The draft final rule is limited to revising and consolidating the MC&A regulations in 10 CFR Part 74 (SRM-SECY-08-0059, February 5, 2009). The information in the table shows the sections in 10 CFR Part 74 that are being changed and the conforming changes that are being made in 10 CFR Parts 40, 60, 63, 70, 72, and 150.

Current Rule	Proposed Rule (11/2013)	Draft Final Rule (08/2018)
PART 40 -- DOMESTIC LICENSING OF SOURCE MATERIAL		
Records, Reports, and Inspections		
§ 40.64 Reports.	2, In § 40.64, revise paragraphs (b)(1) and (2) to read as follows:	[In § 40.64, revise paragraphs (b)(1) and (2) and (d)(3) to read as follows:]
(b) Except as specified in paragraphs (d) and (e) of this section, each licensee who: (1) Possesses, or had possessed in the previous reporting period, at any one time and location, one kilogram or more of uranium or thorium source material with foreign obligations as defined in this part, shall document holdings as of September 30 of each year and submit to the Commission within 30 days, a statement of its source material inventory with foreign obligations as defined in this part. Alternatively, this information may be submitted with the licensee's material status reports on special nuclear material filed under part 72 or 74 of this chapter, as a statement of its source material inventory with foreign obligations as defined in this part. This statement must be submitted to the address specified in the reporting instructions in NUREG/BR–0007, and include the Reporting Identification Symbol (RIS) assigned by the Commission to the licensee.	(b) * * * (1) Possesses, or had possessed in the previous reporting period, at any one time and location, one kilogram or more of uranium or thorium source material with foreign obligations as defined in this part, shall document holdings as of September 30 of each year and submit to the Commission within 30 days, a statement of its source material inventory with foreign obligations as defined in this part. Alternatively, this information may be submitted with the licensee's material status reports on SNM filed under part 74 of this chapter, as a statement of its source material inventory with foreign obligations as defined in this part. This statement must be submitted to the address specified in the reporting instructions in NUREG/BR–0007, and include the Reporting Identification Symbol (RIS) assigned by the Commission to the licensee.	(b) * * * (1) Possesses, or had possessed in the previous reporting period, at any one time and location, one kilogram or more of uranium or thorium source material with foreign obligations as defined in this part, shall document holdings as of September 30 of each year and submit to the Commission within 30 days, a statement of its source material inventory with foreign obligations as defined in this part. Alternatively, this information may be submitted with the licensee's material status reports on SNM special nuclear material filed under part 74 of this chapter, as a statement of its source material inventory with foreign obligations as defined in this part. This statement must be submitted to the address specified in the reporting instructions in NUREG/BR–0007, Instructions for the Preparation and Distribution of Material Status Reports, Final Draft (DOE [U.S. Department of Energy]/NRC Forms 742 and 742C) and, and include the Reporting Identification Symbol (RIS) assigned by the Commission to the licensee.

Current Rule	Proposed Rule (11/2013)	Draft Final Rule (08/2018)
(2) Possesses, or had possessed in the previous reporting period, one kilogram or more of uranium or thorium source material pursuant to the operation of enrichment services, downblending uranium that has an initial enrichment of the U^{235} isotope of 10 percent or more, or in the fabrication of mixed-oxide fuels shall complete and submit, in computer-readable format, Material Balance and Physical Inventory Listing Reports concerning all source material that the licensee has received, produced, possessed, transferred, consumed, disposed of, or lost. Reports must be submitted for each Reporting Identification Symbol (RIS) account including all holding accounts. Each licensee shall prepare and submit these reports as specified in the instructions in NUREG/BR–0007 and NMMSS Report D–24, ‘‘Personal Computer Data Input for NRC Licensees.’’ These reports must document holdings as of September 30 of each year and must be submitted to the Commission within 30 days. Alternatively, these reports may be submitted with the licensee’s material status reports on special nuclear material filed under parts 72 or 74 of this chapter. Copies of the reporting instructions may be obtained either by writing to the U.S. Nuclear Regulatory Commission, Division of Fuel Cycle Safety and Safeguards, Washington, DC 20555–0001, or by e-mail to *RidsNmssFcss@nrc.gov*. Each licensee required to report material balance,	(2) Possesses, or had possessed in the previous reporting period, one kilogram or more of uranium or thorium source material pursuant to the operation of enrichment services, downblending uranium that has an initial enrichment of the U-235 isotope of 10 percent or more, or in the fabrication of mixed-oxide fuels shall complete and submit, in computer-readable format, Material Balance and Physical Inventory Listing Reports concerning all source material that the licensee has received, produced, possessed, transferred, consumed, disposed of, or lost. Reports must be submitted for each RIS account including all holding accounts. Each licensee shall prepare and submit these reports as specified in the instructions in NUREG/BR–0007 and NMMSS Report D–24, ‘‘Personal Computer Data Input for NRC Licensees.’’ These reports must document holdings as of September 30 of each year and must be submitted to the Commission within 30 days. Alternatively, these reports may be submitted with the licensee’s material status reports on special nuclear material filed under part 74 of this chapter. Copies of the reporting instructions may be obtained either by writing to the U.S. Nuclear Regulatory Commission, Division of Fuel Cycle Safety and Safeguards, Washington, DC 20555–0001, or by e-mail to *RidsNmssFcss.Resource@nrc.gov*. Each licensee required to report material	(2) Possesses, or had possessed in the previous reporting period, one kilogram or more of uranium or thorium source material pursuant to the operation of enrichment services, downblending uranium that has an initial enrichment of the U uranium-235 isotope of 10 percent or more, or in the fabrication of mixed-oxide fuels shall complete and submit, in computer-readable format, Material Balance and Physical Inventory Listing Reports concerning all source material that the licensee has received, produced, possessed, transferred, consumed, disposed of, or lost. Reports must be submitted for each RIS account including all holding accounts. Each licensee shall prepare and submit these reports as specified in the instructions in NUREG/BR–0007 and NMMSS Report D–24, ‘‘Personal Computer Data Input for NRC Licensees.’’ These reports must document holdings as of September 30 of each year and must be submitted to the Commission within 30 days. Alternatively, these reports may be submitted with the licensee’s material status reports on special nuclear material filed under part 74 of this chapter. Copies of the reporting instructions may be obtained either by writing to the U.S. Nuclear Regulatory Commission, Division of Fuel Cycle Safety, and Safeguards, and Environmental Review, Washington, DC 20555–0001, or by e-mail to *RidsNmssFcse.Resource@nrc.gov*RidsN

Current Rule	Proposed Rule (11/2013)	Draft Final Rule (08/2018)
inventory, and/or foreign obligation information, as detailed in this part, shall resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of notification of a discrepancy identified by the NRC.	balance, inventory, and/or foreign obligation information, as detailed in this part, shall resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of notification of a discrepancy identified by the NRC. * * * * *	mssFcss.Resource@nrc.gov. Each licensee required to report material balance, inventory, and/or foreign obligation information, as detailed in this part, shall resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of notification of a discrepancy identified by the NRC. * * * * * (d) * * * (3) Chemical catalysts containing uranium depleted in the Uuranium-235 isotope to 0.4 percent or less, if the uranium content of the catalyst does not exceed 15 percent by weight; or * * * * *
PART 60—DISPOSAL OF HIGH-LEVEL RADIOACTIVE WASTES IN GEOLOGIC REPOSITORIES		
Subpart D—Records, Reports, Tests, and Inspections		
§ 60.78 Material control and accounting records and reports.		[In § 60.78, remove the reference “, 72.74, 72.76, and 72.78” and add in its place the reference “and 72.74”.] 4. Revise § 60.78 to read as follows:
DOE shall implement a program of material control and accounting (and accidental criticality reporting) that is the same as that specified in §§ 72.72, 72.74, 72.76, and 72.78 of this chapter.		DOE shall implement a program of material control and accounting (and accidental criticality reporting) that is the same as that specified in §§ 72.72, 72.74, 72.76, and 72.78 of this chapter.
PART 63–DISPOSAL OF HIGH-LEVEL RADIOACTIVE WASTES IN A		

Current Rule	Proposed Rule (11/2013)	Draft Final Rule (08/2018)
GEOLOGIC REPOSITORY AT YUCCA MOUNTAIN, NEVADA		
Subpart D—Records, Reports, Tests, and Inspections		
§ 63.78 Material control and accounting records and reports.		[In § 63.78, remove the reference “, 72.74, 72.76, and 72.78” and add in its place the reference “and 72.74”.] 6. Revise § 63.78 to read as follows:
DOE shall implement a program of material control and accounting (and accidental criticality reporting) that is the same as that specified in §§ 72.72, 72.74, 72.76, and 72.78 of this chapter.		DOE shall implement a program of material control and accounting (and accidental criticality reporting) that is the same as that specified in §§ 72.72, 72.74, 72.76, and 72.78 and 72.74 of this chapter.
PART 70–DOMESTIC LICENSING OF SPECIAL NUCLEAR MATERIAL		
Subpart E—Licenses		
§ 70.32 Conditions of licenses.	[In § 70.32, revise paragraphs (c)(1)(i), (ii), and (iii) to read as follows:]	[In § 70.32, revise paragraphs (c)(1)(i) through (iii) to read as follows:]
(c)(1) (i) The program for control and accounting of uranium source material at an uranium enrichment facility and special nuclear material at all applicable facilities as implemented pursuant to § 70.22(b), or §§ 74.31(b), 74.33(b), 74.41(b), or 74.51(c) of this chapter, as appropriate; (ii) The measurement control program for uranium source material at an uranium enrichment facility and for special nuclear material at all applicable facilities as implemented pursuant to §§ 74.31(b),	(c)(1) * * * (i) The program for control and accounting of uranium source material at a uranium enrichment facility and SNM at all applicable facilities as implemented pursuant to § 70.22(b), or §§ 74.31(b), 74.33(b), 74.41(b), or 74.51(b) of this chapter, as appropriate; (ii) The measurement control program for uranium source material at a uranium enrichment facility and for SNM at all applicable facilities as implemented pursuant to §§ 74.31(b), 74.33(b),	(c)(1) * * * (i) The program for control and accounting of uranium source material at a uranium enrichment facility and SNM special nuclear material at all applicable facilities as implemented pursuant to § 70.22(b), or §§ 74.31(b), 74.33(b), 74.41(b), or 74.51(b) of this chapter, as appropriate; (ii) The measurement control program for uranium source material at a uranium enrichment facility and for SNM special nuclear material at all applicable facilities as implemented pursuant to

Current Rule	Proposed Rule (11/2013)	Draft Final Rule (08/2018)
74.33(b), 74.45(c), or 74.59(e) of this chapter, as appropriate; and (iii) Other material control procedures as the Commission determines to be essential for the safeguarding of uranium source material at an uranium enrichment facility 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), or §§ 74.31(b), 74.33(b), 74.41(b), or 74.51(c) of this chapter, and the measurement control program implemented pursuant to §§ 74.31(b), 74.33(b), 74.41(b), or 74.59(e) of this chapter without the prior approval of the Commission. A licensee desiring to make changes that would decrease the effectiveness of its material control and accounting program or its measurement control program shall submit an application for amendment to its license pursuant to § 70.34.	74.45(c), or 74.59(e) of this chapter, as appropriate; and (iii) Other material control procedures as the Commission determines to be essential for the safeguarding of uranium source material at a uranium enrichment facility or of SNM 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), or §§ 74.31(b), 74.33(b), 74.41(b), or 74.51(b) of this chapter, and the measurement control program implemented pursuant to §§74.31(b), 74.33(b), 74.41(b), or 74.59(e) of this chapter without the prior approval of the Commission. A licensee desiring to make changes that would decrease the effectiveness of its material control and accounting program or its measurement control program shall submit an application for amendment to its license pursuant to § 70.34. * * * * *	§§ 74.31(b), 74.33(b), 74.45(c), or 74.59(e) of this chapter, as appropriate; and (iii) Other material control procedures as the Commission determines to be essential for the safeguarding of uranium source material at a uranium enrichment facility or of SNM 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), or §§ 74.31(b), 74.33(b), 74.41(b), or 74.51(b) of this chapter, and the measurement control program implemented pursuant to §§74.31(b), 74.33(b), 74.41(b), or 74.59(e) of this chapter without the prior approval of the Commission. A licensee desiring to make changes that would decrease the effectiveness of its material control and accounting program or its measurement control program shall submit an application for amendment to its license pursuant to § 70.34. * * * * *
PART 72—LICENSING REQUIREMENTS FOR THE INDEPENDENT STORAGE OF SPENT NUCLEAR FUEL, HIGH-LEVEL RADIOACTIVE WASTE, AND REACTOR RELATED GREATER THAN CLASS C WASTE		
Subpart A—General Provisions		

Current Rule	Proposed Rule (11/2013)	Draft Final Rule (08/2018)
§ 72.9 Information collection requirements: OMB approval. [Amended]		
		[In § 72.9(b), remove the numbers "72.76" and "72.78".]
(b) The approved information collection requirements contained in this part appear in §§ 72.7, 72.11, 72.16, 72.22 through 72.34, 72.42, 72.44, 72.48 through 72.56, 72.62, 72.70, through 72.80, 72.90, 72.92, 72.94, 72.98, 72.100, 72.102, 72.103, 72.104, 72.108, 72.120, 72.126, 72.140 through 72.176, 72.180 through 72.186, 72.192, 72.206, 72.212, 72.218, 72.230, 72.232, 72.234, 72.236, 72.240, 72.242, 72.244, 72.248.		(b) The approved information collection requirements contained in this part appear in §§ 72.7, 72.11, 72.16, 72.22 through 72.34, 72.42, 72.44, 72.48 through 72.56, 72.62, 72.70, through 72.8072.75, 72.77, 72.79, 72.80, 72.90, 72.92, 72.94, 72.98, 72.100, 72.102, 72.103, 72.104, 72.108, 72.120, 72.126, 72.140 through 72.176, 72.180 through 72.186, 72.192, 72.206, 72.212, 72.218, 72.230, 72.232, 72.234, 72.236, 72.240, 72.242, 72.244, 72.248.
Subpart D—Records, Reports, Inspections, and Enforcement		
§ 72.72 Material balance, inventory, and records requirements for stored materials.	[Revise § 72.72 to read as follows:] **§ 72.72 Material control and accounting requirements for source material and special nuclear material.**	
(a) Each licensee shall keep records showing the receipt, inventory (including location), disposal, acquisition, and transfer of all special nuclear material with quantities as specified in § 74.13(a) of this chapter and for source material as specified in § 40.64 of this chapter. The records must include as a minimum the name of shipper of the material to the ISFSI or MRS, the estimated quantity of radioactive material per item (including special nuclear material in spent fuel and reactor-related GTCC waste), item	(a) Each licensee shall follow the requirements of § 40.61 and § 40.64 of this chapter for source material.	

