Points of Interest

Page xxii lines 36-43: [Interim Storage Partners] ISP proposes using the national rail network for transportation of SNF from nuclear power plants and ISFSIs to the proposed [Consolidated Interim Storage Facility] CISF and eventually from the CISF to a geologic repository, when one becomes available. The operations' impacts the NRC staff evaluated include traffic impacts from shipping equipment, supplies, and produced wastes, and from workers commuting during CISF operations. Other impacts evaluated included the radiological and nonradiological health and safety impacts to workers and the public under normal and accident conditions from the proposed nationwide rail transportation of SNF to and from the proposed CISF.

Page xxiii lines 42-45: An estimate of the maximally exposed public individual located 30m (98 ft) from the rail track who is exposed to the direct radiation emitted from all approximately 3,400 passing rail shipments of SNF at full build-out under normal operations resulted in an accumulated dose of 0.019 mSv (1.9 mrem).

Page xxiii lines 22-28: During operation of any project phase, SNF would be shipped from existing storage sites at nuclear power plants or ISFSIs to the proposed CISF. These shipments must comply with applicable NRC and U.S. Department of Transportation (DOT) regulations for the transportation of radioactive materials in 10 CFR Parts 71 and 73 and 49 CFR Parts 107, 171-180, and 390-397, as appropriate to the mode of transport. The NRC staff evaluated the radiological and nonradiological health impacts to workers and the public from this project-specific transportation, considering both incident-free and accident conditions.

Page xxiv lines 1-3: Under accident conditions with no release, the highest estimated dose consequence to an emergency responder that spent 10 hours at 3 meters (3.3 yards) from the SNF cask was 1.6 mSv (160 mrem).

Page 2-5
Section 2.2.1.2
Lines 23-29: The [dry cask storage systems] DCSS listed in EIS Table 2.2-1 are currently employed for storage of SNF at several commercial reactor facilities in the United States. ISP would initially store SNF from shutdown decommissioned reactor sites at the proposed CISF (ISP, 2020). EIS Figure 2.2-4 provides the name and location of the currently decommissioned reactor sites in the United States. Approximately 80 percent of the SNF currently stored at these shutdown decommissioned reactor sites (approximately 4,000 MTU (4,400 short tons)) is stored in either the TN Americas or NAC International DCSS listed in EIS Table 2.2-1.

Table 2.2-1 NRC-Approved Dry Cask Storage Systems for Phase 1 of the Proposed CISF			
Cask System	**NRC Docket No.**	**Canister**	**Overpack**
NUHOMS® MP187 Cask System	71-9255 72-11 (SNM-2511)	FO-DSC	HSM (Model 80)
		FC-DSC	
		FF-DSC	
		GTCC Canister	
Advanced Standardized NUHOMS® System	71-9255 72-1029	NUHOMS® 24PT1	AHSM
Standardized NUHOMS® System	71-9302 72-1004	NUHOMS® 61BT	HSM Model 102
		NUHOMS® 61BTH Type 1	
NAC-MPC	71-9235 72-1025	Yankee Class	VCC
		Connecticut Yankee	
		LACBWR	
		GTCC-Canister-CY	
		GTCC-Canister-YR	
NAC-UMS®	71-9270 72-1015	Classes 1 thru 5	VCC
		GTCC-Canister-MY	
MAGNASTOR®	71-9356 72-1031	TSC1 thru TSC4	CC1 thru CC4
		GTCC-Canister-ZN	

Source: ISP, 2018b
DSC = dry shielded canister; HSM = horizontal storage module; AHSM = advanced horizontal storage module; VCC = vertical concrete cask; TSC = transportable storage container; CC = concrete cask; GTCC = Greater-Than-Class C

Figure 2.2-4 Decommissioned Reactor Sites in the United States (ISP, 2020)

Page 2-10
Section 2.2.1.3.2

Lines 26-27: ISP would commence operations of the proposed CISF about 3 months after Phase 1 construction completion, which would take about 1 year to complete (ISP, 2020).

Lines 37-44 Transportation of Storage Canisters to the Proposed CISF

ISP proposes to use dual-purpose canister-based systems for transportation and storage of the SNF. Canisters would be removed from storage overpacks at the originating site (i.e., the reactor site) and transferred to NRC-approved shipping casts for transportation to the proposed CISF. This process would be conducted under the originating site, transportation casks would be surveyed to ensure that all transportation standards, including radiological contamination and dose limits, are satisfied pursuant to NRC regulation in 10 CFR Part 71 and U.S.

