



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

July 21, 2010

OFFICE OF THE
SECRETARY

COMMISSION VOTING RECORD

DECISION ITEM: SECY-09-0162

TITLE: PROPOSED RULE: 10 CFR 73.37, PHYSICAL
PROTECTION OF IRRADIATED FUEL IN TRANSIT (RIN
3150-A164)

The Commission (with all Commissioners agreeing) approved the subject paper as recorded in the Staff Requirements Memorandum (SRM) of July 21, 2010.

This Record contains a summary of voting on this matter together with the individual vote sheets, views and comments of the Commission.

A handwritten signature in black ink, reading "Annette Vietti-Cook".

Annette L. Vietti-Cook
Secretary of the Commission

Attachments:

1. Voting Summary
2. Commissioner Vote Sheets

cc: Chairman Jaczko
Commissioner Svinicki
Commissioner Apostolakis
Commissioner Magwood
Commissioner Ostendorff
OGC
EDO
PDR

VOTING SUMMARY - SECY-09-0162

RECORDED VOTES

	APRVD	DISAPRVD	ABSTAIN	NOT PARTICIP	COMMENTS	DATE
CHRM. JACZKO	X				X	1/27/10
COMR. SVINICKI	X				X	6/30/10
COMR. APOSTOLAKIS	X				X	6/14/10
COMR. MAGWOOD	X				X	6/29/10
COMR. OSTENDORFF	X				X	6/29/10

COMMENT RESOLUTION

In their vote sheets, all Commissioners approved the staff's recommendation and provided some additional comments. Subsequently, the comments of the Commission were incorporated into the guidance to staff as reflected in the SRM issued on July 21, 2010.

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary
FROM: Chairman Jaczko
SUBJECT: SECY-09-0162 – PROPOSED RULE: 10 CFR 73.37,
“PHYSICAL PROTECTION OF IRRADIATED FUEL IN
TRANSIT” (RIN 3150-AI64)

Approved X Disapproved Abstain

Not Participating

COMMENTS: Below Attached X None



SIGNATURE

1/27/10

DATE

Entered on “STARS” Yes x No

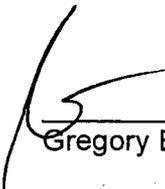
Chairman Jaczko's Comments on SECY-09-0162
Proposed Rule: 10 CFR 73.37,
"Physical Protection of Irradiated Fuel in Transit"

I approve the staff recommendation to publish the proposed amendments to Part 10 CFR 73.37 in the Federal Register as well as the other noted actions, subject to the following comments:

The primary intent of the proposed rulemaking is to codify orders for physical protection of irradiated fuel in transit issued after the terrorist attacks of September 11, 2001, as well as adding several new requirements developed as a result of insights gained by performing security assessments of potential security vulnerabilities. The staff has also stated that the proposed rulemaking will address, in part, a request for rulemaking raised by the State of Nevada in June 22, 1999 in PRM-73-10. I believe that the staff has done a good overall job in developing the proposed rule; however, more clarity is needed regarding two Petition requests that the staff has stated have been addressed by the proposed rule or associated guidance.

PRM-73-10, Item 2: Requested the NRC clarify the definition of the term "radiological sabotage" as defined in 10 CFR 73.2. The staff indicated that this would be addressed in the supporting guidance document. The staff should work closely with the Office of General Counsel to ensure that any potential clarifications to the definition are consistent with the intent of the rule and that there are no corresponding unintended effects on other aspects of Part 73 that also utilize the same definition or other existing or proposed security regulations that also use the same definition.

PRM-73-10, Item 3: Requested the NRC amend the advance route approval requirements in 10 CFR 73.37 (b) (7) and further requested that NRC consider adopting the route selection in NUREG-0561 as part of the regulations. The staff indicated that licensees must implement U.S. Department of Transportation (DOT) routing requirements when shipping spent nuclear fuel and that incorporating route selection criteria in NUREG-0561 could potentially cause a conflict. The staff should provide in the proposed rule further clarification what is required as part of the NRC regulations and what is covered under DOT requirements. The staff should also seek comments on this aspect of the proposed rule in order to ensure stakeholders clearly understand what will be required under the new rule.



Gregory B. Jaczko

11/27/10

Date

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary
FROM: COMMISSIONER SVINICKI
SUBJECT: SECY-09-0162 – PROPOSED RULE: 10 CFR 73.37,
“PHYSICAL PROTECTION OF IRRADIATED FUEL IN
TRANSIT” (RIN 3150-AI64)

Approved XX Disapproved _____ Abstain _____

Not Participating _____

COMMENTS: Below _____ Attached XX None _____



SIGNATURE

06/30/10

DATE

Entered on “STARS” Yes No _____

Commissioner Svinicki's Comments on SECY-09-0162
Proposed Rule: 10 CFR 73.37 "Physical Protection of Irradiated Fuel in Transit"
(RIN 3150-A164)

I approve for publication in the *Federal Register*, the amendments to Part 73 proposed in SECY-09-0162, subject to the attached edits. In addition, regarding the requirements on background investigations, the staff should make the following changes:

- 1) Include a provision similar to 10 CFR 73.56(d)(1) in 10 CFR 73.38.
- 2) Reorganize the separate provisions for verifying employment, education, and military history in sections 10 CFR 73.38(a)(3), (4), and (5) into a consolidated structure like that found in 10 CFR 73.56(d)(4).

The staff should publish its draft revision of NUREG-0561, "Requirements for Physical Protection of Irradiated Reactor Fuel in Transit," for public comment during the public comment period on this proposed rule.

The staff should submit to the Commission, with the draft final rule, a plan for sunseting the existing security orders.

