Nos. 23-1300 and 23-1312

In the Supreme Court of the United States

UNITED STATES NUCLEAR REGULATORY COMMISSION, ET AL., PETITIONERS

v.

STATE OF TEXAS, ET AL.

INTERIM STORAGE PARTNERS, LLC, PETITIONER

v.

STATE OF TEXAS, ET AL.

ON WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE FIFTH CIRCUIT

JOINT APPENDIX

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PETITIONS FOR WRITS OF CERTIORARI FILED: JUNE 12, 2024
CERTIORARI GRANTED: OCT. 4, 2024

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OFFICE OF THE GOVERNOR

RICK PERRY
GOVERNOR

March 28, 2014

The Honorable David Dewhurst
Lieutenant Governor
State of Texas
State Capitol, Room 2E.13
Austin, Texas 78701

The Honorable Joe Straus
Speaker of the House
Texas House of Representatives
P.O. Box 2910
Austin, Texas 78768

Dear Governor Dewhurst and Speaker Straus:

Enclosed is a report completed at my request by the Texas Commission on Environmental Quality (TCEQ). This report evaluates the challenges posed by spent nuclear fuel and other high-level radioactive waste (together "HLW") currently stored on-site at the six Texas nuclear reactors.

In light of recent developments regarding the interim storage and disposal of HLW by the federal government, Texas now faces the very real possibility that it

will have to find a solution to the long-term issue of safe and secure handling of this waste. The citizens of Texas —and every other state currently storing radioactive waste—have been betrayed by their federal government after contributing billions of dollars to fund a federal solution for HLW disposal, because a federal solution still does not exist.

Since the U.S. Congress enacted the Nuclear Waste Policy Act in 1982, each state, including Texas, has been assured that the federal government would take possession and provide a disposal solution for any HLW generated within its borders. In 1987, the federal government identified Yucca Mountain in Nevada as being the ultimate disposal option with a completion date in 1998. After extensive litigation, delays and cost overruns, in 2009 President Obama abandoned any further development of Yucca Mountain and Congress ceased all funding in 2011 after more than $15 billion had been spent characterizing and developing the site.

Early in 2013, the U.S. Department of Energy announced that it was developing a new plan to replace Yucca Mountain—estimating that an HLW disposal solution would not be available until 2048. However, in November 2013, the U.S. Court of Appeals for the District of Columbia determined that the federal government has "no credible plan" to dispose of HLW.

2048, or whatever year Washington forecasts that a solution will be provided, is too long to wait.

I believe it is time for Texas to act, particularly since New Mexico is seeking to be federally designated for HLW disposal. The New Mexico proposed site is approximately 50 miles from the Texas border, and we must ensure our citizens are protected. We have no

choice but to begin looking for a safe and secure solution for HLW in Texas—a solution that would allow the citizens of Texas to recoup some of the more than $700 million they have paid toward addressing this issue.

I hope the enclosed report will be sent to the appropriate oversight committees in your chamber. The leadership at TCEQ understands the importance of this issue, and I believe they will be a valued resource as we continue to develop a Texas solution for the long-term resolution of HLW currently residing inside our borders.

Sincerely,

/s/ RICK PERRY
RICK PERRY
Governor

RP:mmp
Enclosure

Low-level radioactive waste disposal: On August 28, TCEQ issued Amendment No. 26 to RML R04100 as a major amendment. The amendment 1) revised the performance assessment, 2) adjusted the amount of financial assurance required, and 3) increased the licensed volume of the compact disposal facility. Waste Control Specialists is now authorized under the license to accept all Class A, B, and C low-level radioactive waste for disposal, including depleted uranium in concentrations greater than 10 nanocuries/gram.

Uranium Mining:

Major amendments for license area expansion at two in situ uranium mining licenses were declared technically complete in July and August. Public notice was published in the *Falfurrias Facts* on August 7, 2014 for the Mesteña Alta Mesa Project, with the comment period ending on September 8, 2014. Public notice for the South Texas Mining Venture Palangana Project will be published soon. A major amendment application from Signal Equities for a license area expansion on their Brown Project and a new license application from UEC for their Burke Hollow project are both currently under technical review.

TCEQ had begun working towards obtaining partial release from the NRC of a portion of the former licensed area of the abandoned IEC Lamprecht/Zamzow site. On August 12, 2014, a team of 14 TCEQ field workers along with 3 individuals from DSHS began gamma surveys and soil sampling in support of an effort to release

non-operational areas for unrestricted use. Using GPS data units coupled to survey meters, 2-man teams collected data across 775 acres in a portion of the formerly licensed area. Two more field days are currently planned to finish data collection. When all data have been collected and analyzed, a Completion Review Report will be written and submitted to the NRC for their concurrence in a partial release of these areas for unrestricted use. TCEQ has also initiated its contracting process to be able to contract for the clean-up of the operational portion of this site.

By-product material disposal: Operation of the byproduct waste disposal facility continues under its current license. By license condition, the byproduct disposal operation is limited to receiving only the Fernald byproduct waste. Staff members continue to review WCS's environmental monitoring reports and related data.

Underground Injection Control: TCEQ is processing two applications for new Class III UIC permits for in situ uranium mining and one application for expansion of the permit area of an existing in situ uranium mining site. One of the new applications (UEC Burke Hollow site) is for an unmined site in Bee County. The other new application (Signal Equities Brown site) is for a previously-mined site (USX Boots-Brown) in Live Oak County. The application for expansion (STMV Palangana site) is in Duval County.

IN THE COMMISSIONERS COURT
OF
ANDREWS COUNTY, TEXAS

A resolution in support of establishing a site in Andrews County for consolidated interim storage of spent nuclear fuel and high-level radioactive waste.

WHEREAS, Andrews County, Texas, as host to two low-level radioactive waste disposal facilities operated by Waste Control Specialists LLC ("WCS"), greatly benefits directly and indirectly from the economic activity associated with disposal of radioactive materials; and

WHEREAS, Andrews County recognizes the importance of a diversified economy to the livelihood of the citizens of Andrews County; and

WHEREAS, Andrews County is home to a specialized workforce with expertise concerning radioactive materials, and WCS currently employs more than 170 full-time employees with an annual payroll of more than $13 million in Andrews County; and

WHEREAS, Andrews County has invested in the success of the low-level radioactive waste disposal facilities operated by WCS by issuing $75 million in bonds and using that revenue to purchase property leased by WCS as part of the operation of the disposal facilities; and

WHEREAS, Andrews County receives five percent of the gross receipts from waste disposed of at the two low-level radioactive waste disposal facilities, which receipts to date have totaled over $5 million directly paid to Andrews County and are expected to total more than $3 million per year in the future; and

WHEREAS, WCS has consistently shown its commitment to the environment and the citizens of Andrews County by, among other things, designing and operating safe, state-of-the-art radioactive materials facilities, working to ensure that Andrews County shares in economic benefits because of WCS operations, and working to ensure that local stakeholders are kept informed and made an integral part of the decision-making process concerning WCS operations; and

WHEREAS, there are substantial quantities of Spent Nuclear Fuel ("SNF") and High- Level Radioactive Waste ("HLW") currently stored at sites throughout Texas and the United States; and

WHEREAS, much of the SNF and HLW is currently stored at sites that are vulnerable to natural disasters and located near large metropolitan centers; and

WHEREAS, the United States Department of Energy (the "DOE") concluded in 2013 that a geologic repository for the permanent disposal of SNF and HLW will not be available until 2048, at the earliest; and

WHEREAS, the federal Blue Ribbon Commission on America's Nuclear Future in 2012 recommended "prompt" efforts to develop one or more consolidated SNF and HLW interim storage facilities while further efforts are made to develop a permanent disposal site; and

WHEREAS, the Texas Commission on Environmental Quality ("TCEQ") analyzed the challenges associated with creating a consolidated SNF and HLW interim storage solution in Texas in its March 2014 *As-*

sessment of Texas's High Level Radioactive Waste Storage Options report (the "Report"); and

WHEREAS, the TCEQ, in the Report, noted that consolidated SNF and HLW interim storage in Texas would offer electricity consumers significant savings compared to storage at each nuclear power plant and that the siting and construction of a consolidated SNF and HLW interim storage facility is "not only feasible but could be highly successful" so long as the approach "minimizes local and state opposition through stakeholder meetings, finding volunteer communities, financial incentives, and a process that is considered fair and technically rigorous;" and

WHEREAS, the Texas Radiation Advisory Board issued an official statement of its position "that it is in the state's best interest to request that Texas be considered by the Federal Government as a consolidated SNF storage site;" and

WHEREAS, the Governor of Texas noted that Texas should "begin looking for a safe and secure solution for HLW in Texas;" and

WHEREAS, the workforce, the geography, and the geology of Andrews County make it an ideal location for safe storage of radioactive materials, and Andrews County is a volunteer community that wishes to offer its unique resources to help solve the state's and country's SNF and HLW storage problems.

NOW, THEREFORE, BE IT RESOLVED AND ORDERED that the Commissioners Court of Andrews County, Texas, meeting in open session, believes that the construction and operation of a consolidated SNF and HLW interim storage facility in Andrews

County (the "Facility"), licensed by the Nuclear Regulatory Commission and developed by WCS, will enhance the health, safety, and welfare of the citizens of Andrews County; and

BE IT FURTHER RESOLVED AND ORDERED that the Commissioners Court of Andrews County does hereby declare and express the commitment of Andrews County to explore the development of the Facility, and in support thereof does hereby call upon and ask:

the State of Texas, all its agencies, officials and political subdivisions, and all members of the Texas congressional delegation to work cooperatively with all relevant entities towards the creation of the Facility, including taking actions to evidence approval of the development of the Facility, such as executing and delivering letters of support, cooperative agreements, or other documents needed in connection with the site selection, siting and licensing of the Facility; and

the State of Texas, all its agencies and officials, and all members of the Texas congressional delegation to assist Andrews County in securing all federal incentives that may be available, as a result of siting the Facility, from the DOE or another appropriate federal entity; and

BE IT FURTHER RESOLVED AND ORDERED that the Andrews County Judge is hereby authorized to negotiate terms of any interlocal agreements and other contracts and agreements related to financial incentives that may be available to Andrews County as a result of siting the Facility, which terms and agree-

ments or contracts will be subject to approval by this Commissioners Court; and

BE IT FURTHER RESOLVED AND ORDERED that Andrews County is committed to exercising its regulatory and service-providing powers, including such powers as those related to transportation planning, infrastructure development, and police and fire protection, in a manner that protects the health, safety, and welfare of the citizens of Andrews County by facilitating the development of the Facility; and

BE IT FURTHER RESOLVED AND ORDERED that a copy of this resolution be sent to the Texas Governor, the Texas Lieutenant Governor, the Speaker of the Texas House, the State Representative for Texas House District 81, the State Senator for State Senate District 31, the United States Representative for Congressional District 11, the United States Senators for the State of Texas, the Commissioners of the United States Nuclear Regulatory Commission, and the United States Secretary of Energy.

Passed and Approved on this 20th day of January, 2015.

/s/ RICHARD H. DOLGENER
RICHARD H. DOLGENER
County Judge RICHARD H. DOLGENER

/s/ BARNEY FOWLER
BARNEY FOWLER
Commissioner, Pct 1 BARNEY FOWLER

/s/ BRAD YOUNG
BRAD YOUNG
Commissioner, Pct 2 BRAD YOUNG

/s/ JENEANNE ANDEREGG
JENEANNE ANDEREGG
Commissioner, Pct 3 JENEANNE ANDEREGG

/s/ JIM WALDROP
JIM WALDROP
Commissioner, Pct 4 JIM WALDROP

ATTEST:

/s/ DICK SCOTT, Deputy
DICK SCOTT
County Clerk

AMERICA'S NUCLEAR SOLUTION

April 28, 2016

Mr. Mark Lombard, Director
U.S. Nuclear Regulatory Commission
Division of Spent Fuel Management
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

Subject: License Application to Construct and Operate a Consolidated Interim Storage Facility for Spent Nuclear Fuel in Andrews County, Texas, Docket 72-1050

Dear Mr. Lombard:

Waste Control Specialists LLC (WCS) hereby files its specific license application requesting authorization to construct and operate a Consolidated Interim Storage Facility (CISF) for Spent Nuclear Fuel and Reactor-Related Greater Than Class C Low-Level Waste (referred to henceforth as SNF) in Andrews County, Texas.

WCS requests authorization to possess 5,000 Metric Tons of Uranium (MTU) for dry-cask storage of SNF for a duration of 40 years. The license application focuses primarily on receiving SNF from the existing per-

manently shutdown and/or decommissioned commercial reactors across the U.S. WCS believes that this approach will allow for the safe consolidated interim storage of SNF in a community that has expressed its willingness to host such a facility consistent with the recommendations from President Barack Obama's Blue Ribbon Commission on America's Nuclear Future, until such time that a permanent geologic repository is licensed, constructed, and able to serve the nation's need as envisioned under the Nuclear Waste Policy Act of 1982.

The purpose and objective of licensing the CISF in Andrews County, Texas, is to allow the removal of SNF and the return of decommissioned reactor sites to a green field status. These lands may be subsequently repurposed in ways that economically benefit the communities that had been willing to host commercial nuclear reactors needed to generate electricity. A conservative and comprehensive cost-benefit analysis concluded that this is an economically efficient solution that could reduce the expenditure of the Federal Government by hundreds of millions of dollars compared to the "no action" alternative. Additionally, by allowing the federal government to meet its obligations to take spent nuclear fuel, this approach could also allow the burden to shift to the ratepayers, who have already paid into the Nuclear Waste Fund, and save taxpayers over 5.4 billion dollars. Finally, there could be a benefit of over 1 billion dollars to the local communities that are currently hosting or that will in the future host de facto "interim storage facilities" at

Corporate
5430 LBJ Freeway, Ste. 1700
Three Lincoln Centre
Dallas, TX 75240
Ph. 972.715.9800
Fx. 972.448.1419

Facility
P.O. Box 1129
Andrews, TX 79714
Ph. 888.789-2783
Fx. 432 525-8909

decommissioning reactor sites, in that they would be able to more constructively repurpose land being used for no other function than to store "stranded" fuel.

As specified in the license application, WCS anticipates that the U.S. Department of Energy (DOE) would take title to the SNF and transport it from existing storage sites across the U.S. to the CISF.

WCS has prepared the license application consistent with the requirements specified in Title 10 of the Code of Federal Regulations (CFR), Part 72, *Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste.* WCS also relied on information provided in Regulatory Guide (RG) 3.50, *Standard Format and Content for a Specific License Application for an Independent Spent Fuel Storage Installation or Monitored Retrievable Storage Facility,* to prepare the license.

The specific license application contains the following:

- A Safety Analysis Report (SAR) which contains the information specified in 10 CFR 72.24, Contents of application: Technical information. It

was prepared following the information provided in RG-3.48, *Standard Format and Content for the Safety Analysis Report for an Independent Spent Fuel Storage Installation or Monitored Retrievable Storage Installation (Dry Storage).* Information provided in NUREG-1567, *Standard Review Plan for Spent Fuel Dry Storage Facilities,* was also used to prepare the SAR.

- A Quality Assurance Program Description is provided in Chapter 6 and Appendix C to the license application pursuant to 10 CFR 72.24(n) and 72.140(d).
- The Physical Security Plan, including the guard training, and a Safeguard Contingency Plan, are provided pursuant to 10 CFR 72.24(o), 72.180, and 72.184, respectively, separately as part of this license application because it contains Safeguards Information.
- Proposed Technical Specifications are provided in Appendix A of the license application pursuant to the requirements specified in 10 CFR 72.26.
- A description of WCS' technical qualifications is provided in Chapters 2 of the license application pursuant to 10 CFR 72.28.
- WCS' proposed training program is similarly described in Chapter 7 of the license application as required under 10 CFR 72.28(b) and § 72, Subpart I.
- A proposed decommissioning plan and decommissioning funding plan is provided in Chapter 10, as well as Appendices B and D of license application. A decommissioning cost estimate support-

ing the license application was prepared following NUREG-1757, *Consolidated Decommissioning Guidance.*

- WCS' Emergency Response Plan (ERP) is included as part of this application pursuant to 10 CFR 72.32. This plan was prepared to include the location and hazards associated with storing SNF at the CISF following RG 3.67, *Standard Format and Content for Emergency Plans for Fuel Cycle and Materials Facilities,* and other guidance specified in the ERP.
- An Environmental Report was prepared to assess the radiological and non-radiological impacts associated with storing up to 40,000 MTU of SNF for a period of 40 years following NUREG-1748, *Environmental Review Guidance for Licensing Actions Associated with NMSS Programs.* WCS ensured that the cumulative environmental impacts associated with storing SNF at the CISF were evaluated in a manner that avoids segmentation of the requirements specified in the National Environmental Policy Act of 1969. WCS also incorporated by reference Environment Impact Statements previously conducted by the NRC related to the transportation and storage of SNF, as well as at the National Enrichment Facility located on property adjacent to the CISF.
- Proposed license conditions are provided in Chapter 13 of the license application pursuant to 10 CFR 72.44.

WCS hereby files its license application with the NRC. Both proprietary and non-proprietary versions of the license application and supporting documents are pro-

vided herein accompanied by the enclosed affidavits pursuant to 10 CFR 2.390.

WCS requests that a copy of all correspondence regarding this matter be directly emailed to my attention (skirk@valhi.net) as soon as possible after issuance. If you have any questions or need additional information, please call me at 972-450-4284.

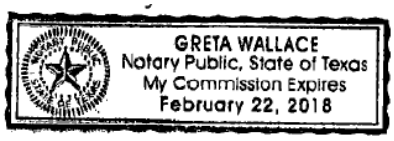
I certify under penalty of perjury that the foregoing is true and correct.

Executed on Apr. 15, 2016

/s/ J. SCOTT KIRK
J. SCOTT KIRK, CHP
Vice President of Licensing and Regulatory Affairs

I certify the above named person appeared before me and executed this document on the [25th] day of [April, 2016].

[Feb. 22, 2018] /s/ GRETTA WALLACE
My commission expires GRETTA WALLACE
Notary Public



cc: entire submittal (computer DVD)

John-Chau Nguyen, NRC
WCS Records Management
Charles Maguire, TCEQ

cc: w/o enclosures (paper copy)

Scott Moore, NRC
Rodney Baltzer, WCS

Elicia Sanchez, WCS
Jay Cartwright, WCS
Jay Britten, WCS
Jeremy Vesely, WCS
Michael McMahon, AREVA
Kent Cole, NAC International
WCS Regulatory Compliance

Enclosures:

1. WCS Application for a License for a Consolidated Interim Spent Fuel Storage Facility
2. WCS Consolidated Interim Storage Facility System Safety Analysis Report, Revision 0 (Proprietary Version)
3. WCS ERP-100, Consolidated Emergency Response Plan, 04-19-2016 Revision
4. WCS Consolidated Interim Spent Fuel Storage Facility Environmental Report, Revision 0 (Proprietary Version)
5. Affidavits Pursuant to 10 CFR 2.390
   - Waste Control Specialist LLC (two affidavits)
   - AREVA (E-45107)
   - NAC International
6. Calculations (Proprietary)
   - WCS0l-0502 Revision 0, Confinement Evaluation (Proprietary)
   - 30039-2020 Revision 0, MPC Concrete Cask Lift Evaluation (Proprietary)
7. Drawings
   - 414-862 Revision 6, Loaded Vertical Concrete Cask (VCC) CY-MPC

- 414-866 Revision 6, Reinforcing Bare and Concrete Placement, Vertical Concrete Cask (VCC) CY-MPC
- 455-862 Revision 9, Loaded Vertical Concrete Cask (VCC) MPC-Yankee
- 455-866 Revision 6, Reinforcing Bare and Concrete Placement, Vertical Concrete Cask (VCC) MPC-Yankee
- 630045-862 Revision 1, Loaded Vertical Concrete Cask (VCC) MPC-LACBWR
- 630045-866 Revision 2, Reinforcing Bare and Concrete Placement, Vertical Concrete Cask (VCC) MPC-LACBWR

8. WCS Procedure QP-10.02 Revision 1, Post Transport Package Evaluation (Proprietary)
9. ADAMS Accession Numbers Tables
   - NAC International Inc.
   - NUHOMS® Systems
10. LCO Matrices for Various Licenses and CoCs
11. CISF LA NUREG-1567 Cross Reference Matrix, Rev. 06.xlsx
12. Canister Licensing Histories
13. WCS Consolidated Interim Storage Facility System Safety Analysis Report, Revision 0 (Non-proprietary Version)
14. WCS Consolidated Interim Spent Fuel Storage Facility Environmental Report, Revision 0 (Non-proprietary Version)

Document Components:

001 Public WCS Transmittal Letter.pdf, 1,999,068 bytes

002 Public Enc 1 Application for License.pdf, 16,738,427 bytes

003 SUNSI Enc 2 SAR R0 Cover to Ch 1.pdf, 35,979,748 bytes, Proprietary

004 SUNSI Enc 2 SAR R0 Ch2 01 of 21.pdf, 48,950,207 bytes, Proprietary

005 SUNSI Enc 2 SAR R0 Ch2 02 of 21.pdf, 42,728,667 bytes, Proprietary

006 SUNSI Enc 2 SAR R0 Ch2 03 of 21 Att A.pdf, 12,925,587 bytes, Proprietary

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012 SUNSI Enc 2 SAR R0 Ch2 09 of 21 Att B 6 of 7.pdf, 44,135,840 bytes, Proprietary

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016 SUNSI Enc 2 SAR R0 Ch2 13of21 Att D 2 of 3.pdf, 9,549,741 bytes, Proprietary

017 SUNSI Enc 2 SAR R0 Ch2 14 of 21 Att D 3 of 3.pdf, 37,924,130 bytes, Proprietary

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019 SUNSI Enc 2 SAR R0 Ch2 16 of 21 Att E 2 of 2.pdf, 25,818,625 bytes, Proprietary

020 SUNSI Enc 2 SAR R0 Ch 2 17 of 21 Att F 1 of 5.pdf, 34,014,523 bytes, Proprietary

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027 SUNSI Enc 2 SAR R0 App D to App G.pdf, 39,919,681 bytes, Proprietary

028 Public Enc 3 WCS Emerg Resp Plan.pdf, 22,968,161 bytes

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037 SUNSI Enc 4 ER R0 09 of 22 Atts 3-3 1 of 2.pdf, 50,505,157 bytes, Proprietary

038 SUNSI Enc 4 ER R0 10 of 22 Atts 3-3 2 of 2.pdf, 18,757,657 bytes, Proprietary

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053 Public Enc 7 Drawings - six.pdf, 3,807,065 bytes

054 SUNSI Enc 8 Procedure QP-10.02 R1.pdf, 1,262,421 bytes, Proprietary

055 Public Enc 9 ADAMS Accession Tbls - two .pdf, 536,788 bytes

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WCS_CISFEISCEm Resource

From: Richard Hanson <Richard.Hanson@tpwd.texas.gov>

Sent: Thursday, March 09, 2017 9:02 AM

To: WCS_CISFEIS Resource

Subject: [External_Sender] Docket ID NRC-2016-0231

Attachments: WL37585-WasteControlSpecialists-SpentFuelStorage-AndrewsCo-C-03-09-17.pdf

Attached are the Texas Parks and Wildlife Department comments on Docket ID NRC-2016-0231.

Rick Hanson
Wildlife Habitat Assessment Program
Texas Parks and Wildlife Department
1702 Landmark Lane, Suite 3
Lubbock, TX 79415
Office: (806) 761-4936
Richard.Hanson@tpwd.texas.gov

Federal Register Notice: 81FR79531
Comment Number: 6141

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Carter P. Smith
Executive Director

March 9, 2017

Ms. Cindy Bladey
Office of Administration
Mail Stop: OWFN-12 H08
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

RE: Docket ID NRC-2016-0231

Dear Ms. Bladey:

Texas Parks and Wildlife Department (TPWD) received the request for review on the scope of the U.S. Nuclear Regulatory Commission's (NRC) Environmental Impact Statement (EIS) for Waste Control Specialists, LLC (WCS) license application to store up to 5,000 metric tons of uranium (MTU) for a period of 40 years in a consolidated interim storage facility (CISF) to be located at the WCS site in Andrews County, Texas. TPWD staff has reviewed the information provided and offers the following comments and recommendations concerning this project.

Project Description

WCS has prepared a CISF license application for approval by the NRC. If the requested license is issued, WCS anticipates subsequently requesting an amendment to the license for authorization to possess and store an additional 5,000 MTUs of spent nuclear fuel (SNF) for each of the expansion phases to be completed over the course of twenty years. WCS anticipates that 40,000 MTUs of SNF

would be stored at the CISF upon completion of all eight phases.

WCS currently operates a commercial waste management facility on approximately 1,338 acres of land. The CISF would be located north of the existing WCS radioactive waste storage, processing, and disposal facilities. The facility would be built in eight phases, with one phase being completed approximately every 2.5 years. Initial construction of phase one would encompass approximately 155 acres. Each phase would increase the overall footprint incrementally until the final footprint reaches approximately 320 acres with the completion of phase eight. Because the site is currently undeveloped, potential land use impacts would primarily be from site preparation and construction activities. Approximately 12 acres would be used for contractor parking and lay down areas during facility construction. The total disturbed area would be approximately 332 acres including the contractor parking and lay down area. The contractor lay down and parking area would be restored after completion of the facility construction.

WCS has prepared an environmental report to evaluate the radiological and non-radiological impacts associated with construction and operation of the CISF for SNF and Reactor-Related Greater than Class C Low-Level Radioactive Waste.

Federal Laws

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits taking, attempting to take, capturing, killing, selling/purchasing, possessing, transporting, and importing of migratory birds, their eggs, parts and nests, except when specifi-

cally authorized by the Department of the Interior. This protection applies to most native bird species, including ground nesting species. The U.S. Fish and Wildlife Service (USFWS) Migratory Bird Office can be contacted at (505) 248-7882 for more information on potential impacts to migratory birds.

Section 3.5.3.3 of the environmental report states "Birds were surveyed through observation and by call at the proposed CISF and its vicinity to document species, potential breeding species, seasonal migrants and winter residents."

> **Recommendation:** If migratory bird species are found nesting on or adjacent to the project area, they must be dealt with in a manner consistent with the MBTA. TPWD recommends excluding vegetation clearing activities during the general bird nesting season, March through August, to avoid adverse impacts to this group. If clearing vegetation during the migratory bird nesting season is unavoidable, TPWD recommends surveying the area proposed for disturbance to ensure that no nests with eggs or young will be disturbed by operations. Any vegetation (trees, shrubs, and grasses) where occupied nests are located should not be disturbed until the eggs have hatched and the young have fledged.

Endangered Species Act

Federally-listed animal species and their habitat are protected from "take" on any property by the Endangered Species Act (ESA). Take of a federally-listed species can be allowed if it is "incidental" to an otherwise lawful activity and must be permitted in accordance with Section 7 or 10 of the ESA. Any take of a federally listed species or its habitat without the required take

permit (or allowance) from the USFWS is a violation of the ESA.

Lesser prairie-chicken *(Tympanuchus pallidicinctus)*

Section 3.5.3.3 states "The USFWS currently lists the lesser prairie chicken as a threatened species."

On April 10, 2014, the USFWS published a final rule which listed the lesser prairie-chicken (LPC) as a threatened species. LPC Final Rule, 79 Fed. Reg. 19,974 (Apr. 10, 2014). By Order dated September 1, 2015, U.S. District Judge Robert Junell vacated this rule. *See, Permian Basin Petroleum Association, et al. v. Department of the Interior, Cause No. 14-CV-00050,* in the U.S. District Court for the Western District of Texas, Midland Division. The Order emphasizes the conservation efforts as set out in LPC Range-Wide Conservation Plan (RWP).

On July 19, 2016 the USFWS fulfilled the court ruling that had vacated the ESA listing decision by officially removing the LPC from the Federal List of Endangered and Threatened Wildlife. The USFWS is undertaking a thorough re-evaluation of the LPC's status and the threats the species faces using the best available scientific information to determine whether a new listing under the ESA is warranted.

> **Recommendation:** TPWD recommends the NRC and WCS monitor the listing status of the LPC. Future changes in listing status could require consultation, permitting, and mitigation with the USFWS.

Section 3.5.3.3 of the environmental report states "Historically a WCS ranch manager reported seeing a female lesser prairie chicken near the CISF (Ortega, Bry-

ant, Petit, & Rylander, 1997) but the sighting was never verified."

The LPC Interstate Working Group developed the RWP which is a voluntary plan administered by the Western Association of Fish and Wildlife Agencies. The Covered Area of the RWP includes public and private property that currently provides or could potentially provide suitable habitat for the LPC within the current estimated occupied range of the LPC and 10 miles around that range (EOR+10). The Covered Area is represented in the Southern Great Plains Crucial Habitat Assessment Tool (CHAT).

As seen on the attached map, the proposed project is within the EOR+10 in CHAT Category 3 (Modeled Habitat). Therefore, this project is eligible for enrollment in the RWP.

> **Recommendation:** Enrollment is recommended for projects that are within the EOR+10 or where the impact buffer of a new project extends into the EOR+l0. Additional information including a link to the RWP can be found at http://www.wafwa.org/initiatives/grasslands/lesser_prairie_chicken/

State Law

Parks and Wildlife Code, Section 68.015

Section 68.015 of the Parks and Wildlife Code regulates state-listed species. Please note that there is no provision for the capture, trap, take, or kill (incidental or otherwise) of state-listed species. A copy of *TPWD Guidelines for Protection of State-Listed Species,* which includes a list of penalties for take of species, can be found on-line at http://tpwd.texas.gov/huntwild/wild/wildlife_diversity/habitat_assessment/media/tpwd_statelisted_

species.pdf. State-listed species may only be handled by persons with appropriate authorization from the TPWD Wildlife Permits Office. For more information, please contact the Wildlife Permits Office at (512) 389-4647.

Texas horned lizard *(Phrynosoma cornutum)* State-listed Threatened

Section 3.5.4 of the environmental report states "The Texas horned lizard has been reported as present on the property controlled by WCS by previous surveys."

Texas horned lizards are generally active in this part of Texas from mid-April through September. At that time of year, they may be able to avoid slow (less than 15 miles per hour) moving equipment. The remainder of the year, this species hibernates only a few inches underground and they will be much more susceptible to earth moving equipment and compaction.

Recommendation: TPWD recommends WCS avoid disturbing the Texas homed lizard and colonies of its primary food source, the Harvester ant *(Pogonomyrmex* sp.), during clearing and construction. TPWD recommends a permitted biological monitor be present during construction to try to relocate Texas horned lizards if found. If the presence of a biological monitor during construction is not feasible, Texas horned lizards observed during construction should be allowed to safely leave the site.

A mixture of cover, food sources, and open ground is important to the Texas horned lizard and Harvester ant. Disturbed areas within suitable habitat for the Texas horned lizard should be revegetated with site-

specific native, patchy vegetation rather than sod-forming grasses.

Species of Concern/Special Features

In addition to state and federally-protected species, TPWD tracks special features, natural communities, and rare species that are not listed as threatened or endangered. TPWD actively promotes their conservation and considers it important to evaluate and, if necessary, minimize impacts to rare species and their habitat to reduce the likelihood of endangerment and preclude the need to list as threatened or endangered in the future. These species and communities are tracked in the Texas Natural Diversity Database (TXNDD).

No records of rare, threatened or endangered species have been documented within 1.5 miles of the project site in the TXNDD. However, based on the project location the dunes sagebrush lizard *(Sceloporus Acrenicolus)* (DSL) may be impacted from the proposed project.

Section 3.5.4 of the environmental report states "The sand dune lizard has been reported in the area northwest of the proposed CISF in past site surveys."

In December 2010, the DSL, also known as the sand dune lizard, was proposed for federal listing under the ESA. Since that time, the USFWS has received new information regarding suitable and occupied habitat for this species, and voluntary conservation measures (discussed below) have been established. Based on these efforts, on June 13, 2012, the USFWS determined the DSL is no longer in danger of extinction. However, the USFWS will closely monitor the conservation measures to ensure they are being implemented and effectively ad-

dress identified threats. The USFWS can then reevaluate whether the DSL requires protection the ESA.

A voluntary conservation program has been created to protect suitable habitat for the DSL and minimize adverse impacts from development. In February 2012, the USFWS approved the Texas Conservation Plan for the Dunes Sagebrush Lizard, which was developed in consultation with the USFWS, the Texas Comptroller of Public Accounts, TPWD, and several other agencies. This plan can be found at https://www.fws.gov/southwest/es/Documents/R2ES/TX_Cons_Plan_DSL_20110927.pdf. The goal of the Texas Conservation Plan is to facilitate continued economic activity in this region and to promote conservation of the DSL in compliance with the ESA for covered activities.

Based on the Texas Conservation Plan final map of the permit area (probability of suitable DSL habitat) the project site includes an area that is High Likelihood of Occurrence for this species. Potential adverse impacts to this species could include removal, fragmentation, and destabilization of shinnery oak habitat during construction.

Recommendation: TPWD recommends WCS avoid adverse impacts to the DSL and suitable DSL habitat in implementing this project.

TPWD also recommends implementation of the following conservation measures within suitable DSL habitat:

- To minimize additional fragmentation of habitat, maximize use of existing developed areas and roads

- Within suitable DSL habitat confine construction to the period during which the DSL is inactive (i.e. October - March).
- Minimize the footprint of the development within DSL habitat
- Restrict vehicle traffic to the extent feasible
- Avoid aerial sprayed application of approved herbicide for weed control
- Avoid the introduction of non-native vegetation
- Reclaim DSL habitat with appropriate native vegetation using locally-sourced native seeds and vegetation
- During post construction, control mesquite and other invasive and problematic herbaceous and woody species that would degrade or impair DSL habitat

Please note that the absence of TXNDD information in an area does not imply that a species is absent from that area. Given the small proportion of public versus private land in Texas, the TXNDD does not include a representative inventory of rare resources in the state. Although it is based on the best data available to TPWD regarding rare species, the data from the TXNDD do not provide a definitive statement as to the presence, absence or condition of special species, natural communities, or other significant features within your project area. These data are not inclusive and cannot be used as presence/absence data. This information cannot be substituted for on-the-ground surveys. The TXNDD is updated continuously. As the project progresses and for future projects, please request the most current and

accurate information at TexasNatural.Diversity Database@tpwd.texas.gov.

> **Recommendation:** TPWD recommends the NRC and WCS review the TPWD county list for Andrews County, as rare species in addition to those discussed above could be present depending upon habitat availability. These lists are available online at http://tpwd.texas.gov/gis/rtest/. If during construction, the project area is found to contain rare species, natural plant communities, or special features, TPWD recommends that precautions be taken to avoid impacts to them. The USFWS should be contacted for species occurrence data, guidance, permitting, survey protocols, and mitigation for federally listed species. For the USFWS rare species lists by county please visit http://ecos.fws.gov/ipac/.
>
> Determining the actual presence of a species in a given area depends on many variables including daily and seasonal activity cycles, environmental activity cues, preferred habitat, transiency and population density (both wildlife and human). The absence of a species can be demonstrated only with great difficulty and then only with repeated negative observations, taking into account all the variable factors contributing to the lack of detectable presence. If encountered during construction, measures should be taken to avoid impacting wildlife.

I appreciate the opportunity to provide preliminary input on potential impacts related to this project, and I look forward to reviewing the EIS. Please contact me at (806) 761-4936 or Richard.Hanson@tpwd.texas.gov if you have any questions.

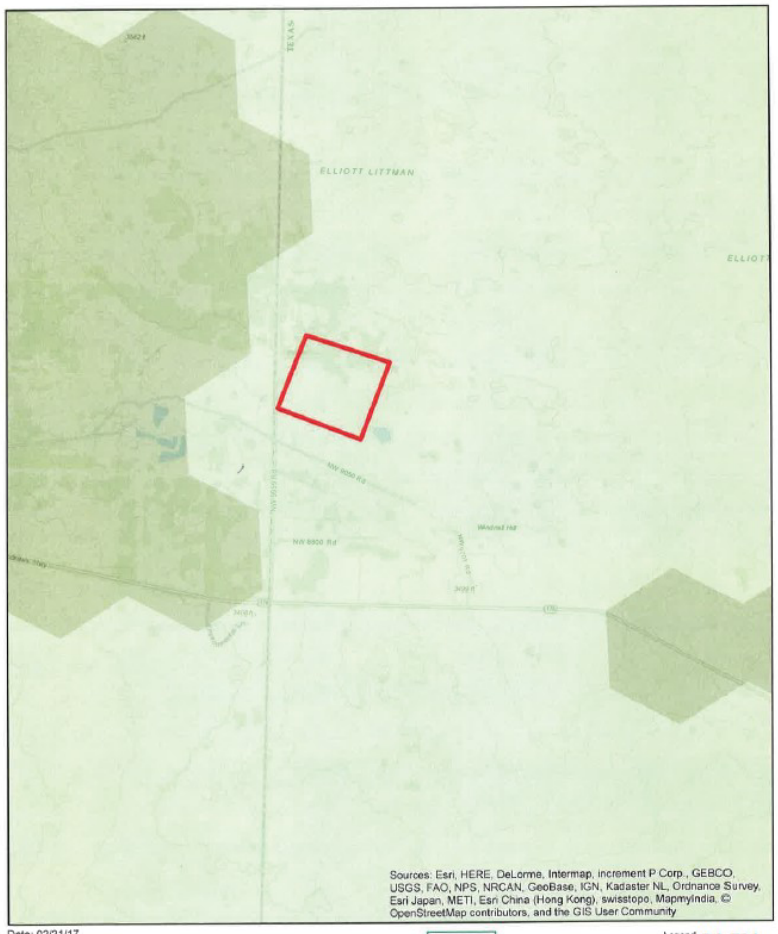
Sincerely,

/s/ RICK HANSON
RICK HANSON
Wildlife Habitat Assessment Program
Wildlife Division

RAH:jn37585

Attachment

CHAT Score



Date: 02/21/17

Map compiled by the Texas Parks and Wildlife Department, Wildlife Habitat Assessment Program. No claims are made to the accuracy of the data or to the suitability of the data to a particular use.

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Legend C.I. 534

CHAT Score

1 Focal Area

2 Connectivity Zone

3 Modeled Habitat

4 Outside EOR <10 miles

001093

WCS Consolidated Interim Spent Fuel Storage Facility Environmental Report

Docket Number 72-1050
Revision 1

CONSOLIDATED INTERIM SPENT FUEL
STORAGE FACILITY
DOCKET NO. 72-1050

ENVIRONMENTAL REPORT

WASTE CONTROL SPECIALISTS LLC
ANDREWS COUNTY, TEXAS

AMERICA'S NUCLEAR SOLUTION

* * * * *

- Regulatory Guide 3.50, *Standard Format and Content for A Specific License Application for an Independent Spent Fuel Storage Installation or Monitored Retrievable Storage Facility* (NRC, 2014c)
- NUREG-1748, *Environmental Review Guidance for Licensing Actions Associated with NMSS Programs* (NRC, 2003)

WCS anticipates that the NRC would issue the Final Environmental Impact Statement (FEIS) and License by June 2019. Phase 1 construction would begin after issuance of the license and after WCS successfully enters into a contract for storage with the U.S. Department of Energy (DOE). Construction is estimated to take approximately one year to complete. Both construction and preoperational testing are expected to be complete by December 2020. WCS anticipates continued storage for approximately 60 years or until a final geologic repository is licensed and operating in accordance with the Nuclear Waste Policy Act (NWPA) of 1982, as amended.

History and Background

Since 1997, WCS has been licensed and authorized to treat, store, and dispose of certain types of radioactive materials at its facilities located in Andrews County, Texas. WCS is authorized to dispose of Class A, B, and C LLRW at the Texas Compact Waste Disposal Facility and the Federal Waste Disposal Facility (TCEQ, 2015a). WCS is also authorized to dispose of 11e.(2) byproduct materials at its Byproduct Material Disposal Facility (TCEQ, 2015b). These activities are regulated

by the Texas Commission on Environmental Quality (TCEQ) under regulations determined to be compatible with NRC requirements, pursuant to Section 274 of the Atomic Energy Act of 1954, as amended.

The U.S. Congress enacted the NWPA of 1982 charging the DOE with developing a geologic repository for the disposal of SNF generated by commercial nuclear power plants located throughout the U.S. In 1987, Congress amended the NWPA to streamline and focus waste management on developing the geologic repository at Yucca Mountain, located in Nye County, Nevada. Pursuant to the NWPA, the DOE was responsible for licensing Yucca Mountain with operations beginning on January 31, 1998.

On July 23, 2002, President George W. Bush approved Congressional legislation designating Yucca Mountain as the final geologic repository intended for the disposal of commercial SNF and high level waste generated by the federal government. The DOE submitted a license application to the NRC for authorization to construct and operate Yucca Mountain. The NRC construction and operation of the ISFSI in February 2006, actions by the Department of the Interior (regarding right-of-way for rail access to the site) and the Bureau of Indian Affairs (regarding uncertainties over land trust issues) precluded the facility from becoming operational (Federal Register, 2006).

