PDR

Standard Form 83
(Rev. September 1983)

Request for OMB Review

Important

Read instructions before completing form. Do not use the same SF 83 to request both an Executive Order 12291 review and approval under the Paperwork Reduction Act.

Answer all questions in Part I. If this request is for review under E.O. 12291, complete Part II and sign the regulatory certification. If this request is for approval under the Paperwork Reduction Act and 5 CFR 1320, skip Part II, complete Part III and sign the paperwork certification.

Send three copies of this form, the material to be reviewed, and for paperwork—three copies of the supporting statement, to:

Office of Information and Regulatory Affairs
Office of Management and Budget
Attention: Docket Library, Room 3201
Washington, DC 20503

PART I.—Complete This Part for All Requests.

1. Department/agency and Bureau/office originating request

U.S. Nuclear Regulatory Commission

2. Agency code

3 1 5 0

3. Name of person who can best answer questions regarding this request

Gordon Gunderson

Telephone number

(301) 492-3803

4. Title of information collection or rulemaking

10 CFR 74, Material Control and Accounting for Special Nuclear Material

5. Legal authority for information collection or rule *(cite United States Code, Public Law, or Executive Order)*

42 USC 2201(o) or

6. Affected public *(check all that apply)*

1 ☐ Individuals or households
2 ☐ State or local governments
3 ☐ Farms
4 ☒ Businesses or other for-profit
5 ☐ Federal agencies or employees
6 ☐ Non-profit institutions
7 ☒ Small businesses or organizations

PART II.—Complete This Part Only if the Request is for OMB Review Under Executive Order 12291

7. Regulation Identifier Number (RIN)

___ ___ ___ ___ ___ ___ ___ ___ ___ ___, or None assigned ☐

8. Type of submission *(check one in each category)*

Classification
1 ☐ Major
2 ☐ Nonmajor

Stage of development
1 ☐ Proposed or draft
2 ☐ Final or interim final, with prior proposal
3 ☐ Final or interim final, without prior proposal

Type of review requested
1 ☐ Standard
2 ☐ Pending
3 ☐ Emergency
4 ☐ Statutory or judicial deadline

9. CFR section affected

_____ CFR _____

10. Does this regulation contain reporting or recordkeeping requirements that require OMB approval under the Paperwork Reduction Act and 5 CFR 1320? ☐ Yes ☐ No

11. If a major rule, is there a regulatory impact analysis attached? 1 ☐ Yes 2 ☐ No

If "No," did OMB waive the analysis? 3 ☐ Yes 4 ☐ No

Certification for Regulatory Submissions

In submitting this request for OMB review, the authorized regulatory contact and the program official certify that the requirements of E.O. 12291 and any applicable policy directives have been complied with.

Signature of program official — Date

Signature of authorized regulatory contact — Date

12. *(OMB use only)*

0F02
0/1

PART III.—Complete This Part Only if the Request is for Approval of a Collection of Information Under the Paperwork Reduction Act and 5 CFR 1320.

13. Abstract—Describe needs, uses and affected public in 50 words or less

The proposed rule would require an applicant for license or a licensee authorized to possess equipment capable of enriching uranium or operate an enrichment facility, and produce, possess, or use more than 1 kg of special nuclear material of low strategic significance to develop,document,and maintain a material control and accounting system.

4. Type of information collection *(check only one)*

Information collections not contained in rules

1 ☐ Regular submission
2 ☐ Emergency submission *(certification attached)*

Information collections contained in rules

3 ☐ Existing regulation *(no change proposed)*
4 ☒ Notice of proposed rulemaking (NPRM)
5 ☐ Final, NPRM was previously published
6 Final or interim final without prior NPRM
A ☐ Regular submission
B ☐ Emergency submission *(certification attached)*

7. Enter date of expected or actual Federal Register publication at this stage of rulemaking *(month, day, year)* _____

5. Type of review requested *(check only one)*

1 ☐ New collection
2 ☒ Revision of a currently approved collection
3 ☐ Extension of the expiration date of a currently approved collection without any change in the substance or in the method of collection
4 ☐ Reinstatement of a previously approved collection for which approval has expired
5 ☐ Existing collection in use without an OMB control number

6. Agency report form number(s) *(include standard/optional form number(s))*

N/A

7. Annual reporting or disclosure burden

1 Number of respondents	9
2 Number of responses per respondent	1.67
3 Total annual responses *(line 1 times line 2)*	15
4 Hours per response	54.87
5 Total hours *(line 3 times line 4)*	823

8. Annual recordkeeping burden

1 Number of recordkeepers	9
2 Annual hours per recordkeeper	1409.3
3 Total recordkeeping hours *(line 1 times line 2)*	12,684
4 Recordkeeping retention period	Varies years

9. Total annual burden

1 Requested *(line 7.5 plus line 8.3)*	13,507
2 Current OMB inventory	13,507
3 Difference *(line 1 less line 2)*	
Explanation of difference	
4 Program change	
5 Adjustment	

10. Current *(most recent)* OMB control number or comment number

3150-0123

11. Requested expiration date

6/30/93

22. Purpose of information collection *(check as many as apply)*

1 ☐ Application for benefits
2 ☐ Program evaluation
3 ☐ General purpose statistics
4 ☒ Regulatory or compliance
5 ☐ Program planning or management
6 ☐ Research
7 ☐ Audit

23. Frequency of recordkeeping or reporting *(check all that apply)*

1 ☐ Recordkeeping

Reporting

2 ☒ On occasion
3 ☐ Weekly
4 ☐ Monthly
5 ☐ Quarterly
6 ☐ Semi-annually
7 ☒ Annually
8 ☐ Biennially
9 ☒ Other *(describe)* _____

24. Respondents' obligation to comply *(check the strongest obligation that applies)*

1 ☐ Voluntary
2 ☐ Required to obtain or retain a benefit
3 ☒ Mandatory

25. Are the respondents primarily educational agencies or institutions or is the primary purpose of the collection related to Federal education programs? ☐ Yes ☒ No

26. Does the agency use sampling to select respondents or does the agency recommend or prescribe the use of sampling or statistical analysis by respondents? ☐ Yes ☒ No

27. Regulatory authority for the information collection

10 CFR 74 ; or _____ FR _____ ; or, Other *(specify)* _____

Paperwork Certification

In submitting this request for OMB approval, the agency head, the senior official or an authorized representative, certifies that the requirements of 5 CFR 1320, the Privacy Act, statistical standards or directives, and any other applicable information policy directives have been complied with.

Signature of program official — Date

Signature of agency head, the senior official or an authorized representative — Date

Patricia G. Norry, DSO for Information Resources Management — 4-6-90

GPO : 1984 O - 453-776

SUPPORTING STATEMENT

FOR

10 CFR PART 74

MATERIAL CONTROL AND ACCOUNTING REQUIREMENTS FOR

URANIUM ENRICHMENT FACILITIES AUTHORIZED TO

PRODUCE SPECIAL NUCLEAR MATERIAL OF LOW

STRATEGIC SIGNIFICANCE

Description of the Information Collection

The amendments to Part 74 require licensees who build or operate enrichment facilities producing low enriched uranium to establish a written, performance-based, Material Control and Accounting (MC&A) program which includes measures to maintain knowledge of source material (SM) and special nuclear material (SNM), and imposes additional requirements to protect against and detect specific unauthorized activities.

