

# **Federal Register**

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**Part IV**

## **Department of Transportation**

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**Research and Special Programs  
Administration**

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**49 CFR Part 177  
Direct Route Transportation of  
Radioactive Materials; Final Rule**

**DEPARTMENT OF TRANSPORTATION****Research and Special Programs Administration**

[49 CFR Part 177]

[Docket No. HM-164C; Amdt. No. 177-78]

RIN 2137-AB59

**Direct Route Transportation of Radioactive Materials****AGENCY:** Research and Special Programs Administration (RSPA), DOT.**ACTION:** Final rule.

**SUMMARY:** This final rule amends 49 CFR 177.825 to require, with certain exceptions, that motor carriers of highway route controlled quantity (HRCQ) radioactive materials transport those materials directly from pickup points to preferred routes and directly from preferred routes to delivery points using a shortest distance criterion. This action is necessary to ensure that HRCQ radioactive materials are transported on pickup and delivery routes in a manner consistent with the intent of § 177.825. The intended effect is to enhance the safe transportation of HRCQ radioactive materials by limiting the length of pickup and delivery routes to the shortest distance. Other changes are included to clarify the requirements of that section.

**EFFECTIVE DATE:** October 1, 1990.**FOR FURTHER INFORMATION CONTACT:**

Edward H. Bonekemper, III, Senior Attorney, Office of the Chief Counsel, or Ray Gaasaway, Transportation Specialist, Office of Hazardous Materials Transportation, Research and Special Programs Administration, U.S. Department of Transportation, Washington, DC 20590, (202) 366-4400 or 366-4488.

**SUPPLEMENTARY INFORMATION:****Background**

On September 29, 1989, RSPA published a notice of proposed rulemaking (NPRM) in the Federal Register under Docket HM-164C (54 FR 40272; September 29, 1989). The NPRM contained proposals to enhance the safety of highway route controlled quantity (HRCQ) radioactive materials transportation by requiring carriers to select pickup and delivery routes to and from preferred routes using a shortest distance criterion.

The proposal was developed primarily in response to an enforcement case involving 49 CFR 177.825 in which DOT's Chief Administrative Law Judge (ALJ) ruled that § 177.825(b)(2) provides a carrier with broad discretion (within

the parameters of § 177.825(a)) in selecting a route to carry HRCQ radioactive materials from a pickup point to a preferred route or from a preferred route to a delivery point. The ruling made evident the fact that carriers could transport HRCQ radioactive materials for long distances on non-preferred routes on the pickup and delivery legs of such transport. However, the intent of the requirements in § 177.825(b) is to restrict HRCQ transportation to preferred routes wherever possible. Therefore, this final rule is necessary to ensure that HRCQ radioactive materials are transported on pickup or delivery routes in a manner consistent with the intent of § 177.825.

The NPRM also proposed to clarify many existing requirements within § 177.825 (a) and (b). This document will address the substantive comments received regarding shortest-distance pickup and delivery routes and other topics for clarification proposed in the NPRM which also prompted substantive comments. Comments received but not addressed in this document were either non-substantive or beyond the scope of the docket.

**Summary of Comments**

RSPA received seventeen comments to the NPRM under Docket HM-164C. Comments were received from chemical companies, public utilities, universities, and Federal and State agencies. No HRCQ radioactive materials carriers submitted comments to the docket. The shortest-distance pickup or delivery route concept was generally accepted by commenters with some reservations. It is believed that provision of a permissible deviation (PD) in this final rule allays many of those reservations expressed by commenters.

**A. Permissible Deviation (PD)**

The NPRM proposed two methods that would permit an HRCQ carrier to select a pickup or delivery route longer than the shortest-distance pickup or delivery route available. RSPA believes the use of a PD will result in an increase in shipment safety, because the PD will be related to the reduction in risks associated with the shipment of HRCQ radioactive materials.

