

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
BEFORE THE COMMISSION

|   |   |                          |
|---|---|--------------------------|
| In the Matter of:                           | ) |                          |
|   | ) |                          |
| INTERIM STORAGE PARTNERS LLC                | ) | Docket No. 72-1050-ISFSI |
|   | ) |                          |
| (WCS Consolidated Interim Storage Facility) | ) |                          |

**FASKEN AND PBLRO'S BRIEF ON APPEAL OF LBP-19-07**

Timothy J. Laughlin  
6721 W. 146<sup>th</sup> Ter., Ste. 5201  
Overland Park, KS 66223  
(785) 338-0604  
tijay1300@gmail.com  
Attorney for Petitioners

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**FASKEN AND PBLRO’S BRIEF ON APPEAL OF LBP-19-07**

**I. INTRODUCTION**

Pursuant to 10 C.F.R. § 2.311(c), Fasken Land and Minerals, Ltd. (Fasken) and Permian Basin Land and Royalty Owners (PBLRO) (hereinafter “Petitioners”) hereby submit this appeal challenging the Memorandum and Order<sup>1</sup> by the Atomic Safety and Licensing Board (“ASLB” or “Board”) denying admission of Petitioners’ contentions in this proceeding. Petitioners specifically appeal the denial of admissibility for Contentions 2, 3, and 4, as summarized below:

- Contention 2: ISP’s SAR fails to provide adequate data regarding active and abandoned oil and gas wells and borings on and near the WCS site, contrary to the requirements of 10 C.F.R. 72.103.<sup>2</sup>
- Contention 3: The Applicant’s Emergency Response Plan (ERP) fails to address how it will protect the facility from credible fire and explosion events, including those that are caused by aircraft crashes.<sup>3</sup>
- Contention 4: ISP has failed to adequately discuss and evaluate the impact that the proposed site will have on the environment and has also failed to include adverse information specifically relating to the presence of groundwater below the proposed site and the potential for contamination of this groundwater.<sup>4</sup>

**II. FACTUAL AND PROCEDURAL BACKGROUND**

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<sup>1</sup> *Interim Storage Partners* (WCS Consolidated Interim Storage Facility), LBP-19-07, \_ N.R.C.\_ (August 23, 2019) (hereinafter “ASLB Decision”).

<sup>2</sup> Petition of [Petitioners] for Intervention and Request for Hearing at 15 (Oct. 29, 2018) (ADAMS Accession No. ML18302A412) (hereinafter “Petition”).

<sup>3</sup> Petition at 18.

<sup>4</sup> Petition at 26.

Fasken Land and Minerals is an oil, gas, ranching and real estate development company that engages in oil and gas exploration and production activities in the Permian Basin. PBLRO is a coalition formed in response and in opposition to the proposed consolidated interim storage facilities (“CISF”) in Andrews County, Texas and Lea County, New Mexico. Fasken is a member of the PBLRO. Both the PBLRO and Fasken, individually, have long-term economic, social, and environmental interests in the Permian Basin. PBLRO’s purpose is to advocate on behalf of oil and gas operators, ranchers and land and royalty owners who have substantial economic interests that are jeopardized by the proposed CISFs.

After having suspended their CISF application as Waste Control Specialists (“WCS”) and restructuring as the newly formed Interim Storage Partners (“ISP”), on August 29, 2018, ISP restarted its license application to the NRC in order to construct and operate a CISF in Andrews County, Texas.<sup>5</sup> The Federal Register notice allowed the public to request a hearing and petition to intervene by October 29, 2018.<sup>6</sup> The Secretary of the Commission (“SECY”) then extended the deadline to November 13, 2018.<sup>7</sup> On September 28, 2018, Petitioners filed a motion to dismiss the proceeding based on its illegality under the Nuclear Waste Policy Act (“NWPA”) and the Administrative Procedure Act (“APA”) which prohibit the U.S. Department of Energy (“DOE”) from taking title to high-level waste or spent fuel as is proposed and which would be transported to and stored at the proposed CISF facility.<sup>8</sup> On October 29, 2018, Petitioners filed a

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<sup>5</sup> Interim Storage Partners Waste Control Specialists Consolidated Interim Storage Facility, 83 Fed. Reg. 44,070, 44,070-75 (Aug. 29, 2018).

<sup>6</sup> 83 Fed. Reg. 44,680 (Aug. 31, 2018) (correcting the deadline date for petitioners to request a hearing to October 29, 2018).

<sup>7</sup> Order of the Secretary at 2 (Oct. 25, 2018).

<sup>8</sup> Motion of [Petitioners] to Dismiss Licensing Proceedings for Hi-Store Consolidated Interim Storage Facility and WCS Consolidated Interim Storage Facility at 1 (Sept. 28, 2018) (ADAMS Accession No. ML18271A244).