A. JUSTIFICATION

Need for and Agency Use of the Information Collection

This rule, 10 CFR 74.33, incorporates most of the existing MC&A regulations in § 74.31 which apply to light water reactor uranium fuel fabrication facilities. These requirements provide adequate protection for low enriched uranium at existing licensed facilities and for the most part are applicable to enrichment facilities as well. Hence, most have been retained in the proposed rule.

However, an enrichment facility can be used clandestinely for production of high enriched uranium or unauthorized production of low enriched uranium. Additional safeguards are needed to protect against such unauthorized activities. These include: frequent inventories of SM and SNM in process, control SM the same as SNM, and other requirements specifically directed at protecting against and detecting unauthorized enrichment activities. Section 74.33 does not depend on § 74.31, but is intended to be a stand alone provision.

Section 70.22(b) requires that the license application contain a full description of the MC&A program pursuant to § 74.33. This is to show that the performance objectives of § 74.33 are met by the applicant's FNMC plan.

Section 70.22(m) requires that the license application contain a full description of the applicant's security program in accordance with the requirements of 10 CFR Parts 25 and 95. This is a clarifying amendment because licensees possessing enrichment equipment are subject to these parts by the Atomic Energy Act.

Section 70.32(c)(1)(i) requires the licensee to maintain and follow the program for control and accounting of uranium SM or SNM and FNMCs implemented pursuant to § 74.33(b) as a condition of the license.

Section 70.32(c)(1)(ii) requires the licensee to maintain and follow the measurement control program for uranium SM or SNM control and accounting implemented pursuant to § 74.33(b) as a condition of the license.

Section 70.32(c)(1)(iii) requires the licensee to maintain and follow other material control procedures the Commission determines to be essential for t. safeguarding of uranium SM or of SNM and providing that the licensee shall make no change that would decrease the effectiveness of the MC&A program and the measurement control program implemented pursuant to § 74.33(b) without the prior approval of the Commission. A licensee desiring to make such changes shall submit an application for amendment to its license pursuant to § 70.34.

Section 74.2(b) was revised to include licensees who possess uranium SM and equipment capable of producing enriched uranium. Licensees who possess and use formula quantities of strategic SNM were added to this section as a clarifying amendment. This section does not contain any reporting or recordkeeping requirements.

Section 74.2(c) was revised to delete formula quantities of strategic SNM because formula quantities of strategic SNM are subject to Part 74 and not §§ 70.51, 70.57, and 70.58 as this section now reads. This is a clarifying amendment which does not have any reporting or recordkeeping requirements.

Section 74.11(a) requires that each licensee who operates an uranium enrichment facility notify the NRC Operations Center within 1 hour of discovery of any loss or theft or production of uranium enriched to 10 percent or more in the isotope U^{235} or any unauthorized production of uranium of low strategic significance. The requirement does not include measured discards or inventory difference quantities. The Operations Center will respond according to the significance of the event. This information is used by the NRC to determine whether there has been a theft or any unauthorized production of enriched

uranium and to initiate prompt action to stop the unauthorized production or recover the stolen material in order to protect the public health and safety.

Section 74.17(a) requires that NRC Form 327, "Special Nuclear Material Physical Inventory Summary Report," be submitted no later than 60 days after the start of a physical inventory. These reports are used by NRC licensing staff to assure that the MC&A system as documented in the licensee's fundamental nuclear material control (FNMC) plan is being followed and is effective in helping to assure that proper stewardship is being maintained over the material. NRC Form 327 has previously been cleared under OMB Number 3150-0139 and may be referred to for additional supporting information, burden, and cost data.

Section 74.33(a) establishes general perfomance objectives which are addressed in the FNMC plan required by §74.33(b).

Under § 74.33(a) each licensee who is authorized by § 70.32(c) to possess equipment capable of enriching uranium or operate an enrichment facility, and produce, possess, or use more than one effective kilogram of special nuclear material of low strategic significance at any site or contiguous sites, subject to control by the licensee shall establish, implement, and maintain a Commission approved material control and accounting system that will achieve the following objectives:

1. That licensees maintain current knowledge of (keep track of) SM and SNM. This information will come from shipping-receiving documents, production control records, and MC&A measurements. It is used by the licensee to keep track of how much uranium is possessed and its location.

2. That any production of uranium enriched to 10 percent or more in the isotope U^{235} be prevented and detected. This is to prevent the illicit production of higher than authorized enriched uranium which could include weapons-grade material.

3. That unauthorized production of enriched uranium of low strategic significance be prevented and detected. This is to protect against and detect the production of excess enriched uranium whose U^{235} concentration is less than the limit specified in the facility's license.

4, 5, and 6. That indications of any missing uranium, production of uranium enriched to 10 percent or more in the isotope U^{235}, or unauthorized production of uranium of low strategic significance be resolved. Each indicator has to be evaluated as to being an occurrence which has to be reported to the NRC for further action or else as being false.

These objectives are designed to protect the health and safety of the public against possible diversion of SNM for illicit purposes.

Section 74.33(b) requires that no later than 2 years prior to facility startup, a "Fundamental Nuclear Material Control Plan" will be submitted to the NRC describing how the performance objectives of § 74.33(a) and the system features and capabilities of § 74.33(c) will be met.

74.33(c) requires the licensee to include the following features and capabilities in the MC&A system and to establish, document, and maintain:

1. A management structure with clear overall MC&A responsibilities, independent from production, with separation of MC&A responsibilities, and written approved procedures which are reviewed periodically.

2. A measurement program that ensures that all SM and SNM quantities in the accounting records are based on accurately measured values. This is to ensure that the licensee knows what it receives, has on inventory, and ships.

3. A measurement control program that will ensure that biases are minimized and that standard errors are controlled. This is to ensure that measurements are accurate and precise.

4. An inventory program that ensures accurate, current, and reliable knowledge of SM and SNM is maintained by performing a dynamic (non-shutdown) physical inventory at least every 65 days of material in process and at least every 370 days an inventory of all material possessed, and by adjusting the book inventory to the physical inventory and resolving or reporting an inability to resolve, within 60 days, any inventory difference exceeding a quantity set by the NRC.

5. A detection program which will provide a high assurance of detection of unauthorized production of enriched uranium of low strategic significance or uranium enriched to 10 percent or more.

6. An item control program that provides knowledge of the identity and location of SM and SNM items kept for 14 days or more in inventory to deter and detect any loss or theft of 500 grams or more of U^{235}. This knowledge could be used to resolve indications of item loss or theft.

7. A resolution program for shipper-receiver (S-R) differences that will resolve any statistically significant differences so that the quantities received and shipped are verified by independent measurements and large S-R differences are reconciled.

8. An assessment program that independently reviews and documents the effectiveness of the MC&A program at least every 24 months. Also, document management's findings on the current effectiveness review and document actions taken on recommendations from prior assessments. This is to maintain an effective MC&A program.

Section 74.33(d) requires the licensee to establish records that demonstrate that §§ 74.33(a) and (c) have been met. It also states how the records may be kept, and that adequate safeguards to prevent tampering with the records be maintained. This is so that the licensee can be inspected by the NRC to ascertain the continued effectiveness of the MC&A system. Records must be maintained for 3 years unless a longer retention is required by Part 75.