Current Rule	Proposed Rule (11/2013)	Draft Final Rule (08/2018)
identification and seal number, storage location, onsite movements of each fuel assembly or storage canister, and ultimate disposal. These records for spent fuel and reactor-related GTCC waste at an ISFSI or for spent fuel, high-level radioactive waste, and reactor related GTCC waste at an MRS must be retained for as long as the material is stored and for a period of 5 years after the material is disposed of or transferred out of the ISFSI or MRS.		
(b) Each licensee shall conduct a physical inventory of all spent fuel, high-level radioactive waste, and reactor-related GTCC waste containing special nuclear material meeting the requirements in paragraph (a) of this section at intervals not to exceed 12 months unless otherwise directed by the Commission. The licensee shall retain a copy of the current inventory as a record until the Commission terminates the license.	(b) Each licensee shall follow the requirements of 10 CFR part 74, subparts A and B, for special nuclear material.	
§ 72.74 Reports of accidental criticality or loss of special nuclear material.	[Revise § 72.74 to read as follows:] **§ 72.74 Reports of accidental criticality.**	

Current Rule	Proposed Rule (11/2013)	Draft Final Rule (08/2018)
(a) Each licensee shall notify the NRC Operations Center[1] within one hour of discovery of accidental criticality or any loss of special nuclear material. (b) This notification must be made to the NRC Operations Center via the Emergency Notification System if the licensee is party to that system. If the Emergency Notification System is inoperative or unavailable, the licensee shall make the required notification via commercial telephonic service or any other dedicated telephonic system or any other method that will ensure that a report is received by the NRC Operations Center within one hour. The exemption of § 73.21(g)(3) of this chapter applies to all telephonic reports required by this section. (c) Reports required under § 73.71 of this chapter need not be duplicated under the requirements of this section. 1. Commercial telephone number of the NRC Operations Center is (301) 816-5100.	(a) Each licensee shall notify the NRC Headquarters Operations Center within one hour of discovery of accidental criticality. (b) Each licensee shall make the notifications required by paragraph (a) of this section to the NRC Headquarters Operations Center via any available telephone system to ensure that a report is received within one hour. (c) Reports required under § 73.71 of this chapter need not be duplicated under the requirements of this section.	(a) Each licensee shall notify the NRC Headquarters Operations Center within one hour of discovery of accidental criticality. The commercial telephone number of the NRC Operations Center is (301) 816-5100. (b) Each licensee shall make the notifications required by paragraph (a) of this section to the NRC Headquarters Operations Center via any available telephone system to ensure that a report is received within one hour. (c) Reports required under § 73.71 of this chapter need not be duplicated under the requirements of this section.
§ 72.76 Material status reports.	[Remove and reserve §§72.76 and 72.78.] **§ 72.76 [Removed and Reserved]**	
§ 72.78 Nuclear material transaction reports.	**§ 72.78 [Removed and Reserved]**	
PART 74--MATERIAL CONTROL AND ACCOUNTING OF SPECIAL NUCLEAR MATERIAL		
Subpart A--General Provisions		

Current Rule	Proposed Rule (11/2013)	Draft Final Rule (08/2018)
§ 74.2 Scope.	[In § 74.2, revise the last sentence in paragraph (a) to read as follows:]	In § 74.2, revise paragraph (a) to read as follows:
(a) The general reporting and recordkeeping requirements of subpart B of this part apply to each person licensed under this chapter who possesses special nuclear material in a quantity of one gram or more of contained uranium-235, uranium-233, or plutonium; or who transfers or receives a quantity of special nuclear material of one gram or more of contained uranium-235, uranium-233, or plutonium. The general reporting and recordkeeping requirements of subpart B of this part do not apply to licensees whose MC&A reporting and recordkeeping requirements are covered by §§ 72.72, 72.76, and 72.78 of this chapter.	(a) * * * The general reporting and recordkeeping requirements of subpart B of this part also apply to licensees who possess spent nuclear fuel at independent spent fuel storage installations. * * * * *	(a) The general reporting and recordkeeping requirements of subpart B of this part apply to each person licensed under parts 50, 52, 60, 63, 70, and 72 of this chapter who possess special nuclear material in a quantity of one gram or more of contained uranium-235, uranium-233, or plutonium; or who transfers or receives a quantity of one gram or more of contained uranium-235, uranium-233, or plutonium. * * * * *
	[Add § 74.3 to read as follows:] **§ 74.3 General performance objectives.**	
	In addition to any other requirements in this part, each licensee who is authorized to possess or use SNM in a quantity greater than 350 grams of contained uranium-235, uranium-233, or plutonium, or any combination thereof, at a fixed site, shall implement and maintain a material control and accounting program that enables the licensee to achieve the following general performance objectives in a timely manner: (a) Maintain accurate, current, and reliable information on, and confirm the quantities and locations of SNM in its	In addition to any other requirements in this part, each licensee who is authorized to possess or use SNM in a quantity greater than 350 grams of contained uranium-235, uranium-233, or plutonium, or any combination thereof, at a fixed site, shall implement and maintain a material control and accounting program that enables the licensee to achieve the following general performance objectives in a timely manner: (a) Maintain accurate, current, and reliable information on, and confirm the quantities and locations of SNM in its

Current Rule	Proposed Rule (11/2013)	Draft Final Rule (08/2018)
	possession; (b) Detect, respond to, and resolve any anomaly indicating a possible loss, theft, diversion, or misuse of SNM; (c) Permit rapid determination of whether an actual loss, theft, diversion, or misuse of SNM has occurred; (d) Provide information to aid in the investigation and recovery of missing SNM in the event of an actual loss, theft, diversion, or misuse; and (e) Control access to MC&A information that might assist adversaries to carry out acts of theft, diversion, misuse, or radiological sabotage involving SNM.	possession; (b) Detect, respond to, and resolve any an anomaly indicating a possible loss, theft, diversion, or misuse of SNM; c) Permit rapid determination of whether an actual loss, theft, diversion, or misuse of SNM has occurred; (d) Provide information to aid in the investigation and recovery of missing SNM in the event of an actual loss, theft, diversion, or misuse; and (e) Control access to MC&A information that might assist adversaries to carry out acts of to preclude loss, theft, diversion, or misuse oftheft, diversion, misuse, or radiological sabotage involving SNM.
§ 74.4 Definitions.	[In § 74.4: a. Remove the definition for *Effective kilograms of special nuclear material*; b. Add the definitions *Accounting*, *Custodian*, *Item control system*, *Item control area*, *Material balance area*, and *Material control and accounting* in alphabetical order; and c. Revise the definitions for *Formula quantity*, *Special nuclear material of low strategic significance*, and *Special nuclear material of moderate strategic significance*. The additions and revisions read as follows:]	[In § 74.4: a. Remove the definition for *Effective kilograms of special nuclear material*; b. Add the definitions *Accounting*, *Custodian*, *Item control system*, *Item control area*, *Material balance area*, *Material control and accounting*, *Material custodian*, and *Storage installation* in alphabetical order; and c. Revise the definitions for *Formula quantity*, *Special nuclear material of low strategic significance*, and *Special nuclear material of moderate strategic significance*. The additions and revisions read as follows:]
	* * * * *	

Current Rule	Proposed Rule (11/2013)	Draft Final Rule (08/2018)
	Accounting means a system that documents the quantities of special nuclear material (SNM) held on current inventory by the licensee, and includes tracking of receipts, shipments, and measured discards, and transfers of SNM. * * * * *	
	Custodian means an individual authorized and qualified by the licensee who is responsible for controlling the movement of all SNM into, out of, and within a material balance area. * * * * *	*Custodian* means an individual authorized and qualified by the licensee who is responsible for controlling the movement of all SNM into, out of, and within a material balance area. * * * * *
Formula quantity means strategic special nuclear material in any combination in a quantity of 5,000 grams or more computed by the formula, grams=(grams contained U^{235})+2.5 (grams U^{233}+grams plutonium).	*Formula quantity* means strategic special nuclear material (SSNM) in any combination in a quantity of 5,000 grams or more computed by the formula, grams = (grams contained U-235) + 2.5 (grams U-233 + grams plutonium). This class of material is also referred to as a Category I quantity of material as shown in appendix A to this part. * * * * *	*Formula quantity* means strategic special nuclear material (SSNM) in any combination in a quantity of 5,000 grams or more computed by the formula, grams = (grams contained U-235) + 2.5 (grams U-233 + grams plutonium). This class of material is also referred to as a Category I quantity of material as shown in appendix A to this part. * * * * *
	Item control area (ICA) means a designated administrative area within the controlled access area, in which SNM is maintained in such a way that, at any time, a count of the items and the related material quantities can be obtained using the accounting system. Control of items moving into, out of, and within an ICA is by the identity of an item and its assigned material quantity.	

Current Rule	Proposed Rule (11/2013)	Draft Final Rule (08/2018)
	Item control system means a system tracking the creation, identity, element and isotopic content, location, and disposition of all items, which enables the licensee to maintain current knowledge of each item. * * * * *	
	Material balance area (MBA) means a designated contiguous area in which the control of SNM is such that the quantity of material being moved into, out of, and within the MBA is an assigned value based on measurements of both the element content and the isotopic content.	*Material balance area* (MBA) means a designated contiguous area in which the control of SNM is such that the quantity of material being moved into, out of, and within the MBA is an assigned value based on measurements of both the element content and the isotopic content.
	Material control and accounting (MC&A) means a program to control and account for certain types of nuclear material used at a licensed facility, including SNM and source material, and which controls and accounts for unauthorized use of equipment capable of producing enriched uranium. The purpose of an MC&A program is to deter and detect any loss, theft, diversion, misuse, or unauthorized production of nuclear material. * * * * *	*Material control and accounting* (MC&A) means a program to control and account for certain types of nuclear material used at a licensed facility, including SNM and source material., and which controls and accounts for unauthorized use of equipment capable of producing enriched uranium. The purpose of an MC&A program is serves to deter and detect any loss, theft, diversion, misuse, or unauthorized removal, production, or enrichment of nuclear material. * * * * *
		Material custodian means an individual authorized and qualified by the licensee who is responsible for controlling the movement of all SNM into, out of, and

Current Rule	Proposed Rule (11/2013)	Draft Final Rule (08/2018)
		within a material balance area. * * * * *
Special nuclear material of low strategic significance means: (1) Less than an amount of special nuclear material of moderate strategic significance, but more than 15 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U235 isotope) or 15 grams of uranium-233 or 15 grams of plutonium or the combination of 15 grams when computed by the equation, grams=grams contained U^{235}+grams plutonium+grams U^{233}; or (2) Less than 10,000 grams but more than 1,000 grams of uranium-235 (contained in uranium enriched to 10 percent or more, but less than 20 percent in the U^{235} isotope); or (3) 10,000 grams or more of uranium-235 contained in uranium enriched above natural, but less than 10 percent in the U^{235} isotope.	*Special nuclear material of low strategic significance means:* (1)(i) Less than an amount of SNM of moderate strategic significance, but more than 15 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope) or 15 grams of uranium-233 or 15 grams of plutonium or the combination of 15 grams when computed by the equation, grams = grams contained U-235 + grams plutonium + grams U-233; or (ii) Less than 10,000 grams but more than 1,000 grams of uranium-235 (contained in uranium enriched to 10 percent or more, but less than 20 percent in the U-235 isotope); or (iii) 10,000 grams or more of uranium-235 contained in uranium enriched above natural, but less than 10 percent in the U-235 isotope. (2) This class of material is also referred to as a Category III quantity of material as shown in appendix A to this part.	*Special nuclear material of low strategic significance means:* (1)(i) Less than an amount of SNM of moderate strategic significance, but more than 15 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the Uuranium-235 isotope) or 15 grams of uranium-233 or 15 grams of plutonium or the combination of 15 grams when computed by the equation, grams = grams contained U-235 + grams plutonium + grams U-233; or (ii) Less than 10,000 grams but more than 1,000 grams of uranium-235 (contained in uranium enriched to 10 percent or more, but less than 20 percent in the Uuranium-235 isotope); or (iii) 10,000 grams or more of uranium-235 contained in uranium enriched above natural, but less than 10 percent in the Uuranium-235 isotope. (2) This class of material is also referred to as a Category III quantity of material as shown in appendix A to this part.
Special nuclear material of moderate strategic significance means: (1) Less than a formula quantity of strategic special nuclear material but more than 1,000 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U^{235} isotope) or more than 500 grams of uranium-233 or	*Special nuclear material of moderate strategic significance means:* (1)(i) Less than a formula quantity of SSNM but more than 1,000 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope) or more than 500 grams of uranium-233 or plutonium or in a	*Special nuclear material of moderate strategic significance means:* (1)(i) Less than a formula quantity of SSNM but more than 1,000 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the Uuranium-235 isotope) or more than 500 grams of uranium-233 or plutonium or