Petition to Intervene and Request for a Hearing.<sup>9</sup> On that same day, the SECY denied Petitioners' motion to dismiss and referred it to the Board to be considered under the NRC's contention admissibility standards in 10 C.F.R. § 2.309.<sup>10</sup>

On November 20, 2018, ISP filed answers opposing Petitioners' motion to dismiss as referred to the Board and also Petitioners' petition to intervene and request for a hearing.<sup>11</sup> On November 23, the NRC Staff ("Staff") filed their own answers to Petitioners' motion to dismiss as referred to the Board and to the petition to intervene and request for a hearing.<sup>12</sup> Petitioners then filed separate replies to each of ISP's and Staff's answers to the petition to intervene and request for a hearing on November 28 and 30, 2018, respectively.<sup>13</sup> On November 30, Petitioners filed a single reply to ISP and Staff's answers to Petitioners' motion to dismiss and request for a hearing that had been referred to the Board.<sup>14</sup> On December 10, 2018, ISP moved to strike portions of Petitioner's reply concerning standing in Petitioners' referred motion to dismiss, as well as portions of Petitioners' replies to ISP and Staff concerning all of Petitioners' contentions.<sup>15</sup> Petitioners opposed.<sup>16</sup>

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<sup>9</sup> See generally, Petition.

<sup>10</sup> Order of the Secretary, In the Matters of Holtec International (HI-STORE [CISF]) Docket 72-1051; Interim Storage Partners LLC (WCS [CISF]) Docket 72-1050 at 2-3 (Oct. 29, 2018) (hereinafter Order Denying Motions to Dismiss).

<sup>11</sup> [ISP's] Answer Opposing [Petitioner's] Motion to Dismiss as Referred to the ASLBP for Consideration Under 10 C.F.R. § 2.309 (Nov. 20, 2018); [ISP's] Answer Opposing Hearing Request and Petition to Intervene Filed by [Petitioners] (Nov. 20, 2018) (hereinafter ISP Answer to Petitioners).

<sup>12</sup> NRC Staff's Response to Petitions to Intervene and Requests for Hearing Filed by [Petitioners] (Nov. 23, 2018) (hereinafter Staff Answer to Petitioners).

<sup>13</sup> [Petitioner's] Reply to ISP's Opposition to Hearing Request and Petition to Intervene (Nov. 28, 2018); [Petitioner's] Reply to NRC Staff's Opposition to Hearing Request and Petition to Intervene (Nov. 30, 2018).

<sup>14</sup> Reply of [Petitioners] to [ISP's] and Staff's Oppositions to Motion to Dismiss (Nov. 30, 2018).

<sup>15</sup> [ISP's] motion to Strike Portions of the Replies Filed by [Petitioners] (Dec. 10, 2018).

<sup>16</sup> [Petitioner's] Opposition to [ISP's] Motion to Strike (Dec. 17, 2018).

The Board heard oral arguments concerning standing and contention admissibility on July 10 and 11, 2019 in Midland, Texas. The Board concluded that both Fasken and PBLRO demonstrated standing.<sup>17</sup> However, the Board held that all five of Petitioners' proffered contentions were inadmissible.<sup>18</sup> In addition, the Board denied ISP's motions to strike portions of Petitioners' replies on standing and on Contentions 1, 2, 3, and 4.<sup>19</sup>

### **III. ARGUMENT**

Contention admissibility standards "insist upon some 'reasonably specific factual and legal basis' for the contention."<sup>20</sup> At the admissibility stage, petitioners need not prove their case, but only need to "articulate at the outset the specific issues they wish to litigate." *Id.* Threshold admissibility requirements should not be made into a "fortress to deny intervention."<sup>21</sup> As long as a contention is not supported by "mere[] conclusory statements and vague allegations,"<sup>22</sup> then said contentions will be deemed admissible if they satisfy the standards set out in 10 C.F.R. § 2.309(f)(1).

#### **A. Contention 2: (Oil and Gas)**

Petitioners' Contention 2 demonstrated that ISP failed to analyze and otherwise omitted the presence of unstable geological characteristics associated with older abandoned and orphaned oil and gas wells within the region surrounding the WCS Site ("Site").

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<sup>17</sup> ASLB Decision at 20.

<sup>18</sup> ASLB Decision at 106.

<sup>19</sup> *Id.*

<sup>20</sup> *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 & 3), CLI-01-24, 54 N.R.C. 349, 359 (2001).

<sup>21</sup> *Power of Authority of the State of New York, et al.* (James A. FitzPatrick Nuclear Power Plant; Indian Point Nuclear Generating Unit 3), CLI-00-22, 52 N.R.C. 266, 295 (2000).

<sup>22</sup> *Northeast Nuclear Energy Co.*, 53 N.R.C. 22, 27 (2001).



Pursuant to 10 C.F.R. § 72.103(a)(1), applicants are required to show that based on an onsite foundation and geological investigation, literature review, and regional geological reconnaissance, there will be no unstable geological characteristics, soil stability problems, or potential for vibratory ground motion at the site. Applicants may only satisfy this requirement upon showing an absence of *all* three unstable characteristics.