My vote also incorporates a sizable number of necessary edits to the draft regulatory analysis (Enclosure 2 to SECY-09-0162). The regulatory analysis was of a surprisingly poor quality, as a review of my edits makes apparent. In addition to incorporating my edits, the staff should review the draft regulatory analysis, in its entirety, for accuracy and consistency prior to publication. For example, Section 3.1.7 states that the "proposed rule would have . . . no costs" but Section 3.2.4 makes clear that "the proposed rule adds new requirements that resulted from insights gained while implementing the security orders" and the executive summary states that the "new requirements . . . make up \$84,000 of the \$967,726 annual costs." It is unclear to me how these statements relate to each other and, if they do, how they can be reconciled.

Finally, this is the second time (see also my vote on SECY-09-0179) that I have cited to Internal Commission Procedures (Chapter III, page III-6, "Voting" – section entitled, "Comments on draft Congressional letters and Press Releases associated with SECY papers") as follows:

1. Draft Congressional letters and Press Releases that require Commission approval (policy formulation, rulemaking, and adjudication) are forwarded separately with the associated SECY Paper to SECY.
2. SECY attaches a cover sheet which indicates that the supplemental material is being forwarded in support of SECY-06-XXXX and circulates it with the associated SECY Paper to the Commission for review and comment.

The Supplemental Material in Support of SECY-09-0162 contained only draft Congressional letters. The staff should transmit its draft press release in support of SECY-09-0162 to the Commission for its review and comment, in accordance with existing Commission procedures. To avoid any continuing need to address this issue paper by paper, SECY should examine the supplemental material that has been sent to the Commission accompanying all SECY papers currently before the Commission, note any instances where the supplemental materials are not complete, and work with the staff to provide any missing supplemental materials to the Commission.



Kristine L. Svinicki

06/30/10

- X
- A. What Action is the NRC Taking?
 - B. Why Revise the Requirements?
 - C. What is Requested by the State of Nevada in its Petition for Rulemaking?
 - D. Why Require Procedures and Training for the Security of Spent Nuclear Fuel Transit? iv
 - E. Why Require A Telemetric Position Monitoring System or an Alternative Tracking System for Continuous Monitoring of Spent Nuclear Fuel Shipments?
 - F. Why Preplan and Coordinate Spent Nuclear Fuel Shipments?
 - G. Why Require Constant Visual Surveillance by Armed Escort?
 - H. Why Require Two-Way Redundant Communication Capabilities?
 - I. Why Require Background Investigations?
 - J. Why Enhance Shipment Notifications to the NRC?
 - K. Who Would This Action Affect?
 - L. Does the NRC Plan To Issue Guidance on These Proposed Requirements?
 - M. What Should I Consider as I Prepare My Comments to NRC?

- III. Discussion of the Proposed Amendments by Section
- IV. Criminal Penalties
- V. Agreement State Compatibility
- VI. Plain Language
- VII. Voluntary Consensus Standards
- VIII. Finding of No Significant Environmental Impact: Availability
- IX. Paperwork Reduction Act Statement
- X. Public Protection Notification
- XI. Regulatory Analysis

Yes. The proposed §§ 73.38(c)(1)-(2) would require licensees to protect the information obtained during a background investigation. Licensees would only be permitted to disclose the information to the subject individual, the individual's representative, those who have a need-to-know to perform their assigned duties to grant or deny unescorted access, or an authorized representative of the NRC. This proposed revision is consistent with the requirements of 10 CFR 73.57(f).

7. Could a Licensee Transfer Personal Information Obtained During an Investigation to Another Licensee?

Yes. The proposed § 73.38(c)(3) includes a provision that a licensee would be able to transfer background information on an individual to another licensee if the individual makes a written request to the licensee to transfer the information contained in his or her file.

8. What Records Are Required to be Maintained?

The proposed § 73.38(c)(5) would require licensees to retain all fingerprint and criminal history records received from the FBI, or a copy if the individual's file has been transferred, for 5 years after the individual no longer requires unescorted access to spent nuclear fuel in transit.

J. Why Enhance Shipment Notifications to the NRC?

X The current regulations in 10 CFR 73.72(a)(4) requires an NRC notification, by phone, at least 2 days before the shipment commences. The proposed rule would revise § 73.72(a)(4) to require 2 additional notifications of the NRC, one to be made 2 hours before the shipment commences, and the other to be made when the shipment reaches its final destination. These additional notifications allow the NRC to monitor spent nuclear fuel shipments, and to maximize its readiness in case of a safeguards event. The notification of shipment completion allows the NRC to resume normal operations.

theft, diversion, or radiological sabotage of spent nuclear fuel shipments.

D. The Proposed § 73.37(b)

This overall section is revised to provide a logical, step-by-step approach to the development of a physical protection system for spent nuclear fuel shipments that is more user-friendly.

E. The Proposed § 73.37(b)(1)

The proposed rule would add a new section entitled, "*Preplan and Coordinate Spent Nuclear Fuel Shipments*," which is explained in further detail below. The proposed rule would move and incorporate the current § 73.37(b)(1) into a new § 73.37(b)(2).

The proposed rule would add a new § 73.37(b)(1)(i) which requires that licensees instruct armed escorts on the use of deadly force. The existing provisions of 10 CFR 73.37 provide performance objectives to be achieved by the physical protection system for spent nuclear fuel shipments. These performance objectives are not specific about the degree of force an armed escort may use in protecting shipments.