Page 2-11
Lines 1-17 Department of Transportation (DOT) regulations in 49 CFR Part 173. In addition, prior to shipment from the originating site, ISP would verify that canisters shipped to the proposed CISF are following the terms, conditions of use, and technical specifications of NRC-approved DCSS to be used at the proposed CISF (ISP, 2018b).

Shipments would be transported via rail car. For originating sites without direct rail access, the transportation cast would be loaded onto a heavy-haul vehicle or barge and transported to a nearby rail line where the cask would be loaded onto a rail car for transportation to the proposed CISF. Shipments would be transported across the U.S. to Monahans, Texas, using rail lines operated primarily by the Union Pacific Railroad. From Monahans, shipments would be transported north to Eunice, New Mexico, on existing rail the Texas New Mexico Railroad owns and operates (EIS Figure 2.2-7). From Eunice, shipments would be transported east to the proposed CISF on the WCS-controlled and operated railroad spur. ISP estimates that approximately 3,400 loaded SNF canisters could be delivered to the CISF over the licensed operating period and has evaluated as many as 200 canisters shipped per year in their transportation impact analysis (ISP, 2020). Considering that ISP has proposed to ship up to 3,400 canisters over 8 phases, the NRC estimates approximately 425 canisters would be shipped, on average, for each phase.

Lines 23-30 Storage canisters are welded shut and sealed to prevent leaks and would not be opened during transportation to the proposed CISF or during storage. Transportation casks would be surveyed prior to shipment to the proposed CISF to ensure that all transportation standards are satisfied in accordance with NRC (10 CFR Part 71) and DOT (49 CFR Part 173) requirements. Transportation casks would not be shipped to the proposed CISF unless all appropriate NRC and DOT regulations are satisfied. Continual radiological monitoring of storage cask systems would be conducted throughout the license term of the facility to identify any potential contamination.

Page 2-18
Lines 18-27:

The proposed CISF is not expected to generate LLRW other than an estimated small amount of LLRW resulting from health physics activities. Any LLRW generated would be managed (e.g., handled and stored) in accordance with an NRC-approved and 10 CFR Part 20-compliant radiation protection plan, and consequently, the possibility of releases to the environment would be minimized. Disposal of LLRW would occur at the WCS LLRW disposal facility in Andrews County, Texas, which is adjacent to the proposed CISF and licensed by the TCEQ.

Section 2.2.1.5
Page 2-20
Lines 41-44:

During operation of any project phase, SNF would be shipped by rail from existing storage sites at nuclear power plants or ISFSIs to the proposed CISF. These shipments must comply with applicable NRC and DOT regulations for the transportation of radioactive materials in 10 CFR Parts 71 and 73 and 49 CFR Parts 107, 171-180, and 390-397, as appropriate to the mode of transport.

Page 2-21
Lines 1-13

For the operations stage of the proposed action (Phase 1), ISP proposes a bounding estimate of 200 canisters of SNF from reactors to the proposed CISF (ISP, 2020) over the course of a year, resulting in approximately one shipment every 2 days. During the operations stage of each additional phase (i.e., Phases 2-8), ISP estimates that up to 200 canisters would be shipped to the proposed CISF per year until the maximum of approximately 3,400 canisters has been shipped to the proposed CISF at full build-out (Phases 1-8) over a period of approximately 20 years or more within the 40-year license term. Based on the total number of canisters and phases, the NRC estimated the average number of canisters shipped per phase would be 425. When a repository becomes available, the daily number of SNF shipments to the repository would be determined by several factors but would be limited by the same loading and transfer capabilities at the CISF that factored into the ISP's maximum rate of SNF receipt (200 shipments per year, or approximately one shipment every 2 days).

Section 2.3.1
Page 2-22
Lines 2-18:

2.3.1 Storage at a Government-Owned CISF the U.S. Department of Energy Operates

The DOE is planning for an integrated waste management system to transport, store, and dispose of the nation's SNF and high-level radioactive wastes (https://www.energy.gov/ne/consent-based-siting/integrated-waste-management). Such an integrated waste management system would include facilities and other key infrastructure needed to safely manage SNF from commercial nuclear reactors. The DOE's planned integrated waste management system would include pilot interim storage facilities initially focused on accepting SNF from shutdown reactor sites, and full-scale CISFs that provide greater SNF storage capability. Although this alternative meets the purpose and need for the proposed action (i.e., away-from-reactor optional SNF storage capacity), the DOE has not released detailed information concerning the

planned SNF interim storage facilities, such as site locations, SNF transportation options and details, and facility design information, that would allow this alternative to be analyzed in detail. Because the DOE's integrated waste management system is in the planning stages and provides no siting, transportation, and facility design details that would be needed for a comparison of environmental impacts, this alternative was eliminated from detailed consideration.