The Private Fuel Storage facility was designed and licensed to store up to 40,000 MTUs of spent fuel in sealed metal casks (approximately 4,000 storage casks) for a term of 20 years. The environmental impacts for these major licensing actions were thoroughly evaluated and discussed in *Final Environmental Impact*

Statement for the Construction and Operation of an Independent Spent Fuel Storage Installation on the Reservation of the Skull Valley Band of the Goshute Indians and Related Transportation Facility in Tooele County, Utah, NUREG-1714, published in December 2001 (NRC, 2001).

The NRC directed staff to develop a waste confidence decision and promulgated the Continued Storage Rule supported by an environmental impact statement (SRM-COMSECY-12-0016) (NRC, 2012). As such, the NRC completed a *Generic Environmental Impact Statement (GEIS) for Continued Storage of Spent Nuclear Fuel* (NUREG-2157) (NRC, 2014a) that addressed the impacts attributable to continued storage of SNF. The report was needed by the NRC to fulfill its responsibilities under the National Environmental Policy Act (NEPA) (NRC, 2014a). The environmental impacts evaluated in NUREG-2157 include those related to short-term (60 years), long-term (an additional 100 years), and indefinite storage of SNF at existing commercial nuclear power plants, as well as at an "away-from-reactor" storage facility.

In developing NUREG-2157, NRC referred to the previous environmental analyses that supported issuance of the FEIS for the Private Fuel Storage facility in Tooele, Utah. The NRC concluded that implementation of the Preferred Alternative to issue a license to PFS authorizing construction and operation of an ISFSI in Tooele County, Utah would not result in significant adverse impacts to the environment.

1.1 Purpose And Need For The Proposed Action

The DOE has not yet developed a permanent geologic repository that would allow for the disposal of commer-

cial SNF at Yucca Mountain in Nye County, Nevada, as required under the NWPA. The DOE was required to open the repository and begin accepting SNF for disposal at Yucca Mountain on January 31, 1998. However, the earliest estimated time by which a permanent geologic repository could be licensed and operational is 2048. The only alternative * * * .

* * * * *

WCS_CISFEISCEm Resource

From: Dexter Harmon <dexterh@forl.com>
Sent: Monday, October 1, 2018 2:40 PM
To: WCS_CISFEIS Resource
Subject: [External_Sender] High-Level Nuclear Waste Storage

May Ma, Office of Administration,

Andrews Co., Texas and Lea Co., New Mexico are in the heart of the Permian Basin. It is the most important Oil & Gas producing region in the US and is too valuable to the country to consider storing high-level nuclear waste in the middle of it. Please find a more reasonable place for it.

Best regards,

Dexter Harmon
Exploration Manager
FASKEN OIL AND RANCH
6101 Holiday Hill Road
Midland, Texas 79707
Cell 432-559-2417

WCS_CISFEISCEm Resource

From: Dexter Harmon <dexterh@forl.com>
Sent: Thursday, November 15, 2018 3:44 PM
To: WCS_CISFEIS Resource
Subject: [External_Sender] High-level nuclear waste

I am opposed to the transportation of high-level nuclear waste through our Texas cities by rail and it being stored for the next 100 years above ground in Andrews County, Texas.

The Permian Basin is too valuable to the US because of its energy production to risk being partially shut down due to any accident involving this material.

I also think it would be a rich easy target for anyone wanting to do evil to the US.

Best regards,

Dexter Harmon
Exploration Manager
FASKEN OIL AND RANCH
6101 Holiday Hill Road
Midland, Texas 79707
Cell 432-559-2417

WCS_CISFEISCEm Resource

From:	Monica Perales <monicap@forl.com>
Sent:	Monday, November 19, 2018 7:04 PM
To:	WCS_CISFEIS Resource
Cc:	Borges Roman, Jennifer; Park, James; Monica Perales; Tommy Taylor
Subject:	[External_Sender] Public Scoping Comment Docket ID NRC-2016-0231
Attachments:	Public Scoping Comments on WCS Nov. 19 2018.pdf

Please find the comments from Fasken Oil and Ranch, Ltd. and the PBLRO Coalition attached.

Monica R. Perales
Staff Attorney
Fasken Oil and Ranch, Ltd.
6101 Holiday Hill Road
Midland, Texas 79707
Telephone: (432) 687-1777
Facsimile: (432) 687-2509
Email: monicap@forl.com

Federal Register Notice: 83FR44922
Comment Number: 26728

Mail Envelope Properties (SN1PR19MB05601B167DDA724DE84C77B6D5D90)

Subject: [External_Sender] Public Scoping Comment Docket ID NRC-2016-0231
Sent Date: 11/19/2018 7:03:40 PM
Received Date: 11/19/2018 7:03:47 PM
From: Monica Perales

Created By: monicap@forl.com

Recipients:

Post Office: SN1PR19MB0560.namprd19.prod.outlook.com

Files	**Size**	**Date & Time**
MESSAGE	329	11/19/2018 7:03:47 PM
image003.png	13508	
Public Scoping Comments on WCS Nov. 19 2018.pdf	273586	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:


FASKEN
OIL AND RANCH

FASKEN OIL AND RANCH, LTD.
6101 Holiday Hill Road
MIDLAND, TEXAS 79707
(432) 687-1777

November 19, 2018

May Ma, Office of Administration
Mail Stop: TWFN-7-A60M
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001.

Re: Proposed WCS / Interim Storage Partners High Level Nuclear Waste Storage Facility
Andrews County, Texas
Docket No. NRC-2016-0231

Please consider this as the formal opposition of Fasken Oil and Ranch, Ltd., ("Fasken") and PBLRO Coalition ("PBLRO") against the WCS CISF High Level Nuclear Waste Storage Facility ("WCS") which is proposed to be located in Andrews County, Texas.

Fasken owns approximately one-eighth of the surface land and minerals that make up Andrews County. Fasken conducts oil and gas operations on their own land and upon leases in Andrews and surrounding counties.

The PBLRO is a coalition of landowners, ranchers, royalty owners and oil and gas operators with interests in land, minerals and agriculture throughout the Permian Basin. The PBLRO Coalition was in response the proposed situating of interim high-level nuclear waste facilities within the Permian Basin.

"The Permian Basin covers an area approximately 250 miles wide and 300 miles long and is composed of more

than 7,000 fields." *(Texas Railroad Commission,* 2018) Fields are underground reservoirs of commercially valuable oil or gas. In the Permian Basin, production from those fields emerges from depths ranging from a few hundred feet to five miles below the surface. *(Texas Railroad Commission,* 2018) Recent increased use of enhanced-recovery practices in the Permian Basin has resulted in the Permian Basin becoming "the nation's most prolific oil producing area and the largest crude oil producing region in the United States." *(The US. Energy Information Administration,* 2018).

Fictitious Consent

Andrews County is located within the Permian Basin and authorities likely selected this West Texas county as a site for high-level nuclear waste due to favorable conditions including the geographic characteristics, sparse population, with a large percentage being Hispanic, and the lack of economic diversity. Also a factor in the application is the applicant's misrepresenting consent to the NRC based upon the Andrews County Judge and Commissioners' issuance of a resolution supporting the expansion of their low-level waste facility to include high-level waste. That resolution, however, was enacted without citizen engagement or participation. The County's tactic of proceeding quietly was likely purposeful after contemplating the controversy and narrow vote encountered when they proposed a low-level nuclear waste facility.

We oppose approval of the application for its failure to educate and inform Andrews County residents, to engage them in the process and for the lack of full disclosure. There is no true consent and to say otherwise is false.

Not only do we find the NRC's consent-based protocol to be flawed, but we also find the failure to obtain consent from neighboring communities to be defective. There has not been notice or opportunity for public participation in neighboring communities that may be directly or indirectly affected by the WCS license to store high-level nuclear waste. Those most directly affected are the communities along the transportation corridor through which the waste will travel. According to the WCS application, an estimated twenty thousand casks will travel by rail through Midland, Texas, yet the city of Midland was completely unaware of WCS' proposal until October of 2018. Upon being made aware of WCS' application and transportation plan, the Midland City Council hosted a public hearing at which Elicia Sanchez, WCS Vice President, and Midland residents testified. It was indisputably fair and open to public participation and concluded with the passage of a resolution objecting to the transportation of high-level nuclear waste through Midland. In addition, in the five weeks that have transpired since Midland residents first became aware of the WCS application, over 1300 Midland residents have signed a petition in opposition to the WCS license to store high-level nuclear waste.

Site Selection Puts American Energy at Risk and Fails to Present True Data

We oppose situating high-level nuclear waste in Andrews County or anywhere within the Permian Basin due to the inherent risks the waste poses to the region that has placed Texas and the United States in the position of being a global energy leader.

According to Commissioner Ryan Sitton of the Texas Railroad Commission, the "Permian Basin output has positioned America to be a global leader in energy production. Oil and gas production in the Permian has grown exponentially over the last few years, bringing with it unprecedented job growth and revenue for the State of Texas. It is dramatically improving America's economic strength and national security." *(Texas Railroad Commissioner Ryan Sitton describing the Permian Basin,* October 25, 2018)

We find fault in the WCS application's failure to accurately recognize Andrews County's importance to the nation's energy independence. The application depicts Andrews County as simply an area with oil and gas activity. WCS grossly understates the importance of what is transpiring in Andrews County and the Permian Basin.

According to the Texas Railroad Commission, which has primary oversight over the State of Texas' oil and gas industry, 338 drilling permits have been issued in Andrews County in 2018. The Commission reports that last year, 37,543,497 bbl of oil and 65,584,676 mcf of gas were produced in Andrews County.

Not only does the application fail in its depiction of Andrews County, but it also fails to account for the prospect of damage to the land and minerals in the area and the County's budgetary losses if such damage were to occur. WCS discusses its contribution to the Andrews County budget through a profit sharing plan, however, its application fails to acknowledge the much greater fiscal impact which the oil and gas industry has upon the county's budget. Revenues to the County resulting from oil and gas production literally dwarf any impact

that might be seen from the proposed high-level nuclear waste storage facility, yet they are put at risk with the approval of the WCS license.

The application also fails to provide an analysis or method by which land and minerals are valued for potential bonding or insurance. It fails to provide data on condemnation of land and minerals due to exposure or contamination of high-level waste. The applicant should be required to present their methodology for specific risks to land, minerals and agriculture as well as an objective analysis of impact upon those values should a leak or exposure occur.

We oppose the application and believe it should be denied for its failure to provide an accurate picture of the oil and gas industry in Andrews County and the Permian Basin and for its failure to present an objective harms-benefit analysis.

The Application is Not Realistic

We oppose the issuance of a license to store high-level nuclear waste because the applicant is proceeding under the assumption that the storage site will be temporary and that a permanent repository will be established. There is no guarantee that a permanent repository will be established in the future. For this reason, there must be an element of the analysis that realistically considers and accounts for the permanency of the proposed site and the implications of a storage facility that will outlive all generations and, possibly, civilization. The WCS application fails to account for the possibility of permanency, which is a real possibility if the license is granted, thus the application is inadequate and fails.

The Analysis of Groundwater is Flawed

We oppose the WCS application due to the applicant's failure to adequately address issues raised in a TCEQ memo dated August 14, 2007 and drafted by technicians at the Texas Commission for Environmental Quality. After nearly four years of studying the WCS site, the technicians determined that groundwater contamination was possible. TCEQ's executive director responded by dismissing the technicians' concerns and proceeded to grant a license to WCS to store low-level waste. The following year, that same executive director left his position at the TCEQ to work as a lobbyist for WCS. We find this suspect. Dismissing the findings of the technicians was profoundly prejudiced and now, WCS' responses to questioning are generalized and fail to disprove the findings of the technicians. Evidence of groundwater and concerns regarding the contamination of groundwater rise to the level of warranting an unbiased and transparent study before a license to store high-level waste is issued.

The Application's Data is Speculative, and the Method is Flawed

We oppose the granting of a license that is based upon an application that is an exercise in self-study and self-assessment. The Nuclear Regulatory Commission's application method is a flawed approach as it is logical to assume an applicant's lack of objectivity. Compounding that problem is the lack of data. It is illogical to issue a license to store high-level nuclear waste when data regarding casks, emergency preparedness, risks and assumption of liability are unfinished, unavailable and nonexistent. We have participated in public discussions hosted by the NRC and continue to be stonewalled when we inquire as to missing elements of emergency prepar-

edness, emergency response zones, cask testing and the like. It has been our firsthand experience in dealing with the applicant and the NRC during public discussions that both have failed to explain the chain of responsibility, both have failed to adequately address real harm risks, and both have failed to account for the increased threat of high level waste by applying the effects of low-level waste in their analysis. For these inadequacies, for the failure to account for realistic risks to health, safety, environment and economy, we oppose the approval of the WCS application.

On behalf of Fasken Oil and Ranch, Ltd. and of the PBLRO, I appreciate your consideration of our concerns, as outlined in this letter and respectfully request that the WCS application for a license to store high-level nuclear waste in Andrews County be denied.

Sincerely,

Fasken Oil and Ranch, Ltd.
PBLRO

/s/ TOMMY E. TAYLOR
TOMMY E. TAYLOR
Director of Oil and Gas Development
PBLRO Coalition Member

Official Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

Title:	Oral Arguments In the Matter of Interim Storage Partners, LLC	
Docket Number:	72-1050-ISFSI	
Location:	Midland, Texas	
Date:	July 10, 2019	
Work Order No.:	NRC-0430	Pages 1-207

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* * * * *

[21] just one time that one license applicant has a hypothetical in their application. This is something that now is—could be said perhaps to be regular.

We think it's a Pandora's box that this licensing board has opened. In both of these cases, we now have circumstances requiring local citizens to muster their resources, to challenge an application that is based on future changes to the law that may never happen. Who knows how many more hypotheticals the industry may dream up out of their eagerness to get a business advantage by becoming the first in line, so that their position to have the license in hand after the law—just in the law should change the way they want it to change?

Allowing such hypothetical applications to be considered and approved is an incredible waste of the NRC's and the public's limited resources.

JUDGE RYERSON: Ms. Curran, if I can just stop you there for a moment, I think where we may differ is on your statement that this is an application based on changes in the law.

MS. CURRAN: Uh-huh.

JUDGE RYERSON: I think one can fairly read the Holtec decision as saying—at least I think this is what we tried to say, is that when you look at [22] the record as developed in that adjudicatory proceeding, it is clear that what the NRC is saying is that if a license is granted, it would be a license to engage in lawful sales, and that might change in the future the scope of lawful sales.

I suppose a state could have a 21-year-old drinking age and change it to 18. But that doesn't mean nor-

mally, I think, that everyone who has a liquor license has to go out and get a new liquor license to sell to people between 18 and 21, that the thrust of the application is to sell to all lawful applicants, of which there are—customers, rather, of which there are potentially two kinds.

There would be utilities themselves or to sell interim storage to DOE, if that were lawful, if that becomes lawful, which, as you know, is a realistic possibility. We're not saying it has to happen, and as far as I can tell, the application does not purport, at least, to be dependent on that. But there's certainly a possibility that DOE—Congress could make DOE a lawful customer here.

So do you have a response to that view?

MS. CURRAN: Yes. Well, I can't imagine that in, say, a liquor licensing context, that the—a county government would give a liquor license that * * * .

* * * * *

Environmental Impact Statement Scoping Process

Summary Report

The ISP CISF Environmental Impact Statement Public Scoping Period

October 2019

U.S. Nuclear Regulatory Commission
Rockville, Maryland

A The ISP CISF Environmental Impact Statement Public Scoping Period

A.1 Introduction

In April 2016, Waste Control Specialists LLC (WCS) submitted a license application to the U.S. Nuclear Regulatory Commission (NRC), including a Safety Analysis Report (SAR) and Environmental Report (ER), requesting authorization to construct and operate a Consolidated Interim Storage Facility (CISF) for spent nuclear fuel (SNF) at WCS's existing hazardous and Low-Level Radioactive Waste (LLRW) storage and disposal site in Andrews County, Texas. The function of the CISF would be to store SNF and reactor-related Greater Than Class C (GTCC) LLRW generated at commercial nuclear power reactors. The SNF and reactor-related GTCC LLRW would be transported from commercial reactor sites to the CISF by rail. Although the initial license request is to store 5,000 metric tons of uranium (MTU) at the CISF, WCS has stated its intent to submit future license amendment requests such that the facility could eventually store up to 40,000 MTU.

On April 18, 2017, WCS requested that the NRC suspend its licensing review. On June 8, 2018, Interim Storage Partners, LLC (ISP), a joint venture of WCS and Orano CIS LLC (a subsidiary of Orano USA), requested that NRC resume the licensing process (ISP, 2018a). With this request, ISP submitted a revised license application, later updated on July 19, 2018, to the NRC, which included a revised SAR (ISP, 2018b) and ER (ISP, 2018c). The revised application requests authorization to construct and operate a CISF for SNF and reactor-related GTCC radioactive waste (collectively referred to as SNF) as well as a small amount of

mixed oxide fuel at the WCS site. ISP prepared the revised license application in accordance with requirements in Title 10 of the *Code of Federal Regulations* (10 CFR), Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater than Class C Waste."

The NRC is preparing an environmental impact statement (EIS) in accordance with Section 51.20(b)(9) of 10 CFR Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," which implements the National Environmental Policy Act of 1969 (NEPA). The NRC published a notice of intent (NOI) to prepare an EIS in the *Federal Register* (FR) and began its scoping process on November 14, 2016 (81 FR 79531). As part of its scoping and environmental review processes, the NRC staff requested public comments, attended a site visit of the proposed facility, held information gathering meetings with local governments, and held public scoping meetings in Hobbs, New Mexico; Andrews, Texas; and Rockville, Maryland. Additional information can be found in Section A.4 of this report.

The scoping meetings were designed to elicit input from the public and government and private sector agencies and organizations on the scope of NRC's environmental review for the proposed action. The comments received have helped the NRC staff determine the significant issues to be analyzed in detail in the EIS. Details of these meetings (i.e., slides, handouts, and transcripts) are available on the NRC public web page for this project: https://www.nrc.gov/waste/spent-fuel-storage/cis/waste-control-specialist.html. Additionally, the comments re-

ceived are addressed in later sections of this scoping summary report.

This scoping summary report summarizes comments and information the NRC gathered during the scoping process. Section A provides a concise summary of the NRC's scoping process for the EIS, an overview of the issues that were raised (Section A.7), and a summary of the NRC's determinations regarding the scope and content of the EIS (Section A.8). Section B contains summaries of comments received during the public scoping period and the NRC's responses.

These responses contain conclusions on the scope of the EIS, including identification of any significant issues. Section C contains an alphabetized table that identifies the individuals that provided comments, their affiliation if provided, and the Agencywide Documents Access and Management System (ADAMS) Accession number that can be used to locate the correspondence. Section D provides references cited throughout the report. ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

A.2 Background

In November 14, 2016, the NRC published a Federal Register Notice (FRN) announcing NRC's intent to prepare an EIS, conduct scoping, and request public comment (81 FR 79531). With this FRN, the NRC opened the public scoping comment period for the EIS, a period that closed on April 28, 2017 (82 FR 14039). Following ISP's request that NRC resume the licensing process, the NRC issued an FRN on September 4, 2018, announcing re-opening of the scoping period for an additional 45 days (83 FR 44922), which was later extended to close on November 19, 2019 (83 FR 53115).

Thus, a total of 243 days was provided for the public to submit scoping comments to the NRC. Given that NRC staff guidance in NUREG–1748, "Environmental Review Guidance for Licensing Actions Associated with NMSS Programs" (NRC, 2003) recommends a minimum 45-day scoping comment period, the NRC determined that 243 days constituted ample time for comments to be prepared and submitted to the NRC.

A.3 Environmental Impact Statement

The proposed action is the issuance to ISP, under the provisions of 10 CFR Part 72, of an NRC license authorizing the construction and operation of the CISF at the WCS site in Andrews County, Texas. The function of the CISF would be to store SNF and reactor-related GTCC LLRW generated at commercial nuclear power reactors. The SNF and reactor-related GTCC LLRW would be transported from commercial reactor sites to the CISF by rail. During operation, the proposed CISF would receive SNF from decommissioned reactor sites, as well as from operating reactors prior to decommissioning. The CISF would serve as an interim storage facility before a permanent geologic repository is available. Although the initial license request is to store 5,000 MTUs at the CISF, ISP has stated its intent to submit future license amendment requests such that the facility would eventually store up to 40,000 MTU. ISP's expansion of the proposed project (i.e., beyond an initial phase) is not part of the proposed action currently pending before the agency. However, the NRC staff will consider the expansion phases in its description of the affected environment and impact determinations in the EIS, where appropriate, when the environmental impacts of the potential future expansion were able to be determined so as to conduct a bounding anal-

ysis for the proposed CISF project. The NRC staff is conducting this analysis as a matter of discretion, because ISP provided the analysis of the environmental impacts of the future anticipated expansion of the proposed facility as part of its license application (ISP, 2018a,b).

ISP envisions the CISF to be constructed in eight phases with each phase designed to store up to 5,000 MTU; therefore, ISP analyzed the environmental impacts in the license application for storage of 40,000 MTU. ISP, however, will be required to submit license amendment requests to increase its storage capacity beyond the initial 5,000 MTU phase. The NRC would conduct safety and environmental reviews for any subsequent license amendment request to increase the facility's storage capacity. ISP is requesting a license for a period of 40 years. The license application relies on selected TN Americas and NAC International dry cask storage systems, which would prioritize SNF stored at shutdown and/or decommissioned reactor sites. Additional storage systems and SNF currently located at operating reactor sites would be addressed via potential future license amendments. Renewal of the license beyond 40 years would require ISP to submit a license renewal request, which would be subject to separate safety and environmental reviews [i.e., an Environmental Assessment (EA) or EIS]. Therefore, the current EIS will evaluate the initial licensing period of 40 years. By the end of the license term of the proposed CISF (40 years plus subsequent renewals, if approved), the NRC expects that the SNF would be shipped to a permanent geologic repository. This expectation of repository availability is consistent with NUREG–2157, (NRC, 2014), which concluded that a reasonable period of time

for the development of a repository is approximately 25 to 35 years (availability by 2048), based on experience in licensing similarly complex facilities in the United States (U.S.) and national and international experience with repositories already in progress.

A separate safety review, conducted in parallel with the environmental review, will address the safety of SNF receipt, transfer, and storage operations and related activities at the proposed CISF in Texas. While the proposed action does not include or require a specific license for transportation of radioactive material or approval of specific transportation routes, the EIS will include a discussion of the impacts of transportation for representative shipments to and from the proposed facility. Transportation of SNF to the proposed CISF would be primarily or entirely by rail.

A.4 Scoping Process

On November 14, 2016, the NRC staff opened the scoping period and subsequently extended the scoping period until April 28, 2017. During this period, the NRC staff hosted four meetings to allow members of the public to provide oral scoping comments. These meetings were held in Hobbs, New Mexico on February 13, 2017; in Andrews, Texas on February 15, 2017; and at the NRC Headquarters in Rockville, Maryland (also via webinar) on February 23 and April 6, 2017. The NRC staff's meeting slides, handouts, and project fact sheets were available in both English and Spanish at the scoping meetings, and these slides, handouts, and fact sheets, as well as the transcripts for each meeting, are available at NRC's public web page at https://www.nrc.gov/waste/spent-fuel-storage/cis/wcs/public-meetings.html. On September 4, 2018, the NRC staff reopened the

scoping period for the ISP license application until November 19, 2018. Comments received during this reopened scoping period were considered by the NRC, along with all comments received during the previous period, in determining the scope of the EIS.

Written comments were accepted via the Federal rulemaking website (www.regulations.gov) using Docket ID NRC–2016–0231, through email to WCS_CISF_EIS@nrc.gov, fax, or regular U.S. mail. The scoping process provided an opportunity for members of the public to identify issues and highlight concerns related to the proposed CISF. The purpose of the scoping process (83 FR 44923) is to:

- Ensure that important issues and concerns are identified early and are properly studied
- Identify alternatives to be examined
- Identify significant issues to be analyzed in depth
- Eliminate unimportant issues from detailed consideration
- Identify public concerns * * *

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No-Action alternative and mitigation measures that will be implemented to avoid or minimize adverse impacts.

The NRC has a longstanding practice of conducting its regulatory responsibilities in an open and transparent manner to keep the public informed of the agency's regulatory, licensing, and oversight activities and to involve stakeholders in the regulatory process. In part, it does so by making information available to the public through the NRC's public Web site (www.nrc.gov) and its online

public document system (the Agencywide Documents Access and Management System (ADAMS; accessible at https://www.nrc.gov/reading-rm/adams.html). The NRC made WCS's application and ISP's revised application available to the public in ADAMS (docket number 72-1050) and on a project-specific website https://www.nrc.gov/waste/spent-fuel-storage/cis/waste-control-specialist.html. The NRC also provided paper copies of WCS's application to public libraries in Andrews, Texas, in Hobbs, New Mexico, and in Eunice, New Mexico.

As regards the NRC's hearing process and standing in those proceedings, the NRC conducts hearings in accordance with the Agency Rules of Practice and Procedure established in 10 CFR Part 2 of NRC's regulations. The NRC's requirements for standing are provided in 10 CFR 2.309.

The staff's Safety Evaluation Report will address the requirements for storage of the spent nuclear fuel in the CISF. For additional comments and responses concerning safety and storage, see Section B.26 [Comments Concerning Safety].

Comments: (1-5-2) (1-7-7) (2-30-1) (3-9-5) (3-10-5) (3-26-2) (3-26-4) (3-33-2) (4-5-1) (5-2) (6-4) (35-2) (38-2) (38-7) (40-1) (40-10) (62-2) (105-2) (112-4) (118-6) (118-18) (139-24) (146-6) (149-7) (149-9) (160-2) (165-4) (165-31) (165-34) (169-4) (170-2) (178-2) (201-1) (220-3) (220-5) (225-4) (235-1) (239-1) (249-1) (261-2) (272-2) (275-1) (392-1) (401-1) (434-6) (447-2) (476-1) (511-19) (539-4) (551-2) (554-13) (556-3) (566-10) (605-1) (673-4) (695-3)

B.1.2 NEPA Process—Scoping Process

The NRC staff received comments about the scoping process for the proposed ISP CISF. One commenter stated that scoping for the proposed CISF should include consideration of unique and unprecedented modeling for severe accident scenarios and cost-benefit mitigation alternatives. One commenter welcomed the scrutiny of the NRC and encouraged NRC to visit the site whenever needed. Another commenter looked forward to the publication of responses to comments made at the scoping meetings. Another commenter expected comprehensive answers in the EIS to the issues raised during the scoping process. Finally, a commenter stated that scoping should include a discussion of the responsibilities of the two national nuclear agencies to ensure that interim storage of SNF is safe for the public now and in the future.

Response: The NRC staff strives to conduct its regulatory responsibilities, including the scoping process, in an open and transparent manner, consistent with the NRC Approach to Open Government (https://www.nrc.gov/public-involve/open.html). The NRC requirements for scoping are found at 10 CFR 51.26-51.29 and are further explained in NUREG–1748, Section 4.2.3 (NRC, 2003). The objectives of the scoping process include: (i) defining the scope of the proposed action that is to be the subject of the EIS, (ii) determining the scope of the EIS and identifying alternatives and significant issues to be analyzed in depth, and (iii) identifying and eliminating from detailed study issues that are peripheral or are not significant. To this end, the NRC strives to give equal time to all participants in the scoping * * * .

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B.1.6 NEPA Process—Inadequate Information and/or Analysis in the License Application

The NRC staff received comments that expressed concern that the license application has missing, misleading, inaccurate, and inadequate information and analyses. Commenters stated that the ER contains inadequate and incomplete information and analyses with regard to issues, resource areas, and required programs and plans including: (i) transportation routes, (ii) social concerns, (iii) security and terrorism, (iv) contamination of food and water, (v) water resources, (vi) geology, (vii) quality assurance, (viii) accidents and cleanup plans, (ix) human exposure from both accidents and normal operations, (x) types of canisters and monitoring systems, (xi) decommissioning and financial assurance, (xii) location of electric lines and estimates of electric use, and (xiii) transfer of fuel from damaged canisters.

Response: In developing the EIS for the proposed CISF, the NRC staff will review and evaluate information and analyses provided in the applicant's license application and supplemental documentation. In addition, the NRC staff will independently collect and review additional information related to the proposed CISF project and its environs. If the NRC staff determines that the information provided in the applicant's license application is not sufficient (e.g., missing or inaccurate) or cannot be independently gathered to allow completion of the EIS, the staff will submit requests for additional information (RAIs) to the applicant to request the information. As needed, the NRC staff will request an updated and revised ER and SAR, and these revised documents will be made publicly available, as appropriate.

Comments: (3-31-2) (4-3-3) (4-4-1) (4-4-3) (4-4-4) (134-5) (134-8) (134-11) (134-16) (134-17) (134-21) (134-23) (138-2) (139-2) (139-14) (165-1) (165-3) (165-5) (174-1) (408-24) (460-1) (460-4) (491-10) (517-1) (517-15) (517-16) (518-10) (518-11) (518-12) (518-14) (523-13) (527-7) (527-13) (539-8) (545-9) (570-5) (570-6) (598-4) (599-1) (599-2) (819-47)

B.2 Comments Concerning NEPA Process—Public Participation

B.2.1 NEPA Process: Public Participation—Requests for More Public Meetings

The NRC received many comments requesting additional public scoping meetings or suggesting locations for additional public scoping meetings. Many of the comments requested public meetings along transportation routes or near sites from which the SNF could be shipped. Some commenters referenced the number and locations of meetings held by the U.S Department of Energy (DOE) or for the proposed Yucca Mountain repository. Some of the comments also requested that the public comment period be extended. Some comments noted that additional public meetings were not held once the license application review was re-opened.

Response: In a January 30, 2017 FRN, the NRC staff announced the dates, times, and locations for two public comment meetings that the staff would host as part of its scoping process for the environmental review of the ISP license application (82 FR 8771). These meetings were held in Hobbs, New Mexico, on February 13, 2017, and in Andrews, Texas on February 15, 2017. The NRC staff also hosted two webcast-based public comment meetings held in Rockville, Maryland on February 23, 2017 and April 6, 2017. In preparation for these meet-

ings, the NRC issued a press release and made information related to the license application review available to communities local to the proposed project, as well as on the NRC's website, such that the information was accessible nationwide.

Comments: (1-12-2) (1-17-7) (2-13-8) (2-22-2) (2-22-6) (3-12-2) (3-17-1) (12-2) (28-2) (58-2) (139-7) (149-2) (165-13) (165-15) (171-13) (195-1) (333-2) (345-2) (350-1) (408-10) (412-3) (429-3) (469-5) (512-5) (517-4) (557-3) (564-8) (663-4) (784-2)

B.4.2 Proposed Action – De Facto Disposal

The NRC staff received a large number of comments expressing concern that the proposed CISF would not be an interim storage facility but would instead become a *de facto* disposal site. Commenters stated that the facility would become a *de facto* disposal site because there was no intention to move the SNF twice (i.e., once from the generation site and once to the final repository). Some commenters stated concern that licensing the proposed CISF would reduce the need for and likelihood of construction of a permanent repository, or that because there is currently no final permanent repository available, that this interim facility would be a *de facto* disposal site. Some commenters were concerned that once the proposed CISF is licensed, Congress would have little incentive to fund and build a permanent repository. Some commenters were concerned that the interim proposed CISF would not be built to the same standards as a permanent repository should the proposed CISF become a *de facto* disposal site. Commenters stated that the EIS should address the impacts of the proposed CISF becoming permanent by default. Commenters expressed concern about the main-

tenance of canisters and casks over the timeframe of the proposed project, stating that the timeframe would be indefinite.

Response: The proposed action is to construct and operate a CISF for SNF, providing an option for storage of the spent fuel before a permanent repository is available. The EIS will evaluate the impacts of the proposed action for the license term of the proposed facility, which is 40 years. If the license is approved, the licensee will have the option to apply for a license renewal under 10 CFR 72.42. However, the environmental analysis for the EIS assumes that fuel will be transported away from the CISF and that decommissioning of the CISF would occur at the end of the initial 40-year license period. In accordance with 10 CFR 51.23(b), 51.80(b)(1), and 51.97(a), with respect to analysis of potential environmental impacts of storage beyond the license term of the facility, the impact determinations in the Continued Storage GEIS, NUREG–2157 (NRC, 2014), shall be deemed incorporated into the EIS for the proposed CISF. As explained in the Continued Storage GEIS, consistent with current national policy, disposal in a permanent repository is feasible (see Appendix B of the GEIS). Therefore, evaluation of impacts of SNF disposal or indefinite storage at the proposed CISF are outside the scope of this EIS. Additional discussion regarding the scope of the EIS with respect to safety of canisters and casks and transportation can be found in Section B.26 [Safety] and Sections B.9 and B.10 [Transportation].

Comments: (1-9-3) (1-12-6) (1-13-3) (1-13-4) (1-16-1) (2-5-1) (2-5-3) (2-8-2) (2-8-10) (2-9-1) (2-9-7) (2-10-5) (2-17-2) (2-20-2) (3-5-10) (3-13-7) (3-16-4) (3-24-1) (3-31-5) (4-9-3) (4-14-6) (4-14-8) (21-3) (24-2) (28-12) (28-18) (30-

3) (30-19) (38-5) (87-4) (98-9) (99-16) (100-2) (101-3) (111-6) (121-4) (127-2) (127-6) (130-1) (132-2) (134-13) (140-1) (142-5) (146-3) (164-9) (165-8) (165-22) (165-32) (169-3) (171-8) (175-3) (220-20) (277-2) (280-1) (318-4) (335-2) (339-12) (395-3) (406-1) (408-20) (408-22) (421-3) (436-2) (439-2) (443-2) (444-1) (460-11) (461-1) (463-1) (470-5) (476-5) (491-8) (502-2) (502-3) (511-3) (511-21) (517-14) (521-1) (522-9) (523-3) (523-7) (525-3) (525-4) (530-5) (539-6) (545-4) (545-6) (554-11) (556-2) (559-19) (560-7) (570-4) (576-15) (589-1) (598-2) (599-3) (620-13) (645-15) (650-2) (650-4) (663-3) (815-7) (819-2) (819-6) (819-7) (819-15) (819-17)

B.5 Comments Concerning the Purpose and Need of the Proposed Action

B.5.1 Purpose and Need for a CISF

The NRC received comments about the purpose and need for the CISF. Some commenters stated that storage facilities like ISP are needed to provide storage for SNF currently stored at individual sites. Other commenters stated that the proposed CISF would cause thousands of unnecessary SNF waste shipments throughout the U.S. Commenters expressed differing opinions on whether the purpose and need would or would not address the need of long-term storage of SNF. Several commenters stated that construction of a CISF would not solve the issue of SNF disposal. Other commenters noted that there is no need for a CISF and that SNF can be stored safely at reactor sites for as many years as it would remain at a CISF.

Response: Absent findings in the NRC's safety review or NEPA analysis that the proposed facility does not meet regulatory requirements, the NRC has no role in the planning decisions of private entities. An EIS dis-

cusses the purpose and need for the proposed action to establish a range of reasonable alternatives, in addition to the proposed action, that can satisfy the underlying need.

Comments: (1-6-1) (1-7-2) (1-11-3) (1-18-7) (2-20-1) (2-28-2) (2-29-2) (3-27-1) (4-25-2) (5-1) (27-1) (30-1) (32-1) (42-1) (63-3) (134-2) (140-9) (146-2) (180-2) (220-4) (400-5) (447-3) (460-3) (461-2) (470-6) (512-1) (517-3) (559-2) (576-14) (645-8)

B.5.2 Purpose and Need—NRC's Continued Storage GEIS and the Proposed CISF

The NRC staff received one comment stating that the ER's purpose and need statement regarding the safety of the proposed CISF compared to the continued storage of SNF at reactors or Independent Spent Fuel Storage Installation (ISFSIs) contradicts the NRC's Continued Storage GEIS.

Response: The NRC regulations in 10 CFR Part 51, Appendix A, require an EIS to include a description of the purpose of, and a discussion of the need for, a proposed action. The NRC staff guidance in NUREG–1748 (NRC, 2003) regarding the preparation of the purpose and need analysis in the applicant's ER and the NRC staff's EIS states that the applicant and the NRC staff treatment of this subject should explain "why the proposed action is needed," going on to indicate that the discussions should describe the underlying need for the proposed action and "should not be written merely as a justification of the proposed action, nor to alter the choice of alternatives." In short, an applicant should describe what will be accomplished as a result of the proposed action.

The applicant's ER states that the proposed CISF would provide temporary storage of SNF for decommissioned shutdown sites in order to return the land to greenfield status; reducing costs related to surveillance, maintenance, emergency preparedness, and physical security at current ISFSIs; and alleviating the need for constructing new ISFSIs. Safe storage at the proposed CISF is only one component of the applicant's stated purpose and need.

Furthermore, the EIS will compare the impacts of the proposed action with the No-Action alternative but will not provide a determination regarding which option is "safer." All NRC licensed sites, both at-reactor ISFSIs and CISFs, are required to be in compliance with NRC's safety, security, and environmental regulations. Similarly, the Continued Storage GEIS, (NUREG–2157) did not perform any qualitative analysis of the safety benefits of at-reactor * * * .

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B.6.4 Assumptions—Legal Framework of the Proposed CISF

The NRC staff received numerous comments regarding the legality of licensing an interim storage facility. Several commenters noted that under current Federal law (i.e., the Nuclear Waste Policy Act of 1982, as amended), SNF is prohibited from transport and storage at an interim storage facility. One commenter stated that the government, rather than a private company, should administer all nuclear storage after the utilities relinquish control. Another commenter recommended that the NRC amend 10 CFR Part 72 to address any potential differences in personnel resources, equipment, and emergency preparedness.

Response: The NRC has previously licensed a consolidated (away-from-reactor) interim spent fuel storage installation, and NRC regulations allow for licensing private away-from-reactor interim spent fuel installations under 10 CFR Part 72. The NRC allows licensed private transportation of spent fuel. For more information on the NRC's regulation of spent fuel transportation, see https://www.nrc.gov/waste/spent-fuel-transp.html. Issues relating to title to spent fuel are primarily outside the scope of this EIS because who holds title will likely not influence the environmental impacts of the proposed action. The comment that the government rather than a private company should administer nuclear storage is a matter of policy and is outside the scope of this EIS.

Comments: (1-18-6) (2-5-2) (2-8-3) (2-31-2) (3-2-3) (3-2-6) (3-12-7) (3-13-6) (3-31-1) (6-1) (28-21) (55-4) (134-12) (139-1) (139-3) (139-26) (160-1) (165-6) (165-30) (415-4) (425-1) (434-3) (436-8) (444-3) (467-1) (502-17) (511-2) (523-6) (525-7) (528-11) (539-23) (540-2) (545-25) (547-2) (549-2) (557-7) (557-9) (634-2) (803-4) (819-5) (819-14)

B.7 Comments Concerning Alternatives

B.7.1 Alternatives—Other

The NRC staff received several comments containing suggestions for alternatives to a consolidated interim storage facility for SNF (the proposed action) to be analyzed in the EIS. The comments included the use of lasers, onsite vitrification, solar and lunar disposal, and reprocessing as suggested methods for disposal or treatment of SNF. One commenter suggested selling SNF to foreign governments. Another commenter suggested different rock types for safe storage.

Response: For the purpose of the NRC environmental review of the proposed action, only alternatives that are considered reasonable or feasible and that would meet the purpose and need will be analyzed in the EIS. While some suggested alternatives are innovative, only those alternatives that are currently available are considered reasonable or feasible. Additional comments related to alternatives that are out of scope are in Section B.30 [Out of Scope]. For information on the scope of the proposed action see Section B.4 [Proposed Action]. Additional comments on alternatives can be found in a separate response within this section of the report.

Comments: (2-14-5) (3-18-1) (4-2-1) (8-1) (13-2) (172-1) (185-2) (187-1) (250-2) (270-2) (412-2) (412-20) (412-21) (449-1) (459-2) (480-2) (534-1) (625-1) (636-1) (689-1) (703-1) (773-1) (813-1)

B.7.2 Alternatives—Proposed Site Location

The NRC staff received comments about the use of alternative sites for the proposed project and for long term or permanent storage of the SNF. Commenters suggested storing SNF at existing licensed and operating ISFSIs, secured military bases, DOE-owned facilities, states other than Texas, or leaving the SNF where it was generated and is currently stored. Several commenters recommended consolidating fuel in areas close to the reactors to minimize transportation and risk. Some commenters suggested moving SNF away from natural hazards. One commenter stated that CEQ guidance required the NRC to evaluate reasonable alternatives including those not proposed by the applicant and those outside the jurisdiction of the NRC. A few commenters suggested modifying and monitoring existing spent fuel pools for SNF storage. One commenter sug-

gested burying the SNF where it is currently located. Another commenter suggested extending the licensed life of current ISFSIs.