Reduction of Burden Through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. However, because of the types of information and the infrequency of submission, Special Nuclear Material Physical Inventory Summary Reports required in § 74.17(a), the excessive large inventory difference report in § 74.33(c)(4), and the unauthorized production report in § 74.11(a) do not lend themselves readily to the use of automated information technology for submissior

Effort to Identify Duplication

The Information Requirements Control Automated System (IRCAS) was searched to determine agency duplication. Only minimal duplication is included which is necessary in that upon termination of licensed operations by a licensee, the NRC requires the licensee to file NRC Form 314, reporting the transfer or other disposition of any remaining licensed material and date of transfer. This transfer must also be reported on DOE/NRC Form 741. This small duplication imposes a minimal burden on licensees and is necessary to maintain accountability of licensed material in NMSS, and to permit NRC to determine if a facility is suitable for unrestricted use.

Effort to Avoid Duplication

The information collection contained in this regulatory amendment is very unique to the purposes and uses of the NRC. Only minimal duplication is involved such as the general description of the licensee's organization. Efforts have been made to minimize the redundancy.

Effort to Use Similar Information

There is no similar information available to the NRC.

Effort to Minimize Small Business Burden

None of the entities expected to apply for licenses are classified as a small business.

Consequences of Less Frequent Collection

Required reports are collected and evaluated on a continuing basis as events occur. The schedule for collecting the information is the minimim frequency which will permit NRC to ensure that the public health and safety are adequately protected.

Circumstances Which Justify Variation from OMB Guidelines

Contrary to the OMB Guidelines in 5 CFR 1320.6(b), § 74.11(a) requires that the licensee shall notify the NRC Operations Center within 1 hour of discovery of any loss or theft or any production of uranium enriched to 10 percent or more in the isotope U^{235} or unauthorized production of uranium of low strategic significance. The Operations Center will respond according to the significance of the event. The NRC uses the information to determine whether there has been a diversion, loss, or unlicensed production of material and to initiate prompt action for recovery of such material in order to protect the health and safety of the public, and protect the common defense and security.

Consultations Outside the Agency

There have been consultations with experts from Martin Marietta Energy Systems, Inc., a DOE contractor, on the formulation of the proposed rule.

Confidentiality of Information

A limited amount of proprietary information, in the form of business or trade secrets, may be required to provide a meaningful description of the applicant's or licensee's material control and accounting program in the FNMC plan. The Atomic Energy Act of 1954, as amended, requires that some uranium enrichment technology be classified Restricted Data (RD). Other information may be classified National Security Information (NSI). Very little RD or NSI should be needed in preparing the FNMC plan.

Sensitive Questions

None.

Cost to Federal Government (Annualized)

Licensee Submittal	No. of NRC Receipts Annually	NRC Staff Hours per Submittal	Total Annual NRC hours	Annual NRC Cost at $92/hr.
70.22(b)	4	0.1	0.4	38
70.32(c)(1)	-	-	-	-
74.33(b)	4	890	3560	327,520
74.11(a)*	0.2	1	0.2	18
74.17(a)	12	0.5	6	552
74.33(c)(4)**	0.12	80	10	920
Additional Inspection Effort	6	144	864	79,488
			Total Cost	$408,536

* One notification expected every 5 years.
** One notification expected every 12 years.

Estimates of Compliance Burden

There are two licensees. Annual responses are not expected for all requirements however, responses have been annualized in the tables below.

Reporting Requirements

Section	No. of Licensee Responses Annually	Licensee Staff Hours Per Submittal	Total Annual Licensee Burden (Hrs.)	Annual Cost to Respond $92/hr.
74.11(a)	0.2	0.5	0.1	$ 9
74.17(a)	12.0	1.0	12.0 (Burden under NRC Form 327)	$ 1104
74.33(c)(4)	0.2	8.0	1.6	$ 147
			Total Cost	$ 1260

License Application Requirements (Annualized over 3 Years)

Section	No. of Licensee Responses	Licensee Staff Hours Per Submittal	Total Licensee Burden (Hrs.)	Annual Cost to Respond $92/hr.
74.33(b)	4	1,088.0	4,352.0	$ 400,384
70.22(b)	Burden included under 74.33(b)			
70.32(c)(1)	-	-	-	-
			Total Cost	$ 400,384
Total Reporting and Application Burden			4,354.0 hrs	

Recordkeeping Requirements

Section	No. of Recordkeepers	Annual Hrs. Per Recordkeeper	Total Recordkeeping Hours	Record Retention Period (yrs)	Annual Cost to Respond $40/hr.*
74.33(a)	2	520	1,040	3	$ 47,840
74.33(c)	2	6,760	13,520	3	$621,920
74.33(d)	2	520	1,040	3	$ 47,840
				Total Cost	$717,600
Total Recordkeeping Burden			15,600 hrs		

*Recordkeepers are clerical personnel and are therefore not costed at professional rates.

Reasons for Change in Burden

The proposed rule adds requirements to establish a Material Control and Accounting program and also other requirements to prevent and detect specific unauthorized activities.

Publication for Statistical Use

This information is not published for statistical use.

B. COLLECTION OF INFORMATION EMPLOYING STATISTICAL METHODS

Statistical methods are not used in this collection of information.

[7590-01]

NUCLEAR REGULATORY COMMISSION

10 CFR Parts 2, 40, 70, and 74

RIN 3150 - AD56

Material Control and Accounting Requirements for Uranium Enrichment Facilities Producing Special Nuclear Material of Low Strategic Significance

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The Nuclear Regulatory Commission (NRC) is proposing new performance-based material control and accounting requirements that would be applicable to uranium enrichment facility licensees who produce significant quantities of special nuclear material (SNM) of low strategic significance. The proposed requirements are similar to existing requirements which apply to licensees authorized to possess and use more than one effective kilogram of SNM of low strategic significance. The proposed rule would impose additional requirements to ensure that enrichment facilities would produce only enriched uranium of low strategic significance as authorized. The proposed requirements would also apply to all applicants who build or operate enrichment facilities.

DATE: Comment period expires (75 days from the date of publication in the Federal Register). Comments received after this date will be considered if it is practical to do so, but the NRC is able to assure consideration only for comments received on or before this date.

ADDRESSES: Mail written comments to the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Docketing and Service Branch. Deliver comments to One White Flint North, 11555 Rockville Pike, Rockville, MD, between 7:45 a.m. and 4:15 p.m. Federal workdays.

Copies of the draft regulatory analysis, the environmental assessment and finding of no significant impact, the paperwork statement submitted to OMB, the draft regulatory guide, and comments received may be examined at the NRC Public Document Room, 2120 L Street NW. (Lower Level), Washington, DC.

FOR FURTHER INFORMATION CONTACT: Mr. Gordon E. Gundersen, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 492-3803 or Mr. Donald R. Joy, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 492-0352.