Current Rule	Proposed Rule (11/2013)	Draft Final Rule (08/2018)
plutonium or in a combined quantity of more than 1,000 grams when computed by the equation, grams=(grams contained U^{235})+2 (grams U233+grams plutonium); or (2) 10,000 grams or more or uranium-235 (contained in uranium enriched to 10 percent or more but less than 20 percent in the U^{235} isotope).	combined quantity of more than 1,000 grams when computed by the equation, grams=(grams contained U-235)+2 (grams U-233+grams plutonium); or (ii) 10,000 grams or more of uranium-235 (contained in uranium enriched to 10 percent or more but less than 20 percent in the U-235 isotope). (2) This class of material is also referred to as a Category II quantity of material as shown in appendix A to this part. * * * * *	in a combined quantity of more than 1,000 grams when computed by the equation, grams = (grams contained U-235) + 2 (grams U-233 + grams plutonium); or (ii) 10,000 grams or more of uranium-235 (contained in uranium enriched to 10 percent or more but less than 20 percent in the Uuranium-235 isotope). (2) This class of material is also referred to as a Category II quantity of material as shown in appendix A to this part. * * * * *
		Storage installation means an independent spent fuel storage installation or monitored retrievable storage installation for spent fuel and radioactive waste, as defined under part 72 of this chapter. * * * * *
Subpart B--General Reporting and Recordkeeping Requirements		
§ 74.11 Reports of loss or theft or attempted theft or unauthorized production of special nuclear material.	[In § 74.11, revise paragraph (b) to read as follows:]	
(b) This notification must be made to the NRC Operations Center via the Emergency Notification System if the licensee is party to that system. If the Emergency Notification System is	* * * * * (b) Each licensee shall make the notifications required by paragraph (a) of this section to the NRC Headquarters Operations Center via any available	

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inoperative or unavailable, the licensee shall make the required notification via commercial telephonic service or other dedicated telephonic system or any other method that will ensure that a report is received by the NRC Operations Center within one hour. The exemption of § 73.22(f)(3) applies to all telephonic reports required by this section.	telephone system to ensure that a report is received within 1 hour. * * * * *	
§ 74.13 Material status reports.	[Revise § 74.13 to read as follows:] **§ 74.13 Material status reports.**	
(a) Each licensee, including nuclear reactor licensees as defined in §§ 50.21 and 50.22 of this chapter, possessing, or who had possessed in the previous reporting period, at any one time and location, special nuclear material in a quantity totaling one gram or more of contained uranium-235, uranium-233, or plutonium shall complete and submit, in computer-readable format Material Balance Reports concerning special nuclear material that the licensee has received, produced, possessed, transferred, consumed, disposed, or lost. This prescribed computer-readable report replaces the DOE/NRC form 742 which has been previously submitted in paper form. The Physical Inventory Listing Report must be submitted with each Material Balance Report. This prescribed computer-readable report replaces the DOE/NRC Form 742C which has been previously submitted in paper form.	(a) All licensees who possess or who had possessed in the previous reporting period one gram or more of irradiated or non-irradiated special nuclear material are required to submit both a Material Balance Report and a Physical Inventory Listing Report of these materials to the Nuclear Materials Management and Safeguards System (NMMSS) in accordance with the instructions in paragraph (b) of this section and according to the following schedule: (1) Commercial power reactor licensees, authorized under part 50 or part 52 of this chapter shall submit both reports within 60 calendar days of the start of the inventory covered by the reports; (2) Research and test reactors, authorized under part 50 of this chapter shall submit both reports within 60 calendar days of the start of the inventory covered by the reports; (3) Independent spent fuel storage installation (ISFSI) licensees, authorized	(a) All licensees who possess, or who had possessed, in the previous reporting period one gram or more of irradiated or non-irradiated special nuclear material are required to submit both a Material Balance Report and a Physical Inventory Listing Report of these materials to the Nuclear Materials Management and Safeguards System (NMMSS) in accordance with the instructions in paragraph (b) of this section and according to the following schedule: (1) Commercial powerNuclear reactor licensees, authorized under part 50 or part 52 of this chapter, shall submit both reports within 60 calendar days of the start of the inventory covered by the reports; (2) Research and test reactors, authorized under part 50 of this chapter shall submit both reports within 60 calendar days of the start of the inventory covered by the reports;

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Reports must be submitted for each Reporting Identification Symbol (RIS) account including all holding accounts. Each licensee shall prepare and submit the reports described in this paragraph as specified in the instructions in NUREG/BR–0007 and NMMSS Report D–24 ‘‘Personal Computer Data Input for NRC Licensees.’’ Copies of these instructions may be obtained from the U.S. Nuclear Regulatory Commission, Division of Fuel Cycle Safety, and Safeguards, and Environmental Review, Washington, DC 20555–0001, or by e-mail to *RidsNmssFcss@nrc.gov*. Each licensee subject to the requirements of § 74.51 shall compile a report as of March 31 and September 30 of each year and file it within 30 days after the end of the period covered by the report. Licensees subject to the requirements of §§ 74.19(c), 74.31(c)(5), 74.33(c)(4), or 74.43(c)(6) shall submit a report within 60 calendar days of the beginning of the physical inventory. All other licensees shall submit a report no later than March 31 of each year. The Commission may permit a licensee to submit the reports at other times for good cause. Each licensee required to report material balance, and inventory information, as detailed in this part, shall resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of notification of a discrepancy identified by NRC.	under part 50 or part 72 of this chapter shall submit both reports within 60 calendar days of the start of the inventory covered by the reports. (4) Licensees subject to § 74.31 shall submit both reports within 60 calendar days of the start of the inventory covered by the reports; (5) Licensees operating uranium enrichment facilities shall submit both reports within 60 calendar days of the start of the inventory providing a total plant material balance as described in § 74.33(c)(4)(i). (6) Licensees subject to subpart D of this part shall submit both reports within 60 calendar days of the start of the inventory covered by the reports; (7) Licensees subject to subpart E of this part shall submit both reports within 30 calendar days of the start of the inventory covered by the reports; (8) All other licensees who possess, or had possessed in the previous reporting period, one gram or more of irradiated or non-irradiated special nuclear material shall submit both reports between January 1 and March 31 of each year.	(32) Independent spent fuel sStorage installation (ISFSI) licensees, authorized under part 50 or part 72 of this chapter, shall submit both reports within 60 calendar days of the start of the inventory covered by the reports;. (43) Licensees subject to § 74.31 shall submit both reports within 60 calendar days of the start of the inventory covered by the reports; (54) Licensees operating uranium enrichment facilities shall submit both reports within 60 calendar days of the start of the inventory providing a total plant material balance as described in § 74.33(c)(4)(i);. (65) Licensees subject to subpart D of this part shall submit both reports within 60 calendar days of the start of the inventory covered by the reports; (76) Licensees subject to subpart E of this part shall submit both reports within 30 calendar days of the start of the inventory covered by the reports; and (87) All other licensees who possess, or had possessed in the previous reporting period, one gram or more of irradiated or non-irradiated special nuclear material shall submit both reports between January 1 and March 31 of each year.

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(b) Any licensee who is required to submit routine Material Status Reports pursuant to § 75.35 of this chapter (pertaining to implementation of the US/IAEA Safeguards Agreement) shall prepare and submit these reports only as provided in that section (instead of as provided in paragraph (a) of this section).	(b) Each licensee shall prepare and submit the reports described in paragraph (a) of this section as follows: (1) Reports must be submitted for each Reporting Identification Symbol (RIS) account, including all holding accounts, concerning special nuclear materialSNM that the licensee has received, produced, possessed, transferred, consumed, disposed, or lost. (2) Each licensee shall prepare and submit the reports described in this section as specified in the instructions in both NUREG/BR–0007 and NMMSS Report D–24 ‘‘Personal Computer Data Input for NRC Licensees.’’ (i) This prescribed computer-readable report replaces the DOE/NRC Form 742, Material Balance Report, and DOE/NRC Form 742C, Physical Inventory Listing Report, which have been previously submitted in paper form. (ii) Copies of these instructions may be obtained from the U.S. Nuclear Regulatory Commission, Division of Fuel Cycle Safety and Safeguards, Washington, DC 20555–0001 or by e-mail to RidsNmssFcss.Resource@nrc.gov.	(b) Each licensee shall prepare and submit the reports described in paragraph (a) of this section as follows: (1) Reports must be submitted for each Reporting Identification Symbol (RIS) account, including all holding accounts, concerning special nuclear materialSNM that the licensee has received, produced, possessed, transferred, consumed, disposed, or lost. (2) Each licensee shall prepare and submit the reports described in this section as specified in the instructions in both NUREG/BR–0007, Instructions for the Preparation and Distribution of Material Status Reports, Final Draft (DOE [U.S. Department of Energy]/NRC Forms 742 and 742C),” and NMMSS Report D–24 ‘‘Personal Computer Data Input for NRC Licensees.’’ (i) This prescribed computer-readable report replaces the DOE/NRC Form 742, Material Balance Report, and DOE/NRC Form 742C, Physical Inventory Listing Report, which have been previously submitted in paper form. (ii) Copies of these instructions may be obtained from the U.S. Nuclear Regulatory Commission, Division of Fuel Cycle Safety, and Safeguards, and Environmental Review, Washington, DC 20555—0001 or by email to: RidsNmssFcss.Resource@nrc.gov *RidsNmssFcse.Resource@nrc.gov*.

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	(c) The Commission may permit a licensee to submit the reports at other times for good cause. Such requests must be submitted in writing to Chief, Material Control and Accounting Branch, Division of Fuel Cycle Safety and Safeguards, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555. The licensee must continue to report as required until such request is granted. (d) Any licensee who is required to submit routine Material Status Reports under § 75.35 of this chapter (pertaining to implementation of the US/IAEA Safeguards Agreement) shall prepare and submit these reports only as provided in that section (instead of as provided in paragraphs (a) through (b) of this section). (e) Each licensee subject to the requirements of this section shall resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of notification of a discrepancy identified by NRC.	(c) The Commission may permit a licensee to submit the reports at other times for good cause. Such requests must be submitted in writing to Chief, Material Control and Accounting Branch, Division of Fuel Cycle Safety, and Safeguards, and Environmental Review, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555. The licensee must continue to report as required until such request is granted. (d) Any licensee who is required to submit routine Material Status Reports under § 75.35 of this chapter (pertaining to implementation of the US/IAEA Safeguards Agreement) shall prepare and submit these reports only as provided in that section (instead of as provided in paragraphs (a) through (b) of this section). (e) Each licensee subject to the requirements of this section shall resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of notification of a discrepancy identified by NRC.
§ 74.15 Nuclear material transaction reports.	[In § 74.15, revise paragraph (b)(2) to read as follows:]	
(b) Each licensee who receives 1 gram or more of contained uranium-235, uranium-233, or plutonium from a foreign source shall: (1) Complete in computer-readable format both the supplier's and receiver's portion	(b) * * * (2) Perform independent tests to assure the accurate identification and measurement of the material received, including its weight and enrichment; except that a licensee authorized under	

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of the Nuclear Material Transaction Report; (2) Perform independent tests to assure the accurate identification and measurement of the material received, including its weight and enrichment; and (3) Indicate the results of these tests on the receiver's portion of the form.	parts 50 or 52 of this chapter receiving unirradiated fuel rods or unirradiated fuel assemblies or a licensee authorized under part 70 of this chapter receiving special nuclear material contained in a sealed source that will not be opened need not perform such tests; and * * * * *	
§ 74.19 Recordkeeping.	[In § 74.19, revise paragraph (b), redesignate paragraph (d) as paragraph (e), and add a new paragraph (d) to read as follows:] **§74.19 Recordkeeping, procedures, item controls, and physical inventories.**	
(b) Each licensee that is authorized to possess special nuclear material in a quantity exceeding one effective kilogram at any one time shall establish, maintain, and follow written material control and accounting procedures that are sufficient to enable the licensee to account for the special nuclear material in its possession under license. The licensee shall retain these procedures until the Commission terminates the license that authorizes possession of the material and retain any superseded portion of the procedures for 3 years after the portion is superseded.	(b) Each licensee authorized to possess special nuclear material, at any one time and site location, in a quantity greater than 350 grams of contained uranium-235, uranium-233, or plutonium, or any combination thereof, shall establish, maintain, and follow written material control and accounting procedures that are sufficient to enable the licensee to account for the SNM in its possession under the license. The licensee shall retain these procedures until the Commission terminates the license that authorizes possession of the special nuclear material and retain any superseded portion of the procedures for 3 years after the portion is superseded. * * * * *	(b) Each licensee authorized to possess special nuclear material, at any one time and site location, in a quantity greater than 350 grams of contained uranium-235, uranium-233, or plutonium, or any combination thereof, shall establish, maintain, and follow written material control and accounting procedures that are sufficient to enable the licensee to account for the SNM in its possession under the license. The licensee shall retain these procedures until the Commission terminates the license that authorizes possession of the special nuclear material and retain any superseded portion of the procedures for 3 years after the portion is superseded. * * * * *