Specifically, the licensee is to ensure that each non-LLEA armed escort delay or impede attempted acts of theft, diversion, or radiological sabotage by using force sufficient to counter the force directed at that person, including the use of deadly force when there is a reasonable belief that the use of deadly force is necessary in self-defense or in the defense of others, or any other circumstances as authorized by applicable Federal or State law. The requirements for use of deadly force are established under applicable Federal and State laws (i.e., the States through which the shipment is passing through). It should be noted that the proposed revision is not authorizing the use of deadly force, but instead is ensuring that the armed guards are

knowledgeable of the Federal and State statutes that apply regarding the use of deadly force. The statutes regarding the use of deadly force may vary depending on ^{the} ~~what~~ ^{in which} jurisdiction ^X the shipment is located. Armed escorts are expected to carry out their assigned duties, including implementation of contingency procedures in case of attack, in a manner consistent with the legal requirements applicable to other private armed guards in a particular jurisdiction. The LLEA personnel escorts are exempt from this requirement since they are subject to, and should have received training on, State and Federal restrictions regarding the use of deadly force.

The proposed rule would add new §§ 73.37(b)(1)(ii) and 73.37(b)(1)(iii), which are accounting and control measures that ensure only authorized individuals receive the shipment. The proposed requirements would reduce the risk of theft, diversion, or radiological sabotage of the spent nuclear fuel.

The proposed rule would re-designate 10 CFR 73.37(b)(8) as § 73.37(b)(1)(iv) and revise it to include requirements for licensees to preplan and coordinate spent nuclear fuel shipments with States. The preplanning and coordination would include efforts to minimize intermediate stops and delays, arranging for State law enforcement escorts, the sharing of positional information and the development of route information, including the location of safe havens. The proposed amendments would ensure that States have early and substantial involvement in the management of spent nuclear fuel shipments by participating in the initial stages of the planning, coordination, and implementation of the shipment.

The proposed rule would re-designate § 73.37(b)(6) as § 73.37(b)(1)(v) and revise it to make minor editorial changes.

The proposed rule would re-designate § 73.37(b)(7) as § 73.37(b)(1)(vi) and revise it to expand the requirements for preplanning and coordination with NRC. The proposed § 73.37(b)(1)(vi) would require licensees to identify the locations of safe havens along road

as an operations center which is remote from transport activity and which maintains periodic position information on the movement of the shipment, receives reports of attempted theft, diversion, or radiological sabotage, provides a means for reporting these and other problems to appropriate agencies, and can request and coordinate appropriate aid.

The proposed rule would re-designate § 73.37(b)(4) as § 73.37(b)(3)(ii) and revise it to reflect that the movement control center personnel will have the authority to direct physical protection activities. The proposed rule would also add a new § 73.37(b)(3)(iii), which will clarify the duties of the movement control center personnel.

The proposed rule would re-designate § 73.37(b)(5) as § 73.37(b)(3)(iv) and revise it to make minor editorial changes.

The proposed rule would add a new § 73.37(b)(3)(v), which requires licensees to develop, maintain, and implement written physical protection procedures to address access controls, duties of the movement control center personnel, drivers, armed escorts and other individuals responsible for the security of the shipment, reporting of safeguards events, communications protocols, and normal conditions operating procedures. X

The proposed rule would add a new § 73.37(b)(3)(vi), which incorporates the recordkeeping requirements of the current §§ 73.37(b)(2) and (3).

The proposed rule would re-designate § 73.37(b)(10) as § 73.37(b)(3)(vii)(A) and revise it to include additional training requirements described in sections III and IV of Part 73, Appendix B. This revision is a clarification of the existing requirements in 10 CFR 73.37. The current 10 CFR 73.37(b)(10) refers to training requirements in 10 CFR 73, Appendix D. Appendix D, in turn, refers to requirements in 10 CFR 73, Appendix B, III and IV. For clarity, the proposed revision would add a direct reference to Appendix B.

The proposed rule would re-designate § 73.37(b)(11) as § 73.37(b)(3)(vii)(B) and revise

† it by changing the escort's requirement to ^{the} contact movement control center from "at least every 2 hours" to contacts at "random intervals, not to exceed 2 hours." The proposed provision would also change "communications center" to "movement control center."

The proposed rule would re-designate the current § 73.37(b)(9) as § 73.37(b)(3)(vii)(C) and would revise it by further clarifying the escort's responsibilities when the shipment vehicle is stopped, or the shipment vessel is docked. The proposed revisions would ensure that when a shipment is stationary at least one armed escort maintains constant visual surveillance. The proposed rule also would provide for periodic reports of shipment status to the movement control center by the armed escort.

H. The Proposed § 73.37(b)(4)

The proposed rule would re-designate § 73.37(b)(2) as § 73.37(b)(4)(i)-(iii), "*Contingency and Response Procedures*," and would add additional requirements. The proposed rule would add new §§ 73.37(b)(4)(i) and 73.37(b)(4)(ii), which would require licensees to develop and implement contingency and response procedures, and would require licensees to train personnel in these procedures. The current requirements in 10 CFR 73.37(b) do not specifically require personnel training, but only require escorts to receive instructions. The proposed rule would expressly require that written procedures are developed and that all personnel associated with the transport and security of the shipment are adequately trained to carry out their responsibilities. The proposed revisions provide reasonable assurance of a more timely and effective response to any attempted theft, diversion, or radiological sabotage. A response to an event must be initiated without delay in order to have a high probability of success. The response is more likely to be timely and effective if roles, responsibilities, and actions are clearly delineated and understood in advance.

and governors' designees, is available on the NRC website at:

<http://nrc-stp.ornl.gov/special/designee.pdf>. A list of the contact information is also available

upon request from the Director, Division of Intergovernmental Liaison and Rulemaking,

U.S. Nuclear Regulatory Commission, Washington, DC 20555. The licensee shall comply with

the following criteria in regard to each notification:

(i) Procedures for submitting advance notification.

