

**10 CFR Part 71: Compatibility with the International Atomic Energy Agency**

(60 FR 50248 & 61 FR 28724) RATS ID 1996-1 Effective 4/1/96

| Change to NRC Section   | Title | State Section | Compatibility Category | Summary of Change | Difference Yes/No | Significant Yes/No | If Difference, Why or Why Not Was a Comment Generated |
|---|-------|---------------|------------------------|-------------------|-------------------|--------------------|---|
| <b>NEW PART 71--PACKAGING AND TRANSPORTATION OF RADIOACTIVE MATERIAL</b>            |       |               |                        |                   |                   |                    |   |
| Subpart A--General Provisions Sec.  |       |               |                        |                   |                   |                    |   |
| 71.0 Purpose and scope.   |       |               |                        |                   |                   |                    |   |
| 71.1 Communications and records.  |       |               |                        |                   |                   |                    |   |
| 71.2 Interpretations.   |       |               |                        |                   |                   |                    |   |
| 71.3 Requirement for license.   |       |               |                        |                   |                   |                    |   |
| 71.4 Definitions.   |       |               |                        |                   |                   |                    |   |
| 71.5 Transportation of licensed material.   |       |               |                        |                   |                   |                    |   |
| Subpart B--Exemptions   |       |               |                        |                   |                   |                    |   |
| 71.6 Information collection requirements: OMB approval.                             |       |               |                        |                   |                   |                    |   |
| 71.7 Completeness and accuracy of information.                                      |       |               |                        |                   |                   |                    |   |
| 71.8 Specific exemptions.   |       |               |                        |                   |                   |                    |   |
| 71.9 Exemption of physicians.   |       |               |                        |                   |                   |                    |   |
| 71.10 Exemption for low-level materials.  |       |               |                        |                   |                   |                    |   |
| 71.11 [Reserved]  |       |               |                        |                   |                   |                    |   |
| Subpart C--General Licenses   |       |               |                        |                   |                   |                    |   |
| 71.12 General license: NRC-approved package.  |       |               |                        |                   |                   |                    |   |
| 71.13 Previously approved package.  |       |               |                        |                   |                   |                    |   |
| 71.14 General license: DOT specification container.                                 |       |               |                        |                   |                   |                    |   |
| 71.16 General license: Use of foreign approved package.                             |       |               |                        |                   |                   |                    |   |
| 71.18 General license: Fissile material, limited quantity per package.              |       |               |                        |                   |                   |                    |   |
| 71.20 General license: Fissile material, limited moderator per package.             |       |               |                        |                   |                   |                    |   |
| 71.22 General license: Fissile material, limited quantity, controlled shipment.     |       |               |                        |                   |                   |                    |   |
| 71.24 General license: Fissile material, limited moderator, controlled shipment.    |       |               |                        |                   |                   |                    |   |
| Subpart D--Application for Package Approval   |       |               |                        |                   |                   |                    |   |
| 71.31 Contents of application.  |       |               |                        |                   |                   |                    |   |
| 71.33 Package description.  |       |               |                        |                   |                   |                    |   |
| 71.35 Package evaluation.   |       |               |                        |                   |                   |                    |   |
| 71.37 Quality assurance.  |       |               |                        |                   |                   |                    |   |
| 71.38 Renewal of a certificate of compliance or quality assurance program approval. |       |               |                        |                   |                   |                    |   |
| 71.39 Requirement for additional information.                                       |       |               |                        |                   |                   |                    |   |

