

***TRANSPORTATION SECURITY RULEMAKING
ACTIVITIES AT THE
U.S. NUCLEAR REGULATORY COMMISSION***

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Office of Nuclear Security and Incident Response

2011 DOE National Transportation Stakeholders Forum
May 11, 2011



Security Rulemakings

NRC Focus Prior to September 11, 2001

- Historically, NRC Transportation Security Regulations Focused on Highest Risk Radioactive Material, consisted of Special Nuclear Material (SNM) and Spent Nuclear Fuel (SNF)

NRC Actions Since September 11, 2001

- Domestically, reviewed materials transported by NRC licensees and re-evaluated security requirements considering:
 - applicable threats to shipments
 - material considerations
 - magnitude of adverse consequences
- Internationally, participated in the development of the IAEA Code of Conduct on the Safety and Security of Radioactive Sources



NRC photo of empty container on truck



DOE/OCRWM photo of locomotive pulling cask



Security Rulemakings

**CODE OF CONDUCT ON
THE SAFETY AND SECURITY OF
RADIOACTIVE SOURCES**

放射源安全和保安行为准则

**CODE DE CONDUITE SUR
LA SÛRETÉ ET LA SÉCURITÉ
DES SOURCES RADIOACTIVES**

**КОДЕКС ПОВЕДЕНИЯ ПО
ОБЕСПЕЧЕНИЮ БЕЗОПАСНОСТИ И
СОХРАННОСТИ РАДИОАКТИВНЫХ
ИСТОЧНИКОВ**

**CÓDIGO DE CONDUCTA
SOBRE SEGURIDAD TECNOLÓGICA
Y FÍSICA DE LAS FUENTES
RADIATIVAS**

مدونة قواعد السلوك بشأن أمان المصادر
المشعة وأمنها



NRC Actions Since September 11, 2001 (Continued)

- IAEA Code of Conduct
- Identified 16 radioactive sources and associated quantities that could be useful to terrorists
- Three categories based on potential consequences if an individual remains in close proximity to a certain quantity of each unshielded source
 - Category 1 - fatal within few minutes to an hour
 - Category 2 - fatal within hours to days
 - Category 3 - fatal within days to weeks, however unlikely



Category 1 and 2 Quantities of Radioactive Material

Radioactive Material	Category 1 (Terabequerels)	Category 2 (Terabequerels)
Americium-241	60	0.6
Americium-241/Be	60	0.6
Californium-252	20	0.2
Curium-244	50	0.5
Cobalt-60	30	0.3
Cesium-137	100	1.0
Gadolinium-153	1,000	10.0
Iridium-192	80	0.8
Plutonium-238*	60	0.6
Plutonium-239/Be*	60	0.6
Promethium-147	40,000	400
Radium-226	40	0.4
Selenium-75	200	2.0
Strontium-90 (Y-90)	1,000	10.0
Thulium-170	20,000	200
Ytterbium-169	300	3.0



Security Rulemakings

NRC Actions Since September 11, 2001 (continued)

- **Interim solution - enhance existing regulations through Security Orders**
- **Objectives of the Orders are enhanced control of material to**
 - **Prevent unauthorized access**
 - **Prevent malevolent use of material**
 - **Mitigate consequences**
- **Orders were issued to NRC licensees that transport:**
 - **IAEA Code of Conduct Category 1 and 2 quantities of radioactive material**
 - **Spent Nuclear Fuel**



Security Rulemakings

NRC Ongoing Activities

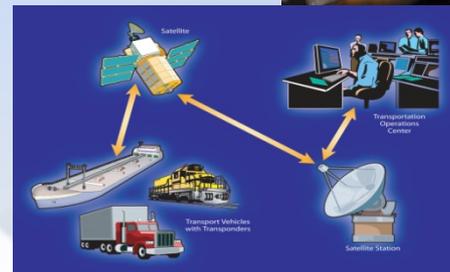
- **Orders are an interim measure**
- **Long term approach is to enhance transport security through public rulemaking**
- **Rulemaking process in progress for**
 - **Physical Protection of Category 1 and 2 material**
 - **SNF Transportation Security**