Response: The NRC will evaluate the potential environmental impacts of the construction, operation, and decommissioning of the proposed CISF. In the EIS, the No-Action alternative will evaluate the potential impacts of not constructing or operating the proposed CISF and leaving the SNF onsite at current locations as a baseline for comparison against the potential environmental impacts of constructing and operating a CISF. The scope of the EIS, with respect to safety and transportation, is discussed in Sections B.10 and B.26, [Transportation of Spent Nuclear Fuel—Safety/Accidents and Safety], respectively.

Comments: (1-22-7) (2-18-6) (3-7-1) (3-7-4) (3-13-8) (3-15-1) (3-15-2) (3-15-4) (4-4-6) (4-14-5) (4-14-11) (4-23-2) (18-2) (28-23) (31-2) (41-2) (45-8) (54-2) (58-9) (63-4) (71-3) (73-2) (86-3) (100-4) (101-7) (110-3) (115-2) (115-6) (122-3) (142-9) (163-1) (164-12) (165-24) (165-27) (177-1) (192-3) (193-6) (196-1) (203-3) (208-1) (213-3) (217-3) (218-2) (242-1) (247-2) (250-1) (260-1) (266-1) (274-1) (284-5) (286-1) (288-1) (297-1) (318-1) (327-3) (329-3) (338-3) (342-4) (348-1) (365-2) (398-2) (412-8) (412-22) (413-2) (417-1) (418-1) (436-7) (442-1) (442-3) (454-3) (460-9) (466-2) (495-2) (508-5) (511-7) (522-10) (522-11) (550-2) (552-1) (559-4) (562-2) (563-5) (570-19) (571-17) (575-2) (575-4) (576-13) (579-2) (583-1) (586-2) (591-6) (600-1) (648-2) (653-2) (660-2) (662-2) (664-2) (669-5) (691-1) (704-2) (706-2) (766-2) (771-1) (775-2) (777-1) (779-4) (780-5) (784-1) (797-3) (803-2) (805-3) (815-5) (819-20)

B.7.3 Alternatives—Hardened Onsite Storage (HOSS)

Several comments were received recommending that the NRC consider HOSS or other similar additional protections at existing sites as an alternative to the proposed action. Some commenters requested that NRC conduct studies comparing the relative safety of HOSS to the proposed action.

Response: The NRC's safety and environmental review is limited to an evaluation of the proposed CISF as described in ISP's license application. The No-Action alternative evaluates the potential impacts of leaving the SNF at current storage locations as a baseline for comparison against the potential environmental impacts of constructing and operating a proposed CISF. HOSS and other onsite hardening concepts are not being analyzed in detail because they do not meet the purpose and need of the proposed action (construction and operation of a CISF). Furthermore, this licensing action for a new facility does not propose or impose safety requirements for the storage of spent fuel at existing sites; therefore, assessing the impacts of HOSS and other hardened storage concepts at other sites will not be analyzed in this site-specific licensing process.

Comments: (3-15-3) (3-17-3) (3-19-7) (3-22-4) (3-28-2) (4-19-3) (58-5) (58-8) (118-5) (118-16) (121-2) (135-3) (163-2) (207-2) (321-2) (425-2) (434-1) (439-4) (468-8) (476-4) (515-2) (517-19) (519-8) (541-3) (570-1) (570-20) (573-4) (574-2) (632-2) (669-2) (779-3) (819-19) (819-32)

B.8 Comments Concerning Land Use

B.8.1 Land Use—General Comments

The NRC staff received comments that expressed concern about potential land use impacts from the proposed

CISF, including economic effects and consequences from potential accidents or attacks that would affect the viability of the land for other uses. Commenters expressed concerns about irreversible commitments of land use and the potential conflicts with natural areas, tourism, energy and mineral mining, agriculture, and recreational activities in the area. One commenter raised questions about subsurface mineral rights for the oil and gas industry within the boundary of the proposed CISF. The same commenter was also concerned about the implication of subsurface extraction on induced seismicity and groundwater movement. Another commenter stated that the Texas-New Mexico state boundary may be inaccurate and implying that as a result, the proposed CISF may be located entirely in the State of New Mexico. One commenter stated that a 2007 publication by the IAEA recommended any away-from-reactor storage be sited away from mineral exploration, chemical manufacturing facilities, and airports.

Response: The EIS will include a description of land use within the proposed project boundary and the surrounding area. The impact assessment in the EIS will consider impacts of construction, operation, and decommissioning of the proposed CISF on land use in the area, as well as a discussion of appropriate mitigation measures. This assessment will discuss proposed land use agreements and land ownership and will address potential conflicts with other nearby land uses, such as prohibitive mineral usage agreements. However, because the NRC does not have authority over nonnuclear private business ventures, specific business interests of companies will not be included in the scope. The scope of the EIS with respect to industries in the area and tourism are discussed in this report in Sections B.18

[Socioeconomics]. Information on induced seismicity is discussed in Section B.14.3 [Geology and Soils—Induced Seismicity], and groundwater in Section B.12—[Groundwater Concerns—Aquifers].

Comments: (6-10) (14-5) (16-6) (45-6) (84-2) (94-3) (102-5) (109-2) (408-4) (462-8) (502-25) (517-11) (542-1) (544-1)

B.8.2 Land Use—Concerning HLW at the WCS Site

The NRC staff received comments on the use of land within the WCS site for storage of HLW. Commenters noted that the agreement and acceptance of the WCS facility by the community was contingent on use of the facility for non-HLW. Commenters expressed disappointment that the proposed action would allow the land at the WCS site (i.e., a portion of which would be the proposed location of the CISF) to be used to store SNF.

Response: The EIS will include a description of land use within the proposed project boundary and the surrounding area. The impact assessment in the EIS will consider impacts of construction, operation, and decommissioning of the proposed CISF on land use in the area, as well as a discussion of appropriate mitigation measures. However, because the NRC does not have authority over private business ventures, specific business interests of companies will not * * * .

* * * * *

WCS Consolidated Interim Spent Fuel Storage Facility Environmental Report

(Public Version)

Docket Number 72-1050

Revision 3

* * * * *

The U.S. Congress enacted the NWPA of 1982 charging the DOE with developing a geologic repository for the disposal of SNF generated by commercial nuclear power plants located throughout the U.S. In 1987, Congress amended the NWPA to streamline and focus waste management on developing the geologic repository at Yucca Mountain, located in Nye County, Nevada. Pursuant to the NWPA, the DOE was responsible for licensing Yucca Mountain with operations beginning on January 31, 1998.

On July 23, 2002, President George W. Bush approved Congressional legislation designating Yucca Mountain as the final geologic repository intended for the disposal of commercial SNF and high level waste generated by the federal government. The DOE submitted a license application to the NRC for authorization to construct and operate Yucca Mountain. The NRC reviewed the license application and issued a series of Safety Evaluation Reports addressing the long-term environmental performance of Yucca Mountain. However, much uncertainty remains as to whether or not the facility will open and begin accepting commercial SNF or high level waste for disposal.

In January 2010, President Barack Obama established the Blue Ribbon Commission on America's Nuclear Future. The Commission was directed by the Secretary of Energy to conduct a comprehensive review of policies for managing the back end of the nuclear fuel cycle and to recommend a new strategy. On January 26, 2012, the Blue Ribbon Commission issued a final report consisting of eight key recommendations. Of paramount importance to this licensing action was the Blue Ribbon

Commission's recommendation to adopt a new consent-based approach to siting future nuclear waste management facilities in order to initiate prompt efforts to develop one or more consolidated storage facilities.

Development of the CISF has strong support from the state, regional, and local communities located in west Texas. In March 2014, Texas Governor Rick Perry called for a Texas solution for SNF generated at 6 reactor sites located in the state. On September 19, 2014, the Texas Radiation Advisory Board also issued a position stating it is in the state's best interest to request that the federal government consider Texas as a CISF site. On January 20, 2015, the Andrews County Commissioners unanimously approved a resolution in support of establishing an Independent Spent Fuel Storage Installation (ISFSI) in Andrews County, Texas, for the consolidated interim storage of SNF and high level radioactive waste (Attachment 1-1).

* * * * *

their area. This resulted in the identification of four counties in two states that were subjected to a rigorous two-tier screening process evaluating 15 criteria ranging from local political support and land availability to operational considerations and environmental impacts. Ultimately, this process resulted in the identification of Andrews County, Texas as the site for the Proposed Action. The other Location Alternatives were eliminated from detailed analysis. Details are provided in this section.

2.3.1 Site Selection Process: Region of Interest

The site selection process was initiated pursuant to NEPA by identifying seven states located in the more

arid western regions of the U.S. The states considered included Arizona, California, Colorado, Nevada, New Mexico, Texas, and Utah. ISP believes that selecting states with sparsely populated areas and relatively arid climates was an important step in the site selection process due to many of the concerns about storage of SNF previously raised by people in more densely populated areas. ISP also believes that a CISF should only be located in a state that has voiced its support for hosting such a facility. Of these seven states, only stakeholders in New Mexico and Texas have expressed an interest in hosting a CISF within their borders.

In March 2014, Texas Governor Rick Perry stated his support for siting a CISF in Texas. He directed the TCEQ to prepare a report addressing the challenges posed by the presence of SNF and other High Level Waste currently stored at the four commercial nuclear power reactors in Texas. On March 28, 2014, Governor Perry, in a letter to Lieutenant Governor David Dewhurst, voiced his support for storing SNF in Texas. He also forwarded the report prepared by the TCEQ entitled, *Assessment of Texas' High Level Radioactive Waste Storage Options*. The TCEQ recognized that—while SNF currently stored in Texas is safe—it is not an adequate long-term solution and that a program needed to be established in a community that was willing to host such a facility. The TCEQ suggested that "in looking at how to successfully site a facility, one should take into account current successfully sited and built radioactive waste disposal facilities such as the Waste Isolation Pilot Plant in New Mexico for transuranic waste and the Low Level Radioactive Waste Facility in Texas."

On April 10, 2015, New Mexico Governor Susana Martinez voiced her support for a consent-based approach to locate a CISF in southeastern New Mexico, Attachment 2-1. She stated that such a facility was necessary given that millions of dollars of taxpayer funds were currently being spent on monitoring and oversight of SNF each year, and millions more were expended in * * * .

* * * * *

The assumed schedule of plant shutdowns is based upon the expiration date of each plant's existing permit. Although it is recognized that some plants may seek to extend their operating license, it is also likely that other plants will choose to shut down prior to reaching the end of their licensed operating period. Many plants have more than one reactor, so the assumed shutdown date for a plant is when the final operating reactor's permit expires. By Year 3 of the CISF's licensure, which is when it is assumed to be permitted to accept spent nuclear fuel, there will be ten shutdown nuclear power plants, eight of which could immediately send spent nuclear fuel canisters to the CISF.

From: Michael Lozano PBPA <Michael@pbpa.info>
Sent: Wednesday, July 29, 2020 6:04 PM
To: WCS_CISFEIS Resource
Subject: [External_Sender] Docket No. 72-1050; NRC-2016-0231
Attachments: PBPA Letter to NRC.pdf

Please see the attached letter from the Permian Basin Petroleum Association and feel free to let me know if you have any questions.

Best,

MDL

Michael D. Lozano
Permian Basin Petroleum Association
1122 Colorado Street, Suite 2320, Austin, Texas 78701
O: 512.297.2693| C: 956.778.1815
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Federal Register Notice: 85FR27447
Comment Number: 2132
Mail Envelope Properties (fce69c2260464c48824aeedb9558feb7)

Subject: [External_Sender] Docket No. 72-1050; NRC-2016-0231

Sent Date: 7/29/2020 6:03:42 PM
Received Date: 7/29/2020 6:03:54 PM
From: Michael Lozano PBPA
Created By: Michael@pbpa.info

Recipients:

Post Office: MBX080-W6-CO-4.exch080.serverpod.net

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Sensitivity: Normal
Expiration Date:
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PA

PERMIAN BASIN
PETROLEUM ASSOCIATION

July 21, 2020

Re: Docket ID NRC-2016-0231; Docket ID NRC-2018-0052

To Whom It May Concern:

The Permian Basin Petroleum Association (PBPA) respectfully submits this letter for consideration by the Nuclear Regulatory Commission to express our concerns and opposition to the siting of the Interim Storage Partners Consolidated Interim Storage Facility Project (Docket ID NRC-2016-0231) and the Holtec International HI-STORE Consolidated Interim Storage Facility Project (Docket ID NRC-2018-0052) (collectively referred to herein as "facilities"), both within the Permian Basin of Texas and New Mexico. The PBPA takes the position that the Draft Environmental Impact Statements (Draft EIS) are inadequate as to the risk the facilities pose to impacts on the Permian Basin which is the most active, thriving and prolific oilfield in the United States.

The PBPA was founded in 1961 to advocate for the safe and responsible development of our nation's natural resources in the Permian Basin and we represents the interests of our local oil and gas operators in Texas, New Mexico, and Washington, D.C. Today we write you to defend that founding principle. While the PBPA fully supports an all-of-the above energy strategy for Amer-

ica, including nuclear energy, we have grave concerns that the siting of these facilities will jeopardize energy production. Our concerns with the proposals are not the generation of nuclear energy or the operations of current facilities in either state, but that the risk of the country's continued energy independence has not been adequately weighed against these projects to include the investment which substantially contributes to the Texas and New Mexico economic security and workforce development and retention.

The following information from the Texas Taxpayers and Research Association's report *"The Permian Basin: Enriching Texas,"* highlights the region's prominence in both oilfield production and state economic contributions. The Permian Basin comprises 26 percent of Texas' land area and is home to one of the thickest deposits of rock from the Permian Period (251 to 299 million years ago). It contains numerous oil and gas producing formations. In April 2019, Forbes Magazine named it the "World's Top Oil Producer," replacing Saudi Arabia's Ghawar oilfield. With about 40,000 active oil and gas wells in New Mexico's portion of the Permian Basin and more than 250,000 in Texas' portion, the impact of the oil and gas sector is vast. **And it is proven.**

In 2019 in Texas alone, the Permian Basin was responsible for $9 billion in severance taxes and royalties paid to the state to utilize widely in basic functions of government—that amounted to $312 for every man, woman, and child in the state, or the equivalent of $937 for a family of three. Absent this revenue, the average Texan would either have had to accept a lower amount of services from state and local governments or would have had to pay that much more in taxes. In New Mexico, conservative estimates show that nearly 40% of all

state revenue is generated directly from oil and gas production taxes. There is simply no way to over emphasize the importance of this region.

Our members firmly believe that authorizing these facilities would threaten the real value of the region through mineral extraction in order to establish an enterprise that has never been attempted, would warrant a greater and more thorough evaluation. For example, in New Mexico, much of the proposed siting would threaten already executed legal contracts for operators who, in good faith, invested in leasing the area for mineral exploration and development for oil and gas production. The Draft EIS does not consider mineral rights which are paramount to the success of an oilfield. The dismissal or negligent overlooking of these contracted agreements between government parties and private operators is a dangerous precedent that would never have the PBPA's support or hold up in a court of law.

Further, the concept of *interim storage* also concerns our members greatly. While we recognize the concerns of current spent nuclear fuel storage at reactor sites, that issue better begs the immediate approval of a permanent disposal facility, like was envisioned at Yucca Mountain, not moving the spent nuclear fuel twice—once to a consolidated interim storage facility and then again for final disposition. Without knowing the length of the timeline being considered as *"interim"* and the question of solvency for the private operators of these sites, our members firmly oppose the current license applications in Andrews County, Texas, and Eddy-Lea County, New Mexico.

We greatly appreciate your review of our comments and look forward to working with you to ensure that the Permian Basin remains America's Oilfield.

Sincerely,
[s]
Ben Shepperd
President

Official Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

Title:	Public Online Webinar for the Draft Environmental Impact Statement for the Proposed Interim Storage Partners Consolidated Interim Storage Facility	
Docket Number:	72-1050	
Location:	webinar	
Date:	Thursday, October 15, 2020	
Work Order No.:	NRC-1102	Pages 1-188

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

+ + + + +

PUBLIC ONLINE WEBINAR FOR THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED INTERIM STORAGE PARTNERS CONSOLIDATED INTERIM STORAGE FACILITY

+ + + + +

THURSDAY

OCTOBER 15, 2020

+ + + + +

The Meeting convened via WebEx, at 11:06 a.m. EDT, Chip Cameron, Facilitator, presiding.

* * * * *

[77] on our nuclear use and disposal of what we do use.

I appreciate again your time. Thank you very much.

MR. CAMERON: Okay. Thank you. Thank you, Elliot, for those comments, especially coming from a medical professional. And thank you again.

And, Terry, I believe Monica is the next speaker.

OPERATOR: Yes. We have Monica Perales next, and then, Richard Faidley, Erica Gray, and Lon Burnam.

And, Monica, your line is now open.

MS. PERALES: Yes, ma'am. Thank you.

Hello. My name is Monica Perales. I'm on the legal team representing Fasken Oil and Ranch and the Permian Basin Coalition.

First, let me say to Bruce, the commenter from Maryland, those of us out here with the target on our backs, we're Andrews County, not Anderson County.

Regarding the NRC and ISP DEIS, I continue to be disappointed in your failure to justify or even explain why you're in such a rush to license the CISF that you cannot put the public participation element on hold until this pandemic has passed and true public [78] meetings can be held.

By engaging in the licensing of what's actually monitored retrievable storage and failing to take into account the position of the State of Texas, you are circumventing our rights, the rights of the State of Texas. You're most definitely aware that the Governor of the State of Texas has sent a letter to the President in which

the State of Texas makes it clear that we are opposed to ISP's CISF. And let me clearer to you. Rick Perry may be invested in getting this facility licensed, but Greg Abbott is our Governor.

Now, regarding the DEIS section on environmental justice, in your rush to license the facility and your assumption of low risk, your DEIS failed to provide an objective and thorough analysis of impact to low-income and minority populations. In fact, you dismissed the large percentage of Spanish speakers in the immediate vicinity of the CISF and of the rail route.

I searched, and the NRC website public meeting notices are in English only, and the meeting notice in Andrews, Texas, in their small paper, it was only in English. So, if the DEIS is only published in English, why do you bother having an interpreter available, when the materials that are the subject of [79] this discussion are only available in English?

Your DEIS fails to accurately account for the salt playas and the environmental conditions out here in the area of the ISP that will contribute to chloride-induced stress corrosion cracking.

Your DEIS also presents a misleading view of the current tectonic state around the proposed site. Besides the description of the tectonic uplift of the Central Basin Platform as it resides today, it describes the platform as being steeply fault-bounded uplift of basement rocks, and it describes the steep-angle faulting that bounds the platform's edges.

Now, while this description is true for the western flank of the platform, it fails to disclose the heavily faulted nature of the platform itself in and around the

site. It fails to report on the cause of the platform's rotation, which is causing major deformation and instability within the platform itself. Due to the nature of the tectonic setting and the degree of rotation, the western side of the platform has greater structural relief, vertical separation, and basement shortening.

I'm trying to be brief, but what I have to say is important because it shows that the area of the ISP site is the least stable region of the Central [80] Basin Platform from a structural geology standpoint, and it has undergone more fault reactivation in its history than the rest of the platform.

The DEIS describes the shallow faults in the area. However, most earthquake epicenters in the ISP site are at depths related to the basement faulting. The risk in the area comes from reactivation of basement faults. They propagate energy faults at the surface, not like ordinary age faulting.

So, the DEIS is severely lacking. It is apparent that you chose to base your DEIS findings and focus your analysis on hazards that are lower risk to the site. Your omission of the obvious risk posed by basement faults voids your finding of low risk and it calls into question the reality of your results overall.

I'd like to discuss the probabilistic seismic hazard analysis utilized in the DEIS. The analysis that is used has been widely discounted by scientists and engineers for decades, as they include parameters known to conjure the constants in earthquake physics.

Major tectonic events have occurred in areas previously deemed low risk by your models. Your models cannot create an accurate risk of future [81] earth-

quakes. There are multiple scholarly, accredited sources that have discredited the models that you rely upon.

Your data is based on aboveground seismic monitoring stations, which are often moved. That leads to issues of effective measurement, the proper coupling to the earth, and local noise variations. The data reported in your DEIS has only been monitored since the 1970s. Yet, it's being used to determine seismic event risk up to 100 years into the future, or over two times the length of time that has been monitored.

The errors in the models cited in the DEIS are clearly known by the NRC, as you published internal documents discussing the large amount of uncertainties in these models. And you've gone as far as to clearly state that many of the problems with your models will not even be thought of, as they're so limited in scope.

Reliance upon WCS affidavits on basement faulting and your reliance upon faulting models for determining the degree of strength in the cask design, but also the site integrity itself warrants disqualification of your DEIS.

To the listeners, finally, I ask you to visit protectthebasin.com and join us in opposition.

* * * * *

PUBLIC SUBMISSION

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Docket: NRC-2016-0231
Waste Control Specialists LLC's Consolidated Interim Spent Fuel Storage Facility Project

Comment On: NRC-2016-0231-0317
Interim Storage Partners Consolidated Interim Storage Facility Project

Document: NRC-2016-0231-DRAFT-0371
Comment on FR Doc # 2020-09795

Submitter Information

Email: james.sullivan@gov.texas.gov

Government Agency Type: State

Government Agency: Office of the Governor of Texas

General Comment

On behalf of Governor Abbott, I hereby submit the attached comment in Docket ID NRC-2016-0231.

James P. Sullivan
Deputy General Counsel
Office of the Governor of Texas
1100 San Jacinto Boulevard, Fourth Floor
Austin, Texas 78701

Attachments

NRC Comment of Governor Abbott

GOVERNOR GREG ABBOTT

November 3, 2020

Office of Administration
Mail Stop TWFN-7-A60M
U.S. Nuclear Regulatory Commission (NRC)
Washington, D.C. 20555-0001
ATTN: Program Management, Announcements, and Editing Staff

Re: Interim Storage Partners (ISP) Consolidated Interim Storage Facility Project, Docket ID NRC-2016-0231

Dear Office of Administration Staff:

As Governor of Texas, I strongly oppose ISP's application for a license to construct and operate a consolidated interim storage facility in Andrews County, Texas. Having consulted with numerous state agencies, including the Texas Department of Public Safety, the Texas Commission on Environmental Quality, and the Texas Department of Transportation, I urge the NRC to deny ISP's license application.

If ISP's license application were approved, its proposed facility would store spent nuclear fuel and Greater-Than-Class-C waste, both of which present a greater radiological risk than Texas is prepared to allow. This

deadly radioactive waste—up to 40,000 metric tons of uranium—would sit right on the surface of the facility in dry cask storage systems. Spent nuclear fuel is so dangerous that it belongs in a deep geologic repository, not on a concrete pad above ground in Andrews County. *See, e.g.*, 42 U.S.C. § 10101(18); *Nevada v. DOE*, 457 F.3d 78, 81 (D.C. Cir. 2006). This location could not be worse for storing ultra-hazardous radioactive waste.

Andrews County lies within the Permian Basin Region, which has surpassed Saudi Arabia's Ghawar Field as the largest producing oilfield in the world. There are approximately 250,000 active oil-and-gas wells in Texas's portion of the Permian Basin. In 2019, oil production in the Permian Basin exceeded 1.5 billion barrels, and the oil-and-gas industry directly employed 87,603 individuals in the region. Also in 2019, the Permian Basin was responsible for $9 billion in severance taxes and royalties to the State of Texas. In 2018, the Permian Basin produced more than 30 percent of total U.S. crude oil and contained more than 40 percent of proved oil reserves. In short, the Permian Basin is a significant economic and natural resource for the entire country.

The proposed ISP facility imperils America's energy security because it would be a prime target for attacks by terrorists, saboteurs, and other enemies. Spent nuclear fuel is currently scattered across the country at various reactor sites and storage installations. Piling it up on the surface of the Permian Basin, as ISP seeks to do, would allow a terrorist with a bomb or a hijacked aircraft to cause a major radioactive release that could travel hundreds of miles on the region's high winds. Such an attack would be uniquely catastrophic because, on top of the tragic loss of human life, it would disrupt the country's energy supply by shutting down the

world's largest producing oilfield. The Permian Basin is already a target for America's enemies, and granting ISP's license application would paint an even bigger bullseye.

Under the National Environmental Policy Act of 1969, the NRC has an obligation to consider the environmental effects of a terrorist attack on the proposed ISP facility. *See Mothers for Peace v. NRC*, 449 F.3d 1016, 1028-35 (9th Cir. 2006); *but see N.J. Dep't of Envtl. Prot. v. NRC*, 561 F.3d 132, 136-43 (3d Cir. 2009) (creating circuit split on issue); *New York v. NRC*, 589 F.3d 551, 554 n.1 (2d Cir. 2009) (per curiam) (avoiding circuit split because "the NRC did sufficiently take into account acts of terrorism"). Perhaps recognizing as much, the NRC addressed the risk of terrorism in section 4.19 of its Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel. *See* 10 C.F.R. § 51.23 (cross-referencing NUREG-2157). The Generic Environmental Impact Statement determined (at page 4-97) that terrorism's "environmental risk is SMALL" during the period beyond a facility's license term. *But see* 42 U.S.C. § 2210e (reflecting Congress's judgment that the risk of a terrorist attack on a nuclear facility warrants the NRC's careful attention).

Now, in sections 1.4.4 and 5.1.3 of the Draft Environmental Impact Statement for the license application in Andrews County, the NRC apparently seeks to apply its generic terrorism determination to ISP. The proposed ISP facility, however, would be a uniquely provocative target: The probability of a terrorist attack is higher than for a generic reactor site, because the consequences are higher when a terrorist can disrupt the country's energy supply with a major radioactive release. So the Generic Environmental Impact Statement

does not adequately assess terrorism risk as to ISP in particular, while the Draft Environmental Impact Statement does not speak to that issue at all. Indeed, the word "terrorism" appears just once, in a mere citation, in the Draft Environmental Impact Statement (at page 2-31).

Although the Draft Environmental Impact Statement repeatedly refers to ISP's construction and operation of a "consolidated *interim* storage facility," it would be naïve to believe the highlighted word. ISP's application seeks a 40-year license, with the possibility of a 20-year renewal. The Draft Environmental Impact Statement simply assumes (at pages xix, 1-3, 2-2, 8-1, 9-16) that a permanent geologic repository will be developed and licensed before those 60 years are up, without addressing any contingency for the spent nuclear fuel if such a repository is not ready when ISP's license expires. Those rosy assumptions are unsound: Radioactive waste has "the capacity to outlast human civilization as we know it," *Nuclear Energy Inst., Inc. v. EPA*, 373 F.3d 1251, 1257 (D.C. Cir. 2004) (per curiam), and any spent nuclear fuel that comes to the proposed ISP facility will be there to stay.

Congress began working on a lasting solution to the spent nuclear fuel problem by passing the Nuclear Waste Policy Act of 1982, which set standards for a permanent geologic repository, and the NWPA Amendments Act of 1987, which designated Yucca Mountain as the only site for it. Today, 38 years later, there is still no permanent geologic repository, with Yucca Mountain effectively having been abandoned. *See, e.g., New York v. NRC*, 824 F.3d 1012, 1014-15 (D.C. Cir. 2016); *In re Aiken County*, 645 F.3d 428, 430-33 (D.C. Cir. 2011). Once again, then, "[t]he [NRC] apparently has no long-

term plan other than hoping for a geologic repository. If the government continues to fail in its quest to establish one, then [spent nuclear fuel] will seemingly be stored on site at nuclear plants on a permanent basis. The [NRC] can and must assess the potential environmental effects of such a failure." *New York v. NRC*, 681 F.3d 471, 479 (D.C. Cir. 2012).

The Generic Environmental Impact Statement concedes (at page 4-95) that "additional security requirements may be necessary in the future if spent fuel remains in storage for a substantial period of time. Under those circumstances, it is reasonable to assume that, if necessary, the NRC will issue orders or enhance its regulatory requirements for ISFSI and DTS security, as appropriate, to ensure adequate protection of public health and safety and the common defense and security." This approach to future terrorist threats—essentially, a promise of *I'll tell you later*—is not good enough and does not protect Texas and its citizens.

Finally, safe transportation of spent nuclear fuel would require specialized emergency response equipment and trained personnel, as well as significant infrastructure investments. Texas currently has four counties (Bexar, Dallas, Midland, and Nueces) and one city (San Antonio) that have passed resolutions prohibiting the transportation of spent nuclear fuel and high-level waste. According to the Draft Environmental Impact Statement (at page 3-8), the cargo currently shipped on rail lines through the Permian Basin consists primarily of "oilfield commodities such as drilling mud, hydrochloric acid, fracking sand, pipe, and petroleum products, including crude oil, as well as iron and steel scrap." There are also significant agricultural commodities. In the event of a rail accident or derailment, even absent a ra-

diological release, the resources and logistics required to address such an accident would severely disrupt the transportation of oilfield and agricultural commodities, to the detriment of the entire country.

In light of the grave risks associated with the proposed ISP facility, the absence of a permanent geologic repository, and the importance of the Permian Basin to the country's energy security and economy, I respectfully and emphatically request that the NRC deny ISP's license application.

Sincerely,

/s/ GREG ABBOTT
GREG ABBOTT
Governor

GA:jsk

cc: The Honorable Dan Brouillette, Secretary, U.S. Department of Energy

The Honorable Chad F. Wolf, Acting Secretary, U.S. Department of Homeland Security

Colonel Steven C. McCraw, Director, Texas Department of Public Safety

Mr. Toby Baker, Executive Director, Texas Commission on Environmental Quality

Ms. Ashley Forbes, Director, Radioactive Materials Division, TCEQ

Mr. James M. Bass, Executive Director, Texas Department of Transportation

Mr. Wei Wang, Executive Director, Texas Railroad Commission

PUBLIC SUBMISSION

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Docket: NRC-2016-0231
Waste Control Specialists LLC's Consolidated Interim Spent Fuel Storage Facility Project

Comment On: NRC-2016-0231-0317
Interim Storage Partners Consolidated Interim Storage Facility Project

Document: NRC-2016-0231-DRAFT-0376
Comment on FR Doc # 2020-09795

Submitter Information

Email: a.tennis@kanner-law.com

Organization: Permian Basis Coalition of Land and Royalty Owners and Operators

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General Comment

Please thoughtfully consider the attached comments relating to the Interim Storage partners Consolidated Interim Storage Facility Project.

Attachments

2020.11.03 Fasken Comments to ISP DEIS

November 3, 2020

Office of Administration
Mail Stop: TWFN-7-A60M
Attn: Program Management, Announcements and Editing Staff
U.S. Nuclear Regulatory Commission Washington, DC 20555-0001

Subject: Submittal of Comments on Draft Environmental Impact Statement (DEIS) for Interim Storage Partner's (ISP's) License Application for a CISF in Andrews County, Texas, Docket ID NRC-2016-0231

Reference: 1. "Environmental Impact Statement for Interim Storage Partners LLC's (ISP) License Application for a Consolidated Interim Storage Facility (CISF) for Spent Nuclear Fuel in Andrews County, Texas, Draft Report for Comment," NUREG-2239, Date Published: May 2020, Docket ID NRC-2016-0231 (ML20122A220).

2. Federal Register Notice: Extension of Public Comment Period for Draft Environmental Impact Statement for Interim Storage Partners Consolidated Interim Storage Facility License Application, July 30, 2020 (85 FR 27447), (ML20198M580).

Permian Basin Coalition of Land and Royalty Owners and Operators (PBLRO) and Fasken Land and Minerals, Ltd. (FLML or Fasken) have engaged both staff and consultants in the review of the Draft Environmental Impact Statement (DEIS). The Fasken staff com-

ments are presented in Attachment 1 and consultant comments are presented in Attachment 2.

There are systemic regulatory failures in multiple areas of the DEIS demonstrating unrealistic attempts to achieve a zero-risk outcome, as well as a lack of awareness to risk trade-offs and reluctance by the NRC to realistically compare benefits to costs and adopt the most efficient regulatory alternative.

For the record, PBLRO and FLML wish to reemphasize the fact that Governor Abbott of Texas has *again* stated his opposition to the approval of the ISP CISF, today, November 3, 2020. If the NRC were following the statutory requirements of the Nuclear Waste Policy Act, the opposition by the host governor to a proposed CISF site that serves the purpose described in law for a Monitored Retrievable Storage (MRS) facility would be sufficient to end the NRC licensing activity.

The absence of Governor Abbott's approval will also adversely impact the required approvals by Texas state agencies that are assumed to be granted in the DEIS

We look forward to the NRC's responses to our concerns.

Sincerely,

/s/ MONICA PERALES
MONICA PERALES

Attorney for Fasken Land and Minerals, Ltd. and Permian Basin Coalition of Land and Royalty Owners and Operators

ATTACHMENT 1

Review of ISP DEIS, ML20122A220
Permian Basis Coalition of Land and Royalty Owners and Operators (PBLRO) & Fasken Land and Minerals Limited (FLML)

Subject: Permian Basis Coalition of Land and Royalty Owners and Operators (PBLRO) and Fasken Land and Minerals Limited (FLML), comments and concerns regarding the NRC's Draft Environmental Impact Statement (DEIS, ML20122A220) for Interim Storage Partners LLC's (ISP) license application for a Consolidated Interim Storage Facility (CISF) for Spent Nuclear Fuel (SNF) in Andrews County, Texas.

Geophysical Properties of the Central Basin Platform (CBP)

Section 3.4.1.2 and Stratigraphy

Issue: *The geological history of the basin as reported in the DEIS (Section 3.4) is adequate but presents a misleading view of the current tectonic state around the ISP's proposed site location.*

The DEIS cites the (Hills, 1985) description of the tectonic uplift that occurred during the Mississippian and Pennsylvanian ages that setup the Central Basin Platform (CBP) as it resides today (pg 3-12, line 20). The CBP is described as "a steeply fault-bounded uplift of basement rocks" (pg 3-12, line 4). The DEIS also describes the steep angle faulting that bounds the platform's edges.

While this description is true for the Western flank of the CBP, the NRC fails to disclose the heavily faulted nature of the CBP itself in and around the ISP's proposed location (see Figure 1 below).

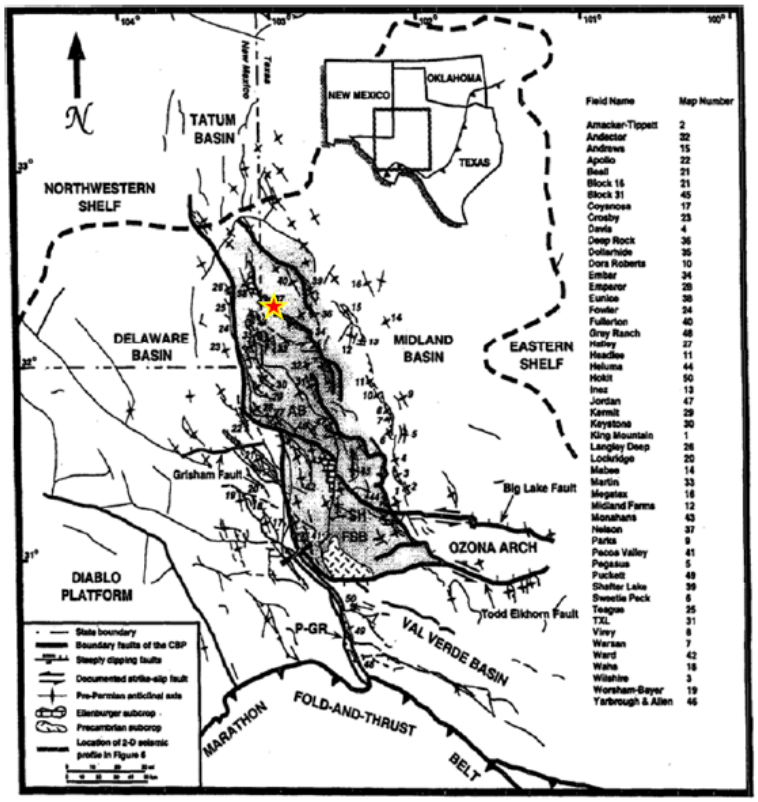

Figure 1. Generalized tectonic map for the Permian Basin, showing the Central Basin Platform, Delaware Basin, and Midland Basin. Modified from GEOPMAP (1983), Ewing (1990), Gardiner (1990a), Comer (1991), Shumaker (1992), and Yang and Dorobek (1995a). The oil-gas fields mentioned in this study are labeled by number. Orientations of the pre-Permian fold axes associated with selected oil-gas fields were compiled from Stipp et al. (1956), Herald (1957), Harrington (1963), Hills (1970), Galloway et al. (1983), GEOMAP (1983), Henderson et al. (1984), and Kosters et al. (1988). The shaded area represents the general outline of the Central Basin Platform. AB = Andector Block; FSB = Fort Stockton Block; SH = Sand Hills Fault; P-GR = Puckett-Grey Ranch Fault Zone.

Figure 1. Image shows highly complex fault network with regional trends through and around the IPS's site location. The west side of the Central Basin Platform (CBP) has "greater structural relief, vertical separation, and basement shortening" than the eastern side (Tai and Dorobek, 2006). Approximated WCS location outlined by red star.

The CBP consists of two main crustal blocks arranged in an echelon pattern with steeply dipping reverse and thrust faults, asymmetrical flower structures, and associated normal faults (Tai and Dorobek, 2006). Once the CBP was uplifted during the Mississippian age, the boundaries of the CBP began to shear against the platform edges aligning to the primary stress direction of the Marathon orogeny causing the CBP to rotate in a clockwise direction.

This rotation of the CBP caused the crustal blocks WITHIN the CBP to rotate in a clockwise pattern causing major deformation and instability within the platform itself. Due to the nature of the transpressional tectonic setting and the degree of rotation, the western side of the CBP has "greater structural relief, vertical separation, and basement shortening" (Tai and Dorobek. 2006).

All of the evidence for deformation of the subsurface listed above shows that the area of interest is in the least stable region of the CBP from a structural geology standpoint and has undergone more fault reactivation in its history than the rest of the CBP.

Section 3.4.5 Seismology

The DEIS then describes the shallow Quaternary faults in the area (pg 3-20, line 36). Quaternary faults are important as they, by definition, have shown movement in the last 1.6 million years at the surface (USGS, 2018).

However, most earthquake epicenters in the ISP's site are at depths related to basement faulting (see Figure 2 below), showing that the risk in this area comes from reactivation of basement faults propagating energy felt at the surface, not the reactivation of Quaternary age

faulting. These Quaternary faults are used as the sole basis for seismic risk stated repeatedly throughout the DEIS (pg 4-27, line 8-10 & 39-45) as proximity to a hazard even though they pose less risk to the site and environment than the above-mentioned subsurface faults.

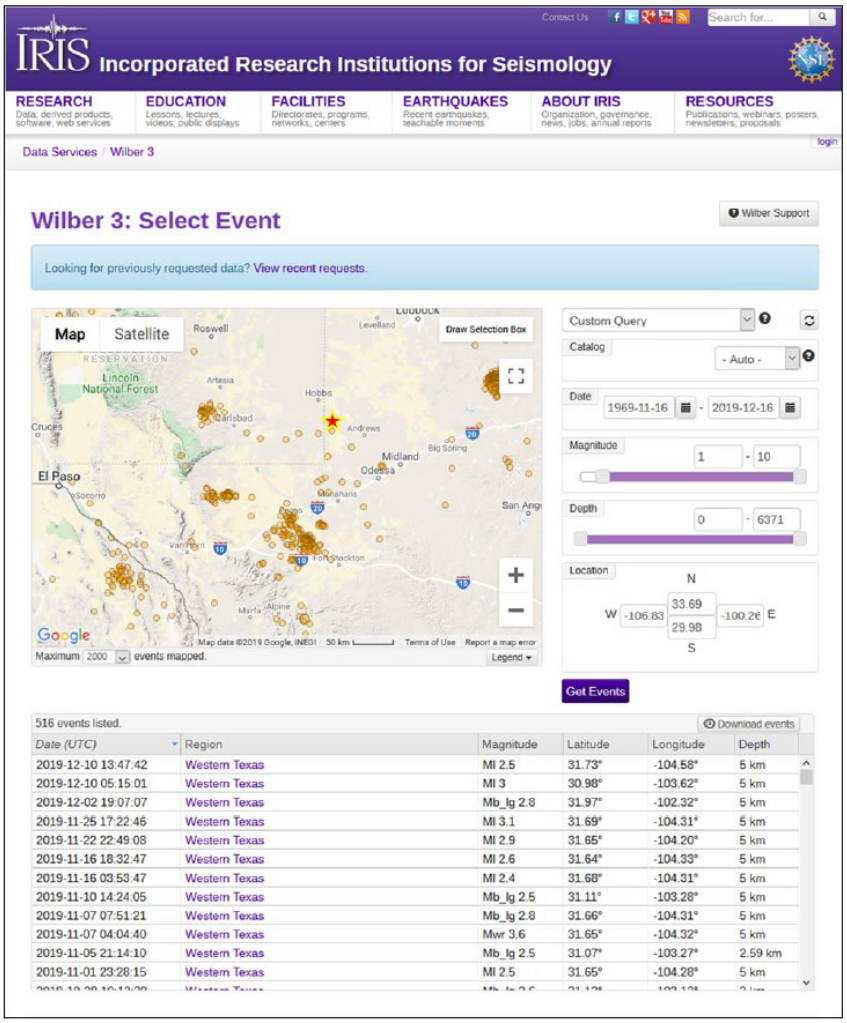

Figure 2. Image taken from IRIS website showing events in and around area with epicenter magnitudes

and depth of origination. It can be clearly seen that the events are at estimated depths of 5km (~3.1 mi), showing that the slip/compression events mostly occur at basement depths not within the Quaternary age faults. Approximated WCS location outlined by red star.