SUPPLEMENTARY INFORMATION:

Background

An advanced notice of proposed rulemaking on regulation of uranium enrichment, which would have created a new 10 CFR Part 76, was published in the Federal Register on April 21, 1988 (53 FR 13276). The initiative was abandoned because legislative efforts being considered in Congress at the time might have changed by law the way NRC is required to license uranium enrichment facilities. Also, the sole potential applicant, URENCO, Inc. did not file a license application.

In the Federal Register on February 15, 1989 (54 FR 6876), safeguards reporting requirements were changed. Specifically, the amendment to 10 CFR 74.17, which would also apply to enrichment facilities deleted the requirement for licensees located in Region II as indicated in Appendix A to Part 73 of this chapter to submit Special Nuclear Material (SNM) Physical Inventory Summary Reports to Region II. This change required all licensees subject to this reporting requirement to submit the reports to the Director, Office of Nuclear Material Safety and Safeguards because all aspects of material control and accounting (MC&A) have been completely transferred to NRC headquarters.

From 1975 to 1984, NRC's MC&A requirements for all major fuel cycle facilities, including any potential commercial enrichment facilities and reprocessing plants, were contained in 10 CFR Part 70 (primarily §§ 70.51, 70.57, and 70.58). Those requirements, for the most part, did not vary with respect to the type of facility or with respect to the SNM category (i.e., low enriched uranium, high enriched uranium, or plutonium). In 1985, a new 10 CFR Part 74 was created to amend the MC&A requirements that (1) recognized the different levels of safeguards significance among the different types of SNM, and (2) converted MC&A requirements from a prescriptive-based to a performance-based format.

The existing provisions of Part 74, specifically 10 CFR 74.31, pertained to licensees (and applicants) authorized to possess and use more than one effective kilogram of SNM of low strategic significance as defined in 10 CFR 74.4. Section 74.31 is a set of MC&A objectives and capabilities required of licensees to assure the NRC and the general public that proper stewardship of SNM is maintained. These requirements provide adequate protection for SNM of low strategic significance at

existing licensed facilities. Enrichment facilities were specifically exempted from coverage by 10 CFR 74.31 because (1) NRC had not received an application for a uranium enrichment facility, and at that time, saw no prospects for receiving such an application, and (2) the NRC believed that the safeguards issues pertaining to enrichment facilities producing SNM of low strategic significance (i.e., enriched uranium with a U^{235} concentration below 10 percent) were somewhat different and more complex than for other 10 CFR 74.31 type facilities.

An enrichment facility can be used clandestinely for production of high enriched uranium or unauthorized production of low enriched uranium. Thus, additional safeguards are needed for enrichment facilities to protect against such unauthorized activities. However, for centrifuge enrichment facilities, it is expected that during startup of e n cascade the enrichment level in the cascade may temporarily exceed the regulatory limit during the first 24 hours of operation. This period of operation will allow time to resolve start-up problems and adjust equipment. The NRC staff expects that 24 hours is a sufficient period of adjustment without allowing an excessive amount of cascade operation outside of normal controls. This is considered to be part of the start-up process and not an unauthorized activity. The NRC staff seeks specific comments from he public on the sufficiency of this 24 hour period of adjustment. Diffusion and atomic vapor laser isotope separation enrichment technologies do not experience this start-up phenomenon.

There is a possibility that applications for a license for the construction and operation of new enrichment facilities may be submitted to the NRC in the near future. There is also a possibility, over a longer term, that legislation will be enacted that would put all or part

of the Department of Energy's (DOE) enrichment facilities under the jurisdiction of NRC regulations. It would thus be appropriate for the NRC to clarify and formalize its regulatory position with respect to MC&A requirements applicable to enrichment facilities producing uranium of low strategic significance.

This proposed rule on MC&A contains only a few of the requirements which need to be met prior to obtaining a license to operate an enrichment facility.

Because of enactment of the Solar, Wind, Waste, and Geothermal Power Production Incentives Act of 1990 (Public Law 101-575) a single licensing process under 10 CFR Parts 40 and 70 will be used which will involve the issuance of a single license authorizing construction and operation of an uranium enrichment facility and the receipt, possession, use, and transfer of source and SNM.

MC&A is only one part of the safeguards program required for uranium enrichment applicants and licensees. Failure to properly carry out certain safeguards activities at enrichment facilities could adversely affect the national common defense and security. Safeguards consists of physical protection, MC&A, and information security. The SNM of low strategic significance produced by enrichment facilities needs to be protected from theft by having a physical security program which meets the requirements of 10 CFR 73.67. Classified or sensitive information and hardware have to be protected according to 10 CFR Parts 25 and 95. In particular, centrifuges need to be protected from theft, unauthorized viewing, or unauthorized use. For centrifuge technology, the details of this protection program are currently under joint development by NRC, DOE, and Department of State. Enrichment technology, either currently used by or under development by the DOE, when subject to NRC license,

would be protected by information security measures equivalent to those now used by DOE. In addition, Congress has addressed fitness-for-duty in section 5152 of the Drug-Free Workplace Act of 1988 (102 Stat. 4304) which requires persons awarded a contract for property or service of $25,000 or more from any Federal agency to certify that it will provide a drug-free workplace. Also, section 5153 of the Drug-Free Workplace Act of 1988 (102 Stat. 4306) requires persons receiving any grant from a Federal agency to certify that it will provide a drug-free workplace. Therefore, an uranium enrichment applicant or licensee obtaining a Federal agency grant or contract of $25,000 or more will be required to certify that it will provide a drug-free workplace.

If an enrichment facility is expanded by adding additional modules after operation has begun, the new modules would be required to meet the requirements of the existing FNMC Plan, by addendum to the plan, prior to placing the modules in service. However, the NRC staff believe that it has addressed all major issues associated with MC&A for enrichment facilities, but if that is not the case, the staff expects to handle those issues as they arise on a case-by-case basis through license conditions.

The Commission is proposing new MC&A requirements for uranium enrichment facilities. Since the proposed 10 CFR 74.33 was developed by starting with the existing 10 CFR 74.31 requirements, most of the general performance objectives of 10 CFR 74.31 were incorporated. Notably, 10 CFR 74.31(a)(3), "Aid in the investigation and recovery of missing material," was not retained. Although this objective might be helpful

following an actual theft of SNM, it is not logically part of an MC&A system, because it involves activities that can only begin after the material has left the licensee's control. Recovery of missing material is a responsibility of the U.S. Department of Justice, which has ample authority to compel any licensee's assistance in its investigatory and prosecutorial activities. The proposed 10 CFR 74.33 sets forth requirements for traditional MC&A measures and additional measures to protect against unauthorized activities at facilities producing SNM of low strategic significance. The proposed 10 CFR 74.33 does not depend on 10 CFR 74.31 but is intended to be a stand-alone provision.

A major new feature of this proposed rule is the requirement to account on a measured basis for all uranium and U^{235} on site, whether it is natural, depleted, or enriched uranium. This is necessary because the enrichment process, in changing the U^{235} concentration, consumes natural uranium and produces depleted and enriched uranium. If a material balance around the U^{235} received, produced, shipped, and remaining in inventory is periodically verified by a physical inventory, then this process, in the absence of any safeguards alarms, provides high assurance that the MC&A system is operating properly.