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|                       | <p>Subpart E--Package Approval Standards</p> <p>71.41 Demonstration of compliance.</p> <p>71.43 General standards for all packages.</p> <p>71.45 Lifting and tie-down standards for all packages.</p> <p>71.47 External radiation standards for all packages.</p> <p>71.51 Additional requirements for Type B packages.</p> <p>71.52 Exemption for low-specific-activity (LSA) packages.</p> <p>71.53 Fissile material exemptions.</p> <p>71.55 General requirements for fissile material packages.</p> <p>71.57 [Reserved]</p> <p>71.59 Standards for arrays of fissile material packages.</p> <p>71.61 Special requirement for irradiated nuclear fuel shipments.</p> <p>71.63 Special requirements for plutonium shipments.</p> <p>71.64 Special requirements for plutonium air shipments.</p> <p>71.65 Additional requirements.</p> <p>Subpart F--Package, Special Form, and LSA-III Tests</p> <p>71.71 Normal conditions of transport.</p> <p>71.73 Hypothetical accident conditions.</p> <p>71.74 Accident conditions for air transport of plutonium.</p> <p>71.75 Qualification of special form radioactive material.</p> <p>71.77 Qualification of LSA-III Material</p> <p>Subpart G--Operating Controls and Procedures</p> <p>71.81 Applicability of operating controls and procedures.</p> <p>71.83 Assumptions as to unknown properties.</p> <p>71.85 Preliminary determinations.</p> <p>71.87 Routine determinations.</p> <p>71.88 Air transport of plutonium.</p> <p>71.89 Opening instructions.</p> <p>71.91 Records.</p> <p>71.93 Inspection and tests.</p> <p>71.95 Reports.</p> <p>71.97 Advance notification of shipment of irradiated reactor fuel and nuclear waste.</p> <p>71.99 Violations.</p> <p>71.100 Criminal penalties.</p> <p>Subpart H--Quality Assurance</p> |               |                        |                   |                   |                    |   |  |  |  |

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|  |       |               |                        | 71.101 Quality assurance requirements.<br>71.103 Quality assurance organization.<br>71.105 Quality assurance program.<br>71.107 Package design control.<br>71.109 Procurement document control.<br>71.111 Instructions, procedures, and drawings.<br>71.113 Document control.<br>71.115 Control of purchased material, equipment, and services.<br>71.117 Identification and control of materials, parts, and components.<br>71.119 Control of special processes.<br>71.121 Internal inspection.<br>71.123 Test control.<br>71.125 Control of measuring and test equipment.<br>71.127 Handling, storage, and shipping control.<br>71.129 Inspection, test, and operating status.<br>71.131 Nonconforming materials, parts, or components.<br>71.133 Corrective action.<br>71.135 Quality assurance records.<br>71.137 Audits.<br>Appendix A to Part 71--Determination of A1 and A2 |                   |                    |   |
| <b>Changes contained in 61 FR 28724 follow below</b> |       |               |                        |  |                   |                    |   |

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| §71.4                 | Definitions |               | B                      | <p><b>Amended Definition:</b><br/>           Low Specific Activity (LSA) material:<br/>           (2) ***(ii) Material in which the radioactive material is distributed throughout, and the average specific activity does not exceed 10-4 A<sub>2</sub>/g for solids and gases, and 10-5 A<sub>2</sub>/g for liquids.<br/>           (3) * * *(i) The radioactive material is distributed throughout a solid or a collection of solid objects, or is essentially uniformly distributed in a solid compact binding agent (such as concrete, bitumen, ceramic, etc.); and<br/>           * * * * *</p> |                   |                    |   |

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**Table A-1 of Appendix A to Part 71 is amended as follows:**