A comparison of the earthquake data and CBP fault maps show a correlation of events running through and around the ISP proposed CISF site (see Figure 3 below).

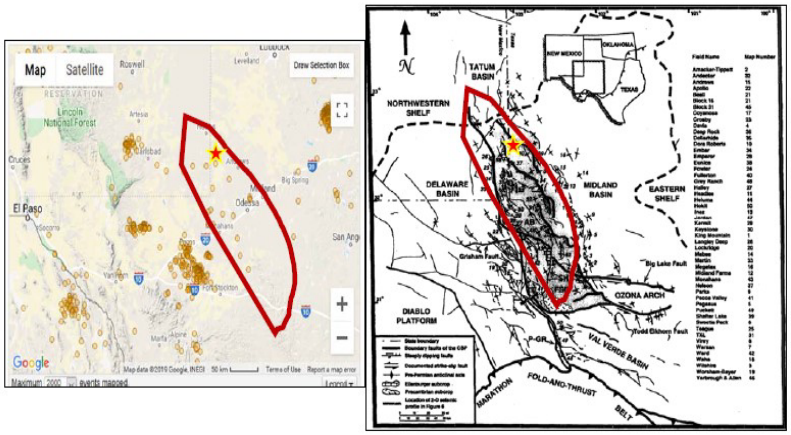

Figure 3. Map comparison of the fault planes within the CBP and public earthquake data from the IRIS website. This figure shows the earthquake epicenters training to the basement faults in the area of interest to WCS and ISP. This shows that the area continues to settle around these faults even when not in the presence of major oil and gas operations, generating acceleration at the surface. Approximated WCS location outlined by red star.

The omission of the obvious risk posed by these basement faults by the NRC in the DEIS gives cause for concern to the Probabilistic Seismic Hazard Analysis

(PSHA) performed by the ISP applicant and submitted to the NRC (pg 3-21, line 3-21).

ISP LLC's Submitted Probabilistic Seismic Hazard Analysis (PSHA)

Issue: *The methodology and limited input requirements for PSHA models have been widely discounted by scientists and engineers for decades (Mulargia et al., 2016) as they include parameters known to contradict constants in earthquake physics*.

Major tectonic events have occurred in areas previously deemed "low risk" by PSHA models, because they are based on few known elastic earth properties that are not site specific and therefore cannot create an accurate risk of future earthquakes (San Onofre Safety, unknown). The following are multiple citations on the discreditation of these models and describe the model inputs below.

- Castaños, Heriberta, and Cinna Lomnitz. "PSHA: Is it science?" *Engineering Geology* 66.3-4 (2002): 315-317.
- Frankel, Arthur. "How can seismic hazard around the New Madrid seismic zone be similar to that in California?" *Seismological Research Letters* 75.5 (2004): 575-586.Klügel, Jens-Uwe. "Error inflation in probabilistic seismic hazard analysis." *Engineering Geology* 90.3-4 (2007): 186-192.
- Moschetti, Morgan P., et al. "The science, engineering applications, and policy implications of simulation-based PSHA." *Proceedings of the 11th National Conference in Earthquake Engineering (11NCEE), June*. 2018.

- Musson, R. M. W., et al. "Evaluating hazard results for Switzerland and how not to do it: A discussion of "Problems in the application of the SSHAC probability method for assessing earthquake hazards at Swiss nuclear power plants" by JU Klügel." *Engineering geology* 82.1 (2005): 43-55.
- Stein, Seth, Joseph Tomasello, and Andrew Newman. "Should Memphis build for California's earthquakes?" *Eos, Transactions American Geophysical Union* 84.19 (2003): 177-185.
- Wang, Zhenming, et al. "Communicating with uncertainty: A critical issue with probabilistic seismic hazard analysis." *Eos, Transactions American Geophysical Union* 84.46 (2003): 501-508.

The earthquake data used in the PSHA are based on readings from above-ground seismic monitoring stations. Some of these stations are "permanent" installations while *many others* are temporary stations that are repeatedly moved and experience issues of effective measurement through improper coupling to the earth and local noise variations.

Each time a station is moved, the triangulation methods used to determine epicenter location and magnitude changes and adds errors to the data that are dependent on the distance from the epicenter. These data, as reported in the DEIS, have only been monitored since the 1970's (pg 3-20, line 29) and are being used by the ISP applicant and the NRC to determine seismic event risks up to 100 years into the future (pg 9-16, lines 13-14), or over 2 times the length of time that has been monitored.

The PSHA models are simplified for ease of use and negate known physical earth processes such as anisotropic velocity variations that drive the errors found in model outputs. These errors are clearly known by the NRC as they have published internal documents discussing the large amount of uncertainties in these models, and go as far too clearly state that "many of the problems with these models will not even be thought of as they are so limited in scope" (SSHAC,1997).

The DEIS clearly states that the actual damage that results from ground motion depends on "distance to the epicenter, duration of shaking, attenuation of earthquake energy as it propagates from the epicenter to the location . . . " (pg 3-21, line 17), and it is both alarming and a deficiency in the analysis that the basement fault network around the site was not addressed as a possible source of seismic risk.

Investigation into the input parameters included in the ISP applicant's PSHA that provided the NRC with a LOW risk rating for all geologic hazards was and remains warranted.

Surprisingly the only document submitted on the model is an affidavit submitted by WCS to the NRC that states that the information provided to the NRC, signed by J. Scott Kirk (WCS) on 07 MAR 17, was deemed confidential under ruling 10 CRF 2.390(a)(4), see attached.

It particularly troubling to note that *this is the only document* found that has a request of confidentiality in the geologic section of the ISP's license application.

Even if the algorithm for the PSHA model is proprietary, we as a community should still have access to view the data used to constrain each modeled simulation. As

no input parameters can be viewed, we must trust the description of the model provided by the ISP applicant which states that they "incorporate the site-specific effects of the near surface geology on ground motions to design the ISP site" (pg 3-21, line 5).

What is further disturbing, is that this confidential PSHA model, admittedly deficient in its abilities by the NRC, is used to determine the strength of materials used not only in the cask design but also the site's foundational integrity (pg 4-28, lines 19-24). The PSHA results offering the LOW RISK rating are the basis for the impacts outlined in Section 4 of the DEIS, *Environmental Impacts* (pg 4-27, lines 39-45) and Section *5, Cumulative Impacts* (pg 5-20, lines 39-40), but are not mentioned in Mitigation, Monitoring, or the Summary of Environmental Impacts in the EIS. This means, the site will not be required to have a strategic plan for seismic monitoring nor a plan in the event that the site undergoes damage from a seismic surface event.

If the site plans are based on a model that the NRC knows to be inaccurate, and the NRC states that they have zero authority to force ISP LLC to implement stronger safety measures (pg 6-2, lines 21-22) in the event of an earthquake, then the seismic hazard analysis section of the DEIS should have been investigated in more detail by the NRC as the seismically-enhanced potential risks to a radiological leak begins to appear as negligence on the NRC's part.

The NRC has the responsibility to require that ISP or any future proposed site perform a timely and economic collection of 2D or 3D seismic data to get an accurate idea of the tectonic deformation under and around the site's location.

Section 5 Cumulative Impacts

Section 5.4 Geology & Soils

Issue: Section 5.4 of the DEIS includes discussions (pg 5-20, lines 37-44; pg 5-21, lines 1-11) analyzing future risk to the site from outside influences such as industrial operations on the surface and subsurface oil and gas activities, among other concerns. One major admission in this document is the inclusion of a study by Frohlich, et al., (2016) that discusses fluid injection and hydrocarbon production as driving mechanisms for earthquakes recently experienced in the Permian Basin.

Even though there is no consensus between academia, government, and industry at this time on the cause of these seismic events, we must still observe and plan on any eventuality of earthquake activity due to the high level radiological hazard of materials being stored at this location and the enormous potential those highly hazardous materials have to do damage to the environment and harm members of the public.

The DEIS references the Snee and Zoback (2018) study that is cited (pg 5-21, lines 1-11) as giving a LOW RISK evaluation for the site due to future earthquake caused by oil and gas operations. Figure 4 shows very clearly that the fault networks that are used by Snee and Zoback (2018) are surrounded by faults and are in proximity of some that show a 45% likelihood of slip in the future under these conditions.

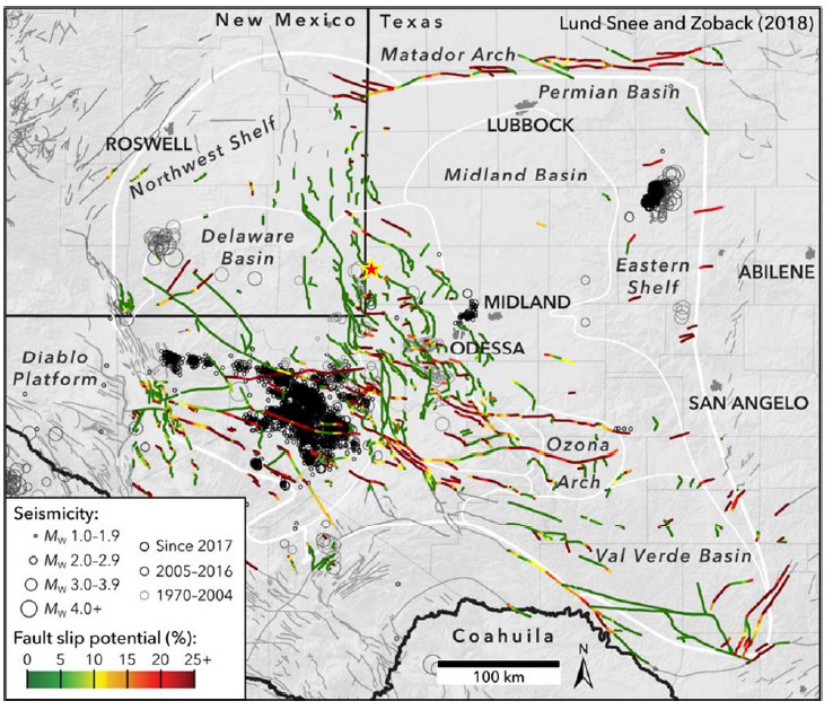

Figure 4. (Snee and Zoback, 2018) Fault slip potential map identifying areas within the ISP's site location. It is shown that this model predicts a highly dense fault network underneath and around the site, with some faults showing greater than 45% probability of slip in the future. This model is represented as having a less than 10% chance of activation in the EIS report (EIS, 5-21, 3-7). Approximated WCS location outlined by red star.

It is hard to see how the ISP applicant declares that the site is at a less than 10% risk of fluid induced fault slip, or how the NRC would accept these findings based on the literature that they have cited as the basis for their analytical findings.

Within this section, the DEIS also describes the risk of sinkholes and karst fissure features (dissolved subsurface caverns that collapse under overburden pressure changes) but states that most sinkholes at the surface are man-made, resulting from oil and gas operations, and that the naturally occurring karsts are prominent along the flanks of the CBP and the Delaware Basin (pg 5-21, lines 12-18), inferring that there is no *real* risk to the site. This again is a very misleading argument as the karst/collapse features presented are those that have already affected the surface through subsidence.

The most significant risk, once again, lies ***beneath*** *the ISP's proposed site location.*

The Ellenberger formation is a major deposition that constitutes a large portion of Ordovician rock present underneath the proposed site. This formation is of interest to this site as it has been subjected to three major diagenetic processes that change the stability and nature of the formation: 1) Dolomitization, 2) Karsting, and 3) Tectonic fracturing.

These diagenetic processes all create further instabilities in the subsurface in the event of a seismic event or regional shift in stresses, and have been studied extensively by the Bureau of Economic Geology (Loucks, 2014) and other institutions of which neither the ISP applicant nor the NRC have consulted on this matter according to the DEIS report. Whether or not these events are caused by industrial activities, or whether they follow the natural stress regimes as described in the geologic overview of the CBP; it is clear that the NRC has not fully investigated the dangers and risks of surface collapse due to diagenetic processes.

Final discussion on Seismic Concerns:

The ISP applicant and the NRC are in clear violation of 10 CFR 72.122(b)(2)(i)(A), for their failure to consider in their protections against environmental conditions and natural phenomena the "*most severe* of the natural phenomena for this site and surrounding area, with appropriate margins to take into account the limitations of the data and the period of time in which the data have accumulated . . . " The regulation further requires in (3) "Capability must be provided for determining the intensity of natural phenomena that may occur for comparison with design bases of structures, systems, and components important to safety." The DEIS fails to meet these requirements.

Other commenters (including below) have opined to the NRC on the matter of chloride-induced stress corrosion cracking (proposed site located next to a KCL(3) POTASH mine), thin cask design failures, and heat induced stress failures. How much of a seismic force would need to be generated/registered at the site to accelerate an undetected crack growing into a leak? There is no evidence in the DEIS that this scenario has been analyzed.

The DEIS also states that "favorable seismological and geological characteristics" are one of the first-tier attributes that they look for in determining a suitable site location (pg 2-24, line 17). This proves that this issue is one of the most important considerations in the licensing of a CISF to ensure safe operations before construction begins, which causes alarm due to the lack of investigation into this concern.

It is also disappointing that the NRC only consulted with the US DOA and the TCEQ (pg 1-12, lines 3-11),

neither agencies having any jurisdiction in the lower rock formations that are undergoing and have experienced the most tectonic deformation over time, thus more likely to create a seismic energy release. The Texas Bureau of Economic Geology is the Texas agency with the required expertise and must be consulted on these matters.

Many public institutions have extensive knowledge of the fault networks within the Permian Basin that work freely with governmental agencies on a regular basis. The NRC acknowledges that it has zero authority to impose mitigation outside of its regulatory authority under the Atomic Energy Act (pg 6-2, lines 21-22), and includes mitigation suggestions from ISP and for ISP to follow outlined in DEIS Tables 6.3-1 and 6.3-2. Neither of these mitigations discuss the need for further seismic monitoring onsite or future plans to change the sites infrastructure if additional higher magnitude events reach the site. This again shows a highly misplaced trust in the PSHA model authored, made proprietary, and submitted by the ISP applicant (formerly WCS) that industry has shown to be flawed.

It is for these reasons it is recommended that a "No Action" policy be taken, and the ISP license should be postponed or denied until a wide azimuth seismic survey has been conducted to understand the nature of the deformation under the proposed site location.

Citations in main body:

Cornell, C. Allin. "Engineering seismic risk analysis." *Bulletin of the seismological society of America* 58.5 (1968): 1583-1606.

Francesco Mulargia, Philip B. Stark, Robert J. Geller, "Why is Probabilistic Seismic Hazard Analysis (PSHA) still used?" Physics of the Earth and Planetary Interiors, Volume 264 (2017): 63-75.

Jens-Erik Lund Snee, Mark D. Zoback; State of stress in the Permian Basin, Texas and New Mexico: Implications for induced seismicity. *The Leading Edge*; 37 (2): 127-134. doi: https://doi.org/10.1190/tle37020127.1

Loucks, R. G. "Review of the lower Ordovician Ellenburger group of the Permian basin, West Texas." *2014-10-25] http://www.beg.utexas.edu/resprog/permianbasin/PBGSP_members/writ_synth/EllenburgerDraft_022206.pdf* (2008).

San Onofre Safety, Waste, Nuclear Waste Details. (Unknown) https://sanonofresafety.org/nuclearwaste/

Tai, Po-Ching & Dorobek, Steven. (2000). Tectonic Model for Late Paleozoic Deformation of the Central Basin Platform, Permian Basin Region, West Texas.

U.S. Geological Survey Geologic Names Committee, 2018, Divisions of geologic time—Major chronostratigraphic and geochronologic units: U.S. Geological Survey Fact Sheet 2018–3054, 2 p., https://doi.org/10.3133/fs20183054.
ISSN: 2327-6932 (online)

See Attachment (1)

Regional Geology

Section 3.4.1.2 Structure and Stratigraphy

Issue: The DEIS erroneously states (pg 3-12) that there have been no major tectonic events in North America since the Laramide Orogeny (80 to 40 Million years ago).

The Rio Grande Rift (RGR) is the most recent tectonic event that effected the Permian Basin (Mack and Giles, 2004). The DEIS fails to mention and characterize the RGR, which is critical in understanding the geological and geohydrological history of the aquifers at the CISF. The RGR began in the Middle Cenozoic (29 Million years ago) and continues to present day (Mack and Giles, 2004). The RGR was caused by crustal extension. This extension structurally tilted the Permian Basin up to the east which caused massive meteoric water movement. This structural tilting emplaced and recharged the regional aquifers (Lindsay, 2018). *The RGR is not dormant but active*, from Colorado's central Rocky Mountains to Mexico (Sheehan, 2012).

Mack, G.H. and Giles, K.A., 2004, The Geology of New Mexico: A Geologic History: New Mexico Geological Society Special Publication 11. 474 p.

Lindsay, R.F., 2018, Hybrid Model of Dolomitization, Permian Basin: AAPG 2018 Convention & Exhibition.

Sheehan, Anne, 2012, Some earthquakes expected along Rio Grande Rift in Colorado and New Mexico, new study say: CU Boulder Today. https://www.colorado.edu/today/2012/01/11/some-earthquakes-expected-along-rio-grande-rift-colorado-and-new-mexico-new-study-says

Groundwater Resources

Issue: In Table 5.1-1, the DEIS insufficiently and inappropriately projects small, cumulative impacts to groundwater resources.

Geologic, environmental, and mechanical data show groundwater at and beneath the CISF footprint. There are 3 major aquifers at the WCS site that contain shallow, fresh, groundwater. These 3 major aquifers are re-

ferred to as the OAG Unit (Granger and Grisak, 2006). The OAG unit consists of the Ogallala, Antler, and Gatuna formations.

These formations are in similar stratigraphic position, are often interbedded, and cross formational flow is known to exist between the Antler and Ogallala (Granger and Grisak, 2006; Lehman and Rainwater, 2000). These units also overlie the Dockum Group, an additional aquifer at the site.

Significant groundwater resources are present within the CISF footprint. There are 13 windmills and 174 water wells that have been drilled within a 10 km radius of the site, many of which produce groundwater at depths of less than 100 feet (Granger and Grisak, 2006). Fresh groundwater from these windmills and water wells are used for domestic potable water, stock, irrigation, and commercial purposes.

Fresh groundwater flows out of the Gatuna aquifer at Baker Spring, near the site (Lehman and Rainwater, 2000). The Antler formation is exposed within the walls of the WCS excavation pit (Granger and Grisak, 2006; Lehman and Rainwater, 2000). Ponded water is present in the base of the pit, as seen from google earth images and could be from groundwater seepage from the Antler and the Dockum aquifers.

The Dockum aquifer is also present at the WCS site and is an extremely widespread aquifer containing 1000's of acre-feet of water and found in 46 Texas counties (Mace and Petrossian, 2011). It is considered a minor aquifer by TWDB because of elevated total dissolved solid (TDS) levels.

At the WCS site and throughout Andrews County the TDS measurements are near 1000 ppm, which is slightly brackish. The Santa Rosa sandstone within the Dockum Group is a significant aquifer in west Texas and is used extensively for agriculture and oil and gas operations. Groundwater from the Dockum is also being treated by reverse osmosis methods throughout the area and used as fresh water. These aquifers should be protected from any contamination, especially radionuclides.

Significant oil and gas activity surround the CISF footprint. There are approximately 4,579 wellbores within a 10-mile radius of the CISF, 1,066 wellbores drilled and plugged prior to 1967. Current plugging procedures ensure protection of contamination to groundwater resources, but wells plugged and abandoned prior to 1967, pose potential risk of contamination. These old abandoned wellbores could be conduits of contamination if there were radionuclide spills at the surface.

The CISF footprint lies in the center of the Permian Basin. This basin contains billions of barrels of hydrocarbons and millions of acre-feet of groundwater. The Permian Basin is the largest and most important hydrocarbon producing basin in the United States.

The Permian Basin produces 50% of domestic hydrocarbons and 5% of global oil (EIA, 2020). These hydrocarbon and groundwater resources ensure domestic energy needs and global security. High level nuclear waste should not be disposed of in the most important hydrocarbon basin in the country.

Granger, D., Grisak, G., 2006, Appendix 2.6.1, Geology Report: Prepared for Waste Control Specialists, LLC.: Cook-Joyce Inc., 219 p.

Lehman, T.M., Rainwater, K., 2000, Geology of the WCS—Flying "W" Ranch, Andrews County, Texas: Texas Tech University Water Resources Center. 81 p.

George, P.G., Mace, R.E., Petrossian, R., 2011, Aquifers of Texas: Texas Water Development Board Report 380, 172 p.

EIA, 2020, Permian Region: Drilling Productivity Report.
https://www.eia.gov/petroleum/drilling/pdf/permian.pdf

Health Physics & Nuclear Safety

In the Interim Storage Partners, LLC (ISP) DEIS, the NRC fails to comply with its legal obligations to conduct a thorough and complete analysis of the environmental impacts of the proposed CISF, specifically as evidenced by the following:

1. *Failure to Analyze Major Points of View.* Pursuant to 10 CFR 51.71, the DEIS is required to "analyze major points of view, and to the extent sufficient information is available", the DEIS is required to "consider major points of view concerning the environmental impacts of the proposed action" and "contain an analysis of significant problems raised" by other Federal agencies. Yet, nowhere in the 484-pages of the ISP DEIS is the significant concern of chloride-induced stress corrosion cracking (CISCC) mentioned or analyzed in terms of the severe environmental impact that could result from this "significant problem" raised by ***both*** the NRC and the Department of Energy (DOE).

   Beginning in November of 2012, the NRC notified its 10 CFR 72 licensees and certificate of

compliance holders that the problem of CISCC was a "high priority data gap" and was only just being recognized. Additionally, researchers did not " . . . yet fully understand the relationship between the proximity to a salt-water body and the potential for chloride deposition on a dry cask storage system canister. However, it should be noted that many ISFSIs are located near salt-water bodies ***or other sources of chlorides, such as salted roads*** or condensed cooling tower water."[1] (emphasis added)

2. *Failure to Address Status of Compliance.* The NRC (2012) continued to identify impacts to the "status of compliance"[2] that a failure of the confinement systems would have and the violations of federal regulations (and licenses and COCs) that would occur, including violations of 10 CFR 72.120(d), 72.122(b)(1), 72.122(h)(1), 72.122(h)(4), 72.122(l), 72.236(d), and 72.236(l), should the "significant problem" of CISCC result in a failure of a dry storage canister (DSC) and subsequent uncontained release to the environment. However, despite the requirement to address potential impacts to status of compliance for known, significant problems documented completely within its own regulatory system, the NRC fails to comply with the requirements of the statute in the ISP DEIS.

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[1] NRC Information Notice 2012-20, Potential Chloride-Induced Stress Corrosion Cracking of Austenitic Stainless Steel and Maintenance of Dry Cask Storage System Canisters, November 14, 2012, ML12319A440

[2] 10 CFR 51.71(c)

3. *Failure to Analyze Effects of a CISCC-Induced Release on the Public and the Environment.* As a result of ignoring the imminent environmental impacts from the DSC failure caused by CISCC, the NRC ultimately fails to analyze the most significant threat to the public and the environment within the context of the proposed licensed activity and therefore fails to comply with 10 CFR 51.71(d). In failing to perform this analysis, the NRC also fails to assess the economic costs such a radioactive release would bring to the region and to the country as a whole, as well as impacts to the nuclear industry in particular from a public loss of confidence in the safety of these unmonitored SNF storage systems placed in vulnerable communities throughout the country.

4. *Failure to Address Policy Implications.* The DEIS also fails to address the policy implications that the proposed ISP facility has been proposed to serve, in the NRC's own words as a Monitored Retrievable Storage (MRS) Facility—not an ISFSI—as described both in 10 CFR 72 and in the Nuclear Waste Policy Act.

ISP DEIS

> "PURPOSE AND NEED FOR THE PROPOSED ACTION
>
> "The purpose of the proposed ISP CISF is to provide an option for storing SNF, GTCC, and a small quantity of MOX from nuclear power reactors ***before a permanent repository is available***. These waste materials would be received from operating, decommissioning, and decommissioned reactor facilities." (DEIS, Execu-

tive Summary, page xviii, lines 14-18 and § 1.3, pg 1-3, Lines 26-30) (emphasis added)

10 CFR 72.3

"Monitored Retrievable Storage Installation or MRS means a complex designed, constructed, and operated by DOE for the receipt, transfer, handling, packaging, possession, safeguarding, and storage of spent nuclear fuel aged for at least one year, solidified high-level radioactive waste resulting from civilian nuclear activities, and solid reactor-related GTCC waste, ***pending shipment to a HLW repository or other disposal***." (emphasis added)

Nuclear Waste Policy Act, 42 U.S.C. 10161(b)(1)

"1) On or before June 1, 1985, the Secretary shall complete a detailed study of the need for and feasibility of, and shall submit to the Congress a proposal for, the construction of one or more monitored retrievable storage facilities for high-level radioactive waste and spent nuclear fuel. Each such facility shall be designed—

"(A) to accommodate spent nuclear fuel and high-level radioactive waste resulting from civilian nuclear activities;

"(B) to permit continuous monitoring, management, and maintenance of such spent fuel and waste for the foreseeable future;

"(C) to provide for the ready retrieval of such spent fuel and waste for further processing or disposal; and

> "(D) to safely store such spent fuel and waste as long as may be necessary by maintaining such facility through appropriate means, including any required replacement of such facility."

Despite the NRC's strenuous attempt to "rebrand" from the MRS description in the Nuclear Waste Policy Act to a simple 10 CFR Part 72 "Away from Reactor" (AFR) ISFSI, by ignoring the impacts of the violation of obligations under the NWPA, the NRC is allowing the licensing of a facility woefully inadequate to address the long-lasting concerns associated with CISCC and the need to have hot cells present to repackage SNF whose canisters can no longer perform their designed and licensed confinement function due to CISCC.[3]

5. *Failure to Address the Impacts of the Geology and Soils on the CISF Operations.* Section 4.4 of the DEIS fails to evaluate the most grave and significant hazard acknowledged by the NRC of salts present in the soils surrounding the proposed ISP site. This is a direct violation of 10 CFR 72.122(b)(2) where "[s]tructures, systems, and components important to safety" *have not been* designed to withstand the effects of natural phenomena and the design bases for these structures, systems, and components *do not include* "[a]ppropriate consideration of the most severe of the natural phenomena reported for the site and surrounding area, with appropriate margins

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[3] Blue Ribbon Commission on America's Nuclear Future, § 5.2.6, pg. 39, January 2012

to take into account the limitations of the data and the period of time in which the data have accumulated," or "[a]ppropriate combinations of the effects of normal and accident conditions and the effects of natural phenomena."

The significant detrimental effects of naturally occurring materials and meteorological phenomena on the integrity of the SNF confinement barriers have been repeatedly acknowledged by the NRC, DOE, NWTRB and the GAO since the NRC first information notice in the topic in 2012. The specific cause of the "high priority data gaps" is the phenomenon of CISCC.

Chloride-Induced Stress Corrosion Cracking (CISCC)

The phenomenon of CISCC obviously requires chloride bearing salts (NaCl, KCl, MgCL, etc.) to be present as an initial condition. The initial condition is more than met with the proposed ISP CISF being sited in the midst of the massive Salado ("Salt") Formation:

"SALADO FORMATION

"The Salado formation, unlike the Castile formation, is not confined to the Delaware basin but extends more than 100 miles north and 100 miles east of the basin and underlies an area of about 25,000 square miles.

"The Salado formation consists of salt, anhydrite, and potassium salts with varying amounts of clastic material. Salt comprises about 75 to 90 percent of the formation except in areas where subsurface solution has removed much of it, and to-

ward the depositional edges of the formation where variegated mudstone predominates (Maley and Huffington, 1953). The next most abundant constituent in the formation is anhydrite. The remainder of the formation consists of sandstone, siltstone, shale, polyhalite, and numerous less abundant potassium minerals.

"The most abundant potassium minerals in the formation are polyhalite (K2SO4-MgSO4-2CaSO4-2H2O), sylvite (KCl), langbeinite (K2SO4-2MgS04), carnallite (KCl-MgC12-6H20), kainite (KCl-MgS04-3H20), and leonite (K2S04-MgS04-4H2O). Of these minerals polyhalite is the most abundant and widespread . . . "[4]

[4] Geological Survey Bulletin 1148, "Summary of Rock Salt Deposits in the United States as Possible Storage Sites for Radioactive Waste Materials," US Department of the Interior (DOI), 1962

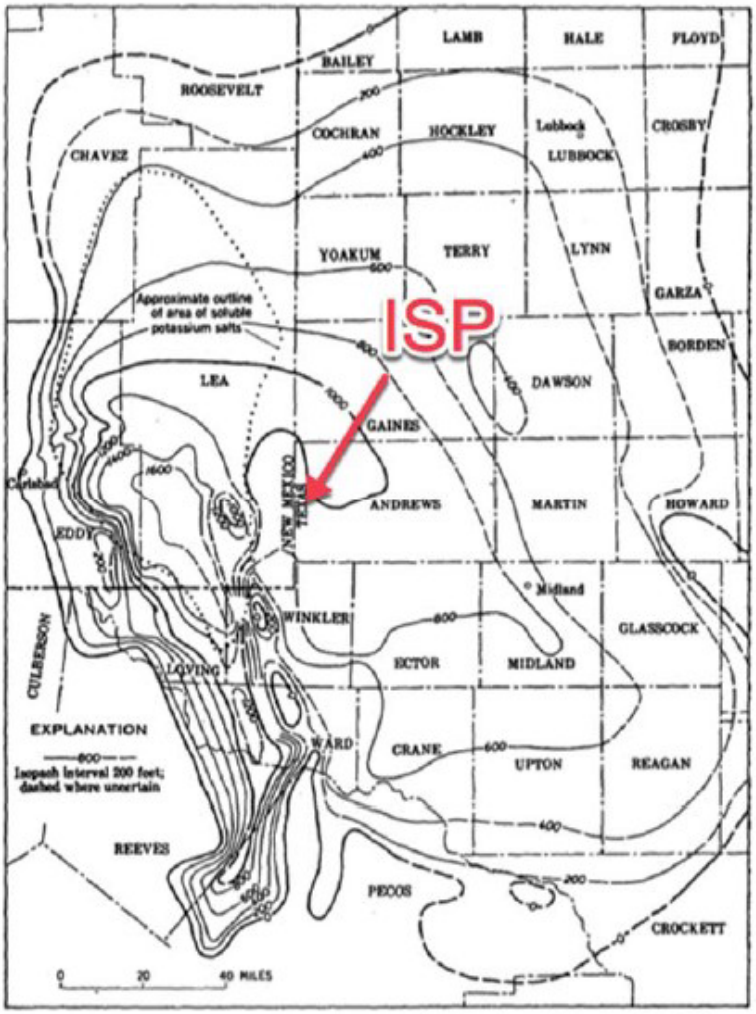

FIGURE 13.—Map showing aggregate thickness of salt in Salado formation, Ochoa series, New Mexico and Texas (compiled by P. T. Hayes, 1957).

Figure 5. Salado Formation

Within this area, there are numerous surface salt basins and playas that are a source of airborne chlorides from meteorological events.

"Salt Basin West of Guadalupe Mountains

"Rather extensive deposits of salt are exposed in a salt basin west of the Guadalupe Mountains in western Texas and southeastern New Mexico, about 70 miles southwest of Carlsbad, N. Mex. (Richardson, 1904, p. 61-64; King, 1948, p. 160-162). . . . ***These deposits are in or near existing salt lakes.*** It is not known whether the salt is introduced into the waters of the lakes as a dissolved constituent in surface water or by the percolation of ground water from deeply buried salt beds."[5] [emphasis added]

Figure 6. Salt Lakes & Playas Near ISP, West

[5] DOI, 1962

Figure 7. Salt Lakes & Playas Near ISP, East

While this readily available source term of the material required to initiate CISCC is present in enormous quantities, the NRC makes no connection to its significant, publicly stated concerns that sources of chlorides (and something as simple as "salted roads") should be evaluated as sources potentially triggering CISCC and resulting in DSC confinement failures of "engineering significance" (i.e., DSC breach and environmental release).[6]

How are surface salt deposits in the immediate vicinity of the proposed ISP facility a threat to the SNF storage operations? The growing frequency of the meteorological phenomenon of "haboobs" and sandstorms in the region are a highly effective means of delivering tons of

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[6] NUREG-2214, Managing Aging Processes In Storage (MAPS) Report, § 6.5, pg. 6-4

surface sediment to the SNF operations, even in a single haboob event (Figures 4 and 5).[7]

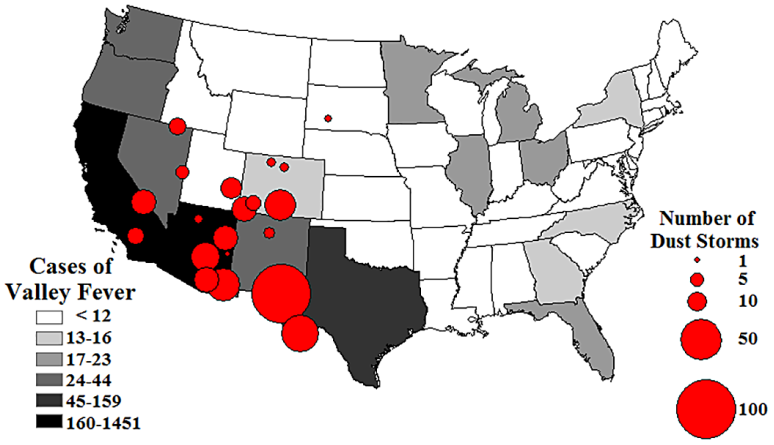

Figure 8. NOAA Dust Storm Frequencies, 1988-2011

As reported by NOAA, the area of the US with the highest frequency of dust storms is an area of southeastern New Mexico and West Texas that includes the Salado Formation and the proposed ISP site. In recent years, the dust storms have frequently been manifested as Haboobs in eastern New Mexico and West Texas.

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[7] https://research.noaa.gov/article/ArtMID/587/ArticleID/162/Research-finds-spike-in-dust-storms-in-American-Southwest-driven-by-ocean-changes

Figure 9. Haboob. Midland, TX.

While the NRC has located several individual SNF DSCs across the US that have surface deposits of salt in sufficient quantities to initiate CISCC, the NRC is proposing to move *the entire inventory* of SNF DSCs to a region of the country where ***ALL*** DSCs would be exposed to salt deposition for extended periods with no means to inspect or repair the canisters should a leak occur, and no means to detect a leak at its source should one occur.

In the 8 years since the issuance of its initial Information Notice regarding the concern of CISCC and its unknown extent within the existing national SNF inventory, the NRC, the DOE, the Nuclear Waste Technical Review Board, and the nuclear industry's Nuclear Energy Institute have invested tens of millions of dollars

into the study and characterization of the magnitude of the hazard affecting SNF DSCs as it relates to CISCC and—more importantly—how to even inspect loaded SNF DSC canisters (in the presence of lethal radiation fields) or detect a breaching canister or what can be done with a failed canister when and if it can be identified.

To date, neither the magnitude of the hazard, the manner in which CISCC propagates and under what conditions, nor the extent of its presence on the current installed inventory of over 2,000 DSCs throughout the country is fully understood to allow an adequate safety basis to be developed and constitute a viable license

with controls adequate to protect the public and the environment.[8] [9] [10] [11] [12] [13] [14] [15]

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[8] SAND2015-7068 R, "Status Report: Characterization of Weld Residual Stresses on a Full-Diameter SNF Interim Storage Canister Mockup," August 21, 2015. "The potential for stress corrosion cracking (SCC) of welded stainless steel interim storage containers for spent nuclear fuel (SNF) has been identified as a high priority data gap by the Nuclear Waste Technical Review Board (NWTRB), the Electric Power Research Institute (EPRI), the Department of Energy (DOE) Fuel Cycle Research and Development (FCRD) programs Used Fuel Disposition (UFD) campaign (Hanson et al, 2012), and the Nuclear Regulatory Commission (NRC 2012a; 2012b). Uncertainties exist both in the understanding of the environmental conditions on the surface of the storage canisters and in the textural, microstructural, and electrochemical properties of the storage containers themselves. The canister surface environment is currently being evaluated by Sandia and EPRI; **however, little has been done to assess canister material properties and their impact on corrosion. Of specific interest are weld zones on the canisters, because the welding process modifies the microstructure of the stainless steel as well as its resistance to localized corrosion. In addition, welding introduces high tensile residual stresses that can drive the initiation and growth of SCC cracks.**"

[9] SAND2015-8668C, "Understanding the Risk of Chloride Induced Stress Corrosion Cracking of Interim Storage Containers for the Dry Storage of Spent Nuclear Fuel: Residual Stresses in Typical Welded Containers," October 2015.

[10] NWTRB-2017, "Chloride-Induced Stress Corrosion Cracking Potential in Dry Storage Canisters for Spent Nuclear Fuel," U.S. Nuclear Waste Technical Review Board, March 01, 2017

[11] SAND2017-2584PE, "Evaluating Stress Corrosion Cracking of Spent Nuclear Fuel Interim Storage Canisters," Charles Bryan, Sandia National Laboratories, Used Fuel Disposition Program, Colorado School of Mines, Presentation to DOE Fuel Cycle Technologies Meeting, March 9, 2017

[12] IHLRWM 2017, "Spent Fuel Dry Storage Aging Management: Development of the Managing Aging Processes in Storage (Maps) Report," USNRC, et al, April 9, 2017

As recently as December 2019,[16] the DOE and NRC published revised research priorities that clearly show what is being learned in regard to CISCC and what urgent actions those findings are driving:

- Welded Canister Corrosion (Priority 1)—This was moved from Priority 3 to Priority 1.

  "Three main parameters have been shown to affect stress corrosion cracking (SCC): environment (salt content, salt stability, humidity, and temperature); material (stainless steel(SS)304/304L is used in dry storage canisters); and loading (high tensile stresses in weld zones could support through-wall SCC). Surface samples from canisters at several different sites indicated soluble salt deposition, but the concentrations varied widely, and the presence of corrosion-inducing chloride also varied widely. Four-point bend tests on SS 304L coupons loaded with sea salt did not indicate enhanced pitting densities as a function of stress. Ongoing work will continue to focus on the three main parameters. This includes (1) quantifying the brine stability of salts present in the environment, (2) understanding material and surface

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[13] PNNL-28427, Evaluation of Nondestructive Examination Responses from Chloride-Induced Stress Corrosion Cracks, Fabrication of Base Metal Test Specimens," September 2019

[14] PNNL-28643, "Dry Storage System Test Facility for Evaluating Canister Inspection Technologies," September 2019

[15] IAEA-TECDOC-1878, "Demonstrating Performance of Spent Fuel and Related Storage System Components during Very Long-Term Storage, Final Report of a Coordinated Research Project," 2019

[16] SAND2019-15479R, "Gap Analysis to Guide DOE R&D in Supporting Extended Storage and Transportation of Spent Nuclear Fuel: An FY2019 Assessment," DOE, December 23, 2019

environment effects on electrochemistry and pit formation, and (3) tensile stress tests to identify characteristic features controlling pit-to-crack transition. A major push will be to evaluate pit formation and SCC initiation and growth rates (i.e., pit-to-crack transition) as a function of environmental parameters (salt load, temperature, and salt/brine composition), material properties (e.g., degree of sensitization, surface roughness, degree of cold work), and stress state and to investigate the consequences of gas and particle transport in through-wall cracks."

These are enormous and significant unknowns that prevent the NRC from understanding the full magnitude of the threat of CISCC as well as the exact mechanisms that lead to its creation. However, the fact that "salts present" in the proposed ISP CISF environment are in the ranges of hundreds of tons resident on the surface of the salt playas, the principal initiating agent is present and in quantities that can only represent a significant concern that must be analyzed for impacts to the environment as required by 10 CFR 51.71(d).