(A) The notification must be in writing and sent to the office of each appropriate governor or the governor's designee.

(B) A notification delivered by mail must be postmarked at least 7 days before transport of a shipment within or through the State.

(C) A notification delivered by any other method 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.

(ii) Information to be furnished in advance notification of shipment. The notification must include the following information:

(A) The name, address, and telephone number of the shipper, carrier and receiver of the shipment and the license number of the shipper and receiver.

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(B) A description of the shipment as specified by the DOT in 49 CFR 172.202 and 172.203(d).

(C) A listing of the routes to be used within the State.

(iii) Separate Enclosure. The licensee shall provide the following information, in accordance with § 73.22(f)(1), in a separate enclosure to the written notification:

(A) The estimated date and time of departure from the point of origin of the shipment;

(2) As permitted by law, all armed escorts are equipped with a minimum of 2 weapons. This requirement does not apply to local law enforcement agency personnel who are performing escort duties.

(3) A shipment vessel while within U.S. territorial waters shall be accompanied by an individual, 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.

(4) Each armed escort is equipped with redundant communication abilities that provide for 2-way communications between the vessel, the movement control center, local law enforcement agencies, and one another at all times. Alternate communications should not be subject to the same failure modes as the primary communication.

(f) Investigations. Each licensee who makes arrangements for the shipment of spent nuclear fuel shall immediately conduct an investigation, in coordination with the receiving licensee, of any shipment that is lost or unaccounted for after the designated no-later-than arrival time in the advance notification.

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(g) State officials, State employees, and other individuals, whether or not licensees of the Commission, who receive information of the kind specified in § 73.32(b)(2)(iii) shall protect ~~that~~ that information against unauthorized disclosure as specified in §§ 73.21 and 73.22.

3. A new § 73.38 is added to read as follows:

§ 73.38 Background Investigation requirements for unescorted access to irradiated reactor fuel in transit.

- X of
- *Decision Rationale.* Although the NRC did not quantify the benefits of this rule, the staff did qualitatively examine benefits and concluded that the rule would provide safety and security-related benefits. The sum total of the requirements in the proposed rule would be to establish the acceptable performance standards and objectives for the protection of SNF shipments from theft, diversion, or radiological sabotage. Specifically, the proposed rule would require the following: (1) armed guards throughout the rail and road route; (2) procedures for normal and contingency responses; (3) the training of personnel; (4) continuous and active monitoring of the SNF shipment by a movement control center; (5) shipment preplanning and coordination with States; (6) constant visual surveillance by armed escort; (7) 2-way redundant communication capabilities; (8) a minimum of 2 weapons for armed guards; (9) additional NRC notifications; (10) armed escort instructions on the use of deadly force; and (11) background investigations of individuals granted unescorted access to SNF. The additional security requirements in the proposed rulemaking provide a substantial increase in the protection of the common defense and security and the public health and safety from SNF in transit. The costs of the proposed rulemaking are justified based on the qualitative benefits.

The proposed amendments would affect NRC licensees who transport, or deliver to a carrier for transport, in a single shipment, a quantity of irradiated reactor fuel in excess of 100 grams (0.22 lbs) in net weight exclusive of cladding or other material, which has a total radiation level in excess of 1 Sv (100 rems) per hour at a distance of .91 meters (3 feet) from any accessible surface without regard to any intervening shielding.

3.1.2 Assumptions

The analysis assumes that any one-time implementation costs already occurred when the orders were issued. The rulemaking and the No-Action Alternative assume that one-time costs have already occurred and are not factored into the analysis. Ongoing costs of operation related to the rule are assumed to begin in 2010, and are modeled on an annual cost basis. Ongoing costs related to the No-Action Alternative are assumed to be ongoing and begin in 2010 and are modeled on an annual cost basis. The analysis calculated cost and savings over a 10-year period, with each year's costs or savings discounted back at a 7-percent and 3-percent discount rate, in accordance with NUREG/BR-0058, "Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission," Rev. 4.

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For the analysis, the NRC assumed that 20 shipments a year would be affected by the regulation under both the No-Action Alternative and the Rulemaking Alternative. The 20 shipments would break down to 10 shipments via highway and 10 railways. The NRC does not anticipate any shipments via waterways. The NRC estimates that the shipments would pass through or cross ~~by~~ on average of 5 States per shipment. The NRC estimates that 5 shipments annually would originate in ports due to international shipment. These shipments would be shipped from port via highway or railway depending on the licensee's need. The NRC anticipates 5 shipments annually would incur some issue(s) which would require revisions to the schedule. In addition, 1 shipment would be canceled over a 3-year period. The 20 shipments would impact 18 licensees on average annually as 2 licensees would ship twice. Also, the NRC estimates that 1 shipment in a 3-year period would incur an "event" which would require reporting and investigation.

3.1.3 Identification of Affected Attributes

The attributes were identified using the list of potential attributes provided in Chapter 5 of NUREG/BR-0184, "Regulatory Analysis Technical Evaluation Handbook." Each attribute listed in Chapter 5 was evaluated. The baseline for this analysis assumes full compliance with existing requirements and any future orders the Commission may issue. The following attributes would be affected by the proposed rule:

- *Regulatory Efficiency* – The proposed rule would enhance regulatory efficiency by placing in the regulations generically applicable security requirements similar to those previously imposed by Commission orders.
- *Safeguards and Security Considerations* – The proposed rule would establish the acceptable performance standards and objectives for the protection of SNF in transit that would provide high assurance that the transport of SNF is not inimical to the common defense and security and ~~do~~ ^{does} not constitute an unreasonable risk to the public health and safety.
- *Public Health (Accident)* – The proposed rule would reduce the risk that public health would be affected by radiological releases resulting from radiological sabotage.
- *Occupational Health (Accident)* – The proposed rule would reduce the risk that occupational health would be affected by radiological releases resulting from radiological sabotage.

