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General Comment

Attached are the comments of the Association of American Railroads to Revision 2 - Physical Protection of Shipments of Irradiated Reactor Fuel.

Attachments

NRC-2010-0340-DRAFT-0005.1: Comment on FR Doc # 2011-01907

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BEFORE THE
NUCLEAR REGULATORY COMMISSION

AAR COMMENTS ON PHYSICAL PROTECTION OF SHIPMENTS OF
IRRADIATED REACTOR FUEL
DOCKET ID: NRC-2010-0340

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 on the NRC's proposed guidance for the transportation of irradiated reactor fuel, "Physical Protection of Shipments of Irradiated Reactor Fuel" ("Physical Protection").² When spent nuclear fuel from commercial reactors starts to move in the future, the U.S. Department of Energy plans to use rail as the preferred mode of transportation. Consequently, AAR's member railroads have a significant interest in the guidance issued by the NRC for the transportation of reactor fuel. AAR members' goal is to move the shipments safely and efficiently through the system.

I 2.1.2.1 Route Map and Mileage

Section 2.1.2.1 states that:

The licensee should include the following information in the request to the NRC for approval of planned and alternative routes for road, rail, and sea shipments of SNF:

- detailed route plan tables that specify the route segments by county for each State (see the sample detailed route plan table in Table 2 of Appendix A)

¹ AAR is a trade association whose membership includes freight railroads that operate 68 percent of the line-haul mileage, employ 89 percent of the workers, and account for 93 percent of the freight revenues of all railroads in the United States; and passenger railroads that operate intercity passenger trains and provide commuter rail service.

² www.regulations.gov, NRC-2010-0340-0005. See 75 Fed. Reg. 67636.

- estimated travel time for each segment (i.e., estimated time for each segment under good conditions)³

From a railroad standpoint, estimates of the travel time will be provided, keeping in mind, that the rail systems is a network, and sometimes changes need to be made to accommodate other traffic in the network. A good portion of the rail network is single track, which requires trains to enter sidings, while other trains pass. That is the reason estimates will be provided and not actual times. In addition, railroads do not have an easy way to provide travel times by county, therefore, travel times by yards and crew change points are more likely to be provided.

II Section 2.2 Preplanning and Coordination of Shipments

Section 2,2 states that

For a shipment of spent nuclear material, the licensee should preplan and coordinate shipment details with the Governor, or the Governor's designee, of each State through which or across whose boundaries the shipment will pass. The purpose of this activity is to accomplish the following:

- Discuss the State's intention to provide law enforcement escorts.⁴

As noted below, there is no room in the cab of a locomotive for escorts. If escorts are required, they should be in a dedicated escort car at the end of the train and be prepared to travel the entire route with the shipment, or at least between crew change points. Railroads do not have special sidings at county and state borders, so finding a safe place to stop along the route which does not interfere with other rail traffic is not possible except at yards and crew change points.

III. 2.2.2 Procedures at Stops

Section 2.2.2 states that:

Shipments are vulnerable to attack while stationary. In accordance with 10 CFR 73.37(b)(3)(vii)(C), the licensee shall ensure that at least one armed escort other than the driver maintains constant visual surveillance...

AAR assumes any irradiated reactor fuel shipment would be made in a dedicated train. Dedicated trains are trains which travel from point of origin to point of

³ Physical Protection, pp. 8.

⁴ Physical Protection, pp. 11.

destination without being switched into new trains in transit. One of the advantages of a dedicated train is that it could be made to be short, which would allow line of sight to the reactor fuel in the train.

