Sandia Laboratories
Albuquerque, New Mexico 87115

→ PDR
Project M-4

September 20, 1977

Mr. Donald J. Kasun
Office of Nuclear Materials Safety and Safeguards
U.S. Nuclear REgulatory Commission
Washington, D.C. 20555

Dear Don:

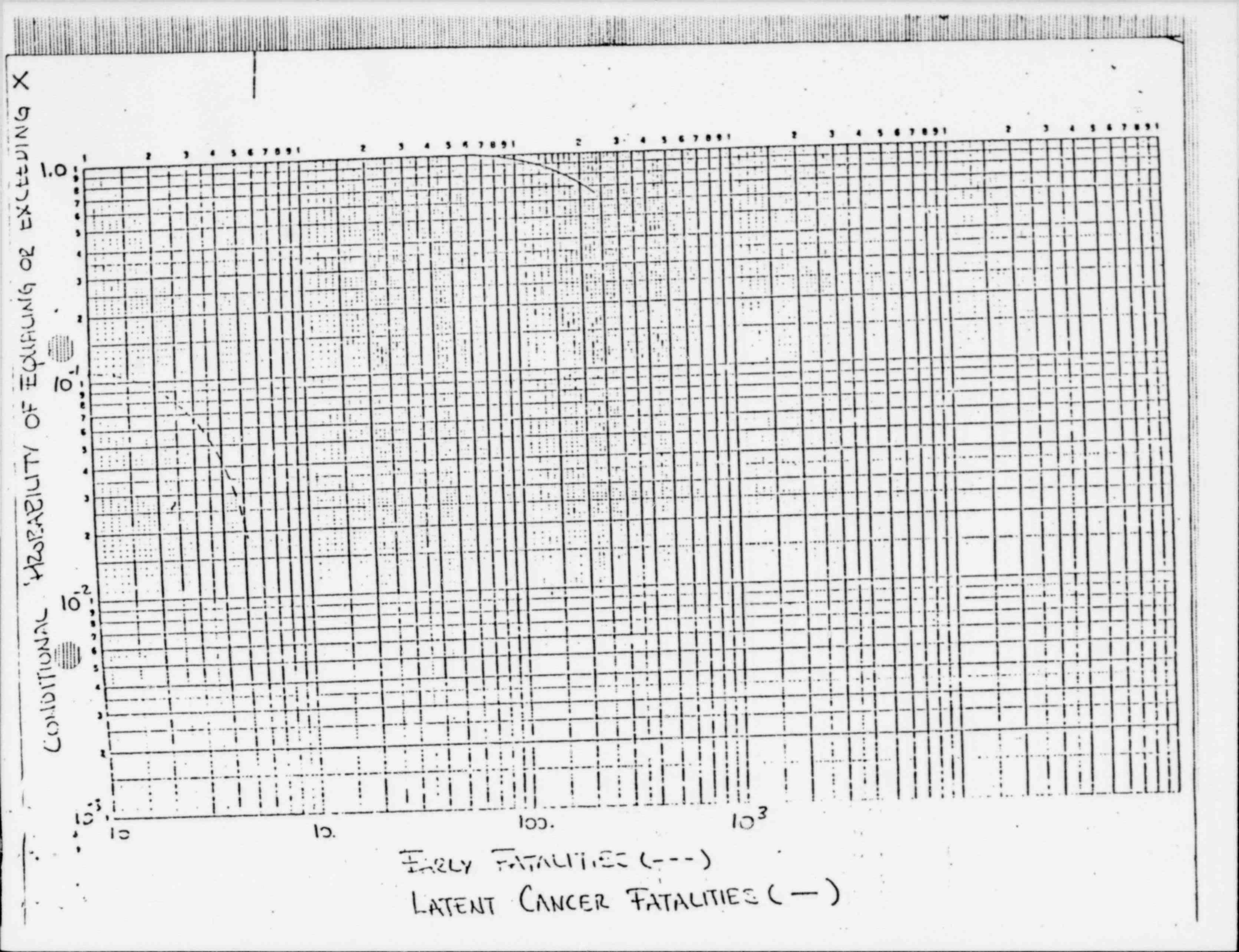
As we discussed on the telephone recently, I have recomputed some of the consequence estimates as performed for the U.S. Nuclear Regulatory Commission report NUREG-0194, "Calculations of Radiological Consequences from Sabotage of Shipping Casks for Spent Fuel and High-Level Waste". For these calculations I have ssumed a population density of 2000 people per square mile and a spent fuel shipping cask containing three elements. The radionuclide inventory of the shipping cask is 3/10 of the inventory given in NUREG-0194. The release fractions assumed in my calculations were 100% of the gases, 1% of the volatiles, and 1% of the solids. All other conditions were identical to those used in NUREG-0194. The exposure to contaminated ground was limited to 24 hours, i.e., protective actions were assumed to be completed within one day after the incident. Some shielding protection from radiation was assumed. The shielding factors used in the calculations were 0.75 and 0.33 for the passing cloud and for ground deposited radioactive material, respectively. The basis for these shielding factors is taken directly from Chapter 11 of Appendix VI of the Reactor Safety Study (see Table VI 11-12 on page 11-28).