- *Industry Implementation* – The proposed rule would require licensees to make revision to their Transportation Physical Security Plans, Safeguards Contingency Plans, and Training and Qualification Plans, among other implementation activities.
- *Industry Operation* – The proposed rule would require licensees to implement additional security activities beyond those currently required.
- *NRC Implementation* – The proposed rule would require the NRC to revise guidance and inspection procedures.
- *NRC Operation* – The proposed rule would require the NRC Operations Center to receive additional notifications.
- *Off-Site Property* – The proposed rule would reduce the risk that off-site property would be affected by radiological releases resulting from radiological sabotage. j
X
- *Other Government* – The proposed rule would require additional State and LLEAs interaction with licensees and the NRC.
- *Improvements in Knowledge* – The proposed rule would result in an increase in the information relative to the SNF shipments.
- *Environmental Considerations* – The proposed rule would result in a decrease of the potential risk of environmental contamination that could result from theft, diversion, or radiological sabotage of SNF shipments. X

Relative to the main analysis baseline, the proposed rule would *not* be expected to affect the following attributes:

- *Public Health (Routine)*
- *Occupational Health (Routine)*
- *General Public*
- *Antitrust Considerations*

3.1.4 Analytic Methodology

This subsection describes the process used to evaluate the incremental values (benefits) and impacts (costs) associated with the proposed rule relative to the baseline described in 3.1.1 (above). The benefits include desirable changes in affected attributes, e.g., monetary savings and improved safety. The costs include undesirable changes in affected attributes, e.g., increased monetary costs and radiation exposure levels.

Industry implementation and operation and NRC implementation and operation are quantitatively evaluated. Quantitative analysis requires a baseline characterization. This analysis includes: (1) the average number of shipments affected, (2) the nature of current activities conducted, (3) the types of new or modified systems and procedures to be implemented, or would no longer be implemented, (4) and the number of hours and costs entailed in carrying each procedure out.

3.2.6 Analysis of Impacts in the Pre-Order Analysis

The assumptions used in analyzing ^{this is} the quantifiable impacts (costs) associated with the proposed rule are discussed in this subsection. The hourly rate applied to labor hours is \$100 (NRC) and \$100 (industry). ~~These are~~ NRC's incremental labor rate which includes only those variable costs associated with implementation and operation costs of the orders and the proposed rule. Use of this labor rate is consistent with Section 5.2 of NUREG/CR-4627, Generic Cost Estimates. It is assumed that licensees, applicants, and State contacts would have a similar labor rate. X

3.2.6.1 Licensee Costs

Licensees would bear the largest share of this rule's costs with implementation. The costs are estimated to be \$968,726 for the first year. These costs include establishing a communication program (which includes maintaining 2 distinct means of communication), an armed transit personnel program, and a video surveillance program for equipping various modes of SNF transit.

3.2.6.2 NRC Costs

NRC costs annually would be minimal. The costs are estimated to be \$4,000. Costs would ~~be~~ ^{result} from advance notifications and potential theft investigations. X

3.2.6.3 State Government Costs

State Government costs annually would be minimal. The costs are also estimated to be \$4,000. Costs would ~~be~~ ^{result} from advance notifications and potential theft investigations. X

3.2.7 Results of the Pre-Order Analysis

The total annual costs associated with the proposed rule relative to the pre-order baseline over 10 years at a 7 percent discount rate are estimated to be \$6.80 million. Of this amount, shipping costs account for \$542,056 annually and the other costs for non-LLEA armed response, preplanning and coordination activities, documentation, advance notification and cancellations, recordkeeping, background checks, and investigations account for \$362,361 annually. At a 3 percent discount rate the total estimated annual operation costs of the proposed rule over 10 years would be \$8.25 million. Of this amount, shipping costs account for \$563,107 annually and the other costs for non-LLEA armed response, preplanning and coordination activities, documentation, advance notification and cancellations, recordkeeping, background checks, and investigations account for \$376,433 annually.

Although there are no quantitative benefits under the proposed rule alternative, the expected qualitative values contribute significantly to the benefits of the proposed rule relative to the pre-order baseline. These qualitative values include (1) a positive effect on public and occupational health, (2) increased protection of onsite and offsite property, (3) increased protection of the common defense and security of the nation, and (4) increased public confidence in the NRC and licensees.

4. Results

This section presents results of values and impacts (i.e., costs) that are expected to be derived from the proposed rule. To the extent that the affected attributes could be analyzed quantitatively, the net effect of each alternative has been calculated and is presented below. However, some values and impacts could be evaluated only on a qualitative basis.

The results of the value-impact analysis are summarized in Tables 4-1 and 4-2. Table 4-3 provides the cost comparison for the 2 alternatives. The Rulemaking Alternative would result in no additional costs when compared to No-Action Alternative. The quantitative impact estimated for the Rulemaking Alternative is similar in size as the No-Action Alternative. Both are estimated to cost between \$6.80 million and \$8.25 million (7-percent and 3-percent discount rate, respectively). The majority of the costs would be incurred by industry.