V. Section 2.6 Armed Escorts

Section 2.6 states that

Armed escorts for road, rail, or sea shipments of SNF must successfully complete a training course in accordance with Appendix D, "Physical Protection of Irradiated Reactor Fuel in Transit, Training Program Subject Schedule," to 10 CFR Part 73. Appendix D contains a list of the subjects to be covered in such a course. The detailed material taught under each subject heading should be adapted to the particular modes of transportation used for the shipment the armed escort will be assigned to protect. The licensee may adjust the length of the course depending on the background and the experience of the individuals selected to be armed escorts. The licensee should be prepared to demonstrate the efficacy of the training program to comply with the NRC inspection and enforcement program. One way to accomplish this is to maintain records of the licensee's evaluations (written tests, field tests, or observation of performance) of the trainees' progress in the instruction program and any remedial training required.⁵

One of the topics which should be included in the list of training requirements is basic railroad safety. Railroad safety is not mentioned anywhere in Appendix D of 10 C.F.R section 73. The railroad industry is very safe and that safety record is due, in part, to the training given to railroad employees and contractors. One possible avenue for training is the Transportation Technology Center, Inc., (TTCI) in Pueblo, Colorado, which, through its Security and Emergency Response Training Center, conducts training for shippers, railroads, local emergency responders, and Transportation Security Administration (TSA) personnel. A specific rail safety course has been developed for TSA personnel, which could be modified to teach escorts about rail safety before they are exposed to the rail environment. It is recommended that this or similar rail safety training be provide to all escorts traveling with the shipments.

⁵ Physical Protection, pp. 18, 19.

It should also be noted, that there is no room in the cab of the locomotive for armed escorts. If armed escorts are to accompany the shipments, an escort vehicle should be provided.

IV. 2.7 - Shipment Log

Section 2.7 includes the following language:

In 10 CFR 73.37(b)(3)(iv), the NRC requires the movement control center personnel and the escorts to each maintain a written log for each SNF shipment.⁶

The requirement for a written log should be modified to allow an electronic record. For rail transportation it makes sense to use a car history based on wayside detectors. However, there are a number of requirements for a "shipment log" are not clearly defined. For example the shipment log should include "identification of the movement control center and its staff". Does this mean all the staff in the "movement control center"? This section also introduces the term "custody transfer". It is not clear what this means - would it include crew change points or only interchange points between rail carriers. AAR suggests that movement control center should be a center operated by the licensee. Railroads would not want to have outside staff in their dispatch centers potentially interfering with the operation of trains.

Section 2.7 also includes the following language:

The shipment log should include the following types of information:

- names of shipping and receiving organizations, carriers, escorts, drivers (for road shipments), chief engineers (for rail shipments), and vessels and their masters (for sea shipments).
- dates, times, and locations of stopovers and custody transfers.⁷

AAR assumes that by "chief engineer" NRC means "locomotive engineer." A typical train crew consists of a locomotive engineer and a conductor. It is more appropriate to use the term "locomotive engineer" or "train crew" instead of "chief engineer."

⁶ Physical Protection, pp. 19.

⁷ Physical Protection, p. 19, 20.

Also, concerning dates and times, and locations of stopovers and custody transfers, these shipments are subject to the TSA Rail Sensitive Security Measures (RSSM). Chain of custody is required for these shipments under TSA's rules. The chain of custody applies when a carrier picks up a shipment from a shipper, transfers it to another carrier, or delivers it to destination and does not apply at crew change points. That is the chain of custody the railroads are able to provide, and NRC should clarify that in the document.

V 2.8.2 Training of Personnel Associated with Shipments

Section 2.8.2 states that:

To ensure that personnel associated with SNF shipments are adequately prepared for all possible scenarios, the licensee should develop and implement a documented training program that covers the procedures developed under 10 CFR 73.37(b)(3)(v) and 10 CFR 73.37(b)(4), to include transportation physical protection procedures, normal operations procedures, and contingency and response procedures.⁸

Train crews are required to be trained under 49 CFR Part 172 Subpart H (general awareness, safety, function specific, and security awareness). No additional training should be required for train crews. Train crews will receive job briefings before handling these trains and that should be sufficient.