A minority of commenters opposed the PD concepts for various reasons. A few commenters indicated that carriers would neither make the comparisons necessary for determining "k" factors nor try to apply either methodology. Others maintained that the use of either proposed method could lead to disagreements over the correct quantification of radiological risk criteria. Some felt that the calculations

necessary to utilize method I were too complicated and would require carriers to apply variables to conditions that lack predictability. Two commenters opposed the permissible deviation concept because they believed that it would provide HRCQ radioactive materials carriers with too much discretion, and conversely states with too little discretion, in selecting routes.

Proposed PD method I was developed to enable an HRCQ radioactive materials carrier to avoid a base (shortest-distance) pickup or delivery route that would require the carrier to select a more time-consuming overall shipment route. This method would provide the carrier discretion to select a shorter preferred route among two or more preferred routes by using an alternate pickup or delivery route that was longer than the shortest distance pickup or delivery route, as proposed in the NPRM.

In situations where a state may find carrier discretion regarding the PD undesirable, the routing authority within that state could exercise its authority and designate a preferred route, thus limiting the carrier's discretion. On the other hand, carrier discretion through a PD would reduce the need for state designations to address small-scale routing decisions.

RSPA agrees with the commenters regarding the potential difficulties associated with using PD method I. The use of a PD must enhance transport safety and be easily quantifiable and readily enforceable to be of regulatory value. PD method I would not provide the latter two qualities. For the reasons cited above, PD method I is of limited value to the safe transportation of HRCQ radioactive materials and will not receive further consideration in this document.

RSPA also agrees with those commenters who favored inclusion of a PD to enhance HRCQ radioactive materials shipment safety and believes a limited PD from the base pickup or delivery route should be made available to HRCQ radioactive materials carriers. PD method II would allow the carrier discretion to deviate from the shortest distance base pickup or delivery route, using § 177.825(a) safety criteria, whenever the shortest distance pickup or delivery route may be the safest route. These safety criteria are described in the "Guidelines for Selecting Preferred Routes for Highway Route Controlled Quantity Shipments of Radioactive Materials."

The NPRM described PD method II as having two hypothetical delivery routes, X and Y, where X was 12 miles long and

passed through the middle of a densely-populated town that included several traffic lights, heavy traffic, and dilapidated roads. Route Y was 20 miles long, consisted of well-maintained roads and passed through sparsely-populated countryside. The PD was then derived by multiplying the length of route X (12) by 2, thereby yielding a product of 24 miles. Using this method, the HRCQ radioactive materials carrier would be allowed to take route Y because its length was 20 miles, less than the calculated PD of 24 miles. Although simple to calculate and enforce, this method may require the carrier to use the shorter pickup or delivery route where the mileage difference among pickup or delivery routes is small, regardless of safety considerations. For example, if route X as described above, is 2 miles long and route Y, as described above, is 5 miles long, doubling the length of route X will yield a product of 4 miles. PD method II will not allow a carrier to take route Y in this case. Another PD method appears to be necessary that will allow a carrier to deviate from a base pickup or delivery route in accordance with the safety criteria in § 177.825(a).

Although more than half of the commenters favored inclusion of PD method II in a final rule, few suggestions were provided to RSPA regarding the tolerances which might be used to calculate such a PD. RSPA believes a more effective and simpler method for calculating a PD would be to add 25 miles to the shortest distance base pickup or delivery route; however, the PD could not exceed 5 times the length of the base pickup or delivery route. Twenty-five miles was selected as a reasonable distance for a carrier to travel off of the shortest distance route to enhance overall HRCQ radioactive materials shipment safety. In addition, a percentage limitation of 5 times the length of the base pickup or delivery route is believed adequate to limit PD's in situations where the length of the base pickup or delivery route is a relatively small fraction of 25 miles. For example, if the length of the shortest-distance base pickup or delivery route A is 2 miles, the carrier may select a route, using § 177.825(a) radiological risk minimization criteria, with a length up to 10 miles. The carrier in this case may not add a 25-mile deviation to the length of the base pickup or delivery route since the product of 5 times the length of the base pickup or delivery route may not be exceeded. RSPA believes this PD method offers the HRCQ radioactive materials carrier a reasonable amount of discretion in selecting base pickup or

delivery routes and ensures that HRCQ radioactive materials are transported in a manner consistent with the intent of § 177.825. Carriers may, of course, petition the appropriate state authority to have a particular pickup or delivery route designated as a preferred route, or may pursue the exemption procedure available in 49 CFR 107.103 if using this PD method is not feasible.

