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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

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General Comment

Attached please find revised comments filed on behalf of the Association of American Railroads correcting a minor typographical error.

Attachments

2020-7-2 AAR Comments on NUREG-2239 ISP CISF Draft EIS

BEFORE THE

NUCLEAR REGULATORY COMMISSION

COMMENTS ON 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 Docket No. 72-1050; NRC-2016-0231; NUREG-2239

SUBMITTED BY

THE ASSOCIATION OF AMERICAN RAILROADS

The Association of American Railroads ("AAR"),[1] on behalf of itself and its member railroads, submits the following comments to the Nuclear Regulatory Commission's draft Environmental Impact Statement (EIS) for Interim Storage Partners LLC's (ISP) License Application for a Consolidated Interim Storage Facility for Spent Nuclear Fuel in Andrews County, Texas (NUREG-2239). ISP proposes to construct and operate a consolidated interim storage facility (CISF) for spent nuclear fuel (SNF), high-level radioactive waste (HLRW), and Greater-Than Class C (GTCC) waste, along with a small quantity of mixed oxide fuel. As noted in the draft EIS, "ISP proposes using the national rail network for transportation of SNF and HLRW from nuclear power plants and [independent spent fuel storage installations, or] ISFSIs to the proposed [consolidated interim storage facility, or] CISF] and eventually from the CISF to a geologic repository, when one becomes available,"[2] hence AAR and its members have a significant interest in this draft EIS.

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[1] AAR is a non-profit trade association, representing freight railroads that operate 83 percent of the line-haul mileage, employ 95 percent of the workers, and account for 97 percent of the freight revenues of all railroads in the United States. AAR also represents passenger railroads that operate intercity passenger trains and provide commuter rail service. AAR is the nation's leading railroad policy, research, standard setting, and technology organization. AAR and its members are committed to operating the safest, most efficient, cost-effective, and environmentally sound rail transportation system in the world.

[2] Draft EIS at xxii.

The draft EIS makes no mention of using AAR's "Performance Specification for Trains Used to Carry High Level Radioactive Material (HLRM) – S-2043,"[3] nor does it make any statement about the use of dedicated trains, although there are two references to the use of a three-car train, which implicitly suggests dedicated trains are envisioned. Both of these issues are discussed below.

Conformance with AAR Specification S-2043

Any new equipment built for the purpose of transportation of SNF and HLRW should be built in conformance with S-2043. S-2043 provides a higher level of safety for cars used to transport this material than other freight cars currently in use in the rail transportation network. Cars built to S-2043 will have better handling characteristics and the ability to use the most current technology available to assist in the prevention of derailments. S-2043 requires on board defect detection systems, which monitor the train for equipment-caused symptoms that are known to cause derailments and alert the train crew of any anomalies before potentially causing a derailment. The train health information includes monitoring

[3] The AAR-S-2043 Standard, "Performance Specification for Trains Used to Carry High-Level Radioactive Material," provides design and performance requirements for railcars intended to carry high-level radioactive materials, including SNF and HLRW. AAR-S-2043 specifies stringent requirements for railcar coupling systems, brakes, nondestructive examinations of railcar components, and railcar dynamic load tests.

for known derailment causes such as truck hunting,[4] rocking,[5] wheel flats,[6] defective bearings, vertical and longitudinal acceleration, and braking performance.

S-2043 includes a requirement to use premium suspensions for all cars in the train. Premium suspensions are higher-quality freight car wheel assemblies. They reduce lateral wheel forces and vertical dynamic impact forces, which can result in derailments. If SNF and HLRW were transported in general freight service, there would be no way of guaranteeing that the cars transporting other freight would have premium suspensions. More generally, dedicated trains eliminate the possibility of a derailment of an unrelated car causing an incident or derailment and significant delay of the train carrying a SNF and/or HLRW shipment.

S-2043 is different from other AAR standards, in that it not only requires a single car to meet the standard, but instead all cars in the train must do so. Conformance with S-2043 is designed to make a safe shipping campaign even safer. The use of rail equipment conforming to S-2043 will allow the cars to be

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[4] Truck hunting is an instability at high speed of a wheel set (truck) causing the truck to weave down the track, usually with the flange of the wheel striking the rail.

[5] Excessive lateral rocking of cars and locomotives can occur, usually at low speeds. The speed range at which this cyclic phenomenon occurs is determined by such factors as the wheel base, height of the center of gravity of each individual car or locomotive, and the spring dampening associated with each vehicle's suspension system.

[6] A wheel flat is a flat spot or loss of roundness of the tread of a railroad wheel.

interchanged in the North American Rail network under AAR interchange rules. If ISP attempts to transport SNF and HLRW using equipment not conforming to S-2043, separate agreements would have to be made with each carrier in the transportation route.