Petitioners presented evidence that there are over 4,500 wells within a 10-mile radius of the Site.<sup>23</sup> More specifically, there are 160 abandoned wells that were drilled before 1967 within a five-mile radius of the site.<sup>24</sup> Until these wells are investigated for their integrity, they must be classified as unstable geological characteristics. This is because wells drilled before 1967 were subject to less stringent plugging standards and minimal regulatory oversight or scrutiny.<sup>25</sup> These abandoned wells are known in the oil industry for often being improperly plugged which makes them more susceptible to experiencing casing integrity issues.<sup>26</sup> Wells with integrity issues may experience “cas[ing] collapse” which can directly impact the integrity of the surface.<sup>27</sup>

Petitioners also criticized ISP for failing to determine whether there was a presence of orphaned wells within the region surrounding the Site and, if present, whether they were improperly plugged and could potentially impact the suitability of the Site.<sup>28</sup> The potential for orphaned wells is a more serious problem than abandoned wells because “no data is available for

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<sup>23</sup> See Petition at 16; See also, ASLB Hearing Tr. at 324 (July 11, 2019) (Petitioners adjusted well count number from 4,947 to 4,579).

<sup>24</sup> ASLB Hearing Tr. at 326.

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*; Petition at 17.

<sup>27</sup> ASLB Hearing Tr. at 334.

<sup>28</sup> According to the Texas Railroad Commission, there are over 10,000 orphan wells in Texas. See Petition, Declaration of Aaron Pachlhofer at 7 (hereinafter “Pachlhofer Dec.”).

orphaned wells.”<sup>29</sup> Since orphan well data is not publically available, it is very difficult, but not impossible, to find these wells and inspect them for integrity issues.

Because abandoned wells, orphaned wells, and wells drilled before the 1967 implementation of plugging standards all pose the threat of being improperly plugged and susceptible to casing integrity issues, it is both prudent and reasonable to classify these wells as unstable geological characteristics. Thus, ISP must investigate the region for abandoned and orphaned wells to determine whether they impact the suitability of the Site before the NRC may grant ISP a license.<sup>30</sup>

**i. Petitioners cited relevant sections of ISP’s application and adequately challenged ISP’s failed attempt to search the region for unstable geological characteristics.**

The Board denied Contention 2 on the alleged grounds that Petitioners “ignore[d] portions of ISP’s application that concern compliance with section 72.103, and d[id] not identify a requirement for additional discussion of the well bores within a 10-mile radius of the proposed site.”<sup>31</sup> Specifically, the Board claimed that Petitioners failed to challenge SAR Sections 2.1, 2.6, 2.6.1-6, and Attachments D and E.<sup>32</sup>

While Petitioners did not challenge nearly every section cited by the Board, Petitioners did challenge Section 2.1 of ISP’s SAR by criticizing its inadequate description of past and present oil and gas activity within the region of the Site.<sup>33</sup> And, while Petitioners did not

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<sup>29</sup> *Id.*

<sup>30</sup> Applicants should identify industrial activity occurring “within an 8-km (5-mi) radius” of the proposed site. *See* NUREG-1567 Sec. 2.4.2; *See also*, ASLB Hearing Tr. at 329 (“...in fact, the NUREGs indicate that a region is typically five miles.”).

<sup>31</sup> ASLB Decision at 97.

<sup>32</sup> *Id.* at 98 n. 544.

<sup>33</sup> Petition at 17 n. 27 (citing SAR [Sec. 2.1] p. 2-2 “Aside from a few statements indicating that ‘drilling for and production from oil and gas wells’ were land uses within a few miles of the

challenge any of the other sections cited by the Board, in each unchallenged section, ISP fails to acknowledge the very real potential for improperly-plugged abandoned and orphaned wells within the region of the Site which amount to *unstable geological characteristics* due to their susceptibility to gurgling, leaking and migrating of fluids, surface sinking and collapse. Listed below are the only sections cited by the Board that refer to oil and gas in any way, but of which, ultimately fail to discuss orphaned or abandoned oil and gas wells:

- Section 2.6.2 (discusses induced seismicity in relation to active hydrocarbon production in the region);<sup>34</sup>
- Section 2.6.3 (mentions using oil and gas well logs to identify two regional stratigraphic cross sections);<sup>35</sup> and
- Attachment D<sup>36</sup> (considers presence of induced seismicity from horizontal drilling).

Even if Petitioners did not seek SUNSI access to Attachment D as pointed out by the Board,<sup>37</sup> the analysis of the Attachment is limited to the potential for vibratory ground motion resulting from induced seismicity.<sup>38</sup> Potential for vibratory ground motion is only one of three characteristics that 10 C.F.R. § 72.103(a)(1) requires applicants to identify and analyze. ISP must also satisfy Section 72.103's requirement that there will be an absence of soil stability problems and of unstable geological characteristics in the region that may affect the Site's suitability. ISP

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WCS CISF, ISP's SAR fails to admit the presence of nearly 5,000 wells located within 10 miles of the site.")

<sup>34</sup> SAR Sec. 2.6.2 ("Some occurrences of induced seismicity have also proven to be spatially correlated to active hydrocarbon production in the region" ... "background seismicity, even that associated with petroleum recovery activities...").

<sup>35</sup> SAR Sec. 2.6.3 ("Two regional stratigraphic cross section constructed in the vicinity of the WCS CISF using oil and gas well logs are shown as Figure 2-11 and Figure 2-12.").

<sup>36</sup> ASLB Hearing Tr. at 332 ("...the application thoroughly considers induced seismicity from petroleum recovery operations. It's in Attachment D to Chapter 2 to the SAR.").