#### B. Applicability Statement

One commenter stated the proposed phrase "a carrier, driver, or person operating a motor vehicle" is redundant. In order to ensure enforceability, all parties who may violate the requirements in § 177.825 must be identified. RSPA agrees that the word "driver" is redundant. In this final rule, the phrase "a carrier or any person operating a motor vehicle" is used in paragraph (b).

#### C. Radiological Risk Minimization

One commenter indicated that the phrase "the State routing agency shall select routes that minimize radiological risk," proposed in § 177.825(b)(1)(i), would limit the states' flexibility in designating preferred routes. The comment is based on the premise that radiological risk should not be the sole determinant in routing decisions. The docket does not propose any substantive changes regarding the criteria to be used by states in designating preferred routes for HRCQ radioactive materials transportation. Language in the NPRM simply reiterates the primary objective of the routing analysis provided in the "Guidelines for Selecting Preferred Highway Routes for Highway Route Controlled Quantity Shipments of Radioactive Materials."

#### Review by Sections

Section 177.825(a) requires that placarded radioactive materials shipments, other than HRCQ shipments, be transported on routes that minimize radiological risk and sets forth criteria for consideration in making risk minimization determinations. Paragraph (a) is revised to clarify existing requirements and eliminate ambiguities. The three explicit duties imposed on operators of motor vehicles carrying radioactive materials for which placards are required now appear in subparagraphs (1)–(3) of paragraph (a). The third of the three operator duties is clarified by revising the phrase "tell the driver that the motor vehicle contains radioactive materials and shall indicate the general route to be taken" to read "tell the driver which route to take and that the motor vehicle contains radioactive materials." A reference to

part 172 for placarding requirements is added. The last sentence of the introductory text of paragraph (a) is amended to refer to the "requirements" of paragraph (a) instead of the "requirement" of paragraph (a). In paragraph (a)(2) the phrase "preferred highway" is removed because it is redundant.

Paragraph (b) of § 177.825 requires HRCQ radioactive materials to be transported over "preferred routes selected to reduce time in transit" except that an Interstate System bypass or beltway around a city must be used when available. "Preferred routes" consist of Interstate System highways for which alternative routes have not been designated by a State and State-designated routes. The practices and standards by which a State routing agency determines a preferred route, as stated in paragraph (b), is expanded from two to three subparagraphs to improve overall readability.

Section 177.825(b)(2) authorizes deviations from a preferred route for emergency conditions, necessary rest, fuel, vehicle repair stops, and "to the extent necessary to pick up, deliver or transfer a highway route controlled quantity package of radioactive materials." It also provides that the general requirements of paragraph (a) apply when any of these deviations from a preferred route is authorized.

The ALJ's opinion described above stated that the phrase "selected to reduce time in transit" in paragraph (b) is ambiguous. The opinion states that this phrase might be a requirement imposed by a government agency upon a carrier or person operating an HRCQ-carrying vehicle, might be a direction to State authorities concerning how to select alternative routes, or might be merely an introduction to the bypass or beltway language immediately following that phrase. To eliminate any ambiguity, additional language is added to indicate specifically that it is the carrier's responsibility to select those preferred routes that reduce time in transit.

The previous text in § 177.825(b) was not clear as to whether a State routing agency may designate a preferred route "in addition to," as well as "as an alternative to," one or more Interstate System highways. To eliminate any ambiguity, paragraph (b)(1)(ii) is amended to provide that a State routing agency may designate a route as an alternative to, or in addition to, one or more Interstate System highways. In addition, the first sentence in paragraph (b) as proposed in the NPRM under Docket HM-164C (54 FR 40272 at 40274)

is broken into two sentences to improve overall readability.