Dedicated Trains

AAR and its member railroads contend that the safest possible method of transporting SNF and HLRW by rail is through the use of dedicated trains. Dedicated trains offer several important safety advantages that reduce the already very small possibility of an accident. Specifically, SNF and HLRW cars in dedicated trains do not have to be "switched"[7] in and out of trains at rail yards since all cars in a dedicated train travel from origin to destination. Switching would be required were SNF and HLRW cars to be transported in general freight service. Switching increases the handling of cars, resulting in shipment delays and a higher risk of incident or accident.

Combining heavy SNF and HLRW cars with general freight service instead of deploying dedicated trains also increases the potential for an accident.[8] The heavy SNF and HLRW cars could generate high forces in a general service train,

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[7] Switching involves moving cars from inbound trains to a yard to tracks with other cars headed to the same destination.

[8] Some current Navy SNF and HLRW cars weigh over 500,000 pounds, while loaded general freight service case generally weigh a maximum of 286,000 pounds and empty rail cars weigh as little as 30,000 pounds.

causing significant in-train forces, such as slack action,[9] that could lead to a derailment. A significant part of an engineer's safety responsibilities involves controlling these in-train forces. This task is considerably easier in a short, dedicated train than in a long, general service train.

Further, dedicated trains are essential in order to meet the requirements of S-2043. For example, it is not possible to fully utilize the defect detection capabilities built into S-2043 without all the cars in the train being equipped with this technology.

Finally, dedicated trains are advantageous from the perspective of time spent in transport. As the Federal Railroad Administration (FRA) reported to Congress, it is critical that the amount of time SNF and HLRW shipments spend in the transportation system be minimized, for both security and efficiency.[10] This is not possible should SNF and HLRW be transported in mixed-freight trains rather than dedicated trains because the switching of rail cars in and out of trains takes time. With dedicated trains, railroads can schedule them to move quickly and smoothly through sensitive areas, thus lessening safety concerns by limiting the time of transit for SNF shipments.

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[9] Slack action is the force exerted throughout the train as trains accelerate, decelerate, and operate over undulating and curved terrain.

[10] See U.S. Department of Transportation, Identification of Factors for Selecting Modes and Routes for Shipping High-Level Radioactive Waste and Spent Nuclear Fuel, p. vi (April 1998).

With respect to security concerns, escorts required for SNF and HLRW movements are better able to monitor SNF and HLRW in dedicated trains than in general freight service, which, as explained above, involves the switching of SNF and HLRW cars and the movement of the cars in different trains as the SNF and HLRW moves from origin to destination.

It is noteworthy that the Private Fuel Storage consortium, which sought to build a temporary storage facility for SNF and HLRW in Utah, intended to use and pay for dedicated trains in conformance with S-2043. The Department of Energy (DOE) also had committed to using dedicated trains for its commercial SNF and HLRW transportation program[11]. In addition, DOE is designing their SNF and HLRW transportation system in conformance with S-2043. Dedicated trains with these safety enhancements were to be used for the transportation of SNF and HLRW for safety and efficiency reasons. The Nuclear Energy Institute (NEI), the trade association representing the nuclear power industry, supports the use of dedicated trains. In its report to Congress,[12] the FRA indicated that the "use of dedicated trains would reduce both the probability of a SNF and HLRW cask being involved in a train accident and the possibility that other hazardous materials might

[11] Department of Energy Policy Statement for Use of Dedicated Trains for Waste Shipments to Yucca Mountain, available at http://www.state.nv.us/nucwaste/news2005/pdf/doe050718rail.pdf.

[12] "Use of Dedicated Trains for Transportation of High-Level Radioactive Waste and Spent Nuclear Fuel," FRA Report to Congress, March 2005.

be involved that could subject a cask to a fire environment with possible loss of shielding.… [O]n a comparative basis, it is apparent that a dedicated train strategy should have a favorable impact on any residual risk."

Similarly, the National Academy of Sciences has determined that dedicated train transportation of SNF and HLRW has operational, safety, security, communications, and planning advantages over transportation in general merchandise trains.[13] Finally, in a press release announcing their study on the transportation of nuclear waste, a committee of the National Academies' National Research Council "strongly endorsed the plan to use 'dedicated' trains, which would carry only spent fuel or high-level waste and no other freight." [14]

Conclusion

The commitment of the nuclear industry, and the recommendations of the FRA and the National Academies to dedicated trains should be convincing evidence that safety, security, and efficiency will be enhanced by requiring any SNF and HLRW from ISP's operations to be transported on dedicated trains

[13] Committee on Transportation of Radioactive Waste, National Research Council of the National Academy of Sciences, Going the Distance: The Safe Transport of Spent Nuclear Fuel and High-Level Radioactive Waste in the United States (2006).

[14] No Fundamental Technical Barriers to the Safe Transport of Spent Nuclear Fuel and High Level Radioactive Waste, But Challenges Remain," National Academy of Sciences, February 9, 2006.

meeting S-2043 standards. AAR calls on the NRC to require ISP to meet the commitment to safety exemplified by the railroads and the DOE.

AAR and its member railroads are committed to the safe, secure and efficient transportation of hazardous materials, and look forward to NRC's response to these comments.

Respectfully submitted,

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