<sup>37</sup> ASLB Decision at 99.

<sup>38</sup> Neither Holtec nor Staff rebutted Petitioners' conclusion that Attachment D failed to investigate anything more than "...induced seismicity from horizontal drilling..." If Attachment D did investigate more than induced seismicity, ISP "failed to mention that in their response." See ASLB Hearing Tr. at 332-334.

fails to do this. Therefore, failure to seek SUNSI access to Attachment D is a non-issue and does not negate the fact that ISP has not met the mandatory burden of 10 C.F.R. § 72.103.

The Board also argues that Petitioners ignored a relevant discussion in ISP’s application that the “absence of oil wells *on site* supports the absence of favorable conditions for oil production.”<sup>39</sup> Petitioners did not cite this specific portion of ISP’s application because its discussion is not relevant to ISP’s ability to adequately satisfy the requirements of Section 72.103 nor is it relevant to Petitioners’ main argument. To be clear, the issue raised by Petitioners is not whether conditions at the Site are favorable to oil production, but whether activity that *had once been present* has created a modern-day characteristic best described as unstable geology in and about the Site.

Not only has ISP failed to investigate whether any of the 160 abandoned wells drilled before 1967 have integrity issues that could negatively impact the Site’s suitability, but they have also neglected to investigate whether orphan wells exist beneath or near the Site. Counsel for ISP suggested that “...if during the construction of the facility an orphan well was discovered, ISP would have an obligation under existing Part 72 regulations to take appropriate action.”<sup>40</sup> This is not an option because “[a] license cannot be issued until the Applicant properly investigates unstable geological characteristics as required by [Section] 72.103.”<sup>41</sup> To allow otherwise “would run in the face of [Section 72.103] requirements.”<sup>42</sup>

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<sup>39</sup> ASLB Decision at 98 (citing ISP Application at 12-2) (emphasis added).

<sup>40</sup> ASLB Hearing Tr. at 331; *See also*, “Enclosure 3” of Letter from Timothy P. Mathews, Counsel for [ISP], to Licensing Board at 1 (June 3, 2019) (hereinafter “ISP Letter to Board”) (ISP’s response to RAI 2.2-2 indicates that if “orphan wells are discovered during the construction process, these will be properly assessed and remediated using proper plugging and abandonment procedures.”).

<sup>41</sup> ASLB Hearing Tr. at 331.

<sup>42</sup> *Id.*

Petitioners have shown that there are many suspect oil and gas wells located within the region of the Site. It is not the Petitioners' burden to assess the integrity of those wells; it is ISP's.<sup>43</sup> As explained above, wells that have been improperly plugged pose a risk of leakage and casing collapse which compromises the surface.<sup>44</sup> Questionable wells, such as abandoned and orphan wells, are known to exist within the region of ISP's proposed CISF. For failing to investigate the condition of abandoned wells and the existence and integrity of orphaned wells, ISP has failed to meet its burden of analyzing the region for unstable geological characteristics pursuant to Section 72.103(a)(1). Petitioners have properly asserted that ISP's SAR failed to mention or discuss the effect that orphaned and abandoned wells may have on Site suitability and have also shown that contrary to the requirements of 10 C.F.R. § 72.103(a)(1) ISP has failed to acknowledge the existence of these wells within the region of the Site. Thus, Petitioners have satisfied the requirements of 10 C.F.R. § 2.309(f)(1), specifically, sub-sections 2.309(f)(1)(v) and (vi).<sup>45</sup> As such, the Board's decision should be reversed.

- ii. ISP's response to RAI 2.2-2 does not remedy ISP's failure to analyze the region for orphaned and abandoned wells and whether they are improperly plugged, and because of this, Staff should not have retracted its support and the Board should have found Contention 2 admissible, in part.**

Before oral arguments began on July 10<sup>th</sup> and 11<sup>th</sup>, Staff agreed that Contention 2 was admissible, in part.<sup>46</sup> However, during oral argument, Staff announced, without much explanation, that its position on Contention 2 had changed because of a June 3, 2019 letter sent

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<sup>43</sup> ASLB Hearing Tr. at 326 ("It is the Applicant's burden pursuant to 72.103 to determine whether these wells' unstable geological characteristics will influence the site.").

<sup>44</sup> *Id.* at 334 (integrity issues include "cas[ing] collapse [and] leakage....").

<sup>45</sup> ASLB Decision at 99 ("...Contention 2 does not satisfy 10 C.F.R. § 2.309(f)(1)(v) and (vi).").