The proposed rule contains other significant features which will be described in turn. Physical inventories taken on an annual basis have historically been sufficient for safeguarding low enriched uranium; i.e., less than 10 percent U^{235}, and thus, have been applied to enrichment facilities. Physical inventories are also expected to be sufficient for natural and depleted uranium because the material will be in a form which is easily and precisely measured.

The 2-month interval for dynamic inventories of the enrichment process area was selected because annual material balances represent a large quantity of uranium with an associated relatively large uncertainty. Since uncertainty has the effect of reducing the amount of material loss that can be detected, the 2-month interval improves our loss detection capability by reducing the amount of material in the material balance. Also, the 2-month period provides an opportunity to check the operation of the material tracking system so that proper tracking of all quantities of material can be demonstrated. Since process area inventories are based on indirect measurements, and not the traditional MC&A measurements based on assays of samples, and isotopic or U^{235} determinations, the uncertainties are higher for indirect measurements. The iterative process of taking dynamic inventories every 2 months; i.e., predicting the amount of enriched uranium based on indirect measurements and comparing that to the actual amount produced in a finite amount of time, e.g., 24 hours, establishes a process which could lead to more accurate dynamic inventories. Finally, the 2-month period repeated over time will effectively monitor any long term growth of process holdup within the process piping and equipment.

A practice of exempting items each containing less than 500 grams U^{235} up to a cumulative total of 50 kilograms U^{235} from the item control program has historically been sufficient for low enriched licensees, and thus, has been applied to enrichment facilities. The NRC staff does not expect any adverse impact on the MC&A program because the total quantity exempted is small relative to the active inventory for an enrichment facility.

A practice of exempting from resolution shipper-receiver differences which are less than 500 grams U^{235} has historically been sufficient for low enriched licensees, and thus, has been applied to enrichment facilities. The NRC staff does not expect any adverse impact on the MC&A program because shipper-receiver differences should average out to a near zero value over time due to some differences being positive and others negative.

Draft Regulatory Guide

The proposed rule is written in general, performance-based language to give the applicant flexibility in designing a cost-effective system to make best use of site-specific features. The purpose of the draft regulatory guide is to provide an acceptable method of meeting the performance-based system capabilities described in 10 CFR 74.33. It should be noted that the applicant is free to use any method that complies with the requirements of 10 CFR 74.33.

The Commission also requests public comment on the draft regulatory guide. Comments on the draft guide may be submitted to the NRC as indicated under the ADDRESSES heading.

Finding of No Significant Environmental Impact: Availability

The Commission has determined under the National Environmental Policy Act of 1969, as amended, and the Commission's regulations in Subpart A of 10 CFR Part 51, that these amendments are not a major Federal action significantly affecting the quality of the human

environment, and therefore an environmental impact statement is not required. The rule is mainly administrative in nature and would not change any requirements that could have significant environmental impact. The proposed rule would provide assurance that only enriched uranium of low strategic significance as authorized by the license is produced at a licensed enrichment facility through material control and accounting measures and other appropriate requirements. There may be some increase in occupational exposure stemming from safeguards-related activities such as data recording, inspecting, or sample taking, but likely not enough to be measurable or identifiable.

Paperwork Reduction Act Statement

This proposed rule amends information collection requirements that are subject to the Paperwork Reduction Act (44 U.S.C. 3501 et seq.). The recordkeeping and reporting requirements in this rulemaking have been submitted to the Office of Management and Budget for review and approval of the paperwork requirements.

Public reporting burden for this collection of information is estimated to average 437 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Information and Records Management Branch MNBB-7714, U.S. Nuclear Regulatory Commission, Washington, DC 20555; and to the Desk Officer, Office of Information and Regulatory Affairs,

NEOB-3019, (3150-0123), Office of Management and Budget, Washington, DC 20503.

Draft Regulatory Analysis

The NRC has prepared a draft regulatory analysis on this proposed regulation. The analysis examines the costs and benefits of the alternatives considered by the NRC.

The Commission requests public comments on the draft regulatory analysis. Comments on the draft analysis may be submitted to the NRC as indicated under the ADDRESSES heading.

Regulatory Flexibility Certification

In accordance with the Regulatory Flexibility Act, 5 U.S.C. 605(b), the Commission certifies that, if promulgated, this rulemaking will not have a significant economic impact on a substantial number of small entities. The proposed rule, when promulgated, would affect only persons who build or operate enrichment facilities producing enriched uranium of low strategic significance. The owners of enrichment facilities do not fall within the scope of the definition of "small entities" set forth in Section 601(3) of the Regulatory Flexibility Act, 15 U.S.C. 632, or the Small Business Size Standards set out in regulations issued by the Small Business Administration at 13 CFR Part 121.

Backfit Analysis

The NRC has determined that the backfit rule, 10 CFR 50.109, does not apply to this proposed rule and, thus, a backfit analysis is not required for these amendments because it does not involve any provisions that would impose backfits on licenses, approvals, or applications for any existing facilities described in 10 CFR 50.109(a)(1)(i)-(iv).

List of Subjects

Part 2: Administrative practice and procedures, Antitrust, Byproduct material, Classified information, Environmental protection, Nuclear materials, Nuclear power plants and reactors, Penalty, Sex discrimination, Source material, Special nuclear material, Waste treatment and disposal.

Part 40: Government contracts, Hazardous materials--transportation, Nuclear materials, Criminal penalties, Reporting and recordkeeping requirements, Source material, Uranium.

Part 70: Hazardous materials--transportation, Material control and accounting, Nuclear materials, Packaging and containers, Criminal penalties, Radiation protection, Reporting and recordkeeping requirements, Scientific equipment, Security measures, Special nuclear material.

Part 74: Accounting, Hazardous materials--transportation, Material control and accounting, Nuclear materials, Packaging and containers, Criminal penalties, Radiation protection, Reporting and recordkeeping requirements, Scientific equipment, Special nuclear material.

For the reasons set forth in the preamble and under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act

of 1974, as amended, and 5 U.S.C. 553, the NRC is proposing to adopt the following amendments to 10 CFR Part 74, and conforming amendments to 10 CFR Parts 2, 40, and 70.

PART 2 - RULES OF PRACTICE FOR DOMESTIC LICENSING PROCEEDINGS

1. The authority citation for Part 2 continues to read as follows:

AUTHORITY: Secs. 161, 181, 68 Stat. 948, 953, as amended (42 U.S.C. 2201, 2231); sec. 191, as amended, Pub. L. 87-615, 76 Stat. 409 (42 U.S.C. 2241); sec. 201, 88 Stat. 1242, as amended (42 U.S.C. 5841); 5 U.S.C. 552.