Table ES-1. List of Highest Priority Gaps

Gap	2019 Priority	2017 Priority	2012 Priority	Comments
Thermal Profiles	1	1	1	No change in priority
Stress Profiles	1	1	1	No change in priority
Drying Issues	2	2	6	No change in priority
Monitoring - External	3	3	2	No change in priority
Welded Canister – Atmospheric Corrosion	1	3	2	Change in priority due to near-term need to acquire stress corrosion cracking (SCC) data
Cladding – H_2 Effects: Hydride Reorientation and Embrittlement	3	3	7	No change in priority
Consequence Assessment of Canister Failure	3	N/A	N/A	New gap to assess radiological risk due to loss of confinement caused by SCC
Fuel Transfer Options	3	4	3	Change in priority due to need for data for surface storage facility design

Figure 10. Table ES-1 from SAND2019-15479R

- Consequence of Canister Failure (Priority 3)—This was not even on the list of priorities as late as 2018.

  "The focus is to develop [sic] technically defensible assessment of gaseous and particulate releases and radiological consequences through SCC breaches."

  Now that the probability of canister failure is deemed likely, the absence of a realistic assessment of the consequences of DSC failure is now a "High Priority Gap" for the NRC and DOE, but is inexplicably absent from the ISP DEIS, in violation of 10 CFR 51.71(d).

- Fuel Transfer Options (Priority 3)—This initiative has increased in priority given the likelihood that CISCC will lead to DSC breach and failure.

  "Data is [sic] needed to support facility design concept for opening a cask for inspection and transfer/repackaging."

  As noted *supra*, there is no capability at the proposed ISP CISF to transfer or repackage SNF from

a failed and leaking DSC. In fact, the Holtec CEO made the following statements on this topic in an October 14, 2014 address to the Edison Community Engagement Panel[17]:

"If that canister were to develop a leak, let's be realistic, you have to find it, that crack, where it might be, and then find the means to repair it."

"You will have, in the face of millions of curies of radioactivity coming out of the canister . . . we think it's not a path forward . . . "

"A canister that develops a microscopic crack . . . all it takes is a microscopic crack to get the release . . . to locate it . . . "

"And then if you try to repair it . . . remotely by welding . . . the problem with that is that you create a rough surface which becomes a new creation site for corrosion down the road."

"ASME Section 3, Class 1 has some very significant requirements for making repairs of Class 1 structures like the canisters . . . "

"So I, as a pragmatic technical solution, I don't advocate repairing the canister."

A DSC loaded with SNF presents a lethal radiation environment that requires a multi-million-dollar hot cell facility to attempt to remotely/robotically repair or repackage the SNF from a leaking DSC to an intact DSC. Dried SNF cannot be reinserted into a spent fuel pool due to the thermal shocks caused by

[17] https://youtu.be/euaFZt0YPi4

"rewetting." As such, the only option is to use a hot cell for a fuel transfer.

However, no such hot cell will be constructed at the ISP CISF, and therefore the only option would be to place an actively-leaking DSC into a transportation cask, "in the face of millions of curies," as described by the Holtec CEO, "of radioactivity coming out of the canister." The leak would have to first be detected, then the extraction process that would take hours or days would proceed as the active release was taking place and continuing to harm the workers, the public and the environment.

While within the transportation cask, there is (1) no current understanding as to how the now leaking spent fuel would behave in this unanalyzed environment or (2) how long it could be safely contained or (3) how a transportation cask could be moved or transported while holding a leaking DSC that violates its certification requirements. These are significant matters of operations and transportation with attendant impacts to the workers, the public and the environment that have not been analyzed.

The absence of any capability to safely contain a leaking DSC before it creates massive harm to the public and environment is a significant flaw in the ISP DEIS analysis and a violation of 10 CFR 51.71(d). This "high priority data gap" fully acknowledged by the NRC and DOE in public reports is a "major point of view" that must be addressed to meet the requirements of US law. It's absence in the ISP DEIS is unacceptable.

Based on the failure of the NRC to address the real and acknowledged threats to the public and the environ-

ment from CISCC, the following NRC conclusions are without basis and provably false:

"Overall, based on the preceding analysis that considers (i) occupational dose estimates for operations that are below applicable NRC standards, (ii) public dose estimates from CISF storage operations that are well below NRC standards and a small fraction of background radiation exposure, and (iii) low occupational injury estimates, the NRC staff concludes that the radiological and nonradiological public and occupational health impacts from the operations stage of the proposed action (Phase 1) and full build-out (Phases 1-8) would be SMALL." (DEIS, § 4.13.1.2, pg 4-86, lines 26-31)

In fact, the NRC cannot perform a legally-compliant assessment of the environmental impacts of the proposed ISP CISF, nor can it issue a license with sufficient controls protective of the public and the environment when the significant "high priority data gaps" remain regarding a full understanding of the magnitude of the problems presented by CISCC, especially when "completely surrounded by" the chloride-bearing salts that are required to initiate a DSC breach.

As freely acknowledged by the NRC, the materials required to initiate CISCC are present in abundant quantities. Historic weather patterns demonstrate that meteorological events (windstorms, sandstorms, haboobs, rain, mist and fog) occur with sufficient frequency and intensity to deliver the chloride-bearing materials to canister surfaces and initiate attacks on the stainless steel DCSs.

As evidenced by this exchange during a 2018 NRC Commission meeting, it appears that the NRC is taking the path of allowing the industry to dictate what operation

is or is not considered "safe" or which "engineered barrier failures" caused by environmental forces of salt and water vapor are deemed credible:

> COMMISSIONER WRIGHT: " . . . And I've got one last question, and I'm going down to Christian. So I appreciate the discussion on research into the potential aging relating degradation mechanisms for the fuel cask. It's my understanding that industry's exploring several repair and mitigation techniques, you know, as well as the use of robotics for inspection. To what extent have you engaged the industry in these matters, and what's been the outcome of that?"
>
> MR. ARAGUAS: "So thank you for that question. So what I can tell you is we've been engaged with the industry, specifically with EPRI, through their ESCP program, this is extended storage and collaborative programs. And under that program they have a number of subcommittees, one of which talks about aging management and NDE techniques. And they've been in front of ***trying to develop techniques to be able to inspect, you know, casks in service***. So we've been plugged into that, I think in lockstep with the industry to develop understanding how they're progressing in those initiatives.
>
> "Separately, we do have a contract with PNNL, one of the DOE laboratories, to set up a mockup of a cask to collaborate with EPRI to actually see how the robotics, how these tools are resulting in the inspections to actually assess and see, can they detect the flaws, can they understand and characterize the flaws.

> "So I think it's progressing well, ***I think we have confidence in the industry and the direction they're going to be able to inspect these in the future.***"[18] (emphases added)

It should be stated that the Federal Aviation Administration also had "confidence in Boeing" to carry out the critical independent verification measures that defines the role of an independent regulator. That misplaced confidence ended tragically for 692 souls.

Pretending that the environment will not adversely impact the function of the SNF DSC confinement barriers ignores the repeated and publicly stated significant concerns represented in thousands of pages of documents and millions dollars invested by the NRC and DOE to solve the very real problem of CISCC, and creates an unacceptable analytical deficiency in the ISP DEIS.

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[18] NRC Meeting Transcript: "Strategic Programmatic Overview of The Decommissioning and Low-Level Waste and Spent Fuel Storage and Transportation Business Lines," October 11, 2018, ML18295A698.

Attachment:

WCS/ISP 10 CRF 2.390(a)(4) Affidavit Regarding Proprietary Content in PSHA

WASTE CONTROL SPECIALISTS LLC

AFFIDAVIT

I, J. Scott Kirk, Vice President of Licensing and Regulatory Affairs at Waste Control Specialists LLC (WCS), am making the following representations that to the best of my knowledge and beliefs:

1. The following document which WCS wishes to have withheld from public disclosure is:

   The Proprietary Response to Supplemental Information 2.1 related to Seismic Hazard Analysis, Chapter D, dated July 20, 2016.

2. The information contained in the document cited in 1 above is considered confidential information pursuant to Title 10 of the Code of Federal Regulations (CFR), Part 2.390(a)(4) and is thereby protected from public disclosure by regulation.

3. Pursuant to 10 CFR 2.390, the information contained in the document cited in 1 above is protected from public disclosure by regulation because it includes correspondences and reports to the NRC which contain trade secrets or commercial information pursuant to 10 CFR 2.390(a)(4).

4. The information contained in the document cited in 1 above has not been made available to public sources by WCS, nor has WCS authorized that it be made available.

J. Scott Kirk — July 20, 2016
Date

Vice President
Licensing and Regulatory Affairs

I certify the above named person appeared before me and executed this document on this the 20th day of July 2016

Notary Public — My commission expires: 3-07-17

CYNTHIA ELEANOR CARTER
Notary Public, State of Texas
Comm. Expires 03-07-2017
Notary ID 124540060

From: McDill, Teresa, NMENV <Teresa.McDill@state.nm.us>
Sent: Tuesday, November 3, 2020 4:10 PM
To: WCS_CISFEIS Resource
Subject: [External_Sender] Comments on Docket ID NRC-2016-0231
Attachments: 2020-11-03—OOTS NEPA Review Interim Storage Partners (Final).pdf

Good Afternoon,

Please see New Mexico Environment Department's attached comments on draft Environmental Impact Statement for Interim Storage Partners' application for a license to construct and operate a consolidated spent nuclear fuel storage facility in Andrews County, Texas.

Thank you,
Terry

Teresa L. McDill, Manager
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New Mexico Environment Department
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Comment Number: 10322

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Jennifer J. Pruett
Deputy Secretary

November 3, 2020

Office of Administration
Mail Stop: TWFN-7-A60M
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
ATTN: Program Management, Announcements and Editing Staff

Submitted by email to: WCS CISF EIS@nrc.gov

Dear Sir or Madam,

On behalf of the New Mexico Environment Department (NMED), attached please find comments on the May 2020 draft Environmental Impact Statement (EIS) for the Interim Storage Partners LLC's (ISP's) License Application for a Consolidated Interim Storage Facility for Spent Nuclear Fuel in Andrews County, Texas.

As discussed in our attached technical comments, the ISP site is on the New Mexico-Texas border, and NMED is very concerned that contaminants released to

air and water at the site will migrate into New Mexico and create threats to human health and the environment.

Please do not hesitate to contact me to discuss further.

Sincerely,

/s/ JAMES C. KENNEY
JAMES C. KENNEY
Cabinet Secretary
Environment Department

Attachment (1)

cc: Courtney Kerster, Director of Federal Affairs, Office of Governor Michelle Lujan Grisham
Sara Cottrell Propst, Cabinet Secretary, Energy Minerals and Natural Resources Department
Sandra Ely, Director, NMED Environmental Protection Division
Rebecca Roose, Director, NMED Water Protection Division
Stephane Stringer, Director, NMED Resource Protection Division

Comments

Introduction

The U.S. Nuclear Regulatory Commission (NRC) proposes approval of the Interim Storage Partners, LLC (ISP) license application to construct and operate a consolidated interim storage facility (CISF) for spent nuclear fuel (SNF) and Greater-Than-Class C waste and spent mixed oxide fuel at the existing Waste Control Specialists (WCS) site in Andrews County, Texas, very close to the New Mexico state line. The NRC proffers a draft environmental impact statement (EIS)[1] to support the proposed action, which would authorize storage of up to 5,000 metric tons of uranium (MTUs) for a license period of 40 years. The ISP admits it will seek amendments and extensions of the license to store an additional 5,000 MTUs for each of seven expansion phases over 20 years, resulting in an expanded facility with total storage of up to 40,000 MTUs of SNF. New Mexico opposes the proposed action as the EIS is significantly flawed, and the proposed action presents threats to the health and environment of New Mexico and its citizens.

The New Mexico Environment Department (NMED) has considerable experience and interaction with the WCS facility, due to its location along the Texas-New Mexico border, and is familiar with the operations and environmental issues of this site. Furthermore, prevailing wind direction is generally from the proposed site towards New Mexico, groundwater flow beneath the existing waste cells at the site is predominantly to the

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[1] EIS download: https://www.nrc.gov/docs/ML2012/ML20122A220.pdf.

southwest towards New Mexico, and surface water flow from the site is directed through outfalls that flow directly into New Mexico.

Contaminants released to air and water at the ISP site, therefore, have the potential to migrate into New Mexico and create threats to human health and the environment. As a result of the potential for existing operations at the WCS site to affect groundwater quality in New Mexico, NMED required WCS to obtain a Groundwater Discharge Permit (DP-1817) for WCS's waste disposal operations in Texas. WCS submits groundwater monitoring reports to NMED as required by DP-1817 and is currently in compliance with DP-1817.

Overall, the technical analysis in the draft EIS is inadequate and does not support the proposed alternative. The EIS fails to properly characterize the site, which is geologically unsuitable. Similarly, the numerous technical site deficiencies preclude thorough evaluation of the site or the proposed project. Furthermore, the draft EIS lacks all applicable state regulatory oversight and environmental impact controls. Additionally, the draft EIS omits a full assessment of environmental justice concerns or analysis of the effects of the proposed project. These deficiencies all contribute to a draft EIS that fails to meet the requirements of Section 102(2)(c) of the National Environmental Policy Act (NEPA). New Mexico disagrees strongly with the recommended action of approving the Interim Storage Partners LLC's License and recommends the No Action Alternative.

1. Moving SNF multiple times creates unnecessary risks to public health, safety, and the environment.

The NRC stated in its Waste Confidence Decision[2] that SNF can be stored safely beyond the operating life of a power reactor, at current locations, until a national repository for SNF is established. Moreover, states and regional groups have consistently supported moving fuel only once—from current locations to a national repository. As this project proposes a temporary solution to a permanent problem, the SNF of concern may need to be moved multiple times until a permanent solution is established. Ultimately, moving SNF multiple times increases the likelihood of accidents within the State of New Mexico and elsewhere.

2. The proposed ISP CISF site is geologically unsuitable.

Given that a permanent repository for high-level radioactive waste does not exist in the United States and there is no existing plan to build one, any "interim" storage facility will be an indefinite storage facility, including ISP's CISF. The license life for the application ISP submitted to the NRC is for forty (40) years, and the license life can be extended at every license renewal date. The design life for the storage facility and cask, canisters, and assemblies is for eighty (80) years. The service life for the SNF storage site is one hundred and twenty (120) years. At this time, the NRC cannot guarantee that a permanent repository for SNF in the United States will be developed in 40, 80, or 120 years,

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[2] SECY-14-0072: Final Rule: Continued Storage of Spent Nuclear Fuel (RIN 3150-AJ20) https://www.nrc.gov/docs/ML1417/ML14177A474.pdf.

or that the proposed ISP CISF facility will not become a permanent repository. Even 80 years of storage at the ISP CISF amounts to impacts beyond the lifetimes of everyone involved in this environmental review and licensing decision.

As early as the 1950s, the National Academy of Sciences recommended disposal of long-lived radioactive wastes in deep, geologically stable formations.[3] ISP, however, proposes to store highly radioactive and toxic SNF at the surface in an area that is underlain by shallow groundwater. ISP's proposed CISF site does not provide deep geologic isolation for indefinite SNF storage, and the proposed site is unsuitable for SNF storage over a period of decades. Therefore, the No Action Alternative is recommended.

3. The draft EIS contains numerous technical deficiencies that preclude a thorough evaluation of the radiological and non-radiological environmental impacts of the proposed ISP facility.

Resolving technical deficiencies in the draft EIS and properly evaluating, with all available data, the description of the affected environment, waste transportation, waste characterization, potential contaminant release mechanisms and exposure pathways, potential risks from aging SNF canisters, and site monitoring will further support the No Action Alternative.

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[3] National Research Council. 1957. The Disposal of Radioactive Waste on Land. Washington, DC: The National Academies Press. Available at https://doi.org/10.17226/10294.

a. Deficiencies Related to Hydrogeologic Characterization

The draft EIS does not contain a comprehensive and internally consistent hydrologic conceptual site model that includes precipitation, recharge, surface water, groundwater and springs. Moreover, the draft EIS fails to identify and characterize all groundwater zones that underlie the site with regard to background water and sediment quality, potentiometric surfaces, and directions of groundwater flow. Of particular concern is that the draft EIS does not identify the source of water in Baker Springs in New Mexico, and whether these springs could be affected by contaminant discharges at the proposed ISP site.

These deficiencies preclude the complete and thorough evaluation of contaminant release scenarios, the resulting migration and exposure pathways, and the resulting risks to human and ecological health.

b. Deficient Evaluation of Potential Contaminant Release Scenarios and Exposure Pathways

Prevailing wind direction is generally from the proposed site towards New Mexico. Groundwater flow beneath the existing waste cells at the site is predominantly to the southwest towards New Mexico. Surface water flow from the site is directed through outfalls that flow directly into New Mexico. The draft EIS fails to evaluate how contaminant releases to these pathways could directly migrate into, and impact public health and the environment in, New Mexico.

i. The draft EIS fails to evaluate the impacts of a radiological release from a proximal facility.

ISP's Environmental Report, in a section titled Proximity of Hazardous Operations/High-Risk Facilities, erroneously states *"there are no facilities handling large quantities of hazardous materials, chemicals, or other material in proximity to the site."* (See § 2.3.4, Criterion 13, page 2-27). Numerous radiological materials operations are currently occurring in the vicinity of the CISF and are likely to continue or expand in the future. These operations include the Federal Facilities Waste Disposal site, the Compact States Waste Disposal Facility, the By-Products Waste Disposal Facility, and the uranium enrichment occurring at URENCO. A radiological release from one of these proximal facilities could render the ISP CISF unmanageable, at loss of capability to function safely, and at risk for accidents and release of contaminants to the environment.

ii. The draft EIS fails to evaluate the potential impacts of a hydrogen sulfide release from a proposed oil-field waste disposal facility near the site.

ISP's Environmental Report, in a section titled Land Use, erroneously states that "there are no other now current, future, or proposed land use plans, including staged plans, for the proposed CISF or immediate vicinity." (See § 3.1, page 3-3). CK Disposal, however, has proposed to construct an oil field waste disposal facility near the ISP site. The draft EIS does not evaluate how releases of hydrogen sulfide from the CK Disposal facility could render the ISP CISF unmanageable, at

loss of capability to function safely, and at risk for accidents and release of contaminants to the environment.

iii. The draft EIS fails to evaluate the potential impacts of numerous boreholes on the ISP property that could act as pathways for contaminants to reach groundwater.

Some 600 boreholes are known to be on the WCS property, and the draft EIS does not provide information on how many boreholes have been improperly abandoned. Improperly plugged or cased boreholes could cause a migratory pathway for contaminant migration to groundwater.

c. Seismicity not Adequately Addressed

The draft EIS asserts that operation of the proposed CISF project would not be expected to impact or be impacted by seismic events. The draft EIS provides general information about the history of earthquakes in the region, including earthquakes caused by fluid injection by the oil and gas industry, and asserts that CISF infrastructure will be designed to withstand seismic events, but does not provide specific information about these safeguards. On March 26, 2020, a magnitude 5.0 earthquake struck West Texas near the New Mexico border.[4] Since earthquakes of magnitude 5 or greater have already occurred in this area, there is the possibility that more powerful earthquakes may occur, and the ISP facility must be designed to withstand these more powerful seismic events.

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[4] https://www.usgs.gov/news/m50-earthquake-hits-west-texas-new-mexico-border.

d. Deficient Waste Characterization

The draft EIS fails to provide details of the radionuclides and activities in the spent fuel rods, and only references metric tons of uranium (MTU) in the fuel rods that were originally placed in the nuclear reactors. Spent fuel rods can be much more radioactive than the original fuel rods due to the presence of a mixture of byproducts from uranium fission. Radionuclide activities in spent fuel rods can depend on age, uranium burnup and decay, and the type of reactor that was used.

Furthermore, the draft EIS does not adequately address the differences in SNF storage (pool storage, dry storage or both) at the commercial reactor sites. These differences are important as they may present challenges for SNF processing and storage at the proposed ISP facility.

The draft EIS fails to discuss non-radiological contaminants that may potentially be discharged to soil, water and air during operation of the site.

e. Deficiencies Regarding Cannisters and CISF Infrastructure

i. SNF cannisters

Some of the SNF cannisters that would be shipped to the proposed ISP facility have already been stored for decades. As fuel rods age they are subject to corrosion, damage or cladding, and the potential for explosive levels of hydrogen to build up inside the cannisters. The draft EIS does not adequately address these issues.

The SNF cannisters will be stored on concrete pads on the ground surface exposed to the elements. The draft EIS does not address the temperature rating of the

SNF cannisters and if maximum summer temperatures at the site are within this temperature rating.

ii. SNF Concrete Pad

The draft EIS does not discuss how the concrete pads used to store SNF cannisters will be protected or repaired from cracking and spalling due to exposure to the elements of the arid Southwest.

4. The draft EIS is significantly incomplete without inclusion of all applicable state regulatory oversite and environmental impact controls.

The draft EIS fails to identify New Mexico water quality regulatory requirements that apply to the proposed ISP facility. As discussed above, contaminants discharged by existing WCS operations, as well as by proposed ISP operations, have the potential to affect water quality in New Mexico. Discharges onto or below the ground surface at the site, and surface water emanating from the site that flows toward New Mexico, have the potential to infiltrate into the subsurface and into groundwater. Consequently, NMED required WCS to obtain a Groundwater Discharge Permit (DP-1817) for WCS's waste disposal operations. WCS submits groundwater monitoring reports to NMED as required by DP-1817 and is currently in compliance with DP-1817.

The existing Texas Pollutant Discharge Elimination System (TPDES) Permit, and monitoring conducted pursuant to that permit, is not an adequate substitute for New Mexico's groundwater permitting and monitoring requirements. Therefore, ISP must submit a Notice of Intent to Discharge to NMED in accordance with 20.6.2.1201 New Mexico Administrative Code (NMAC)

for proposed CISF operations. The final EIS, and specifically Table 1.6-1, must identify DP-1817, and ISP's requirement to submit a Notice of Intent to Discharge.

Since surface water discharges from the proposed ISP site in Texas may affect surface water quality in New Mexico, the final EIS should include a requirement that the Texas Commission on Environmental Quality consults with NMED as a downstream state during the TPDES Permit process.

The draft EIS fails to commit the NRC to a comprehensive environmental oversight role during operation of the CISF. The final EIS must address possible licensing conditions and the NRC's obligation to evaluate and respond to adverse impacts to environmental media, e.g., soil, surface water, groundwater.

5. **The proposed action threatens minority and low-income populations in New Mexico that have already suffered disproportionally high adverse human health and environment effects from nuclear energy and weapons programs of the United States. The Proposed Action must comply with Executive Order 12898 requiring that all federal agencies achieve environmental justice for vulnerable populations that would be disproportionately affected by programs of the United States.**

The proposed action for indefinite storage of commercial SNF joins the ranks of uranium mining and milling, legacy contamination at national laboratories, and disposal of defense waste at the Waste Isolation Pilot Plant (WIPP), all of which have long presented risks to public health and the environment in the State of New Mexico that are disproportionately greater than such risks to the general population of the United States.

The draft EIS identifies 58.8 percent of the population in Lea County, New Mexico as Hispanic or Latino (Table 1). New Mexico's general percentages of minority (Hispanic or Latino and American Indian) and low-income populations are significantly greater than in the United States' general population (Table 1).

Table 1. New Mexico and United States Demographics.

Demographic	United States[a]	New Mexico[a]	Lea County, NM[b]
Hispanic or Latino	18.3%	49.1%	58.8%
American Indian	1.3%	10.9%	0.7
Persons in poverty	11.8%	19.5%	

Sources:

[a] U.S. Census Bureau QuickFacts: https://www.census.gov/quickfacts/fact/table/US/PST045219

[b] Draft EIS, Table 3.11-2, https://www.nrc.gov/docs/ML2012/ML20122A220.pdf.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, February 11, 1994, stated that ". . . . *each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionally high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and*

low-income populations of the United States."[5] On August 24, 2004, the NRC issued a Policy Statement on the Treatment of Environmental Justice Matters in NRC Regulatory and Licensing Actions that stated *"NRC believes that an analysis of disproportionately high and adverse impacts needs to be done as part of the agency's NEPA obligations to accurately identify and disclose all significant environmental impacts associated with a proposed action."*[6]

The draft EIS fails to demonstrate that the Proposed Action will achieve environmental justice for the high percentage of minority and low-income populations in the State of New Mexico who have already suffered disproportionately high adverse human health and environmental effects from nuclear energy and weapons programs of the United States. In fact, the draft EIS (pp. 2-28, 2-29) makes repeated, yet unsubstantiated, assertions that the Proposed Action will result in *"no disproportionately high and adverse human health and environmental effects."* Environmental justice deficiencies in the draft EIS include:

a. Failure to identify and evaluate the cumulative history of adverse human health and environmental effects on New Mexico's vulnerable populations; and

b. Failure to quantify specific impacts and health consequences to vulnerable populations in New Mexico that might occur from the various acci-

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[5] https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf

[6] https://www.govinfo.gov/app/details/FR-2004-08-24/04-19305

dents and release scenarios considered in the draft EIS.

The environmental justice deficiencies in the draft EIS must be corrected by preparation of a proper risk assessment that evaluates all potential release scenarios and that quantifies incident-specific and cumulative impacts to vulnerable populations in New Mexico. In accordance with Executive Order 12898, with Council on Environment Quality guidance, and with NRC policy, every aspect of the proposed action must provide the highest level of protection to New Mexico citizens, including use of Best Available Technology in these safeguards. Our concerns about disproportionate impacts are another reason why NMED supports the No Action Alternative.

From: Monica Perales <monicap@forl.com>
Sent: Tuesday, November 3, 2020 9:07 PM
To: WCS_CISFEIS Resource
Subject: [External_Sender] Docket No. 72-1050 / NRC-2016-0231

In response to the ISP DEIS request for comments, I, Aaron Pachlhofer, wish to restate prior comments submitted to the NRC as well as additional comments regarding the threat of Cesium to the environment of West Texas and the Permian Basin.

i. I hold the position of licensed geologist and geoscientist, Fasken Oil and Ranch, Ltd. ("Fasken"), located at 6101 Holiday Hill Road, Midland, Texas 79707 and am a member in good standing of the Permian Basin Land and Royalty Owners and Operators Coalition ("PBLRO") and am duly authorized to execute this affidavit.

ii. I have personal knowledge of the information as stated herein.

iii. Fasken presently has lands and mineral interests within eighteen miles of the proposed WCS/ISP CISF located in Andrews County, Texas. The PBLRO presently has lands and mineral interests throughout Andrews County with the nearest member holding land and minerals within two miles of the proposed WCS/ISP CISF.

iv. My name is Aaron Pachlhofer, and I am a licensed geologist and geoscientist. Since 2013, I have been employed by Fasken Oil & Ranch, Ltd. as Environmental Coordinator. In that capacity, my duties include primary management of all environmental policies, procedures, and programs

for air, soil, and water concerns. My specific duties include coordination and oversight of all spill incidents, air permitting & air compliance, management of radiation issues, all regulatory interaction & notification, also management & oversight of environmental vendors. I have knowledge of and interpret, prepare comments on and ensure compliance with all new and current Federal, state, and local regulations under the U.S. Environmental Protection Act ("EPA"), the U.S. Bureau of Land Management ("BLM"), the Texas Rail Road Commission ("RRC"), the Texas Commission on Environmental Quality ("TCEQ"), the New Mexico Environment Department ("NMED"), and the State of New Mexico Oil Conservation Division ("NMOCD"). Additionally, I monitor legislation, regulations and ensure compliance with any protected, threatened and endangered species program requirements.

v. In my previous employment, my responsibilities involved environmental regulatory compliance, program management, emergency response, environmental assessments, groundwater monitoring, remediation and environmental data gathering and analysis.

vi. I was awarded the B.S. in Geology in 1998 and the M.S. in Geology in 2004 from Sul Ross State University, Alpine, Texas.

vii. In 2003, I received and have maintained a Geologist/ Geoscientist license from the State of Texas.

The sections below provide my professional analysis of the WCS/ISP license application and erroneous analysis of the environment of the proposed CISF including WCS/ISP's contradictory statements regarding the occurrence and movement of groundwater at and beneath the proposed CISF and a failure to appreciate the hydrologic process.

I. SPECIFIC CONCERNS REGARDING ISP'S APPLICATION DOCUMENTS

1. In ISP's response to RAI WR-6, they provide new details regarding the presence of groundwater in the northern portion of the CISF and discloses reliance upon insufficient boring data provided by WCS.

A. In responding to RAI WR-6, ISP admittedly erred in relying upon WCS' groundwater data. ISP reports that erroneous information which admittedly was "not based on sufficient boring data to distinguish the contacts between the Antlers and the Ogallala in the proposed CISF area, nor between the Antlers and the Gatuna on the south side of the ridge," misled ISP into previously reporting the lack of presence of groundwater. In updating their report as to the presence or absence of groundwater, ISP reveals that one to five feet of groundwater is present in the northern portion of the CISF site. This new information more closely corresponds with earlier statements made by Fasken and the Permian Basin Coalition in that there is now an admission that groundwater is pre-

sent throughout the site and nearer the surface than had been stated by ISP.

B. Based upon this new information, I argue that the goal post is constantly moving with ISP. Fasken and the Permian Basin Coalition have repeatedly asserted that cross-formational groundwater exists between the Ogallala and the Antler Formations and these two aquifers are situated beneath and all around the ISP CISF. As such, the application documents and the ISP DEIS are erroneous and fail to analyze the potential for radiological and other environmental impacts based on the siting of a CISF above multiple, cross-connected aquifers.

2. ISP's response to RAI WR-11 is grounded in generalizations and is flawed.

A. In RAI WR-11, NRC Staff request that ISP identify the shallowest groundwater located beneath the proposed CISF footprint by name and depth below the CISF land surface, whether in the Antlers, Ogallala, Gatuna, or Cooper Canyon Formation. Further, Staff request that ISP name specific aquifers in the Dockum Group in the future and avoid "use of the lumped term 'Dockum Aquifer'" as it does not clearly denote the site-specific aquifer that is being referenced at the proposed CISF. Staff also instructs that near-surface groundwater formations be referred to by name. This request is made by Staff in accordance with 10 CFR 51.45(b) and (b)(1), which require that the Environmental Re-

port include a description of the affected environment and an assessment of environmental impacts.

B. In response, ISP downplays the presence of groundwater and utilizes generalizations where factual based evidence is required. When identifying the "shallowest groundwater located beneath the proposed CISF footprint by name and depth below the CISF land surface," the response is nonresponsive. ISP answers, "The shallowest groundwater beneath the proposed CISF footprint is a few inches to a few feet of saturation in the undifferentiated Antlers/Ogallala sediments starting at the northern fence line of the Protected Area boundary in the northeast corner." They go on to cite their joint venture member, Waste Control Specialists (WCS), as their reference source.

C. In the instant matter, it is critical to avoid broad generalizations and, instead, rely upon evidence-based practice. It is also critical to rely upon scientific-based evidence that is substantiated. To cite WCS without the support of objective, admissible evidence or even so much as an affidavit is not in compliance with the clear standards of the industry.

D. The low-quality response to RAI WR-11 presents new information regarding the presence of groundwater "a few inches" beneath the CISF footprint. This admission contradicts ISP's previous ERs which fail to differ-

entiate between water beneath WCS versus beneath the CISF. Instead, previous ERs simply state that the shallowest water bearing zone is about 225 feet deep at the WCS CISF. (WCS Consolidated Interim Storage Facility Safety Analysis Report. Rev. 2)

3. **In responding to RAI-WR-5, ISP discusses potable water from 13 windmills (including the Letter B Ranch well) but does not discuss the groundwater wells located within a 10 km radius of the WCS site.**

   A. WCS conducted a water well search in 2007 using Banks Environmental Data Inc. The search identified 174 water wells drilled within a 10 km radius of the WCS landfill site (Table 3-1, Banks Survey). Approximately 20 of these water wells are at or near the WCS site (Figure 6-1). Most of these wells are open to formations less than 200' deep, which indicates groundwater production is from the OAG aquifer unit. Water usage is for domestic, stock, irrigation, and commercial purposes (Table 3-1). These data clearly show that there is groundwater present within the CISF footprint. Table 3-1 and Figure 6-1 are within the Attachment WR-5-2.

4. **ISP's response to RAI WR-3 indicates that ISP has selectivity ignored or omitted groundwater data.**

   A. In their response to RAI WR-3, ISP discusses geochemical data from well TP-14 compared to water sampled from Baker Spring. ISP does not discuss the aquifer

source of the water sample collected from TP-14, nor does ISP disclose the sampling location. ISP failed to collect groundwater samples and fails to provide geochemical data from all wells containing groundwater, especially wells containing groundwater that are located on the CISF, particularly PZ-47 and PZ-57.

5. ISP's response to RAI WR-2 provides new details regarding playas.

A. ISP's response to RAI WR-2 acknowledges the presence of playas and reports that existing playas may be as much as "a few feet deep" and as large as a "few acres" in size. Although this generalization lacks the specificity called for in this type of licensing proceeding, this admission as to the size and depth of the playas is new information, which gives rise to a new contention.

B. In responding to the RAI WR-2's request for additional detail on the surface water environment at and near the proposed CISF, ISP reports that there are localized wetland features such as playas and man-made excavations identified by the U.S. Fish and Wildlife Service (USFSW) at the surface of the WCS facility. ISP's admission that playas are present is not new information, however, the newly described size and depth of the playas presents new information that gives rise to a contention that the playas pose a possible contamination source for groundwater beneath the site. As stated in their Con-

solidated Interim Storage Facility Safety Analysis Report, Rev. 0 (2-18), "The primary sources of recharge to the Ogallala aquifer are playas." (WCS citing Blandford et al., (2003)[2-3]. ISP continually fails to recognize that playas are a direct connection to groundwater and nexus for contamination from the surface to groundwater beneath their site.

C. Additionally, according to Texas Parks and Wildlife, playas serve as what has been described as the most important wetland habitat type for waterfowl. Failure to provide an objective, scientific study regarding migratory birds, butterflies and pollinators is poor conservation practice and gives rise to this contention that ISP has failed to provide adequate information regarding a conservation practice to demonstrate that they are engaged in managing and conserving playas that are a critical source of water for wildlife.

II. ISP'S RESPONSE TO RAIs PRESENTS A SIGNIFICA[N]T ENVIRONMENTAL ISSUE

1. ISP's new description of groundwater depth and presence creates a plausible contamination scenario.

A. According to Section 4.4 of ISP's ER, cask storage pads located at the CISF are "potential source[s] of low-level radioactivity that could enter runoff" throughout the operation of the CISF. ISP claims that the potential levels of radioactivity in rainwater runoff due to surface contamination of the dry casks

would be "well below" the effluent discharge limits. ER Section 4.4 reasons that "the potential for negative impacts on surface water resources is very low due to lack of water presence and *formidable natural barriers to any surface or subsurface water occurrences.*" As it is now abundantly clear, the "formidable natural barriers" of the red bed clays no longer provide cover for the groundwater located "within inches" of the CISF's surface. ISP's claim regarding potential levels of radioactivity in runoff is based on its erroneous description as to the presence and depth of groundwater. ISP must reevaluate the potential for groundwater contamination based on accurate, fact-based, present-day findings regarding groundwater. To do otherwise, poses a significant threat to the environment.

i. Casks: Chloride-induced stress corrosion cracking (CI-SCC)

Currently, Dry Storage Casks (DSCs) cannot be inspected once they are placed within their storage systems. The WCS/ISP facility is located within 26,000 square miles of the Salado Salt Formation that is replete with surface salt lakes and salt formation outcrops that critically contain magnesium chloride salts (MgCl2) that are the most reactive salt species for the induction and propagation of Chloride induced stress corrosion cracking (CISCC). The proposed CISF location is increasingly experiencing the "haboob" sandstorm phenomena that translocate tons of surface sediments for tens of miles. The historical paths of haboobs have in-

cluded sweeping storms across the Salado surface salt flats in eastern New Mexico and West Texas.

Additionally, persistent fog and mist conditions are prevalent during the fall and winter in this region of the country. When combined, a single "salt deposition" event from a haboob, along with a sufficient amount of fog/mist event, could easily create the conditions that would initiate CISCC.

In the U.S. NRC draft report, "Identification and Prioritization of the Technical Information Needs Affecting Potential Regulation of Extended Storage and Transportation of Spent Nuclear Fuel," the federal government recognizes the potential risk for monitoring dry casks and the "pitting and crevice corrosion" of the stainless steel canisters, which affect the safety functions of confinement, criticality, retrievability (of fuel from the dry storage canister), shielding (of radiation from people and the environment), and thermal (degradation of the fuel, potentially leading to fuel fires).

Further, the potential for stress corrosion cracking of welded stainless steel interim storage containers for spent nuclear fuel (SNF) has been identified as a high priority data gap by the Nuclear Waste Technical Review Board (NWTRB), the Electric Power Research Institute (EPRI), the Department of Energy (DOE) Fuel Cycle Research and Development (FCRD) programs and Used Fuel Disposition (UFD) campaign (Hanson et al, 2012) and the Nuclear Regulatory Commission (NRC 2012a; 2012b).

Little has been done to assess canister material properties and their impact on corrosion, especially localized corrosion.

In response to the numerous ways in which CISCC can occur and which are raised in this affidavit, WCS/ISP will likely argue that CISCC is an impossibility, or they may go so far as to claim that research is underway to increase understanding of the CISCC mechanism and to develop techniques for detecting CISCC in SNF canisters. However, a better understanding of the vulnerability of the canisters does not equate to a solution and is discordant to a continually progressing license application. Simply put, the SNF canister system which is meant to confine radioactive material is not proven to resist CISCC and is not, therefore, guaranteed to confine radioactive material.

ii. Mitigating Controls upon a Release / Containment monitoring

WCS/ISP has no way of inspecting the canisters once installed in the CISF. Currently, WCS/ISP has no plans to monitor the dry storage casks but only to perform occasional "leak tests of the accessible surfaces of the DSCs." Additionally, WCS/ISP has no plans to monitor either DSC temperatures or airborne effluents that could emerge from a breached DSC. Once there is a breach, there is no way to repair a DSC or stop a DSC from leaking without first contaminating the facility and the environment. Without proven monitoring or inspection capabilities that i) are proactive in monitoring the entire DSC and not only occasionally and not only that small exposed portion of the partially bur-

ied DSC; ii) recognize areas of corrosion or vulnerability; and iii) have the capacity to properly repair susceptible DSCs, then it is impossible to argue that a significant environmental threat is not likely to occur.

III. HAD ISP'S RESPONSE TO RAIs BEEN CONSIDERED IN[I]TIALLY, CONTENTION FOUR WOULD HAVE LIKELY BEEN ADMITTED

1. ISP has failed to provide accurate information describing the environment.

A. NRC Regulation 10 CFR 51.45(b)(1) requires an applicant's ER to "contain a description of the . . . environment affected, and discuss . . . the impact of the proposed action on the environment." ISP has failed to satisfy this requirement. While ISP may have now provided a more accurate description of existing groundwater, the ER's analysis of the impact on the environment is based on older, erroneous descriptions. Without an accurate description of the affected environment, a proper impact analysis cannot be made. All safety and environmental reports, data, and analysis based on ISP's faulty descriptions of the environment, before the response to the RAIs had been made, should be criticized until ISP reevaluates the impact that the site will have based on the new descriptions provided in the response to RAIs.

B. Until ISP reevaluates the impacts to groundwater, the site will continue to pose a serious contamination risk to the groundwater, and

ISP will fail to satisfy the burden of 10 C.F.R. § 51.45(b)(1) to discuss the impact of the proposed action on the environment.

C. Because ISP cannot satisfy its burden based on 10 C.F.R. § 51.45(b)(1) to discuss the impact on the newly described environment, amended Contention Four should likely be admitted.

ISP has stated that there is no risk of groundwater contamination. However it appears that ISP has not evaluated all of the chemical properties of the radiological products that will be stored in the dry casks. One of the primary daughter products of fission inside of a nuclear reactor is cesium (also spelled caesium) 137 with a half-life of 30.2 years. Cesium-137 is the primary contaminant of concern in the well known Chernobyl Exclusion Zone that was created after the 1986 nuclear reactor accident in the Ukraine. Cesium 137 is also widely found across most European countries as a result of the Chernobyl accident. Notably, cesium-137 has been detected in the food chain of wild game where all animals that are harvested (usually boar and reindeer) are required to be tested for radiation that resulted from Chernobyl. As a result of the cesium, the Chernobyl Exclusion zone will have to remain about the year 2,107.

According to the Agency for Toxic Substances and Disease Registry, cesium is the most reactive of the alkali metals and has a melting point of 83.1 degrees F. Cesium will readily combine with inorganics such as chloride or carbonate (both readily available in western Texas). With water, it creates cesium hydroxide which is the strongest base known to science. Cesium chloride is soluble in water at 1.87 kg/L, cesium carbonate at 2.1

kg/L, and cesium hydroxide at 4 kg/L. For perspective, sodium chloride is soluble in water at .36 kg/L according to the CRC Handbook of Chemistry and Physics (92nd ed). Cesium-137 has the ability to spread widely and rapidly into the environment once released. Cesium chloride and cesium carbonate are fine white solids that will transport quickly and easily with a small amount of wind. ISP has questioned how contamination might occur in the event that a dry cask might leak or rupture. However cesium compounds are easily transported by the wind and have high water solubility. Any cask breach or other accidental release would allow cesium to rapidly spread downwind (the wind always blows in west Texas). Once deposited onto a ground surface after wind transport, the cesium will dissolve into water with the first available precipitation event and begin infiltrating into the local water table where the cesium has fallen. Combined with the risk of cask breach by chloride induced stress corrosion cracking, ISP cannot be allowed to store the waste in west Texas.

