
**In the United States Court of Appeals
for the District of Columbia Circuit**

NO. 20-1187, consolidated with 20-1225, 21-1104, 21-1147

SIERRA CLUB, DON'T WASTE MICHIGAN, CITIZENS' ENVIRONMENTAL
COALITION, CITIZENS FOR ALTERNATIVES TO CHEMICAL
CONTAMINATION, NUCLEAR ENERGY INFORMATION SERVICE, SAN
LUIS OBISPO MOTHERS FOR PEACE, and NUCLEAR ISSUES STUDY
GROUP,

Petitioners,

vs.

U.S. NUCLEAR REGULATORY COMMISSION and
UNITED STATES OF AMERICA,

Respondent.

On Petition for Review of a Decision of the United States Nuclear Regulatory
Commission

OPENING BRIEF

WALLACE L. TAYLOR
4403 1st Ave. S.E., Suite 402
Cedar Rapids, Iowa 52402
319-366-2428;(Fax)319-366-3886
wtaylorlaw@aol.com

TERRY J. LODGE, ESQ.
316 N. Michigan St., Suite 520
Toledo, Ohio 43604-5627
419-205-7084
tjlodge50@yahoo.com

ATTORNEYS FOR PETITIONERS

CERTIFICATE AS TO PARTIES, RULINGS AND RELATED CASES

Pursuant to Circuit Rule 28(a)(1), Petitioners respectfully certify as follows:

(A) Parties and Amici: Since this action involves the direct review of a final agency decision, there were no proceedings before the district court. The parties, intervenors, and known amici before this Court are as follows:

- Parties: (1) Sierra Club, Don't Waste Michigan, Citizens' Environmental Coalition, Citizens for Alternatives to Chemical Contamination, Nuclear Energy Information Service, San Luis Obispo Mothers for Peace, and Nuclear Issues Study Group.

(2) United States Nuclear Regulatory Commission and United States of America – Respondents

- Intervenors: Holtec International
- Amici: None
- Corporate Disclosure Statement

SIERRA CLUB

Sierra Club is a non-profit corporation incorporated in the State of California. Sierra Club has no parent corporation and no publicly held

corporation owns any stock in Sierra Club.

***CITIZENS FOR ALTERNATIVES TO CHEMICAL
CONTAMINATION***

Petitioner Citizens for Alternatives to Chemical Contamination (CACC) is a grassroots nonprofit environmental education and advocacy organization with headquarters in central Michigan and has 150 members. CACC has no parent company and no publicly-held company has a 10% or greater ownership interest (such as stock or partnership shares) in it.

CITIZENS' ENVIRONMENTAL COALITION

Petitioner Citizens' Environmental Coalition is located in Albany, New York, has about 5000 members and educates people in western New York State about threats to members' health, public health and the environment. CEC seeks shutdown of New York's aging nuclear power reactors and supports sustainable energy alternatives. CEC has no parent company and no publicly-held company has a 10% or greater ownership interest (such as stock or partnership shares) in it.

DON'T WASTE MICHIGAN

Petitioner Don't Waste Michigan is a 30-year-old grassroots Monroe, Michigan nonprofit corporation that has opposed commercial

nuclear power plants to policy and plans for disposal of radioactive waste and engages in public education and legal and administrative advocacy in licensing proceedings. Don't Waste Michigan has no parent company and no publicly-held company has a 10% or greater ownership interest (such as stock or partnership shares) in it.

NUCLEAR ENERGY INFORMATION SERVICE

Petitioner Nuclear Energy Information Service (NEIS) is a non-profit organization committed to ending nuclear power in this country and worldwide. Located in Chicago, Illinois with over 200 members, NEIS builds grassroots, nonviolent opposition to nuclear power; and advocates sustainable energy alternatives. NEIS has no parent company and no publicly-held company has a 10% or greater ownership interest (such as stock or partnership shares) in it.

SAN LUIS OBISPO MOTHERS FOR PEACE

Petitioner San Luis Obispo Mothers for Peace (SLOMFP) is a non-profit organization based in California with 1,400 supporters and 50 formal voting members that historically has opposed the dangers posed by Diablo Canyon Nuclear Plant, nuclear weapons, and radioactive waste. SLOMFP promotes peace, environmental and social justice, and renewable energy, and measures to protect its members' and public

health from radiological injury. SLOMPF has no parent company and no publicly-held company has a 10% or greater ownership interest (such as stock or partnership shares) in it.

NUCLEAR ISSUES STUDY GROUP

Petitioner Nuclear Issues Study Group, now known as Demand Nuclear Abolition (DNA), is an unincorporated association with a core membership of 10, aimed at preventing adverse environmental and health issues created by uranium mining, existing and proposed nuclear waste facilities, and nuclear weapons production. Based in Albuquerque, New Mexico, DNA has no parent company and no publicly-held company has a 10% or greater ownership interest (such as stock or partnership shares) in it.

(B) Rulings Under Review: The Commission's Memorandum and Order CLI-20-04, issued April 23, 2020 and entered in NRC Docket No. 72-1051. The Federal Register published notice of the commencement of Docket No. 72-1051 on July 16, 2018 at 83 Fed. Reg. 32,919.

(C) Related Cases: Beyond Nuclear v. NRC, No. 20-1187, and Fasken Land and Minerals v. NRC, No. 21-1147.

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GLOSSARY

NRC	Nuclear Regulatory Commission
SNF	spent nuclear fuel
CISF	Consolidated Interim Storage Facility
FEIS	Final Environmental Impact Statement
NEPA	National Environmental Policy Act
AEA	Atomic Energy Act
NWPA	Nuclear Waste Policy Act
LLRW	Low-level radioactive waste

JURISDICTION

These Petitioners adopt the jurisdictional statement in the Brief of Beyond Nuclear in this case.

STANDING

The basis for Petitioners' standing is set forth in their accompanying Addendum.

STATEMENT OF THE ISSUES

- I. The NWPB Prohibits the Licensing of the Proposed CIS Facility.
- II. Holtec's Material False Statement Precludes Issuance of a License.
- III. There Are Significant Geologic Impacts From the Holtec Proposal That Were Not Properly Discussed and Evaluated in the Holtec Environmental Report.
- IV. Holtec Grossly Understated the Volume of Low-Level Radioactive Waste That Will Be Generated During the Operational Life of the Holtec Facility.
- V. The Continued Storage Rule Should Not Be Applied To Exempt the Holtec CISF From Site-Specific NEPA Analysis.
- VI. Holtec's 'Start Clean/Stay Clean' Policy Is Unlawful and Directly Poses a Public Health Threat.
- VII. SNF Transportation Routes Were Inadequately Disclosed.

STATUTES AND REGULATIONS

The statutes and regulations relevant to this case are set out in Petitioners' accompanying Addendum.

STATEMENT OF THE CASE

1. Procedural History

Holtec International submitted to the NRC an application to license a facility in New Mexico to store spent nuclear fuel and high-level radioactive waste (Apx. P. 48). Sierra Club and Don't Waste Michigan *et al.* (Petitioners; DWM *et al.* henceforth will be referred to as "DWM") submitted requests to intervene in the licensing proceeding, supported by various contentions (Apx. P. 60, 221). The NRC's Atomic Safety and Licensing Board denied admission of all the contentions (Apx. P. 436). Petitioners appealed the Licensing Board's decision to the Nuclear Regulatory Commission (Apx. P. 566, 568). The Commission ultimately affirmed the Licensing Board in all respects (Apx. P. 676, 1060).