Section 2.101 also issued under secs. 53, 62, 63, 81, 103, 104, 105, 68 Stat. 930, 932, 933, 935, 936, 937, 938, as amended (42 U.S.C. 2073, 2092, 2093, 2111, 2133, 2134, 2135); Sec. 114(f), Pub L. 97-425, 96 Stat. 2213, as amended (42 U.S.C. 10134(f)); sec. 102, Pub. L. 91-190, 83 Stat. 853, as amended (42 U.S.C. 4332); sec. 301, 88 Stat. 1248 (42 U.S.C. 5871). Sections 2.102, 2.103, 2.104, 2.105, 2.721 also issued under secs. 102, 103, 104, 105, 183, 189, 68 Stat. 936, 937, 938, 954, 955, as amended (42 U.S.C. 2132, 2133, 2134, 2135, 2233, 2239). Section 2.105 also issued under Pub. L. 97-415, 96 Stat. 2073 (42 U.S.C. 2239). Sections 2.200-2.206 also issued under secs. 186, 234, 68 Stat. 955, 83 Stat. 444, as amended (42 U.S.C. 2236, 2282); sec. 206, 88 Stat. 1246 (42 U.S.C. 5846). Sections 2.600-2.606 also issued under sec. 102, Pub. L. 91-190, 83 Stat. 853 as amended (42 U.S.C. 4332). Sections 2.700a, 2.719 also issued under 5 U.S.C. 554. Sections 2.754, 2.760, 2.770, 2.780 also issued under 5 U.S.C. 557. Section 2.764 and Table 1A of Appendix C also issued under secs. 135, 141, Pub. L. 97-425, 96 Stat. 2232, 2241 (42

U.S.C. 10155, 10161). Section 2.790 also issued under sec. 103, 68 Stat. 936, as amended (42 U.S.C. 2133) and 5 U.S.C. 552. Sections 2.800 and 2.808 also issued under 5 U.S.C. 553. Section 2.809 also issued under 5 U.S.C. 553 and sec. 29, Pub. L. 85-256, 71 Stat. 579, as amended (42 U.S.C. 2039). Subpart K also issued under sec. 189, 68 Stat. 955 (42 U.S.C. 2239); sec. 134, Pub. L. 97-425, 96 Stat. 2230 (42 U.S.C. 10154). Subpart L also issued under sec. 189, 68 Stat. 955 (42 U.S.C. 2239). Appendix A also issued under sec. 6, Pub. L. 91-560, 84 Stat. 1473 (42 U.S.C. 2135). Appendix B also issued under sec. 10, Pub. L. 99-240, 99 Stat. 1842 (42 U.S.C. 2021b et seq.).

2. In Appendix C, Supplement III is amended by adding new paragraphs A.3 and B.4 to read as follows:

Supplement III - Severity Categories

Safeguards

A. * * *

3. Actual unauthorized production of a formula quantity of special nuclear material.

B. * * *

4. Actual unauthorized production of special nuclear material.

* * * * *

PART 40 - DOMESTIC LICENSING OF SOURCE MATERIAL

3. The authority citation for Part 40 continues to read as follows:

AUTHORITY: Secs. 62, 63, 64, 65, 81, 161, 182, 183, 186, 68 Stat. 932, 933, 935, 948, 953, 954, 955, as amended, secs. 11e(2), 83, 84, Pub. L. 95-604, 92 Stat. 3033, as amended, 3039, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2014(e)(2), 2092, 2093, 2094, 2095, 2111, 2113, 2114, 2201, 2232, 2233, 2236, 2282); sec. 274, Pub. L. 86-373, 73 Stat. 688 (42 U.S.C. 2021); secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846); sec. 275, 92 Stat. 3021, as amended by Pub. L. 97-415, 96 Stat. 2067 (42 U.S.C. 2022).

Section 40.7 also issued under Pub. L. 95-601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851). Section 40.31 (g) also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Section 40.46 also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Section 40.71 also issued under sec. 187, 68 Stat. 955 (42 U.S.C. 2237).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 40.3, 40.25(d)(1)-(3), 40.35(a)-(d) and (f), 40.41(b) and (c), 40.46, 40.51(a) and (c), and 40.63 are issued under sec. 161b, 161i, and 161o, 68 Stat. 948, 949, and 950, as amended, (42 U.S.C. 2201(b), 2201(i), and 2201(o)), and §§ 40.5, 40.9, 40.24(c), (d)(3), and (4), 40.26(c)(2), 40.35(e), 40.42, 40.61, 40.62, 40.64, and 40.65 are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

4. In § 40.1, paragraph (a) is revised to read as follows:

§ 40.1 Purpose.

(a) The regulations in this part establish procedures and criteria for the issuance of licenses to receive title to, receive, possess, use, transfer, or deliver source and byproduct materials, as defined in this part, and establish and provide for the terms and conditions upon which the Commission will issue these licenses. (Additional requirements applicable to natural and depleted uranium at enrichment facilities are set forth in § 70.22 of this chapter.) These regulations also provide for the disposal of byproduct material and for the long-term care and custody of byproduct material and residual radioactive material. The regulations in this part also establish certain requirements for the physical protection of import, export, and transient shipments of natural uranium. (Additional requirements applicable to the import and export of natural uranium are set forth in Part 110 of this chapter.)

* * * * *

PART 70 - DOMESTIC LICENSING OF SPECIAL NUCLEAR MATERIAL

5. The authority citation for Part 70 continues to read as follows:

AUTHORITY: Secs. 51, 53, 161, 182, 183, 68 Stat. 929, 930, 948, 953, 954, as amended, Sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2071, 2073, 2201, 2232, 2233, 2282); Secs. 201, as amended, 202, 204, 206, 88 Stat. 1242, as amended, 1244, 1245, 1246 (42 U.S.C. 5841, 5842, 5845, 5846).

Sections 70.1(c) and 70.20a(b) also issued under Secs. 135, 141, Pub. L. 97-425, 96 Stat. 2232, 2241 (42 U.S.C. 10155, 10161). Section 70.7 also issued under Pub. L. 95-601, Sec. 10, 92 Stat. 2951 (42 U.S.C. 5851).

Section 70.21(g) also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Section 70.31 also issued under Sec. 57d, Pub. L. 93-377, 88 Stat. 475 (42 U.S.C. 2077). Sections 70.36 and 70.44 also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Section 70.61 also issued under secs. 186, 187. 68 Stat. 955 (42 U.S.C. 2236, 2237). Section 70.62 also issued under sec. 108, 68 Stat. 939, as amended (42 U.S.C. [illegible]).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 70.3, 70.7(g) 70.19(c), 70.21(c), 70.22 (a), (b) (d)-(k), 70.24 (a), and (b), 70.32(a)(3), (5) and (6), (d) and (i), 70.36, 70.39(b) and (c), 70.41(a), 70.42(a) and (c), 70.56, 70.57 (b), (c), and (d), 70.58 (a)-(g)(3), and (h)-(j) are issued under sec. 161b, 161i, and 161o, 68 Stat. 948, and 950, as amended (42 U.S.C. 2201 (b), 2201(i), and 2201(o)); §§ 70.7, 70.20a (a) and (d), 70.20b (c) and (e), 70.21(c), 70.24(b), 70.32(a)(6), (c), (d), (e), and (g), 70.36, 70.51(c)-(g), 70.56, 70.57 (b) and (d), 70.59 (a)-(g)(3) and (h)-(j) are issued under sec. 161i, 68 Stat. 949, as amended (42 U.S.C. 2201(i)); and §§ 70.5, 70.9, 70.20b (d) and (e), 70.38, 70.51 (b) and (i), 70.52, 70.53, 70.54, 70.55, 70.58 (g)(4), (k) and (l), 70.59, and 70.60 (b) and (c) are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o));

6. In § 70.22, paragraph (b) is revised and new paragraph (m) is added to read as follows:

§ 70.22 Contents of applications.

