Title 10 - Energy

CHAPTER I - NUCLEAR REGULATORY COMMISSION

PART 73 - PHYSICAL PROTECTION OF PLANTS AND MATERIALS

Physical Protection of Irradiated Reactor Fuel in Trans

AGENCY: U.S. Nuclear Regulatory Commission

ACTION: Interim final rule.

SUMMARY: The U.S. Nuclear Regulatory Commission has decided to establish requirements for protection of spent fuel in transit. A recent study suggests that the sabotage of spent fuel shipments has the potential for producing serious radiological consequences in areas of high population density. It will be some time before confirmatory research relative to the estimated consequences resulting from a successful act of sabotage on spent fuel can be completed. In the meantime, the Commission believes that interim requirements for the protection of such shipments should be issued immediately. This rule is subject to reconsideration or revision based on public comments received subsequent to its publication. Concurrently, the NRC is issuing guidance documentation (NUREG-0561) to assist licensees in the implementation of these requirements. The Public is invited to submit its views and comments on both the Rules and the Guidance.

EFFECTIVE DATE: July 16, 1979

DATE: Comment period expires August 17, 1979.

ADDRESSES: Written comments should be submitted to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, ATTENTION: Docketing and Service Branch.

FOR FURTHER INFORMATION CONTACT: Mr. L. J. Evans, Jr., Regulatory Improvements Branch, Division of Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Phone - (301) 427-4181.

SUPPLEMENTARY INFORMATION: The U.S. Nuclear Regulatory Commission is amending 10 CFR 73 of its regulations to provide interim requirements for the protection of spent fuel in transit. This amendment is being published in effective form without benefit of public comment in the interest of the public health and safety.

Previous studies (NUREG-0194, Calculations of Radiological Consequences from Sabotage of Shipping Casks for Spent Fuel and High-Level Waste, February 1977; NUREG-0170, FES on the Transportation of Radioactive Material by Air and Other Modes, December 1977), estimated the health effects of a radiological release in a non-urban area resulting from a high-explosive assault on a spent fuel cask. The estimated risks were not considered so substantive as to warrant regulatory action. A subsequent study by Sandia Laboratories includes a chapter on the sabotage of spent fuel in urban areas of high population density (SAND-77-1927, Transport of Radionuclides in Urban Environs: A Working Draft Assessment). This study suggests that the sabotage of spent fuel shipments has the potential for producing serious radiological consequences in areas of high population density. The Commission has concluded that, in order to protect health and to minimize danger to life and property (Sections 161b and 161i(3) of the Atomic Energy Act of 1954, as amended), it is prudent and desirable to require certain interim safeguards measures for spent fuel shipments. The interim rule would be in effect until the results of confirmatory research are available and analyzed.

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The focus of concern is on possible successful acts of sabotage in densely populated urban areas. Because of the possibility that spent fuel shipments could be hijacked and moved from low population areas to high population areas, the interim requirements apply to all shipments even though the planned shipment route may not pass through densely populated urban areas.

Prior to publication of this rule, informal contact was made with the carriers primarily involved in spent fuel shipments as well as with other interested parties, and their comments are known to the staff. It was ascertained that the imposition of these requirements would probably double the cost per mile rate for these shipments for an increase of approximately $200,000 per year for the estimated 200 annual shipments involved.

Because spent fuel shipments are on-going and the time of sabotage cannot be predicted, the Commission is of the opinion that time is of the essence in this matter, and that health and safety considerations override the necessity for public comment before issuance of an effective rule. Accordingly, the Commission, for good cause, finds that notice and public procedure are unnecessary and contrary to the public interest.

Although this rule is being published in effective form without a prior public comment period, the public is invited to submit its views and comments. After reviewing these views and comments, the Commission may reconsider or modify the interim rule as it deems necessary.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter I, Code of Federal Regulations, Part 73, are published as a document subject to codification.