- a. For the entry ``Ag-110m," Column (TBq/g) is revised to read ``1.8 x 10<sup>2</sup>."
- b. For the entry ``Am-242m," Column (Ci/g) is revised to read ``1.0 x 10<sup>1</sup>."
- c. For the entry ``Ar-39," Column (TBq/g) is revised to read ``1.3."
- d. For the entry ``Br-82," Column A<sub>1</sub> (Ci) is revised to read ``10.8."
- e. For the entry ``C-11," Column A<sub>1</sub> (Ci) is revised to read ``27."
- f. For the entry ``Cd-113m," Column (TBq/g) is revised to read ``8.3."
- g. For the entry ``Cm-244," Column A<sub>1</sub> (Ci) is revised to read ``108" and Column (Ci/g) is revised to read ``8.1 x 10<sup>1</sup>."
- h. For the entry ``Es-253," Column A<sub>1</sub> (TBq) is revised to read ``200," Column A<sub>1</sub> (Ci) is revised to read ``5400," Column A<sub>2</sub> (TBq) is revised to read ``2 x 10<sup>-2</sup>," and Column A<sub>2</sub> (Ci) is revised to read ``5.41 x 10<sup><SUP>-1</sup>."
- i. For the entry ``Eu-150," Column (Ci/g) is revised to read ``1.6 x 10<sup>6</sup>."
- j. For the entry ``Eu-155," Column (Ci/g) is revised to read ``4.9 x 10<sup>2</sup>."
- k. For the entry ``F-18," Column (TBq/g) is revised to read ``3.5 x 10<sup>6</sup>."
- l. For the entry ``Fe-59," Column (Ci/g) is revised to read ``5.0 x 10<sup>4</sup>."
- m. For the entry ``Fm-257," Column A<sub>1</sub> (TBq) is revised to read ``10," Column A<sub>1</sub> (Ci) is revised to read ``270," Column A<sub>2</sub> (TBq) is revised to read ``8 x 10<sup>-3</sup>," and Column A<sub>2</sub> (Ci) is revised to read ``2.16 x 10<sup>-1</sup>."
- n. For the entry ``Gd-148," Column (TBq/g) is revised to read ``1.2" and Column (Ci/g) is revised to read ``3.2 x 10<sup>-1</sup>."
- o. The entry for MFP is corrected to read ``For mixed fission products, use formula for mixtures or table A-2."
- p. For the entry ``Pt-197m," Column (TBq/g) is revised to read ``3.7 x 10<sup>5</sup>."

**In Appendix A to Part 71, Tables A-2 and A-3 are revised to read as follows:**

Appendix A to Part 71--Determination of A<sub>1</sub> and A<sub>2</sub>

\* \* \* \* \*

Table A-2.--General Values for A<sub>1</sub> and A<sub>2</sub>

| Contents   | A<INF>1 |      | A<INF>2            |                       |
|--|---------|------|--------------------|-----------------------|
|  | (Tbq)   | (Ci) | (Tbq)              | (Ci)                  |
| Only beta- or gamma-emitting nuclides are known to be present.                     | 0.2     | 5    | 0.02               | 0.5                   |
| Alpha-emitting nuclides are known to be present, or no relevant data are available | 0.10    | 2.70 | 2x10 <sup>-5</sup> | 5.41x10 <sup>-4</sup> |

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----- Table A-3.--Activity-mass Relationships for Uranium -----  
 ----- Specific Activity Uranium Enrichment<SUP>1 wt % U-235 present ----- TBq/g Ci/g -----

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**Table A-3.--Activity-mass Relationships for Uranium**

| Uranium Enrichment<SUP>1 wt % U-235 present | Specific Activity    |                      |
|---|----------------------|----------------------|
|   | TBq/g                | Ci/g                 |
| 0.45.....                                   | $1.8 \times 10^{-8}$ | $5.0 \times 10^{-7}$ |
| 0.72.....                                   | $2.6 \times 10^{-8}$ | $7.1 \times 10^{-7}$ |
| 1.0.....                                    | $2.8 \times 10^{-8}$ | $7.6 \times 10^{-7}$ |
| 1.5.....                                    | $3.7 \times 10^{-8}$ | $1.0 \times 10^{-6}$ |
| 5.0.....                                    | $1.0 \times 10^{-7}$ | $2.7 \times 10^{-6}$ |
| 10.0.....                                   | $1.8 \times 10^{-7}$ | $4.8 \times 10^{-6}$ |
| 20.0.....                                   | $3.7 \times 10^{-7}$ | $1.0 \times 10^{-5}$ |
| 35.0.....                                   | $7.4 \times 10^{-7}$ | $2.0 \times 10^{-5}$ |
| 50.0.....                                   | $9.3 \times 10^{-7}$ | $2.5 \times 10^{-5}$ |
| 90.0.....                                   | $2.2 \times 10^{-6}$ | $5.8 \times 10^{-5}$ |
| 93.0.....                                   | $2.6 \times 10^{-6}$ | $7.0 \times 10^{-5}$ |
| 95.0.....                                   | $3.4 \times 10^{-6}$ | $9.1 \times 10^{-5}$ |

\1\The figures for uranium include representative values for the activity of the uranium-234 that is concentrated during the enrichment process.