* * * * *

(b) Each application for a license to possess special nuclear material and equipment capable of enriching uranium, or to possess and use at any

one time and location special nuclear material in a quantity exceeding one effective kilogram, except for applications for use as sealed sources and for those uses involved in the operation of a nuclear reactor licensed pursuant to Part 50 of this chapter and those involved in a waste disposal operation, must contain a full description of the applicant's program for control and accounting of such special nuclear material or enrichment equipment that will be in the applicant's possession under license to show how compliance with the requirements of §§ 70.58, 74.31, 74.33, or 74.51 of this chapter, as applicable, will be accomplished.

* * * * *

(m) Each application for a license to possess equipment capable of enriching urarium or operate an enrichment facility, and produce, possess, or use more than one effective kilogram of special nuclear material at any site or contiguous sites subject to control by the applicant, must contain a full description of the applicant's security program to protect against theft, unauthorized viewing, and unauthorized disclosure of classified matter in accordance with the requirements of 10 CFR Parts 25 and 95.

7. In § 70.32, paragraph (c)(1) is revised to read as follows:

§ 70.32 Conditions of license.

* * * * *

(c)(1) Each license authorizing the possession and use at any one time and location of uranium source material or special nuclear material in a quantity exceeding one effective kilogram, except for use as sealed sources and those uses involved in the operation of a nuclear reactor

licensed pursuant to Part 50 of this chapter and those involved in a waste disposal operation, shall contain and be subject to a condition requiring the licensee to maintain and follow:

(i) The program for control and accounting of uranium source material or special nuclear material and fundamental nuclear material controls implemented pursuant to §§ 70.22(b), 70.58(1), 74.31(b), 74.33(b), or 74.51(c)(1) of this chapter, as appropriate;

(ii) The measurement control program for uranium source material or special nuclear material control and accounting implemented pursuant to §§ 70.57(c), 74.31(b), 74.33(b), or 74.59(e) of this chapter, as appropriate; and

(iii) Such other material control procedures as the Commission determines to be essential for the safeguarding of uranium source material or of special nuclear material and providing that the licensee shall make no change that would decrease the effectiveness of the material control and accounting program implemented pursuant to §§ 70.22(b), 70.58(1), 70.51(g), 74.31(b), 74.33(b), or 74.51(c)(1) of this chapter and the measurement control program implemented pursuant to §§ 70.57(c), 74.31(b), 74.33(b), or 74.59(e) of this chapter without the prior approval of the Commission. A licensee desiring to make such changes shall submit an application for amendment to its license pursuant to § 70.34.

* * * * *

8. In § 70.51, paragraph (b) is revised to read as follows:

§ 70.51 Material balance, inventory, and records requirements.

* * * * *

(b) Licensees subject to the recordkeeping requirements of §§ 74.31, 74.33 and 74.59 of this chapter are exempt from the requirements of § 70.51(b)(1) through (5).

PART 74: MATERIAL CONTROL AND ACCOUNTING OF SPECIAL NUCLEAR MATERIAL

9. The authority citation for Part 74 is revised to read as follows:

AUTHORITY: Secs. 53, 57, 161, 182, 183, 68, Stat. 930, 932, 948, 953, 954, as amended, Sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2073, 2077, 2201, 2232, 2233, 2282); secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246, (42 U.S.C. 5841, 5842, 5846).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 74.17, 74.31, 74.51, 74.53, 74.55, 74.57, 74.59, 74.81, and 74.82 are issued under secs. 161b and 161i, 68 Stat. 948, 949, as amended (42 U.S.C. 2201(b); and 2201(i)); and §§ 74.11, 74.13, 74.15, and 74.17, are issued under Sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

10. Section 74.1 is revised to read as follows:

§ 74.1 Purpose.

(a) This part has been established to contain the requirements for the control and accounting of special nuclear material at fixed sites and for documenting the transfer of special nuclear materials. General reporting requirements as well as specific requirements for certain licensees possessing special nuclear material of low strategic significance and formula quantities of strategic special nuclear material are included. Requirements for the

control and accounting of source material at enrichment facilities are also included. The specific control and accounting requirements for other licensees are contained in §§ 70.51, 70.57, and 70.58 of this chapter.

(b) The general conditions and procedures for the submittal of a license application for the activities covered in this part are detailed in § 70.22 of this chapter.

* * * * *

11. In § 74.2, paragraphs (b) and (c) are revised to read as follows:

§ 74.2 Scope.

* * * * *

(b) In addition, specific control and accounting requirements are included for certain licensees who:

(1) possess and use formula quantities of strategic special nuclear material,

(2) possess and use special nuclear material of low strategic significance, or

(3) possess uranium source material and equipment capable of producing enriched uranium.

(c) Specific control and accounting requirements for special nuclear material of moderate strategic significance and for miscellaneous categories of licensees who possess special nuclear material are contained in §§ 70.51, 70.57, and 70.58 of this chapter.

* * * * *

12. In § 74.4, the term "batch" is added to read as follows:

§ 74.4 Definitions.

* * * * *

Batch means a portion of source material or special nuclear material handled as a unit for accounting purposes at a key measurement point and for which the composition and quantity are defined by a single set of measurements. The source material or special nuclear material may be in bulk form or contained in a number of separate items.

* * * * *

13. In § 74.8, paragraph (b) is revised to read as follows:

§ 74.8 Information collection requirements; OMB approval.

* * * * *

(b) The approved information collection requirements contained in this part appear in §§ 74.11, 74.13, 74.31, 74.33, 74.51, 74.57, and 74.59.

* * * * *

14. In § 74.11, the section heading and paragraph (a) are revised to read as follows:

§ 74.11 Reports of loss or theft or attempted theft or unauthorized production of special nuclear material.

(a) Each licensee who possesses one gram or more of contained uranium-235, uranium-233, or plutonium shall notify the NRC Operations Center within 1 hour of discovery of any loss or theft or otner unlawful diversion of special nuclear material which the licensee is licensed to possess, or any incident in which an attempt has been made to commit a

theft or unlawful diversion of special nuclear material. Each licensee who operates a uranium enrichment facility shall notify the NRC Operations Center within 1 hour of discovery of any production of uranium enriched to 10 percent or more in the isotope U^{235} or unauthorized production of uranium of low strategic significance. For centrifuge enrichment facilities the requirement to report enrichment levels greater than that authorized by license within 1 hour does not apply to each cascade during its startup process, not to exceed the first 24 hours. The requirement does not pertain to measured discards or inventory difference quantities.

* * * * *

15. Section 74.17 is revised to read as follows:

§ 74.17 Special nuclear material physical inventory summary report.

(a) Each licensee subject to the requirements of § 74.31 or § 74.33 shall submit a completed Special Nuclear Material Physical Inventory Summary Report on NRC Form 327 not later than 60 calendar days from the start of the physical inventory required by § 74.31(c)(5) or § 74.33(c)(4) of this chapter. The licensee shall report the inventory results by plant and total facility to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(b) Each licensee subject to the requirements of § 70.51(e) of this chapter shall submit a completed Special Nuclear Material Physical Inventory Summary Report on NRC Form 327 not later than 30 calendar days from the start of the physical inventory required by § 70.51(e)(3) of this chapter. The licensee shall report the inventory results by plant and total facility

to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(c) Each licensee subject to the requirements of § 74.51 shall submit a completed Special Nuclear Material Physical Inventory Summary Report on NRC Form 327 not later than 45 calendar days from the start of the physical inventory required by § 74.59(f). The licensee shall report the inventory results by plant and total facility to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

16. A new § 74.33 is added to read as follows:

§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance.