VI. 4.1 - Protection of Rail Shipments

Section 4.1 states that

[t]he armed escorts may be private guards or members of the [local law enforcement agency] LLEA. The armed escorts should be trained in accordance with Appendix D to 10 CFR Part 73 and should be thoroughly familiar with all safeguards requirements. The armed escorts should be alert to recognize any situations that might constitute a threat to the safety or security of the shipment.⁹

The same comment made under section 2.6 above concerning training also applies here. Rail safety training should be provided to all armed escorts.

⁸ Physical Protection, pp. 21.

⁹ Physical Protection, p. 27.

VII. 4.2 Communications for Rail Shipments

Section 4.2 states that

[t]he train's operator(s) and each escort must be equipped with redundant communications abilities that provide for two-way communications between the train operator(s), escorts, movement control center, LLEAs, and one another at all times. Alternate communication methods should not be subject to the same failure modes as the primary communication method. The use of telephones in call boxes located along the tracks is not generally acceptable as one of the communication methods because the telephones may not be available if the train is forced to make an emergency stop. However, call boxes could be relied on for short intervals where cellular and satellite phone service is not available.

If the train's communications system is used, complementary communications capabilities should be provided to ensure that the escorts will have immediate access to the communications equipment when necessary, if it is located apart from where the escort is situated.¹⁰

One additional measure that should be considered is allowing trains to be escorted by railroad police. Railroad police are commissioned to operate throughout the rail network, and might be more appropriate to serve the escort function.

It is not clear what is meant by "control center." Does NRC intend that the railroad dispatch office will be the "control center," with licensee personnel stationed at the dispatch office? Or does NRC intend for the licensee to establish an independent "control center?" NRC should clarify the reference to "control center."

Regarding the requirement for "redundant" or "complementary" communications capabilities, railroad dispatch centers and train crews communicate over a radio frequency managed by the rail industry. AAR envisions the railroad radio frequency as the primary means of communications. Most uses of cell phones are prohibited by the Federal Railroad Administration (FRA) regulations.¹¹ If NRC intends cell or satellite phones to be the redundant means of communications, a waiver might be needed from FRA. It should also be noted that cell phone coverage along railroad rights-of-way is very spotty, so there will be many gaps in coverage if cell phone coverage is chosen as the redundant means of

¹⁰ Physical Protection, pp. 27, 28.

¹¹ 49 C.F.R. § 220.301-315.

communication. A satellite phone is probably a better choice for redundant communications. It should be clarified that the licensee should be responsible for providing and maintaining the redundant communications.

Insofar as call boxes are concerned, call boxes are not utilized along the railroad right-of-way as they are along some highways. The reference to call boxes should be removed from the document.

Section 4.2 also states that

[t]he operator in the movement control center is required to monitor the shipping container to ensure its continued integrity while en route and to maintain periodic contact with the transport vehicle, not to exceed every 2 hours.¹²

As stated above, NRC needs to clarify the reference to "control center." Regarding the tracking of shipments, railroads track shipments using both wayside readers and communications between the railroad dispatch center and the train crew. However, wayside readers often are many miles apart. NRC should clarify what is meant by "monitoring" so that industry can determine what needs to be done. The term "continued integrity" is used in a number of places in the document. Within the context it being used, it implies monitoring the container to ensure there are no leaks. However, it could also be interpreted to mean that the shipment should be monitored to ensure that it is not unlawfully interfered with. NRC should clarify the intent.