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1. Section 73.1 of 10 CFR Part 73 is amended by adding a new paragraph (b)(5) as follows:

§73.1 Purpose and Scope

* * * * * *

(b)(5) This part also applies to shipments of irradiated reactor fuel of any quantity 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.

2. A new §73.37 is added to 10 CFR Part 73 to read as follows:

§73.37 Requirements for Physical Protection of Irradiated Reactor Fuel in Transit.

(a) GENERAL REQUIREMENTS - Each licensee who transports or delivers to a carrier for transport irradiated reactor fuel in any amount that is exempt from the requirements of §73.30 through 73.36 in accordance with §73.6 shall make arrangements to assure that:

(1) The Nuclear Regulatory Commission is notified in advance of each shipment in accordance with §73.72 of this Part, and that NRC has approved the route in advance of the shipment,

(2) arrangements have been made with law enforcement agencies along the route of shipments for their response to an emergency or a call for assistance

(3) the route is planned to avoid, where practicable, heavily populated areas,

(4) the shipment is scheduled where practicable without any intermediate stops except for refueling and obtaining provisions, and that at all stops at least one individual maintains surveillance of the transport vehicle,

(5) individuals serving as escorts have successfully completed a training program in accordance with Appendix D of this Part,

(6) procedures for coping with threats and safeguards emergencies have been developed.

(b) SHIPMENTS BY ROAD - For shipments by road, the licensee shall make arrangements to assure that:

(1) Each shipment is accompanied by (i) at least one driver and one escort in the transport vehicle, or (ii) at least one driver in the transport vehicle and two escorts in a separate vehicle,

(2) the transport or separate vehicle is equipped with a radiotelephone and CB radio or approved equal communications equipment and that calls are made at least every 2 hours to a designated location to advise of the status of the shipment,

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

(c) SHIPMENTS BY RAIL - For shipments by rail, the licensee shall assure that:

(1) Each shipment is accompanied by at least one escort in the shipment car or in a separate car that will permit observation of the shipment car,

(2) two-way voice communication capability is available and that calls are made at least every 2 hours to a designated location to advise of the status of the shipment,

(3) at least one escort maintains visual surveillance of the shipment car during periods when the train is stopped on sidings or in rail yards.

(d) If it is not possible to avoid heavily populated areas, the Commission may require, depending on individual circumstances of the shipment, additional protective measures.

(e) A period of 60 days from the effective date of the rule is allowed for the implementation of requirements that involve equipment modification or training.

3. A new Appendix D is added to 10 CFR Part 73 to read as follows:

Appendix D - Physical Protection of Irradiated Reactor Fuel in Transit, Training Program Subject Schedule.

Pursuant to the provision of 73.37 of 10 CFR Part 73, each licensee who transports or delivers to a carrier for transport irradiated reactor fuel is required to assure that individuals used as shipment escorts have completed a training program. The subjects that are to be included in this training program are as follows:

Security Enroute

-- Route planning and selection
-- Vehicle operation
-- Procedures at stops
-- Detours and use of alternate routes

Communications

-- Equipment operation
-- Status reporting
-- Contacts with law enforcement units
-- Communications discipline
-- Procedures for reporting incidents

Radiological Considerations

-- Description of the radioactive cargo

-- Function and characteristics of the shipping casks

-- Radiation hazards

-- Federal, State and local ordinances relative to the shipment of radioactive materials

-- Responsible agencies

Response to Contingencies

-- Accidents

-- Severe weather conditions

-- Vehicle breakdown

-- Communications problems

-- Radioactive "spills"

-- Use of special equipment (flares, emergency lighting, etc.)

Response to Threats

-- Reporting

-- Calling for assistance

-- Use of immobilization features

-- Hostage situations

-- Avoiding suspicious situations.

EFFECTIVE DATE: July 16, 1979

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(Sec. 53, 161b, 161i, Pub. Law 83-703, 68 Stat 930, 948, 949; Sec. 201, Pub. Law 93-438, 88 Stat 1242-1243 (42 U.S.C. 2073, 2201, 5841)).