The Petitioners then sought review in this Court pursuant to 28 U.S.C. § 2342, 2344 (Notices of Appeal).

2. Statement of the Facts

Holtec International proposes to construct a storage facility for high level radioactive waste and spent nuclear fuel in Lea County, New Mexico. The waste would be transported across the country, primarily by rail, from nuclear reactors all around the United States. The Holtec

facility is proposed to store 100,000 tons of radioactive waste. That would be more waste than was proposed to be stored at a permanent repository at Yucca Mountain in Nevada. The Holtec facility would not be a geologic repository, however. The casks in which the waste would be placed would be only partially underground, with the top of the cask above ground.

The storage and disposal of spent radioactive fuel from nuclear reactors is a problem that has no good solution. The Petitioners believe that all reasonable alternatives must be evaluated given the desirability of avoiding unnecessary dangers and risks associated with consolidated storage. As this Court observed:

Even though it is no longer useful for nuclear power, SNF [spent nuclear fuel] poses a dangerous, long-term health and environmental risk. It will remain dangerous “for time spans seemingly beyond human comprehension.” *Nuclear Energy Inst. Inc. v. EPA*, 373 F.3d 1251, 1258 (D.C. Cir. 2004) (per curiam). Determining how to dispose of the growing volume of SNF, which may reach 150,000 metric tons by the year 2050, is a serious problem.

New York v. Nuclear Regulatory Commission, 681 F.3d 471, 474 (D.C. Cir. 2012).

Compounding this problem is that, realistically, there is no assurance that a permanent repository for nuclear waste will ever be found. Therefore, an “interim” storage facility as proposed by Holtec

may very likely become a permanent repository, without the protections that would be required of a permanent repository.

SUMMARY OF THE ARGUMENT

The Petitioners sought to intervene in the NRC licensing of the Holtec Consolidated Interim Storage Facility (“CISF”) proposed to be constructed and operated in New Mexico for the storage in shallow burial of spent nuclear fuel (“SNF”). They filed petitions alleging standing and stating contentions which are discussed as Issues I through VII below. Petitioners also participated in the NRC’s NEPA process by submitting comments.

In Issue I, Petitioners adopt the arguments of Beyond Nuclear asserting that the Holtec facility is illegal under the Nuclear Waste Policy Act (“NWPA”). Petitioners also show that the NRC has no authority under the Atomic Energy Act to license the Holtec facility.

In Issue II, Petitioners maintain that Holtec has published a Material False Statement about the proposed financing of the construction and operation of the CISF which should bar Holtec from receiving an NRC License.

In Issue III, Petitioners maintain that there was not complete identification and discussion in the Final Environmental Impact

Statement (“FEIS”) of geological impacts from constructing and operating the CISF.

In Issue IV, Petitioners argue that Holtec grossly understated the volume and source of low-level radioactive waste (“LLRW”) that will be generated during the operating life of the facility.

In Issue V, Petitioners assert that the Continued Storage Rule should not attach to Holtec’s proposal and should not allow the CISF to be subjected to site-specific analysis under the National Environmental Policy Act (“NEPA”)

In Issue VI, Petitioners explain how Holtec’s “start clean/stay clean” policy regarding the receipt of SNF at the facility is not lawful and poses a threat to public health.

In Issue VII, Petitioners make the case that the water (barge), highway and railroad transportation routes by which SNF would be delivered to the New Mexico site were inadequately disclosed by Holtec.

STANDARD OF REVIEW

The Administrative Procedure Act requires this Court to hold unlawful and set aside agency action, findings, and conclusions found to be arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law. 5 U.S.C. § 706(2)(A); *NRDC v. NRC*, 879 F.3d

1202 (D.C. Cir. 2018). Agency action is arbitrary and capricious "if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, [or] offered an explanation for its decision that runs counter to the evidence before the agency." *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

The NRC found all of the Petitioners' contentions inadmissible. That decision must be viewed in light of the NRC's own standards for contention admissibility, pursuant to 10 C.F.R. § 2.309(f) (Addendum).

The NRC has determined that the burden on a petitioner in stating its contentions is not heavy. In *Dominion Nuclear Conn., Inc. (Millstone Nuclear Power Station, Units 2 & 3)*, CLI-01-24, 54 NRC 349, the NRC described the contention admissibility standards as "insist[ing] upon some 'reasonably specific factual and legal basis' for the contention." *Id.*, 54 NRC at 359. Petitioners are required only to "articulate at the outset the specific issues they wish to litigate." *Id.* at 359.

The NRC and the courts have also held that the burden of persuasion is on the licensee, not the petitioner. The petitioner only needs to "com[e] forward with factual issues, not merely conclusory statements and vague allegations." *Northeast Nuclear Energy Company*,

53 NRC 22, 27 (2001).

In *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 554 (1978), the Supreme Court affirmed that intervenors raising contentions before the NRC need to simply make a “showing sufficient to require reasonable minds to inquire further,” a burden significantly less than that of making a *prima facie* case.

To the extent that Petitioners’ issues implicate the National Environmental Policy Act, the NRC must comply with the Act and its implementing regulations. *NRDC v. NRC*, 879 F.3d 1202 (D.C. Cir. 2018). The agency has an independent obligation to comply with NEPA and NEPA’s established procedures, which afford rights to public comments and impose independent procedural obligations on the agency. *Brodsky v. NRC*, 704 F.3d 113 (2d Cir. 2013).

The NRC claims that its regulations, specifically 19 C.F.R. § 51.10, satisfy its obligations under the National Environmental Policy Act by forcing interested persons into an adversary process requiring them to challenge a license applicant’s environmental report as the public participation required by the National Environmental Policy Act. 10 C.F.R. § 2.309. Since challenging the environmental report is the only opportunity a member of the public has to create a record for

judicial review, the legal requirements on the agency to comply with the National Environmental Policy Act apply to the environmental report, just as they would to an environmental impact statement. *NRDC v. NRC*, 879 F.3d 1202 (D.C. Cir. 2018).

ARGUMENT

I. The NWPA Prohibits the Licensing of the Proposed CIS Facility.

Sierra Club and Don't Waste Michigan adopt the arguments of Beyond Nuclear on this issue by incorporating them by reference fully herein. In addition, Petitioners present the following.

A recent Fifth Circuit decision, *Texas v. NRC*, No. 21-60743 (August 25, 2023), held that the Nuclear Waste Policy Act does not permit the NRC to license a nuclear waste storage facility. The court cited *Nat'l Ass'n of Regul. Util. Comm'rs v. DOE*, 680 F.3d 819, 821 (D.C. Cir. 2012) ("The Act made the federal government responsible for permanently disposing of spent nuclear fuel and high-level radioactive waste produced by civilian nuclear power generation and defense activities."). The *Texas* court went on to note that the only alternatives allowed by the Nuclear Waste Policy Act are temporary storage ***at the reactor site*** and monitored retrievable storage which must be controlled by the Department of Energy. There is no provision in the Act for

private away-from-reactor storage.

Confronted with the illegality of licensing the Holtec facility under the Nuclear Waste Policy Act, Holtec and the NRC cannot make the alternative argument that the Holtec facility can be licensed pursuant to the Atomic Energy Act. The *Texas* court addressed that issue and determined that the Atomic Energy Act does not give the NRC the authority to license private storage facilities.