For 91 selected meteorological sequences (chosen by a stratified sampling technique) the calculated mean number of latent cancer fatalities and early fatalites are 217 and 0.4, respectively. The peak values calculated for latent cancer fatalities and early fatalities are 270 and 6.3, respectively. The enclosed figure gives the conditional complementary cumulative distribution function of latent cancer fatalities and early fatalities. The function is conditioned on a release from the shipping cask as assumed in the calculation.

Sincerely,

Peter E. McGrath, Supervisor
Fuel Cycle Risk Analysis
Division 5413

PEM:na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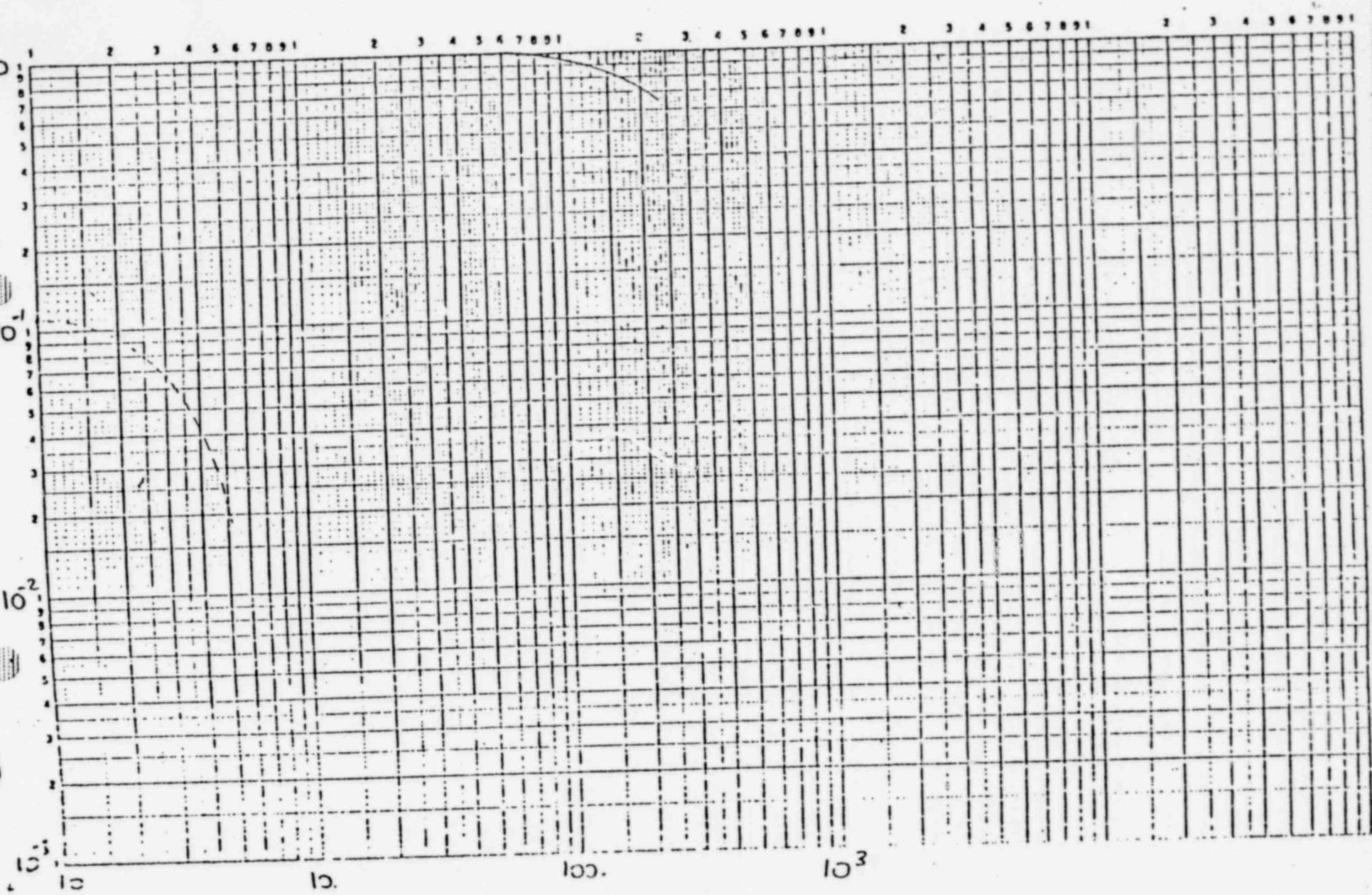
EARLY FATALITIES (---)
LATENT CANCER FATALITIES (—)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EARLY FATALITIES (---)
LATENT CANCER FATALITIES (—)

relating to the proposed amendments or their effective date were received during the 25 days provided; (4) the recommendations upon which the current regulation and this amendment for Florida limes are based were developed by the committee at an open meeting on April 4, 1979, after due notice thereof, and all interested persons present were given an opportunity to express their views; (5) the regulatory requirements herein specified for Florida limes and imported limes are the same as those in the proposed amendments, except for minor changes made for clarification purposes in the language relating to application of tolerances; (6) the requirements of the amended import regulation are imposed pursuant to section 8e of the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601–674), which