VIII 6 BACKGROUND INVESTIGATIONS FOR UNESCORTED ACCESS TO SPENT NUCLEAR FUEL IN TRANSIT

Section 6 states that:

Before granting an individual unescorted access to irradiated reactor fuel in transit, licensees shall determine if the individual is trustworthy and reliable by completing a background investigation of the individual in accordance with 10 CFR 73.38. The requirements of 10 CFR 73.38 apply to vehicle operators, escorts, and any other individuals accompanying the SNF shipment during transport, as well as to movement control center personnel,

¹² Physical Protection, p. 28.

reviewing officials, background screeners, and any other access authorization program personnel.¹³

This section includes requirements for "movement control center" employees to undergo background checks. The terms "movement control center" and "unescorted access" need to be more clearly defined. If "unescorted access" is not clearly defined it could include a wide range of railroad employees. If for instance the movement control center includes the railroad dispatch center, all railroad dispatchers might have to undergo a background investigation. Since a reactor fuel shipment could traverse any point in the rail system, this could mean having to get background checks on many dispatches. In addition individuals accompanying the shipments would include train crews. A train could have any qualified member be assigned to a train carrying irradiated fuel. If all train crews had to receive background checks, it would mean thousands of people requiring background investigations, even though the likelihood of one actually transporting a irradiated fuel shipment would be extremely small. In 2009, there were over 59,000 train and engine employees employed by the US railroads. Again, NRC should clarify to which employees this provision applies and limit it as much as possible. One way to avoid this requirement applying to all dispatch center employees would be to clarify that the movement control center is operated by the licensee.

Paragraph 2 of Section 6 states:

The licensee is solely responsible for granting and controlling unescorted access to SNF in transit. The licensee shall use any information obtained as part of a criminal history records check solely for the purpose of determining an individual's suitability for unescorted access to SNF in transit. Each licensee must inform its contractors and vendors involved in the transport of SNF about the regulations and the need to meet the NRC requirements. The licensee shall document the basis for its determination to grant or deny an individual unescorted access to SNF in transit.¹⁴

49 CFR 172.802(a)(1) requires carriers to take measures to confirm information provided by job applicants hired for positions that involve access to and handling of the hazardous materials covered by the carrier security plan. These shipments would be covered by those requirements. Such information must be consistent with applicable Federal and State laws and requirements concerning employment

¹³ Physical Protection, pp. 31.

¹⁴ Physical Protection, pp. 31.

practices and individual privacy. Each job applicant must complete Form I-9, as required by the Immigration Reform and Control Act of 1986 (these are maintained by railroad Human Resources Departments). Additionally, railroads complete background checks on each applicant which includes (but is not limited to) police record, employment reference and other sources as appropriate upon hire. The railroad police perform reinvestigations of background checks for cause. The background investigations includes items such as: verification of social security number; criminal history; driving record; verification of education; previous employment confirmation; terrorist watch list check. Denial of employment could be for a number of reasons including but not limited to: falsification on application or in the interview; felony conviction; certain kinds of misdemeanor convictions; multiple misdemeanor convictions; excessive motor vehicle offenses; or pertinent information learned during the background investigation. Therefore, the documents should be revised to refer to the DOT regulations instead of placing redundant NRC requirements on railroad employees.

IX 6.3.8 Credit History Evaluation

Section 6.3.8 reads as follows:

As specified in 10 CFR 73.38(d)(6), licensees shall ensure that the full credit history of any individual who is applying for unescorted access to SNF in transit is evaluated. A full credit history evaluation must include, but is not limited to, an inquiry to detect potential fraud or misuse of social security numbers or other financial identifiers, and a review and evaluation of all of the information that is provided by a national credit-reporting agency about the individual's credit history.¹⁵

The impact of this provision depends upon the definition of "unescorted access." If train and engine crews are included, then as described above, this could include thousands of employees. If it includes the yard employees along the routes, and the car inspectors along the route, it would include even more thousands of employees. As described above, railroads cannot assign certain employees to the transportation of irradiated fuel, so we would have to include all employees in the category. We strongly encourage NRC to limit this, or remove the requirement as it applies to railroads.

¹⁵ Physical Protection, pp. 37.

X Conclusion

Railroads are willing to work with licensees to meet the NRC's physical protection requirements, but the requirements need to be clarified so that misunderstandings are avoided.

Respectfully submitted,



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