The licensing provisions of the Atomic Energy Act apply to nuclear plants and the possession of special nuclear materials. But those licenses can be issued only for “certain enumerated purposes – none of which encompass storage or disposal of material as radioactive as spent nuclear fuel. *Id.* at 19 (slip opinion). So the Atomic Energy Act does not give the NRC a broad general authority to license the storage of nuclear waste.

The *Texas* court further addressed two cases relied on by the NRC and the facility developer. In *Bullcreek v. NRC*, 359 F.3d 536 (D.C.Cir. 2004), the State of Utah opposed the decision of the NRC to license a storage facility for nuclear waste. Utah argued that the Nuclear Waste Policy Act superseded the NRC’s alleged authority to license a storage facility away from a reactor site. Utah assumed that the NRC had the

authority under the Atomic Energy Act to license an away-from-reactor storage facility. Utah's position was that, even assuming the NRC's licensing authority under the Atomic Energy Act, the Nuclear Waste Policy Act superseded that assumed authority.

The court in *Bullcreek* accepted Utah's assumption of licensing authority under the Atomic Energy Act and held that the Nuclear Waste Policy Act did not supersede that alleged authority. The *Bullcreek* court acknowledged that "the AEA does not specifically refer to the storage or disposal of spent nuclear fuel" *Id.* at 538. But the court then made a passing reference to the decision in *Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n*, 461 U.S. 190 (1983). The NRC's authority to license storage facilities was not the issue in *Pac. Gas*. In dicta, the court commented that the NRC had authority, vis a vis the states, over certain aspects of nuclear energy. The court specifically cited 42 U.S.C. §§ 2014(e), (z), (aa); 2061-64; 2071-78; 2091-99; and 2111-14. None of those statutes, however, pertain to the storage of spent nuclear fuel.

The *Texas* court also reviewed the decision in *Skull Valley Band of Goshute Indians v. Nielson*, 376 F.3d 1223 (10th Cir. 2004). That decision just relied on *Bullcreek* and assumed the NRC had authority to

license a storage facility without analyzing the statute.

The *Texas* court analyzed as follows:

Reading these provisions together makes clear that the Nuclear Waste Policy Act creates a comprehensive statutory scheme for addressing spent nuclear fuel accumulation. The scheme prioritizes construction of the permanent repository and limits temporary storage to private at-the-reactor storage or at federal sites. It plainly contemplates that, until there's a permanent repository, spent nuclear fuel is to be stored onsite at-the-reactor or in a federal facility.

In sum, the Atomic Energy Act doesn't authorize the Commission to license a private, away-from-reactor storage facility for spent nuclear fuel. And the Nuclear Waste Policy Act doesn't permit it. Accordingly, we hold that the Commission doesn't have authority to issue the license challenged here.

The *Texas* court vacated the license in that case. This Court should likewise vacate the license in this case.

II. Holtec's Material False Statement Precludes Issuance of a License.

Section 186 of the Atomic Energy Act, 42 U.S.C. § 2236, provides that a license issued by the NRC may be revoked for any material false statement in the license application. Specifically, that section says, in pertinent part, "Any license may be revoked for any material false statement in the application . . . *or other means which would warrant the Commission to refuse to grant a license on an original application . . .*" (emphasis added). Thus, if a false statement

such as Holtec has made, as described below, is grounds for revoking a license, it is grounds for not issuing the license in the first instance. The NRC depends on licensees and applicants for accurate information to assist the NRC in carrying out its regulatory responsibilities and expects nothing less than full candor from licensees and applicants. *Randall C. Orem, D.O.*, 37 NRC 423 (1993).

Here, Holtec initially said in its Environmental Report that it intended for the Department of Energy to take title to the radioactive waste, although other application documents said the proposal was for either Department of Energy or the reactor owners to own the waste (Apx. P. 3). When intervenors raised the issue of the illegality of the Department of Energy taking title, Holtec submitted Revision 3 of the Environmental Report, in which the alternative of the reactor owners taking title was inserted (Apx. P. 400). In its Answer to Sierra Club's Contention 1 and Don't Waste Michigan's Contention 2, Holtec unambiguously stated that it was not relying on Department of Energy funding (Apx. P. 382). Therefore, Holtec was clearly stating that there was an intent for reactor owners to possibly take title. Furthermore, as discussed in Issue I above, Holtec knew that the Department of Energy could not legally take title.

Sierra Club pointed out, however, in support of its Contention 1, that Holtec officials had consistently said prior to the filing of the license application that Holtec's intent was for the Department of Energy to take title (Apx. P. 70). But when the license application was filed, Holtec apparently realized that it could not admit that the plan was for the Department of Energy to take title, since that would be illegal. So, in a Freudian slip, the initial draft of the Environmental Report still referred only to the Department of Energy taking title (Apx. P. 3). It seems clear, therefore, that the real intent is for the Department of Energy to take title and the reference to reactor owners is just a fig leaf.

Holtec's charade was exposed, however, on January 2, 2019, when it sent out a newsletter called "Reprising 2018" to the public (Apx. P. 419). That publication said, "While we endeavor to create a national monitored retrievable storage location for aggregating used nuclear fuel at reactor sites across the U.S. into one (HI-STORE CISF) to maximize safety and security, its deployment will ultimately depend on the DOE and the U.S. Congress." This is a clear statement that the intent is for the Department of Energy to take title to the waste. Deployment means to arrange strategically. *Merriam-Webster's Collegiate Dictionary* (10th Ed.). So the "Reprising 2018" statement clearly means that Holtec's

intent is to not even initiate the project until Congress changes the law and the Department of Energy is allowed to take title.

The foregoing discussion means that Holtec has made a material false statement in its application documents that a possible alternative is for nuclear reactor owners to retain title to the waste. The actual intent all along, however, has been for the Department of Energy to take title to the waste. The purpose of including nuclear plant owners was to provide a distraction and a cover up of Holtec's true intent to have the Department of Energy own the waste.

The NRC's own precedents support Sierra Club's and Don't Waste Michigan's contentions. In *Virginia Electric & Power Co.* (North Anna Power Station, Units 1 & 2), 3 NRC 347 (1976), *rev'd in part on other grounds*, 4 NRC 480 (1976), the Appeal Board held that (1) A statement may be "false" within the meaning of 42 U.S.C. § 2236 even if made without knowledge of its falsity, *i.e.*, *scienter* is not a necessary element of a false statement under § 2236, and (2) Information is material if it would have a natural tendency or capability to influence the decision of the person or body to whom it is to be submitted, *i.e.*, the information is material if a reasonable NRC staff member would consider it in reaching a conclusion. The information need not be relied

upon in fact. *Id*; *Consumers Power Co.* (Midland Plant Units 1 & 2), 16 NRC 897, 910 (1982).

Holtec, by its managers and owners, knew or should have known that its original and continuing intention and business plan is for the Department of Energy to take title to the spent nuclear fuel prior to its removal from reactor sites. Holtec's material false statements to the effect that there might be any other titleholder are calculated to mislead the NRC and the public in order to obtain a license to construct and operate the proposed waste facility for profit with minimal liability. The statements permeate critical areas of the license application that address waste management, offsite liability, and financing and should wholly disqualify Holtec from being granted an NRC license and cause dismissal of this proceeding and termination of the docket.

The Licensing Board said that the "Reprising 2018" statement was not a willful misrepresentation (Apx. P. 504). In saying that, the Board was incorrectly interpreting the contentions. It is not the "Reprising 2018" statement that is the materially false statement. It is the claim that Holtec intends for nuclear plant owners to possibly retain title to the waste that is the false statement. The "Reprising 2018" statement reveals the true intent for the Department of Energy alone to take title to the

waste.