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(d) Records that must be maintained pursuant to this part may be the original or a reproduced copy or a microform if the 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 legible, accurate, and complete records during the required retention period. Records such as letters, drawings, or specifications must include all pertinent information such as stamps, initials, and signatures. The licensee shall maintain adequate safeguards against tampering with and loss of records.	(d) Production or utilization facilities licensed under part 50 or 52 of this chapter and independent spent fuel storage installations licensed under part 72 of this chapter shall establish, document, implement, and maintain an item control system as defined in § 74.4.	(d) Production or utilization Nuclear reactor facilities licensed under part 50 or 52 of this chapter and independent spent fuel storage installations licensed under part 72 of this chapter shall establish, document, implement, and maintain an item control system as defined in § 74.4. * * * * *
	(e) Records that must be maintained pursuant to this part may be the original or a reproduced copy or a microform if the 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 legible, accurate, and complete records during the required retention period. Records such as letters, drawings, or specifications must include all pertinent information such as stamps, initials, and signatures. The licensee shall maintain adequate	

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	safeguards against tampering with and loss of records.	
Subpart C--Special Nuclear Material of Low Strategic Significance		
§ 74.31 Nuclear material control and accounting for special nuclear material of low strategic significance.	[In § 74.31, revise paragraphs (a), (b), and (c) to read as follows:]	
(a) *General performance objectives*. Each licensee who is authorized to possess and use more than one effective kilogram of special nuclear material of low strategic significance, excluding sealed sources, at any site or contiguous sites subject to control by the licensee, other than a production or utilization facility licensed pursuant to part 50 or 70 of this chapter, or operations involved in waste disposal, shall implement and maintain a Commission approved material control and accounting system that will achieve the following objectives: (1) Confirm the presence of special nuclear material; (2) Resolve indications of missing material; and (3) Aid in the investigation and recovery of missing material.	(a) *General performance objectives.* (1) Each licensee who is authorized to possess and use a quantity greater than 350 grams of contained uranium-235 or SNM of low strategic significance (as defined in § 74.4 and shown in appendix A to this part) at any site or contiguous sites subject to control by the licensee is subject to the performance objective requirements stated in § 74.3. (2) Production or utilization facilities licensed under part 50 or 52 of this chapter, independent spent fuel storage installations licensed under part 72 of this chapter, and operations involving waste disposal are not subject to the requirements of subpart C of this part.	(a) *General performance objectives.* (1) Each licensee who is authorized to possess and use SNM of low strategic significance (as defined in § 74.4 and shown in appendix A to this part), or a quantity greater than 350 grams of contained uranium-235, uranium-233, or plutonium, or any combination thereof, or SNM of low strategic significance (as defined in § 74.4 and shown in appendix A to this part) at any site or contiguous sites subject to control by the licensee is subject to the performance objective requirements stated in § 74.3. (2) Production or utilization Nuclear reactor facilities licensed under part 50 or 52 of this chapter, independent spent fuel storage installations licensed under part 72 of this chapter, and operations involving waste disposal are not subject to the requirements of subpart C of this part.
(b) Implementation: Each applicant for a license, and each licensee that, upon	(b) *Implementation.* Each applicant for a license, and each licensee that, upon	

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application for modification of its license, would become newly subject to the performance objectives of paragraph (a) of this section, shall submit a fundamental nuclear material control (FNMC) plan describing how the requirements of paragraph (c) of this section will be met. The FNMC plan shall be implemented when a license is issued or modified to authorize the activities being addressed in paragraph (a) of this section, or by the date specified in a license condition.	application for modification of its license, would become newly subject to paragraph (a) of this section shall submit for approval an MC&A plan describing how the performance objectives of § 74.3 and the requirements of paragraph (c) of this section will be met. The MC&A plan shall be implemented when a license is issued or modified to authorize the activities being addressed in paragraph (a) of this section, or by the date specified in a license condition.	
(c) *System capabilities*. To meet the general performance objectives of paragraph (a) of this section, the material control and accounting system must include the capabilities described in paragraph (c) (1) through (8) of this section. The licensee shall:	(c) *Program capabilities.* To achieve the § 74.3 performance objectives, the MC&A plan must include the capabilities described in paragraphs (c)(1) through (10) of this section, and require the licensee to:	(c) *Program capabilities.* To achieve the § 74.3 performance objectives, the MC&A plan program must include the capabilities described in paragraphs (c)(1) through (10) of this section, and require the licensee to:
(1) Establish, document, and maintain a management structure which assures clear overall responsibility for material control and accounting functions, independence from production responsibilities, separation of key responsibilities, and adequate review and use of critical material control and accounting procedures;	(1) Establish, document, and maintain a management structure that assures clear overall responsibility for material control and accounting functions, independence from production responsibilities, separation of key responsibilities, and adequate review and use of critical material control and accounting procedures;	
(2) Establish and maintain a measurement system which assures that all quantities in the material accounting records are based on measured values;	(2) Establish and maintain a measurement system, which assures that all quantities in the material accounting records are based on measured values;	(2) Establish and maintain a measurement systemprogram, which assures that all quantities in the material accounting records are based on measured values;

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(3) Follow a measurement control program which assures that measurement bias is estimated and significant biases are eliminated from inventory difference values of record;	(3) Follow a measurement control program, which assures that measurement bias is estimated and significant biases are eliminated from inventory difference values of record;	
(4) In each inventory period, control total material control and accounting measurement uncertainty so that twice its standard error is less than the greater of 9,000 grams of U-235 or 0.25 percent of the active inventory, and assure that any measurement performed under contract is controlled so that the licensee can satisfy this requirement;	(4) In each inventory period, control total material control and accounting measurement uncertainty so that twice its standard error of the inventory difference (SEID) is less than the greater of 9,000 grams of U-235 or 0.25 percent of the active inventory, and assure that any measurement performed under contract is controlled so that the licensee can satisfy this requirement;	(4) In each inventory period, control total material control and accounting measurement uncertainty so that twice its standard error of the inventory difference (SEID) is less than the greater of 9,000 grams of Uuranium-235 or 0.25 percent of the active inventory, and assure that any measurement performed under contract is controlled so that the licensee can satisfy this requirement;
(5) Unless otherwise required to satisfy part 75 of this chapter, perform a physical inventory at least every 12 months and, within 60 days after the start of the inventory, reconcile and adjust the book inventory to the results of the physical inventory, and resolve, or report an inability to resolve, any inventory difference which is rejected by a statistical test which has a 90 percent power of detecting a discrepancy of a quantity of uranium-235 established by NRC on a site-specific basis;	(5) Unless otherwise required to satisfy part 75 of this chapter, perform a physical inventory at least every 12 months and, within 60 calendar days after the start of the inventory, reconcile and adjust the book inventory to the results of the physical inventory, and resolve, or report an inability to resolve, any inventory difference that is rejected by a statistical test that has a 90-percent power of detecting a discrepancy of a quantity of uranium-235 established by the NRC on a site-specific basis;	
(6) Maintain current knowledge of items when the sum of the time of existence of an item, the time to make a record of the item, and the time necessary to locate the item exceeds 14 days. Store and handle, or subsequently measure, items in a	(6) Establish, document, implement, and maintain an item control system as defined in § 74.4. Store and handle or subsequently measure items in a manner such that unauthorized removals of individual items or any quantity of SNM	(6) Establish, document, implement, and maintain an item control system as defined in § 74.4. Store and handle or subsequently measure items (as defined in § 74.4) in a manner such that unauthorized removals of individual items

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manner so that unauthorized removals of substantial quantities of material from items will be detected. Exempted are items individually containing less than 500 grams of U^{235} up to a total of 50 kilograms of U^{235}, solutions with a concentration of less than 5 grams of U^{235} per liter, and items of waste destined for burial or incineration;	from items will be detected. Exempted from this requirement are items in solution with a concentration of less than 5 grams of uranium-235 per liter and items of waste destined for burial or incineration;	or 500 grams or more of uranium-235 from one or more any quantity of SNM from items will be detected. Exempted from this requirement are (i) Solutions with a concentration of less than 5 grams per liter of plutonium or uranium-233 or uranium-235 or a combined concentration thereof of less than 5 grams per liter; (ii) Laboratory samples and reference standards maintained in the laboratory material management system and containing uranium enriched to less than 10 percent in uranium-235; (iii) Items existing less than 3 calendar days and containing less than 100 grams of uranium-235, or; (iv) Items of waste destined for burial or incineration.
(7) Resolve, on a shipment basis and when required to satisfy part 75 of this chapter, on a batch basis, shipper/receiver differences that exceed both twice the combined measurement standard error for that shipment and 500 grams of U^{235}; and	(7) Conduct and document shipper-receiver difference comparisons for all SNM receipts on a total shipment basis, and on an individual batch basis when required by part 75 of this chapter, and ensure that any shipper-receiver difference that is statistically significant and exceeds twice the estimated standard deviation of the difference estimator and 500 grams of uranium-235 is investigated and resolved;	
(8) Independently assess the effectiveness of the material control and accounting system at least every 24 months, and	(8) Independently assess the effectiveness of the MC&A program at least every 24 months, and document	(8) Independently assess the effectiveness of the MC&A program at least every 24 months, and document

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document management's action on prior assessment recommendations.	management's action on prior assessment recommendations.	management's action on prior assessment recommendations;
	(9) Maintain and follow procedures for tamper-safing (as defined in § 74.4) of containers or vaults (as defined in § 74.4) containing SNM, which include control of access to, and distribution of, unused seals and records;	(9) If tamper-safe seals are to be used, Mmaintain and follow procedures for tamper-safing (as defined in § 74.4) of containers or vaults (as defined in § 74.4) containing SNM, which include control of access to, and distribution of, unused seals and records; and
	(10) Designate material balance areas and item control areas and assign custodial responsibility for each of these areas in a manner that ensures that such responsibility can be effectively executed for all SNM possessed under license. * * * * *	(10) Designate one or more material balance areas, and or a combination of one or more material balance areas and one or more item control areas, or acombination of such areas, and assign custodial responsibility for each of these areas in a manner that ensures that such responsibility can be effectively executed for all SNM possessed under license. * * * * *
§ 74.33 Nuclear material control and accounting for uranium enrichment facilities authorized to produce special nuclear material of low strategic significance.	[Revise § 74.33 to read as follows:]	
(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	(a) *General performance objectives.* Each licensee who is authorized to possess equipment capable of enriching uranium or operate an enrichment facility, and produce, possess, or use a quantity greater than 350 grams of contained uranium-235 or SNM of low	(a) *General performance objectives.* Each licensee who is authorized to possess equipment capable of enriching uranium or operate an enrichment facility, and produce, possess, or use SNM of low strategic significance (as defined in § 74.4 and shown in

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any site or contiguous sites, subject to control by the licensee, shall establish, implement, and maintain a NRC-approved material control and accounting system that will achieve the following objectives:	strategic significance (as defined in § 74.4 and shown in appendix A to this part) at any site or contiguous sites, subject to control by the licensee, is subject to the performance objective requirements stated in § 74.3 and to the following performance objectives:	appendix A to this part) or a quantity greater than 350 grams of contained uranium-235, uranium-233, or plutonium, or any combination thereof,or SNM of low strategic significance (as defined in § 74.4 and shown in appendix A to this part) at any site or contiguous sites, subject to control by the licensee, is subject to the performance objective requirements stated in § 74.3 and to the following performance objectives:
(1) Maintain accurate, current, and reliable information of and periodically confirm the quantities and locations of source material and special nuclear material in the licensee's possession; (2) Protect against and detect 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 production of uranium enriched to 10 percent or more in the isotope U^{235} (for centrifuge enrichment facilities this requirement does not apply to each cascade during its start-up process, not to exceed the first 24 hours); (6) Resolve indications of unauthorized production of uranium of low strategic significance; (7) Provide information to aid in the investigation of missing uranium;	(1) Maintain accurate, current, and reliable information on, and confirm the quantities and locations of source material (SM) in its possession; (2) Detect, respond to, and resolve any anomaly indicating a possible loss, theft, diversion, or misuse of SM; (3) Permit rapid determination of whether an actual loss, theft, diversion, or misuse of SM has occurred; (4) Provide information to aid in the investigation and recovery of missing SM in the event of an actual loss, theft, diversion, or misuse; and (5) Provide information to aid in the investigation of any unauthorized production of uranium, including unauthorized production of uranium enriched to 10 percent or more in the isotope U-235. (For centrifuge enrichment facilities this requirement does not apply to each cascade during its start-up process, not to exceed the first 24 hours.)	(1) Maintain accurate, current, and reliable information on, and confirm the quantities and locations of source material (SM) in its possession; (2) Detect, respond to, and resolve any an anomaly indicating a possible loss, theft, diversion, or misuse of SM; (3) Permit rapid determination of whether an actual loss, theft, diversion, or misuse of SM has occurred; (4) Provide information to aid in the investigation and recovery of missing SM in the event of an actual loss, theft, diversion, or misuse; and (5) Provide information to aid in the investigation of any unauthorized production of uranium, including unauthorized production of uranium enriched to 10 percent or more in the isotope Uuranium-235. (For centrifuge enrichment facilities, this requirement does not apply to each cascade during its start-up process, not to exceed the first 24 hours.)