<sup>46</sup> Staff Answer to Petitioners at 16-17 ("The Staff does not oppose the admissibility of [Petitioners'] Contention 2 as a challenge to the application's evaluation of the potential impact of these wells on site stability pursuant to 10 C.F.R. § 72.103(a)(1).").

from ISP to Staff and the Board.<sup>47</sup> Apparently, the letter included ISP’s partial response to Staff’s Request for Additional Information (“RAI”) and made two unrelated modifications to its license application that, it stated, “may [be] relevant to certain proposed contentions.”<sup>48</sup>

“Enclosure 3” of ISP’s letter is ISP’s attempt to enhance its inadequate description of oil and gas activity within the region of the Site, but this attempt ultimately fails for not denoting the presence of abandoned and orphaned wells and their effect of creating unstable geological characteristics at the Site and in the region. “Enclosure 3” reads as follows:

Regionally, the WCS CISF is located in the Permian Basin of west Texas and southeast New Mexico, which is one of the most important petroleum producing regions in the United States, containing several thousand oil and gas wells [2-56]. Significant petroleum storage, however, is not located within 5 miles of the WCS CISF. Locally within the Waste Control Specialists property boundaries, oil and gas activity also is very limited. There is no active oilfield activity within the WCS CISF footprint area and only one documented dry hole in the immediate area of the WCS CISF (Figure 2-36). That dry hole has been cemented to the surface and proper plugging and abandonment protocol was observed. There is no evidence of any undocumented or “orphan” wells in the vicinity of the WCS CISF. If any open boreholes indicative of orphan wells are discovered during the construction process, these will be properly assessed and remediated using proper plugging and abandonment procedures in accordance with Texas Regulations.<sup>49</sup>

Sentence one of “Enclosure 3” emphasizes that the Permian Basin is one of the most important petroleum producing region in the United States; it in fact is *the most* important as it is the most productive oil producing region in the U.S. and the world.<sup>50</sup> This sentence, though, does not address the integrity issues associated with orphaned or abandoned wells.<sup>51</sup> The second

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<sup>47</sup> ASLB Hearing Tr. at 198; *See also* ISP Letter to Board at 1.

<sup>48</sup> ISP Letter to Board at 1.

<sup>49</sup> Enclosure 3 to Interim Storage Partners Board Notification re ISP Letter E-54257 at 2-7 (ADAMs Accession No. ML19154A589).

<sup>50</sup> Robert Rapier, *The Permian Basin Is Now The World’s Top Oil Producer*, FORBES (Apr. 5, 2019, 8:00 AM) <https://www.forbes.com/sites/rrapier/2019/04/05/the-permian-basin-is-now-the-worlds-top-oil-producer/#4cd4bc9e3eff>

<sup>51</sup> *See* ASLB Hearing Tr. at 330 (sentence one “doesn’t [] address the unstable characteristics of the pre-1967 or any other wells that may be [im]properly plugged.”).

sentence of “Enclosure 3” focuses on “significant petroleum storage” within a five-mile vicinity of the Site. This sentence skews the argument at hand because it has nothing to do with ISP’s duty to investigate the region for issues related to soil stability, vibratory ground motion, or unstable geological characteristics pursuant to 10 C.F.R. § 72.103. Section 72.103 requires an analysis of the region, not just a determination of petroleum storage within a five-mile vicinity of the Site.<sup>52</sup> Sentence three also skews Section 72.103 requirements by shifting the focus to oil activity within the boundaries of the Site itself.<sup>53</sup> Sentence four fails to satisfy Section 72.102 because it merely states that there is a lack of oil activity at the Site itself and reports the presence of one dry hole at the Site. Here, again, the required investigation of the region is disregarded for a statement of the obvious; there is no activity, and only one dry hole present at the Site because minerals immediately beneath the Site have been condemned. Sentence five states that “there is no evidence of...orphan wells in the vicinity of the [Site].” However, unlike other statements made in Sections 2.1 or 2.6.1-6, this statement is not supported by published articles, evidence, reports, or attachments. ISP fails to define “vicinity” and draws a conclusion that is unfounded. It, therefore, fails to meet the burden of Section 72.103. Lastly, as explained above, ISP’s proposal to plug abandoned and orphan wells that it discovers during construction (i.e. after a license has been granted) does not satisfy ISP’s burden to locate and address unstable geologic characteristics such as abandoned and orphan wells before licensing.<sup>54</sup>

Contrary to the Board’s decision, Petitioners have challenged ISP’s application. Petitioners have shown that ISP failed to investigate the region for unstable geological characteristics associated with orphaned and abandoned wells. Licensing regulations require ISP

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<sup>52</sup> *Id.*

<sup>53</sup> *Id.* (the problem with ISP’s analysis is that “it doesn’t take into account the region.”)

<sup>54</sup> *See supra* at n. 40.

to investigate the region, identify wells, determine whether they are improperly plugged, and remedy any integrity problems to ensure the suitability of the Site. ISP has failed to adequately investigate the region and “Enclosure 3” does not remedy this failure. Thus, ISP has not satisfied 10 C.F.R. § 72.103(a)(1). Because ISP fails to meet the terms of this regulatory requirement, the Board’s decision must be reversed.

### **B. Contention 3: (Airplane Crash)**

Contention 3 exposed ISP’s failure to address how its proposed CISF would be capable of mitigating damages from credible fire and explosion effects, specifically those caused by an airplane crash.<sup>55</sup> The Board criticized Petitioners’ interpretation of the regulatory requirements for emergency response plans and Petitioners’ failure to address sections of ISP’s application concerning the matter raised in Contention 3.<sup>56</sup> However, Contention 3 is supported by NUREG-1567.