The Licensing Board further said that it would not assume that Holtec would violate the law by contracting with the Department of Energy. The Petitioners never accused Holtec of any intent to violate the law. The point is that Holtec is attempting to obtain a license on the false premise that nuclear plant owners will retain title to the waste. Then, once Holtec obtains the license, it will use that fact as leverage to persuade Congress to change the law to allow the Department of Energy to hold title to the waste. More importantly, irrespective of Holtec's intent, a material false statement precludes issuance of a license.

Virginia Electric & Power Co. (North Anna Power Station, Units 1 & 2), 3 NRC 347 (1976).

In affirming the Board's decision, the NRC made the same mistake as the Board, finding that the "Reprising 2018" statement was not false or misleading (Apx. P. 0702). As stated above, it is not the "Reprising 2018" statement that is false. The false statement is the statement in the revised Environmental Report and in the Answers to the Petitioners' contentions that nuclear plant owners may retain title to the waste.

The NRC further stated that whether or not title to the waste is

held by the Department of Energy or private owners is irrelevant to this licensing proceeding. But, as Beyond Nuclear has shown in its Brief herein, it is relevant to show that Holtec cannot receive a license for illegal activity. And licensing this facility would be illegal unless Congress changes the law.

III. There Are Significant Geologic Impacts From the Holtec Proposal That Were Not Properly Discussed and Evaluated in the Holtec Environmental Report.

Sierra Club raised several contentions regarding geologic impacts, including increased incidents of earthquakes and groundwater impacts (Apx. P. 119 *et seq.*). These impacts were not adequately reviewed and addressed in Holtec's Environmental Report. Sierra Club's Contention 11 explained how Holtec's Environmental Report and Safety Analysis Report inadequately discussed earthquake risks to Holtec's proposed site. Contention 11 noted the increased amount of drilling for oil and natural gas in and around the Holtec site. Sierra Club also relied on a recent (at the time of the contention) 2018 study by researchers at Stanford University (Apx. P. 103 *et seq.*).

NRC regulations at 10 C.F.R. § 51.45 require an environmental report to contain a description of the environment affected and the impact of the proposed project on the environment. And 10 C.F.R. §

72.103(f)(1) requires a safety analysis report to contain an adequate analysis of the earthquake potential in and around the proposed site. The Holtec Environmental Report, § 3.3.2, essentially dismisses the likelihood of earthquakes and does not mention any environmental impacts. (Apx. P. 407 et seq.). Likewise, the Safety Analysis Report, § 2.6, discusses the geology and seismology of the area, but presents only historical data that does not consider the recent increase in oil and gas drilling in the area that induces earthquakes.

The NRC rejected Contention 11, first by claiming that the 2016 data in the Environmental Report was not outdated (Apx. P. 695). That assertion ignores the 2018 Stanford study. In addition, the NRC claimed that the Sierra Club's argument that the Stanford study shows that fracking for oil and gas is inducing new geologic faults was a new argument on appeal. It was not. Contention 11 specifically stated, "Furthermore, the assertion in the SAR, 2.6.3, that there are no surface faults at the Holtec site is contradicted by the Stanford University study . . . and the accompanying map." (Apx. P. 696).

Sierra Club also presented five contentions, Contentions 15-19, regarding groundwater impacts (Apx. P. 119 et seq.). In the initial appeal the NRC found Contention 18 inadmissible, but remanded Contentions

15, 16, 17, and 19 back to the Licensing Board (Apx. P. 700). The Licensing Board, on remand, found that the contentions were inadmissible (Apx. P. 816). The NRC affirmed that decision. (Apx. P. 799 et seq.).

The remand was limited to site characterization issues. The NRC affirmed the Licensing Board decision that radioactivity from the Holtec facility would not impact the surrounding groundwater.

Contention 15 cited expert opinion that the Environmental Report improperly relied on data from only one well to claim no shallow groundwater at the site, even though there are reasons why one well may not accurately determine a saturated condition. Contention 16 stated that the Environmental Report should determine if brine in the groundwater could contact the Holtec facility and the impact of that contact. Contention 17 stated that the Environmental Report did not discuss the presence and implications of fractured rock beneath the Holtec site. Contention 19 identified flaws in how Holtec's hydraulic conductivity tests were conducted.

The NRC rejected Sierra Club's argument that a leak from one or more storage canisters could contaminate groundwater on the basis that Sierra Club was challenging the certification of the canisters. But the

contention does not dispute the certification of the canisters. That claim is never made. The only mention of the canisters is in Contention 16, where it is noted that the canisters are only certified for a design life of 60 years and a service life of 100 years, but the Holtec facility could be operated for 120 years or more. The claim made in the contentions is that high-burnup fuel creates increased risks. Sierra Club also noted that § 4.3.3 of the Environmental Report states that soils may be affected by spills or leaks of radiological and hazardous materials. So Holtec is admitting the possibility of radioactive leaks. The Environmental Report should have discussed the impact of those leaks.

The NRC erred in claiming that Sierra Club's expert was incorrect in saying there was only one monitoring well at the interface of the alluvium and the Dockum formation. The NRC claims there were four additional wells. But George Rice, Sierra Club's expert, was clear in his report that the only relevant well would be at the interface (Apx. P. 168-169). So Mr. Rice wasn't wrong.

Mr. Rice also explained why saturated conditions were not encountered in the alluvium, but there may still be shallow groundwater at the site. Drilling with air will often dry the cuttings as they are brought to the surface and water may drain from the cuttings as they are brought

to the surface. Mr. Rice also noted that the caliche and alluvium at the Holtec site are not dry. Water contents were measured in samples that came from 10-30 feet below land surface. The water contents ranged from 5-16 percent by weight. This indicates that precipitation is infiltrating from land surface and moving toward the alluvium/Dockum interface.

Mr. Rice concluded by recommending that Holtec be required to install a network of monitoring wells at the site at the alluvium/Dockum interface. This is necessary to comply with the requirement of 10 C.F.R. § 51.45 for the ER to adequately and thoroughly evaluate the affected environment and the impacts of the project to that environment.

Petitioners demonstrated a question of fact, which does not justify rejecting a contention at the admissibility stage. *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), 28 NRC 440, 446 (1988); *Sierra Club v. NRC*, 862 F.2d 222, 228 (9th Cir. 1988).

On the existence of brine in the groundwater, Sierra Club supported Contention 16 with the opinion of George Rice (Apx. P. 172). The NRC claimed that Mr. Rice did not present any facts, just questions. But Mr. Rice's comments were very specific to Holtec's documentation.

A party challenging an environmental report or actual NEPA document does not have to conduct its own investigation. When deficiencies in the environmental documents are apparent and are pointed out, that is what NEPA requires.

Contention 17, regarding the presence of fractured rock, the NRC claims that the Environmental Report and the Safety Analysis Report both discuss the presence of fractured rock. Although the Environmental Report, § 3.3.1, and the Safety Analysis Report, §§ 2.6.1 and 2.6.4, discuss the geologic characteristics at the site, neither reference notes the presence or likely presence of fractured rock. The Environmental Report makes no mention at all of the possibility of fractured rock and the Safety Analysis Report, § 2.6.4, claims that “conditions at the Site are not conducive to karst development.” But, as Mr. Rice points out, Holtec’s Geotechnical Data Report documents the presence of fractured rock in the area of the Holtec site. Again, this is a factual issue that should not be determined at the admissibility stage of the proceedings. Nor do the facts show that the NRC took the “hard look” required by NEPA. *Indian River Cnty. v. U.S. DOT*, 945 F.3d 515 (D.C. Cir. 2019).

