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Mr. Leon D. Santman, Director
Materials Transportation Bureau
U.S. Department of Transportation
400 Seventh Street, S.W.
Washington, D. C. 20590

Dear Mr. Santman:

We have reviewed the draft, "Schedules of Requirements for the Transport of Specified Types of Radioactive Material Consignments," dated August 1984. We have no fundamental problems with the schedules, although we believe the document is in need of editing. To this end, I have enclosed a number of specific comments. We appreciate the opportunity to review the schedules and hope our comments will be helpful.

Sincerely,

Original Signed by
Richard E. Cunningham

Richard E. Cunningham, Director
Division of Fuel Cycle and
Material Safety
Office of Nuclear Material Safety
and Safeguards

Enclosure: As stated

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NRC COMMENTS

*John. This is the
enclosure to letter
sent to Santman*

ON SCHEDULES OF REQUIREMENTS FOR THE TRANSPORT
OF SPECIFIED TYPES OF RADIOACTIVE MATERIAL CONSIGNMENTS

COMPANSION RECOMMENDATIONS TO IAEA SAFETY SERIES NO. 6

<u>Page No.</u>	<u>Comment</u>
1	<p>The "I. MATERIALS" heading should be clarified--are radioactive wastes included?</p> <p>All statements or entries in the Schedules should be in complete sentence format. Statements (a) and (b) are examples of statements that should be expanded to sentence format. Statements (a) and (b) should also state clearly that the materials described may be shipped in excepted packages. The other hazardous characteristics mentioned in statement (c) should be explained. Is statement (c) describing an excepted material or a restriction that applies to statements (a) and (b)?</p>
3	<p>The "6. MIXED PACKING" and "7. MIXED LOADING" headings should be defined.</p>
5.	<p>The references under "14. OTHER PROVISIONS" by themselves are not very helpful. Explanatory text would improve this section.</p>
6	<p>Would it be advisable to combine Schedules I and II?</p>
6	<p>Comments on entries in Schedule I also apply to corresponding entries in other Schedules.</p>
16	<p>No rationale is provided for statement 5(b).</p>
22	<p>Does "Other Items" in statement 6(a) refer to nonradioactive items?</p> <p>Is the statement under "8. LABELING AND MARKING OF PACKAGES, FREIGHT CONTAINERS, TANKS AND OVERPACKS" that FISSILE MATERIAL is not permitted to be transported as LSA-I MATERIAL correct? Are not certain quantities excepted?</p>

<u>Page No.</u>	<u>Comment</u>
25, 33, 42	Actions appropriate to achieve the needed level of "segregation" should be discussed.
Annex-II	In the table entitled, "Transport Index Limits for Conveyances and Freight Containers," is the n.a. entry appropriate for the "FREIGHT CONTAINER - small" row, "In EXCL. USE/FISSILE MATERIAL" column? Same comment applies to "PASSENGER AIRCRAFT" row, both, "IN EXCL. USE" columns.

PART 73 • PHYSICAL PROTECTION OF PLANTS AND MATERIALS

§ 73.37 Requirements for physical protection of irradiated reactor fuel in transit.

(a) *Performance objectives.* (1) Each licensee who transports, or delivers to a carrier for transport, in a single shipment, a quantity of irradiated reactor fuel in excess of 100 grams in net weight of irradiated fuel, exclusive of cladding or other structural or packaging material, which has a total external radiation dose rate in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding, shall establish and maintain, or make arrangements for, and assure the proper implementation of, a physical protection system for shipments of such material that will achieve the following objectives:

(i) Minimize the possibilities for radiological sabotage of spent fuel shipments, especially within heavily populated areas; and
(ii) Facilitate the location and recovery of spent fuel shipments that may have come under the control of unauthorized persons.