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(8) Provide information to aid in the investigation of the production of uranium enriched to 10 percent or more in the isotope U^{235}; and (9) Provide information to aid in the investigation 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) Submit a fundamental nuclear material control plan describing how the performance objectives of § 74.33(a), the system features and capabilities of § 74.33(c), and the recordkeeping requirements of § 74.33(d) will be met; and (2) Implement the NRC approved plan submitted pursuant to paragraph (b)(1) of this section prior to: (i) The cumulative receipt of 5,000 grams of U^{235} contained in any combination of natural, depleted, or enriched uranium or (ii) NRC's issuance of a license to test or operate the enrichment facility; whichever occurs first.	(b) *Implementation*. Each applicant for a license who would, upon issuance of a license under any part of this chapter, be subject to the requirements of paragraph (a) of this section shall: (1) Submit for approval an MC&A plan describing how the performance objectives of §§ 74.3 and 74.33(a), the program capabilities of § 74.33(c), and the recordkeeping requirements of § 74.33(d) will be met; and (2) Implement the NRC-approved MC&A plan submitted under paragraph (b)(1) of this section prior to: (i) The cumulative receipt of 5,000 grams of U-235 contained in any combination of natural, depleted, or enriched uranium; or (ii) The NRC's issuance of a license to test or operate the enrichment facility, whichever occurs first.	(b) *Implementation*. Each applicant for a license who would, upon issuance of a license under any part of this chapter, be subject to the requirements of paragraph (a) of this section shall: (1) Submit for approval an MC&A plan describing how the performance objectives of §§ 74.3 and 74.33(a), the program capabilities of § 74.33(c), and the recordkeeping requirements of § 74.33(d) will be met; and (2) Implement the NRC-approved MC&A plan submitted under paragraph (b)(1) of this section prior to: (i) The cumulative receipt of 5,000 grams of Uuranium-235 contained in any combination of natural, depleted, or enriched uranium; or (ii) The NRC's issuance of a license to test or operate the enrichment facility, whichever occurs first.
(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)	(c) *Program capabilities.* To achieve the general performance objectives stated and referenced in paragraph (a) of this section, the MC&A plan must include the capabilities described in paragraphs (c)(1) through	(c) *Program capabilities.* To achieve the general performance objectives stated and referenced in paragraph (a) of this section, the MC&A plan program must include the capabilities described in paragraphs (c)(1) through

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through (8) of this section. The licensee shall establish, document, and maintain:	(10) of this section. The licensee shall establish, document, implement and maintain:	(10) of this section. The licensee shall establish, document, implement 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;	(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 measured values;	(2) A measurement program that ensures that all quantities of SM and SNM in the accounting records are based on 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, based on all measurement error contributions, is less than the greater of 5,000 grams of U^{235} or 0.25 percent of the U^{235} of the active	(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 (SEID), based on all measurement error contributions, is less than the greater of 5,000 grams of U-235 or 0.25 percent of	(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 (SEID), based on all measurement error contributions, is less than the greater of 5,000 grams of Uuranium-235 or 0.25 percent of the Uuranium-235 of the active

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inventory for each total plant material balance; and (iii) Any measurements performed under contract are controlled so that the licensee can satisfy the requirements of paragraphs (c)(3) (i) and (ii) of this section;	the U-235 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 the requirements of paragraphs (c)(3)(i) and (ii) of this section;	inventory for each total plant material balance; and (iii) Any measurements performed under contract are controlled so that the licensee can satisfy the requirements of paragraphs (c)(3)(i) and (ii) of this section;
(4) A physical inventory program that provides for: (i) Performing, unless otherwise required to satisfy part 75 of this chapter, a dynamic (nonshutdown) physical inventory of in-process (e.g., in the enrichment equipment) 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;	(4) A physical inventory program that provides for: (i) Performing, unless otherwise required to satisfy part 75 of this chapter, a dynamic (nonshutdown) physical inventory of in-process (e.g., in the enrichment equipment) uranium and U-235 at least every 65 calendar 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 that has a 90-percent power of detecting a discrepancy of a quantity of U-235, established by the NRC on a site-specific basis, within 60 calendar days	(4) A physical inventory program that provides for: (i) Performing, unless otherwise required to satisfy part 75 of this chapter, a dynamic (nonshutdown) physical inventory of in-process (e.g., in the enrichment equipment) uranium and Uuranium-235 at least every 65 calendar days, and performing a static physical inventory of all other uranium and total Uuranium-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 Uuranium-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 that has a 90-percent power of detecting a discrepancy of a quantity of Uuranium-235, established by the NRC on a site-specific basis, within 60 calendar

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	after the start of each static physical inventory;	days after the start of each static physical inventory;
(5) A detection program, independent of production, that provides high assurance of detecting: (i) Production of uranium enriched to 10 percent or more in the U^{235} isotope, to the extent that SNM of moderate strategic significance could be produced within any 370 calendar day period; (ii) Production of uranium enriched to 20 percent or more in the U^{235} isotope; and (iii) Unauthorized production of uranium of low strategic significance;	(5) A detection program, independent of production, which provides high assurance of detecting and resolving: (i) Production of uranium enriched to 10 percent or more in the U-235 isotope, to the extent that SNM of moderate strategic significance (as defined in § 74.4) could be produced within any 370 calendar day period; (ii) Production of uranium enriched to 20 percent or more in the U-235 isotope; and (iii) Unauthorized production of uranium of low strategic significance (as defined in § 74.4);	(5) A detection program, independent of production, which that provides high assurance of detecting and resolving: (i) Production of uranium enriched to 10 percent or more in the Uuranium-235 isotope, to the extent that SNM of moderate strategic significance (as defined in § 74.4) could be produced within any 370 calendar day period; (ii) Production of uranium enriched to 20 percent or more in the Uuranium-235 isotope; and (iii) Unauthorized production of uranium of low strategic significance (as defined in § 74.4);
(6) An item control program that ensures that: (i) Current knowledge is maintained of items 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 unauthorized removal of 500 grams or more of U^{235}, as individual items or as uranium contained in items, will be detected. Exempted from the requirements of paragraph (c)(6) (i) and (ii) of this section are licensed-identified items each containing less than 500 grams U^{235} up to a cumulative total of 50 kilograms of	(6) An item control system (as defined in § 74.4). The system must ensure that items are stored and handled or subsequently measured in a manner such that unauthorized removal of any quantity of U-235, as individual items or as uranium contained in items, will be detected. Exempted from this requirement are items in solution with a concentration of less than 5 grams of uranium-235 per liter and items of waste destined for burial or incineration;	(6) An item control system (as defined in § 74.4). The system must ensure that items (as defined in § 74.4) are stored and handled or subsequently measured in a manner such that unauthorized removal of individual items or 500 grams or more of uranium-235 from one or more itemsany quantity of U 235, as individual items or as uranium contained in items, will be detected. Exempted from this requirement are (i) Solutions with a concentration of less than 5 grams per liter of plutonium or uranium-233 or uranium-235 or a combined concentration thereof of less than 5 grams per liter;

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U^{235} and items that exist for less than 14 calendar days;		(ii) Laboratory samples and reference standards maintained in the laboratory material management system and containing uranium enriched to less than 10 percent in uranium-235; (iii) Items existing less than 3 calendar days and containing less than 100 grams of uranium-235, or; (iv) Items of waste destined for burial or incineration;
(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;	(7) A system for conducting and documenting shipper-receiver difference comparisons for all source material and SNM receipts on a total shipment basis, and on an individual batch basis when required by part 75 of this chapter, to ensure that any shipper-receiver difference that is statistically significant and exceeds twice the estimated standard deviation of the difference estimator and 500 grams of uranium-235 is investigated and resolved;	(7) A system for conducting and documenting shipper-receiver difference comparisons for all source materialSM and SNM receipts on a total shipment basis, and on an individual batch basis when required by part 75 of this chapter, to ensure that any shipper-receiver difference that is statistically significant and exceeds twice the estimated standard deviation of the difference estimator and 500 grams of uranium-235 is investigated and resolved;
(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.	(8) An assessment program that: (i) Independently assesses the effectiveness of the MC&A program at least every 24 months; (ii) Documents the results of the above assessment; (iii) Documents management's findings on whether the MC&A program is currently effective; and (iv) Documents any actions taken on recommendations from prior assessments;	

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	(9) Procedures for tamper-safing (as defined in § 74.4) of containers or vaults (as defined in § 74.4) containing SNM, which include control of access to, and distribution of, unused seals and records;	(9) Procedures for tamper-safing (as defined in § 74.4) of containers or vaults (as defined in § 74.4) containing SNM, which include control of access to, and distribution of, unused seals and records, if tamper-safe seals are to be used;
	(10) Material balance areas and item control areas, and shall assign custodial responsibility for each of these areas in a manner that ensures that such responsibility can be effectively executed for all SM and SNM possessed under license.	(10) One or more material balance areas, and or a combination of material balance areas and one or more item control areas, or a combination of such areas, and shall assign custodial responsibility for each of these areas in a manner that ensures that such responsibility can be effectively executed for all SM and SNM possessed under license. * * * * *
(d) *Recordkeeping*. (1) Each licensee shall establish records that will demonstrate that the performance objectives of paragraph (a) of this section 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	(d) Recordkeeping. (1) Each licensee shall establish records that will demonstrate that the performance objectives stated and referenced in paragraph (a) of this section and the program 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	

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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.	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.	
Subpart D--Special Nuclear Material of Moderate Strategic Significance		
§ 74.41 Nuclear material control and accounting for special nuclear material of moderate strategic significance.	[In § 74.41, revise paragraphs (a), (b), and (c) to read as follows:]	[Revise § 74.41 to read as follows:]
(a) *General performance objectives*. Each licensee who is authorized to possess special nuclear material (SNM) of moderate strategic significance or SNM in a quantity exceeding one effective kilogram of strategic special nuclear material in irradiated fuel reprocessing operations other than as sealed sources and to use this material at any site other than a nuclear reactor licensed pursuant to part 50 of this chapter; or as reactor irradiated fuels involved in research,	(a) *General performance objectives.* (1) Each licensee who is authorized to possess and use SNM of moderate strategic significance (as defined in §74.4 and shown in appendix A of this part) or 1 kilogram or more but less than 5 kilograms of SSNM (as defined in § 74.4 and shown in appendix A to this part) in irradiated fuel reprocessing operations at any site or contiguous sites subject to control by the licensee, is	(a) *General performance objectives.* (1) Each licensee who is authorized to possess and use SNM of moderate strategic significance (as defined in §74.4 and shown in appendix A of this part), or SSNM in a quantity of more than 1 kilogram or more but less than 5 kilograms of SSNM (as defined in § 74.4 and shown in appendix A to this part) in irradiated fuel reprocessing operations, at any site or contiguous sites subject to control by the licensee, is subject to:

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development, and evaluation programs in facilities other than irradiated fuel reprocessing plants; or an operation involved with waste disposal, shall establish, implement, and maintain a Commission-approved material control and accounting (MC&A) system that will achieve the following performance objectives: (1) Maintain accurate, current, and reliable information on, and confirm, the quantities and locations of SNM in the licensee's possession; (2) Conduct investigations and resolve any anomalies indicating a possible loss of special nuclear material; (3) Permit rapid determination of whether an actual loss of a significant quantity of SNM has occurred, with significant quantity being either: (i) More than one formula kilogram of strategic SNM; or (ii) 10,000 grams or more of uranium-235 contained in uranium enriched up to 20.00 percent. (4) Generate information to aid in the investigation and recovery of missing SNM in the event of an actual loss.	subject to the performance objective requirements stated in § 74.3. (2) Production or utilization facilities licensed under part 50 or 52 of this chapter; licensees using reactor irradiated fuels involved in research, development, and evaluation programs in facilities other than irradiated fuel reprocessing plants; and operations involving waste disposal, are not subject to the requirements of subpart D of this part.	(i) Tthe performance objective requirements stated in § 74.3.; and (ii)The performance objective requirement to permit rapid determination of whether an actual loss of a significant quantity of SNM has occurred, with significant quantity being either more than one formula kilogram of SSNM, or 10,000 grams or more of uranium-235 contained in uranium enriched up to 20 percent. (2) Production or utilizationNuclear reactor facilities licensed under part 50 or 52 of this chapter; storage installations licensed under part 72 of this chapter; licensees using reactor irradiated fuels involved in research, development, and evaluation programs in facilities other than irradiated fuel reprocessing plants; and operations involving waste disposal, are not subject to the requirements of subpart D of this part.
(b) Implementation schedule. Each applicant for a license, and each licensee that, upon application for modification of its license, would become newly subject to the requirements of paragraph (a) of this section shall:	(b) *Implementation.* Each applicant for a license, and each licensee that, upon application for modification of its license, would become newly subject to paragraph (a) of this section shall submit for approval an MC&A plan describing how the performance objectives of § 74.3 and	(b) *Implementation.* Each applicant for a license, and each licensee that, upon application for modification of its license, would become newly subject to paragraph (a) of this section shall submit for approval an MC&A plan describing how the performance objectives of § 74.3 and