Contention 19 referred to what are called packer tests to estimate the hydraulic conductivity of the Santa Rosa Formation, an underground

aquifer (Apx. P. 174 et seq.). George Rice stated that the tests were not conducted in conformance with the testing methods set out in the U.S. Bureau of Reclamation Field Manual (Apx. P. 174). Thus, the test results are unreliable. The NRC rejected this contention on the grounds that Mr. Rice's statement was mere speculation. On the contrary, Mr. Rice identified three specific areas where the packer tests were deficient (Apx. P. 174):

- The bore hole did not appear to have been cleaned before conducting the tests.

- There was no description of the water used in the tests.

- The test duration appears to have been too short.

This is not speculation. These are facts.

The NRC's response to these geologic issues is a clear example of how the NRC's procedure of forcing NEPA claims into an adversary proceeding and requiring a petitioner to essentially prove its case at the admissibility stage violates the letter and intent of NEPA and its implementing regulations.

IV. Holtec Grossly Understated the Volume of Low-Level Radioactive Waste That Will Be Generated During the Operational Life of the Holtec Facility

In DWM's Contention 3, Petitioners alleged that Holtec's

Environmental Report grossly understated the volume of low-level radioactive waste (“LLRW”) that would be generated by the use of concrete and other materials for shallow burial of the SNF canisters as well as periodically swapping out the canisters during the operational life of the CISF. Holtec omitted to mention major infrastructure changes that would periodically be needed, which would generate large volumes of radioactively contaminated metal, concrete and earth. Holtec repeatedly invoked the prediction of “small” volumes of LLRW despite failing to recognize and disclose LLRW wastes from routine operations.

Holtec predicted “small quantities of hazardous and non-hazardous waste. . . includ[ing] low-level radioactive waste, radioactive mixed waste, hazardous waste, solid (sanitary) waste, and industrial waste.” (Apx. P. 517). Further, Holtec foresaw “A small amount of low-level radioactive waste . . . at the CIS Facility during operations, consisting of contamination survey rags, anti-contamination garments, and other health physics materials. This solid LLRW would be packaged and temporarily stored at the Cask Transfer Building until transported off-site to a licensed disposal facility, as discussed in Section 4.11.3.” (Env. Rep., P. 210-211/543 of .pdf).¹

¹<https://www.nrc.gov/docs/ML1802/ML18023A904.pdf>

But millions of tons of concrete will be mixed and poured onsite to provide barriers between the subterranean environment and the SNF casks, and over time an unknown quantity of this concrete will be transformed into radioactively activated waste by virtue of constant bombardment by neutrons from the SNF at close quarters. That's why concrete will be used as a barrier material: to absorb neutron radiation constantly emitting from storage canisters and casts. Even assuming cask replacement undertaken only every 100 years, considerable LLRW will be generated. DWM presumed that 10,000 used, radioactively activated or contaminated metal canisters will be replaced at some point, and all of them will be classified as LLRW.

Also missing from Holtec's inventory of LLRW is a projection of the waste volumes that will be created in the event of delivery of defective, malfunctioning casks or canisters, or leaking or otherwise contaminated casks or canisters.

Holtec estimated the consumption of "four hundred thousand tons of cement . . . per year." (Apx. P. 258) for storage purposes but offered no estimates of how much of that cement will become radioactively activated, or otherwise radioactively contaminated, hence, LLRW. Using 400,000 tons/year as the base, the Holtec CISF's ongoing encasement of

canisters for some 20 years for the shallow burial of at least 10,000 canisters means that an estimated 8,000,000 total tons of concrete will be required, yet Holtec offered no estimates of how much of it will undergo bombardment by neutron beta radiation for a century and be considered LLRW. Holtec itself admits that “[t]he subterranean stored contents emit a very small direct radiation dose to the facility workers and surrounding environment.” Env. Rep., P.18/543 of pdf.² Surely some, perhaps a lot, of the 8,000,000 tons of concrete and other subgrade fill materials will become LLRW from a century of radioactive activation and contamination. And it contradicts Holtec’s statement that there will be “small quantities of . . . low-level radioactive waste. . . .” Holtec must account for this huge quantity of radioactively contaminated, and neutron radiation radioactively activated rubble, along with means of its identification and a clear disposal plan for it.

Besides the unconsidered LLRW concrete and fill material, Holtec completely failed to address the thousands of casks and canisters in which SNF will have been delivered to New Mexico as potential LLRW. Those containers will be irradiated during use and require remediation or disposal as LLRW. At one point in the ER, Holtec, itself, admits “Steel,

²<https://www.nrc.gov/docs/ML1713/ML17139C535.pdf>

concrete, and the subgrade are the principal shielding materials in the HI-STORM UMAX. The steel and concrete shielding materials in the closure lid provide additional gamma and neutron attenuation to reduce dose rates.” Env. Rep. PP. 34/543.³ Holtec omitted to explain how the supposedly minimal number of irradiated canisters would be decontaminated to become “uncontrolled” waste. Holtec does not explain how the metallic canisters, which will be irradiated and radioactively activated and contaminated for a century or more, will be “decontaminated to levels below applicable NRC limits for unrestricted use.” Decontamination as a contributor to LLRW is neither quantified nor analyzed, but will add to the LLRW waste stream.

Holtec failed to mention or account in the ER for a major, ongoing repackaging of SNF that will necessarily occur at the CISF, where SNF will have to be removed from arriving transport containers and reloaded into standardized canisters for storage and ultimately, transport to a permanent geological repository. DWM’s expert verified that repackaging SNF into standardized canisters may require up to 80,000 new containers. (Apx. 262, Expert testimony of Robert Alvarez).

It is difficult to imagine that canisters discarded after holding

³<https://www.nrc.gov/docs/ML1713/ML17139C535.pdf>

unshielded spent nuclear fuel for a century would not readily be classified as LLRW. Yet there is zero mention of this obligatory SNF repackaging step in the Holtec ER and so a potentially large contribution to Holtec's LLRW waste stream went completely unrecognized in the NEPA process.

The Commission affirmed the ASLB's dismissal of DWM's Contention 3, scoring DWM for suggesting that "common sense" supports the conclusion that some portion of the 8,000,000 tons of concrete used in shallow burial of SNF containers would be irradiated and treated as LLRW after a century. (Apx. P. 713-714). The Commission ratified the Atomic Safety and Licensing Board's determination that DWM impermissibly challenged the adequacy of ISFSI decommissioning analyses in the Continued Storage GEIS⁴ by claiming that discarded casks and canisters from reloading the SNF into standardized transport canisters for geological disposal would cause undisclosed LLRW. (Apx. P. 713). The Commission's rulings are regrettable. In this Brief, DWM seeks review of the dismissal of its Contention 4 in which DWM argues that the Continued Storage Rule is inapplicable to Holtec because of considerable distinctions between the

⁴<https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr2157/v1/index.html>

Holtec CISF and the away-from-reactor storage facility described in the GEIS. *See* “VII. The Continued Storage Rule Should Not Be Applied To Exempt The Holtec CISF From Site-Specific NEPA Analysis” *infra*, which explains why the Continued Storage Rule is inappropriately cited by the NRC and Holtec.

