

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE NUCLEAR REGULATORY COMMISSION**

In the Matter of:)	
)	Docket No. 72-1051
Holtec International)	
)	September 3, 2019
(HI-STORE Consolidated)	
Interim Storage Facility))	

**FASKEN OIL AND RANCH AND PERMIAN BASIN LAND AND ROYALTY OWNERS
MOTION FOR LEAVE TO REOPEN AND INCORPORATE CONTENTION FILED
AUGUST 1, 2019**

Pursuant to 10 C.F.R. § 2.326, Fasken Oil and Ranch (“Fasken”) and Permian Basin Land and Royalty Owners (“PBLRO”) (together “Petitioners”) respectfully file a Motion for Leave to Reopen and Incorporate Contention Filed August 1, 2019 in the above-captioned matter.

I. PETITIONERS MEET STANDING REQUIREMENTS

If a party or participant has already satisfied the requirements in the same proceeding for which the new contention is filed for standing under 10 C.F.R. § 2.309(d), the party or participant “does not need to do so again.”¹ On May 7, 2019, the Atomic Safety and Licensing Board (“ASLB”) held that Petitioners have demonstrated standing in the current proceeding.²

II. PETITIONERS HAVE NOT EXHAUSTED THE RIGHT TO FILE A MOTION TO REOPEN BECAUSE GRAVE CIRCUMSTANCES EXIST

¹ 10 C.F.R. § 2.309(c)(4).

² See Atomic Safety and Licensing Board “Memorandum and Order” LBP-19-4 at 17 (May 7, 2019) (ADAMS Accession No. ML19127A026) (“Fasken has demonstrated standing.”).

Petitioners move to reopen the closed record in the above-captioned proceeding to consider additional evidence. Petitioners show *infra* that they satisfy the necessary standards of 10 C.F.R. § 2.326(a), (b), and (d).

Section 2.326(a) of the Nuclear Regulatory Commission's ("NRC") regulations set forth the reopening standards. Specifically, section 2.326(a) states:

A motion to reopen a closed proceeding to consider additional evidence will not be granted unless the following criteria are satisfied:

- (1) The motion must be timely. However, an exceptionally grave issue may be considered in the discretion of the presiding officer even if untimely presented;
- (2) The motion must address a significant safety or environmental issue; and
- (3) The motion must demonstrate that a materially different result would be or would have been likely had the newly proffered evidence been considered initially.

10 C.F.R. § 2.326(a).

A. Typically, Petitioners are required to file a Motion to Reopen contemporaneously with a Motion to File a New Contention. The NRC should treat this Motion to Reopen differently.

The case that established the contemporaneous factor was Dominion Nuclear Connecticut Inc., (Millstone Power Station, Unit 3), 69 N.R.C. 115 (2009) (hereinafter "*Millstone*"). In this case, Dominion Nuclear Connecticut, Inc. sought an operating license amendment to increase its authorized core power level at the Millstone Power Station. *Id.* at 117. The petitioner, Connecticut Coalition Against Millstone ("CCAM") filed a timely petition to intervene and hearing request which included nine proposed contentions. *Id.* The Atomic Safety and Licensing Board ("Board") denied CCAM's hearing on the ground that they had not offered an admissible contention. *Id.* CCAM appealed. *Id.* While CCAM's appeal was pending, CCAM filed its first Motion to File a New Contention (MFNC). *Id.* While CCAM's MFNC was pending, the Board issued a decision denying CCAM's appeal of the Board's initial order denying the hearing

request. *Id.* Two weeks later, CCAM filed another MFNC containing two contentions; one that related to a contention in CCAM's previous MFNC and an additional contention that was unrelated to past contentions. *Id.* at 118-119. In its response to CCAM's second MFNC, Staff concluded that not only were CCAM's contentions impermissibly late, improperly plead, and incorrectly filed, but CCAM's "two new contentions fail[ed] the requirements of 10 C.F.R. § 2.309(f)(1)."³ Two months later, the Board ultimately denied CCAM's MFNC for failure to address, let alone meet the criteria for filing a Motion to Reopen (MTR) pursuant to 10 C.F.R. § 2.326. *Id.* at 119. CCAM appealed; but the NRC ultimately adopted the Board's reasoning that CCAM failed to meet the reopening criteria. *Id.* at 124. The NRC added that "[t]he appropriate mechanism, therefore, for CCAM to have sought to raise a new issue where, as here, the record of the proceeding had closed upon the Board's disposition of CCAM's original contentions [] was to address the reopening standards *contemporaneously* with a late-filed intervention petitioner, which must satisfy the standards for both contention admissibility and late filing." *Id.* (emphasis added).

Southern Nuclear Operating Co., (Vogtle Electric Generating Plant, Units 3 and 4) also implements the "contemporaneous" filing standard established in *Millstone*.⁴ Similarly, in its response to the joint petitioners, Staff concluded that SACE, the joint petitioners, did not satisfy

³ See NRC Staff's Answer to Connecticut Coalition Against Millstone and Nancy Burton's New Contentions and Request for Leave to Submit New Contentions Based on Receipt of New Information and Request for Continuing Waiver of E-Filing Requirements at 12 (September 22, 2008) (Accession # ML082661237).

⁴ 74 N.R.C. 214, 226 (2011) (hereinafter "*Vogtle*").

the motion to reopen standards pursuant to 10 C.F.R. § 2.326 nor the contention requirements pursuant to 10 C.F.R. § 2.309(f)(1).⁵

The *instant* case is distinguishable from both *Millstone* and *Vogtle* for one vital reason: the NRC Staff believes that Petitioner's contention filed on August 1, 2019 was admissible in-part.⁶ While the NRC has not provided an explanation supporting why motions to reopen and motions to file new contentions should be filed together, *Millstone's* contemporaneous standard makes it clear that petitioners must satisfy the standards for *both* "contention admissibility and late filing."⁷ Petitioner's contention has already been deemed admissible in-part by Staff pursuant to 10 C.F.R. § 2.309(f)(1). Therefore, Petitioner's need only satisfy the standards for late filing. Petitioners meet this requirement under the "grave circumstances" exception.

B. Petitioners have satisfied the standards established by 10 C.F.R. 2.326, including the standards for late filing.

The NRC has held that the standard for reopening and admitting a contention after the record is closed is higher than that for an ordinary late-filed contention.⁸ The Board is empowered to reopen a proceeding at least until the issuance of its initial decision, but no later than either the filing of an appeal or the expiration of the period during which the NRC can exercise its right to review the record.⁹ However, a matter may be of such gravity that a motion

⁵ See NRC Staff Answer to Petitioner's Motion to Admit New Contention Regarding the Safety and Environmental Implications of the NRC Task Force Report on the Fukushima Dai-Ichi Accident at 28 (September 6, 2011)(Accession # ML11249A167).

⁶ See NRC Staff Answer in Opposition to Fasken Oil and Ranch, Ltd. And Permian Basin Land and Royalty Owners' Motion to File a New Contention at 10 (August 26, 2019)(E-Filing # E190826t013253_NRC-1)(hereinafter "Staff Response to Fasken").

⁷ *Millstone*, 69 N.R.C. at 124.

⁸ *Private Fuel Storage, LLC (Independent Spent Fuel Storage Installation)*, CLI-05-12, 61 N.R.C. 345, 350 (2005).

⁹ *The Cincinnati Gas and Electric Co., et al. (William H. Zimmer Nuclear Power Station, Unit 1)*, LBP-83-58, 18 N.R.C. 640, 646 (1983).

to reopen should be granted notwithstanding the fact that it might have been presented in a more timely fashion.¹⁰ This exception to 10 C.F.R. § 2.326(a)(1)’s timeliness criteria is known as the exceptionally grave issue exception.

In the context of a safety issue, petitioners can satisfy the exceptionally grave exception criteria if they prove, by signed affidavit, that there is a “serious threat to public safety.”¹¹

Presiding officers will reopen the record “only when the new evidence raises an exceptionally grave issue calling into question the safety of the licensed activity.”¹² If a motion to reopen is untimely but a petitioner has successfully presented an exceptionally grave circumstance, not only does the petitioner satisfy section 2.326(a)(1) criterion, but the “exceptionally grave” test will also supplant and satisfy the section 2.326(a)(2) “significant safety or environmental issue” criterion as well.¹³

- i. Petitioners satisfy 10 C.F.R. § 2.326(a)(1-2) because they satisfy the “exceptionally grave” test.

¹⁰ See 10 C.F.R. § 2.326(a)(1); See also, Entergy Nuclear Generation Company (Pilgrim Nuclear Power Station), 75 N.R.C. 731, 739 (2012); Entergy Nuclear Generation Co. (Pilgrim Nuclear Power Station) 74 N.R.C. 65, 89 (2011); Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), LBP-83-30, 17 N.R.C. 1132, 1143 (1983) (*citing* Vermont Yankee Nuclear Power Corp. (Vermont Yankee Nuclear Power Station), ALAB-138, 6 A.E.C. 520, 523 (1973).

¹¹ See Criteria for Reopening Records in Formal Licensing Proceedings, 51 Fed. Reg. 19,535 (1986)

¹² Hydro Resources, Inc. (P.O. Box 15910 Rio Rancho, NM 87174), CLI-00-12, 52 N.R.C. 1, 5 (2000).