Federal Register Notice: 85FR27447
Comment Number: 10357

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Subject: [External_Sender] Docket No. 72-1050 / NRC-2016-0231
Sent Date: 11/3/2020 9:07:03 PM
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From: Monica Perales

Created By: monicap@forl.com

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Docket: NRC-2016-0231
Waste Control Specialists LLC's Consolidated Interim Spent Fuel Storage Facility Project

Comment On: NRC-2016-0231-0317
Interim Storage Partners Consolidated Interim Storage Facility Project

Document: NRC-2016-0231-DRAFT-0371
Comment on FR Doc # 2020-09795

Submitter Information

Email: chikaodi.agumadu@tceq.texas.gov

Government Agency Type: State

Government Agency: TCEQ

General Comment

On behalf of TCEQ, please find our comments regarding the Notice by the Nuclear Regulatory Commission: Interim Storage Partners Consolidated Interim Storage Facility Project.

If you have any questions concerning the enclosed comments, please contact Mr. Brad Broussard of the Radioactive Materials Division, at (512)239-6380, or at brad.broussard@tceq.texas.gov.

Thank you

Chikaodi Agumadu
Texas Commission on Environmental Quality
Intergovernmental Relations Division

Attachments

NRC Comments_11032020

TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 3, 2020

Office of Administration
Mail Stop: TWFN-7-A60M
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
ATTN: Program Management, Announcements and Editing Staff

Subject: Draft Environmental Impact Statement for Interim Storage Partners License Application to Construct and Operate a Consolidated Interim Storage Facility for Spent Nuclear Fuel and Greater-Than Class C Waste (Docket ID NRC-2016-0231)

Dear Office of Administration Staff:

The Texas Commission on Environmental Quality appreciates the opportunity to comment on the U.S. Nuclear Regulatory Commission Draft Environmental Impact Statement (EIS) for Interim Storage Partners' Li-

cense Application to Construct and Operate a Consolidated Interim Storage Facility for Spent Nuclear Fuel and Greater-Than Class C Waste. Enclosed please find the TCEQ's detailed comments relating to the NRC's draft EIS referenced above. If you have any questions concerning the enclosed comments, please contact Mr. Brad Broussard of the Radioactive Materials Division, at (512) 239-6380, or at brad.broussard@tceq.texas.gov.

Sincerely,

/s/ TOBY BAKER
TOBY BAKER
Executive Director
Texas Commission on Environmental Quality

AF/bb

Texas Commission on Environmental Quality (TCEQ) Comments on the U.S. Nuclear Regulatory Commission (NRC) Draft Environmental Impact Statement (EIS) for Interim Storage Partners (ISP's) License Application to Construct and Operate a Consolidated Interim Storage Facility (CISF) for Spent Nuclear Fuel (SNF) and Greater-Than Class C (GTCC) Waste (Docket ID NRC-2016-0231)

General Comments

The Texas Commission on Environmental Quality (TCEQ) is a unique Texas stakeholder as we have subject matter expertise, but no regulatory authority over the licensing of this proposed consolidated interim storage facility (CISF). This authority resides with the federal government, specifically the Nuclear Regulatory Commission (NRC).

The TCEQ has significant policy concerns as they pertain to the adjacent low-level radioactive waste disposal facility. The CISF proposal has unprecedented implications as it has created significant unease with the public. Continuing with this licensing action jeopardizes public consent and presents significant challenges as we carry out our responsibility to regulate the low-level radioactive waste disposal facility.

Specific Comments

1. **Page 2-2, Line 4**—The EIS states "In its license application, ISP has requested that NRC license the proposed CISF to operate for a period of 40 years (ISP, 2020). ISP stated that it may seek to renew the license for an additional 20 years, for a total 60-year operating life (ISP, 2020). Renewal of the license beyond an initial 40 years would require ISP

to submit a license renewal request, which would be subject to an NRC safety and environmental review at that time."

Comment: The TCEQ understands that the initial licensing period for a CISF is 40 years with the ability for an additional renewal period of 40 years. Based on the requirements in 10 Code of Federal Regulations (CFR) Part 72, the applicant is only required to provide technical and design analyses for the term of the license being requested. Because 10 CFR Part 72 appears to only allow one 40-year license renewal term, how will the NRC ensure that interim storage does not extend beyond the second 40-year license term, or in this case a 20-year term? Since the U.S. Department of Energy has been unsuccessful in developing a permanent geologic repository, the TCEQ is concerned that a CISF in Texas will become the permanent solution for dispositioning the nation's spent nuclear fuel (SNF).

2. **Page 2-2, Line 9**—The EIS states "By the end of the license term of the proposed CISF, the NRC staff expects that the SNF stored at the proposed facility would have been shipped to a permanent geologic repository. This expectation of repository availability is consistent with the NRC's analysis in Appendix B of NUREG–2157, "Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel," (NRC, 2014). In that analysis, the NRC concluded that the reasonable period for the development of a repository is approximately 25 to 35 years (i.e., the repository is available by 2048) based on experience in licensing similarly complex facilities in the United States and na-

tional and international experience with repositories already in progress (NRC, 2014).

Comment: The NRC did not address an alternative or contingency for stored SNF in the event that a permanent geologic repository is not developed and licensed at the end of a CISF license term. The assumption is speculative and may result in the State of Texas becoming the permanent solution for disposition of SNF.

3. **Page 2-2, Line 36**—The EIS states "The Federal Waste Disposal Facility. This facility serves the U.S. Department of Energy 36 (DOE) and is also authorized to dispose Class A, B, and C LLRW and Mixed Low-Level Waste (MLLW) under Texas Radioactive Materials License No. R04100, Amendment No. 30 (TCEQ, 2016a)."

   Comment: The Federal Waste Disposal Facility is authorized to receive both LLRW and MLLW. The MLLW is authorized by both Radioactive Material License R04100 and Hazardous Waste Permit No. 50397. The TCEQ respectfully suggests revising to add the hazardous waste permit number.

4. **Page 2-7 line 10**—"Southeastern" does not match the location of Phase 1 on Figure 2.2-5.

   Comment: Suggest revising location to match Figure 2.2-5.

5. **Page 2-10 line 16**—Description of rail car movement in "Rail Sidetrack" paragraph does not match Figure 2.2-1 and Figure. 2.2-5.

   Comment: Suggest revising paragraph to match Figures 2.2-1 and 2.2-5.

6. **Page 4-22 line 36**—Reference to "town of Deaf Smith, Texas" should be "county of Deaf Smith, Texas."

Comment: Suggest revising reference to read county instead of city.

From: Kerster, Courtney, GOV <Courtney.Kerster@state.nm.us>
Sent: Wednesday, November 4, 2020 10:10 AM
To: WCS_CISFEIS Resource
Subject: [External_Sender] RE: Comments from Gov Lujan Grisham
Attachments: CISF ISP Letter MLG.pdf

Apologies, here is the correct format.

From: Kerster, Courtney, GOV
Sent: Wednesday, November 4, 2020 10:09 AM
To: WCS_CISF_EIS@nrc.gov
Subject: Comments from Gov Lujan Grisham

Please see the attached letter from Governor Michelle Lujan Grisham.

Thank you,
Courtney

Courtney Kerster
Director of Federal Affairs
Office of Governor Michelle Lujan Grisham
444 North Capitol St NW, Suite 411
Washington DC 20001
Office: 202-624-3667
Cell: 505-690-7964
courtney.kerster@state.nm.us

Federal Register Notice: 85FR27447
Comment Number: 10392

Mail Envelope Properties (e199eeef6dca4142be9f1a436f2ab71e)

Subject: [External_Sender] RE: Comments from Gov Lujan Grisham
Sent Date: 11/4/2020 10:10:09 AM
Received Date: 11/4/2020 10:10:19 AM
From: Kerster, Courtney, GOV
Created By: Courtney.Kerster@state.nm.us

Recipients:

Post Office: MBXCAS002.nmes.lcl

Files	**Size**	**Date & Time**
MESSAGE	558	11/4/2020 10:10:19 AM
CISF ISP Letter MLG.pdf	65065	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

State of New Mexico

Michelle Lujan Grisham
Governor

November 3, 2020

Office of Administration
Mail Stop: TWFN-7-A60M
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
ATTN: Program Management, Announcements and Editing Staff

Submitted by email to: WCS_CISF_EIS@nrc.gov

Dear Sir or Madam,

As the Governor of the State of New Mexico, I write to express my opposition to the proposed action to issue a license in response to the Interim Storage Partners (ISP) LLC's License Application for a Consolidated Interim Storage Facility (CISF) for Spent Nuclear Fuel (SNF) in Andrews County, Texas. The May 2020 draft Environmental Impact Statement (EIS) is significantly flawed and does not adequately address significant threats to the health and safety of New Mexicans, impacts to our economy, and protection of our environment.

The U.S. Nuclear Regulatory Commission (NRC) proposed approval of the ISP license application to construct and operate a CISF for SNF and Greater-Than-Class C waste and spent mixed oxide fuel at the existing Waste Control Specialists (WCS) site in Andrews County, Texas. If licensed, the facility could store up to 5,000 metric tons of uranium (MTUs) for a license period of 40 years. ISP has indicated that they will seek amendments and extensions of the license to store an additional 5,000 MTUs for each of seven expansion phases over 20 years, resulting in an expanded facility with total storage of up to 40,000 MTUs of spent nuclear fuel.

New Mexicans have a vested interest in this proposed action due to the proximity of the site to the Texas-New Mexico border; the facility is located just .37 miles east of the border and five miles east of Eunice, New Mexico. Additionally, the New Mexico side of the border is more densely populated, meaning that the proposed action would disproportionately impact New Mexicans in the immediate area.

The draft EIS does not adequately address the many safety concerns that siting a CISF in Andrews County, Texas raises. With no active planning for a permanent repository for SNF underway, there is significant risk that this and other facilities proposed as interim storage facilities become de facto permanent repositories. Over time, it is likely that the casks storing spent nuclear fuel and high-level waste will lose integrity and will require repackaging. Any repackaging of spent nuclear fuel and high-level waste increases the risk of accidents and radiological health risks. The consequences of a release of radiation due to accidental events (such as fire, flood, earthquakes, ruptures of fuel rods, explosion, lightning,

extreme temperatures and more), potential acts of terrorism or sabotage, and the risks associated with aging spent nuclear fuel canisters all pose unacceptable health, safety, and environmental risks that the draft EIS fails to address.

Further, the ISP project would place unfunded safety mandates on local communities. Transporting spent nuclear fuel across the nation is complex and extremely dangerous. Safe transportation of spent nuclear fuel requires both well-maintained infrastructure and highly specialized emergency response equipment and personnel that can respond quickly to an incident at the facility or on transit routes. New Mexico residents cannot afford and should not be expected to bear the costs associated with transporting material to the proposed CISF or responding to an accident on transport routes or near the facility.

The proposed CISF also poses unacceptable economic risk to New Mexicans, who look to southeastern New Mexico as a driver of economic growth in our state. New Mexico's agricultural industry contributes approximately $3 billion per year to the state's economy, $300 million of which is generated in Eddy and Lea Counties, adjacent to the West Texas site. Further, the site is located in the Permian Basin, which is the largest inland oil and gas reservoir and the most prolific oil and gas producing region in the world. New Mexico's oil and natural gas industry contributed approximately $2 billion to the state last year, driven by production in Lea and Eddy County. Any disruption of agricultural or oil and gas activities as a result of a perceived or actual nuclear incident would be catastrophic to New Mexico, and even taking steps toward siting a CISF in the area could

cause a decrease in investment in two of our state's biggest industries.

Recognizing the risks outlined above, a broad range of businesses, state, local, and tribal leaders have expressed their opposition to this project and to a similar project in New Mexico proposed by Holtec International. That opposition includes both myself and Governor Abbott of Texas, who similarly recognizes the risk a CISF in this region poses to Texas residents.

The ISP proposal poses unacceptable risk to New Mexico's citizens, communities, and economy, and I urge you to deny the ISP license application.

Sincerely,

/s/ MICHELLE LUJAN GRISHAM
MICHELLE LUJAN GRISHAM
Governor

GOVERNOR GREG ABBOTT

September 10, 2021

The Honorable Christopher T. Hanson
Chairman
U.S. Nuclear Regulatory Commission
Mail Stop 0-16 B33
Washington, D.C. 20555-0001

Re: Interim Storage Partners (ISP) Consolidated Interim Storage Facility Project, Docket ID NRC-2016-0231

Dear Chairman Hanson:

In my capacity as Governor of Texas, I previously submitted comments opposing ISP's application for a license to construct and operate a consolidated interim storage facility in Andrews County, Texas. Despite Texas's strong opposition, the NRC has been rushing to issue the requested license. I am writing again to reiterate that the proposed ISP facility is unacceptable to the State of Texas, and to put the NRC on notice of an important legal development.

On September 2, 2021, the Texas Legislature overwhelmingly passed House Bill 7, which bans the storage and disposal of high-level radioactive waste and spent nuclear fuel in Texas. The legislation also prohibits the

Texas Commission on Environmental Quality from issuing certain permits for the construction or operation of a facility that stores high-level radioactive waste or spent nuclear fuel. On September 9, 2021, I signed House Bill 7, and it immediately became law. A copy of the legislation is attached for the NRC's information.

As I wrote on November 3, 2020, the State of Texas has serious concerns with the design of the proposed ISP facility and with locating it in an area that is essential to the country's energy security. Now the State has made clear that a consolidated interim storage facility is not only unwelcome here, but illegal. To avoid the potential for costly and protracted litigation, I again urge the NRC to deny ISP's license application.

Sincerely,

/s/ GREG ABBOTT
GREG ABBOTT
Governor

GA:cgd C.I. 127

H.B. No. 7

AN ACT

relating to the storage or disposal of high level radioactive waste.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS:

SECTION 1. Section 401.003, Health and Safety Code, is amended by adding Subdivision (12 b) to read as follows:

(12 b) "High level radioactive waste" has the meaning assigned by 42 U.S.C. Section 10101(12) and includes spent nuclear fuel as defined by 42 U.S.C. Section 10101(23).

SECTION 2. Section 401.0525, Health and Safety Code, is amended by adding Subsection (c) to read as follows:

(c) With the exception of a permit for a facility located at the site of currently or formerly operating nuclear power reactors and currently or formerly operating nuclear research and test reactors operated by a university, the commission may not under the authority given to the agency under Section 301, 304, or 401 of the Clean Water Act (33 U.S.C. Sections 1311, 1314, and 1341) issue a general construction permit or approve a Stormwater Pollution Prevention Plan under Section 26.040, Water Code, or issue a permit under the Texas Pollutant Discharge Elimination System Program under Section 26.027, 26.028, or 26.121, Water Code, for the construction or operation of a facility that is licensed for the storage of high level radioactive waste by the United States Nuclear Regulatory Commission under

10 C.F.R. Part 72. Section 401.005 does not apply to this subsection.

SECTION 3. Subchapter C, Chapter 401, Health and Safety Code, is amended by adding Section 401.072 to read as follows:

Sec. 401.072. DISPOSAL OR STORAGE OF HIGH LEVEL RADIOACTIVE WASTE. With the exception of storage at the site of currently or formerly operating nuclear power reactors and currently or formerly operating nuclear research and test reactors operated by a university, a person, including the compact waste disposal facility license holder, may not dispose of or store high level radioactive waste in this state.

SECTION 4. Section 401.0525(c), Health and Safety Code, as added by this Act, applies only to an application for a permit or permit amendment submitted on or after the effective date of this Act.

SECTION 5. If any provision of this Act or its application to any person or circumstance is held invalid, the invalidity does not affect other provisions or applications of this Act that can be given effect without the invalid provision or application, and to this end the provisions of this Act are declared to be severable.

SECTION 6. This Act takes effect immediately if it receives a vote of two thirds of all the members elected to each house, as provided by Section 39, Article III, Texas Constitution. If this Act does not receive the vote necessary for immediate effect, this Act takes effect December 5, 2021.

/s/ [ILLEGIBLE]
President of the Senate

/s/ [ILLEGIBLE]
Speaker of the House

I certify that the H.B. No. 7 was passed by the House on August 30, 2021, by the following vote: Yeas 94, Nays 32, 1 present, not voting; and that the House concurred in Senate amendments to H.B. No. 7 on September 2, 2021, by the following vote: Yeas 119, Nays 3, 1 present, not voting.

/s/ [ILLEGIBLE]
Chief Clerk of the house

I certify that H.B. No. 7 was passed by the Senate, with amendments, on September 1, 2021, by the following vote: Yeas 31, Nays 0.

/s/ PATSY [ILLEGIBLE]
Secretary of the Senate

APPROVED: [9-9-21]
Date

/s/ Greg Abbott
Governor

From: Wes Hambrick
To: Wes Hambrick
Subject: [External_Sender] Letter from Governor Abbott
Date: Friday, September 10, 2021 3:27:26 PM
Attachments: image001.png
Governor Abbott letter 9-10-2021.pdf

Good afternoon—

Please see the attached letter from Governor Abbott regarding Interim Storage Partners application for a license to construct and operate a consolidated interim storage facility in Andrews County, Texas. Please let us know if you have any questions.

Thank you,

Wes

Wes Hambrick
Executive Director
Texas Office of State-Federal Relations
202.434.0227—Direct
202.812.7690—Mobile

September 11, 2021

Office of Administration
Mail Stop: TWFN-7-A60M
Attn: Program Management, Announcements and Editing Staff
U.S. Nuclear R[]egulatory Commission
Washington, DC 20555-0001

Subject: Submittal of Comments on Final Environmental Impact Statement (FEIS) for Interim Storage Partner's (ISP's) License Application for a Consolidated Interim Storage Facility (CISF) in Andrews County, Texas, Docket ID NRC-2016-0231

Reference:

1. "Environmental Impact Statement for Interim Storage Partners LLC's License Application for a Consolidated Interim Storage Facility for Spent Nuclear Fuel in Andrews County, Texas, Final Report," NUREG-2239, Published on August 5, 2021, Docket ID NRC-2016-0231-0387 (ML2120A120).

2. Federal Register Notice: Issuance of Environmental Impact Statement for Interim Storage Partners Consolidated Interim Storage Facility License Application, August 5, 2021 (86 FR 43277) (ML2120A120).

3. Federal Register Notice: Environmental Protection Agency Receipt of Environmental Impact State for Interim Storage Partners Consolidated Interim

Storage Facility License Application, August 13, 2021 (86 FR 44711 at 44712)

Undersigned counsel represents Permian Basin Coalition of Land and Royalty Owners and Operators (PBLRO) and Fasken Land and Minerals, Ltd. (FLML or Fasken) relating to the above-referenced matter. PBLRO and FLML have engaged consultants in the review of the FEIS for ISP's License Application for a CISF in Andrews County, Texas relating to Docket ID NRC-2016-0231. Please find enclosed consultant comments presented in Attachment 1 identifying procedural and environmental gaps, insufficient technical analyses and mitigation planning, and improper dismissal of major viewpoints with respect to the U.S. Nuclear Regulatory Commission's (NRC) assessments provided in ISP's FEIS for consideration.

PBLRO and/or FLML previously submitted comments in the ISP scoping process, in response to ISP's draft EIS, as well as actively participating in the underlying NRC administrative proceeding.[1]

We look forward to the NRC's and/or the U.S. Environmental Protection Agency's (EPA) responses to attached.

---

[1] PBLRO and FLML intend on submitting additional comments in response to ISP's FEIS under separate cover.

Sincerely,

/s/ ALLAN KANNER
ALLAN KANNER
KANNER & WHITELEY, LLC
701 Camp Street
New Orleans, Louisiana 70130
(504) 524-5777

cc via email:

James.Park@nrc.gov
Stacy.Schumann@nrc.gov
WCS CISF EIS@nrc.gov
EIS-Filing@epa.gov

Attachment 1

Final Environmental Impact Statement Review for Consolidated Nuclear Storage Facility, Andrews County, TX

Prepared for:

Kanner and Whiteley, LLC
701 Camp Street
New Orleans, LA 70130

Great Ecology—San Diego
2251 San Diego Ave., A218
San Diego, CA 92110

Sept. 2021

Table of Contents

1.0 OVERVIEW

A private company, Interim Storage Partners (ISP) applied in 2016 to license and construct a Consolidated Interim Storage Facility (CISF) of high-level nuclear waste (HLW) in Andrews County, Texas (FIGURE 1). The facility, located at the Texas-New Mexico border in the county, is proposed as an "interim" measure before a permanent repository of such materials is approved and constructed. The Nuclear Regulatory Commission (NRC) is the lead agency overseeing the National Environmental Protection Act (NEPA) process to determine what environmental impacts could exist if such a facility was constructed, operated, and (ultimately) decommissioned. The NRC released its Final Environmental Impact Statement (FEIS) in July 2021, with NRC staff recommending that "subject to the determinations in the staff's safety review of the application, the proposed license be issued to ISP to construct and operate a CISF at the proposed location to temporarily store up to 5,000 MTUs [metric tons of uranium] of SNF [spent nuclear fuel] for a licensing period of 40 years" (NRC 2021, page 2-29).

Myself and my team at Great Ecology have reviewed relevant materials from NRC's FEIS for the Andrews County CISF. This project has met severe opposition from local, regional, and national stakeholders. Prominent environmental advocacy groups like the Sierra Club are on the same side as private companies in oil and gas exploration, with both groups raising concerns over the destructive impacts HLW storage would have in the region. There is bipartisan political opposition to the project from both the Democratic and Republican governors of New Mexico and Texas. This project will likely continue to face significant backlash from con-

cerned citizens and industries, NEPA regulations notwithstanding.

Figure 1: Proposed ISP CISF Facility
(from NRC 2021: Figure 2.2-1)

I believe the FEIS was conducted with a pre-determined outcome and did not take the requisite "hard look" as required by NEPA. Many components were not accurately evaluated such as:

- The purpose and need of the facility is not "interim;"
- The technical studies undertaken for the NEPA analysis were piecemealed across several years and therefore the FEIS does not provide a thorough and consistent evaluation for some issues;
- The alternatives analysis does not sufficiently evaluate all 'reasonable' alternatives to the project;
- The Environmental Justice analysis should be updated after NRC completes its internal policy;
- The No Action Alternative was poorly elucidated and not evaluated adequately;
- Not all cumulative impacts are identified for transportation, groundwater, ecology (particularly wildlife), and climate change, and the geographic extents used for cumulative impact evaluation are arbitrary and incorrect;
- The mitigation analysis is not robust, does not place any responsibility on NRC for ensuring mitigation is implemented, and does not include an analysis of the likelihood of implementation of those mitigation measures outside the NRCs jurisdiction. For example, NRC assumes that mitigation for emergency response will be the responsibility of local first responders, even though the additional risks, training, and costs for such

emergency response were not evaluated in the FEIS;

- NRC showed an almost total disregard for public input on the FEIS, and dismissed several comments without adequate explanation or evaluation;
- Several categories were determined to have SMALL/MODERATE impacts, without a careful evaluation of the magnitude of actual impacts; and
- The ecological resource analysis is incomplete and insufficient for multiple wildlife species of conservation significance.

2.0 PROCEDURAL GAPS

The NRC received over 10,000 comments as part of the public comment process, with multiple comments highlighting deficiencies in the FEIS evaluation (see: NRC 2021, Comments D.2.1.1 through D. 2.1.17, pages D-2 through D-12). My team and I identified many issues with the FEIS that are illustrative of a poorly done NEPA process by NRC, discussed further below.

2.1 Purpose and Need: Not an "Interim" facility

The "interim" facility described by NRC does not provide adequate assurance that the CISF project is not a permanent repository. "Interim" implies that there is a final, long-term solution established already (i.e., a permanent repository of HLW has already been approved and constructed). The current purpose and need states that the facility would receive and store HLW "before a permanent repository is available" (NRC 2021, page 1-3), which heightens the risk that this facility could serve as a *de facto* permanent repository.

This is a major concern that has been brought up by multiple experts and government officials, including the governors of New Mexico and Texas. In public comments submitted by Tami Thatcher on behalf of the Environmental Defense Institute (November 2018), the "interim" status without the existence of licensed permanent disposal effectively results in the stranding of NSW at the ISP facility for an undetermined duration potentially exceeding the ISP facility's license period or the time horizon upon which the NEPA evaluation was based. Governor Greg Abbott of Texas wrote a letter opposing after reviewing the draft Environmental Impact Statement (EIS) in November 2020. Governor Abbott also raised concerns about the "interim" definition of the facility, and noted that the EIS

> "[S]imply assumes . . . that a permanent geologic repository will be developed and licensed before 60 years are up, without addressing any contingency for the spent nuclear fuel if such a repository is not ready when ISP's license expires" (Abbott 2020).

Governor Michelle Lujan Grisham of New Mexico has raised similar concerns about "interim" storage, pointing out that "at this time, the NRC cannot guarantee that a permanent repository for spent nuclear fuel in the United States will be developed in 40, 80, or 120 years" (Grisham 2020).

The statement that this will be an "interim" storage facility of HLW is deliberately misleading. Policymakers and experts are rightly pointing out the high risk of the waste becoming abandoned, since a permanent repository does not exist to eventually accept the waste, nor is there a reasonable evidentiary basis for NRC to so find.

2.2 NEPA Studies: Piecemeal

The studies for NEPA were performed in piecemeal, which weakens the overall FEIS analysis and does not present a clear picture of all impacts from these discrete sections. Study timelines vary in the document, with some studies being performed in the early and mid-2010s (Socioeconomics and Environmental Justice, Cultural and Historical Resources) and others as recent as 2020. Several studies were not performed by NRC, rather by other federal agencies or by other third parties that did not perform studies explicitly for NEPA. NRC relies on these analyses without further evaluating how each individual study relates to the others; with this piecemeal approach, impacts cannot be evaluated across time or space. The FEIS should not have been siloed.

The deference to NRC's authority should only be limited to their subject(s) of expertise and should not extend to all categories in the FEIS. NRC staff are experts in nuclear safety and radioactive exposures/risks, and as such their opinions on the FEIS should be deferred to if making a decision on safety risks. However, NRC grants itself deference for their NEPA determinations on issues outside of their realm of expertise, although such deference is illogical. For example, nationwide transportation is regulated by the Department of Transportation (USDOT) and the Federal Highway Administration (FHWA); as such, USDOT and FHWA should be deferred to for opinions and interpretations. NRC cannot be an expert in every evaluation; if an impact is not within their purview for evaluation, their determinations should be given less deference.

2.3 Alternatives Analysis: Insufficient

NEPA requires a review of reasonable project alternatives. Alternative analyses should clearly indicate why and how the range of project alternatives was developed, including what kind of public and agency input was used. In addition, alternatives analysis should explain why and how alternatives were eliminated from consideration. It must be made clear what criteria were used to eliminate alternatives, at what point in the process the alternatives were removed, who was involved in establishing the criteria for assessing alternatives, and the measures for assessing the alternatives' effectiveness.

Section 2.2 of the FEIS identifies the alternatives considered for detailed analysis including the Proposed Action and the No Project Alternative. Meanwhile, Section 2.3 of the FEIS identifies eight alternatives eliminated from detailed analysis including:

1) Storage at a government-owned CISF operated by the Department of Energy (DOE);
2) Alternative Design or Storage Technologies, which had three alternatives including:
    a) DCSS Design Alternatives,
    b) Hardened Onsite Storage Systems (HOSS),
    c) Hardened Extended-Life Local Monitored Surface Storage (HELMS); and
3) Location Alternatives (four options).

The alternatives eliminated from consideration were eliminated (respectively) for the following reasons:

1) In planning stages lacking siting and design necessary for comparison of impacts.

2) a) new technology too speculative to be considered.

   b) generalized concept lacking detailed plans necessary for detailed safety, environmental, and cost/benefit analysis and does not meet the purpose and need for the proposed action.

   c) lacking sufficient location-specific information for detailed analysis and would not fully meet the purpose and need of the proposed action.

3) None clearly environmentally preferable to ISP's proposed site.

Section 2.3 of the FEIS does not explicitly state objective criteria used to eliminate alternatives instead eliminating some alternatives based on the stage of development, speculative nature of technologies, or the failure of an alternative to meet the proposed action's purpose and need. If an alternative is eliminated from further consideration because it "does not meet the purpose and need," the lead agency must adequately explain how or why this alternative doesn't meet the purpose and need (USDOT 2021). Narrowly written purpose and need statements, which are designed to limit alternative review, are dubious and, as described above, the purpose and need stated in the ISP FEIS fails to adequately acknowledge the possibility that the ISP project may in fact become de facto permanent storage without better assurances to the contrary. Finally, Section 2.3 of the FEIS identifies who was involved in establishing the criteria for assessing alternatives or measures for as-

sessing the alternatives' effectiveness as required under NEPA.

Previous NEPA documents for "interim" nuclear storage facilities have evaluated multiple alternatives as part of the general analysis. For instance, NRC compiled an FEIS for a proposed CISF storage facility in Utah that incorporated three different alternatives for analysis, including alternatives for technology, sites, and transportation options (NRC et al. 2001). This current FEIS does not follow past precedent, and as such needs to include a more thorough evaluation and analysis of any and all alternatives to the proposed project.

2.4 Environmental Justice: Evaluation Needs to be Updated

President Joe Biden issued Executive Order (EO) 14008 in January 2021, which addresses several environmental issues like climate change, deforestation, and non-renewable energy. Chief among the Administration's priorities is environmental justice, and the EO directs federal agencies to "develop programs, policies, and activities to address the disproportionate health, environmental, economic, and climate impacts on disadvantaged communities" (White House 2021). The NRC is in the process of updating its policy and guidance documents relating to environmental justice evaluations and is currently accepting public comments through September 22, 2021. Therefore, it is likely that NRC will update its policy by the end of September or October 2021. With this in mind, the current FEIS should be suspended until NRC establishes a policy and guidance reflective of the goals in the 2021 EO. When NRC has established final guidance in the future, the envi-

ronmental justice portion of the FEIS should be re-evaluated.

2.5 No Action Alternative: Dismissed and Not Carefully Evaluated

The FEIS does an insufficient job of elucidating the status quo or No Action Alternative and of analyzing the impacts of a No Action Alternative. NEPA requires Federal lead agencies to always describe and analyze a "no action" alternative in an EIS. In simple terms, a No Action Alternative considers the effects of not approving the action under consideration. The No Action Alternative analysis provides a benchmark to allow decision makers and the public to compare the levels of environmental effects of the alternatives.

Within the FEIS, characterization of the No Action Alternative or status quo is entirely dismissed. It is not purely a default to the existing environmental setting. Implicit in the comparison of impacts is consideration that status quo itself has benefits as well as drawbacks, and very little if any effort is provided in the FEIS to explicitly identify these. For example, within Table 2.4-1, under the topic of Socioeconomics, the No Action Alternative is indicated to have no impact significance, while clearly, some sort of beneficial impact to local finance (identified in the adjacent column for the proposed action) is being sacrificed under the No Action Alternative without being included in the analysis. This illustrates that a thoughtful analysis is lacking because the No Action Alternative or status quo was insufficiently evaluated.

2.6 Cumulative Impacts Analysis: Insufficient

Cumulative impacts under NEPA are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other actions" (40 CFR § 1508.7). The FEIS does not thoroughly evaluate the cumulative impacts of the ISP CISF Project along with all other past, present, and reasonably foreseeable future projects in the project vicinity. Of major concern, many cumulative impacts are evaluated across geographic scales that do not accurately represent the scope and scale of potential impacts or underlying social, ecological, geological, or hydrological processes. FIGURE 2 and TABLE 1 depict all impact radii across categories; of note, these are variable and are not applied across all categories. For example, cumulative impacts to ecological resources are only evaluated within a 5-mile buffer around the ISP site; in contrast, transportation is evaluated within a 50-mile buffer. There is little to no explanation for why ISP chose these radii for ecology and transportation, and if in fact these buffers truly represent cumulative impacts from the site (which, in the case of these two categories, they do not). For these and other radii chosen by ISP, NRC blindly accepted these values without further discussion or evaluation in the FEIS.

Notably, several categories of assessment show considerable deficiencies in the depth and detail of analysis, including (but not limited to):

- Transportation;
- Groundwater resources;

- Ecological impacts on wildlife; and
- Climate change.

Figure 2: Cumulative Impact Radii from ISP FEIS (NRC 2021)

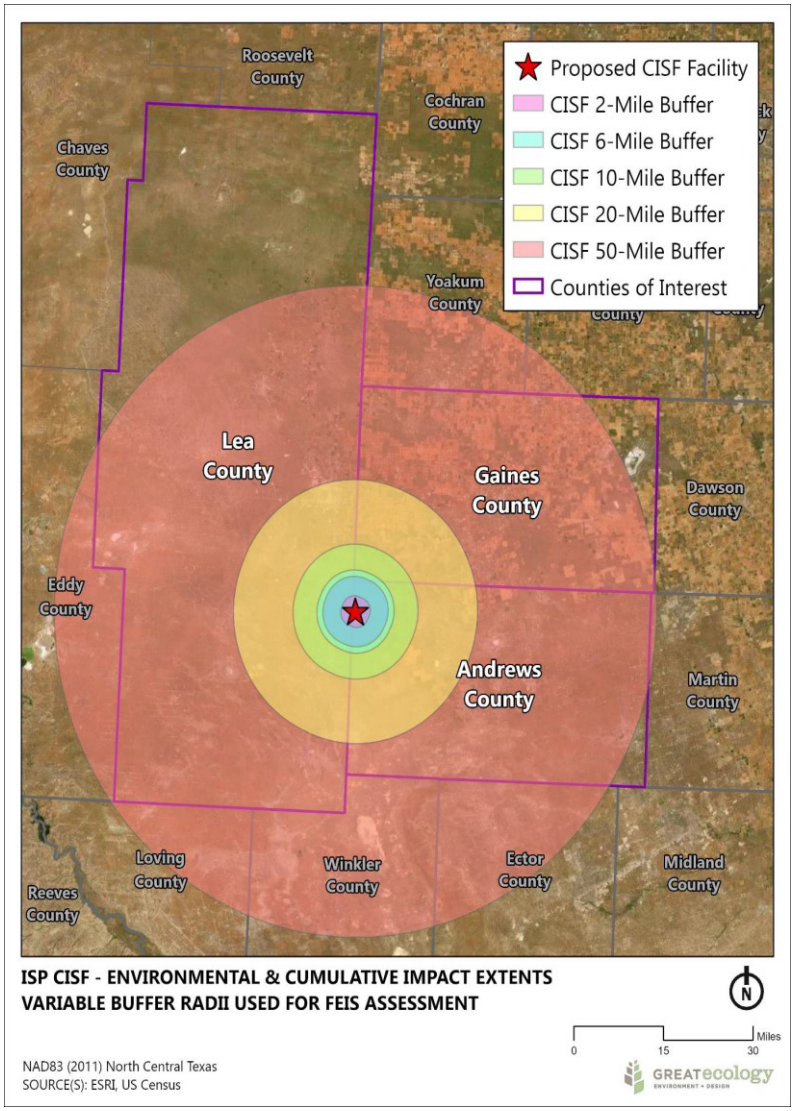


Table 1: Variable Radii for Environmental and Cumulative Impacts Analysis, ISP FEIS

Impact Type*	NEPA Category	Radius of Evaluation
Environmental	Ecology	2 miles
	Air Quality	
	Historical & Cultural Resources	
	Visual & Scenic Resources	
	Land Use	5 miles
	Transportation	
	Geology & Soils	
	Water Resources	
	Environmental Justice	50 miles
	Public & Occupational Health	
	Waste Management	
	Socioeconomic	Andrews County and Gaines County, TX; Lea County, NM
Cumulative	Land Use	5 miles
	Ecology	
	Air Quality	6 miles
	Noise	
	Visual & Scenic Resources	
	Historical & Cultural Resources	10 miles
	Groundwater	20 miles
	Transportation	50 miles
	Geology & Soils	
	Water Resources	
	Environmental Justice	
	Public & Occupational Health	
	Waste Management	
	Socioeconomic	Andrews County and Gaines County, TX; Lea County, NM

2.6.1 Transportation

The FEIS assumes all effects from transportation would be incremental over time. This does not appear to be the case as this facility would increase the region's importance as a HLW storage and disposal destination

increasing traffic volumes in a more than incremental manner. In addition, the arbitrary radius imposed on the cumulative impact assessment does not appear to appropriately consider the national and regional sources of HLW and long-distance freight system impacts.

The FEIS also downplays the nationwide extent of where HLW would be arriving from, since HLW is currently stored at nuclear energy facilities dispersed throughout the country. FIGURE 3 shows the locations of nuclear reactor sites across the US, along with the railroad network that would need to be utilized to transport waste currently existing at these sites. Illustrations and figures in the FEIS do not show the true breadth of this problem, and instead separately show the rail network and decommissioned nuclear power plants (FIGURE 4). HLW is spread throughout the country, and the extent of its transportation to the ISP CISF facility has a much larger impact (and would be more than 'incremental') than the FEIS presents. It also ignores what the surrounding local community looks like, and what sensitive receptors could be most impacted. FIGURE 5 depicts several facilities with vulnerable populations in the area (an extrapolation of the rail network presented by NRC in FIGURE 4); many of these sensitive receptors are located quite close to the railroads in the area. Should any accident occur in the future, these people would certainly be impacted quite heavily.