Dated at Washington, D.C. this 12th day of June, 1979.

For the Nuclear Regulatory Commission

Samuel J. Chilk
Secretary of the Commission

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US14: When 500 kHz is used for distress purposes, ship and coast stations may use 512 kHz for calling except for inland waters.

US225: In addition to its present government use, the frequency band 510-525 kHz is available to government and nongovernment aeronautical radionavigation stations inland of the territorial base line as coordinated with the military services. In addition, the frequency 510 kHz is available for nongovernment ship-helicopter operations when beyond 100 nautical miles from shore and required for aeronautical radionavigation.

US(226): In the State of Hawaii, stations in the aeronautical radionavigation service shall not cause interference to U.S. Navy reception from its station at Honolulu on 198 kHz.

PART 87—AVIATION SERVICES

In § 87.501, paragraph (f) is amended to read as follows:

§ 87.501 Frequencies available.

(f) Radiobeacon stations: 190–285 kHz; 325–415 kHz; 510–525 kHz.

[FR Doc. 78-22833 Filed 8-16-78; 8:45 am]

[4910-60]

DEPARTMENT OF TRANSPORTATION

Materials Transportation Bureau

[49 CFR Part 177]

[Docket No. HM-164; Advance Notice]

CARRIAGE BY PUBLIC HIGHWAY

Highway Routing of Radioactive Materials; Inquiry

AGENCY: Materials Transportation Bureau, Research and Special Programs Administration, DOT.

ACTION: Advance notice of proposed rulemaking.

SUMMARY: This publication invites comment on the need, and possible methods for establishing routing requirements under the Hazardous Materials Transportation Act applicable to highway carriers of radioactive materials. The Materials Transportation Bureau (MTB) recently completed an examination of a local New York City ordinance halting the movement of radioactive materials. Similar ordinances have been or may be enacted elsewhere. This inquiry is intended to assist in MTB in deciding what Federal action may be justified in light of local concerns addressed in such ordinances. A hearing will be announced subsequently.

DATE: Comments must be received on or before January 1, 1979.

ADDRESS: Comments must be addressed to Dockets Branch, Information Services Division, Materials Transportation Bureau, Research and Special Programs Administration, U.S. Department of Transportation, Washington, D.C. 20590. Five copies of comments are requested but not required.

FOR FURTHER INFORMATION CONTACT:

Douglas Crockett, Office of Hazardous Materials Regulation, U.S. Department of Transportation, Room 6218, 2100 Second Street SW., Washington, D.C. 20590, 202-426-0656.

SUPPLEMENTARY INFORMATION:

I. Scope of This Docket

A. *Background.* On April 20, 1978, the MTB published an opinion (43 FR 16954) concerning the legal relationship between section 175.111 of the New York City health code and regulations issued by DOT under the Hazardous Materials Transportation Act (HMTA, Title I of Pub. L. 93-633). Section 175.111 of the city's health code prohibits the transportation in or through the city of most commercial shipments of radioactive materials. The HMTA is the basic Federal legislation under which the transportation safety of hazardous materials, including radioactive materials, is regulated. In the opinion, MTB concluded that HMTA routing authority is sufficient to preempt State and local highway routing requirements (see HMTA, §§ 105, 112; 49 U.S.C. 1804, 1811), but that because a routing requirement has not yet been established under the HMTA, that act does not at present preempt section 175.111 of the city's health code.