Section 2.5
Page 2-29
Lines 2-11:

After weighing the impacts of the proposed action and comparing to the No-Action alternative, the NRC staff, in accordance with 10 CFR 51.71(f), sets forth its preliminary NEPA recommendation regarding the proposed action. The NRC staff preliminary recommends that, unless safety issues mandate otherwise, the proposed license be issued to ISP to construct and operate a CISF at he proposed location to temporarily store up to 5,000 MTUs (5,500 short tons) of SNF for a licensing period of 40 years (Phase 1). This preliminary recommendation is based on (i) the license application, which includes the ER and supplemental documents and ISP's responses to the NRC staff's requests for more information; (ii) consultation with Federal, State, Tribal, and local agencies and input from other stakeholders; (iii) independent NRC staff review; and (iv) the assessments provided in this EIS.

Section 3.3.2
Page 3-8
Lines 34-37:

Some of the plants that are located on navigable waters, such as rivers, the Great Lakes, or oceans, have facilities to receive and ship loads on barges. Power plants that are not served by rail would need to ship SNF by truck or barge to the nearest rail facility that can accommodate an intermodal transfer of the SNF cask (DOE, 2008).

Lines 38-45:

Because no arrangements regarding which nuclear power plants would store SNF at the proposed CISF have been made yet, the exact locations of SNF shipment origins have not been determined; therefore, the details regarding the specific routes that would be used also are not known at this time. SNF may be shipped from the locations of currently decommissioned reactor sites that are identified on the map in Figure 2.2-4. The origin, destination, and distance of potential SNF rail shipments from these decommissioned reactor sites are provided in the EIS Table 3.3-1. If the proposed CISF is approved for and loaded to full capacity (i.e., 40,000 MTU in Phases 1-8), then it is reasonable that shipments of SNF would also come from many of the existing reactor sites nationwide. Additionally, the SNF stored at the proposed CISF project would eventually need to be transported to a permanent geologic repository, in accordance with the U.S. national policy for SNF management established in the Nuclear Waste Policy Act of 1982, as amended (NWPA). The NWPA requires that DOE submit an application for a repository at Yucca Mountain, Nevada. Unless and until Congress amends the statutory requirement, the NRC assumes

Page 3-9
Lines 1-7:

that the transportation of SNF from the CISF to a permanent repository will be to a repository at Yucca Mountain, Nevada.

Table 3.3-1 Origin, Destination, and Distance of Potential Rail Routes for Proposed Transportation of Spent Nuclear Fuel from Decommissioned Reactor Sites

Decommissioned Reactor Site	Rail Origin	Destination	Estimated Distance*
Big Rock Point	Cadillac, MI	Monahans, TX	2,865
Connecticut Yankee	New Haven, CT	Monahans, TX	3,592
Crystal River	Crystal River, FL	Monahans, TX	2,845
Humboldt Bay	San Francisco, CA	Monahans, TX	2,482
Kewaunee	Green Bay, WI	Monahans, TX	2,549
Lacrosse	Lacrosse, WI	Monahans, TX	2,306
Maine Yankee	Wiscasset, ME	Monahans, TX	5,014
Rancho Seco	Herald, CA	Monahans, TX	2,365
San Onofre	Pendleton, CA	Monahans, TX	1,742
Trojan	Rainier, OR	Monahans, TX	3,472
Yankee Rowe	Rowe, MA	Monahans, TX	3,402
Zion	Zion, IL	Monahans, TX	2,342

*Distance estimates (km) (ISP, 2019a,b) do not include barge or truck travel from origin sites to the nearest rail line for those sites that do not have rail access or the approximately 100 km of travel on the TNMR line from the switching yard at Monahans, Texas to the final destination at the proposed CISF project area. To convert kilometers to miles divide by 1.6.

Lines 8-21:

The exact routes for SNF transportation to and from the proposed CISF would be determined in the future prior to making shipments. However, to evaluate the potential impacts of these shipments and to aid the evaluation of the ISP transportation analysis, the NRC staff considers that representative or bounding routes applicable to a national SNF shipping campaign such as those described and evaluated in Section 2.1.7.2 of DOE's Final Supplemental Environmental Impact Statement for a geologic repository at Yucca Mountain (DOE, 2008) and NRC's most recent SNF transportation risk assessment in NUREG-2125 (NRC, 2014), provide sufficient information about potential transportation routes to support the analysis of impacts in EIS Section 4.3. The NRC staff considers the routes evaluated in these prior transportation analyses to be representative or bounding for SNF shipments to and from the proposed CISF project because they were derived based on typical transportation industry route selection practices, they considered existing power plant locations, and can be applied to EIS analyses using conservative our bounding assumptions (e.g., as described further in Section 4.3 of this EIS, selecting a route that is longer than most of the routes that would actually be used).

