Compatibility with IAEA Transportation Safety Standards (TS-R-1) and Other Transportation Safety Amendments (69 FR 3697, 58038 January 26, 2004) RATS ID 2004-1 Effective date 10/1/04 Due for State adoption: October 1, 2007

Change to NRC Section	Title	State Section	Compatibility Category	Summary of Change To CFR	Difference Yes/No	Significant Yes/No	If a Difference, Why Or Why Not was a Comment Generated?
' 71.0	Purpose and scope.		D	N/A	N/A		
' 71.0 (c)	Purpose and scope.		[B]	**Amended Paragraph (c):** (c) The regulations in this part apply to any licensee authorized by specific or general license issued by the Commission to receive, possess, use, or transfer licensed material, if the licensee delivers that material to a carrier for transport, transports the material outside the site of usage as specified in the NRC license, or transports that material on public highways. No provision of this part authorizes possession of licensed material.			
' 71.1	Communications and records.		D	N/A	N/A		
' 71.2	Interpretations.		D	N/A	N/A		
' 71.3	Requirement for license.		[B]	Except as authorized in a general license or a specific license issued by the Commission, or as exempted			

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				in this part, no licensee mayC (a) Deliver licensed material to a carrier for transport; or (b) Transport licensed material.			
' 71.4	Definitions.		[B]	**Amended Definition:** A_1 means the maximum activity of special form radioactive material permitted in a Type A package. This value is either listed in Appendix A, Table AB1, of this part, or may be derived in accordance with the procedures prescribed in Appendix A of this part.			
' 71.4	Definitions.		[B]	**Amended Definition:** A_2 means the maximum activity of radioactive material, other than special form material, LSA, and SCO material, permitted in a Type A package. This value is either listed in Appendix A, Table AB1, of this part, or may be derived in accordance with the procedures prescribed in Appendix A of this part.			
' 71.4	Definitions.		[B]	**Amended Definition:** Carrier means a person engaged in the transportation of passengers or property by land or water as a common, contract, or private carrier, or by civil aircraft.			

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'71.4	Definitions.		D- for those States which have no licensees that use Type B packages. or [B]- for those States which have licensees that use Type B packages.	**Amended Definition:** Certificate holder means a person who has been issued a certificate of compliance or other package approval by the Commission.			
'71.4	Definitions.		D- for those States which have no licensees that use Type B packages. or [B]- for those States which have licensees that use Type B packages.	**Amended Definition:** Certificate of Compliance (CoC) means the certificate issued by the Commission under subpart D of this part which approves the design of a package for the transportation of radioactive material.			
'71.4	Definitions.		D	**Amended Definition:** Close reflection by water	N/A		
'71.4	Definitions.		[B]	**Amended Definition:** Consignment means each shipment of a package or groups of packages or load of radioactive material offered by a shipper for transport.			

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'71.4	Definitions.		D	**Amended Definition:** Containment system	N/A		
'71.4	Definitions.		[B]	**Amended Definition:** Conveyance means: (1) For transport by public highway or rail any transport vehicle or large freight container; (2) For transport by water any vessel, or any hold, compartment, or defined deck area of a vessel including any transport vehicle on board the vessel; and (3) For transport by any aircraft.			
'71.4	Definitions.		[B]	**Amended Definition:** Criticality Safety Index (CSI) means the dimensionless number (rounded up to the next tenth) assigned to and placed on the label of a fissile material package, to designate the degree of control of accumulation of packages containing fissile material during transportation. Determination of the criticality safety index is described in '' 71.22, 71.23, and 71.59.			
'71.4	Definitions.		[B]	**Amended Definition:** Deuterium means, for the purposes of '' 71.15 and 71.22, deuterium and any deuterium compounds,			

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				including heavy water, in which the ratio of deuterium atoms to hydrogen atoms exceeds 1:5000.			
' 71.4	Definitions.		D	**Amended Definition:** DOT	N/A		
' 71.4	Definitions.		[B]	**Amended Definition:** Exclusive use means the sole use by a single consignor of a conveyance for which all initial, intermediate, and final loading and unloading are carried out in accordance with the direction of the consignor or consignee. The consignor and the carrier must ensure that any loading or unloading is performed by personnel having radiological training and resources appropriate for safe handling of the consignment. The consignor must issue specific instructions, in writing, for maintenance of exclusive use shipment controls, and include them with the shipping paper information provided to the carrier by the consignor.			
' 71.4	Definitions.		[B]	**Amended Definition:** Fissile material means the radionuclides uranium-233, uranium-235, plutonium-239, and plutonium-241, or any combination of these			

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				radionuclides. Fissile material means the fissile nuclides themselves, not material containing fissile nuclides. Unirradiated natural uranium and depleted uranium and natural uranium or depleted uranium that has been irradiated in thermal reactors only, are not included in this definition. Certain exclusions from fissile material controls are provided in ' 71.15.			
'71.4	Definitions.		[B]	**Amended Definition:** Graphite means, for the purposes of '' 71.15 and 71.22, graphite with a boron equivalent content less than 5 parts per million and density greater than 1.5 grams per cubic centimeter.			
'71.4	Definitions.		[D]	**Amended Definition:** Licensed material	N/A		
'71.4	Definitions.		[B]	**Amended Definition:** Low Specific Activity (LSA) material means radioactive material with limited specific activity which is nonfissile or is excepted under ' 71.15, and which satisfies the descriptions and limits set forth below. Shielding materials surrounding the LSA material may not be considered in determining the			