makes such import requirements mandatory; (7) such amendment to the import regulation imposes the same grade and size requirements on imports of limes as are being made applicable to the shipment of limes grown in Florida under the amendment to Lime Regulation 39, which is also to become effective June 18, 1979; (8) such amendments to the domestic and import regulation should become effective at as near the same time as is reasonable practicable; and (9) three days notice thereof, the minimum prescribed by said § 8e, is given with respect to this amendment to the import regulation.

Accordingly, it is found that § 911.341 Lime Regulation 39, and § 944.206 Lime Regulation 7, should be and are amended to read as follows:

§ 911.341 Lime Regulation 39.

(a) During the period June 18, 1979, through April 30, 1980, no handler shall handle:

(1) Any limes of the group known as true "seeded" limes (also known as Mexican, West Indian, and Key limes and by other synonyms), grown in the production area, which do not meet the requirements of at least U.S. No. 2 Grade for Persian (Tahiti) Limes, except as to color: *Provided*, That true limes, grown in the production area, which fail to meet the requirements of such grade may be handled within the production area, if such limes meet all other applicable requirements of this section and the minimum juice content requirement prescribed in the U.S. Standards for Persian (Tahiti) Limes, and are handled in containers other than the containers prescribed in § 911.328 for the handling of limes between the production area and any point outside thereof;