Figure 3: Nuclear Reactor Sites throughout the United States and Nationwide Railroad Network

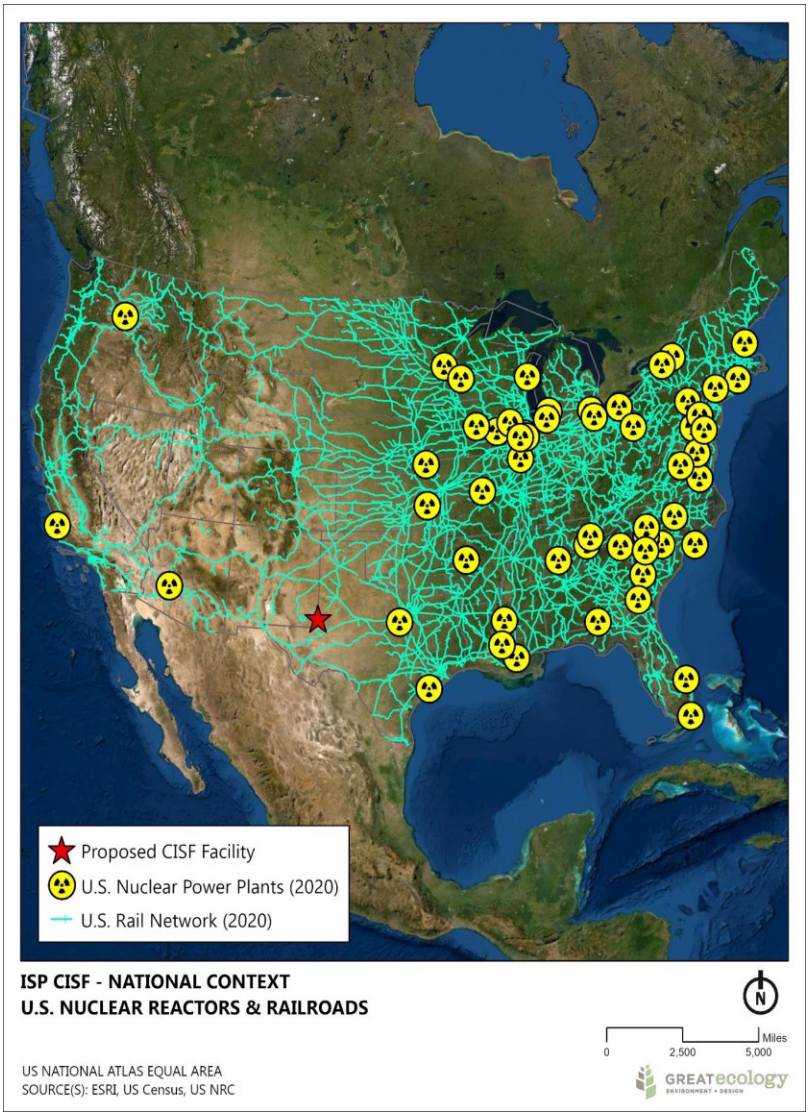


Figure 4: Nuclear Transportation Figures from the ISP FEIS. CISF Facility is depicted by red star. ***Top:*** *Decommissioned Nuclear Waste Sites in the United States (Figure 2.2-4).* ***Bottom:*** *Location of Railroads in West Texas and Southeastern New Mexico (Figure 2.2-7) (NRC 2021)*

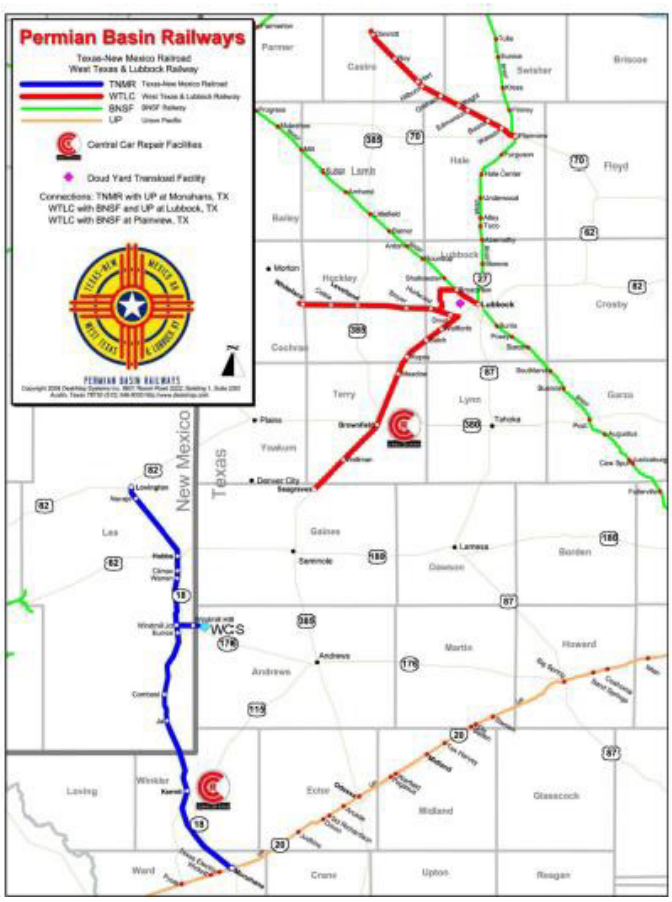
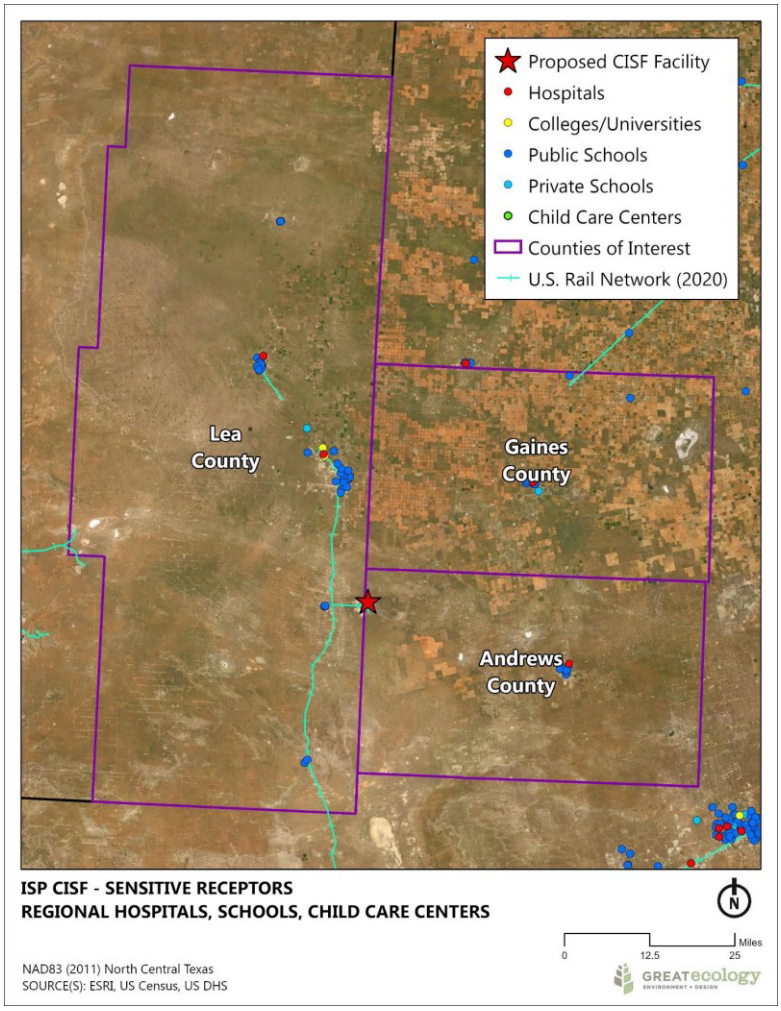

Permian Basin Railways
Texas-New Mexico Railroad
West Texas & Lubbock Railway
TNMR Texas-New Mexico Railroad
WTLC West Texas & Lubbock Railway
BNSF BNSF Railway
UP Union Pacific
Central Car Repair Facilities
Cloud Yard Transload Facility
Connections: TNMR with UP at Monahans, TX
WTLC with BNSF and UP at Lubbock, TX
WTLC with BNSF at Plainview, TX
PERMIAN BASIN RAILWAYS
New Mexico
Texas
WCS
Parmer
Castro
Swisher
Briscoe
Hale
Floyd
Lubbock
Crosby
Hockley
Cochran
Terry
Lynn
Garza
Plains
Yoakum
Denver City
Seagraves
Gaines
Seminole
Lamesa
Dawson
Borden
Andrews
Martin
Howard
Loving
Winkler
Ector
Midland
Glasscock
Ward
Crane
Upton
Reagan
Lea
Lovington

Figure 5: Sensitive Receptors Close to the ISP CISF and Regional Railroad Network



As New Mexico Governor Grisham accurately critiques in her letter to NRC, the transportation of spent nuclear fuel across the nation to CISF facilities is complex and extremely dangerous (Grisham 2020). Safe transportation of spent nuclear fuel requires both well-main-

tained infrastructure and highly specialized emergency response equipment and personnel that can respond quickly to an incident at the facility or on transit routes. Routes have to be agreed upon, weight capacity limits for existing rail systems need to be addressed, local first responders (emergency and medical) across the country have to be trained, and critical infrastructure and equipment need to be designed and deployed. Even with well-maintained infrastructure and best practices, some spent nuclear fuel in storage is not fit for transport.

Sections 3.3.2 and 4.3 of the FEIS indicate that prior transportation analyses including the final State Environmental Impact Report (SEIR) for Yucca Mountain and NRC's NUREG-2125 risk assessment provide sufficient information about potential transportation routes to support the analysis of transportation impacts. The NRC evaluation considers the routes evaluated in these prior transportation analyses to be representative or bounding for SNF shipments to and from the proposed ISP CISF project because they were derived based on typical transportation industry route selection practices. However, in comments on the draft EIS, the Western Interstate Energy Board (WIEB) High-Level Radioactive Waste (HLRW) Committee (WIEB 2020) encouraged the NRC to fully evaluate all reasonable modes and routes that could be used for nuclear waste transportation to the ISP CISF and opined that operational factors that should have been fully considered including:

- An analysis of the effects of different transportation operating protocols on shipment safety;
- Of the level of emergency preparedness along likely shipping routes;

- Of requisite coordination and communication with affected states, tribes, and other important stakeholders; and
- An analysis of the impact on shipment numbers and safety of using any of the variety of transportation casks that are licensed for use.

The WIEB HLRW Committee also stated that "NUREG-2125 is an obsolete and inapplicable reference for an environmental impact analysis of the ISP CISF." NRC does not provide justification for disregarding this valid criticism of their risk assessment procedures.

The WIEB HLRW Committee also offers valid evidence that the existing railroad infrastructure and equipment is currently inadequate for the task of HLW transportation to the ISP CISF facility noting: "there would have to be enough railcars (assuming a mostly-rail transportation system) to support this shipment rate, and the railcars would have to be compliant with the Association of American Railroads (AAR) S-2043 standard. As of now, there are no manufactured railcars that are compliant with this standard. DOE's Atlas railcar design is currently being tested to certify its compliance with S2043, but this certification is not expected to be complete until 2022 at the earliest."

2.6.2 Groundwater

The FEIS arbitrarily identifies a 20-mile cumulative impact evaluation radius for groundwater from the ISP Project. The FEIS further states that, of the nuclear facilities in the region only the existing Waste Control Specialists (WCS) facility, National Enrichment Facility (NEF), and Eden Radioisotopes are within the 20-mile groundwater study area. By arbitrarily limiting

the study area dimensions, thorough evaluation of cumulative impacts of ISP and other past, present, and reasonably foreseeable projects to groundwater resources are precluded. As the Permian Basin Coalition and Fasken Land and Minerals' previous comments on the ISP draft EIS (PBLRO & FLML 2020) noted, the geographic formation (Central Basin Platform) is heavily-faulted and the Project's seismic hazard analysis was deficient. The PBLRO/FLML letter also calls attention to the ISP environmental analyses' failure to mention and characterize the Rio Grande Rift (RGR), which it characterizes as critical in understanding the geological and geohydrological history of the aquifers at the CISF and potential risks to groundwater resources and seismology (PBLRO/FLML 2020). In light of the analysis' arbitrarily limited spatial scale in a region of obvious seismic risk, evaluation of cumulative impacts to groundwater resources is clearly inadequate.

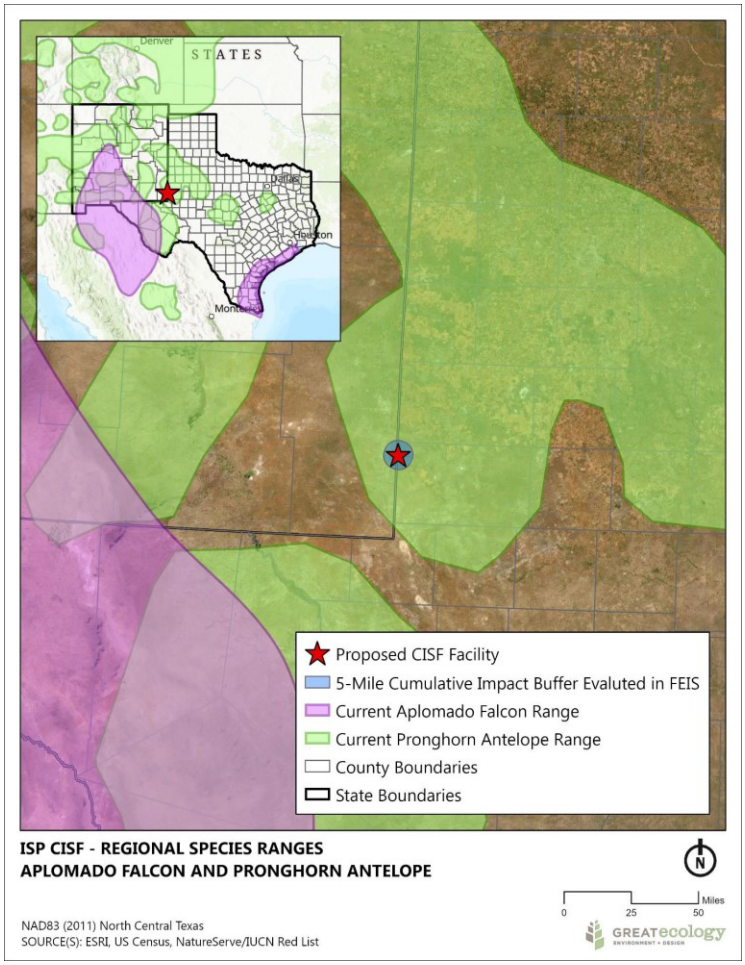
2.6.3 Wildlife (Ecology)

Once again, the FEIS arbitrarily identifies a small, 5-mile cumulative impact evaluation radius for wildlife from ISP Project. NRC states that their ecological cumulative impacts analysis is "limited to this radius because ecological resources are not anticipated to influence or to be influenced by the proposed CISF project outside of this area." This statement is not supported by any real scientific evidence and does not consider the wide ranges of several species with the potential to occur onsite. Migratory birds would most certainly be impacted outside of a 5-mile radius from the project, along with any highly mobile species.

We discuss two species with wide-reaching ranges that were not examined thoroughly as part of the ecological

cumulative impacts analysis: the endangered northern Aplomado falcon (Falco femoralis septentrionalis), and a regionally important game species, the pronghorn antelope (Antilocapra americana). Both species have a much wider reaching range than five miles, which is not captured by the FEIS cumulative impact radius (FIGURE 6).

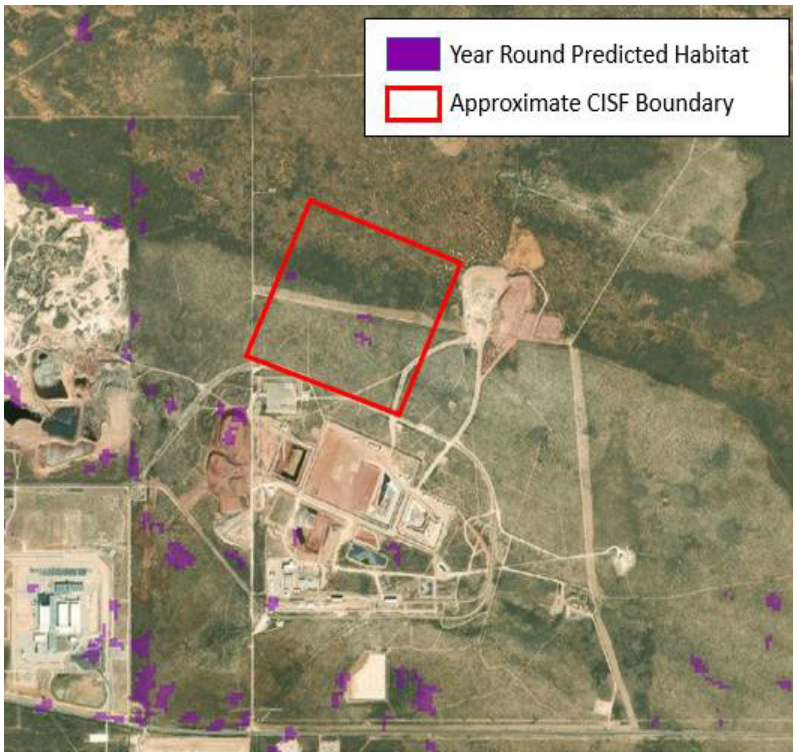
Figure 6: Current Species Ranges for Northern Aplomado Falcon and Pronghorn Antelope



Northern Aplomado Falcon

The U.S. Endangered Species Act of 1973 (ESA) regulates the 'take' of federally-listed threatened and endangered species. One federally-listed endangered species has a known range that includes the ISP Project site and surrounding environs (FIGURE 7). The northern Aplomado is a federally-listed Endangered Species with mapped range in western Texas and eastern New Mexico and a published Recovery Plan (USFWS 1990). The ESA has a recovery standard: in other words, the goal of the ESA is to recover a listed species to the point at which it can be delisted. This project, as well as other past, present, and reasonably foreseeable future projects in the region would together have cumulative impacts across a fairly substantial part of the historical former range of the species precluding the recovery of the species. Since this project is located within the species' historic range, it follows that destruction of habitat would inhibit the recovery of this species and potential future delisting. The FEIS does not evaluate or address the recovery plan currently in place for this species and needs a more thorough analysis of the ESA relating to the northern Aplomado falcon.

Figure 7: Predicted Habitat Map, Northern Aplomado Falcon (USGS GAP 2021)



Pronghorn antelope

Similarly, the pronghorn antelope is a highly migratory game species which ranges across the southwestern U.S. It is an important, state-managed game species in both Texas and New Mexico which attracts hunters and wildlife enthusiasts to the region. Because of this, the herds of pronghorn antelope possess interstate commerce value as harvestable game. The proposed project, as well as other past, present, and reasonably foreseeable future projects (and their freight and construction traffic) would result in fragmentation of pronghorn

antelope range and loss of habitat connectivity, potentially affecting the management and viability of herds migrating in both states. Habitat fragmentation and cumulative project impacts to migratory corridors for pronghorn antelope and other wide-ranging species are not discussed in the FEIS.

2.6.4 Climate Change

The FEIS evaluates climate change as part of air quality impacts (NRC 2021, Section 3.7.1.1 and Section 4.7.2). However, climate change does not solely impact atmospheric processes or the abiotic environment. All species (humans included) will have to adjust their behavior and range in response to climate or perish. Cumulative impacts of the ISP Project and other past, present, and reasonably foreseeable future projects on land use must be evaluated in tandem with reduced agricultural productivity of cropland and rangeland in the west Texas / eastern New Mexico region resulting from anthropogenic climate change. Similarly, the analysis of cumulative impacts of the ISP Project and other past, present, and reasonably foreseeable projects (notably highly consumptive mining and oil and gas production facilities) on groundwater resources and their sustainability must acknowledge growing uncertainty related to precipitation patterns, drought intensity, and other projections identified in Section 3.7.11.

Additionally, NRC (and the U.S. Fish and Wildlife Service [USFWS]) should take shifting species distributions resulting from climate change into consideration when evaluating the cumulative impacts of current and reasonably foreseeable future projects on federally-listed and potential candidate species.

2.7 Mitigation Planning: Insufficient

One of the main stated purposes of NEPA is to "promote efforts which will prevent or eliminate damage to the environment and biosphere" (42 USC § 4321). This is generally accomplished through mitigation measures, such as restoration, avoidance of habitat, and/or reduction of harm. Monitoring is also an important factor to determine mitigation success, so any mitigation strategy needs to also include a robust monitoring program.

Mitigation planning is a critical part of the NEPA process; however, I find the NRC's mitigation strategy lacking in several areas, including:

- No timeline for execution of mitigation;
- Proposed mitigation is not the responsibility of the lead agency (NRC); and
- No probability analysis of mitigation implementation.

2.7.1 Nonexistent Mitigation Timeline

All the mitigation measures provided by NRC appear to be deferred actions (as in, mitigation for project impacts is proposed but not evaluated further within a project timeline). No timeline is clearly stated in the document as to when mitigation would occur, and whether or not mitigation would delay or change their construction timeline. As an example, for surface water resources ISP proposes mitigation through "compliance with the Construction General Permit requirements and a Storm Water Pollution Prevention Plan (SWPPP)" (NRC 2021) However, ISP does not indicate when this SWPPP would be developed. NRC appears to push all mitigation (voluntary or required) to the future, thus

thorough evaluation of proposed mitigation is not presented.

2.7.2 Mitigation Outside of Lead Agency Jurisdiction

Time and again in the FEIS, NRC indicates that permits and plans will be developed for the project which will identify future mitigation requirements.

For project-related impacts and cumulative impacts to geology and soils, ecological resources, groundwater, surface water, and logically public health and other issues NRC indicates that mitigation measures and Texas Pollutant Discharge Elimination System (TPDES) permit requirements (including spill prevention and clean-up plans) would limit soil loss, avoid soil contamination, and minimize stormwater runoff impacts. For impacts to surface waters and wetlands, NRC indicates that the applicant would develop and implement a Stormwater Pollution Prevention Plan (SWPPP). Meanwhile, a TPDES industrial stormwater permit would set limits on the amounts of pollutants entering ephemeral drainages.

Similarly, during the operations phase of the ISP Project, the applicant would be expected to implement a Spill Prevention, Control, and Countermeasures (SPCC) Plan to minimize the impacts of potential soil contamination, and stormwater runoff would be regulated under TPDES permit requirements.

This reliance on TPDES general construction permit, industrial stormwater permit, SWPPP, SPCC, and other plans and permits represents a whole suite of mitigation measures outside of the jurisdiction of NRC where enforcement would become the responsibility of

the State of Texas / Texas Commission on Environmental Quality (TCEQ) or other responsible parties.

2.7.3 Probability of Mitigation Unclear

NEPA guidance stipulates that if a mitigation measure is not within the jurisdiction of the Lead Agency that the probability of implementation needs to be discussed:

> "[T]hus the EIS and the Record of Decision should indicate the likelihood that such measures will be adopted or enforced by the responsible agencies. Sections 1502.16(h), 1505.2. If there is a history of nonenforcement or opposition to such measures, the EIS and Record of Decision should acknowledge such opposition or nonenforcement. If the necessary mitigation measures will not be ready for a long period of time, this fact, of course, should also be recognized" (46 FR 18026, March 23, 1981).

The ISP FEIS makes no determination of the likelihood of mitigation implementation by other responsible parties, therefore there is not adequate assurance (or enforcement) that the identified mitigation will be implemented as described. In this respect, the language of Section 6.3 of the FEIS is incomplete and inadequate.

This is concerning, especially considering NRC will not be responsible for this facility beyond approval and licensing. As an example, the FEIS assumes emergency response actions will be mitigated through coordination with local authorities, fire departments, medical facilities, and other emergency services before operations begin (NRC 2021, page 6-11). NRC also acknowledges that any first responders will require additional training and equipment to handle an emergency involving highly radioactive nuclear waste but did not evaluate

these or the costs of such actions any further. NRC states that:

> "ISP did not provide a detailed estimate of the additional training and equipment that would be necessary to respond to an incident at the proposed CISF project that are not currently available to first responders, and local agencies nor officials have not conducted studies with this type of information. Therefore, a detailed analysis of the costs associated with these potential additional resources are not evaluated in detail in this EIS" (NRC 2021, page 4-74).

No such analysis in the FEIS is an obvious and glaring omission in evaluating the facility's operations and demonstrates once again that NRC is not carefully considering the impacts this facility will have on local communities. NRC is placing both the burden and cost of risk management onto local authorities, without assuring that those entities are well-informed of the responsibilities, costs, and risks, to approve, monitor, and enforce these mitigation actions. These omissions are further examples of systemic problems and persistently inadequate analyses throughout the FEIS, and further evidence of NRC's failure to take a "hard look" at impacts in violation of NEPA.

2.8 Public Input: Dismissed or Ignored

There is very high public and private interest in this project, with the public raising several valid concerns on both the project itself and the NEPA process. NRC initially received almost 29,300 comments during their 2016-2018 scoping period (NRC 2020). Responses to specific sections from the public included:

- Transportation: safety/accident increases, radiation dose to citizens near rail lines;
- Geology: induced seismicity from activities;
- Water Resources: water is located near the surface, potential contamination of the Ogallala Aquifer;
- Location/Land Use: facility is located within an existing waste storage facility, other collocated activities;
- Socioeconomics: Greater impact on New Mexico since the site is directly adjacent to its border; and
- Environmental Justice: disproportionate impacts on Hispanic populations (NRC 2020).

In its FEIS, NRC categorizes the public comments into major sections and summarizes their response to the generalized comments, presented in D.2 of the FEIS. For every comment section, the NRC justifies their response and made virtually no changes or edits to the FEIS in response to public input. This is alarming, especially considering the wide range of concerns the public raised in response to the proposed facility. NRC's dismissal of the public points even closer to a predetermined outcome of this evaluation—to permit a highly risky facility quickly and without approval for the people most impacted by its operations.

Of note, the site selection process for the Andrews CISF facility required public input and consent. However, NRC decided that they had sole purview over this decision and did not seek public input on alternative sites. NRC relied solely on ISP's assessment process and did not perform any additional due diligence or con-

sult with the public in the area. Public comments pointed out that "ISP's site selection process was not rigorous and focused on political community input and location rather than environmental impacts" (NRC 2021, page D-42). This shows a clear lack of concern for the surrounding community and stronghold to put a facility wherever the applicant (ISP) decides fit.

2.9 Impact Analysis: Not Robust for Several Categories

An agency preparing an EIS takes a hard look at the environment affected by a project, by dividing the 'affected environment' into several categories. Impacts are then categorized into one of three terms defined by NEPA, based on the severity of the impact:

- SMALL: effects are not detectable or are so minor that they neither destabilize nor noticeably alter any important attribute of the resource.
- MODERATE: effects are sufficient enough to alter noticeably but not destabilize important attributes of the resource.
- LARGE: effects are clearly noticeable and are sufficient enough to destabilize important attributes of the resource.

NRC's evaluation of the affected environment determined most impacts would be SMALL, with only two categories (Ecology and Socioeconomic) potentially having MODERATE impacts (TABLE 2).

Table 2: Impact Evaluation of ISP's CISF facility. Taken from NRC's October 5, 2020, public comment webinar (NRC 2020)

Resource	Impact Evaluation (includes proposed action and additional phases)
Land Use	SMALL
Transportation	SMALL
Geology and Soils	SMALL
Surface Water	SMALL
Groundwater	SMALL
Ecology	SMALL to MODERATE
Air Quality	SMALL
Noise	SMALL
Historic and Cultural	SMALL
Visual and Scenic	SMALL
Socioeconomic	SMALL to MODERATE* (* on population growth and beneficial on local finances)
Environmental Justice	There would be no disproportionately high and adverse impacts to either minority or low-income populations
Public and Occupational Health	SMALL
Waste Management	SMALL

After evaluating the FEIS and feedback from the public, I find it difficult to believe that most impacts would only be SMALL. As described above, many of these analyses were constricted by application of an arbitrary geographic scope of evaluation for cumulative impacts. If evaluated with a more appropriate radius for transportation, as an example, effects would at least be MODERATE, if not LARGE. NRC seems to deliberately obfuscate the environmental justice effects of the project and does not make a decision if the impacts fit into one of the three levels of significance. Rather, NRC states that there would be no 'disproportionately high and adverse' impacts to low income or minority communities—leading to the conclusion that impacts could, in fact, be MODERATE or LARGE on all populations in the area. We discuss the ecological impacts further below in this document; however, based on our

evaluation of both immediate and cumulative impacts, effects on ecological resources would be MODERATE and/or LARGE, especially for the two species discussed above (the Aplomado falcon and pronghorn antelope). These final impact determinations are clearly skewed towards a favorable outcome where impacts are only SMALL; both short-term and cumulative impacts therefore require a new evaluation to determine which impacts are not truly SMALL.

3.0 ENVIRONMENTAL GAPS

Great Ecology is comprised of a team of several interdisciplinary ecologists. As such, myself and my team evaluated the FEIS through the lens of the environment surrounding this project. Water resources and geology/seismology were not evaluated thoroughly for cumulative impacts, as discussed above. In addition, we found several deficiencies with the ecological resource analysis, particularly related to impacts on resident and migratory wildlife species. The cumulative impacts of the ISP Project and other past, present, and reasonably foreseeable future projects on two such species (northern Aplomado falcon and pronghorn antelope) were discussed above. In this section, additional species and concerns are discussed.

3.1 Ecology

The project is located within High Plains Levell III ecoregion (CMEC 2019). Previously surveyed habitat within the CISF project footprint includes:

- 230.5 acres of Mesquite thorn-scrub;
- 76.0 acres of Havard oak (Quercus havardii, also referred to as shinnery oak) dunes; and
- 17.8 acres of maintained grassland (CMEC 2019).

NRC states that the proposed project would result in the destruction of 109 acres of mesquite scrub and the disturbance of all shinnery oak dune habitat onsite (76 acres), resulting in total direct habitat impacts of at least 185 acres (NRC 2021pages 4-40 and 4-42).

Both mesquite thorn-scrub and shinnery oak dunes were identified in the FEIS and ecological survey with the potential to support migratory birds and sensitive species (CMEC 2019, NRC 2021 page 3-38). Mesquite thorn-scrub onsite was identified as suitable habitat for the Texas horned lizard (Phrynosoma cornutum), a state threatened species (CMEC 2019). Shinnery oak dunes were also identified as suitable habitat for dunes sagebrush lizard (Sceloporus arenicolus) and lesser prairie-chicken (Tympanuchus pallidicinctus), two species of conservation interest in both Texas and New Mexico (CMEC 2019).

Shinnery oak systems are a rare habitat type in the United States, with the geographic extent limited to southeastern New Mexico, western Texas, and western Oklahoma (Peterson and Boyd 1998). Species who occupy these habitats are, in turn, often specialists and rare themselves—as is the case with the dunes sagebrush lizard and lesser prairie-chicken. The U.S. Fish and Wildlife Service estimated approximately one million acres of habitat in 1982; by 2010, that number had decreased to 600,000 acres (USFWS 2010). This is an approximate 40 percent loss in shinnery oak dune habitat over time; this number is almost certainly higher based on the widespread amount of development (and proposed development) in these areas, suggesting today maybe only 400,000 acres remain.

NRC reviewed ecological surveys and federal/state databases and identified one federally protected species (the northern Aplomado falcon) and several species of interest that could be impacted by the CISF project, as previously discussed. However, impacts to these species were not adequately evaluated by the FEIS, and/or other species of regional or state interest were not (but should have been) evaluated. Although many species identified are not currently listed under the federal ESA, they are on state endangered/threatened species lists and/or of conservation interest. These species need suitable attention and evaluation of impacts.

Based on the information presented in the FEIS, I identified the following deficiencies in ecological impact analysis:

- No thorough evaluation of the ESA with regards to recovery of the Aplomado falcon;
- No alternatives or contingencies presented to account for potential future listing of endangered species (i.e., lesser prairie-chicken and dunes sagebrush lizard);
- No analysis or presentation of destructive impacts of habitat fragmentation on species;
- No impact determination on interstate game species (pronghorn antelope); and
- No evaluation of additional sensitive species with the potential to occur onsite.

Individual species and concerns surrounding their analysis are discussed further below.

3.1.1 Northern Aplomado Falcon

The project site was identified within the habitat range for northern Aplomado falcon, a federally- and state-listed endangered species. The falcon nests in abandoned nests created by other raptors; these inactive nests were observed onsite during the most recent ecological survey (CMEC 2019). The FEIS assumes that the project will have no impacts on the Aplomado falcon; however, this analysis shows a very limited scope of evaluation under the ESA, in particular with respect to identifying obstacles to species recovery. This is discussed further above as a deficiency in evaluating cumulative impacts under NEPA.

3.1.2 Dunes Sagebrush Lizard

A species of greatest conservation need in Texas, the dunes sagebrush lizard occupies shinnery oak dune habitat found onsite. ISP has acknowledged that this species has been observed in the area northwest of the proposed CISF project area in past surveys; NRC therefore assumes that this lizard may be present during the project (NRC 2021, page 3-52 and page 4-40). NRC acknowledges in the FEIS that "the project would potentially disturb or kill lizards during Phase 1 construction, but not in sufficient numbers to affect the local populations of these species" (NRC 2021, page 4-40). NRC recommends ISP implement several conservation measures within suitable habitat during the project (NRC 2021, page 6-8 through 6-9).

First, the NRC does not provide any evidence that dunes sagebrush lizards harmed or killed would not be in 'sufficient numbers' to affect the local population. Although no study yet exists on the exact population, the estimated number of lizards is estimated between

10,000 and 100,000, with a conservative estimate of one adult per hectare of suitable habitat (Hammerson 2007). Previous surveys in Texas have found dunes sagebrush lizards in all sites surveyed in Andrews County (n = 19; Fitzgerald et al 2011); therefore, lizard populations are likely higher in the County and more vulnerable to habitat threats. Any impacts to their habitat will likely have a major effect on this already rare species. The NRC does not clearly define how many lizards could be impacted by construction of the facility, nor does it explain how killing lizards will 'not affect' the local population.

The dunes sagebrush lizard is not a migratory species and only occupies shinnery-oak habitat; any habitat loss (including loss resulting from this project) will have dramatic effects on the lizard populations in both Texas and New Mexico. NRC is aware of this, stating that the dunes sagebrush lizard is "not a highly mobile species and is confined to small home ranges within the active sand dune-shinnery oak habitat type, between 0.044 to 0.28 hectare [0.1 to 0.7 acre] in size" (NRC 2021, page 4-40). As a result of their small range, the dunes sagebrush lizard is highly sensitive to fragmentation; a study in New Mexico found that these lizards were found significantly less in fragmented areas, compared to unfragmented habitat (Walkup et al 2017). In many cases, the study found zero dunes sagebrush lizards in fragmented habitat, where lizards had been present in previous years (Walkup et al. 2017). <u>These effects are well documented in literature, and the FEIS should analyze the foreseeable/cumulative effects of habitat fragmentation on the lizard that, in their own admission, has been observed onsite.</u>

USFWS has announced a 12-month finding review period to address listing the dunes sagebrush lizard on the ESA. The 12-month finding was expected as of July 2021; however, USFWS has not released any further information regarding listing as of this date. As with the lesser-prairie chicken, The FEIS should include alternatives that prepare for any potential ESA listing (including the lesser prairie-chicken), and how this would impact the project in the foreseeable future of the project.

3.1.3 Lesser Prairie-chicken

A species of greatest conservation need in Texas, this bird also occupies shinnery oak dune habitat found onsite. An online mapper confirms that suitable habitat exists for the chicken onsite (SGP CHAT 2021). NRC concluded in the FEIS that the although the lesser prairie-chicken is unlikely to occur or be disturbed by construction (NRC 2021, page 4-41), ISP should follow recommendations to "monitor the listing status of the lesser prairie-chicken and enroll in the voluntary Range-Wide Conservation Plan" (NRC 2021, page 6-8).

Similar to the dunes sagebrush lizard, the lesser prairie-chicken faces threats from shinnery oak dune habitat destruction. The chicken is currently managed region-wide under a voluntary program called a Candidate Conservation Agreement with Assurances (CCAA). This voluntary program follows the guidelines established in a "Lesser Prairie-Chicken Range-wide Conservation Plan" established for the region (2013). Although the stated purpose of the program is to conserve and protect the species, the CCAA has ultimately led to further habitat destruction and not enough mitigation. An evaluation of the CCAA found that approximately 17,600

acres of restoration were complete from 2014 through 2019, which was two percent of the stated goal in the Lesser Prairie-Chicken Range-wide Conservation Plan (CBD 2021). Additionally, a total of 17,478 have reportedly been mitigated; this equates to a 124-acre positive difference between 'impacted' and 'restored' acres (CBD 2021). Clearly this plan is not enough to conserve this already rare habitat type, and habitat destruction or fragmentation should be avoided to sustain the existing lesser-prairie chickens. As with the lizard, NRC did not look at shinnery oak dune habitat fragmentation impacts as a direct threat to this rare species, a threat that has been increasing over time.

There is also potential that the lesser prairie-chicken could be listed under the ESA in the future; however, the FEIS does not consider any alternative or contingency if any species becomes listed. The lesser prairie-chicken is currently being reviewed by the USFWS for ESA protection, with a public comment period ending on September 1, 2021. As currently written, the FEIS acknowledges that ISP will "monitor the listing status of the lesser prairie-chicken," since "changes could potential require consultation, permitting, or mitigation with wildlife agencies in the future" (NRC 2021, page 4-43). Considering the lesser prairie-chicken was previously listed as a threatened species from 2014-2015 (USFWS 2021), it is reasonable to assume that the lesser prairie chicken could become listed again in the foreseeable future of this project. This shows a failure by NRC to consult or cooperate with the responsible federal agency (USFWS) regarding pending endangered species protection and critical habitat designation; furthermore, NRC did not evaluate the impacts or consult with USFWS should the shinnery oak dune hab-

itat present at the site be designated as critical habitat. The FEIS should include alternatives that prepare for any potential ESA listing (including the lesser prairie-chicken), and how this would impact the project in the foreseeable future of the project.

3.1.4 Texas Horned Lizard (*Phrynosoma cornutum*)

A state-listed threatened species in Texas, this lizard occupies mesquite habitat present onsite. It is intertwined with the state, as it is the Texas state reptile and the mascot of Texas Christian University. Although not observed during onsite surveys, their main prey source (harvester ants) were observed during surveys. NRC acknowledges in the FEIS that "the project would potentially disturb or kill lizards during Phase 1 construction, but not in sufficient numbers to affect the local populations of these species" (NRC 2021, page 4-40). NRC recommends ISP implement several conservation measures within suitable habitat during the project (NRC 2021, page 6-8 through 6-9).

As with the dunes sagebrush lizard, NRC does not clearly state what the 'sufficient number' of lizards harmed or killed that would impact the population. Horned lizard populations are declining throughout the state, so the lizards are mainly found in West Texas (CMEC 2019). Additionally, their main prey source, the harvester ant, is in turn becoming increasingly rare due to competition with nonnative fire ants (CMEC 2019). In essence, the horned lizard is most likely to exist within suitable mesquite habitat and with harvester ants. Both of these conditions already exist onsite; therefore, impacts to their habitat, and particularly their prey source, will likely have a major effect on this beloved species. The NRC does not clearly define how many lizards could be

impacted by construction of the facility, nor does it explain how killing lizards will 'not affect' the local population.

3.1.5 Pronghorn Antelope

Suitable habitat for the pronghorn antelope was observed within the project site. Although not a listed species, the pronghorn antelope represents an important game species in both Texas and New Mexico. The FEIS assumes that the project will have no impacts on the pronghorn; however, this assumption does not thoroughly evaluate pronghorn game management across state lines and related impacts on interstate commerce. This is discussed further above as a deficiency in evaluating cumulative impacts under NEPA.

3.1.6 Other Sensitive Species Not Evaluated in FEIS

Although not a strict requirement under NEPA, the NRC's FEIS evaluated several species of regional conservation concern, such as the dunes sagebrush lizard and lesser prairie-chicken. However, the 2019 ecological survey identified several species with the potential to occur in the area, and that would be impacted by the project. It seems strange that NRC would selectively pick which species to evaluate outside of scope and not others. One species in particular, the Western box turtle (Terrapene ornata), was identified in the ecological survey as a species of greatest conservation need and observed onsite during surveys (CMEC 2019). It seems incomplete, therefore, to only evaluate impacts to certain sensitive species and not others. As such, the FEIS should have included an evaluation of the Western box turtle.

4.0 SOURCES

Abbott, G. 2020. Re: Interim Storage Partners (ISP) Consolidated Interim Storage Facility Project, Docket ID NRC-2016-0231. Letter to Office of Administration, US Nuclear Regulatory Commission.

[CBD] Center for Biological Diversity. 2021. Re: Impending 12-month finding for the lesser prairie chicken and reliance on a conservation agreement managed by the Western Association of Fish and Wildlife Agencies. Letter to US Fish and Wildlife Service.

[Cox McLain Environmental Consulting] CMEC. 2019. Interim Storage Partners (ISP), Waste Control Specialists (WCS): Ecological resources report. Attachment 3-6 of "Revision 3 of the Environmental Report for the WCS CISF, Docket 72-1050 CAC/EPID 001028/L-2017-NEW-0002". Accessed August 2021 from https://www.nrc.gov/docs/ML2005/ML20052E144.html

Fitzgerald, L.A., Painter, C.W., Hibbitts, T.J., Ryberg, W.A., and Smolensky, N. 2011. The Range and Distribution of Sceloporus arenicolus in Texas: Results of surveys conducted 8-15 June 2011. Final Report. Accessed August 2021 from http://agrilifecdn.tamu.edu/fitzgerald/files/2012/07/TX-lizard-surveys_2011-report.pdf

Grisham, M.L. 2020. Letter to John Tappert, Director, Division of Rulemaking, Environmental and Financial Support, US Nuclear Regulatory Commission.

Hammerson, G.A. 2007. Sceloporus arenicolus. The IUCN Red List of Threatened Species 2007: e.T64087A12735779. Accessed August 2021 from https://dx.doi.org/10.2305/IUCN.UK.2007.RLTS.T64087A12735779.en.

[PBLRO & FLML] Permian Basin Coalition of Land and Royalty Owners and Operators, and Fasken Land and Minerals Limited. 2020. Submittal of Comments on Draft Environmental Impact Statement (DEIS) for Interim Storage Partner's (ISP's) License Application for a CISF in Andrews County, Texas, Docket ID NRC-2016-0231. Letter to Office of Administration, US Nuclear Regulatory Commission.

Peterson, R and Boyd, C.S. 1998. Ecology and management of sand shinnery communities: a literature review. Gen. Tech. Rep. RMRS-GTR-16. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.

[SGP CHAT] Southern Great Plains Crucial Habitat Assessment Tool. 2021. Online mapper. Accessed August 2021 from https://www.sgpchat.org/

Thatcher, T. 2018. Comment submittal by Tami Thatcher on behalf of Environmental Defense Institute, Troy, Idaho.

[United States Department of Transportation, Federal Highway Administration] USDOT. 2021. Environmental Review Toolkit. Accessed August 2021 from https://www.environment.fhwa.dot.gov/nepa/trans_decisionmaking.aspx#alternative

[United States Fish and Wildlife Service] USFWS. 1990. Northern Aplomado falcon recovery plan. US Fish and Wildlife Service. Albuquerque, New Mexico. 56 pp.

[United States Fish and Wildlife Service] USFWS. 2010. Endangered and threatened wildlife and plants; endangered status for dunes sagebrush lizard. 75 FR 77801-77817. Accessed August 2021 from https://www.federalregister.gov/documents/2010/12/14/2010-31140/

endangered-and-threatened-wildlife-and-plants-endangered-status-for-dunes-sagebrush-lizard

[United States Fish and Wildlife Service] USFWS. 2021. Service seeks comment on proposal to list the lesser prairie-chicken under the Endangered Species Act. Accessed August 2021 from https://www.fws.gov/news/ShowNews.cfm?ref=service-seeks-comment-on-proposal-to-list-the-lesser-prairie-chicken-&_ID=36914

[United State Geological Survey] USGS. Gap Analysis Project [GAP] Tool. Accessed August 2021 from https://maps.usgs.gov/gap-species/

[NRC et al.] US Nuclear Regulatory Commission, US Bureau of Indian Affairs, US Bureau of Land Management, and US Surface Transportation Board. 2001. Final Environmental Impact Statement for the Construction and Operation of an Independent Spent Fuel Storage Installation on the Reservation of the Skull Valley Band of Goshute Indians and the Related Transportation Facility in Tooele County, Utah. Docket No. 72-22.