¹³ Southern Nuclear Operating Co., (Vogtle Electric Generating Plant, Units 3 and 4), 72 N.R.C. 616, 646 f.n. 16 (“In instances when a reopening motion is untimely, the section 2.326(a)(1) ‘exceptionally grave’ circumstances test supplants the ‘significant’ issue standard under section 2.326(a)(2)”); (*citing* Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), ALAB-886, 27 N.R.C. 74, 78 (1988)).

This motion to reopen presents an exceptionally grave issue because Holtec International (“Holtec”) does not own the mineral rights located below its proposed site; the HI-STORE Centralized Interim Storage Facility (“Site”).¹⁴

Holtec’s misrepresentation of mineral ownership was discovered after a letter was sent by New Mexico State Land Commissioner Stephanie Garcia Richard to Holtec expressing “safety concerns” and “several misrepresentations that Holtec [] made to the NRC and New Mexicans about its control of the proposed disposal site.” *Id.* Holtec’s lack of ownership in minerals “poses a serious threat to public safety.” *Id.* at ¶9.

First, oil and gas extraction activity on its own can in some cases be dangerous and pose a serious threat to public safety regardless of whether the activity takes place directly beneath an interim storage facility for spent nuclear fuel and other greater than class-c nuclear waste. One of the more serious safety risks related to oil and gas extraction includes the over-pressurization of hydrocarbon reservoirs. *Id.* at ¶7. To ensure that an over-pressurization accident does not occur and pose a serious threat to human safety, “proper wellbore casings must be installed over a variety of depths and different geological formations.” *Id.* “It is imperative that wellbore integrity is sufficient from depth to surface to protect *fresh water aquifers*, surface, and atmospheric resources.”¹⁵ Having complete control over every aspect of an oil and gas extraction

¹⁴ Affidavit of Stonnie Pollock ¶6 n.1. (hereinafter “Pollock Aff.”)

¹⁵ *Id.* (emphasis added); Section 3.5.2.1 of Holtec’s FER states that water formations located below the Site are “*likely* non-water bearing.” (emphasis added). This “conclusion” was drawn from a 2007 reading of test well ELEA-1. Given that water formations may be intermittently saturated, the likelihood that the saturation levels in the formations located below the site have changed over the last 12 years is highly likely. Just as Holtec cannot assess and manage oil and gas extraction activity below its Site, Holtec has failed to properly manage and assess something it does have control over and a duty to evaluate—the saturation levels of water formations located below its Site.

project is critical to properly assessing and managing the many safety risks involved with these activities. *Id.* at ¶7.

Holtec cannot reasonably assess, manage, or mitigate the serious safety risks associated with petroleum-related extraction activities below its site because it does not own the minerals. Holtec's inability to put a moratorium on oil and gas extraction activity¹⁶ leaves the fresh water aquifers and formations that provide water to citizens and the environment at risk. Holtec cannot control the extent of safety measures taken to protect the fresh water from being contaminated by petroleum-related accidents, and therefore cannot guarantee that the water consumed by people and the environment will be free of petroleum and/or radioactive contamination.

It is clear that oil and gas extraction activities can pose a serious threat to public safety when operators improperly assess and manage the risks associated with extracting minerals. However, once the presence of a nuclear storage facility is added to this equation, safety risks are even more likely to pose a serious threat to public safety. Risks regarding the interaction between nuclear waste storage and preexisting oil and gas development on the same tract of land are mostly unknown. Pollock Affd. at ¶7. Because of this, the International Atomic Energy Agency ("IAEA") recommends that storage sites, like the one proposed by Holtec, should be situated on adequately controlled, *single-use* pieces of land that are void of exploitable mineral and energy resources.¹⁷ While the safety risks associated with the presence of nuclear storage facilities atop

¹⁶ Holtec inaccurately states that "[e]conomic mineral resources located beneath the CIS facility would be unavailable for exploitation during the life of the project." FER Section 8.1.3.

¹⁷ *Id.* (emphasis added); *See, IAEA Safety Standards for Protecting People and the Environment, Disposal of Radioactive Waste - Requirement 9: Isolation of Radioactive Waste* at 27 (2011)(website url: https://www-pub.iaea.org/MTCD/publications/PDF/Pub1449_web.pdf) (hereinafter "IAEA Article")("The disposal facility has to be located away from known areas of significant underground mineral resources or other valuable resources."); *See also*, 10 C.F.R. § 72.98(c)(3) (requires applicants to identify special man-made characteristics "that *may* influence the potential consequences of a release of radioactive material during the operational lifetime of

of preexisting oil and gas extraction activity is mostly unknown, the threat to public safety only becomes more serious given that the extraction of oil and gas can already pose a serious threat to public safety and the disposal facility itself.¹⁸

Petitioners have shown that Holtec’s lack of ownership in mineral interests and its inability to put a moratorium on oil and gas extraction activities below the site poses a serious threat to public safety.

- ii. Petitioners satisfy 10 C.F.R. § 2.326(a)(3) because the Motion demonstrates that a materially different result would be or would have been likely had the newly proffered evidence been considered initially.

Holtec is required to provide the NRC with information that is “complete and accurate in all material respects.”¹⁹ Holtec is also obligated to “ensure that [its] arguments and assertions are supported by appropriate and accurate reference to legal authority and *factual basis*.”²⁰ Holtec has not done this and has materially misrepresented its ownership rights and ability to control both the minerals and the high-risk activities associated with extracting the minerals below its site. Pollock Aff. at ¶6.

Petitioners have challenged the application’s description of Holtec’s control of mineral rights, including oil and gas extraction, underneath the site, and have “proffered an admissible

the ISFSI or MRS.” (emphasis added). This analysis should include an applicant’s ability to assess, control, and oversee mineral extraction activities located below the site); 10 C.F.R. Part 100 Appendix A, IV(a)(2) (requires applicants to investigate possible effects caused by man’s activities including “extraction of minerals” to determine a site’s suitability.).

¹⁸ See IAEA Article *supra* f.n. 17 (locating disposal facilities away from known areas with significant underground mineral resources “*will reduce the likelihood of inadvertent disturbance of the facility* and will avoid resources being made unavailable for exploitation.” (emphasis added)).

¹⁹ 10 C.F.R. § 72.11(a).

²⁰ *Areva Enrichment Servs., LLC*, (Eagle Rock Enrichment Facility), 70 N.R.C. 1, 16 (July 23, 2009)(emphasis added).

contention.”²¹ Petitioners have demonstrated that “the Atomic Safety and Licensing Board and/or the Nuclear Regulatory Commission would likely admit this issue and contention because the NRC Staff agreed that Fasken Oil and Ranch and Permian Basin Land and Royalty Owners[] satisfied, in part, the contention requirements of 10 C.F.R. 2.309(f)(1)] in their Motion for Leave to File a New Contention filed on August 1, 2019.” Pollock Aff. at ¶9.

Currently, the Board has determined that all fifty of the proffered contentions in this proceeding are inadmissible.²² The contention incorporated in this motion to reopen has the likelihood of becoming the only admissible contention in this proceeding. Petitioners have demonstrated that this motion to reopen will produce a materially different result because Staff determined Petitioner’s incorporated contention was admissible, in-part.

- iii. Petitioners satisfy 10 C.F.R. § 2.326(b) because the Motion is supported by an affidavit that complies with this section.

10 C.F.R. § 2.326(b) requires that a motion be accompanied by affidavits that set forth the factual and/or technical bases for the movant’s claim that the criteria of paragraph (a) have been satisfied. Affidavits must be given by competent individuals with knowledge of the facts alleged, or by experts in the disciplines appropriate to the issues raised. Evidence contained in affidavits must meet the admissibility standards of 10 C.F.R. § 2.304(d). Each of the criteria must be separately addressed, with a specific explanation of why it has been met.

Mr. Pollock’s affidavit meets the criteria of Section 2.326(b). Mr. Pollock has spent over 15 years analyzing, understanding, and consulting oil and gas operations on safety risks associated with petroleum extraction activities.²³ While affidavits must address each criteria of

²¹ Staff Response to Fasken, at 12.

²² See generally, ASLB Memorandum and Order (Ruling on Petitioners for Intervention and Requests for Hearing), LBP-19-4 (May 7,2019).

²³ See generally, Pollock Affd.

10 C.F.R. § 2.326(a)(1-3), the presence of grave circumstances only requires an affidavit to address criteria two and three.²⁴ On both a technical and factual basis, Mr. Pollock has adequately addressed criterion two and three. Because Mr. Pollock is qualified to provide an analysis of petroleum-related geological safety risks and because Mr. Pollock addressed each applicable criterion based on a factual and technical approach, Mr. Pollock’s affidavit meets the requirements of 10 C.F.R. § 2.326(b).

- iv. Petitioners satisfy 10 C.F.R. § 2.326(d) because the contention meets the requirements for new contentions filed pursuant to 10 C.F.R. § 2.309(c).

10 C.F.R. § 2.326(d) requires a motion to reopen relating to a contention not previously in controversy to satisfy the 2.309(c) requirements for new or amended contentions. This motion to reopen relates to, and incorporates, Petitioner’s MFNC filed August 1, 2019.²⁵ Therefore, this motion to reopen *does* relate to a contention previously in controversy. Nevertheless, this motion satisfies 10 C.F.R. § 2.309(c) and 10 C.F.R. § 2.309(f)(2) as explained *infra*.