Paragraph (b) is amended by removing the phrase "a package of" preceding the phrase "a highway route controlled quantity of radioactive materials" because it is redundant since the definition in § 173.403(1) incorporates the term "package." Paragraph (b) is also amended to clarify that State-designated routes are effective when those State-designated routes are acknowledged in writing by the Director, OHMT. Also, a statement is included to indicate that the list of State-designated preferred routes and the "Guidelines for Selecting Preferred Highway Routes for Highway Route Controlled Quantity Shipments of Radioactive Materials" are available from the RSPA Dockets Unit upon request.

Consistent with changes to paragraph (a), the phrase "a carrier or any person operating a motor vehicle" is used in paragraph (b). RSPA also is adding the words "Interstate System" prior to "beltway" in the introductory text of paragraph (b) to make it clear that only Interstate System beltways, as well as Interstate System bypasses, around cities are required (and authorized) for use. The phrase "shall be used in place of a preferred route through a city, unless a State routing agency has designated an alternative route" is added to the introductory text of paragraph (b) to acknowledge State routing agency selections of preferred routes which are not Interstate System beltways or Interstate System bypasses.

Editorial changes are included in the first sentence in paragraph (b) to identify the specific exceptions to the general requirement for using preferred routes. Also, editorial changes are included in the first and sixth sentences in paragraph (b) to enhance clarity and reduce usage of the passive voice.

Paragraphs (b)(2)(i) and (b)(2)(ii) are revised to clarify the authorized deviations from a preferred route and for pickup and delivery not over preferred routes. Paragraph (b)(2)(iii) characterizes the provisions of paragraph (a) as "radiological risk minimization criteria." Paragraph (b)(1)(i) states specifically that the "State routing agency shall select routes to minimize radiological risk." This addition reemphasizes that the underlying principle of paragraph (a) applies to state designations under paragraph (b); this concept already exists in the current requirement that designating states use DOT "Guidelines" or an equivalent routing analysis considering overall risk to the public.

#### Administrative Notices

This final rule affects carriers that transport highway route controlled quantities of radioactive materials. This provisions of this final rule will have minimal impact on these entities. Over the two (2) year period from January 1987 through December 1989, a total of 301 HRCQ radioactive materials shipments were reported by 14 carriers. Based on available information concerning the size and nature of entities likely to be affected, I certify that this final rule will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. Also, in view of the type of changes, RSPA has further determined that this final rule: (1) is not "major" under Executive Order 12291; (2) is not "significant" under DOT Regulatory Policies and Procedures (44 FR 11034; February 28, 1979); (3) will not affect not-for-profit enterprises or small governmental jurisdictions; and (4) does not require an environmental impact statement under the National Environmental Policy Act (42 U.S.C. 4321 *et seq.*). A regulatory evaluation is available for review in the Docket.

I have reviewed this regulation in accordance with Executive Order 12612 ("Federalism"). It has no substantial direct effects on the States, on the current Federal-State relationship, or the current distribution of power and responsibilities among levels of government. Thus, this final rule contains no policies that have Federalism implications, as defined in Executive Order 12612, and no Federalism Assessment is required.

#### List of Subjects in 49 CFR Part 177

Hazardous materials transportation, Highway route controlled quantity, Motor carriers, Radioactive materials, Reporting and recordkeeping requirements.

In consideration of the foregoing, 49 CFR part 177 is amended as follows:

#### PART 177—CARRIAGE BY PUBLIC HIGHWAY

1. The authority citation for part 177 continues to read as follows:

Authority: 49 App. U.S.C. 1803, 1804, 1805, 49 CFR part 1, unless otherwise noted.