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(1) Submit a fundamental nuclear material control (FNMC) plan describing how the performance objectives of § 74.41(a) will be achieved, and how the system capabilities required by § 74.41(c) will be met; and (2) Implement the NRC-approved FNMC plan submitted pursuant to paragraph (b)(1) of this section upon the Commission's issuance or modification of a license or by the date specified in a license condition.	the requirements of paragraph (c) of this section will be met. The MC&A plan shall be implemented when a license is issued or modified to authorize the activities being addressed in paragraph (a) of this section, or by the date specified in a license condition.	paragraph (a) of this section will be achieved, and how the requirements of paragraph (c) of this section will be met. The MC&A plan shall be implemented when a license is issued or modified to authorize the activities being addressed in paragraph (a) of this section, or by the date specified in a license condition.
(c) System capabilities. To achieve the performance objectives specified in § 74.41(a), the MC&A system must include the capabilities described in §§ 74.43 and 74.45, and must incorporate checks and balances that are sufficient to detect falsification of data and reports that could conceal diversion of SNM by: (1) A single individual, including an employee in any position; or (2) Collusion between two individuals, one or both of whom have authorized access to SNM.	(c) *Program capabilities.* To achieve the § 74.3 performance objectives, the MC&A plan must include the capabilities described in §§ 74.43 and 74.45, and must incorporate checks and balances that are sufficient to detect falsification of data and reports that could conceal diversion of SNM by: (1) A single individual, including an employee in any position; or (2) Collusion between two individuals, one or both of whom have authorized access to SNM.	(c) *Program capabilities.* To achieve the § 74.3 general performance objectives specified in § 74.3 and paragraph (a) of this section, the MC&A plan program must include the capabilities described in §§ 74.43 and 74.45, and must incorporate checks and balances that are sufficient to detect falsification of data and reports that could conceal diversion of SNM by: (1) A single individual, including an employee in any position; or (2) Collusion between two individuals, one or both of whom have authorized access to SNM.
§ 74.43 Internal controls, inventory, and records.	[In § 74.43, revise paragraphs (b)(3), (b)(5), (b)(6), (b)(7), and (c)(3); add new paragraph (c)(9); and revise paragraph (d)(5) to read as follows:]	[In § 74.43, revise paragraphs (b)(3), through (b)(5), (b)(6), (b)(7)(b)(8), and (c)(3) and (d)(5); and add new paragraph (c)(9); and revise paragraph (d)(5) to read as follows:]
(b) Internal controls.	(b) * * *	(b) * * *

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(3) The licensee shall provide for the adequate review, approval, and use of written MC&A procedures that are identified in the approved FNMC plan as being critical to the effectiveness of the described system.	(3) The licensee shall provide for the adequate review, approval, and use of written MC&A procedures that are identified in the approved MC&A plan as being critical to the effectiveness of the described system.	(3) The licensee shall provide for the adequate review, approval, and use of written MC&A procedures that are identified in the approved MC&A plan as being critical to the effectiveness of the described systemprogram.
(4) The licensee shall assure that personnel who work in key positions where mistakes could degrade the effectiveness of the MC&A system are trained to maintain a high level of safeguards awareness and are qualified to perform their duties and/or responsibilities.	* * * * *	(4) The licensee shall assure that personnel who work in key positions where mistakes could degrade the effectiveness of the MC&A system program are trained to maintain a high level of safeguards awareness and are qualified to perform their duties and/or responsibilities.
(5) The licensee shall establish, document, and maintain an item control program that: (i) Provides current knowledge of SNM items with respect to identity, element and isotope content, and stored location; and (ii) Assures that SNM items are stored and handled, or subsequently measured, in a manner such that unauthorized removal of 200 grams or more of plutonium or uranium-233 or 300 grams or more of uranium-235, as one or more whole items and/or as SNM removed from containers, will be detected.	(5) The licensee shall establish, document, implement, and maintain an item control system as defined in § 74.4. The system must ensure that items are stored and handled or subsequently measured in a manner such that unauthorized removals of individual items or any quantity of material (as defined in § 74.4) from items will be detected.	(5) The licensee shall establish, document, implement, and maintain an item control system as defined in § 74.4. The system must ensure that items are stored and handled, or subsequently measured, in a manner such that unauthorized removals of individual items or 200 grams or more of plutonium or uranium-233, or 300 grams or more of uranium-235, from one or more items any quantity of material (as defined in § 74.4) from items will be detected.
(6) Exempted from the requirements of paragraph (b)(5) of this section are items that exist for less than 14 calendar days and licensee-identified items each containing less than 200 grams of plutonium or uranium-233 or 300 grams or more of uranium-235 up to a cumulative total of one formula kilogram of strategic SNM or 17 kilograms of uranium-235	(6) Exempted from the requirements of paragraph (b)(5) of this section are items in solution with a concentration of less than 5 grams of U-235 per liter, and items of waste destined for burial or incineration.	(6) Exempted from the requirements of paragraph (b)(5) of this section are: (i) Solutions with a concentration of less than 5 grams per liter of plutonium or uranium-233 or uranium-235 or a combined concentration thereof of less than 5 grams per liter; (ii) Laboratory samples and reference standards maintained in the

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contained in uranium enriched to 10.00 percent or more but less than 20.00 percent in the uranium-235 isotope.		laboratory material management system and containing uranium enriched to less than 20 percent in uranium-235; (iii) Items existing less than 3 calendar days and containing less than 75 grams of plutonium or uranium-233 or 100 grams of uranium-235, or; (iv) Items of waste destined for burial or incineration.
(7) Conduct and document shipper-receiver comparisons for all SNM receipts, both on an individual batch basis and a total shipment basis, and ensure that any shipper-receiver difference that is statistically significant and exceeds twice the estimated standard deviation of the difference estimator and 200 grams of plutonium or uranium-233 or 300 grams of uranium-235 is investigated and resolved; and	(7) Conduct and document shipper-receiver difference comparisons for all SNM receipts, * * * * *	(7) Conduct and document shipper-receiver difference comparisons for all SNM receipts, * * * * *
(8) Perform independent assessments of the total MC&A system, at intervals not to exceed 18 months, that assess the performance of the system, review its effectiveness, and document management's action on prior assessment recommendations and identified deficiencies. These assessments must include a review and evaluation of any contractor who performs SNM accountability measurements for the licensee.		(8) Perform independent assessments of the total MC&A systemprogram, at intervals not to exceed 18 months, that assess the performance of the systemprogram, review its effectiveness, and document management's action on prior assessment recommendations and identified deficiencies. These assessments must include a review and evaluation of any contractor who performs SNM accountability measurements for the licensee.

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(c) Inventory control and physical inventories. (3) Maintain and follow procedures for tamper-safing of containers or vaults containing SNM, if tamper-safe seals are to be used for assuring the validity of prior measurements, which include control of access to, and distribution of, unused seals and to records showing the date and time of seal application;	(c) * * * (3) Maintain and follow procedures for tamper-safing (as defined in § 74.4) of containers or vaults (as defined in § 74.4) containing SNM which include control of access to, and distribution of, unused seals and records; * * * * *	(c) * * * (3) If tamper-safe seals are to be used, mMaintain and follow procedures for tamper-safing (as defined in § 74.4), of containers or vaults (as defined in § 74.4) containing SNM which include control of access to, and distribution of, unused seals and records; * * * * *
	(9) Designate material balance areas and item control areas, and assign custodial responsibility for each of these areas in a manner that ensures that such responsibility can be effectively executed for all SNM possessed under license. * * * * *	(9) Designate one or more material balance areas, and or a combination of one or more material balance areas and one or more item control areas, and assign custodial responsibility for each of these areas in a manner that ensures that such responsibility can be effectively executed for all SNM possessed under license. * * * * *
(d) Recordkeeping. The licensee shall: (5) Establish records that will demonstrate that the performance objectives of § 74.41(a)(1) through (4), the system capabilities of paragraphs (b) and (c) of this section and § 74.45(b) and (c) 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 specified by § 74.19(b), part 75 of this chapter, or by a specific license condition.	(d) * * * (5) Establish records that will demonstrate that the performance objectives of § 74.3 and § 74.41(a)(1), the system capabilities of paragraphs (b) and (c) of this section, and § 74.45(b) and (c) 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 specified by § 74.19(b), part 75 of this chapter, or by a specific license condition.	(5) Establish records that will demonstrate that the performance objectives of § 74.3 and § 74.41(a)(1), the system program capabilities of paragraphs (b) and (c) of this section, and § 74.45(b) and (c) 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 specified by § 74.19(b), part 75 of this chapter, or by a specific license condition.

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§ 74.45 Measurements and measurement control.	[In § 74.45, revise paragraph (c)(4) to read as follows:]	
(c) Measurement control. To maintain measurement quality and to estimate measurement uncertainty values, the licensee shall: (4) Establish and maintain a measurement control program so that for each inventory period the SEID is less than 0.125 percent of the active inventory, and assure that any MC&A measurements performed under contract are controlled so that the licensee can satisfy this requirement.	(c) * * * (4) Establish and maintain a measurement control system so that for each inventory period the standard error of the inventory difference (SEID) is less than 0.125 percent of the active inventory, and assure that any MC&A measurements performed under contract are controlled so that the licensee can satisfy this requirement. * * * * *	(c) * * * (4) Establish and maintain a measurement control system program so that for each inventory period the standard error of the inventory difference (SEID) is less than 0.125 percent of the active inventory, and assure that any MC&A measurements performed under contract are controlled so that the licensee can satisfy this requirement.
Subpart E--Formula Quantities of Strategic Special Nuclear Material		
§ 74.51 Nuclear material control and accounting for strategic special nuclear material.	[Revise § 74.51 to read as follows:]	
(a) *General performance objectives.* Each licensee who is authorized to possess five or more formula kilograms of strategic special nuclear material (SSNM) and to use such material at any site, other than a nuclear reactor licensed pursuant to part 50 of this chapter, an irradiated fuel reprocessing plant, an operation involved with waste disposal, or an independent spent fuel storage facility licensed pursuant to part 72 of this chapter shall	(a) *General performance objectives.* (1) Each licensee who is authorized to possess and use five or more formula kilograms of strategic special nuclear material (SSNM), as defined in § 74.4 and shown in appendix A to this part, at any site or contiguous sites subject to control by the licensee is subject to the performance objective requirements stated in § 74.3, and to the following performance objectives:	(a) *General performance objectives.* (1) Each licensee who is authorized to possess and use five or more formula kilograms of strategic special nuclear material (SSNM), as defined in § 74.4 and shown in appendix A to this part, at any site or contiguous sites subject to control by the licensee is subject to the performance objective requirements stated in § 74.3, and to the following performance objectives:

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establish, implement, and maintain a Commission-approved material control and accounting (MC&A) system that will achieve the following objectives: (1) Prompt investigation of anomalies potentially indicative of SSNM losses; (2) Timely detection of the possible abrupt loss of five or more formula kilograms of SSNM from an individual unit process; (3) Rapid determination of whether an actual loss of five or more formula kilograms occurred; (4) Ongoing confirmation of the presence of SSNM in assigned locations; and (5) Timely generation of information to aid in the recovery of SSNM in the event of an actual loss.	(i) Ongoing confirmation of the presence of SSNM in assigned locations; (ii) Timely detection of the possible abrupt loss of five or more formula kilograms of SSNM from an individual unit process; and (iii) Rapid determination of whether an actual loss of five or more formula kilograms of SSNM occurred. (2) Production or utilization facilities licensed under part 50 or 52 of this chapter, independent spent fuel storage installations licensed under part 72 of this chapter; and any licensee operations involving waste disposal, are not subject to the requirements of subpart E of this part.	(i) Ongoing confirmation of the presence of SSNM in assigned locations; (ii) Timely detection of the possible abrupt loss of five or more formula kilograms of SSNM from an individual unit process; and (iii) Rapid determination of whether an actual loss of five or more formula kilograms of SSNM occurred. (2) Production or utilization Nuclear reactor facilities licensed under part 50 or 52 of this chapter, independent spent fuel storage installations licensed under part 72 of this chapter; , and any licensee operations involving waste disposal, are not subject to the requirements of subpart E of this part.
(b) *System capabilities*. To achieve the general performance objectives specified in § 74.51(a), the MC&A system must provide the capabilities described in §§ 74.53, 74.55, 74.57 and 74.59 and must incorporate checks and balances that are sufficient to detect falsification of data and reports that could conceal diversion by: (1) An individual, including an employee in any position; or (2) Collusion between an individual with MC&A responsibilities and another individual who has responsibility or control within both the physical protection and the MC&A systems.	(b) *Implementation.* Each applicant for a license, and each licensee that, upon application for modification of its license, would become newly subject to paragraph (a) of this section shall submit for approval an MC&A plan describing how the performance objectives of § 74.3 and paragraph (a) of this section will be achieved, and how the requirements of paragraph (c) of this section will be met. The MC&A plan shall be implemented when a license is issued or modified to authorize the activities being addressed in paragraph (a) of this section, or by the date specified in a license condition.	
(c) *Implementation dates*. Each applicant for a license, and each licensee that, upon	(c) *Program capabilities.* To achieve the general performance	(c) *Program capabilities.* To achieve the general performance