Security Rulemakings

Objectives of In-Transit Security

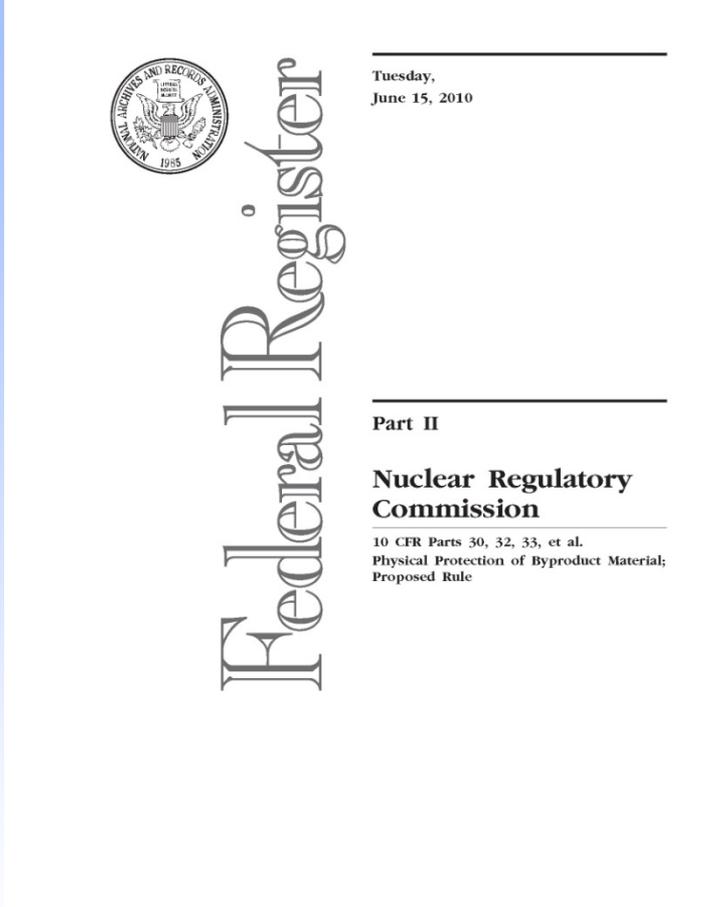
- Prevent theft and/or diversion for malevolent use
- Prompt detection, assessment, and reporting
- Prompt LLEA response
- Recovery from adversaries



DOE/OCRWM Illustration



Security Rulemakings Proposed 10 CFR Part 37



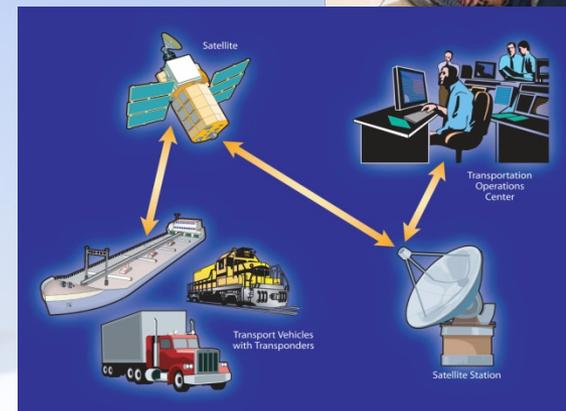
Proposed Rule, Physical Protection of Byproduct Material, 10 CFR Part 37

- Applicable to IAEA Category 1 and 2 Quantities of Radioactive Material and small quantities of SNF
- Proposed Rule Published June 15, 2010
 - Considered security concepts and lessons learned from past Security Orders
 - Stakeholder feedback from public meetings and comments on preliminary draft rule language
- Requirements proposed for
 - Facility Security
 - In-Transit Security
 - Access Authorization
- Comment period closed January 18, 2011



Security Rulemakings Proposed 10 CFR Part 37

- Licensee Verification
- Planning & Coordination
- Notifications & Communications
- Shipment Monitoring