2. In § 177.825, paragraphs (a) and (b) are revised to read as follows:

#### § 177.825 Routing and training requirements for radioactive materials.

(a) Except as provided in paragraph (b) of this section, a carrier or any person operating a motor vehicle that

contains a radioactive material for which placarding is required under part 172 of this subchapter shall—

(1) Ensure that the motor vehicle is operated on routes that minimize radiological risk;

(2) In determining the level of radiological risk, consider available information on accident rates, transit time, population density and activities, and the time of day and the day of week during which transportation will occur; and

(3) Tell the driver which route to take and that the motor vehicle contains radioactive materials.

The requirements of this paragraph do not apply when there is only one practicable highway route available, considering operating necessity and safety, or when the routing of the motor vehicle is subject to paragraph (b) of this section.

(b) Except as otherwise permitted in this paragraph and in paragraph (e) of this section, a carrier or any person operating a motor vehicle containing a highway route controlled quantity of radioactive materials, as defined in § 173.403(l) of this subchapter, shall operate the motor vehicle only over preferred routes. Those routes must be selected by the carrier or that person operating a motor vehicle containing a highway route controlled quantity of radioactive materials to reduce time in transit over the preferred route segment of the trip. An Interstate System bypass or Interstate System beltway around a city, when available, shall be used in place of a preferred route through a city, unless a State routing agency has designated an alternative route.

(1) A preferred route is either or both an Interstate System highway for which an alternative route is not designated by a State routing agency as provided in this section, or a State-designated route selected by a State routing agency (see § 171.8 of this subchapter) in accordance with the following conditions:

(i) The State routing agency shall select routes to minimize radiological risk using "Guidelines for Selecting Preferred Highway Routes for Highway Route Controlled Quantity Shipments of Radioactive Materials", or an equivalent routing analysis which adequately considers overall risk to the public. Designations must be preceded by substantive consultation with affected local jurisdictions and with any other affected States to ensure consideration of all impacts and continuity of designated routes.

(ii) State routing agencies may designate preferred routes as an alternative to, or in addition to, one or

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more Interstate System highways, including an Interstate System bypass or an Interstate System beltway.

(iii) A State-designated route is effective when—

(A) The State gives written notice by certified mail, return receipt requested to the Director, OHMT, Research and Special Programs Administration, U.S. Department of Transportation, Washington, DC 20590 (Attention: Registry of State-designated Routes, Docket HM-164A); and

(B) Receipt thereof is acknowledged in writing by the Director, OHMT.

(iv) Upon request, the Dockets Unit will provide a list of State-designated preferred routes and a copy of the "Guidelines for Selecting Preferred Highway Routes for Highway Route Controlled Quantity Shipments of Radioactive Materials."

(2) A motor vehicle may be operated over a route, other than a preferred

route, only under the following conditions:

(i) The deviation from the preferred route is necessary to pick up or deliver a highway route controlled quantity of radioactive materials, to make necessary rest, fuel or motor vehicle repair stops, or because emergency conditions make continued use of the preferred route unsafe or impossible;

(ii) For pickup and delivery not over preferred routes, the route selected must be the shortest-distance route from the pickup location to the nearest preferred route entry location, and the shortest-distance route to the delivery location from the nearest preferred route exit location. Deviation from the shortest-distance pickup or delivery route is authorized if such deviation:

(A) Is based upon the radiological risk minimization criteria of paragraph (a) of this section; and

(B) Does not exceed the shortest-distance pickup or delivery route by more than 25 miles and does not exceed 5 times the length of the shortest-distance pickup or delivery route.

(iii) Deviations from preferred routes, or pickup or delivery routes other than preferred routes, which are necessary for rest, fuel, or motor vehicle repair stops or because of emergency conditions, shall be made in accordance with the radiological risk minimization criteria of paragraph (a) of this section unless, due to emergency conditions, time does not permit use of those criteria.

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Issued in Washington, DC, on May 2, 1990, under authority delegated in 49 CFR part 1.

Travis P. Dungan,  
Administrator, Research and Special  
Programs Administration.

[FR Doc. 90-10600 Filed 5-7-90; 8:45 am]

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