This municipal safety requirement, and other similar requirements imposed by State and local jurisdictions elsewhere, affect interstate commerce. In some cases local requirements may so vary from one another as to be incompatible. In other cases they may impose significant additional responsibilities on shippers, carriers, or neighboring jurisdictions. Existing State and local requirements for highway carriers of various radioactive materials now restrict use of bridges, tunnels, and roads otherwise open to public use. Local jurisdictions have also imposed requirements for permit fees, advance notice, escorts, and specified times of travel. In many cases, these local restrictions are associated with local responsibilities for emergency response or for traffic control (such as the establishment of truck routes). This rulemaking will examine the transportation safety aspects of highway routing of radioactive materials. The examination will include consideration of routing decisions now being made by carriers and the methods by which those decisions are made. The rulemaking will examine the safety effects of existing and possible Federal, State, and local highway routing controls, including effects of actions by one State or locality on another.

Only highway routing of radioactive materials will be considered in this docket. This does not rule out the possible future consideration of materials in other hazard classes and other modes of transportation. However, highway transportation, of all four modes of transportation, offers the largest number of routing possibilities and the greatest access to population centers. When highway carriers transport radioactive materials, they now face immediate and significant disparities in safety requirements imposed by State and local jurisdictions.

B. *Safety.* Both DOT and the Nuclear Regulatory Commission (NRC) share responsibility for insuring use of safe methods of preparing and transporting radioactive materials. DOT regulations pertain to packaging, labeling and marking, placarding and shipping paper entries, keyed to the radiation hazard of the material being transported (49 CFR parts 170-178, especially §§ 173.7(b), 173 .389-.398 and parts 390-397, especially part 397). Complementary NRC regulations, pertaining to packaging of certain radioactive materials, are found at 10 CFR part 71. In addition NRC regulations in 10 CFR part 73 concern the physical security of special nuclear materials, at both fixed facilities and while in transportation.

An existing DOT regulation generally addresses highway routing of hazardous materials (49 CFR 397.9(a)), including radioactive materials, when carried in substantial quantities. Section 397.9 was issued under statutes that predate the HMTA (18 U.S.C. 834 and 49 U.S.C. 304), and states:

§ 397.9 *Routes.*

(a) Unless there is no practicable alternative, a motor vehicle which contains hazardous

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ous materials must be operated over routes which do not go through or near heavily populated areas, places where crowds are assembled, tunnels, narrow streets, or alleys. Operating convenience is not a basis for determining whether it is practicable to operate a motor vehicle in accordance with this paragraph.

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Another DOT regulation expressly recognizes State and local traffic regulation (49 CFR 397.3). Section 397.3 approves those State and local requirements which concern the mechanics of driving and handling vehicles. Those State and local requirements are roughly comparable to Federal requirements in 49 CFR part 392. Section 397.3 states:

§ 397.3 State and local laws, ordinances, and regulations.

Every motor vehicle containing hazardous materials must be driven and parked in compliance with the laws, ordinances, and regulations of the jurisdiction in which it is being operated, unless they are at variance with specific regulations of the Department of Transportation which are applicable to the operation of that vehicle and which impose a more stringent obligation or restraint.

A third regulation, issued under the HMTA, approves certain hazardous materials restrictions imposed on the use of tunnels by State or local authority (49 CFR 177.810). Section 177.810 states:

§ 177.810 Vehicular tunnels.

Nothing contained in parts 170-189 of this subchapter shall be so construed as to nullify or supersede regulations established and published under authority of State statute or municipal ordinance regarding the kind, character, or quantity of any hazardous material permitted by such regulations to be transported through any urban vehicular tunnel used for mass transportation.

Sections 397.3 and 397.9, and section 177.810(a), taken together, reflect the fact that routing of highway traffic in hazardous materials has been a matter left primarily to State and local regulation, and the principle that such State and local regulation should not have the actual effect of altogether forbidding highway transportation between any two points, even where other modes of transportation are available. These provisions constitute the present posture of DOT highway routing policy.

In addition to these provisions, there are also a number of publications available, concerning radioactive materials transportation, which will be considered in this docket. The list below is not inclusive:

(1) Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes (NUREG-0170), U.S. Nuclear Regulatory Commission, Office of Standards Development, December 1977 (available from the National Technical Information Service for $12).