Contention 3 assesses ISP’s failure to adequately follow NRC regulations and guidelines; specifically, Petitioner shows that ISP failed to address Section 2.5.2 of NUREG-1567. Section 2.5.2 creates a standard review plan for applicants seeking to license a dry storage facility for spent fuel and requires an applicant to:

“Review the potential hazards associated with nearby facilities. In addition to obvious industrial or nuclear facilities in the area, consider other anthropogenic features which could conceivably pose a hazard, such as transportation routes, railroads, and airports....The hazards from nearby facilities may include, but are not limited to: explosions of chemicals, flammable material, or munitions; and...release of toxic gases. *Consider aircraft size, velocity, weight and fuel load in assessing the hazards of aircraft crashes* on an installation near an airport.”<sup>57</sup>

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<sup>55</sup> Petition at 18.

<sup>56</sup> ASLB Decision at 100.

<sup>57</sup> NUREG-1567 Sec. 2.5.2 at 2-15 (emphasis added).



Section 2.5.2 unambiguously directs applicants to review the potential hazards associated with aircraft crashes for facilities located near airports, and the proposed Site is near several airports. By ground transportation, the Site is located within 50 miles of three airports: Midland International Airport located in Midland, Texas; Andrews County Airport located in Andrews, Texas; and Lea County Regional airport located in Hobbs, New Mexico.<sup>58</sup> By air transportation, these distances are likely shorter. Given the close proximity to these airports, ISP should have assessed the hazards of an aircraft crash at its Site, but it did not.

In differing from 10 C.F.R. § 72.122, NUREG-1567 Section 2.5.2 is not dependent on whether a particular hazard is credible. Nor does NUREG-1567 Section 2.5.2 delineate exceptions that allow an applicant to forego an analysis of the effects that an aircraft crash will have on its site. Section 2.5.2 specifically calls out these parameters for analysis, but neither ISP nor the Board considered them. Therefore, regardless of whether an airplane crash is considered a credible event pursuant to 10 C.F.R. § 72.122 or 10 C.F.R. § 72.44, the Section does warrant an analysis based on an aircraft's size, velocity, weight, and fuel load under NUREG-1567 Section 2.5.2. ISP has failed to comply with this NUREG.

Furthermore, the Board's application of NRC guidance documents in the decision is fickle. For example, the Board held that Petitioners' Contention 1 was inadmissible by implementing guidance from the "Continued Storage GEIS" (i.e. NUREG-2157).<sup>59</sup> The Board also opted to utilize guidance from NUREG-1748 to support its opposition to Sierra Club's Contention 15.<sup>60</sup> In Contention 15, Sierra Club argued that the 4-mile radius used to determine

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<sup>58</sup> Petition at 22 n. 40; *See also* SAR Sec. 2.2 "The closest transportation facility is the Lea County Airport, which is approximately 18 miles from the [Site]."

<sup>59</sup> ASLB Decision at 96.

<sup>60</sup> ASLB Decision at 60 n. 349.

the level of low-income and minority populations in ISP's Environmental Report ("ER") was too narrow.<sup>61</sup> The Board concluded that Sierra Club "fail[ed] to show how ISP's compliance with [NUREG-1768] violate[d] NEPA or NRC regulations" given that NUREG-1768 suggested that an ER "should use a radius of approximately four miles."<sup>62</sup> The Board's conclusion made it clear that Sierra Club 15 was inadmissible because ISP complied with the guidance from NUREG-1748. Similarly, here, the Board should have discussed NUREG-1567's applicability to Contention 3, and admitted the contention, at least in part, because ISP failed to comply with guidance from NUREG-1567. However, the Board did not do this.<sup>63</sup>

Section 2.5.2's analysis is crucial to the completeness of ISP's application. Without it, decision makers and the public are unable to determine whether a proposed site is sufficiently robust to withstand the effects of an aircraft crash. Furthermore, it is troubling that the Board has arbitrarily excluded directly applicable NRC guidance documents with no explanation. Just as the Board applied NUREG-2157 to Petitioners' Contention 1 and NUREG-1748 to Sierra Club 15, the Board should have applied NUREG-1567 to Contention 3. Yet, somehow, the Board determined that ISP was not required to assess the potential hazards resulting from an airplane crash.<sup>64</sup>

The Board's decision must be reversed because the Board abused its discretion<sup>65</sup> by failing to address the applicability of NUREG-1567 Section 2.5.2 to Contention 3 and by

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<sup>61</sup> Sierra Club's Petition to Intervene at 89-90.

<sup>62</sup> ASLB Decision at 62.

<sup>63</sup> *See generally*, ASLB Decision from 100-102.

<sup>64</sup> ASLB Decision at 102.

<sup>65</sup> Under the APA, courts hold unlawful "conclusions found to be...an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A); *see also*, *Limerick Ecology Action, Inc. v. U.S. Nuclear Regulatory Comm'n*, 869 F.2d 719, 728 (3<sup>rd</sup> Cir. 1989).

permitting ISP to disregard an analysis of the hazards associated with airplane crashes pursuant to this NUREG.