III. PETITIONERS SATISFY 10 C.F.R § 2.309(c) and 10 C.F.R. § 2.309(f)(2)

Petitioners who wish to file a new contention after a deadline must demonstrate “good cause” by showing that:

- (i) The information upon which the filing is based was not previously available;
- (ii) The information upon which the filing is based is materially different from information previously available; and
- (iii) The filing has been submitted in a timely fashion based on the availability of the subsequent information.

²⁴ Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), ALAB-886, 27 N.R.C. 74, 78 (1988).

²⁵ Typically, the NRC “discourages[s] incorporating pleadings or arguments by reference.” *Vogtle*, 74 N.R.C. at 214. That being said, “[a]s a practical matter” the NRC considers all pleadings currently before them, and will “consider [the pleading’s] discussion concerning the applicability of the reopening standards.” Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), 75 N.R.C. 132, 139 f.n. 41 (2012).

10 C.F.R. § 2.309(c). Furthermore, 10 C.F.R. § 2.309(f)(2) requires that contentions filed after the deadline in paragraph (b) “compl[y] with the requirements in paragraph (c) of this section.” This motion to reopen complies with both section 2.309(c) and (f)(2) because Petitioners have adequately shown that there are exceptionally grave circumstances.

The timeliness criteria required of 10 C.F.R. § 2.326(a)(1) can be waived when a petitioner presents an exceptionally grave issue. As explained in “Section II” *supra*, Petitioners have presented an exceptionally grave issue. Section 2.326 reopening standards are significantly higher standards than those found in section 2.309.²⁶ If Petitioners satisfy section 2.326 standards, Petitioners should retroactively satisfy the standards found in section 2.309(c) and 2.309(f)(2) as well.

The NRC and its Boards have generally considered that filings based on new information are filed in a timely manner if done within approximately 30-60 days.²⁷ The Board has also considered whether the exceptionally grave circumstances “safety valve” provided by section 2.326(a)(1) reopening standards can supplant and/or fulfill the timeliness requirements associated with the section 2.309(c) “good cause” standard and the standard established in section 2.309(f)(2) as well.²⁸ The ASLB has determined that it is possible that the significance of an issue being raised is “relevant” in determining the good cause of the petitioner.²⁹

²⁶ See *supra*, f.n. 8.

²⁷ See, e.g., *Vogtle*, 74 N.R.C. at 218 n.8 (“A thirty-day window [for filing new contentions] is in line with our general practice.”); Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc. (Vermont Yankee Nuclear Power Station), CLI-11-2, 73 N.R.C. 333, 342 n.43 (2011) (“We and our Licensing Boards generally consider approximately 30-60 days as the limit for timely filings based on new information.”).

²⁸ See Licensing Board Memorandum and Order (Additional Matters Regarding Initial Prehearing Conference/Oral Argument) (Oct. 6, 2010) at 3 (unpublished).

²⁹ Southern Nuclear Operating Co. (Vogtle Electric Generating Plant, Units 3 & 4) 72 N.R.C. 616, 648 f.n. 17 (2010).

The Board should grant Petitioner's motion to reopen because this Motion was filed between 30-60 days from when the New Mexico State Land Commissioner's letter was received and because section 2.326's exceptionally grave "safety valve" has retroactively remedied any of Petitioner's timeliness issues found in the original MFNC.

IV. PETITIONER'S CONTENTION FILED AUGUST 1, 2019 (Incorporated herein verbatim with attachments)

In addition to meeting the requirements of 10 C.F.R. § 2.309(c)(1), new contentions must also satisfy the six contention admissibility requirements of 10 C.F.R. § 2.309(f)(1). This section requires that each contention:

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

10 C.F.R. § 2.309(f)(1)(i-vi).

Contention No. 2:

"Statements in Holtec's Safety Analysis Report (SAR) and Facility Environmental Report (FER) regarding 'control' over mineral rights below the site are materially misleading and inaccurate. Reliance on these statements nullifies Holtec's ability to satisfy the NRC's siting evaluation factors."

A. Basis for Contention

This contention is within the scope of this proceeding because, contrary to the requirements of 10 C.F.R. § 72.11(a), Holtec provided the NRC with inaccurate material

statements in its application. NRC Regulation 10 C.F.R. § 72.11(a) requires that information provided to the Commission be “complete and accurate in all material respects.” Holtec has failed to provide the NRC with information that is complete and accurate by falsely indicating that it has “control” over mineral rights below the site. Holtec’s FER and SAR “contain statements that have the potential, intended or not, to mislead federal regulators and the public alike.”³⁰

B. Facts Upon Which Petitioner Intends to Rely in Support of This Contention

Holtec’s application has misled the NRC and Petitioners to believe that it has full control over the mineral estate below the Holtec HI-STORE CISF. As the Letter indicates, “the State Land Office’s control of the Site’s mineral estate is not disclosed in the FER or other NRC submissions.”³¹ Inaccurate and misleading statements made by Holtec include:

- “As previously stated in Section 2.6.4 of the SAR, with regard to potential future drilling on the Site, Holtec has an agreement with Intrepid Mining LLC (Intrepid) such that *Holtec controls the mineral rights on the Site* and Intrepid will not conduct any potash mining on the Site.” SAR, Section 2.1.4 pg. 74. (emphasis added)
- “[b]y agreement with the applicable third parties, the oil drilling and phosphate extraction activities have been proscribed at and around the site and would not affect the activities at the site.” FER, Section 2.4.2 pg. 51.
- “With regard to potential future drilling on the Site, Holtec has an agreement [Reference 2.6.9] with Intrepid Mining LLC (Intrepid) such that *Holtec controls the mineral rights on the Site* and Intrepid will not conduct any potash mining on the Site.” SAR, Section 2.6.4 pg. 176. (emphasis added)
- “Additionally, any future oil drilling or fracking beneath the Site would occur at greater than 5,000 feet depth, which ensures there would be no subsidence concerns.” SAR, Section 2.6.4 pg. 176.
- “Economic mineral resources located beneath the CIS Facility would be unavailable for exploitation during the life of the project.” FER, Section 8.1.3 pg. 272.
- “With regard to potential future drilling on the Site, Holtec has an agreement with Intrepid Mining LLC (Intrepid) such that *Holtec controls the mineral rights on the Site* and Intrepid will not conduct any potash mining on the Site.” FER, Section 3.1.1 pg. 58. (emphasis added)

³⁰ Exhibit 5, at 2.

³¹ Exhibit 5, at 2.

Holtec's statements regarding ownership of mineral rights below the site are neither vague nor broadly generalized. For the application to be complete, it would have included the State Land Office alongside the other applicable regulatory agencies in Table 1.4.1 of the FER. To be accurate, Holtec's application should have omitted the multiple statements alleging that Holtec "controls the mineral rights on the Site." Holtec's application is neither complete or accurate, and thus, fails to satisfy the requirements of 10 C.F.R. § 72.11(a).

C. Contention 2 is Material

i. Contention 2 is material pursuant to 10 C.F.R. § 72.11

Pursuant to the requirements of 10 C.F.R. § 72.11(a), applicants must provide information that is "complete and accurate in all material respects." Holtec has provided and relied on inaccurate information regarding the ownership of minerals below the site to support and satisfy the requirements of part 72. Holtec is obligated to "ensure that [its] arguments and assertions are supported by appropriate and accurate references to legal authority and *factual basis*."³²

As articulated above, Holtec's assertion that it owns the minerals below the site is false and may not be used to support and satisfy the requirements of part 72. Furthermore, failure to support assertions with appropriate and accurate references may result in a "party being dismissed from the proceeding."³³ For this reason, Contention 1 is material pursuant to 10 C.F.R. § 72.11(a) because Holtec failed to support its assertions using accurate information.

ii. Contention 2 is material pursuant to 10 C.F.R § 72.40

³² *Areva Enrichment Servs., LLC*, 70 N.R.C. 1, 16 (July 23, 2009). (emphasis added)

³³ *Id.*

Pursuant to 10 C.F.R. § 72.40(a)(2), the NRC may issue a license only upon a finding that “[t]he proposed site complies with the criteria of subpart E.” Subpart E’s siting evaluation factors require ISFSI applicants to satisfy sections 72.90 through 72.108 of part 72. Holtec has not satisfied 10 C.F.R. § 72.90(b) or 10 C.F.R. § 72.103(a)(1).

a. Holtec’s reliance on inaccurate information eliminates its ability to satisfy 10 C.F.R. § 72.90(b)

Pursuant to 10 C.F.R. § 72.90(b), proposed sites for ISFSIs “must be examined with respect to the frequency and the severity of external natural and man[-]induced events that could affect the safe operation of the ISFSI.”³⁴ Holtec’s application operates on the false assertion that it “controls the mineral rights on the Site,” and because of this false assertion, “economic mineral resources located beneath the CIS Facility [will] be unavailable for exploitation during the life of the project.”³⁵

To the contrary, oil and gas extraction activities provide for “most of the activity in the [site’s] vicinity.”³⁶ There are presently 253 oil and gas well bores still in production within a 5-mile radius of the CISF.³⁷ The depth of wells within the region range from 710 feet deep to 16,009 feet deep.³⁸ Of these wells, 45 are horizontally drilled.³⁹ Some of these horizontal wells come in close proximity to the HI-STORE CISF.⁴⁰ Furthermore, the application indicates the

³⁴ See also 10 C.F.R. § 72.24(a) (requires applicants to provide a description and safety assessment of the site on which the ISFSI is to be located, “with appropriate attention to the design bases for external events.”); NUREG-1567 § 2.4.2 (requires applicants to identify products or materials produced, stored, or transported by nearby industries, and discuss “any potential hazards to the ISFSI from activities or materials” produced by nearby industries).