(2) To achieve these objectives, the physical protection shall:

(i) Provide for early detection and assessment of attempts to gain unauthorized access to, or control over, spent fuel shipments;
(ii) Provide for notification to the appropriate response forces of any spent fuel shipment sabotage attempts; and
(iii) Impede attempts at radiological sabotage or spent fuel shipments within heavily populated areas, or attempts to illicitly move such shipments into heavily populated areas, until response forces arrive.

(b) *General requirements.* To achieve the performance objectives of paragraph (a) of this section, a physical protection system established and maintained, or arranged for, by the licensee shall:

(1) Provide for notification of the Nuclear Regulatory Commission in advance of each shipment, in accordance with § 73.72 of this part.
(2) Include procedures for coping with circumstances that threaten deliberate damage to a spent fuel shipment and with other safeguards emergencies.
(3) Include instructions for each escort that, upon detection of the abnormal presence of unauthorized persons, vehicles or vessels in the vicinity of a spent fuel shipment, or upon detection of a deliberately induced situation that has the potential for damaging a spent fuel shipment, the escort will:

(i) Determine whether or not a threat exists;
(ii) Assess the extent of the threat, if any;
(iii) Inform local law enforcement agencies of the threat and request assistance; and

(iv) Implement the procedures developed in accordance with paragraph (b)(2) of this section.

(4) Include a communications center at a designated location, which will be staffed continuously by at least one individual who will monitor the progress of the spent fuel shipment and will notify the appropriate agencies in the event a safeguards emergency should arise.

(5) Provide for maintenance of a written log by the escorts and communications center personnel, for each spent fuel shipment, which will include information describing the shipment and significant events that occur during the shipment, and will be available for review by authorized NRC personnel for a period of at least 1 year following completion of the shipment.

(6) Provide that arrangements have been made with local law enforcement agencies along the routes of road and rail shipments, and at U.S. ports where vessels carrying spent fuel shipments are docked, for their response to an emergency or a call for assistance.

(7) Provide for advance approval by the NRC of the routes used for road and rail shipments of spent fuel, and of any U.S. ports where vessels carrying spent fuel shipments are scheduled to stop.

(8) Provide that shipments are planned so that scheduled intermediate stops are avoided to the extent practicable.

(9) Provide that at least one escort maintains visual surveillance of the shipment during periods when the shipment vehicle is stopped, or the shipment vessel is docked.

(10) Provide that escorts (other than members of local law enforcement agencies, or ship's officers serving as unarmed escorts) have successfully completed the training required by Appendix D of this part.

(11) Provide that shipment escorts make calls to the communications center at least every 2 hours to advise of the status of the shipment for road and rail shipments, and for sea shipments while shipment vessels are docked at U.S. ports.

(c) *Shipments by road.* In addition to the provisions of paragraph (b), the physical protection system for any portion of a spent fuel shipment that is by road shall provide that:

(1) A transport vehicle within a heavily populated area is:

(i) Occupied by at least two individuals, one of whom serves as escort, and escorted by an armed member of the local law enforcement agency in a mobile unit of such agency; or
(ii) Led by a separate vehicle occupied by at least one armed escort, and trailed

by a third vehicle occupied by at least one armed escort.

(2) A transport vehicle not within any heavily populated area is:

(i) Occupied by at least one driver and one other individual who serves as escort; or
(ii) Occupied by a driver and escorted by a separate vehicle occupied by at least two escorts; or

(iii) Escorted as set forth in paragraph (c)(1) of this section.

(3) Escorts have the capability of communicating with the communications center, local law enforcement agencies, and one another, through the use of:

(i) A citizens band (CB) radio available in the transport vehicle and in each escort vehicle;

(ii) A radiotelephone or other NRC-approved equivalent means of two-way voice communications available in the transport vehicle or in an escort vehicle committed to travel the entire route; and

(iii) Citizens band (CB) radio and normal local law enforcement agency radio communications in any local law enforcement agency mobile units used for escort purposes.

(4) The transport is equipped with NRC-approved features that permit immobilization of the cab or cargo-carrying portion of the vehicle.

