

Subpart E—Formula Quantities of Strategic Special Nuclear Material

SOURCE: 52 FR 10040, Mar. 30, 1987, unless otherwise noted.

§ 74.51 Nuclear material control and accounting for strategic special nuclear material.

(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 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.

(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.

(c) *Implementation dates.* Each applicant for a license, and each licensee

that, upon 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.

(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 perform semiannual inventories at an earlier date.

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§ 74.53 Process monitoring.

(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:

(1) SSNM that is subject to the item loss detection requirements of § 74.55;

(2) Scrap in the form of small pieces, cuttings, chips, solutions, or in other forms that result from a manufacturing process, held in containers of 30 gallons or larger, with an SSNM content of less than 0.25 grams per liter;

(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.