There are no quantifiable values (i.e. benefits) associated with the rule. The qualitative values of the rule are associated with safeguard and security considerations or the decreased risk of a security-related event, such as theft, diversion, or radiological sabotage of SNF and subsequent use for malevolent purposes. Increasing the transportation security of SNF, the risk is decreased and the common defense and security of the nation is increased. Other qualitative values that are positively affected by the decreased risk of a security-related event include public and occupational health due to an accident or event and the risk of damage to on-site and off-site property. In addition, regulatory efficiency is enhanced by the rule.

TABLE 4-1

Summary of Benefits/Savings and Costs/Burdens for Main Analysis

Net Monetary Savings (or Costs) – Total Present Value in millions	Non-Monetary Benefits/Costs
<p>Alternative 1: No Action</p> <p>Industry:</p> <p>\$0</p> <p>NRC: (\$.13) using a 7% discount rate (\$.16) using a 3% discount rate</p>	<p><u>Qualitative Benefits:</u></p> <p>Safeguards and Security: Increased level of assurance that SNF shipments are safeguarded.</p> <p>Public Health (Accident): Reduced risk that public health would be affected by radiological releases from malevolent use of radioactive material.</p> <p>Occupational Health (Accident): Reduced risk that occupational health would be affected by radiological releases from malevolent use of radioactive material.</p> <p>Off-site Property: Reduced risk that off-site property would be affected by radiological releases from malevolent use of radioactive material.</p>

Table 4-3 shows the estimated costs, by attribute, over the 10-year analysis period.

Table 4-3: Estimated Values and Impacts by Attribute

Attribute	Alternative 2: Rulemaking 10-Year Total Cost (million \$)	
	3% Discount	7% Discount
Industry Implementation*	0	0
Industry Operation	(8.09)	(6.67)
NRC Implementation	0	0
NRC Operation	(.16)	(.13)
Total	(8.25)	(6.80)

Note: Total may differ from sum of values due to rounding.

*Industry utilizes standing SNF transit infrastructure

5. DECISION RATIONALE AND IMPLEMENTATION

Two alternatives were evaluated in this Regulatory Analysis. The Alternative 1: No-Action Alternative would maintain the regulations as currently written and continue to retain requirements in orders and to issue new orders and re-issue existing orders as needed.

The Alternative 2: Rulemaking would amend NRC regulations to: (1) establish generically applicable security requirements similar to those previously imposed by Commission orders issued after the terrorist attacks of September 11, 2001; (2) establish the acceptable performance standards and objectives for the protection of SNF shipments from theft, diversion, or radiological sabotage; (3) ensure that the acceptable performance standards and objectives for SNF shipments apply to all licensees authorized to possess or transport SNF; and (4) address, in part, the requests for NRC rulemaking raised by Nevada petition PRM-73-10. Specifically, the rule would require the following: (1) armed guards throughout the rail and road route; (2) procedures for normal and contingency responses; (3) the training of personnel; (4) continuous and active monitoring of the SNF shipment by ~~movement control center~~; (5) shipment preplanning and coordination with States; (6) constant visual surveillance by armed escort; (7) 2-way redundant communication capabilities; (8) a minimum of 2 weapons for armed guards; (9) additional NRC notifications; (10) armed escort instructions on the use of deadly force; and (11) background investigations for individuals granted unescorted access to SNF shipments. a X

The Alternative 2: Rulemaking would reduce the risk of radiological sabotage damage from SNF shipments, which could have grave consequences to the environment, off-site property, and public health. Therefore, the Rulemaking Alternative is the preferred approach. The proposed rule is planned for publication in the *Federal Register* in 2010.

Appendix

73.37 (b)(1)(ii)-Non-LLEA Armed Escort Deadly Force Instruction.

The licensee or the licensee's agent shall ensure that each Non-LLEA armed escort prevent or impede attempted acts of radiological sabotage by using force sufficient to counter the force directed at that person, including the use of deadly force when there is a reasonable belief that the use of deadly force is necessary in self-defense or in the defense of others, or any other circumstances as authorized by applicable State or Federal law. Licensees have normally relied upon LLEA to escort SNF. In the past 30 years, the NRC is aware of one instance in which a Non-LLEA armed escort, which translates to 1 in 1285 shipments. There is no data to determine whether there would be any increase in the future.

there was (?)

Hours of staff time	8
Wage of staff per hour	\$100
Number of people requiring instruction	2
Cost of instruction per licensee	\$1,600
Number of hours for a training manager to prepare, training and document training	12
Wage of training manager	\$100
Cost for training documentation	\$1,200
Subtotal	\$2,800
Percentage of shipments per year affected (1/1285)	x 0.000778
Total annual cost	(\$2,170)

73.37(b)(1)(vii)- Document the Preplanning and Coordination Activities

The current regulations do not require the coordination of law enforcement escorts, the sharing of movement control information, or the coordination of safe haven locations. The proposed revisions would require licensees to preplan and coordinate spent fuel shipment information with the States through and to document these activities.

which transport will occur

Hours of staff time	40
Cost of staff time per hour	\$100
	\$4000
Number of shipments	X 20
Total annual cost	(\$80,000)

73.37(b)(2)(v)-Cancellation notice

Although the current regulations require the NRC and the State to receive advanced notifications of shipments, there is no provision requiring the notification of a cancellation of a previously approved advanced notification. This is a rare occurrence. It is assumed that one would occur per 10 annual shipments.

Hours of staff time per call	0.33
Cost of manager's time per hour	\$100
	\$33.00
Number of cancellations per year (1/10)	
Total annual cost	(\$33.00)

73.37(b)(2)(i-ii) - Written advance notices

The current regulations do not require the coordination of law enforcement escorts, the sharing of movement control information, or the coordination of safe haven locations. The proposed revisions would require licensees to preplan and coordinate spent fuel shipment information with the States through and to document these activities.