³⁵ See FER Section 3.1.1 at 58; FER Section 8.1.3 at 272.

³⁶ FER Section 3.10.

³⁷ See Declaration of Stonnie Pollock at 2. (hereinafter “Exhibit 1”).

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ See “Holtec International – HI-STORE CISF (Site Radius Map)” (attached as “Exhibit 2”)

presence of the Belco Shallow and Belco Deep drill island located approximately 0.25 and 0.5 miles from the CISF which are “intended to accommodate multiple oil and gas well locations” in the future.⁴¹ Given the large presence of active oil and gas extraction in the region, it is inappropriate for Holtec to conclude that it may limit oil and gas extraction, and suggest that producers will have extract minerals elsewhere.⁴² This is simply not the case and is contrary to assertions made by Holtec in its application.

The Letter clearly indicates that Holtec does not own the mineral rights below the site and does not have the ability to prevent others from extracting minerals below and adjacent to the site.⁴³ In fact, oil and gas may be extracted “anywhere within 330-660 feet from Holtec’s site without impacting the correlative rights of those who actually own the minerals below the site.”⁴⁴ Because the application operates on the false premise that Holtec can prevent oil and gas extraction activity on and near the site, the application inevitably fails to evaluate how “man[-]induced events,” specifically oil and gas extraction, may impact the safe operation of the site.

Applicants are required to support their arguments and assertions with “appropriate and accurate references to legal authority and factual basis.”⁴⁵ Until Holtec examines the extent that drilling and extracting oil and gas near the site may have, Holtec will (1) not satisfy the requirements of 10 C.F.R. § 72.90(b), and (2) the NRC may not issue a license pursuant to 10 C.F.R. § 72.40. For this reason, Contention 2 is material.

- b. Holtec’s reliance on inaccurate information eliminates its ability to satisfy 10 C.F.R. § 72.103(a)(1).

⁴¹ SAR Section 2.1.4 pg. 76.

⁴² FER Section 4.3.4 pg. 192 (oil and gas is “widely available elsewhere in the region.”).

⁴³ See Exhibit 5, at 2.

⁴⁴ Exhibit 1, at 2.

⁴⁵ See *supra* f.n. [32].

Pursuant to 10 C.F.R. § 72.103(a)(1), applications for dry cask modes of storage east of the Rocky Mountain Front will be accepted by the NRC only if “...the results from onsite foundation and geological investigation, literature review, *and regional geological reconnaissance* show no *unstable geological characteristics*, soil stability problems, or potential for vibratory ground motion at the site....”⁴⁶ Contrary to part 72.103 requirements, Holtec has failed to identify the regional presence of 425 well bores⁴⁷ within a five-mile radius of the site.⁴⁸

Of the 425 total well bores located within the 5-mile radius of the site, 172 of these wells are abandoned and may have unstable characteristics.⁴⁹ It is unknown how many orphan wells are located within this vicinity. While the application discusses the potential effect that a nearby oil recovery facility may have on the CISF,⁵⁰ it does not analyze the impact that active oil and gas extraction activity may have on improperly abandoned and orphaned wells located on and within the site’s vicinity.

Oil and gas extraction activities can majorly influence the integrity of improperly abandoned and orphaned wells. Some oil and gas extraction procedures include “high pressure pumping of a mixture of water and proppant (sand) into an active wellbore from the surface to the subsurface hydrocarbon reservoir.”⁵¹ The high pressures from pumping have the ability to “collapse wellbore casings of proximal existing wellbores...caus[ing] surface disruptions of existing wellbores that are not properly abandoned.” Integrity issues become more prevalent with the existence of well bores pre-dating 1967. The integrity of these wells is highly unknown

⁴⁶ (emphasis added)

⁴⁷ Exhibit 1, at 2.

⁴⁸ NUREG-1567 § 2.4.2 requires that an applicant regionally analyze all man-made facilities within a 5-miles radius of an ISFSI.

⁴⁹ Exhibit 1, at 3.

⁵⁰ SAR Section 2.1.2.

⁵¹ Exhibit 1, at 3.

because little or no information is available to determine the adequacy of subsurface construction and “whether the well(s) have been properly plugged and abandoned.”⁵² Inherently, the existence of wells drilled before 1967 provide many questions as to well casing integrity. These questions must be investigated and answered, and Holtec has not met the burden of doing so.

Active drilling and extraction activities have the potential to cause improperly abandoned and orphan wells to collapse. Casing collapse retroactively impacts the integrity and stability of the ground surface. Currently, within the 5-mile region of the site, there are 83 dry and abandoned wells that have been drilled before 1967.⁵³ The application also identifies “18 plugged and abandoned oil and gas wells located on the property.”⁵⁴ These wells are estimated to be between “30-70 years old.”⁵⁵ “It is troubling that Holtec, to some extent, discusses the issue of casing corrosion, but fails to analyze the 18 wells identified in its application for potential casing integrity issues.”⁵⁶ The application has not provided an integrity analysis for the on- and off-site wells that have been drilled before 1967.⁵⁷ Thus, contrary to 10 C.F.R. § 72.103, Holtec has not evaluated the potential impact these regional wells may have on the site’s stability.

Applicants are required to support their arguments and assertions with “appropriate and accurate references to legal authority and factual basis.”⁵⁸ Because the application relied on inaccurate information, Holtec has inevitably failed to evaluate the effect that active, abandoned, and orphan wells may have on the site’s stability. Holtec cannot prevent the extraction of

⁵² *Id.* at 2.

⁵³ *Id.*

⁵⁴ FER Section 4.1.1; SAR Section 2.1.2.

⁵⁵ *Id.*

⁵⁶ Exhibit 1, at 3.

⁵⁷ Holtec merely states that “there are no plans to use any of the plugged and abandoned wells on the Site.” FER Section 4.1.1; SAR Section 2.1.2.

⁵⁸ *See supra* f.n. [32], [45].

minerals below the site because they do not own the minerals.⁵⁹ Until it identifies and analyzes the effect that improperly abandoned and orphan wells can have on the surface due to active oil and gas extraction activity, Holtec will not satisfy the requirements of 10 C.F.R. § 72.90(b) and the NRC cannot issue a license pursuant to 10 C.F.R. § 72.40(a)(2). For these reasons, Contention 2 is material.

iii. Contention 2 is material insofar as 10 C.F.R. § 72.12 applies

Pursuant to 10 C.F.R. § 72.12, an applicant must not “[e]ngage in deliberate misconduct that causes or would have caused, if not detected...applicant to be in violation of any rule or regulation...” issued by the NRC.⁶⁰ Holtec knew or should have known that its application was inaccurate because it acknowledged that the state of New Mexico owns the mineral estate.⁶¹

Furthermore, the Letter provides evidence that Holtec intended to be covert, and potentially deliberate in its misidentification of mineral ownership. The Letter indicates that when Holtec submitted its initial license application, it sent notice to over 60 elected and appointed government officials, but “failed to include the State Land Office.”⁶² The Letter also explains how Holtec “continue[s] to ignore the State Land office’s legal interest in the Site.”⁶³ Furthermore, in Table 1.4.1 of the FER, Holtec lists all applicable regulatory requirements, permits and required consultations, “but conspicuously omits any reference to the State Land

⁵⁹ See Exhibit 5, at 2.

⁶⁰ 10 C.F.R. § 72.12(a)(1)

⁶¹ See FER, Section 3.1.2 at 58 “The surface estate is privately owned (ELEA 2007, Section 2.1.1.1), and the subsurface minerals are *owned by the state of New Mexico*.” (emphasis added).

⁶² Exhibit 5, at 2.

⁶³ *Id.*

Office.”⁶⁴ Holtec knew that the minerals were “owned by the State” because the application admits this fact.⁶⁵

The Letter clearly provides new information that Holtec’s license application and surrounding representations are materially inaccurate and misleading. Without the Letter, Holtec’s inaccurate statements regarding ownership of mineral rights would not have been detected. Without the Letter, Holtec’s deliberate refusal to answer the State Land Office’s questions on February 19, 2019—over five months ago—would not have been apparent.⁶⁶ When Holtec’s admission is coupled with the new information provided by the Letter, Holtec cannot, in good faith, suggest that it controlled the mineral estate below the Site.⁶⁷

Given Holtec’s propensity to ignore both the State Land Office’s legal interest in the site and the Office’s requests for answers, there is reason to doubt Holtec’s sincerity that it did not deliberately and covertly mislead the NRC and Petitioners to believe that it owned the mineral rights below the site. If the NRC concludes that Holtec has violated 10 C.F.R § 72.12, Contention 2 is material.