DOE/OCRWM illustration



Security Rulemakings Proposed 10 CFR Part 37

- Drivers and Accompanying Individuals
- Procedures, Training and Control of Information
- Background Investigations
- Additional Requirements for Portable and Mobile Devices





Security Rulemakings Proposed 10 CFR Part 37

Supporting Guidance

IMPLEMENTATION GUIDANCE
FOR
10 CFR PART 37
PHYSICAL PROTECTION OF BYPRODUCT MATERIAL
CATEGORY 1 AND CATEGORY 2 QUANTITIES OF RADIOACTIVE
MATERIAL

June 2010
Draft for Comment



- **Published for public comment on July 14, 2010 (75 FR 40756)**
- **Comments period closed January 18, 2011**

Security Rulemakings Proposed 10 CFR 73.37

Proposed Rule, Physical Protection of Spent Nuclear Fuel in Transit

- Applicable to SNF shipments >100 grams and >100 rem/hr @ 3 ft unshielded
 - Enhances existing requirements
 - Considers security concepts and lessons learned from past security Orders
 - Addresses, in part, Petition for Rulemaking from the State of Nevada (PRM-73-10)
- 75 FR 62695, published October 13, 2010 comment period closed April 11, 2011
- Proposes enhanced requirements for
 - Preplanning and coordination of shipments
 - Notification and communications
 - Control and monitoring of shipments
 - Trustworthiness and reliability of personnel

Federal Register / Vol. 75, No. 197 / Wednesday, October 13, 2010 / Proposed Rules 62695

Reading Room at <http://www.nrc.gov/reading-rm/adams.html>. From this page, the public can gain entry into ADAMS, which provides text and image files of NRC's public documents. If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC's PDR reference staff at 1-800-397-4209, or 301-415-4737, or by e-mail to PDR.Resource@nrc.gov. The draft Part 37 implementation guidance is available electronically under ADAMS Accession Number ML101470684.

Federal Rulemaking Web site: Public comments and supporting materials related to the implementation guidance, including the draft implementation guidance, can be found at <http://www.regulations.gov> by searching on Docket ID NRC-2010-0194. Documents related to the proposed rule can be found by searching on Docket ID NRC 2008-0120.

Discussion
The NRC published a proposed rule that would place the security requirements for use of Category 1 and Category 2 quantities of radioactive material into a new Part 37 of Title 10 of the Code of Federal Regulations. The proposed rule was published on June 15, 2010 (75 FR 33902) and the public comment period runs through October 13, 2010. The public comment period for the proposed rule is being extended to January 18, 2011, by separate notice. Documents related to the proposed rule can be found at <http://www.regulations.gov> by searching on Docket ID NRC 2008-0120.

In conjunction with the proposed rule, the NRC has developed implementation guidance. The implementation document provides guidance to a licensee or applicant for implementation of proposed 10 CFR Part 37, "Physical Protection of Byproduct Material," specifically Category 1 and Category 2 quantities of radioactive material. It is intended for use by applicants, licensees, Agreement States, and NRC staff. The document describes methods acceptable to the NRC staff for implementing proposed 10 CFR Part 37. The approaches and methods described in the document are acceptable if they meet the requirements in proposed 10 CFR Part 37. The guidance is provided in the form of questions and answers on the provisions of the proposed rule. The draft implementation guidance document for proposed 10 CFR Part 37 is available electronically under ADAMS Accession

Number ML101470684, and can also be found at <http://www.regulations.gov> by searching on Docket ID NRC-2010-0194.

On July 14, 2010 (75 FR 40756), the NRC noticed the availability of the implementation guidance for public comment. The public comment period for this guidance was to have expired on November 12, 2010. The NRC received several requests to extend the comment period to January 15, 2011. Due to the size and complexity of the draft implementation guidance and the associated proposed rule, the NRC has decided to extend the comment period until January 18, 2011.

Dated at Rockville, Maryland, this 29th day of September 2010.