X
which transport will occur
Because shipments pass through multiple States, the licensee must coordinate with all of them. For the purposes of the Regulatory Analysis, we are using 5 State average per trip. Thus, the 20 annual shipments would require 100 written advance notices to States and advance notices to the NRC.

Hours of staff time	0.50
Cost of staff time	\$100
Number of notifications	120
Total annual cost of advance notifications	(\$6,000)

73.37(b)(3)(v) – Procedures

The licensee shall develop, maintain, revise and implement written transportation physical protection procedures. This procedure is needed to protect SNF during transport and that an adequate response can be taken to emergencies affecting the shipment.

Preparation of security plan and procedures necessary to implement the security program.

Hours of staff time for plan	150
Wage of staff per hour	\$100
Impacted Licensees	18
Total annual cost of staff time for plan	(\$270,000)

73.37(b)(1)(vi), (2)(v), (3)(iv-vi), and (4)(iii) - Records

Although there are record requirements in § 73.70, the SNF regulations in § 73.37 are not included. As such, the proposed rulemaking would require ~~include~~ new recordkeeping requirements. These records would include a copy of the preplanning and coordination activities, advance notification, and any revision or cancellation notice. The record is to be maintained for 3 years in accordance with § 73.70. X

One time cost of additional file cabinets etc.	\$1,000
Number of Shipments	20
Costs of staff (clerical) time	\$50
Hours of staff time to maintain records per shipment	3.275
Total Recordkeeping Cost	(\$4,275)

73.37 – Shipping Costs

Industry has averaged 20 shipments of SNF via road and rail (collectively) per year over the last 5 years. For purposes of the regulatory analysis, an assumption of 20 shipments per year is used. NRC regulations define the modes of transport to be by "road," "rail," and "sea." Road and sea modes would incur equal costs; shipping by rail would be lower. Nevertheless for this regulatory analysis, zero shipments by sea are assumed.

Industry has indicated that it is more cost effective to hire contractors to ~~ship SNF through~~ ^{conduct shipments (?)}. The below mentioned costs take into consideration all the internal costs that contractors incur to be compliant with NRC orders and proposed regulation. X

Ship by Road

Number of shipments	10
Average Trip Transit costs, including rental	\$3,000
Average Trip communication Costs	\$2,000
Contractor cost	\$25,000
Total annual cost by road	\$300,000

Ship by Rail

Number of shipments	10A
Average Trip Transit costs, including rental	\$1,000
Average Trip communication Costs	\$2,000
Contractor cost	\$25,000
Total annual cost by rail	\$280,000

73.38(a) - Background Investigation

73.38(a) is being added to the CFR to implement an access authorization program that requires background investigations of individuals involved with the transportation of SNF.

Number of hours to conduct a background check	6
Wage of manager per hour	\$100
	<hr/>
	\$600
Cost of credit history	\$20
Cost of taking fingerprints	\$10
Cost for fingerprint submission	\$36
Cost of background check	\$666
Number of individuals needing background checks	36
Total annual cost of background checks	(\$23,976)

73.72 - Advance Notification

X The current regulations in 10 CFR 73.72(a)(4) requires NRC notification, by phone, 2 days before the shipment commences. It does not require 2 hour notification before the shipment commences and notification before it reaches its final destination. The proposed rule would require 2 additional notifications of the NRC, 1 to be made 2 hours before the shipment commences, and the other to be made when the shipment reaches its final destination. These additional notifications allow the NRC to monitor SNF shipments and to maximize its readiness in case of a safeguards event. The NRC estimates each phone call to take 18 minutes for a total of 54 minutes of notifications per shipment. call (?)

Staff time to phone in advance notification per shipment	9
Cost of staff time per hour	\$100
Number of shipments per year	20
Total annual cost of advance notifications	(\$1,800)

73.37(f)- Event Investigations

Although licenses are required by § 73.71 to notify the NRC of any safeguards events and to submit a report concerning the event, there is no specific requirement for an investigation. This requirement is being added to address this issue. It is assumed that any safeguard events would be rare. ~~This is a rare occurrence.~~ It is assumed that one would occur every 3 years or every 60 shipments

Hours of staff time per investigation	40
Hours of staff to write report	40
Wage of staff per hour	\$100

Number of investigations per year (1/10)	X _____	0.33
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Total annual event investigation costs	(\$2640)
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NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary
FROM: Commissioner Apostolakis
SUBJECT: SECY-09-0162 – PROPOSED RULE: 10 CFR 73.37,
“PHYSICAL PROTECTION OF IRRADIATED FUEL IN
TRANSIT” (RIN 3150-A164)

Approved X Disapproved Abstain

Not Participating

COMMENTS: Below X Attached None

I approve the staff's recommendation to publish the proposed rule subject to the following. The proposed *Federal Register* Notice should be revised to explain the staff's plan to sunset the existing enhanced security Orders once the final rule is in place.



SIGNATURE

6/14/10

DATE

Entered on "STARS" Yes X No

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary
FROM: COMMISSIONER MAGWOOD
SUBJECT: SECY-09-0162 – PROPOSED RULE: 10 CFR 73.37,
“PHYSICAL PROTECTION OF IRRADIATED FUEL IN
TRANSIT” (RIN 3150-AI64)

Approved X Disapproved Abstain

Not Participating

COMMENTS: Below X Attached None

I approve the staff's recommendation to issue the proposed rule subject to the inclusion of a brief discussion of the approach taken by the Department of Energy in shipping spent nuclear fuel. This discussion should highlight similarities to the proposed rule and explain any significant differences.