CONCLUSION

The State Land Office has made it clear that Holtec does not, and will not, own the mineral estate below the CISF until Holtec’s agreement with Intrepid is “approved by the State Land Office.”⁶⁸ So far, the agreement has not been approved. Furthermore, Holtec’s conclusion that the “[e]conomic mineral resources located beneath the CIS Facility would be unavailable for

⁶⁴ *Id.*

⁶⁵ *See supra*, f.n. [61].

⁶⁶ *See* Exhibit 5, at 3.

⁶⁷ To the extent Holtec knew its application was inaccurate and misleading, Holtec should be subject to an enforcement action pursuant to 10 C.F.R. § 72.12 in accordance with the procedures found in 10 C.F.R. part 2, subpart B.

⁶⁸ Exhibit 5, at 2.

exploitation” is inaccurate because (1) Holtec has no control over the minerals below the site, and (2) Holtec has not submitted any State Land Office-approved agreements that would prevent surrounding oil and gas lessees from extracting minerals under the CISF.⁶⁹ This area is currently, and will continue to be, played out for minerals.

The NRC emphasizes the importance of “completeness and accuracy of information submitted by applicants and licensees” and demands “[n]othing less than candor.”⁷⁰ Holtec has failed to meet the level of candor required by the NRC pursuant to 10 C.F.R. § 72.11 and may not rely on its inaccurate statements to satisfy 10 C.F.R. § 72.90 or 10 C.F.R. § 72.103. For these reasons, Holtec’s application should be suspended due to its reliance on inaccurate information and the NRC should not issue a license pursuant to 10 C.F.R. § 72.40. Moreover, if the inaccurate information found in Holtec’s application is found to be deliberate and in violation of 10 C.F.R. § 72.12, Holtec should also be subject to any enforcement actions deemed necessary by the NRC.

V. CONCLUSION

Petitioners have successfully presented an exceptionally grave issue to this Board. Because Petitioners have also satisfied the standards for both “contention admissibility and late filing,” Petitioners have successfully filed this motion to reopen non-contemporaneously with the original MFNC.

⁶⁹ *Id.* at 2-3.

⁷⁰ *Randall C. Orem, D.O.*, CLI-93-14, 37 N.R.C. 423, 427 (1993) (*citing Petition for Emergency and Remedial Action*, CLI-78-6, 7 N.R.C. 400, 18 (1978)).

Based on the above arguments and authorities, Petitioners pray the Commission grants leave for them to file this motion to reopen and incorporate the motion to file a new contention that Petitioners filed on August 1, 2019.

Respectfully submitted,

/electronically signed by/
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Attorney for Petitioners

September 3, 2019

/electronically signed by/
Timothy J. Laughlin, MO S.C. No. 71559
Robert V. Eye Law Office, L.L.C.
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tijay1300@gmail.com
Attorney for Petitioners

September 3, 2019

Certificate of Consultation

Undersigned certifies that communications to counsel for participants in these dockets regarding their positions regarding the above Motion to Reopen and Incorporate Contention Filed August 1, 2019 yielded no objection from Sierra Club or Joint Petitioners. Beyond Nuclear took no position on the motion. Holtec International and NRC Staff opposed the motion.

/signed electronically by/

Robert V. Eye

/signed electronically by/

Timothy J. Laughlin

Certificate of Service

Undersigned certifies that a true and correct copy of the above and foregoing was submitted to the NRC's Electronic Information System for filing and service on participants in the above-captioned dockets.

/signed electronically by/

Robert V. Eye

/signed electronically by/

Timothy J. Laughlin

Fasken and PBLRO's Motion to Reopen:

Exhibit List

Pollock Affd. - Affidavit of Stonnie Pollock

Fasken and PBLRO's Incorporated Motion to File a New Contention:

Exhibit List

Exhibit 1 – Declaration of Stonnie Pollock

Exhibit 2 – Site Radius Map for Holtec International HI-STORE CISF

Exhibit 3 – Wellbore Count Tables

Exhibit 4 – Resume of Stonnie Pollock

Exhibit 5 – Letter of New Mexico State Land Commissioner Stephanie Garcia Richard

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE NUCLEAR REGULATORY COMMISSION**

In the Matter of:

Holtec International

**(HI-STORE Consolidated
Interim Storage Facility)**

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)
)
)
)

Docket No. 72-1051

Affidavit of Stonnie Pollock, Petroleum Geologist

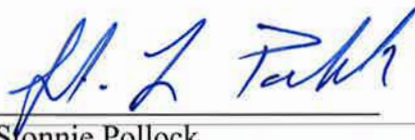
1. My name is Stonnie Pollock and I live at 2116 Ironwood, Midland Texas.
2. I am a degreed geologist and geoscientist. I have a MS in Geology from New Mexico State University in Las Cruces NM (July 1999) and a BS in Geology from Southern Utah University in Cedar City UT (June 1997).
3. I have been employed by Fasken Oil & Ranch, Ltd. as Petroleum Geologist for 16 years. In that capacity, my duties have included geological evaluation, analysis, and interpretation of oil and gas prospects, plays and reservoirs. I also conduct geohydrological evaluation and assessment of aquifers.
4. I have industry training related to risk analysis, geostatistics, geohydrology, petrophysical applications, open-hole log analysis, subsurface mapping, carbonate and siliciclastic sequence stratigraphy, 3-D seismic interpretation, petroleum economics, and GoCad property modeling.
5. I currently serve as the President of West Texas Geological Society. I have held various Board and Chair positions with WTGS, PBS-SEPM, and AAPG Southwest Section. I am an active member of the American Association of Petroleum Geologists, West Texas Geological Society, Permian Basin Section of the Society of Sedimentary Geology and society of Petrophysicists and Well Log Analysts.

6. I have been asked to comment on whether Holtec International's ("Holtec") lack of ownership in mineral rights located below its proposed HI-STORE Consolidated Interim Storage Facility ("Site") presents a potential threat to public safety.
7. There are many risks involved with oil and gas operations and mining activities. These risks can only become more serious when the presence of oil and gas operations and other mining activities are conducted below a nuclear waste storage facility. The International Atomic Energy Agency ("IAEA") believes that storage sites like the one Holtec has proposed should be situated on an adequately controlled single-use piece of land, and furthermore, a piece of land that is void of exploitable mineral and energy resources. There is little information regarding the interaction between nuclear waste storage and preexisting oil and gas development on the very same tract of land. This is cause for concern. From personal experience, oil and gas companies cannot reasonably assess and manage the risks associated with extraction activities without first having complete control over its activities. Deep hydrocarbon reservoirs can be over-pressured, therefore, proper wellbore casings must be installed over a variety of depths and different geologic formations. It is imperative that wellbore integrity is sufficient from depth to surface to protect fresh water aquifers, surface, and atmospheric resources. Even if an oil and gas company has complete control over its operation, there are situations that can elevate those risks and potentially cause a serious threat to the safety of others and the environment.
8. In my professional opinion, Holtec's lack of ownership and control over the minerals below the Site poses a serious threat to public safety. As mentioned, there are concerns about the unknown interaction between nuclear waste storage and preexisting oil and gas

development on the very same tract of land. Furthermore, Holtec has not analyzed the inherent risks associated with oil and gas mining activities and how the presence of preexisting oil and gas activity below the nuclear waste storage facility presents a serious safety concern.

9. Fasken has demonstrated that the Atomic Safety and Licensing Board and/or the Nuclear Regulatory Commission would likely admit this issue and contention because the NRC Staff agreed that Fasken Oil and Ranch and Permian Basin Land and Royalty Owners' satisfied, in part, the contention requirements of 10 C.F.R. § 2.309(f) in their Motion for Leave to File a New Contention filed on August 1, 2019.

I declare under penalty of perjury that the foregoing is true and correct. Executed on August 29, 2019.



Stonnie Pollock
2116 Ironwood
Midland Texas 79707
(432) 638-7296
spollock@forl.com
August 29, 2019

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE NUCLEAR REGULATORY COMMISSION**

Exhibit 1

In the Matter of:)	
)	Docket No. 72-1051
Holtec International)	
)	July 30, 2019
(HI-STORE Consolidated)	
Interim Storage Facility))	

DECLARATION OF STONNIE POLLOCK

1. My name is Stonnie Pollock and I am a degreed geologist and geoscientist. Since 2003 I have been employed by Fasken Oil & Ranch, Ltd. as Petroleum Geologist. In that capacity, my duties include geological evaluation, analysis, and interpretation of oil and gas prospects, plays and reservoirs. I also conduct geohydrological evaluation and assessment of aquifers.
2. MS in Geology, New Mexico State University, Las Cruces NM - July 1999
BS in Geology, Southern Utah University, Cedar City UT - June 1997
3. For a more complete compilation of my relevant professional experience please reference my resume that is included with my Declaration.
4. The information below provides my analysis of Holtec International's HI-STORE CISF and the concerns I have regarding its application.

I. Area Production of Oil and Gas and the Impact it Will Have on the Operation of the CISF

Holtec's application indicates that the immediate area around the site has been the focus of intense petroleum exploration and development activities since the 1920's. The application repeatedly, and inaccurately, states that Holtec controls the mineral rights on the site and that mineral resources located beneath the site would be unavailable for exploitation during the life of the project. To the contrary, the New Mexico State Land Office has not approved the agreement between Holtec and the true owner of the mineral estate below the site. Because the agreement has not been approved, the petroleum industry will likely continue to explore and extract minerals directly adjacent to and below the site.

a. High Potential for Mineral Extraction Within Vicinity of Site

To determine the extent of oil and gas activities in the vicinity of the site, Fasken and PBLRO use Petra, a commercially available petroleum industry GIS-based software to review current and former oil and gas drilling activity within the area.