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application for modification of a license, would become newly subject to paragraph (a) of this section, shall submit a fundamental nuclear material control (FNMC) plan describing how the MC&A system shall satisfy the requirement of paragraph (b) of this section. The FNMC plan shall be implemented when a license is issued or modified to authorize the activities being addressed in paragraph (a) of this section, or by the date specified in a license condition.	objectives specified in § 74.3 and paragraph (a) of this section, the MC&A plan must provide the capabilities described in §§ 74.53, 74.55, 74.57 and 74.59 and must incorporate checks and balances that are sufficient to detect falsification of data and reports that could conceal diversion of SNM or SSNM by: (1) A single individual, including an employee in any position; or (2) Collusion between two individuals, one or both of whom have authorized access to SNM or SSNM.	objectives specified in § 74.3 and paragraph (a) of this section, the MC&A plan program must provide the capabilities described in §§ 74.53, 74.55, 74.57, and 74.59 and must incorporate checks and balances that are sufficient to detect falsification of data and reports that could conceal diversion of SNM or SSNM by: (1) An individual, including an employee in any position; or (1) A single individual, including an employee in any position; or (2) Collusion between an individual with MC&A responsibilities and another individual who has responsibility or control within both the physical protection and the MC&A programs. (2) Collusion between two individuals, one or both of whom have authorized access to SNM or SSNM.
(d) *Inventories*. Notwithstanding § 74.59(f)(1), licensees shall perform at least three bimonthly physical inventories after implementation of the NRC approved FNMC Plan and shall continue to perform bimonthly inventories until performance acceptable to the NRC has been demonstrated and the Commission has issued formal approval to perform semiannual inventories. Licensees who have prior experience with process monitoring and/or can demonstrate acceptable performance against all Plan commitments may request authorization to	(d) *Inventories.* Notwithstanding § 74.59(f)(1), licensees shall perform at least 3 physical inventories at intervals not to exceed 65 calendar days after implementation of the NRC-approved MC&A plan and shall continue to perform such inventories at intervals not to exceed 65 calendar days until performance acceptable to the NRC has been demonstrated and the Commission has issued formal approval to perform physical inventories at intervals not to exceed 185 calendar days. Licensees who have prior experience with process monitoring and/or can demonstrate acceptable performance	

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perform semiannual inventories at an earlier date.	against all MC&A plan commitments may request authorization to perform inventories at intervals not to exceed 185 calendar days at an earlier date.	
§ 74.53 Process monitoring.	[In § 74.53, revise the introductory text of paragraph (a), and paragraphs (a)(3), (a)(4), and (c)(1) to read as follows:]	[In § 74.53, revise paragraphs (a) introductory text, (a)(3), (a)(4), and (c)(1) to read as follows:]
(a) Licensees subject to § 74.51 shall monitor internal transfers, storage, and processing of SSNM. The process monitoring must achieve the detection capabilities described in paragraph (b) of this section for all SSNM except: (3) SSNM with an estimated measurement standard deviation greater than five percent that is either input or output material associated with a unit that processes less than five formula kilograms over a consecutive three-month period; and (4) SSNM involved in research and development operations that process less than five formula kilograms during any seven-consecutive-day period.	(a) Licensees subject to § 74.51 shall monitor internal transfers, storage, and processing of SSNM. The process monitoring must achieve the detection capabilities described in paragraph (b) of this section for all SSNM except: * * * * * (3) SSNM with an estimated measurement standard deviation greater than 5 percent that is either input or output material associated with a unit that processes less than five formula kilograms over a period of 95 calendar days; and (4) SSNM involved in research and development operations that process less than five formula kilograms during a period of seven calendar days. * * * * *	
(c) (1) Perform material balance tests on a lot or a batch basis, as appropriate, or monthly, whichever is sooner, and investigate any difference greater than 200 grams of plutonium or U-233 or 300 grams of U-235 that exceeds three times the	(c) * * * (1) Perform material balance tests on a lot or a batch basis, as appropriate, or at intervals not to exceed 30 calendar days, whichever is sooner, and investigate any difference greater than 200 grams of plutonium or U-233 or 300 grams of U-235	(c) * * * (1) Perform material balance tests on a lot or a batch basis, as appropriate, or at intervals not to exceed 30 calendar days, whichever is sooner, and investigate any difference greater than 200 grams of plutonium or Uuranium-233 or 300 grams of Uuranium-235 that exceeds three times

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estimated standard error of the inventory difference estimator;	that exceeds three times the estimated standard error of the inventory difference; * * * * *	the estimated standard error of the inventory difference estimator; * * * * *
§ 74.57 Alarm resolution.	[In § 74.57, revise the introductory text of paragraph (c) to read as follows:]	[In § 74.57, a. Revise paragraph (c) introductory text to read as follows; and in paragraph (d)(3), remove the word “system” and add in its place the word “program.”]
(c) Each licensee shall notify the NRC Operations Center by telephone of any MC&A alarm that remains unresolved beyond the time period specified for its resolution in the licensee's fundamental nuclear material control plan. Notification must occur within 24 hours except when a holiday or weekend intervenes in which case the notification must occur on the next scheduled workday. The licensee may consider an alarm to be resolved if:	(c) Each licensee shall notify the NRC Headquarters Operations Center by telephone of any MC&A alarm that remains unresolved beyond the time period specified for its resolution in the licensee's MC&A plan. Notification must occur within 24 hours except when a holiday or weekend intervenes in which case the notification must occur on the next scheduled workday. The licensee may consider an alarm to be resolved if: * * * * *	(c) Each licensee shall notify the NRC Headquarters Operations Center by any available telephone system of any MC&A alarm that remains unresolved beyond the time period specified for its resolution in the licensee's MC&A plan. Notification must occur within 24 hours except when a holiday or weekend intervenes in which case the notification must occur on the next scheduled workday. The licensee may consider an alarm to be resolved if: * * * * *
(d) If a material loss has occurred, the licensee shall determine the amount of SSNM lost and take corrective action to: (1) Return out-of-place SSNM, if possible, to its appropriate place; (2) Update and correct associated records; and (3) Modify the MC&A system, if appropriate, to prevent similar future occurrences.		(d) * * * (3) Modify the MC&A systemprogram, if appropriate, to prevent similar future occurrences.
§ 74.59 Quality assurance and accounting requirements.	[In § 74.59, revise paragraph (e)(7), the introductory text of paragraph (f)(1), and	In § 74.59, revise paragraphs (b)(2), (c), (e)(7), (f)(1) introductory text, (f)(2)(i),

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	paragraphs (f)(2)(i), (h)(2)(ii), and (h)(5) to read as follows:]	(h)(2)(ii), and (h)(3) through (5) to read as follows:
(b) *Management structure*. The licensee shall: (2) Provide for the adequate review, approval, and use of those material control and accounting procedures that are identified in the approved FNMC plan as being critical to the effectiveness of the described system.	* * * * *	* * * * * (b) * * * (2) Provide for the adequate review, approval, and use of those material control and accounting procedures that are identified in the approved FNMC MC&A plan as being critical to the effectiveness of the described systemprogram.
(c) *Personnel qualification and training*. The licensee shall assure that personnel who work in key positions where mistakes could degrade the effectiveness of the material control and accounting system are trained to maintain a high level of safeguards awareness and are qualified to perform their duties and/or responsibilities.		(c) *Personnel qualification and training*. The licensee shall assure that personnel who work in key positions where mistakes could degrade the effectiveness of the material control and accounting system program are trained to maintain a high level of safeguards awareness and are qualified to perform their duties and/or responsibilities. * * * * *
(e) *Measurement control*. (7) Investigate and take corrective action, as appropriate, to identify and reduce associated measurement biases when, for like material types (i.e., measured by the same measurement system), the net cumulative shipper/receiver differences accumulated over a six-month period exceed the larger of one formula kilogram	(e) * * * (7) Investigate and take corrective action, as appropriate, to identify and reduce associated measurement biases when, for like material types (i.e., measured by the same measurement system), the net cumulative shipper/receiver differences accumulated over a period not to exceed 185 calendar days results in a value greater than one	(e) * * * (7) Investigate and take corrective action, as appropriate, to identify and reduce associated measurement biases when, for like material types (i.e., measured by the same measurement system), the net cumulative shipper/-receiver differences accumulated over a period not to exceedmore than 185 calendar days results in a valueexceed the

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or 0.1 percent of the total amount received. (8) Establish and maintain a statistical control system designed to monitor the quality of each type of program measurement. Control limits must be established to be equivalent to levels of significance of 0.05 and 0.001. Control data exceeding the 0.05 limits must be investigated and corrective action taken in a timely manner. Whenever a single data point exceeds the 0.001 control limit, the measurement system in question must not be used for material control and accounting purposes until it has been brought into control at the 0.05 level.	formula kilogram or 0.1 percent of the total amount received. * * * * *	greater than of one formula kilogram or 0.1 percent of the total amount received. * * * * *
(f) *Physical inventory*. The licensee shall: (1) Except as required by part 75 of this Chapter, perform a physical inventory at least every six calendar months and within 45 days after the start of the ending inventory: (2) Implement policies, practices, and procedures designed to ensure the quality of physical inventories. These must include: (i) Development of procedures for tamper-safing of containers or vaults containing SSNM not in process that include adequate controls to assure the validity of assigned SSNM values;	(f) * * * (1) Except as required by part 75 of this chapter, perform a physical inventory at least every 185 calendar days and within 45 calendar days after the start of the ending inventory: * * * * * (2) * * * (i) Development of procedures for tamper-safing of containers or vaults containing SSNM not in process that include adequate controls to assure the validity of assigned SSNM values and that include control of access to, and distribution of, unused seals and records; * * * * *	

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(h) *Internal control*.	(h) * * *	(h) * * *
(2) Establish a scrap control program that assures that:	(2) * * *	(2) * * *
(ii) Any scrap measured with a standard deviation greater than five percent of the measured amount is recovered so that the results are segregated by inventory period and recovered within six months of the end of the inventory period in which the scrap was generated except where it can be demonstrated that the scrap measurement uncertainty will not cause noncompliance with § 74.59(e)(5).	(ii) Any scrap measured with a standard deviation greater than 5 percent of the measured amount is recovered so that the results are segregated by inventory period and recovered within 185 calendar days of the end of the inventory period in which the scrap was generated except where it can be demonstrated that the scrap measurement uncertainty will not cause noncompliance with § 74.59(e)(5).	
	* * * * *	
(3) Incorporate checks and balances in the MC&A system sufficient to control the rate of human errors in material control and accounting information.		(3) Incorporate checks and balances in the MC&A system program sufficient to control the rate of human errors in material control and accounting information.
(4) Perform independent assessments at least every 12 months that assess the performance of the MC&A system, review its effectiveness, and document management's action on prior assessment recommendations. Assessments must include an evaluation of the measurement control program of any outside contractor laboratory performing MC&A measurements for a licensee, unless the contractor is also subject to the requirements of § 74.59(e).		(4) Perform independent assessments at least every 12 months that assess the performance of the MC&A systemprogram, review its effectiveness, and document management's action on prior assessment recommendations. Assessments must include an evaluation of the measurement control program of any outside contractor laboratory performing MC&A measurements for a licensee, unless the contractor is also subject to the requirements of § 74.59(e).
(5) Assign custodial responsibility in a manner that ensures that such	(5) Designate material balance areas and item control areas and assign	(5) Designate one or more material balance areas, and or a combination of one or more material balance areas and

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responsibility can be effectively executed for all SSNM possessed under license.	custodial responsibility for each of these areas in a manner that ensures that such responsibility can be effectively executed for all SSNM possessed under license.	one or more item control areas, and assign custodial responsibility for each of these areas in a manner that ensures that such responsibility can be effectively executed for all SNM possessed under license. * * * * *

[Add appendix A to part 74 to read as follows:]

Appendix A to Part 74 -- Categories of Special Nuclear Material.

Notes:

1. The quantities in the table below are applied on a facility-wide basis and are the total quantities at the facility except for sealed sources. Sealed sources as defined in § 74.4 are excluded from the quantities in the table.

2. Irradiated fuel, which by virtue of its original fissile material content is included as Category I or II before irradiation, is reduced one category level, during the period of time that the radiation level from the fuel exceeds 1 Sv per hour (100 rads per hour) at 1 meter, unshielded.

The formulae to calculate a quantity of SSNM as defined in § 74.4 are as follows:

- Category I, 5000 grams or more of SSNM
  - grams = grams contained U-235 + 2.5 (grams U-233 + grams Pu)
- Category II, less than 5000 grams but more than 1000 grams of SSNM
  - grams = grams contained U-235 + 2 (grams U-233 + grams Pu)
- Category III, 1000 grams or less but more than 15 grams of SSNM
  - grams = grams contained U-235 + grams U-233 + grams Pu.

3. Irradiated fuel, which by virtue of its original fissile material content is included as Category I or II before irradiation, is reduced one category level, during the period of time that the radiation level from the fuel exceeds 1 Gy per hour (100 rad per hour) at 1 meter, unshielded.