(2) Any limes of the group known as large-fruited or Persian "seedless" limes (including Tahiti, Bearss, and similar varieties) which do not grade at least U.S. Combination, Mixed Color: *Provided*, That stem length shall not be considered a factor of grade, and tolerances for fruit affected by decay and for fruit failing to meet the requirements for such grade in the U.S. Standards for Persian (Tahiti) Limes shall apply: *Provided further*, That Persian limes, grown in the production area, which fail to meet the requirements of such grade may be handled within the production area, if such limes meet all other applicable requirements of this section and meet the same minimum juice content requirement prescribed in the U.S. Standards for such limes and are handled in containers other than the containers prescribed in § 911.328 for the handling of limes between the production area and any point outside thereof; or

(3) Any limes of the group known as large-fruited or Persian "seedless" limes (including Tahiti, Bearss, and similar varieties) which are of a size smaller than 1⅝ inches in diameter: *Provided*, That not more than 10 percent of the limes, by count, in any lot of containers may fail to meet the minimum size requirement: *Provided further*, That not more than 15 percent of the limes, by count, in any individual container containing more than four pounds of limes may fail to meet the minimum size requirement.

(b) Terms used in this section shall have the same meaning as in the marketing order, and terms relating to grade and diameter shall have the same meaning as in the U.S. Standards for Persian (Tahiti) Limes (7 CFR 2851.1000–1016).

§ 944.206 Lime Regulation 7.

(a) *Applicability to imports.* Pursuant to § 8e of the act, Part 944—Fruits; Import Regulations, the importation into the United States of any limes is prohibited during the period June 18, 1979, through April 30, 1980, unless such limes meet the minimum grade and size requirements specified in § 911.341 Lime Regulation 39.

(b) The Federal or Federal-State Inspection Service, Fruit and Vegetable Quality Division, Food Safety and Quality Service, United States Department of Agriculture, is designated as the governmental inspection service for certifying the grade, size, quality, and maturity of limes that are imported into the United States. Inspection by the Federal or Federal-State Inspection Service with evidence thereof in the form of an official inspection certificate, issued by the respective service, applicable to the particular shipment of limes, is required on all imports. The inspection and certification services will be available upon application in accordance with the rules and regulations governing inspection and certification of fresh fruits, vegetables, and other products (7 CFR Part 2851) and in accordance with the Procedure for Requesting Inspection and Designating the Agencies to Perform Required Inspection or Certification (7 CFR Part 944; 43 FR 19340).

(c) *Minimum quantity exemption.* Any person may import up to 250 pounds of limes exempt from the requirements specified in this section.

(Secs. 1–19, 48 Stat. 31, as amended; 7 U.S.C. 601–674)

Dated: June 12, 1979, to become effective June 18, 1979.

D. S. Kuryloski,

Acting Deputy Director, Fruit and Vegetable Division, Agricultural Marketing Service.

[FR Doc. 79-18571 Filed 6-14-79; 8:45 am]

BILLING CODE 3410-02-M

NUCLEAR REGULATORY COMMISSION

10 CFR Part 73

Physical Protection of Irradiated Reactor Fuel in Transit

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 Rule 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.

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 ongoing 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.

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 on 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.

(Sec. 53, 161b, 161i, Pub. L. 83-703, 68 Stat. 930, 948, 949; Sec. 201, Pub. L. 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.

[FR Doc. 79-18681 Filed 6-14-79; 8:45 am]

BILLING CODE 7590-01-M

DEPARTMENT OF ENERGY

Economic Regulatory Administration

10 CFR Part 212

[Docket No. ERA-R-76-01]

Mandatory Petroleum Allocation Regulations; Amendments to Extend Current Provisions of Entitlements Program Relating to Residual Fuel Oil

AGENCY: Economic Regulatory Administration, Department of Energy.