Within a 5-mile radius of the site, there have been a total of 425 well bores drilled. Presently 253 of these well bores are still in production. 45 of these wells are recently drilled horizontal wells. 149 wells have been identified as dry holes. Of the 425 wells within five miles of the site, 19 have been recorded as permanently plugged and abandoned. Of the dry and abandoned wells, 83 of these were drilled before 1967. The depth of these wells range from 710 feet deep to 16,009 feet deep, depending on the type of well. This clearly shows that the area around the site is still under active exploration and active production.

The application admits that oil and gas extraction activities take up most of the activity within the site's vicinity. The application also notes the presence of the Belco Shallow and Belco Deep drill island which are intended to accommodate multiple oil and gas well locations within 0.25 to 0.5 miles away from the site. The New Mexico Oil Conservation Commission ("Commission") has concluded that a setback distance of 330 feet for oil wells and 660 feet from a gas is reasonable. This distance is calculated perpendicular from the lateral to the boundary of each unit the lateral extends to. Essentially what this means is that oil and gas may be extracted anywhere within 330-660 feet from Holtec's site without impacting the correlative rights of those who actually own the minerals below the site. Holtec's unenforceable moratorium on mineral extraction has no impact on the ability of others to extract minerals below and adjacent to the site as long as they abide by the setback distances established by the Commission.

Given the application's inaccurate blanket statement that Holtec can prevent extraction activities below the site, the application has failed to analyze the impact that oil and gas extraction will have on the site. The application must analyze this impact.

b. Impact of Dry, Abandoned, and Orphan Wells on the Site

A complicating factor in identifying the presence of wellheads is that there is no definitive index to adequately count all the well bores drilled in any given area. The current API numbering system was introduced in the early 1960s and formally adopted by petroleum producing states at the beginning of 1967. Wells drilled after 1967 were assigned an API number and can be tracked with some certainty. Wells drilled prior to this date may or may not have an API number assigned to it and wells that were out of use almost certainly did not have an API number assigned. The count of nearly 107 individual wells made by Fasken and PBLRO may be low.

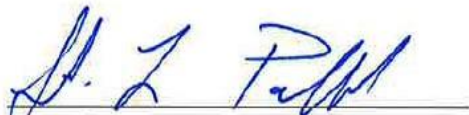
For older well bores, there may be little or no information to determine the adequacy of subsurface construction or whether the well(s) have been properly plugged and abandoned. Records of these wells do exist, but may not be available in the respective state records. And these records may be incomplete. An example is that of an old well bore that was recently discovered leaking at the surface on Fasken's property. The well head was buried below ground surface and found by a rancher moving livestock through the area. After Fasken conducted an internal investigation, it was found that the well was drilled in 1962 by a company that had obtained an oil and gas lease from Fasken. The well was noted as a dry hole and temporarily abandoned by the company that drilled it. Internal records indicate that the well has a surface casing with an open hole (no casing) below approximately 500 feet from ground surface-which was common for the period. Although this well appears on Texas Railroad Commission (RRC) public Geographic Information System mapping records, no information is available from RRC

to determine the status. Only Fasken records were able to provide the historical data. Wells of this type are called orphan wells. In most cases no data are available for an orphan well due to age, or the company that drilled it may be defunct. It is unknown how many orphan wells may exist near the site. With older orphan wells, the only knowledge that the well might exist is that a permit to drill the well was obtained—these wells may or may not appear in a GIS. Finally, drilling an oil well is expensive and petroleum companies that drilled dry holes often did not permanently plug the wells due to funds expended. These well bores would be temporarily abandoned in order to save them for future opportunities that may arise.

Current oil and gas extraction procedures include high pressure pumping of a mixture of water and proppant (sand) into an active wellbore from the surface to the subsurface hydrocarbon reservoir. This is the practice of hydraulic fracturing. These active wells have large volumes, pumped at high pressures and rates that can collapse wellbore casings of proximal existing wellbores. Potential casing collapses could cause surface disruptions of existing wellbores that are not properly abandoned.

It is troubling that Holtec, to some extent, discusses the issue of casing corrosion, but fails to analyze the 18 wells identified in its application for potential casing integrity issues. Not only is Holtec required to analyze the impact that the wells on its property may have on the site, but it is also required to analyze the impact that unstable geological characteristics in the region may have on the site as well. There are currently 172 abandoned wells within 5-miles of the site that may have unstable characteristics. This number is likely larger when orphan wells are introduced.

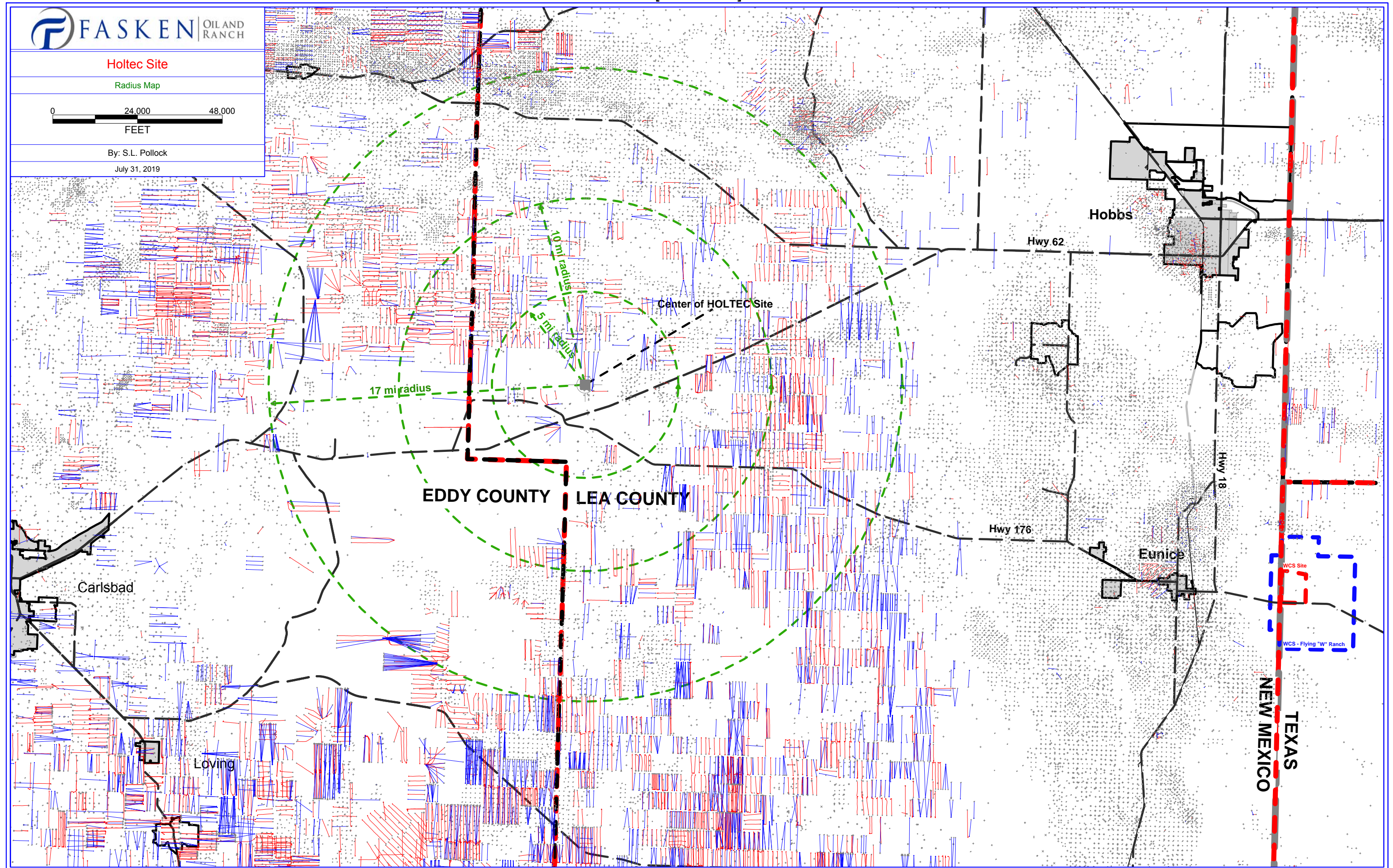
Contrary to NRC regulations, Holtec has failed to analyze the status of surface wellheads and the potential existence of unstable characteristics present in many improperly abandoned and orphan wells. A more definitive well search and on-the-ground verification is needed. Holtec must analyze the integrity of abandoned wells and also identify and analyze the presence of any orphan wells located on or near the site.



Stonnie Pollock
Petroleum Geologist
Fasken Oil and Ranch, Ltd.