(5) The transport vehicle driver has been familiarized with, and is capable of implementing, transport vehicle immobilization, communications, and other security procedures.

(d) *Shipments by rail.* In addition to the provisions of paragraph (b), the physical protection system for any portion of a spent fuel shipment that is by rail shall provide that:

(1) A shipment car within a heavily populated area is accompanied by two armed escorts (who may be members of a local law enforcement agency), at least one of whom is stationed at a location on the train that will permit observation of the shipment car while in motion.

(2) A shipment car not within any heavily populated area is accompanied by at least one escort stationed at a location on the train that will permit observation of the shipment car while in motion.

(3) Escorts have the capability of communicating with the communications center and local law enforcement agencies through the use of a radiotelephone, or other NRC-approved equivalent means of two-way voice communications, which shall be available on the train.

(e) *Shipments by sea.* In addition to the provisions of paragraph (b), the physical protection system for any portion of a spent fuel shipment that is

PART 73 • PHYSICAL PROTECTION OF PLANTS AND MATERIALS

by sea shall provide that:

(1) A shipment vessel, while docked at a U.S. port within a heavily populated area, is protected by:

(i) Two armed escorts stationed on board the shipment vessel, or stationed on the dock at a location that will permit observation of the shipment vessel; or

(ii) A member of a local law enforcement agency, equipped with normal LLEA radio communications, who is stationed on board the shipment vessel, or on the dock at a location that will permit observation of the shipment vessel.

(2) A shipment vessel, while within U.S. territorial waters, or while docked at a U.S. port not within a heavily populated area, is accompanied by an escort, who may be an officer of the shipment vessel's crew, who will assure that the shipment is unloaded only as authorized by the licensee.

(3) Escorts have the capability of communicating with the communications center and local law enforcement agencies through the use of a radiotelephone, or other NRC-approved equivalent means of two-way voice communications.

(f) Prior to the transport of spent fuel within or through a state a licensee subject to this section shall notify the governor or the governor's designee. The licensee shall comply with the following criteria in regard to a notification: (1) The notification must be in writing and sent to the office of each appropriate governor or the governor's designee. A notification delivered by mail must be postmarked at least 7 days before transport of a shipment within or through the state. A notification delivered by messenger must reach the office of the governor or the governor's designee at least 4 days before transport of a shipment within or through the state. A list of the mailing addresses of governors and governors' designees is available upon request from the Director, Office of State Programs, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

(2) The notification must include the following information:

(i) The name, address, and telephone number of the shipper, carrier and receiver.

(ii) A description of the shipment as specified by the Department of Transportation in 49 CFR § 172.202 and § 172.203(d).

(iii) A listing of the routes to be used within the state.

(iv) A statement that the information described below in § 73.37(f)(3) is required by NRC regulations to be protected in accordance with the requirements of § 73.21.

(3) The licensee shall provide the following information on a separate enclosure to the written notification:

(i) The estimated date and time of departure from the point of origin of the shipment.

(ii) The estimated date and time of entry into the governor's state.

(iii) For the case of a single shipment whose schedule is not related to the schedule of any subsequent shipment, a statement that schedule information must be protected in accordance with the provisions of § 73.21 until at least 10 days after the shipment has entered or originated within the state.

(iv) For the case of a shipment in a series of shipments whose schedules are related, a statement that schedule information must be protected in accordance with the provisions of § 73.21 until 10 days after the last shipment in the series has entered or originated within the state and an estimate of the date on which the last shipment in the series will enter or originate within the state.

(4) A licensee shall notify by telephone or other means a responsible individual in the office of the governor or in the office of the governor's designee of any schedule change that differs by more than 6 hours from the schedule information previously furnished in accordance with § 73.37(f)(3), and shall inform that individual of the number of hours of advance or delay relative to the written schedule information previously furnished.

(g) State officials, state employees, and other individuals, whether or not licensees of the Commission, who receive schedule information of the kind specified in § 73.37(f)(3) shall protect that information against unauthorized disclosure as specified in § 73.21.