(a) General performance objectives. Each licensee who is authorized by this chapter to possess equipment capable of enriching uranium or operate an enrichment facility, and produce, possess, or use more than one effective kilogram of special nuclear material of low strategic significance at any site or contiguous sites, subject to control by the licensee, shall establish, implement, and maintain a Commission-approved material control and accounting system that will achieve the following objectives:

(1) Maintain accurate, current, and reliable knowledge of source material and special nuclear material;

(2) Protect against and detect any production of uranium enriched to 10 percent or more in the isotope U^{235};

(3) Protect against and detect unauthorized production of uranium of low strategic significance;

(4) Resolve indications of missing uranium;

(5) Resolve indications of any production of uranium enriched to 10 percent or more in the isotope U^{235}; and

(6) Resolve indications of unauthorized production of uranium of low strategic significance.

(b) Implementation dates. Each applicant for a license who would, upon issuance of a license pursuant to any part of this chapter, be subject to the requirements of paragraph (a) of this section shall:

(1) No later than 2 years prior to facility start up, submit a fundamental nuclear material control plan describing how the performance objectives of § 74.33(a) and the system features and capabilities of § 74.33(c) will be met; and

(2) Implement the NRC approved plan submitted pursuant to paragraph (b)(1) of this section prior to (a) receipt of more than a total of 5,000 grams of U^{235} contained in natural, depleted, or enriched uranium or (b) NRC's issuance of a license to test or operate the enrichment facility.

(c) System features and capabilities. To meet the general performance objectives of paragraph (a) of this section, the Material Control and Accounting (MC&A) system must include the features and capabilities described in paragraphs (c)(1) through (8) of this section. The licensee shall establish, document, and maintain:

(1) A management structure that ensures:

(i) clear overall responsibility for MC&A functions;

(ii) independence of MC&A management from production responsibilities;

(iii) separation of key MC&A responsibilities from each other; and

(iv) use of approved written MC&A procedures and periodic review of those procedures;

(2) A measurement program that ensures that all quantities of source material and special nuclear material in the accounting records are based on accurately measured values;

(3) A measurement control program that ensures that:

(i) measurement bias is estimated and minimized through the measurement control program, and any significant biases are eliminated from inventory difference values of record;

(ii) all MC&A measurement systems are controlled so that twice the standard error of the inventory difference is less than the greater of 5,000 grams of U^{235} or 0.25 percent of the active inventory for each total plant material balance; and

(iii) any measurements performed under contract are controlled so that the licensee can satisfy these requirements;

(4) An inventory program that ensures that accurate, current, and reliable knowledge of source and special nuclear material is maintained, and that includes:

(i) performing, unless otherwise required to satisfy Part 75 of this chapter, a dynamic (nonshutdown) physical inventory of in-process uranium and U^{235} at least every 65 days, and performing a static physical inventory of all other uranium and total U^{235} contained in natural, depleted, and enriched uranium located outside of the enrichment processing equipment at least every 370 calendar days, with static physical inventories being conducted in conjunction with a dynamic physical inventory of in-process

uranium and U^{235} so as to provide a total plant material balance at least every 370 calendar days; and

(ii) reconciling and adjusting the book inventory to the results of the static physical inventory and resolving, or reporting an inability to resolve, any inventory difference that is rejected by a statistical test which has a 90 percent power of detecting a discrepancy of a quantity of U^{235} established by NRC on a site-specific basis within 60 days after the start of each static physical inventory;

(5) A detection program, independent of production, that provides high assurance of detection of any:

(i) production of uranium enriched to 10 percent or more in the U^{235} isotope in any product stream, and

(ii) unauthorized production of uranium of low strategic significance;

(6) An item control program that ensures that:

(i) current knowledge is maintained of items that exist for 14 or more calendar days with respect to identity, uranium and U^{235} content, and stored location, and

(ii) items are stored and handled, or subsequently measured, in a manner so that the amount of U^{235} involved in any unauthorized removal of items or uranium from items greater than 500 grams will be detected. Exempted are licensee-identified items each containing less than 500 grams U^{235} up to a cumulative total of 50 kilograms of U^{235};

(7) A resolution program that ensures that any shipper-receiver differences are resolved that are statistically significant and exceed 500 grams U^{235} on:

(i) an individual batch basis; and

(ii) a total shipment basis for all source material and special nuclear material; and

(8) An assessment program that;

(i) independently assesses the effectiveness of the MC&A system at least every 24 months,

(ii) documents the results of the above assessment,

(iii) documents management's findings on whether the MC&A system is currently effective, and

(iv) documents any actions taken on recommendations from prior assessments.

(d) Recordkeeping. (1) Each licensee shall establish records that will demonstrate that the performance objectives of paragraph (a) and the system features and capabilities of paragraph (c) of this section have been met and maintain these records in an auditable form, available for inspection, for at least 3 years, unless a longer retention time is required by Part 75 of this chapter.

(2) Records that must be maintained pursuant to this part may be the original or a reproduced copy or a microform if such reproduced copy or microform is duly authenticated by authorized personnel and the microform is capable of producing a clear and legible copy after storage for the period specified by Commission regulations. The record may also be stored in electronic media with the capability for producing, on demand, legible, accurate, and complete records during the required retention period. Records such as letters, drawings, and specifications must include all pertinent information such as stamps, initials, and signatures.

(3) The licensee shall maintain adequate safeguards against tampering with and loss of records.

* * * * *

Dated at Rockville, Maryland, this _____ day of _____, 1990.

For the Nuclear Regulatory Commission.

_____

Samuel J. Chilk,
Secretary of the Commission.

(3) The licensee shall maintain adequate safeguards against tampering with and loss of records.

* * * * *

Dated at Rockville, Maryland, this _____ day of _____, 1990.

For the Nuclear Regulatory Commission.

_____

Samuel J. Chilk,
Secretary of the Commission.

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TPSpeis
CJHeltemes
BMMorris
FACostanzi
SBahadur
JTelford
GGundersen
RBernero, NMSS
WParler, OGC
JLieberman, OE
PNorry, IRM
HThompson, EDO
JTaylor, EDO

*SEE PREVIOUS CONCURRENCE.

Offc:RDB:DRA	RDB:DRA	RDB:DRA	DD:DRA	D:DRA	DD:GIR	
Name:GGundersen*	JTelford*	SBahadur*	FCostanzi*	BMorris*	CHeltemes*	
Date:6/08/90	6/11/90	6/11/90	6/14/90	6/15/90	6/19/90	
Offc:D:RES	D:NMSS	GC:OGC	D:OE	D:ADM	D:EDO	EDO	EDO
Name:EBeckjord*	RBernero*	WParler*	JLieberman*	EHalman*	HThompson	JTaylor
Date:6/22/90	7/13/90	7/26/90	7/12/90	7/09/90	8/09/90	8/09/90

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