NRC’s NEPA requirements at 10 C.F.R. § 51.45(b) oblige the ER to address “(1) The impact of the proposed action on the environment. . . (2) Any adverse environmental effects which cannot be avoided should the proposal be implemented. . . [and] (5) Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.” Additionally, § 51.45(c) requires the ER to “include an analysis that considers and balances the environmental effects of the proposed action, the environmental impacts of alternatives to the proposed action, and alternatives available for reducing or avoiding adverse environmental effects” and that “the analysis in the environmental report should also include consideration of the economic, technical, and other benefits and costs of the proposed action and its alternatives.” Section 51.45(e) makes clear that the information submitted “should not be confined to information supporting the proposed action but should also include adverse information.”

Failure to mention and analyze how much of an accumulation of 8,000,000 tons of concrete plus fill material plus discarded casks and canisters might be classified as LLRW seriously thwarted the “hard look” obligation here. *Nuclear Fuel Servs., Inc.*, LBP-05-8, 61 NRC 202, 207 (2005) (NEPA requires “hard look” before taking action) (citing *Vermont Yankee Nuclear Power Corp. v. Natural Res. Def. Council*, 435 U.S. 519, 558 (1978) and quoting *Balt. Gas & Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 97 (1983)). The federal agency must make a good faith effort to predict reasonably foreseeable environmental impacts and to apply a “rule of reason” after taking that hard look. *Public Service Co. of Oklahoma* (Black Fox Station, Units 1 & 2), LBP-78-26, 8 NRC 102, 141 (1978).

That hard look was not taken here. Considerable qualitative and quantitative information about the potentially sizable LLRW waste volume resulting from Holtec operations was left out of the Environmental Report and NEPA document by denial of Contention 3.

V. The Continued Storage Rule Should Not Be Used To Exempt The Holtec CISF From Site-Specific NEPA Analysis.

The DWM intervenors alleged in their Contention 4 that Holtec has proposed a site-specific spent nuclear fuel storage facility that cannot be excluded from scrutiny under NEPA by virtue of the Waste Storage

Generic Environmental Impact Statement the Continued Storage Rule, which is codified at 10 CFR § 51.23. Section 51.23(a) states that “The Commission has generically determined that the environmental impacts of continued storage of spent nuclear fuel beyond the licensed life for operation of a reactor are those impacts identified in NUREG–2157, ‘Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel.’” By 10 C.F.R. § 51.23(b), “[t]he environmental reports described in . . . § 51.61 are not required to discuss the environmental impacts of spent nuclear fuel storage in a reactor facility storage pool or an ISFSI for the period following the term of the reactor operating license, reactor combined license, or ISFSI license.”

DWM states that the paucity of severe accident mitigation steps taken to safely transport SNF to and from the Holtec CISF and at to maintain safe conditions while the waste is present at the CISF may not be treated as generic issues such as to excuse Holtec from detailed site-specific consideration in the FEIS. The Holtec CISF plan falls well outside the parameters of the Continued Storage GEIS and is not very comparable to the reference storage facility discussed there. Holtec’s uniqueness requires site-specific NEPA analysis.

For example, the Nuclear Waste Policy Act authorizes either an

independent spent fuel storage installation (“ISFSI”), which must be operated only at a reactor site, 42 U.S.C. § 10152, or a monitored retrievable storage facility (“MRS”) operated by the U.S. DOE, 42 U.S.C. § 10161. The Holtec CISF is neither, and for that reason alone, is not covered by the Continued Storage GEIS.

Holtec’s CISF scheme diverges from the GEIS in other ways. Holtec proposes to have no on-site dry transfer storage (“DTS”) capability on hand to deal with leaky, cracked or externally contaminated SNF cask arrivals. The GEIS treats the availability of DTS capability as a mitigation feature. Instead, Holtec espouses a policy of “return to sender,” *viz.*, that leaking, damaged or contaminated casks will be sent back to the nuclear power plant sites from whence they came. (Apx. P. 267, fn. 19). The Continued Storage GEIS assumes that a facility will have a DTS capability to handle cask leakage problems from 60 to 100 years after the start of operations at the CISF.⁵ There exists no DTS capability anywhere in the United States, including at any of the nuclear plant sites from which spent nuclear fuel shipments to Holtec will originate. *Id.* at p. 2-20. Even using conservative assumptions, there is surely some probability that among 10,000 or more cask shipments of

⁵<https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr2157/v1/index.html>, p. 1-16.

SNF to Holtec, some deliveries will be leaking and damaged and externally contaminated, and those troubled cargoes will have to be returned to originating power plant sites.

At 173,600 MTU, the projected capacity of the Holtec CISF is more than four times the anticipated volume assumed for the prototype in the Continued Storage GEIS, described as “an away-from-reactor ISFSI that would store up to 40,000 MTU of spent fuel from various nuclear power plant sites using existing technologies.” Continued Storage GEIS, *id.* at p. 2-18.

DWM contended that because the Holtec CISF does not qualify under NRC regulations as an ISFSI, Holtec’s Environmental Report was required to identify and discuss the environmental impacts of transportation to the CISF and site operations in a project-specific and site-specific way. When DWM appealed to the Commission, however, it held that Holtec CISF operations were being discussed in a project-specific and site-specific way. However, the Commission either did not understand the large distinctions between Holtec and the reference CISF, or chose to ignore them. The Commission turned back DWM’s appeal by interpreting the Continued Storage Rule to assume “that a DTS would be built ‘in the long-term and indefinite time frames,’ which occur

beyond the initial 40-year license term for the Holtec CISF, so that ‘the environmental impacts of constructing a reference DTS’ can be considered, thus providing a ‘complete picture of the environmental impacts of continued storage.’” -(Apx. P. 715) (Memorandum and Order, CLI-20-04).

Critically missing from the Commission’s logic is the incontrovertible goal for the first 20 years of Holtec operations (*i.e.*, well within the 40-year license term), 100% of the anticipated 173,600 MTU of spent nuclear fuel is expected to be delivered. That is, Holtec will receive delivery of ***more than four times the volume of spent fuel waste*** (173,600 MTU vs. 40,000 MTU) compared to the reference CISF in the Continued Storage Rule over the same length of time – 20 years – that is assumed for the 40,000 MTU reference facility. The Holtec plan means ***more than four times the risks and chances that a flawed cargo will be delivered*** than is assumed for the reference CISF. The Rule contemplates 60 years after commencement of operations for a DTS to appear, which is arguably far too leisurely a pace for a waste facility geared up to receive ***more than four times the waste volume*** during the same twenty year period that is assumed for the reference CISF. The Commission assumes, incorrectly, that Holtec’s project is directly comparable to the

reference facility, despite the obvious fact of a greater than fourfold set of risks. Waste cargoes will be arriving *more than four times as frequently* at Holtec than in theory but they will also impose commensurately greater demands on time and resources at the site. With *more than four times the chances of a mishap requiring a DTS*, and *more than four times as the potential for invocation of the return-to-send policy*, the NRC's and Holtec's reliance on an inappropriate model is, well, inappropriate.