### **C. Contention 4: (Groundwater and Aquifers)**

Contention 4 demonstrates that ISP failed to adequately discuss and evaluate the impact that the Site will have on the environment; specifically, the potential for contamination of groundwater resulting from the Site's operation.<sup>66</sup>

#### **i. Petitioners' failure to cite ISP's ER is not material because Petitioners cite to relevant sections of ISP's SAR which are found verbatim in ISP's ER.**

The Board concluded that Petitioners did not cite or mention any portion of ISP's ER, including sections that specifically evaluate potential groundwater impacts.<sup>67</sup> While Petitioners cited to sections of ISP's SAR, these sections can be cited verbatim in ISP's ER.<sup>68</sup>

Because the cited sections of ISP's SAR can be found verbatim in ISP's ER, this "form over substance" issue should not preclude Contention 4 from being admitted.

#### **ii. An accident resulting from a large, fully-fueled aircraft crash at the Site may be used to support Petitioners' stance that radioactive material could be released to potential pathways that lead to underground water resources.**

Petitioners argue that the potential release of radioactive material resulting from a plane crash is a legitimate concern because NUREG-1567 requires applicants to review and assess the hazards that a plane crash may have on a site.<sup>69</sup> However, because the Board determined that

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<sup>66</sup> Petition at 26.

<sup>67</sup> ASLB Decision at 104.

<sup>68</sup> Petitioners cite to SAR Section 2.5 at 2-21 ("The shallowest water bearing zone is about 225 feet deep at the WCS CISF.") and SAR Section 2.5 at 2-22 ("The Ogallala Formation, if present, is not water bearing in the WCS CISF area."); *Compare to*, ER Section 3.4.14 at 3-24 ("The shallowest water bearing zone is about 225 ft deep at the site.") and ER Section 3.4.14 at 3-26 ("The Ogallala Formation, if present, is not water bearing in the Waste Control Specialists permitted area.").

<sup>69</sup> Petition at 27; *See supra*, Section III.B.

Contention 3 did not support the assertion that an aircraft crash was a credible event, it concluded that Petitioners failed to provide a factual basis on these same grounds in Contention 4.<sup>70</sup>

Nonetheless, as described *supra* in Section III.B., NRC guidance documents require an applicant to analyze and consider hazards resulting from an airplane crash. Applicants should consider an airplane's size, velocity, weight and fuel load when an installation is located near an airport.<sup>71</sup> And, given that the Antler Formation, which provides potable water to Midland, Texas, is located throughout the WCS Site—in some areas, within a few feet of the ground surface<sup>72</sup>—the potential that an airplane crash could release radioactive contaminants into the Antler Formation is plausible.

Given that the NUREG emphasizes the importance of analyzing airplane crashes, it is both legitimate and reasonable to conclude that an airplane crash is a real possibility and that such an accident could result in a release of radioactive material in both the atmosphere and the subsurface of the Site. As such, the Board's decision should be reversed.

**iii. The Board inappropriately ignored a legitimate issue of fact regarding whether aquifers and water formations are located below the site.**

Petitioners have shown that there is a genuine dispute of fact regarding the presence, location, and permeability of aquifers and formations below the proposed Site.<sup>73</sup> However, contrary to 10 C.F.R. § 51.45 and NUREG-1567 Section 2.4.5, the Board reasoned that because Petitioners did not challenge ISP's determination that the facility's design precludes a pathway to

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<sup>70</sup> ASLB Decision at 103.

<sup>71</sup> NUREG-1567 Sec. 2.5.2

<sup>72</sup> Pachlhofer Dec. at 4.

<sup>73</sup> Petition at 29.

groundwater contamination, ISP's characterization and evaluation of groundwater formations "d[id] not raise a genuine dispute on a material issue."<sup>74</sup> The Board's reasoning is misplaced.

Even though the determination of a facility's design is not applicable to whether an issue of fact exists, Petitioners have challenged the facility's ability to prevent contamination of groundwater based on the plausible airplane crash scenario.<sup>75</sup> Furthermore, if an applicant's site is located over an aquifer that is a source of well water, the groundwater aquifers beneath the site, the associated hydrological units, and their recharge and discharge areas should be described.<sup>76</sup> As it relates to an applicant's description of such hydrological units, the applicant's ER "should contain adequate information" describing such.<sup>77</sup>

The Board's determination that Contention 4 is inadmissible is flawed because an applicant's ability to satisfy 10 C.F.R. § 51.45 and NUREG-1567 Section 2.4.5 has nothing to do with whether a petitioner proves that a facility's design precludes a pathway to groundwater. Pursuant to 10 C.F.R. § 72.90(e), applicants must evaluate the potential for radiological and other environmental impacts on a region pursuant to subpart A, part 51 of title 10.<sup>78</sup> An applicant's ER must "contain a description of the...environment affected, and discuss...[t]he

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<sup>74</sup> ASLB Decision at 103.

<sup>75</sup> See *supra*, Section III.C.i.; Cf. Even if the NRC finds that Petitioners' airplane crash scenario does not preclude a pathway to groundwater contamination, ISP's cask storage pads are "potential source[s] of low-level radioactivity" and rainwater runoff could contaminate the groundwater below the Site. See ER Sec. 4.4 p. 4-31. This is a highly probable scenario given ISP's concession that abandoned wells drilled on-Site from the 1940s through the 1980s are "likely not lined or closed properly and are potential sources of contamination...." ER at 2-40. While ISP states that potential levels of radioactivity from rainwater runoff due to surface contamination from the casks "would be well below (two orders of magnitude or more) the effluent discharge limits" this analysis is based on ISP's contested description of the subsurface and the permeability of such. ER Sec. 4.4. p. 4-31.