ACTION: Final Rule and Notice of Hearing and Request for Further Comments.

SUMMARY: On October 17, 1978, the Economic Regulatory Administration (ERA) of the Department of Energy (DOE) adopted amendments to the domestic crude oil allocation ("entitlements") program with respect to residual fuel oil in order to implement Congressional policy. These amendments, which were made effective for the period July 1, 1978 through June 30, 1979, provided for automatic reversion on July 1, 1979 to the residual fuel oil entitlements provisions previously in effect. We are hereby adopting amendments, effective July 1, 1979, which will extend through December 31, 1979 the effects of the current provisions of the entitlements program providing that imports of residual fuel into the East Coast market or the State of Michigan receive 50 percent of the per barrel entitlements runs credit and that an entitlement penalty ("reverse entitlements") shall only apply to domestically refined residual fuel oil which is transported by foreign flag tankers for sale or use in those markets. We are requesting further comments as to what entitlements provisions, if any, should be in effect with respect to residual fuel after December 31, 1979.

DATES: Further comments by October 1, 1979, 4:30 p.m.; requests to speak by August 2, 1979, 4:30 p.m.; hearing: August 15, 1979, 9:30 a.m.

ADDRESSES: All comments and requests to speak to: Department of Energy, Economic Regulatory Administration, Office of Public Hearing Management, Docket No. ERA-R-76-01B, Room 2313, 2000 M Street, NW., Washington, D.C. 20461. Hearing location: Room 2105, 2000 M Street, NW., Washington, D.C. 20461.

FOR FURTHER INFORMATION CONTACT:

Robert C. Gillette (Office of Public Hearing Management), Economic Regulatory Administration, Room 2222 A, 2000 M Street, NW., Washington, D.C. 20461, (202) 254-5201.

William L. Webb (Office of Public Information), Economic Regulatory Administration, Room B 110, 2000 M Street, NW., Washington, D.C. 20461, (202) 634-2170.

Josette L. Maxwell (Regulations and Emergency Planning), Economic Regulatory Administration, Room 8202, 2000 M Street, NW., Washington, D.C. 20461, (202) 632-5133.

Douglas W. McIver (Entitlements Program Office), Economic Regulatory Administration, Room 6128, 2000 M Street, NW., Washington, D.C. 20461, (202) 254-8660.

Jack O. Kendall (Office of General Counsel), Department of Energy, Room 6A-127, 1000 Independence Avenue, SW., Washington, D.C. 20585, (202) 252-6739.

SUPPLEMENTARY INFORMATION:

I. Background

On June 15, 1978 (43 FR 26551, June 20, 1978) we issued a further notice of proposed rulemaking and public hearing to amend the residual fuel oil provisions of the entitlements program. The proposed amendments generally would have provided for elimination of the reverse entitlements rule applicable to domestically refined residual fuel oil sold into the East Coast and would have increased entitlement benefits for residual fuel oil imported into the East Coast market. This proposal was cast as a further notice of proposed rulemaking, since three alternative amendments on the residual fuel oil progam had been proposed on December 23, 1976 (41 FR 56821, December 30, 1976).

A public hearing on the June 1978 proposal was held July 26 through 28, 1978 in Washington, D.C. Commenters representing a broad range of interests which might be affected by the proposed amendments presented their views at the hearing. We also received written comments on the proposal through August 25, 1979.

While we were considering the comments submitted in response to the June 1978 proposal, Congress initiated legislative proceedings on the subject of entitlements for residual fuel oil. These proceedings resulted in the inclusions of requirements under section 307 of the Act Making Appropriations for the Department of Interior and Other Related Agencies for the Fiscal Year Ending September 30, 1979 ("1979 Appropriations Act," Pub. L. 95-465) which in effect mandated the DOE to amend the entitlements program.

On October 17, 1978, we issued a final rule adopting amendments to implement the provisions of section 307. These