citing 10 C.F.R. § 2.335(a) (“No rule or regulation of the Commission . . . is subject to attack . . . in any adjudicatory proceeding subject to this part.”)).

<sup>91</sup> See Ex. NRC-001-R at 97-98.

<sup>92</sup> See *id.* at 96-98. The Staff also explained that the EA discusses wind events and not tornadoes in part because “wind is a more pervasive meteorological feature at the Crow Butte site, and is commensurately more likely to present an identifiable environmental impact at the site than wind associated with a tornado.” Ex. NRC-001-R at 97.

<sup>93</sup> Tr. at 2002-03 (Goodman).

Hills was mislabeled as the Badlands in the LRA, and this error was carried over into the EA.<sup>94</sup> However, it is not apparent how such an error materially affects the Staff's analysis or conclusions in the EA. The Staff testified that its characterization in the EA of the locations from which the air quality information was drawn – as geographically similar to the licensed area – remained accurate.<sup>95</sup> Further, given that the information in question relates to ambient air quality, rather than to tornadoes, we are not inclined to view such an error as indicative of a failure to take a “hard look” at the impacts of tornadoes on the license renewal area.

6.264. On page 38 of their Proposed Findings, the Intervenors allege that the Staff “accepted, without analysis or review,” the tornado probability assessment provided in the LRA. The Staff testified, however, that while the LRA is a source of information for the EA, the Staff used that information to form its own, independent conclusions.<sup>96</sup> The Intervenors have not explained how the use of data and information from the LRA to support the Staff's environmental and safety reviews amounts to a violation of the requirements of NEPA. Moreover, as the Staff has consistently testified that even a revision to the probability of a tornado strike to nearly twice that identified in the LRA and the SER would not cause the Staff to add a tornado-related impacts assessment to the EA,<sup>97</sup> we are not persuaded that the Staff's acceptance of CBR's calculation is a deficiency in the Staff's environmental review of CBR's license renewal application.

6.265. Although we address here certain claims raised by the Intervenors in their Proposed Findings concerning tornadoes, we note that the Intervenors raised none of these concerns at any previous stage of this proceeding. Indeed, the Intervenors provided no specific

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<sup>94</sup> *Id.* at 1956-61 (Goodman).

<sup>95</sup> *Id.* at 1960 (Goodman).

<sup>96</sup> *Id.* at 1951 (Goodman).

<sup>97</sup> *Id.* at 1998, 2002-03 (Goodman).

information or expert testimony to support their assertion that the EA is legally deficient for lacking such a discussion. Arguments that an intervenor fails to adequately develop are treated as waived.<sup>98</sup> We also treat as waived arguments or legal theories raised for the first time in a reply brief.<sup>99</sup> As both conditions are true in this case, we consider the Intervenors' arguments regarding the discussion of tornadoes in the EA to be waived.

I. Contention 14

6.266. On page 39 of their Proposed Findings, the Intervenors point to Dr. LaGarry's testimony about the disappearance of Chadron Creek in 2007 and its possible link to seismic activity in the region.<sup>100</sup> We addressed this issue in paragraph 6.223, *supra*,<sup>101</sup> noting that Dr. LaGarry acknowledged "the exact cause of the disappearance is still under investigation," and that he did not identify a seismic event associated with the disappearance of the creek. Chadron Creek is also located near Chadron, Nebraska, which is 20 miles from the CBR License Area. We therefore find that Dr. LaGarry's statement regarding Chadron Creek does not support the Intervenors' claim that seismic activity is affecting CBR's operations.

6.267. On page 39 of their Proposed Findings, the Intervenors also state that Dr. LaGarry testified that "one method to monitor the impacts of seismic activity in the vicinity of the CBR facility is to map the lineaments visible within the license area and to check for any changes after the occurrence of an earthquake." Dr. LaGarry, however, discussed locating and

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<sup>98</sup> *Hydro Resources, Inc.*, LBP-06-19, 64 NRC 53, 76 n.21 (2006) (citing *Hydro Resources, Inc.*, LBP-05-7, 62 NRC 77, 98 n.14 (2005); *Williams v. Eastside Lumberyard and Supply Co.*, 190 F. Supp. 2d 1104, 1114 (S.D. Ill. 2001); *Carolina Power & Light Co. (Shearon Harris Nuclear Power Plant)*, ALAB-843, 24 NRC 200, 204 (1986)).

<sup>99</sup> *Louisiana Energy Services, L.P. (National Enrichment Facility)*, CLI-04-25, 60 NRC 223, 225 (2004) ("[I]n Commission practice, and in litigation practice generally, new arguments may not be raised for the first time in a reply brief").

<sup>100</sup> Intervenors' PFF at 39 (citing Tr. at 1666 (LaGarry)).

<sup>101</sup> Staff's PFF at 130.

monitoring faults and joints, not mapping lineaments.<sup>102</sup> Dr. LaGarry also stated that to monitor faults and joints as he proposed would be a “herculean task and perhaps an impossible one.”<sup>103</sup> And, in any event, this statement does not persuade us that impacts from seismic activity are likely to occur, or that CBR would not be able to detect such impacts in the context of normal operations.

6.268. Finally, on page 39 of their Proposed Findings, the Intervenors stated that “NRC Staff testified that earthquakes in Wyoming and South Dakota were considered, but there is no evidential [sic] support in the record.” The Staff testified that it did not discuss earthquakes in Wyoming and South Dakota in the EA, but explained in its testimony why doing so would not have changed the discussion of seismology in Section 3.4.3 of the EA. Contrary to the Intervenors’ statement regarding lack of evidentiary support in the record, the Staff provided Exhibit NRC-066, along with testimony, to support its position.<sup>104</sup> For these reasons, the Intervenors’ statement does not affect our finding on this issue, as discussed in paragraphs 6.213 to 6.218, *supra*.<sup>105</sup>

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<sup>102</sup> Tr. at 1667-68 (LaGarry).

<sup>103</sup> *Id.* at 1668 (LaGarry).

<sup>104</sup> Ex. NRC-001-R at 108-09.

<sup>105</sup> Staff’s PFF at 126-128.

IV. CONCLUSIONS OF LAW

7.12. For the reasons stated above and in the Staff's Proposed Findings of Fact and Conclusions of Law, the Board affirms that the EA complies with the requirements of applicable law, and the Board hereby resolves Contentions A, C, D, F, 1, 6, 9, 12, and 14 in favor of the Staff and CBR.

Respectfully submitted,

**/Signed (electronically) by/**

Marcia J. Simon  
David M. Cylkowski  
Emily Monteith  
Counsel for the NRC Staff

Dated at Rockville, Maryland  
This 11th day of December, 2015.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
CROW BUTTE RESOURCES, INC.	)	Docket No. 40-8943
	)	
(License Renewal for the In Situ Leach	)	ASLBP No. 08-867-02-OLA-BD01
Facility, Crawford, Nebraska)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing "NRC STAFF'S REPLY FINDINGS OF FACT AND CONCLUSIONS OF LAW" in the above-captioned proceeding have been served this 11th day of December, 2015, via the Electronic Information Exchange (EIE), and via e-mail to David Frankel and Thomas Ballanco, counsels for Consolidated Intervenor, which to the best of my knowledge resulted in transmittal of the foregoing to those on the EIE Service List for the above captioned proceeding.

**Signed (electronically) by**

Marcia J. Simon  
Counsel for the NRC Staff  
U.S. Nuclear Regulatory Commission  
Mail Stop O-15 D21  
Washington, DC 20555-0001  
(301) 415-1261  
[marcia.simon@nrc.gov](mailto:marcia.simon@nrc.gov)