7-31-2019
Date

Holtec International - HI-STORE CISF (Site Radius Map)
[EXHIBIT 2]



Wellbore Count in 17 Mile Radius of Holtec		
Wellbore Type	Symbol	Count
Producing Oil Wells	OIL	3,810
Producing Gas Wells	GAS	318
Plugged & Abandoned Oil & Gas Wells	P&A	311
Temporarily Adandoned Oil & Gas Wells	T&A	70
Injection Wells	INJ	231
Salt Water Disposal Wells	SWD	86
Water Supply Wells	SRV	40
New Drilled Un-Completed Wells	DUC's	18
Dry Holes	DRY	2,555
Total Wellbores		7,439
Horizontal Wells		891
Permitted Wells		199

Wellbore Count in 10 Mile Radius of Holtec		
Wellbore Type	Symbol	Count
Producing Oil Wells	OIL	792
Producing Gas Wells	GAS	158
Plugged & Abandoned Oil & Gas Wells	P&A	96
Temporarily Adandoned Oil & Gas Wells	T&A	18
Injection Wells	INJ	28
Salt Water Disposal Wells	SWD	23
Water Supply Wells	SRV	14
New Drilled Un-Completed Wells	DUC's	8
Dry Holes	DRY	610
Total Wellbores		1,747
Horizontal Wells		252
Permitted Wells		85

Wellbore Count in 5 Mile Radius of Holtec		
Wellbore Type	Symbol	Count
Producing Oil Wells	OIL	195
Producing Gas Wells	GAS	33
Plugged & Abandoned Oil & Gas Wells	P&A	19
Temporarily Adandoned Oil & Gas Wells	T&A	4
Injection Wells	INJ	13
Salt Water Disposal Wells	SWD	5
Water Supply Wells	SRV	7
New Drilled Un-Completed Wells	DUC's	-
Dry Holes	DRY	149
Total Wellbores		425
Horizontal Wells		45
Permitted Wells		5

Pre-1967 17 Mile Radius of Holtec		
Wellbore Type	Symbol	Count
Producing Oil Wells	OIL	472
Producing Gas Wells	GAS	9
Plugged & Abandoned Oil & Gas Wells	P&A	206
Temporarily Adandoned Oil & Gas Wells	T&A	35
Injection Wells	INJ	25
Salt Water Disposal Wells	SWD	-
Water Supply Wells	SRV	2
New Drilled Un-Completed Wells	DUC's	-
Dry Holes	DRY	1,260
Total Wellbores		2,009

Pre-1967 10 Mile Radius of Holtec		
Wellbore Type	Symbol	Count
Producing Oil Wells	OIL	63
Producing Gas Wells	GAS	6
Plugged & Abandoned Oil & Gas Wells	P&A	63
Temporarily Adandoned Oil & Gas Wells	T&A	7
Injection Wells	INJ	-
Salt Water Disposal Wells	SWD	-
Water Supply Wells	SRV	1
New Drilled Un-Completed Wells	DUC's	-
Dry Holes	DRY	261
Total Wellbores		401

Pre-1967 5 Mile Radius of Holtec		
Wellbore Type	Symbol	Count
Producing Oil Wells	OIL	18
Producing Gas Wells	GAS	3
Plugged & Abandoned Oil & Gas Wells	P&A	14
Temporarily Adandoned Oil & Gas Wells	T&A	2
Injection Wells	INJ	-
Salt Water Disposal Wells	SWD	-
Water Supply Wells	SRV	1
New Drilled Un-Completed Wells	DUC's	-
Dry Holes	DRY	69
Total Wellbores		107

Stonnie L. Pollock
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Fasken Oil and Ranch, Ltd.
6101 Holiday Hill Road
Midland Texas 79707-1631
Phone: 432-638-7296 (cell) Email: spollock@forl.com

Exhibit 4

Professional Experience

Senior Geologist – Fasken Oil and Ranch, Midland TX, 9-03 to present

Unconventional Reservoirs: Vertical Wolfberry, Horizontal Wolfberry, and Eagle Ford

- Regional Analysis, Basin Analysis and Appraisal for Unconventional Reservoirs
- Geological Interpretation: Structural, Stratigraphic, Petrophysical, Geochemical, and Geomechanical Analyses from Core and Logs.
- Microseismic Survey Analysis
- Well Planning: Well spacing, Well Orientation Designs
- Production Analysis

Exploitation, Development, and Evaluation

- Evaluate and recommend outside generated prospects
- Assist in evaluation of acquisition targets
- Detailed mapping for infill and/or horizontal drilling in existing water and CO2 floods
- Volumetrics and reserves estimations
- Recommend and initiate new technology (e.g. horizontal drilling, surface geochemistry, cross-well seismic, petrophysical techniques)

Exploration Geologist

- Prospect Generator: Identify, map, and recommend drillable prospects using both traditional techniques and new technologies in the following plays:
 - Spraberry (Gin Sand) stratigraphic targets in Dawson County
 - Ellenburger, Fusselman and Devonian structural targets on Central Basin Platform, Midland Basin and Eastern Shelf
 - Various Yates (Gas), Queen, Grayburg, San Andres, and Clear Fork prospects on Central Basin Platform and Northwest Shelf
 - Mississippian, Pennsylvanian and Wolfcamp carbonate prospects on Central Basin Platform, Eastern Shelf and Northwest Shelf
 - Wolfcamp tight-gas sandstones, thrust Devonian and Strawn, and subthrust Strawn in the West Texas Overthrust
 - Nevada: Exploration for large fold-thrust structures within the Great Basin

Operations Geologist

- Prepare geological prognoses and recommend logging programs
- Hire and supervise mudloggers and wellsite geologists
- Evaluate pay zones on location
- Pick DST intervals, coring points, total depths and make casing decisions
- Assessment and Evaluation of Aquifers for Groundwater
 - Map and Delineate Aquifers; including the Capitan Reef Complex, Dockum, Edwards-Trinity-Antlers, Ogallala, and Pecos Valley Aquifers
 - Recommend drilling programs for water supply wells in the Dockum (Santa Rosa)
- Map and Evaluate geologic formations for saltwater disposal

Development Geologist, Texaco E&P Co. and ChevronTexaco, Midland TX, 6-00 to 9-03

- Geostatistical Modeling of Clear Fork and San Andres Reservoirs
- Reservoir characterization & management of Clear Fork, San Andres, and Queen waterfloods
- Project Development for infill, horizontal, and exploitation drilling locations
- Geological evaluation of farm out requests and joint venture interests
- Economic and Risk analysis of capital drilling projects
- Identification and Recommendation of workovers in by-passed zones

Field Geologist, Schlumberger Holditch Reservoir Technologies, Denver CO, 7-99 to 10-99

- Contract geologist responsible for outcrop reservoir characterization of the Jurassic Morrison Formation
- Architectural Analysis of fluvial channels and shale layers as flow units and barriers
- Characterization was used as Alaskan North Slope reservoir analogs

Education

MS in Geology, New Mexico State University, Las Cruces NM, 7-99

BS in Geology & Spanish, Southern Utah University, Cedar City Utah, 6-97

Industry Training

Open-Hole Log Analysis, Subsurface Mapping, Carbonate and Siliciclastic Sequence Stratigraphy,
3D Seismic Interpretation, Petroleum Economics, Risk Analysis, Geostatistics,
GoCad Property Modeling, Petrophysical Applications, Geohydrology,
Various Field Trips and Core Workshops

Computer Applications

Geological: Petra & Geographix Suite **Petrophysical:** Powerlog & HDS **Production:** IHS Energy tools
Economics: Various Software for probabilistic economics, risk, and decision analysis
MS Office: Excel, Power Point, Word, Access, Publisher

Other Experience

- Active Member of following associations and societies: American Association of Petroleum Geologists, West Texas Geological Society, Permian Basin Section of the Society of Sedimentary Geology, and Society of Petrophysicists and Well Log Analysts
- Current President of West Texas Geological Society, June 2019 to June 2020
- Various Board & Chair positions with WTGS, PBS-SEPM, and AAPG Southwest Section
- Earth Science Week Representative at Public Schools 1997-to present
- Board of Directors: Gifts of Hope, Midland Texas
- Boy Scouts of America: Scoutmaster, Asst. Scoutmaster, Troop Committee Member
- Wildland Firefighter & Forestry Technician, US Forest Service, Escalante and Cedar City Utah, 1989, 1994-1997
- Volunteer Humanitarian/Ecclesiastical Representative, The Church of Jesus Christ of LDS, Honduras & Belize 1990-1992



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

July 2, 2019

SECRETARY

Stephanie Garcia Richard
State of New Mexico
Commissioner of Public Lands
310 Old Santa Fe Trail
P.O. Box 1148
Santa Fe, NM 87504-1148

Dear Commissioner Richard:

On behalf of the U.S. Nuclear Regulatory Commission, I am acknowledging receipt of your letter of June 19, 2019, addressed to Krishna Singh of Holtec and copied to Chairman Svinicki regarding the license application from Holtec International for a consolidated interim storage facility (CISF) in New Mexico.

Because your letter relates to subjects raised during adjudication of the application, some of which are currently before the Commission on appeal, a copy of your letter and this acknowledgment will be served on the parties in the Holtec CISF adjudication.

Sincerely,

A handwritten signature in purple ink, reading "Denise L. McGovern", is written over a horizontal line.