Material	Isotopic CompositionForm	Category I (Subpart E)	Category II (Subpart D)	Category III (Subpart C)
Plutonium	All plutonium (element)Unirradiated	2,000 grams or more	Less than 2,000 grams, but more than 500 grams	500 grams or less, but more than 15 grams
Uranium-233	UnirradiatedAll U-233	2,000 grams or more	Less than 2,000 grams,	500 grams or less, but

	enrichments		but more than 500 grams	more than 15 grams
Uranium-235	Unirradiated Uranium enriched to 20% or more in isotope U-235	5,000 grams or more	Less than 5,000 grams, but more than 1,000 grams	1,000 grams or less, but more than 15 grams
	Unirradiated Uranium enriched to 10%, but less than 20%, in isotope U-235		10,000 grams or more	Less than 10,000 grams, but more than 1,000 grams
	Unirradiated Uranium enriched above 0.711%, but less than 10%, in isotope U-235			10,000 grams or more

Notes:

1. The quantities in the table are applied on a facility-wide basis and are the total quantities at the facility except for sealed sources. Sealed sources as defined in § 74.4 are excluded from the quantities in the table.
2. The formulae to calculate a quantity of SSNM as defined in § 74.4 are as follows:
   - Category I, 5,000 grams or more of SSNM
     - grams = grams contained U-235 + 2.5 (grams U-233 + grams Pu)
   - Category II, less than 5,000 grams but more than 1,000 grams of SSNM
     - grams = grams contained U-235 + 2 (grams U-233 + grams Pu)
   - Category III, 1,000 grams or less but more than 15 grams of SSNM
     - grams = grams contained U-235 + grams U-233 + grams Pu.
3. Irradiated fuel, which by virtue of its original fissile material content is included as Category I or II before irradiation, is reduced one category level (e.g., from Category I to Category II), during the period of time that the radiation level from the fuel exceeds 1 gray per hour (100 rad per hour) at 1 meter, unshielded.

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PART 150--EXEMPTIONS AND CONTINUED REGULATORY AUTHORITY IN AGREEMENT STATES AND IN OFFSHORE WATERS UNDER SECTION 274		
Continued Commission Authority in Agreement States		
§ 150.17 Submission to Commission of nuclear material status reports.	[In § 150.17 revise paragraphs (a) and (b) to read as follows:]	
(a) Except as specified in paragraph (d) of this section and § 150.17a, each person possessing, or who had possessed in the previous reporting period, at any one time and location, under an Agreement State license, special nuclear material in a quantity totaling one gram or more of contained uranium-235, uranium-233, or plutonium, shall complete and submit, in computer-readable format Material Balance Reports concerning special nuclear material that the licensee has received, produced, possessed, transferred, consumed, disposed of, or lost. This prescribed computer-readable report replaces the DOE/NRC Form 742 which has been previously submitted in paper form. The Physical Inventory Listing Report must be submitted with each Material Balance Report. This prescribed computer-readable report replaces the DOE/NRC Form 742C which has been previously submitted in paper form. Each licensee shall prepare and submit the	(a) Except as specified in paragraph (d) of this section and § 150.17a, all licensees who possess or who had possessed in the previous reporting period, under an Agreement State license, one gram or more of irradiated or non-irradiated special nuclear material are required to submit both a Material Balance Report and a Physical Inventory Listing Report of these materials to the NMMSS in accordance with the instructions in paragraph (a)(1) of this section. Both reports shall be submitted between January 1 and March 31 of each year. (1) Each licensee shall prepare and submit the reports described in this section as follows: (i) Reports must be submitted for each Reporting Identification Symbol (RIS) account, including all special nuclear material that the licensee has received, produced, possessed, transferred, consumed, disposed, or lost.	(a) Except as specified in paragraph (d) of this section and § 150.17a, all licensees who possess or who had possessed in the previous reporting period, under an Agreement State license, one gram or more of irradiated or non-irradiated special nuclear material are required to submit both a Material Balance Report and a Physical Inventory Listing Report of these materials to the NMMSS in accordance with the instructions in paragraph (a)(1) of this section. Both reports shall be submitted between January 1 and March 31 of each year. (1) Each licensee shall prepare and submit the reports described in this section as follows: (i) Reports must be submitted for each Reporting Identification Symbol (RIS) account, including all special nuclear material that the licensee has received, produced, possessed, transferred, consumed, disposed, or lost.

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reports described in this paragraph as specified in the instructions in NUREG/BR–0007 and NMMSS Report D–24 ''Personal Computer Data Input for NRC Licensees.'' Copies of these instructions may be obtained from the U.S. Nuclear Regulatory Commission, Division of Fuel Cycle Safety and Safeguards, Washington, DC 20555–0001, or by e-mail to *RidsNmssFcss@nrc.gov*. Each person subject to this requirement shall submit a report no later than March 31 of each year. The Commission may, when good cause is shown, permit a licensee to submit Material Balance Reports and Physical Inventory Listing Reports at other times. Each licensee required to report material balance, and inventory information, as described in this part, shall resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of notification of a discrepancy identified by NRC.	(ii) Each licensee shall prepare and submit the reports described in this section as specified in the instructions in both NUREG/BR–0007 and NMMSS Report D–24, ''Personal Computer Data Input for NRC Licensees.'' (iii) This prescribed computer-readable report replaces the DOE/NRC Form 742, Material Balance Report, and DOE/NRC Form 742C, Physical Inventory Listing Report, which have been previously submitted in paper form. (iv) Copies of these instructions may be obtained from the U.S. Nuclear Regulatory Commission, Division of Fuel Cycle Safety and Safeguards, Washington, DC 20555–0001 or by e-mail to *RidsNmssFcss.Resource@nrc.gov*. (2) The Commission may permit a licensee to submit the reports at other times for good cause. Such requests must be submitted in writing to Chief, Material Control and Accounting Branch, Division of Fuel Cycle Safety and Safeguards, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555. The licensee must continue to report as required until such request is granted. (3) Any licensee who is required to submit routine Material Status Reports under § 75.35 of this chapter (pertaining to implementation of the U.S./IAEA Safeguards Agreement) shall prepare and submit these reports only as provided in that section (instead of as provided in	(ii) Each licensee shall prepare and submit the reports described in this section as specified in the instructions in both NUREG/BR–0007, Instructions for the Preparation and Distribution of Material Status Reports, Final Draft (DOE [U.S. Department of Energy]/NRC Forms 742 and 742C), and NMMSS Report D–24, ''Personal Computer Data Input for NRC Licensees.'' (iii) This prescribed computer-readable report replaces the DOE/NRC Form 742, Material Balance Report, and DOE/NRC Form 742C, Physical Inventory Listing Report, which have been previously submitted in paper form. (iv) Copies of these instructions may be obtained from the U.S. Nuclear Regulatory Commission, Division of Fuel Cycle Safety, and Safeguards, and Environmental Review, Washington, DC 20555–0001 or by e-mail to *RidsNmssFcss.Resource@nrc.govRidsNmssFcse.Resource@nrc.gov*. (2) The Commission may permit a licensee to submit the reports at other times for good cause. Such requests must be submitted in writing to Chief, Material Control and Accounting Branch, Division of Fuel Cycle Safety, and Safeguards, and Environmental Review, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555. The licensee must continue to report as required until such request is granted.

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	paragraphs (a) through (b) of this section). (4) Each licensee subject to the requirements of this section shall resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of notification of a discrepancy identified by the NRC.	(3) Any licensee who is required to submit routine Material Status Reports under § 75.35 of this chapter (pertaining to implementation of the U.S./IAEA Safeguards Agreement) shall prepare and submit these reports only as provided in that section (instead of as provided in paragraphs (a) through (b) of this section). (4) Each licensee subject to the requirements of this section shall resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of notification of a discrepancy identified by the NRC.
(b) Except as specified in paragraph (d) of this section and § 150.17a, each person possessing, or who had possessed in the previous reporting period, at any one time and location, under an Agreement State license: (1) One kilogram or more of uranium or thorium source material with foreign obligations, shall document holdings as of September 30 of each year and submit to the Commission within 30 days. Alternatively, these reports may be submitted with the licensee's material status reports on special nuclear material filed under part 72 or 74 of this chapter. This statement must be submitted to the address specified in the reporting instructions in NUREG/BR–0007, and include the Reporting Identification Symbol (RIS) assigned by the Commission. (2) One kilogram or more of uranium or thorium source material in the operation of	(b) Except as specified in paragraph (d) of this section and § 150.17a, each person possessing, or who had possessed in the previous reporting period, at any one time and location, under an Agreement State license: (1) One kilogram or more of uranium or thorium source material with foreign obligations, shall document holdings as of September 30 of each year and submit the material status reports to the Commission within 30 days. Alternatively, these reports may be submitted with the licensee's material status reports on special nuclear material filed under part 74 of this chapter. This statement must be submitted to the address specified in the reporting instructions in NUREG/BR–0007, and include the RIS assigned by the Commission.	(b) Except as specified in paragraph (d) of this section and § 150.17a, each person possessing, or who had possessed in the previous reporting period, at any one time and location, under an Agreement State license: (1) One kilogram or more of uUranium or thorium source material in quantities of 1 kilogram or more with foreign obligations, shall document holdings as of September 30 of each year and submit the material status reports to the Commission within 30 days. Alternatively, these reports may be submitted with the licensee's material status reports on special nuclear materialSNM filed under part 74 of this chapter. This statement must be submitted to the address specified in the reporting instructions in NUREG/BR–0007, and

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enrichment services, downblending uranium that has an initial enrichment of the U^{235} isotope of 10 percent or more, or in the fabrication of mixed-oxide fuels shall complete and submit, in computer-readable format, Material Balance and Physical Inventory Listing Reports concerning source material that the licensee has received, produced, possessed, transferred, consumed, disposed, or lost. Reports must be submitted for each Reporting Identification Symbol (RIS) account including all holding accounts. Each licensee shall prepare and submit these reports as specified in the instructions in NUREG/BR–0007 and NMMSS Report D–24, ''Personal Computer Data Input for NRC Licensees.'' These reports must document holdings as of September 30 of each year and submitted to the Commission within 30 days. Alternatively, these reports may be submitted with the licensee's material status reports on special nuclear material filed under part 72 or 74 of this chapter. Copies of the reporting instructions may be obtained by writing to the U.S. Nuclear Regulatory Commission, Division of Fuel Cycle Safety and Safeguards, Washington, DC 20555–0001, or by e-mail to *RidsNmssFcss@nrc.gov*. Each licensee required to report material balance, and inventory information, as described in this part, shall resolve any discrepancies identified during the report review and reconciliation process within 30 calendar	(2) One kilogram or more of uranium or thorium source material in the operation of enrichment services, down blending uranium that has an initial enrichment of the U-235 isotope of 10 percent or more, or in the fabrication of mixed-oxide fuels shall complete and submit, in computer-readable format, Material Balance and Physical Inventory Listing Reports concerning source material that the licensee has received, produced, possessed, transferred, consumed, disposed, or lost. Reports must be submitted for each RIS account including all holding accounts. Each licensee shall prepare and submit these reports as specified in the instructions in NUREG/BR–0007 and NMMSS Report D–24, ''Personal Computer Data Input for NRC Licensees.'' These reports must document holdings as of September 30 of each year and be submitted to the Commission within 30 days. Alternatively, these reports may be submitted with the licensee's material status reports on special nuclear material filed under part 74 of this chapter. Copies of the reporting instructions may be obtained by writing to the U.S. Nuclear Regulatory Commission, Division of Fuel Cycle Safety and Safeguards, Washington, DC 20555–0001, or by e-mail to *RidsNmssFcss.Resource@nrc.gov*. Each licensee required to report material balance, and inventory information, as described in this part, shall resolve any	include the RIS assigned by the Commission. (2) One kilogram or more of uUranium or thorium source material in quantities of 1 kilogram or more used in the operation of enrichment services, down blending uranium that has an initial enrichment of the U-235 isotopeuranium-235 of 10 percent or more, or in the fabrication of mixed-oxide fuels shall complete and submit, in computer-readable format, Material Balance and Physical Inventory Listing Reports concerning source material that the licensee has received, produced, possessed, transferred, consumed, disposed, or lost. Reports must be submitted for each RIS account including all holding accounts. Each licensee shall prepare and submit these reports as specified in the instructions in NUREG/BR–0007 and NMMSS Report D–24, ''Personal Computer Data Input for NRC Licensees.'' These reports must document holdings as of September 30 of each year and be submitted to the Commission within 30 days. Alternatively, these reports may be submitted with the licensee's material status reports on special nuclear material filed under part 74 of this chapter. Copies of the reporting instructions may be obtained by writing to the U.S. Nuclear Regulatory Commission, Division of Fuel Cycle Safety and Safeguards, Washington, DC 20555–0001, or by e-mail

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days of the notification of a discrepancy identified by the NRC.	discrepancies identified during the report review and reconciliation process within 30 calendar days of the notification of a discrepancy identified by the NRC. * * * * *	to ~~RidsNmssFcss.Resource@nrc.gov~~RidsNmssFcse.Resource@nrc.gov. Each licensee required to report material balance, and inventory information, as described in this part, shall resolve any discrepancies identified during the report review and reconciliation process within 30 calendar days of the notification of a discrepancy identified by the NRC. * * * * *