Pages 4-9 to 4-21

4.3.1.2.2 Transportation Impacts from Nationwide SNF Shipments to the CISF

[I will not be typing this section out, essentially everything in this section is relevant]

Page 5-6
Section 5.1.1.4
Lines 2-16:

In March 2017, Holtec International (Holtec) submitted a license application to the NRC requesting authorization to construct and operate a CISF for spent nuclear fuel (SNF) in Lea County, New Mexico. Similar to the proposed ISP CISF evaluated in this EIS, the function of the CISF would be to store SNF, GTCC waste, and a small quantity of mixed-oxide fuel generated at commercial

nuclear power plants (Holtec, 2017). The SNF would be transported from commercial nuclear power reactor sites to the proposed CISF by rail. Although the initial license request is to store 8,680 metric tons of uranium (MTU) (9,568 short tons) at the CISF, Holtec intends to submit future license amendment requests such that the facility would eventually store up to 100,000 MTU (110,240 short tons) (Holtec, 2019). The NRC is in the process of reviewing the Holtec application. The NRC is conducting a safety evaluation that will be documented in a Safety Evaluation Report (SER) and will also prepare an EIS. This is an ongoing evaluation, and the NRC will not make a licensing decision for this facility until the EIS and SER are complete. However, because detailed information about the Holtec proposal is available, information about this reasonably foreseeable future action is included where appropriate in this EIS.

Questions and Things that Came to Mind

- Regarding the proposition on page xxii lines 36-43: the transport of SNF from MI will utilize current rail lines established in MI. The questions become (1) what are the proposed routes from each nuclear power plant and ISFSI leading out of the state? (2) are there any associated heavy haul over highways to these rail routes and what are they? (3) what planning is needed for commencement of transportation of SNF within MI? (4) how will training of the emergency response community, including awareness training, be accomplished? (5) what public outreach activities are planned and with whom?

- Regarding page xxiii lines 23-26: CFRs are mentioned but no mention of NUREG-0561, Rev. 2. Considering the unique sensitivity of these shipments, we would like to see shipments to this proposed facility follow the guidance set forth in NUREG-0561, Rev. 2.

- According to 2.2.1.2 on Page 2-5: there are several different types of dry cask storage systems currently being used to store SNF. The DOE has faced challenges in designing a transportation cask and rail car that would be suited for accommodating all of these different types of casks. What is the proposed method of transport by ISP to accomplish this?

- According to 2.2.1.3.2 section on "Transportation of Storage Canisters to the Proposed CISF," Pages 2-10 and 2-11 lines 42-44 and line 1 respectively state that 10 CFR Part 71 and 49 CFR Part 173 will be satisfied. However, these shipments will be rail shipments and 49 CFR Part 174 Subpart K governs carriage by rail. We request that this be considered as well as the previously mentioned NUREG-0561, Rev. 2 guidance.

- Page 2-11 line 26 again mentions NRC (10 CFR Part 71) and DOT (49 CFR Part 173) but does not address 49 CFR Part 174 – carriage by rail.

- Page 2-20 line 44: Gives first reference to 49 CFR Part 174 (carriage by rail) only through a listing of 171-180, however no specific reference.

- Page 2-29 line 9 indicates consultation with Federal, State, Tribal, and local agencies and input from other stakeholders was a basis for the preliminary recommendation. What consultation is this referring to?

- Page 4-17 lines 32-44 describes scenarios of doses to first responders. What provisions for training first responders in radiological emergency response along shipping routes are being considered?

- Regarding Page 5-6 Section 5.1.1.4: It seems that there could be a distinct possibility there could be up to three competing entities for the collection and transport of SNF – ISP, Holtec, and the DOE. Each could have different standards and methodologies for the transport of the SNF from originating sites. Has there been any consideration as to who would or could get access to which sites? Any sort of priority system? In the case of Big Rock Point, as listed in Table 3.3-1, Entergy is seeking to transfer the license to Holtec upon the closure of Palisades nuclear plant in 2022. It seems as though, with Holtec also seeking to construct a CISF there could be issues with ISP attempting to move that fuel and Holtec also wanting to move that fuel to their own site.

This could lead to miscommunications with state and local agencies and misunderstandings in transportation coordination and intentions of these two entities. Moreover, what is the possibility of BOTH ISP and Holtec conducting simultaneous shipping campaigns from the same site?