(2) Lippek and Schuller, Legal, Institutional, and Political Issues in Transportation of Nuclear Materials at the Back End of the LWR Nuclear Fuel Cycle, September 30, 1977 (Battelle Human Affairs Research Centers, 4000 Northeast 41st Street, Seattle, Wash. 98105).

(3) Transport of Radioactive Material in the United States (NUREG-0073), U.S. Nuclear Regulatory Commission, Office of Standards Development, May 1976 (single copies may be obtained by writing to Division of Technical Information and Document Control, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555).

(4) Environmental Survey of Transportation of Radioactive Materials to and from Nuclear Power Plants (WASH-1238), U.S. Atomic Energy Commission, Directorate of Regulatory Standards, December 1972 (copies available from the National Technical Information Service for $7.25).

In addition, the Nuclear Regulatory Commission has contracted for a generic environmental assessment on transportation of radioactive materials near or through large densely populated areas. Results of this effort will be considered as they become available.

The items listed are available for public inspection in the MTB dockets room. Copies may be obtained from the publishing agencies or, where indicated, from the National Technical Information Service, Springfield, Va. 22161 (payment to NTIS should be enclosed).

C. The need for consistent rules. Consistency among Federal, State, and local transportation requirements affects both efficiency and safety in transportation. For highway transportation, differences in regulatory requirements may affect safety in a number of ways, such as—

(1) Routes used may not be the best available;

(2) Confusion resulting from differences in locally enforced rules may result in noncompliance with either Federal or local rules;

(3) Rerouting that results from a locally imposed rule may have unconsidered effects on other localities, especially on their emergency responsibilities.

However, regulatory uniformity may not be always desirable or possible, due to local transportation conditions and the emergency responsibilities of local authorities. There are therefore practical limits on the possible scope of uniform or exclusive HMTA routing requirements that might be developed in this docket.

II. Some Possible Regulatory Alternatives

Four alternatives are outlined below, to illustrate several procedures which might be used to regulate highway routing of radioactive materials. MTB is not proposing to employ any of the alternatives. They are outlined merely as illustrations of available HMTA authority. As illustrations, they reflect differences in State and local decisionmaking participation, differences in cost to governments, business, and consumers, and differences in judgment as to the necessity for additional Federal scrutiny of radioactive materials carriage by highway. The first three alternatives are probably in ascending order of stringency, cost, and degree of DOT rulemaking scrutiny. A draft regulatory evaluation, available for inspection in the public docket, tentatively concludes the implementation of the regulatory examples below would probably not have major economic consequences under Executive Order 12044.

A. Require compliance by radioactive materials highway carriers with a general routing rule to be established by MTB. The text of 49 CFR 397.9 might serve as a model for development of a general routing requirement (variations would require an exemption under part 107). Specific route approval or licensing of highway carriers would not be necessary or possible.

B. Require each highway carrier to be licensed only for variance from radioactive materials routes permitted under a generally applicable MTB routing rule, but permit voluntary licensing. Alternative B, a partial licensing scheme, would have many of the features of alternative C, a full licensing scheme, outlined below. However, alternative B would involve the establishment of a general Federal routing rule under which much or most highway carriage of radioactive materials would occur, with specific route approval required only for carriage operations that depart from the general rule. Both the general rule, as well as any specific route approvals, might consider, in addition to actual routes, matters such as carrier fitness, travel times, and availability of alternate methods of transportation other than highway carriage. The general rule, or a specific route approval, would be sufficient authority for highway carriage operations conducted in compliance with applicable Federal requirements, and State and local requirements not consistent with those Federal requirements would be preempted.

This alternative could also provide for specific route approval, when justified, on a voluntary basis upon application by a carrier, or as a requirement upon application from a State or local government. Specific route ap-

proval would be used primarily for situations involving unusual local conditions or routes involving substantial controversy.