<sup>76</sup> NUREG-1567 Sec. 2.4.5.

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

<sup>78</sup> Petition at 26.

impact of the proposed action on the environment.”<sup>79</sup> This description should include both “supporting” and “adverse” information.<sup>80</sup> Clearly, 10 C.F.R. § 51.45 has nothing to do with Petitioners’ ability to prove that a facility’s design precludes a pathway to groundwater contamination. Similarly, NUREG-1567 Section 2.4.5 is not predicated on whether a petitioner challenges an applicant’s determination that a facility’s design precludes a potential pathway to groundwater either. When a site is located over an aquifer, NUREG-1567 Section 2.4.5 requires applicants to provide *adequate information* related to groundwater aquifers and the hydrological units and recharge and discharge areas associated with those aquifers.

Contrary to the Board’s decision, there is a genuine issue of fact regarding whether aquifers and water formations are located below ISP’s Site. ISP suggests that the shallowest water bearing zone at the WCS CISF is about 225 feet deep.<sup>81</sup> To the contrary, the Ogallala Formation is present along the North and East sides of the WCS-Flying “W” Ranch at a depth of 45-105 feet.<sup>82</sup> Furthermore, the Antler Formation, which spans the entire WCS area and supplies potable water to the City of Midland, Texas, is in some areas located “*within a few feet*” of the surface of the Site.<sup>83</sup> The Antler Formation is also exposed in the excavation walls of the WCS LLRW facility.<sup>84</sup> ISP states that “if” the Ogallala aquifer is present, it is “not water bearing in the WCS CISF area.”<sup>85</sup> While Petitioners and ISP disagree on the presence of groundwater from the Ogallala being located below the Site, water from the Ogallala is likely present below the Site because the Antler Formation spans the entire Site and cross-formational groundwater is known

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<sup>79</sup> *Id.* (citing 10 C.F.R. § 51.45(b)(1)).

<sup>80</sup> *Id.* (citing 10 C.F.R. § 51.45(e)).

<sup>81</sup> *See* SAR at 2-21.

<sup>82</sup> *Id.* at 28 (citing Pachlhofer Dec. at 4 n. 3)

<sup>83</sup> Pachlhofer Dec. at 4. (emphasis added).

<sup>84</sup> *Id.*

<sup>85</sup> SAR at 2-22.

to exist between both the Ogallala and the Antler formations.<sup>86</sup> Given that the Antler and Ogallala Formations are lithologically similar and often misidentified, the presence of water originating from the Ogallala becomes an even more contested issue.<sup>87</sup>

Petitioners have shown with reasonable scientific certainty that the Ogallala aquifer and water from the hydrological units and formations associated with the aquifer underlie the construction site of the proposed CISF.<sup>88</sup> ISP's description of the subsurface hydrology and the conclusions it makes based on its description are vastly dissimilar to those made by Petitioners' experts.<sup>89</sup> This raises a serious issue of fact.

Pursuant to the requirements of 10 C.F.R. § 51.45(b)(1) and (e) and NUREG-1567 Section 2.4.5., ISP "fail[ed] to properly provide an adequate description of the environment"<sup>90</sup> and "fail[ed] to include critical adverse information"<sup>91</sup> regarding the subsurface hydrology below the Site. While it is an Applicant's duty to raise critical adverse information, here, Petitioners picked up ISP's burden of doing so and have raised a significant issue of fact. As such, the Board's decision should be reversed and an evidentiary hearing should be held.

#### **IV. CONCLUSION AND REQUEST FOR RELIEF**

The contentions discussed *supra* should have been admitted for evidentiary hearings. At this point of the admissibility stage, a petitioner need not prove its case as it is enough that the

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<sup>86</sup> Petition at 28 (citing Pachlhofer Dec. at 4).

<sup>87</sup> Pachlhofer Dec. at 4.

<sup>88</sup> See Pachlhofer Dec. at 5.

<sup>89</sup> See ER, Section 4.4.14 and SAR, Section 2.5 ("The Ogallala Formation, if present, is not water bearing in the WCS CISF area.")

<sup>90</sup> Petition at 31.

<sup>91</sup> *Id.*

petitioner “com[e] forward with factual issues, not merely conclusory statements and vague allegations.”<sup>92</sup>

Petitioners have shown that there are substantial defects in ISP’s application and have respectfully shown that the Board failed to apply proper guidance documents and required more of Petitioners in supporting their contentions than is required pursuant to the standards set in 10 C.F.R. § 2.309(f)(1).

Based on the above arguments and authorities, Petitioners pray the Commission reverses the Board’s decision and grants this appeal.

Respectfully submitted,

/electronically signed by/\_  
Timothy J. Laughlin  
6721 W. 146<sup>th</sup> Ter., Ste. 5201  
Overland Park, KS 66223  
(785) 338-0604  
tijay1300@gmail.com  
Attorney for Petitioners

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<sup>92</sup> *Northeast Nuclear Energy Co.*, 53 N.R.C. at 27.