In conducting its site-specific analysis, the NRC “generally must examine both the probability of a given harm occurring and the consequences of that harm if it does occur. Only if the harm in question is so ‘remote and speculative’ as to reduce the effective probability of its occurrence to zero may the agency dispense with the consequences portion of the analysis.” *New York v. Nuclear Regulatory Commission*, 681 F.3d 471, 482 (D.C. Cir. 2012); *Limerick Ecology Action, Inc. v. Nuclear Regulatory Commission*, 869 F.2d 719, 739 (3d Cir.1989). That there are more than four times the chances of spent fuel delivery complications at Holtec than at the reference CISF, and that Holtec is balking at installing even a single dry transfer system at the world's largest spent fuel facility, located in a country which has no

functioning DTS system anywhere, all works to subvert any legitimate reliance on a non-comparable generic rule. How can the Continued Storage Rule be said to provide “reasonable assurance” of protection of public health and safety here? This contention should have been admitted for adjudication by the Atomic Safety and Licensing Board.

VI. Holtec’s ‘Start Clean/Stay Clean’ Policy Is Unlawful and Directly Poses a Public Health Threat.

In its Contention 7, DWM challenged as illegal Holtec’s “HI-STORE philosophy” of “Start Clean/Stay Clean,” which requires that any incoming contaminated, leaking or otherwise compromised shipments of SNF will be returned to the power plant that produced the waste. The “return to sender” policy appears at FSAR § 3.1.4.6: “In order to uphold the HI-STORE philosophy of ‘Start Clean/Stay Clean’ HP personnel ensure that contamination levels on the canisters of incoming shipments meet site requirements. Canisters exceeding the limits will be returned to the originating power plant for dispositioning.” (Apx. P. 282).

DWM maintains that the policy of rejecting and returning shipping casks and/or canisters that have unacceptable external radioactive or structural damage could create potential exposure routes that pose radioactive contamination threats to the public, nuclear

workers, and the environment. DWM submits that the presence of a dry transfer system at the Holtec facility would ameliorate some of those concerns. The Atomic Safety and Licensing Board faulted DWM for not providing an expert opinion to show how the spent fuel would leave reactor sites leaking or damaged in light of quality assurance programs; for not explaining how the spent fuel canisters could become credibly damaged in an accident scenario resulting in excessive dose rates; and for failing to explicate how use of a sequestration sleeve for a troubled canister would be an inadequate remedy.

Holtec asserted in answer to DWM that a defective canister would be shipped back in an approved transportation cask, a lawful method as long as applicable radiation standards are met, citing 10 C.F.R. § 71.47. But Holtec did not mention 10 C.F.R. § 71.47 one single time in the Environmental Report to legitimize the return-to-sender policy. Section 71.47 cautions that “[e]ven this radiation limit [*ad hoc* external radiation standards set by the NRC] is not absolute; it can be exceeded if certain additional conditions are met.” 10 C.F.R. § 71.47(b). So Holtec dismissed any prospect of danger to workers at its facility, and to the environment and public along rail transit routes, because of the supposed impregnability of container designs, but conceded that a leaky or

contaminated SNF cargo might be handled (regulated) in such a way as to authorize objectively excessive radiation on the return trip as a necessity to get the flawed container transported offsite from Holtec.

The Commission overruled DWM's Contention 7, holding that "Mere existence of Holtec's 'start clean/stay clean' policy is not sufficient to undermine the requirements and safety analyses that have generically established the integrity of approved spent fuel canister designs." (Apx. P. 717). But NRC regulations mandate investigation of environmental effects from transporting SNF-filled containers irrespective of destination. 10 C.F.R. § 72.108 ("The proposed ISFSI . . . must be evaluated with respect to the potential impact on the environment of the transportation of spent fuel, high-level radioactive waste, or reactor-related GTCC waste within the region."). Contrary to its rejection of the mere suggestion that something might go wrong, Holtec's return-to-sender policy, which is not contemplated in the Continued Storage GEIS because the reference facility is assumed to have onsite dry transfer storage capability, effectively *intends* radiation exposure (even excessive radiation exposure) on return routes. The lack of dry transfer system capability to unload and ameliorate damaged SNF containers leaves only return-to-sender and thus appears to create a

“viable mechanism by which significant radioactive materials would migrate off-site....”.

Under NEPA, the agency must examine both the probability of a given harm occurring and the consequences of that harm if it does occur. “Only if the harm in question is so “remote and speculative” as to reduce the effective probability of its occurrence to zero may the agency dispense with the consequences portion of the analysis.” *State of New York v. Nuclear Regulatory Com'n*, 681 F.3d 471, 482 (D.C. Cir. 2012). Holtec’s porous reasoning fails to meet the standard of 10 C.F.R. Part 72 limiting the Commission to issuing licenses under 10 C.F.R. Part 72 only when it determines that “[t]he applicant's proposed operating procedures to protect health and to minimize danger to life or property are adequate.” 10 C.F.R. § 72.40(a)(5). The “operating procedure” of not having onsite dry transfer storage capability does not comprise “reasonable assurance that . . . [t]he activities authorized by the license can be conducted without endangering the health and safety of the public.” 10 C.F.R. § 72.40(a)(13). Holtec’s failure to have a dry transfer system on hand to address the possible release of radioactive material guarantees there would be no means of technological containment of a radiological accident which could have offsite consequences. The

Continued Storage GEIS assumes the presence of DTS capability to afford radiation shielding and containment ability. The Commission insists that DWM improperly attacked the regulatory regime of transport container integrity for pointing out that “return to sender” is rife with open-ended NRC discretion to define “excessive radiation.” Return-to-sender in such circumstances denies reasonable assurance of protecting the health and safety of the public. The nonmention of 10 C.F.R. § 71.47 or any discussion of its implications in the Holtec ER is ominous and requires remand to the agency.

VII. SNF Transportation Routes Were Inadequately Disclosed

Holtec provided only a single map in its Environmental Report to depict “representative routes” that would be used for delivery of SNF to the Holtec site, and it only mentions transport of radioactive material from two reactors. (Env. Rep. P. 207/543of .pdf).⁶ The map is the only depiction of any expected routes by which SNF would be delivered to Holtec. The transportation component from nuclear reactors to Holtec is expected to last 20 years and would include at least 10,000 separate shipments, nearly all of which will be by rail. In seeking licensing for the Yucca Mountain permanent SNF repository, the U.S. Department of

⁶<https://www.nrc.gov/docs/ML1802/ML18023A904.pdf>

Energy delineated all anticipated rail routes from all commercial nuclear power reactors, something Petitioners noted to the Atomic Safety and Licensing Board and the Commission. (Apx. P. 286). DWM assumed that much of the same rail routes would likely be used for SNF deliveries to Holtec. DWM also maintained to the Commission that transportation of SNF from reactor sites to the Holtec facility in New Mexico was the *sine qua non* of the Consolidated Interim Storage Project because thousands of SNF deliveries were central to achieving the aims of the storage project; the cargoes posed adverse environmental effects such as routine irradiation during travel which could not be avoided and must be addressed; that transportation considerations also should factor into evaluating alternatives to the CISF scheme, and that irreversible and irretrievable commitments of resources to the proposed action must be disclosed. These considerations are especially important given the return-to-sender policy, which would intentionally expose the environment and public in rail transportation corridors to contaminated and/or leaking SNF containers. 10 C.F.R. § 51.45(b)(1), (b)(2), (b)(3), (b)(5). Finally, DWM asserted that failure to consider transportation matters in the Final Environmental Impact Statement constituted improper segmentation of the project. (Apx. P. 600) (DWM Notice of

Appeal).