For the Nuclear Regulatory Commission,
Mark Thaggard,
Deputy Director, Division of
Intergovernmental Liaison and Rulemaking,
Office of Federal and State Materials and
Environmental Management Programs.
(PR Doc. 2010-2784 Filed 10-13-10; 6:41 and
BURLING CODE 7560-01-P)

NUCLEAR REGULATORY COMMISSION

10 CFR Part 73

RIN 3150-A064

[NRC-2009-0163]

Physical Protection of Irradiated Reactor Fuel in Transit

AGENCY: Nuclear Regulatory
Commission.

ACTION: Proposed rule.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is proposing to amend its security regulations pertaining to the transport of irradiated reactor fuel (for purposes of this rulemaking, the terms "irradiated reactor fuel" and "spent nuclear fuel" (SNF) are used interchangeably). This proposed rule would establish generally applicable security requirements similar to those previously imposed by Commission orders issued after the terrorist attacks of September 11, 2001. The proposed rule would establish the acceptable performance standards and objectives for the protection of spent nuclear fuel shipments from theft, diversion, or radiological sabotage. The proposed amendments would apply to those licensees authorized to possess or transport spent nuclear fuel. The proposed security requirements would also address, in part, a petition for rulemaking from the State of Nevada (PRM-73-10) that requests that NRC

strengthen the regulations governing the security of spent nuclear fuel shipments against malevolent acts.

DATES: The comment period expires January 11, 2011. Submit comments specific to the information collection aspects of this rule by November 12, 2010. Comments received after this date will be considered if practical to do so, but the NRC is able to assure consideration only for comments received on or before this date.

ADDRESSES: Please include Docket ID NRC-2009-0163 in the subject line of your comments. For instructions on submitting comments and accessing documents related to this action, see Section 1, "Submitting Comments and Accessing Information" in the SUPPLEMENTARY INFORMATION section of this document. You may submit comments by any one of the following methods.

Federal Rulemaking Web site: Go to <http://www.regulations.gov> and search for documents filed under Docket ID: NRC-2009-0163. Address questions about the NRC dockets to Carol Gallagher 301-492-3668; e-mail Carol.Gallagher@nrc.gov.

Mail comments to: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Rulemaking and Adjudications Staff.

E-mail comments to: RulemakingComments@nrc.gov. If you do not receive a reply e-mail confirming that we have received your comments, contact us directly at (301) 415-1966.

Hand deliver comments to: 13555 Rockville Pike, Rockville, Maryland 20852, between 7:30 a.m. and 4:15 p.m. during Federal workdays. Telephone: 301-415-1966.

For comments to: Secretary, U.S. Nuclear Regulatory Commission at 301-415-1101.

FOR FURTHER INFORMATION CONTACT:

Carolee Maspin, Office of Federal and State Materials and Environmental Management Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001. Telephone 301-415-2312, e-mail: Carolee.Maspin@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Submitting Comments and Accessing Information

II. Background

III. Objectives

A. What action is the NRC taking in this rule?

B. Why revise the requirements?

C. What is requested by the State of Nevada in its petition for rulemaking (PRM-73-10)?

D. What are the DOT routing requirements for spent nuclear fuel shipments?

E. What are the NRC routing requirements for spent nuclear fuel shipments?



Security Rulemakings

Proposed 10 CFR 73.37 & 73.38

- **Armed Escorts**
 - Armed escorts along the entire length of the shipment
- **Procedures, Training and Protection of Information**
- **Background Investigations**
 - Personnel with access to SNF in transit (drivers, train personnel, armed escorts)
 - Movement control center personnel



DOE/OCRWM Photo of PA police walking along side rail shipment





Security Rulemakings

Proposed 10 CFR 73.37 & 73.38



NUREG-0561, Rev. 2
Draft for Comment

Physical Protection of Shipments of Irradiated Reactor Fuel

October 2010
Draft for Comment

Supporting Guidance

- **NUREG-0561 Revision 2**
- **Published for public comment on November 4, 2010 (75 FR 67636)**
- **Comment period closes May 11, 2011**



Security Rulemakings

Next Steps

- Evaluate Rulemaking Comments
- Prepare Final Rules for Commission Approval