SIGNATURE

6/29/30

DATE

Entered on “STARS” Yes X No

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary
FROM: COMMISSIONER OSTENDORFF
SUBJECT: SECY-09-0162 – PROPOSED RULE: 10 CFR 73.37,
“PHYSICAL PROTECTION OF IRRADIATED FUEL IN
TRANSIT” (RIN 3150-AI64)

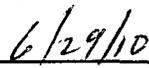
Approved Disapproved Abstain

Not Participating

COMMENTS: Below Attached None



SIGNATURE



DATE

Entered on “STARS” Yes No

Commissioner Ostendorff's Comments on SECY 09-0162

I approve of publishing a proposed rule in the Federal Register to amend 10 CFR 73 security requirements for spent fuel in transit. The proposed rule would establish generically applicable security requirements similar to those previously imposed via order, and add stability to the NRC's regulatory approach. I commend the staff for also incorporating into the proposed rule additional requirements based on insights gained by performing security assessments since the orders were issued. This effort to continuously improve our regulatory approach is an indication of the high caliber of the NRC staff.

I believe one important aspect of the proposed rule is the increased requirements for planning and coordination with the States. The proposed federal register notice for issuance of the proposed rule indicates that the States previously informed the NRC that the current requirements were insufficient for appropriate planning for a spent nuclear fuel shipment. Because the States have an important role in ensuring the security of these shipments, and due to the transboundary nature of this matter, coordination with the States to ensure they are fully informed and that NRC requirements do not conflict with State law is important. As part of the proposed rulemaking process, the staff should proactively solicit input from the States on the rule language regarding planning and coordination to ensure it addresses their previous concerns.

I also noted the discussion of the apparent disparity between NRC and DOT routing requirements noted in the proposed rule. In addition to seeking comments on this as requested by the Chairman, the staff should clarify in the federal register notice issuing the proposed rule for comment why NRC and DOT requirements differ and the different roles of the NRC and DOT with regard to routing requirements.

Lastly, the staff should update as indicated in the attachment the rulemaking package to reflect the current status of petition for the rulemaking PRM-73-10. While this rulemaking package was before the Commission, the staff made a determination on the petition. The rulemaking package indicates that the NRC staff's decision on the petition will be issued in a separate NRC notice.

populated areas; (4) require armed escorts along the entire road shipment route by eliminating the differential based on population in 10 CFR 73.37(c); (5) require armed escorts along the entire rail shipment route by eliminating the differential based on population in 10 CFR 73.37(d); (6) amend 10 CFR 73.37(b) by adopting additional planning and scheduling requirements for spent nuclear fuel shipments that are the same as those required for formula quantities of special nuclear material by 10 CFR 73.26(b); (7) amend 10 CFR 73.37(d) to require that rail shipments of spent nuclear fuel be made in dedicated trains; and (8) conduct a comprehensive assessment of the consequences of terrorist attacks that have the capability of radiological sabotage.

In this proposed rulemaking, the NRC will consider the above items raised in PRM-73-10, except for the first and eighth items, namely, clarification of the meaning of the term "hand-carried equipment" and the conducting of a comprehensive assessment of the consequences of terrorist attacks that have the capability of radiological sabotage. ^{Rulemaking on} The first and eighth items of PRM-73-10 ~~will be addressed in a separate NRC notice.~~ ^{was denied by the NRC on December 7, 2009 (74 FR 64012).} The remaining items are addressed below:

PRM-73-10, Item 2: Clarify the definition of the term "radiological sabotage" in 10 CFR 73.2, "Definitions," and amend it to expressly include "deliberate actions which cause, or are intended to cause economic damage or social disruption regardless of the extent to which public health and safety are actually endangered by exposure to radiation."

^{NRC} The staff considers that the existing definition already encompasses actions of the type described by the Petitioner. However, the NRC agrees that clarification may be useful. The NRC is addressing this petition item by clarifying the definition of radiological sabotage in the supporting guidance document associated with the proposed rule.

PRM-73-10, Item 3: Amend the advance route approval requirements in 10 CFR

Significance, or Irradiated Reactor Fuel" require licensees to notify the NRC in advance about shipments of spent nuclear fuel. The regulations in 10 CFR Part 71, "Packaging and Transportation of Radioactive Material," establish requirements for packages used to transport spent nuclear fuel.

This proposed rulemaking would consider and address, in part, a petition for rulemaking submitted by the State of Nevada. By a letter dated June 22, 1999, the State of Nevada submitted a petition for rulemaking requesting that the NRC strengthen its regulations governing the security of spent nuclear fuel shipments against malevolent acts. The NRC docketed the petition on July 13, 1999, as Docket No. PRM-73-10 (PRM-73-10). The NRC published a notice of receipt of petition and a request for public comment on September 13, 1999 (64 FR 49410). The Commission review of this petition was tabled following the terrorist attacks of September 11, 2001. *The petition was denied, in part, by the NRC on December 7, 2009 (74 FR 64012).* This proposed rulemaking would consider and address ~~certain~~ *the remaining* requests for NRC rulemaking made in PRM-73-10.

B. Post-September 11, 2001

Although the current 10 CFR 73.37 has changed little since its promulgation in 1980, there have been significant changes in the threat environment. The terrorist attacks of September 11, 2001, heightened concerns about the use of risk-significant radioactive materials in a malevolent act. After the terrorist attacks of September 11, 2001, the NRC issued a series of security-related orders to specific licensees. In the area of spent nuclear fuel transit security, the orders were issued to licensees who ship or receive, or were planning to ship or receive, spent nuclear fuel. The orders were issued as immediately effective under NRC's authority to protect the common defense and security under the Atomic Energy Act of 1954, as amended (AEA). The requirements put in place by the orders supplement the existing