Holtec's "return-to-sender" policy would send contaminated or leaking SNF transport containers all the way back to their originating reactor sites. Notably, the Continued Storage GEIS deemed the "affected environment" for transportation of radioactive material from a nuclear power plant site to include "all rural, suburban, and urban populations living along the transportation routes within range of exposure to radiation emitted from the packaged material during normal transportation activities or that could be exposed in the unlikely event of a severe accident involving a release of radioactive material. The affected environment also includes people in vehicles on the same transportation route, as well as people at truck stops and workers who are involved with the transportation activities." (Continued Storage GEIS, § 3.15, p. 3-38).

In its contention, DWM urged that the missing rail route information comprised a contention of omission from the Holtec license application as that concept is defined in *Amergen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), LBP-06-16, 63 NRC 737, 742 (2006). DWM further argued that 10 C.F.R. § 72.108 requires that the CISF "be evaluated with respect to the potential impact on the

environment of the transportation of spent fuel, high-level radioactive waste, or reactor-related GTCC waste within the region,” and that the range of potential environmental effects of transporting SNF-filled canisters to and from the Holtec CISF must be made known to the public. These effects include routine exposures to neutron radiation when people are proximate to spent nuclear fuel containers (as at a rail crossing or while driving parallel to train tracks) and the possibility of harm from serious radiological accidents where a shipping cask is breached, or from rain falling on leaking or externally contaminated transport containers.

The overall Holtec project must evaluate the transportation component and the CISF operations components altogether for NEPA purposes. To do otherwise is to segment the Holtec project into discrete, smaller projects to defy effective analysis and public understanding of the range of environmental effects that could result from the project.

Notwithstanding DWM’s assertions, the Commission ruled:

[D]etermining exact transportation routes is an issue outside the scope of this licensing proceeding. Furthermore, the use of representative routes in an environmental-impacts analysis to address the uncertainty of actual, future spent fuel transportation routes is a well-established regulatory approach, the foundations of which Joint Petitioners have not challenged.

Memorandum and Order, CLI-20-04 at 53. (Apx. P. 718).

The Commission's ruling is legally unsatisfactory for multiple reasons. The "uncertainty of actual, future spent fuel transportation routes" is an exaggeration; the national rail grid is a nearly unchanging system, with few new trunk lines or trackage being constructed. References to the national rail grid as a system for delivering radioactive waste to Yucca Mountain has not been plagued with "uncertainty of actual . . . routes." Compared to the national system of federal and state highways, rail corridors from each of the nuclear power plants sending SNF are fixed, limited in number, and readily identifiable.

Segmentation is an attempt to circumvent NEPA by breaking up one project into smaller projects and not studying the overall impacts of the single overall project. "Segmentation is to be avoided in order to insure that interrelated projects, the overall effect of which is environmentally significant, not be fractionalized into smaller, less significant actions." *Town of Huntington v. Marsh*, 859 F.2d 1134, 1142 (2d Cir. 1988) (internal quotation marks omitted). An improperly segmented project has no independent utility, no life of its own, or is simply illogical when viewed in isolation. *Hudson River Sloop Clearwater, Inc. v. Dep't of Navy*, 836 F.2d 760, 763-64 (2d Cir. 1988). Because transportation of SNF by rail to Holtec is the *sine qua non* of

the CISF as an undertaking, Holtec's CISF has no life of its own. The inherent related hazards from transporting, handling and storing spent nuclear fuel render the Holtec CISF illogical when considered in isolation.

The Commission's "uncertainty" about routes effectively segmented the disclosure to the public of easily-discernible rail routes from the disturbing fact that there will be thousands – perhaps tens of thousands – of deliveries of very dangerous SNF and that those cargoes will traverse literally millions of miles to arrive at Holtec. While presumably emergency responders in rail corridors will be notified of coming shipments, the lack of public disclosure in the NEPA document of likely rail routes may serve to permanently deny notification to the general public living close to rail lines. Many trunk rail lines have been built through older, populous urban areas. There are many places where hundreds of thousands, even millions, of people live within two or three or five miles of a likely rail line. A serious radiological rail accident en route to or from Holtec (especially on a return route with a known contaminated or leaking SNF container) is certainly possible.

Returning contaminated and even leaking SNF containers to their point of origin may nearly double the potential rail mileage for flawed

shipments involving some of the most radiologically dangerous substances on earth. To Holtec, the possible harm is not “so ‘remote and speculative’ as to reduce the effective probability of its occurrence to zero,” so the NRC may not be allowed to “dispense with the consequences portion of the analysis.” *New York v. Nuclear Regulatory Commission*, 681 F.3d 471, 482 (D.C. Cir. 2012). “We must reject any attempt by agencies to shirk their responsibilities under NEPA by labeling any and all discussion of future environmental effects as ‘crystal ball inquiry.’” *Scientists' Inst. for Pub. Info., Inc. v. Atomic Energy Comm'n*, 481 F.2d 1079, 1092, 156 U.S.App. D.C. 395 (D.C. Cir. 1973). NRC’s NEPA regulations require detailed disclosures of the likely rail routes for the delivery of SNF to the Holtec CISF, and this matter should be remanded to the Commission for further proceedings.

CONCLUSION

Based on the foregoing, the Court should reverse the actions of the Respondents. Petitioners Sierra Club, Citizens Environmental Coalition, Don’t Waste Michigan, San Luis Obispo Mothers for Peace, Citizens for Alternatives to Chemical Contamination, Nuclear Information Resource Service, and Nuclear Issues Study Group pray the Court reverse the Nuclear Regulatory Commission decision by which the Commission

denied them legal standing to proceed. Those same Petitioners further pray the Court to find and declare that the Commission misapplied the Atomic Energy Act and its regulations and the National Environmental Policy Act and its regulations in denying that Petitioners had alleged sufficient contentions. Petitioners further pray the Court find and declare that the Environmental Impact Statement prepared by the Commission is defective in the respects cited by the Petitioners. Finally, Petitioners pray the Court reverse and remand to the Commission for further proceedings the causes and contentions raised within this Petition for Review litigation.

/s/ Wallace L. Taylor

Wallace L. Taylor, Esq.
4403 1st Ave. S.E., Suite 402
Cedar Rapids, Iowa 52402
319-366-2428; (Fax)319-366-3886
wtaylorlaw@aol.com

/s/ Terry J. Lodge

Terry J. Lodge, Esq.
316 N. Michigan St., Suite 520
Toledo, Ohio 43604-5627
419-205-7084
tjlodge50@yahoo.com

Attorneys for Petitioners

CERTIFICATE OF SERVICE

I hereby certify that on this 23rd day of January, 2024, I filed the foregoing Petitioners' Proof Brief in the Court's electronic case filing system, which according to its protocols would automatically be served upon all counsel of record.

/s/ Wallace L. Taylor
Wallace L. Taylor
Co-Counsel for Petitioners

CERTIFICATE OF COMPLIANCE

The foregoing Petitioners' Proof Brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5); the type-style requirements of Fed. R. App. P. 32(a)(6); the length limitation set forth in F.R.App.P. 27(d)(2)(a); and the applicable rules for the U.S. Court of Appeals for the District of Columbia Circuit. The Memorandum was prepared in 14-point, double spaced Times New Roman font using Libre. The Brief contains 9,427 words.

/s/ Wallace L. Taylor
Wallace L. Taylor
Co-Counsel for Petitioners

PETITIONERS' DESIGNATION OF ITEMS FOR INCLUSION IN DEFERRED APPENDIX

Holtec Environmental Report, Revision 3 - ML19016A93
Continued Storage GEIS
James David Ballard report
Holtec decommissioning financial assurance document - ML18058A608