C. *Require each highway carrier to be licensed for each radioactive material route.* This alternative would require each highway carrier to obtain prior MTB approval of any route to be used in the transportation of radioactive materials. The carrier might file proposed routes supported by a statement of safety and jurisdictional considerations. Public comment would be solicited. If the carrier's proposal were accepted by MTB, it would authorize carrier operation under the plan for a certain term, perhaps 2 years. Plan approval would preempt State and local requirements not consistent with it, but could make federally enforceable those State and local requirements affecting the carrier which are consistent with the plan. In some cases, special locally imposed requirements might be expressly incorporated into the plan by the carrier or MTB.

It would be necessary to establish some general criteria by which route plans could be judged. As in alternative B, matters which might be examined could include carrier fitness, travel times, and availability of alternate methods of transportation. Such criteria additionally would be useful to carriers in preparing plans, and to State and local governments in administering their highway regulatory programs.

At the end of the term, a carrier could file for renewal. At that time his safety record, and conditions affecting his performance, could be evaluated, again by a public process. Under some circumstances, and subject to procedural considerations, the carrier's plan approval could be revoked or modified before the term had run.

This alternative would make it impossible to move a designated radioactive material by highway unless the route used were previously approved by MTB. Consequently, existing routing practices would have to be phased out gradually, to reduce confusion and commercial disruption. The mechanics of this alternative resemble those of the process now used by MTB in issuing exemptions. Implementing this alternative may require substantial administrative resources.

D. *Invite the Nuclear Regulatory Commission to consider routing restrictions for its licensees.* The Nuclear Regulatory Commission addresses routes used to transport special nuclear materials (10 CFR part 73) and has the authority to consider routing in both regulatory and licensing proceedings.

III. Request for Comment

Comment is solicited on the preceding discussion and on the questions below.

Should radioactive materials be subject to more stringent Federal highway routing requirements than now imposed by 49 CFR 379.9?

(A) If so—

(1) What types, quantities and forms of radioactive materials should be considered?

(2) What benefits might be achieved?

(3) What factors in addition to population density and highway conditions should be considered in connection with routing? Should those factors include such things as emergency response training for drivers, special equipment, or the operating convenience and efficiency of the carrier? Should these factors be considered in place of routing?

(4) How would additional Federal rules impact State and local regulatory programs, or emergency response capabilities? To what extent is greater uniformity in State and local requirements desirable, and to what extent achievable through Federal rulemaking?

(5) What kind of Federal rule is desirable? Is a generalized DOT requirement preferable to a procedure that entails an individual DOT examination of some or all routes? Do local conditions affecting route selection necessitate individual Federal examination? If detailed examination of highway routes is necessary, by what procedures should it be accomplished?

(6) What additional costs may be involved if new routing rules are developed and implemented? How are those costs likely to affect shippers, carriers, Federal, State, and local governments, utilities, and the public?

(B) If not—

(1) What are the likely costs and benefits of taking no action?

(2) Do existing disparities between State and local rules concerning highway carriage of radioactive materials need to be harmonized? If so, how?

A hearing will be held to consider views on this advance notice, at a time and place to be subsequently announced. Drafters of this document are Douglas A. Crockett, Office of Hazardous Materials Regulation, MTB, and George W. Tenley, Office of the Chief Counsel, Research and Special Programs Administration.

Commenters are advised that section 105(b) of the HMTA requires DOT to consult and cooperate with the Interstate Commerce Commission before issuing any regulation with respect to the routing of hazardous materials.

Authority: 49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53(e) and paragraph (a)(4) of app. A to part 102.

Note—The Materials Transportation Bureau has determined that this advance notice will not result in a major economic impact under the terms of Executive Order 12044 and DOT implementing procedures (43 FR 9582). A regulatory evaluation is available in the docket.

Issued in Washington, D.C., on August 10, 1978.

Douglas A. Crockett,
Acting Associate Director for Hazardous Materials Regulation, Materials Transportation Bureau.

[FR Doc. 78-22738 Filed 8-16-78; 8:45 am]