Denise L. McGovern
Acting Secretary



Stephanie Garcia Richard
COMMISSIONER

State of New Mexico
Commissioner of Public Lands

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June 19, 2019

Krishna P. Singh
President and CEO
Holtec International
Krishna P. Singh Technology Campus
1 Holtec Blvd.
Camden, NJ 08104

Dear Dr. Singh:

I write regarding Holtec International's stated plans to build and operate a nuclear waste storage facility in western Lea County, New Mexico, near the Eddy County line. In the course of applying for a 40-year permit from the United States Nuclear Regulatory Commission (NRC) to deposit in New Mexico up to 120,000 metric tons of highly radioactive waste from nuclear facilities across the United States, Holtec has stated that its proposal enjoys "overwhelming support" in the state. In fact, a number of New Mexico industry associations, from the New Mexico Cattle Growers' Association to the Permian Basin Petroleum Association, recently have expressed serious concerns about – and in some instances outright opposition to – Holtec's proposal. Along with elected officials and non-profit organizations, they have raised significant questions about the effect of the proposed nuclear waste storage site on New Mexico's oil and gas industry, farm and ranch economy, and environment. This letter will not restate those concerns, which are a matter of public record.

Instead, as New Mexico's Commissioner of Public Lands, with direct oversight of mineral leasing at the location of Holtec's planned facility, I write to express my safety concerns and to address several misrepresentations that Holtec has made to the NRC and New Mexicans about its control of the proposed disposal site as well as agreements that it claims to have secured from New Mexico State Land Office mineral lessees. The State Land Office has reviewed a number of Holtec's submissions to the NRC, including the company's Facility Environmental Report (FER) and Safety Analysis Report (SAR). Those

submissions contain statements that have the potential, intended or not, to mislead federal regulators and the public alike, and require immediate correction.

The site for Holtec's proposed nuclear waste facility (the Site) is located in Section 13, Township 20 South, Range 32 East, and portions of Section 17 and 18, Township 20 South, Range 33 East, between the cities of Hobbs and Carlsbad. Holtec has repeatedly and publicly characterized the Site as under its control. *See, e.g.*, FER 2.2.1. In fact, the subject land is a split estate; while Eddy-Lea Energy Alliance, LLC privately owns the surface estate, the State of New Mexico, through the New Mexico State Land Office, owns the mineral estate. The State Land Office's control of the Site's mineral estate is not disclosed in the FER or other NRC submissions. To the contrary, in its filings with the NRC, Holtec appears to have entirely disregarded the State Land Office's authority over the Site's mineral estate. Holtec sent notice of its initial license application in March 2017 to over 60 elected and appointed government officials, but failed to include the State Land Office. The company's subsequent filings continue to ignore the State Land Office's legal interest in the Site. For example, Table 1.4.1 of the FER lists all applicable regulatory requirements, permits and required consultations – but conspicuously omits any reference to the State Land Office.

As you know, the Site is located within the Permian Basin, one of the world's most productive oil and gas-producing regions, and there is significant oil and gas development (as well as potash mining) in the Site's immediate vicinity. Holtec claims throughout its NRC submissions that it has secured the agreements of mineral lessees on or near the Site to forebear from certain development activities. For instance, Section 2.4.2 of the FER states that “[b]y agreement with the applicable third parties, the oil drilling and phosphate extraction activities have been proscribed at and around the site and would not affect the activities at the site.” Along similar lines, Section 2.6.4 of the SAR notes: “With regard to potential future drilling on the Site, Holtec has an agreement [2.6.9] with Intrepid Mining LLC (Intrepid) such that Holtec controls the mineral rights on the Site and Intrepid will not conduct any potash mining on the Site. Additionally, any future oil drilling or fracking beneath the Site would occur at greater than 5,000 feet depth, which ensures there would be no subsidence concerns [2.1.8].”

Holtec's claim that it has secured third-party agreements for control of the Site is incomplete at best. Site control generally refers to ownership of, or a leasehold interest in, a right to develop a particular tract of land. Holtec does not “control” the “mineral rights on the Site.” Instead, Holtec only has an agreement with a single company, Intrepid, relating to that company's potash mining – an agreement that has yet to be approved by the State Land Office, under whose authorization Intrepid conducts its mining activities on the Site. The State Land Office's oil and gas lessees, meanwhile, confirm they have not entered into agreements with Holtec to suspend or limit their oil and gas development to accommodate Holtec's planned nuclear waste disposal facility. In addition, there are other mineral resources potentially present on the Site that may fall within the State Land Office's mineral estate that are not addressed in Holtec's filings at all.

In addition to misstating its control over the Site, Holtec also treats as a foregone conclusion the State Land Office's ability and desire to restrict oil and gas drilling on the Site. Holtec, through the Eddy-

Lea Energy Alliance, has proposed that the State Land Office impose a negative easement called a “land use restriction or condition” on all mineral development on the Site, including a ban on oil and gas development between the surface and a depth of 3,000 feet, and a prohibition on any directional or horizontal wells bottomed beneath the site that Holtec believes might “disturb or conflict” with its use of the site. The State Land Office has not approved any such restriction, which would likely trigger legal challenges from businesses that already are conducting operations on the Site pursuant to their existing mineral leases.

The State Land Office’s oil and gas leases on and adjacent to the Site do not impose any depth restrictions on drilling activities. Contrary to Holtec’s assurances that “any future oil drilling or fracking ... would occur at greater than 5,000 feet depth,” the State Land Office’s analysis demonstrates the existence of numerous active oil and gas wells within a three-mile radius of the Site at depths of 5,000 feet or less.

In addition, two of the State Land Office lessees on or immediately adjacent to the Site, COG Operating, LLC and EOG Resources, Inc., raise significant concerns about the proposed project and the land use restriction that Holtec requires, particularly its implications for salt water disposal wells, pipelines, and horizontal wells underneath the Site that Holtec might determine – using unknown criteria – will “disturb or conflict” with its nuclear waste storage operations. Both companies advise that they will explore all legal options if the State Land Office were to impose a restriction on oil and gas activities that are permitted under their current leases, along the lines of what Holtec seeks. For those reasons, it is difficult to take at face value Holtec’s representation in its May 23, 2019 letter to the State Land Office that “Oil and Gas is not affected by the facility.”

The International Atomic Energy Agency appears to share the State Land Office’s and its lessees’ concerns about the unknown interaction between nuclear waste storage and preexisting oil and gas development on the very same tract of land. In a 2007 publication, it explains that “[a]ny potential site will require an adequately controlled single-use land area to accommodate storage facilities,” and that potential waste disposal sites should “avoid land with exploitable mineral and energy resources.” International Atomic Energy Agency, Selection of Away-From-Reactor Facilities for Spent Fuel Storage: A Guidebook, IAEA-TECDOC-1558 (Sept. 2007) at 3.2.2 (pp. 23-24) (emphases added). Despite Holtec’s assurances to the NRC and to New Mexicans, it does not appear that your company has undertaken a thorough and critical analysis of the possible conflicts between your nuclear waste storage proposal and the vital economic activities that are already taking place on the Site.

Finally, while I appreciate Holtec’s attendance at a February 19, 2019 meeting at the State Land Office to overview the company’s plans, a number of serious questions that I and my staff raised at that meeting remain unanswered. Holtec to date has not responded to our inquiry about the effects that its proposed operations will have on oil and gas lessees’ present or future fracking activities. In addition, we asked Holtec to identify the worst case scenario for an accident or other adverse event at the Site, and explain how the company would respond to such a contingency. To date, we have not received any

meaningful response to this inquiry, an omission that requires the State Land Office to assume that Holtec has not sufficiently analyzed the risks posed by its planned operations or is unwilling to do so.

If Holtec's proposal moves forward, nuclear waste likely would remain in southeastern New Mexico until 2048 at the earliest, and possibly much longer since there is no designated permanent repository anywhere in the nation for high-level radioactive waste. As the Commissioner of Public Lands, I am deeply concerned about the misrepresentations Holtec made to the NRC about purported agreements and restrictions regarding mineral leasing at the Site that do not exist and may very well never ever exist. Understanding the extent of oil and gas operations and other mining activities that may be conducted at the Site is essential to accurately assessing the risks of Holtec's planned nuclear storage operations. Holtec's NRC filings are materially inaccurate in this regard. Given these safety concerns, and lack of consideration for the State Land Office's fiduciary responsibilities, I do not believe that Holtec's proposed nuclear storage project is in the best interests of the State Land Office, its lessees, and its beneficiaries.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Stephanie', with a long horizontal flourish extending to the right.

Stephanie Garcia Richard
Commissioner of Public Lands

cc: Hon. Rick Perry
Secretary, United States Department of Energy

Hon. Kristine Svinicki
Chair, United States Nuclear Regulatory Commission

Hon. Michelle Lujan Grisham
Governor of the State of New Mexico

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Letter from NRC Acting Secretary Denise McGovern to Commissioner Richard

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Docket No. 72-1051-ISFSI

Letter from NRC Acting Secretary Denise McGovern to Commissioner Richard

Eddy County, NM*
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Carlsbad, NM

~~Rick Rudometkin~~

E-mail: ~~rrudometkin@co-eddy.nm.us~~

* Eddy County not served due to no
representative for the County assigned at
the time of Mr. Rudometkin's departure.

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[Original signed by Krupskaya T. Castellon]
Office of the Secretary of the Commission

Dated at Rockville, Maryland,
this 2nd day of July, 2019