[NRC] United States Nuclear Regulatory Commission. 2020. Public Comment Meeting. Accessed September 2021 from https://www.nrc.gov/waste/spent-fuel-storage/cis/waste-controlspecialist.html

[NRC] United States Nuclear Regulatory Commission. 2021. Environmental Impact Statement for Interim Storage Partners LLC's License Application for a Consolidated Interim Storage Facility for Spent Nuclear Fuel in Andrews County, Texas. Final Report. Office of Nuclear Material Safety and Safeguards.

Walkup, D. K., D. J. Leavitt, and L. A. Fitzgerald. 2017. Effects of habitat fragmentation on population structure of dune-dwelling lizards. Ecosphere 8(3):e01729.

[WIEB] Western Interstate Energy Board. 2020. Re: Docket No. 72-1050; NRC-2016-0231; Federal Register v. 85, no. 90, Friday, May 8, 2020; Draft Environmental Impact Statement (DEIS) for Interim Storage Partners (ISP) Consolidated Interim Storage Facility (CISF) Project. Letter for the Office of Administration, US Nuclear Regulatory Commission.

The White House. 2021. FACT SHEET: President Biden Takes Executive Actions to Tackle the Climate Crisis at Home and Abroad, Create Jobs, and Restore Scientific Integrity Across Federal Government. Accessed September 2021 from https://www.whitehouse.gov/briefing-room/statements-releases/2021/01/27/fact-sheet-president-biden-takes-executive-actions-to-tackle-the-climate-crisis-at-home-and-abroad-create-jobs-and-restore-scientific-integrity-across-federal-government/

5.0 QUALIFICATIONS

I hold a Bachelor's degree in Environmental, Population, and Organismal Biology from University of Colorado, Boulder (1987), a Master's degree in Ecology and Evolution from Fordham University (1990), and a Doctor of Philosophy degree in Ecology and Evolution from Rutgers University (1995). I have lived in the City of San Diego, County of San Diego, California since 2010.

I am the CEO, President and Founder of Great Ecology and Environments, Inc. (dba Great Ecology), an environmental consulting firm, and have served in that capacity since 2001. The company ranges in size from 15 to 40 employees, and today has three main offices with full time staff based out of each office. Prior to founding Great Ecology, I worked as a senior scientist at TAMS, an engineering firm, and Exponent, Inc., a scientific consulting firm. In my more than 25 years of post-

doctoral experience, I have worked on hundreds of projects in at least 25 states and Great Ecology has completed over 800 projects since its founding. I have worked on the ecological and environmental aspects of numerous projects, in part dealing with issues of contamination, fate and transport, and their impacts on ecological systems, with a focus on ecological site characterization, habitat restoration in urban areas, water quality impacts, and Natural Resource Damage (NRD) Assessments in all types of ecosystems, watersheds, and biological communities.

My work as an environmental expert involved in matters of pending, potential, or actual litigation includes cases across the United States. I have been deposed one time within the past two years. Several cases are in active litigation and are bound by confidentiality agreements. Some of my environmental projects involving litigation and/or expert or consulting witness work include:

- Release of PFAS at a US Air Force Base, New Mexico (current in MDL);
- Ethylene Oxide (EtO) release, New Mexico (current);
- Dollar General consumer fraud claim, New Mexico (current);
- NRDA and Habitat Restoration Hess/Buckeye Site, New Jersey (current);
- NRDA and Habitat Restoration Lail Site, New Jersey (current);
- NRDA and Habitat Restoration Quanta Site, New Jersey (current);

- NRDA and Habitat Restoration Curtiss-Wright Site, New Jersey (current);
- Alta Property, San Diego County, California (current);
- Pike Property, Riverside County, California (settled);
- Rainbow Property, San Diego County, California (settled);
- Vernal Pool Property, San Diego County, California (settled);
- Del Mar Fairgrounds, San Diego County, California (settled);
- Deepwater Horizon NRD Restoration Planning, Gulf Coast States & Federal Waters (settled);
- Port of Portland NRD, Oregon (settled);
- Raritan River Dam Removal NRD Settlement, New Jersey (settled);
- Woodbridge Remediation Case, New Jersey (settled);
- Missouri River Site NRD and Site Reuse Planning, Montana (settled); and
- Phosphate NRD, Idaho (settled).

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

September 13, 2021

Mr. Jeffery D. Isakson
Chief Executive Officer/President
Interim Storage Partners LLC
P.O. Box 1129
Andrews, TX 79714

SUBJECT: ISSUANCE OF MATERIALS LICENSE NO. SNM-2515 FOR THE WCS CONSOLIDATED INTERIM STORAGE FACILITY INDEPENDENT SPENT FUEL STORAGE INSTALLATION (DOCKET NO. 72-1050)

Dear Mr. Isakson:

By letters dated June 8 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18166A011), and July 19, 2018 (ADAMS Accession No. ML18206A595), as amended, Interim Storage Partners LLC (ISP) submitted an application to the U.S. Nuclear Regulatory Commission (NRC) requesting a site specific license in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Part 72 for WCS Consolidated Interim Storage Facility (CISF).[1] This

[1] Waste Control Specialists LLC submitted the original application on April 28, 2016 (ADAMS Accession No. ML16182A162). ISP resubmitted an updated application following its formation as

proposed facility is to be located in Andrews County, Texas.

NRC has determined based on its review of this application that there is reasonable assurance that: (i) the activities authorized by the license can be conducted without endangering the health and safety of the public; and (ii) these activities will be conducted in compliance with the applicable regulations of 10 CFR Part 72. NRC has further determined that the issuance of the license will not be inimical to the common defense and security.

NRC hereby issues Materials License No. SNM-2515 to ISP, pursuant to 10 CFR Part 72. A copy of the license is enclosed. Issuance of this license constitutes authorization for a 40-year term to receive, possess, store, and transfer spent fuel and associated radioactive materials at the WCS CISF. All future communications regarding this license should refer to Materials License No. SNM-2515, Docket No. 72-1050. The WCS CISF license contains license conditions and Technical Specifications that must be met in order to comply with NRC regulations.

The technical basis for issuing the license is set forth in the enclosed safety evaluation report for the WCS CISF. In connection with the decision to issue this license, the NRC prepared and published an environmental impact statement and record of decision. A notice of issuance for the environmental impact statement appears in the *Federal Register* dated August 6, 2021 (86 FR 43277). The NRC also prepared and issued a record of decision for issuing this license in accordance

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a joint venture between Waste Control Specialists and Orano CIS LLC, a subsidiary of Orano USA.

with 10 CFR, Section 51.102(a). In conjunction with sending this letter, the NRC has transmitted a notice of the record of decision and the issuance of this license to the Office of the Federal Register.

If you have questions regarding this license, please contact me at (301) 287-9104, or Mr. John-Chau Nguyen of my staff at (301) 415-0262 or John-Chau.Nguyen@nrc.gov.

Sincerely,

/s/ SHANA R. HELTON
SHANA R. HELTON, Director
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

Docket No. 72-1050
Materials License No. SNM-2515
EPID No. L-2017-NEW-0002

Enclosures:

1. Preamble to Materials License No. SNM-2515
2. Materials License No. SNM-2515
3. Technical Specifications
4. Safety Evaluation Report

cc: w/o Enclosures
WCS CISF Service List

WCS CISF Service List

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SUBJECT: ISSUANCE OF MATERIALS LICENSE NO. SNM-2515 FOR THE WCS CONSOLIDATED INTERIM STORAGE FACILITY INDEPENDENT SPENT FUEL STORAGE INSTALLATION (DOCKET NO. 72-1050)

DOCUMENT DATE: September 13, 2021

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DATE	8/4/21	8/12/21		

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INTERIM STORAGE PARTNERS, LIMITED LIABILITY COMPANY
DOCKET NO. 72-1050
WCS CONSOLIDATED INTERIM STORAGE FACILITY
INDEPENDENT SPENT FUEL STORAGE INSTALLATION
MATERIALS LICENSE NO. SNM-2515

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application filed by Interim Storage Partners, Limited Liability Company (the applicant), for a materials license to receive, store, transfer, and possess power reactor spent fuel, associated radioactive material, and greater-than-Class-C radioactive waste at the WCS Consolidated Interim Storage Facility (CISF) Independent Spent Fuel Storage Installation (ISFSI) in Andrews County, TX, meets the standards and requirements of the Atomic Energy Act of 1954, as amended (Act), and the Commission's regulations set forth in 10 CFR Chapter I, "Nuclear Regulatory Commission";

   B. The WCS CISF ISFSI will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;

   C. The applicant's proposed ISFSI design complies with the criteria in 10 CFR Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater

Than Class C Waste," Subpart F, "General Design Criteria";

D. The proposed site complies with the criteria in 10 CFR Part 72, Subpart E, "Siting Evaluation Factors";

E. The proposed ISFSI would not pose an undue risk to the safe operation of the WCS radioactive material disposal facilities;

F. The applicant is qualified by reason of training and experience to conduct the operations covered by the regulations in 10 CFR Part 72;

G. The applicant's operating procedures to protect health and to minimize danger to life and property are adequate;

H. The applicant is financially qualified to engage in the activities in accordance with the regulations in 10 CFR Part 72, subject to the conditions specified in the license;

I. The applicant's quality assurance plan complies with 10 CFR Part 72, Subpart G, "Quality Assurance";

J. The applicant's physical protection provisions comply with 10 CFR Part 72, Subpart H, "Physical Protection";

K. The applicant's personnel training program complies with 10 CFR Part 72, Subpart I, "Training and Certification of Personnel";

L. The applicant's decommissioning plan and its financing pursuant to 10 CFR 72.30 provide reasonable assurance, subject to the conditions specified in the license, that the decontamina-

tion and decommissioning of the WCS CISF ISFSI at the end of its useful life will provide adequate protection to the health and safety of the public;

M. The applicant's emergency plan complies with 10 CFR 72.32;

N. The applicant has satisfied the applicable provisions of 10 CFR Part 170, "Fees for Facilities, Materials, Import and Export Licenses, and Other Regulatory Services Under the Atomic Energy Act of 1954, as Amended";

O. There is reasonable assurance that (i) the activities authorized by this license can be conducted without endangering public health and safety, and (ii) such activities will be conducted in compliance with the Commission's regulations;

P. The issuance of this license will not be inimical to the common defense and security; and

Q. The issuance of this license is in accordance with 10 CFR Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," of the Commission's regulations and all applicable requirements have been satisfied.

2. This license is effective as of the date of its issuance and shall expire at midnight on September 13, 2061.

FOR THE U.S. NUCLEAR
REGULATORY COMMISSION

/s/ SHANA R. HELTON
SHANA R. HELTON, Director
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

Enclosure: License SNM-2515

Date of Issuance: September 13, 2021

U.S. NUCLEAR REGULATORY COMMISSION RECORD OF DECISION INTERIM STORAGE PARTNERS LLC LICENSE APPLICATION FOR A CONSOLIDATED INTERIM STORAGE FACILITY, ANDREWS COUNTY, TEXAS

Introduction

The U.S. Nuclear Regulatory Commission (NRC) staff prepared this record of decision (ROD) for the proposed Interim Storage Partners LLC (ISP) consolidated interim storage facility (CISF) in Andrews County, Texas. This ROD satisfies Section 51.102(a) of Title 10 of the *Code of Federal Regulations* (10 CFR), which states that "[a] Commission decision on any action for which a final environmental impact statement has been prepared shall be accompanied by or include a concise public record of decision."

In July 2021, the NRC staff issued a final Environmental Impact Statement (FEIS) (NRC, 2021b) for ISP's license application to construct and operate a proposed Waste Control Specialists (WCS) CISF (ISP, 2018a, 2018b, 2020a, 2020b, and 2021). In the FEIS, the NRC staff, in accordance with 10 CFR 51.91(d), sets forth its recommendation, pursuant to the National Environmental Policy Act of 1969, as amended (NEPA), regarding the proposed action. The NRC staff recommended that, subject to the determinations in the staff's safety review of the application, the proposed license be issued to ISP to construct and operate a CISF at the proposed location to temporarily store up to 5,000 metric tons of uranium (MTUs) [5,500 short tons] of spent nuclear fuel (SNF) for a licensing period of 40 years (NRC, 2021b).

The NRC staff has prepared this ROD in accordance with NRC regulations at 10 CFR Sections 51.102(b) and 51.103(a)(1)-(4). In addition, in accordance with 10 CFR Section 51.103(c), this ROD incorporates by reference the materials contained in the FEIS (NRC, 2021b).

The Decision

This ROD documents the NRC staff's decision to issue a license to ISP for the proposed WCS CISF in Andrews County, Texas (NRC, 2021a). The license authorizes ISP to construct and operate its facility as proposed in its license application and under the conditions in its NRC license.

After weighing the impacts of the proposed action and comparing them to the No-Action alternative, the NRC staff, in accordance with 10 CFR 51.91(d), set forth its NEPA recommendation regarding the proposed action. The NRC staff recommended that, subject to the determinations in the staff's safety review of the application, the proposed license be issued to ISP to construct and operate a CISF at the proposed location to temporarily store up to 5,000 MTUs [5,500 short tons] of SNF for a licensing period of 40 years. The staff based its conclusion on (i) review of the ISP license application, which includes the Environmental Report (ER) and supplemental documents (ISP, 2018a, 2018b, 2020a, 2020b, and 2021), and ISP's responses to the NRC staff's requests for additional information (RAIs) (ISP, 2019a and 2019b); (ii) consultation with Federal, State, tribal, and local agencies and input from other stakeholders, including public comment on the draft EIS; (iii) independent NRC staff review; and (iv) the assessments provided in the FEIS.

In its safety and security review, the NRC staff determined that the application met the applicable NRC regulations in 10 CFR Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater than Class C Waste." In issuing a materials license to ISP for the WCS CISF, the NRC determined that there is reasonable assurance that: (i) the activities authorized by the license can be conducted without endangering the health and safety of the public; and (ii) these activities will be conducted in compliance with the applicable regulations of 10 CFR Part 72. The NRC further determined that issuance of the license will not be inimical to the common defense and security.

Background

In accordance with the NRC's NEPA-implementing regulations in 10 CFR Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," the NRC staff prepares a site-specific EIS for the issuance of a license pursuant to 10 CFR Part 72 for the storage of spent fuel in an independent spent fuel storage installation (ISFSI) at a site not occupied by a nuclear power reactor (10 CFR 51.20(b)(9)). In this instance, the NRC's major Federal action is to decide whether to issue a license authorizing ISP to construct and operate the WCS CISF for a 40-year license term.

The WCS CISF would store up to 5,000 MTUs [5,500 short tons] of SNF and Greater-Than-Class-C (GTCC) waste, along with a small quantity of mixed oxide (MOX) fuel (collectively referred to as SNF in the FEIS and in this ROD), which would originate from commercial nuclear reactor facilities in the United States, for a

40-year period at the site in Andrews County, Texas. During operation, the WCS CISF would receive SNF from decommissioned and decommissioning reactor sites, as well as from operating reactors prior to decommissioning (NRC, 2021b).

The WCS CISF would be built and operated on an approximately 130-hectare (ha) [320-acre (ac)] project area within a 5,666-ha [14,000-ac] parcel of land that is controlled by ISP joint venture member WCS in Andrews County, Texas. In addition, construction of the rail sidetrack, site access road, and construction laydown area would contribute an additional area of disturbed soil such that the total disturbed area for construction of the WCS CISF would be approximately 133 ha [330 ac]. The project area would be located north of WCS's existing waste management facilities and controlled by ISP through a long-term lease from WCS (NRC, 2021b).

ISP would store SNF in six existing dual-purpose canister-based dry cask storage systems (DCSS) designed by TN Americas or NAC International. The 6 DCSS (3 from TN Americas and 3 from NAC International) consist of 11 different SNF canisters and 5 different GTCC waste canisters stored in 5 overpacks. SNF is stored horizontally in the TN Americas systems and vertically in the NAC International systems. The TN Americas and NAC International DCSS listed in the FEIS have been previously approved by the NRC for independent storage of SNF, GTCC, and a small amount of MOX fuel, pursuant to requirements in 10 CFR Part 72. In addition, the NRC approved both the TN Americas and NAC International systems for storage of SNF transported in canisters pursuant to the requirements in 10

CFR Part 71, "Packaging and Transportation of Radioactive Material."

Public Comments

On November 14, 2016 (81 FR 79531), the NRC staff published in the *Federal Register* a notice of intent to prepare an EIS and to conduct an environmental scoping process. The NRC staff invited potentially affected Federal, State, tribal, and local governments; organizations; and members of the public to provide comments in the environmental scoping process and review. The initial scoping period closed on April 28, 2017. During this time, the NRC staff hosted four public scoping meetings, one in Hobbs, New Mexico, on February 13, 2017; a second in Andrews, Texas, on February 15, 2017; and two in Rockville, Maryland, on February 23, 2017 and April 6, 2017. Following a suspension of NRC's review at the applicant's request, ISP submitted a revised license application in June and July 2018 (ISP, 2018a). On September 4, 2018 (83 FR 44922), the NRC staff reopened the scoping period for the ISP license application. The reopened scoping period closed on November 19, 2018. The NRC staff issued a scoping summary report in October 2019 (NRC, 2019).

On May 4, 2020, the NRC staff issued the draft "Environmental Impact Statement for Interim Storage Partners LLC's License Application for a Consolidated Interim Storage Facility for Spent Nuclear Fuel in Andrews County, Texas" (NRC, 2020).

A 120-day comment period began on May 8, 2020, when the U.S. Environmental Protection Agency (EPA) published a Notice of Availability in the *Federal Register* (85 FR 27412) of the draft EIS to allow members of the public and agencies time to comment on the results of

the draft EIS. On July 22, 2020. the NRC staff extended the comment period an additional 60 days to close on November 3, 2020 (85 FR 44330). Additionally, the NRC staff held public meetings on October 1, 6, 8, and 15, 2020, to discuss the preliminary findings in the draft EIS, with transcripts of these meetings available at the NRC public project webpage: https://www.nrc.gov/waste/spent-fuel-storage/cis/waste-control-specialist.html.

Responses to all public comments received during the draft EIS comment period are included in Appendix D to the FEIS.

Alternatives Considered

In its environmental review, the NRC staff evaluated the environmental consequences of the proposed action (i.e., authorizing the construction and operation of the WCS CISF), and the environmental consequences of the No-Action alternative (i.e., not licensing the WCS CISF). FEIS Chapter 2, "Proposed Action and Alternatives," and Chapter 4, "Environmental Impacts," present the NRC staff's evaluation and analysis of the environmental impacts of the proposed action and the No-Action alternative that were considered, as well as those alternatives that were eliminated from detailed study (NRC, 2021b). The NRC staff discusses the reasons for eliminating these alternatives in Section 2.3 of the FEIS. These alternatives included (1) storage of SNF at a government-owned CISF operated by the U.S. Department of Energy (Section 2.3.1); (2) alternative design or storage technologies (Section 2.3.2); and (3) alternative CISF locations (Section 2.3.3).

After weighing the impacts of the Proposed Action, comparing them to the No-Action alternative, and con-

ducting a safety and security review of the Proposed Action, the NRC staff determined that the NRC should issue a license for the proposed WCS CISF project. The NRC staff based its decision on: (i) review of ISP's license application (ISP, 2018a, 2018b, 2020a, 2020b, and 2021), which includes the ER and supplemental documents, and ISP's responses to the NRC staff RAIs (ISP, 2019a and 2019b); (ii) consultation with Federal, State, tribal, and local agencies and input from other stakeholders, including public comment on the draft EIS (see Appendix D in the FEIS); (iii) independent NRC staff review; (iv) the assessments in the FEIS (NRC, 2021b); and (v) the NRC staff's assessments in the Final Safety Evaluation Report (NRC, 2021c) for the WCS CISF.

Mitigation Measures

The NRC has taken all practicable measures within its jurisdiction to avoid or minimize environmental harm from the proposed action (license issuance). The applicant has committed to a number of mitigation measures as described in Table 6.3-1 of the FEIS (NRC, 2021b). As documented in the FEIS, the NRC determined that impacts to most resource areas would be SMALL (i.e., not detectable or minor), with SMALL to MODERATE beneficial impacts for local finance and MODERATE impacts (i.e., sufficient to alter noticeably, but not to destabilize, important attributes of the resource) for vegetation, population growth, and employment (NRC, 2021b). The NRC is not imposing any license conditions in connection with mitigation measures for the licensing of the WCS CISF. ISP is subject to requirements including permits, authorizations, and regulatory orders imposed by other Federal, State, and local agencies governing facility construction and operation. ISP's

monitoring programs for the proposed project are described in Chapter 7 of the FEIS (NRC, 2021b).

References

10 CFR Part 51. Code of Federal Regulations, Title 10, Energy, Part 51, "Environmental Protection Regulation for Domestic Licensing and Related Regulatory Functions." Washington, DC: U.S. Government Publishing Office.

10 CFR Part 71. Code of Federal Regulations, Title 10, *Energy*, Part 71, "Packaging and Transportation of Radioactive Material." Washington, DC: U.S. Government Publishing Office.

10 CFR Part 72. Code of Federal Regulations, Title 10, *Energy*, Part 72. "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste." Washington, DC: U.S. Government Publishing Office.

85 FR 44330. *Federal Register*. Vol. 85, No. 141, pp. 44,330-44,332. "Interim Storage Partners Consolidated Interim Storage Facility Project." July 22, 2020.

85 FR 27412. *Federal Register*. Vol. 85, No. 90, pp. 27,412-27,413. "Environmental Impact Statements: Notice of Availability." May 8, 2020.

83 FR 44922. *Federal Register*. Vol. 83, No. 171, pp. 44,922-44,923, "Interim Storage Partners LLC's Consolidated Interim Spent Fuel Storage Facility." September 4, 2018.

82 FR 8771. *Federal Register*. Vol. 82, No. 18, pp. 8,771–8,773, "Waste Control Specialists LLC's Consoli-

dated Interim Spent Fuel Storage Facility Project." January 30, 2017.

81 FR 79531. *Federal Register*. Vol. 81, No. 219, pp. 79,531-79,534, "Waste Control Specialists LLC's Consolidated Interim Spent Fuel Storage Facility Project." November 14, 2016.

ISP. "Interim Storage Partners, LLC, Submittal of Revision 5 of the Safety Analysis Report and Revision 4 of the License Application for the WCS CISF." ADAMS Accession No. ML21105A766. Andrews, Texas: Interim Storage Partners LLC. 2021.

ISP. "WCS Consolidated Interim Spent Fuel Storage Facility Environmental Report, Docket No. 72-1050, Revision 3." ADAMS Accession No. ML20052E144. Andrews, Texas: Interim Storage Partners LLC. 2020a.

ISP. "Supplemental Information in Support of NRC's Environmental Review, Docket 72-1050 CAC/EPID 001028/L-2017-NEW-0002." ADAMS Accession No. ML20071F153. Andrews, Texas: Interim Storage Partners LLC. 2020b.

ISP. "Interim Storage Partners, LLC., Submission of Draft Responses for Several RAIs and Associated Document Markups from First Request for Additional Information, Part 2." ADAMS Accession No. ML19252A132 Package. 2019a.

ISP. "Submission of RAIs and Associated Document Markups from First Request for Additional Information, Part 3, Docket 72-1050 CAC/EPID 001028/L-2017-NEW-0002, Part 3." ADAMS Accession No. ML19337B502. Andrews, Texas: Interim Storage Partners LLC. 2019b.

ISP. "Subject: Submittal of License Application Revision 2 and Request to Restart Review of Application for Approval of the WCS CISF, Docket 72-1050." ADAMS Accession No. ML18206A482. Letter from J.D. Isakson, Interim Storage Partners LLC to Director, Division of Spent Fuel Management, U.S. Nuclear Regulatory Commission. Andrews, Texas: Interim Storage Partners LLC. 2018a.

ISP. "Interim Storage Partners LLC License Application, Docket No. 72-1050, Revision 2." ADAMS Accession No. ML18206A483. Andrews, Texas: Interim Storage Partners LLC. 2018b.

NRC. "Materials License SNM-2515, Interim Storage Partners, WCS Consolidated Interim Storage Facility ISFSI." ADAMS Accession No. ML21188A099. September 13, 2021; Washington, DC: U.S. Nuclear Regulatory Commission. 2021a.

NRC. NUREG-2239, "Environmental Impact Statement for Interim Storage Partners LLC's License Application for a Consolidated Interim Storage Facility for Spent Nuclear Fuel in Andrews County, Texas—Final Report." ML21209A955. July 2021; Washington, DC: U.S. Nuclear Regulatory Commission. 2021b.

NRC. "Final Safety Evaluation Report for the WCS Consolidated Interim Storage Facility Independent Spent Fuel Storage Installation Specific Materials License No. SNM-2515." ML21188A101. September 2021; Washington, DC: U.S. Nuclear Regulatory Commission. 2021c.

NRC. NUREG-2239, "Environmental Impact Statement for Interim Storage Partners LLC's License Application for a Consolidated Interim Storage Facility for

Spent Nuclear Fuel in Andrews County, Texas—Draft Report for Comment." ML20122A220. May 2020. Washington, DC: U.S. Nuclear Regulatory Commission. 2020. ML19161A150. Washington, DC: U.S. Nuclear Regulatory Commission. 2019.

Dated at Rockville, MD, this 13th day of September 2021,

APPROVED BY:

/s/ JOHN R. TAPPERT
JOHN R. TAPPERT, Director
Division of Rulemaking, Environmental, and Financial Support
Office of Nuclear Material Safety and Safeguards

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

CHAIRMAN

October 21, 2021

The Honorable Greg Abbott
Governor of Texas
Post Office Box 12428
Austin, TX 78711

VIA EMAIL: Wes.Hambrick@gov.texas.gov

Dear Governor Abbott:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your September 10, 2021, letter related to Interim Storage Partners' (ISP) license application to construct and operate a consolidated interim storage facility for spent nuclear fuel and Texas House Bill 7.

ISP submitted its application to the NRC in April 2016. The NRC conducted detailed technical and environmental reviews of the proposed facility. In July 2021, the staff published the Final Environmental Impact Statement for the proposed facility. On September 13, 2021, the NRC released its Safety Evaluation Report and issued a license under Title 10 of the *Code of Federal Regulations,* Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste." The license authorizes ISP to construct and operate the Waste Control Specialist Consolidated Interim Storage Facility in Andrews County, Texas. The license was issued pursu-

ant to the NRC's authority under the Atomic Energy Act of 1954, as amended, (AEA) based on the determination that ISP's license application meets the standards and requirements of the AEA and the NRC's regulations.

Throughout the review process, the NRC has worked hard to keep you and your staff updated on any developments. Prior to issuing the license, the NRC's Executive Director for Operations spoke directly with your staff on September 13, 2021, to inform them of the imminent issuance of the license and to answer their questions. A formal letter from the NRC staff notifying you of the license issuance was also transmitted to your office on September 13, 2021.

We appreciate your interest in and concerns about this project. We also value the strong partnership between the NRC and the State of Texas under the Agreement State program. If you have any questions or need any additional information, have your staff contact Andrew Averbach at (301) 415-1956.

Sincerely,

/s/ CHRISTOPHER T. HANSON
CHRISTOPHER T. HANSON

Docket No.: 72-1050

KANNER & WHITELEY, L.L.C.
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September 1, 2022

Via CM/ECF

Lyle W. Cayce
Clerk of Court
United States Court of Appeals
Fifth Circuit
600 S. Maestri Place
New Orleans, Louisiana 70130

Re: *State of Texas, et al. v. Nuclear Regulatory Commission, et al.*, No. 21-60743

Dear Mr. Cayce:

At oral argument, counsel for Fasken mentioned that the NRC's website identifies independent spent fuel storage installations, or "ISFSIs." Oral Arg. Tr. at 50:45-51:23. The Court invited counsel to furnish that information in a 28(j) letter. *Id.* 51:30-35.

The NRC's website contains a map showing twelve[1] "away from reactor" ISFSIs in the United States. https://www.nrc.gov/images/reading-rm/doc-collections/maps/isfsi.png (Attached as Ex. 1). That "away from reactor" moniker is misleading, however, and all those

[1] The ten facilities referenced by counsel were based on an April 2021 map (https://www.nrc.gov/docs/ML2111/ML21116A041.pdf).

facilities are materially different from what NRC licensed in this case.

Of the twelve facilities, three are operated by DOE; one, Private Fuel Storage ("PFS"), is the facility at issue in *Bullcreek* and was never constructed[2]; and GE Morris is the *sui generis* former reprocessing facility discussed in briefing.[3]

The remaining seven privately operated facilities are associated with and located at decommissioned, or decommissioning, reactors. The NRC's description of these facilities as "away-from-reactor" is an artificial regulatory construction based on the fact that the storage is the only remaining actively licensed operation at the site. *See* Proposed Rule, *Regulatory Improvements for Production and Utilization Facilities Transitioning to Decommissioning*, 87 Fed. Reg. 12,254, 12,265 n.4 (Mar. 3, 2022); *see also* Final Rule; *Licensing Requirements of the Storage of Spent Fuel in an Independent Fuel Spent Storage Installation*, 45 Fed. Reg. 74,693, 74,698 (Nov. 12, 1980) (similar under "Definition of the term 'Independent'"). Notwithstanding the NRC's artificial regulatory label, these operations are still occurring "at the site of [a] civilian nuclear power reactor" in the statutory sense, 42 U.S.C. § 10151(a)(1), even though the reactor has been decommissioned. The ISP facility at issue in this case, by contrast, would be a new construction far from the "site" of any "civilian nuclear power reactor."

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[2] PFS is the only other facility not associated with a decommissioned reactor and that contemplates consolidated storage of spent fuel from various reactors across the country. Unlike ISP, the PFS license did not permit the storage of DOE-titled spent fuel.

[3] Texas Reply Br. at 12-13.

Respectfully submitted,

KANNER & WHITELEY, L.L.C.

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Counsel for Fasken Petitioners

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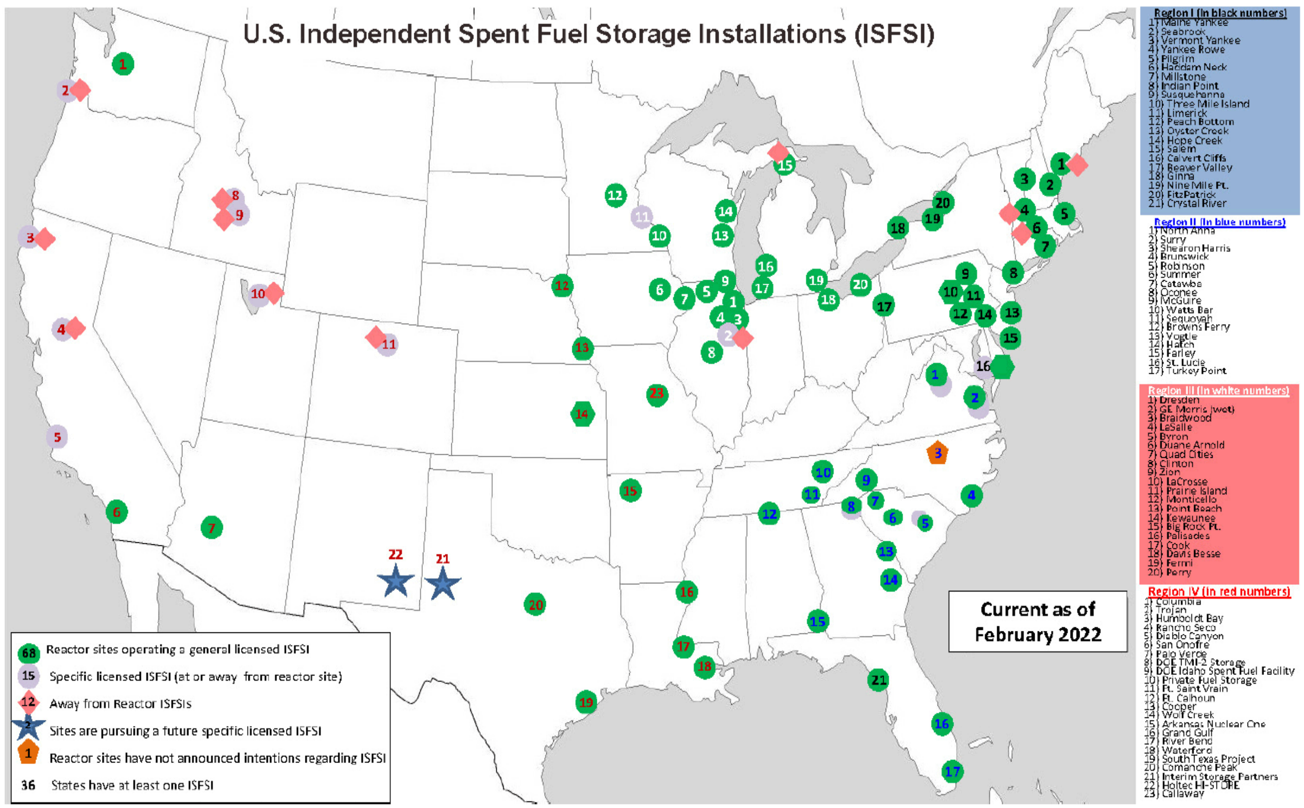
Counsel for Petitioners the State of Texas, Governor Greg Abbott, and the Texas Commission on Environmental Quality

cc: all counsel via ECF.

Exhibit 1


U.S. Independent Spent Fuel Storage Installations (ISFSI)
Reactor sites operating a general licensed ISFSI
Specific licensed ISFSI (at or away from reactor site)
Away from Reactor ISFSIs
Sites are pursuing a future specific licensed ISFSI
Reactor sites have not announced intentions regarding ISFSI
36 States have at least one ISFSI
Current as of February 2022
Region I (In black numbers)
1) Maine Yankee
2) Seabrook
3) Vermont Yankee
4) Yankee Rowe
5) Pilgrim
6) Haddam Neck
7) Millstone
8) Indian Point
9) Susquehanna
10) Three Mile Island
11) Limerick
12) Peach Bottom
13) Oyster Creek
14) Hope Creek
15) Salem
16) Calvert Cliffs
17) Beaver Valley
18) Ginna
19) Nine Mile Pt.
20) FitzPatrick
21) Crystal River
Region II (In blue numbers)
1) North Anna
2) Surry
3) Shearon Harris
4) Brunswick
5) Robinson
6) Summer
7) Catawba
8) Oconee
9) McGuire
10) Watts Bar
11) Sequoyah
12) Browns Ferry
13) Vogtle
14) Hatch
15) Farley
16) St. Lucie
17) Turkey Point
Region III (In white numbers)
1) Dresden
2) GE Morris (wet)
3) Braidwood
4) LaSalle
5) Byron
6) Duane Arnold
7) Quad Cities
8) Clinton
9) Zion
10) LaCrosse
11) Prairie Island
12) Monticello
13) Point Beach
14) Kewaunee
15) Big Rock Pt.
16) Palisades
17) Cook
18) Davis Besse
19) Fermi
20) Perry
Region IV (In red numbers)
1) Columbia
2) Trojan
3) Humboldt Bay
4) Rancho Seco
5) Diablo Canyon
6) San Onofre
7) Palo Verde
8) DOE TMI-2 Storage
9) DOE Idaho Spent Fuel Facility
10) Private Fuel Storage
11) Ft. Saint Vrain
12) Ft. Calhoun
13) Cooper
14) Wolf Creek
15) Arkansas Nuclear One
16) Grand Gulf
17) River Bend
18) Waterford
19) South Texas Project
20) Comanche Peak
21) Interim Storage Partners
22) Holtec HI-STORE
23) Callaway

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September 7, 2022

VIA CM/ECF

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Clerk of Court
United States Court of Appeals for the
Fifth Circuit
600 S. Maestri Place
New Orleans, Louisiana 70130

Re: *State of Texas et al. v. Nuclear Regulatory Commission, et al.*, No. 21-60743

Dear Mr. Cayce:

On behalf of Intervenor/Respondent Interim Storage Partners, LLC, this is a response to the letter dated September 1, 2022, by counsel for petitioners. That letter forwarded to the Court an informational map from the NRC's website showing the locations of NRC-licensed spent fuel storage facilities, including at twelve "away from reactor" sites.

As we have explained, it is petitioners—not the NRC or ISP—that are impermissibly reading unstated terms and conditions into the provisions of the Atomic Energy Act (AEA). That Act has always unambiguously authorized "possession" of the constituent elements of spent nuclear fuel (which are the most specifically-defined

materials the NRC is authorized to regulate under the AEA). *See, e.g.*, 42 U.S.C. §§ 2201(b); 2073; 2092; 2111; *see also* 45 Fed. Reg. 74,693 (Nov. 12, 1980). As we explained at oral argument (recording at 39:14-39:40), Texas concedes that the AEA authorizes "possession" of spent nuclear fuel for storage purposes (Tex. Initial Br. at 17 n.6), but argues that that authority must be limited, under the AEA, to "at reactor sites." *But, the AEA says no such thing*. Accordingly, as we described (ISP Br. at 26), well-settled principles of statutory interpretation require rejection of petitioners' arguments.

The information submitted by petitioners confirms what we explained at oral argument (recording at 42:37-44; 44:26-45:07), namely, that the NRC's transparent, long-established, publicly-exercised authority over such "away from reactor" storage of spent nuclear fuel under duly-promulgated regulations from 1980—exactly the same authority exercised by the NRC in connection with ISP's license here—governs at least a dozen sites all across the country. Petitioners' quibbles with the nature of a handful of those sites do not call that fact into doubt. And, petitioners' shifting arguments are also not well-founded—they originally urged that an unstated-but-implied limitation of the statute to "at reactor" storage should be imposed, but, now, necessarily, contend that the exception should be expanded to also allow possession "at a former reactor." But, the AEA does not say that, either. There is simply no textual support for the argued restriction upon which petitioners' lack-of-authority arguments depend.

Respectfully submitted,

/s/ BRAD FAGG
BRAD FAGG
Counsel of Record for Intervenor
Interim Storage Partners, LLC

cc: counsel of Record (via CM/ECF)

OFFICE OF THE GENERAL COUNSEL

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

September 7, 2022

BY ELECTRONIC FILING

Lyle W. Cayce
Clerk of Court
United States Court of Appeals for the Fifth Circuit
600 S. Maestri Place
New Orleans, Louisiana 70130

Re: *State of Texas v. NRC*, No. 21-60743

Dear Mr. Cayce:

Federal Respondents respond to Fasken's letter of September 1, 2022, asserting that NRC's list of away-from-reactor storage facilities on its website is "misleading." Fasken is incorrect, and its arguments confirm that petitioners lack a statutory basis to differentiate between at-reactor and away-from-reactor storage.

While it is true that some of the listed facilities are operated by DOE (and thus licensed pursuant to different statutory authority, see 42 U.S.C. § 5842(3)[1]), none is currently licensed to operate a nuclear reactor. Moreover, several of the facilities listed (including PFS and GE

[1] Section 5842 does not separately authorize materials licenses for DOE. It was for this reason (and not a lack of AEA authority to license private storage facilities, as Texas belatedly suggests in its reply) that NRC's Chairman suggested in 1979 that Congress expand NRC's licensing authority.

Morris) never were associated with reactors, and the operating licenses for several former reactor licensees—Humboldt Bay, Rancho Seco, and Trojan—have been terminated altogether. Consistent with the materials license issued to ISP, NRC has issued materials licenses for these facilities pursuant to 42 U.S.C. §§ 2073, 2092, 2093, and 2111, and in accordance with 10 C.F.R. Part 72.

As discussed in our briefs and at oral argument, the NRC has issued these materials licenses based on its determination, reflected in Part 72, that permitting onsite or offsite fuel storage is "appropriate to carry out the purposes" of the AEA. 42 U.S.C § 2073(a)(4); *see also id.* § 2093(a)(4) (authorizing source materials licenses for use approved by Commission as aid to industry); Federal Respondents' Br. 59-65; Supplemental Br. 8. Petitioners attempt to artificially confine the agency's authority to issuing licenses only for onsite fuel storage, but no statutory language imposes geographic limitations on NRC's plenary and exclusive authority over the possession of this nuclear material.

Petitioners' arguments would undermine the basis upon which the agency has been issuing away-from-reactor fuel storage licenses since 1980. And neither Fasken nor Texas presented to the agency any assertion that the agency has acted beyond its authority, thus confirming that the Court has no jurisdiction over such claims.

Respectfully,

/s/ ANDREW P. AVERBACH
ANDREW P. AVERBACH
Solicitor
Counsel of Record for U.S. Nuclear Regulatory Commission