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				estimated average specific activity of the package contents. LSA material must be in one of three groups: (1) LSACI. (i) Uranium and thorium ores, concentrates of uranium and thorium ores, and other ores containing naturally occurring radioactive radionuclides which are not intended to be processed for the use of these radionuclides; (ii) Solid unirradiated natural uranium or depleted uranium or natural thorium or their solid or liquid compounds or mixtures; (iii) Radioactive material for which the A2 value is unlimited; or (iv) Other radioactive material in which the activity is distributed throughout and the estimated average specific activity does not exceed 30 times the value for exempt material activity concentration determined in accordance with Appendix A. (2) LSACII. (i) Water with tritium concentration up to 0.8 TBq/liter (20.0 Ci/liter); or (ii) Other material in which the activity is distributed throughout and the average specific activity does not			

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				exceed 10-4 A2/g for solids and gases, and 10-5A2/g for liquids.(3) LSACIII. Solids (e.g., consolidated wastes, activated materials), excluding powders, that satisfy the requirements of ' 71.77, in which: (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.); (ii) The radioactive material is relatively insoluble, or it is intrinsically contained in a relatively insoluble material, so that even under loss of packaging, the loss of radioactive material per package by leaching, when placed in water for 7 days, would not exceed 0.1 A2; and (iii) The estimated average specific activity of the solid does not exceed 2 H 10-3 A2/g.			
'71.4	Definitions.		[B]	**Amended Definition:** Low toxicity alpha emitters means natural uranium, depleted uranium, natural thorium; uranium-235, uranium- 238, thorium-232, thorium-228 or thorium-230	N/A		

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				when contained in ores or physical or chemical concentrates or tailings; or alpha emitters with a halflife of less than 10 days.			
'71.4	Definitions.		D	**Amended Definition:** Maximum normal operating pressure	N/A		
'71.4	Definitions.		[B]	**Amended Definition:** Natural thorium means thorium with the naturally occurring distribution of thorium isotopes (essentially 100 weight percent thorium-232).			
'71.4	Definitions.		[B]	**Amended Definition:** Normal form radioactive material means radioactive material that has not been demonstrated to qualify as >>special form radioactive material.==			
'71.4	Definitions.		D	**Amended Definition:** Optimum interspersed hydrogenous moderation	N/A		
'71.4	Definitions.		[B]	**Amended Definition:** Package means the packaging together with its radioactive contents as presented for transport. (1) Fissile material package or Type AF package, Type BF package, Type B(U)F			

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				package, or Type B(M)F package means a fissile material packaging together with its fissile material contents. (2) Type A package means a Type A packaging together with its radioactive contents. A Type A package is defined and must comply with the DOT regulations in 49 CFR part 173. (3) Type B package means a Type B packaging together with its radioactive contents. On approval, a Type B package design is designated by NRC as B(U) unless the package has a maximum normal operating pressure of more than 700 kPa (100 lbs/in2) gauge or a pressure relief device that would allow the release of radioactive material to the environment under the tests specified in ' 71.73 (hypothetical accident conditions), in which case it will receive a designation B(M). B(U) refers to the need for unilateral approval of international shipments; B(M) refers to the need for multilateral approval of international shipments. There is no distinction made in how packages with these designations may be used in			

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				domestic transportation. To determine their distinction for international transportation, see DOT regulations in 49 CFR Part 173. A Type B package approved before September 6, 1983, was designated only as Type B. Limitations on its use are specified in ' 71.19.			
'71.4	Definitions.		[B]	**Amended Definition:** Packaging means the assembly of components necessary to ensure compliance with the packaging requirements of this part. It may consist of one or more receptacles, absorbent materials, spacing structures, thermal insulation, radiation shielding, and devices for cooling or absorbing mechanical shocks. The vehicle, tiedown system, and auxiliary equipment may be designated as part of the packaging.			
'71.4	Definitions.		[B]	**Amended Definition:** Special form radioactive material means radioactive material that satisfies the following conditions: (1) It is either a single solid piece or is contained in a sealed capsule that can be opened only by destroying the			

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				capsule; (2) The piece or capsule has at least one dimension not less than 5 mm (0.2 in); and (3) It satisfies the requirements of ' 71.75. A special form encapsulation designed in accordance with the requirements of ' 71.4 in effect on June 30, 1983 (see 10 CFR part 71, revised as of January 1, 1983), and constructed before July 1, 1985, and a special form encapsulation designed in accordance with the requirements of ' 71.4 in effect on March 31, 1996 (see 10 CFR part 71, revised as of January 1, 1983), and constructed before April 1, 1998, may continue to be used. Any other special form encapsulation must meet the specifications of this definition.			
'71.4	Definitions.		[B]	**Amended Definition:** Specific activity of a radionuclide means the radioactivity of the radionuclide per unit mass of that nuclide. The specific activity of a material in which the radionuclide is essentially uniformly distributed is the radioactivity per unit mass of the material.			
'71.4	Definitions.		D	**Amended Definition:**	N/A		

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				Spent nuclear fuel or Spent fuel			
' 71.4	Definitions.		D	**Amended Definition:** State	N/A		
' 71.4	Definitions.		[B]	**Amended Definition:** Surface Contaminated Object (SCO) means a solid object that is not itself classed as radioactive material, but which has radioactive material distributed on any of its surfaces. SCO must be in one of two groups with surface activity not exceeding the following limits: (1) SCOBI: A solid object on which: (i) The nonfixed contamination on the accessible surface averaged over 300 Cm2 (or the area of the surface if less than 300 Cm2) does not exceed 4 Bq/Cm2 (10-4 microcurie/Cm2) for beta and gamma and low toxicity alpha emitters, or 0.4 Bq/Cm2 (10-5 microcurie/Cm2) for all other alpha emitters; (ii) The fixed contamination on the accessible surface averaged over 300 Cm2 (or the area of the surface if less than 300 Cm2) does not exceed 4 H 10-4 Bq/Cm2 (1.0 microcurie/Cm2) for beta and gamma and low toxicity alpha			

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				emitters, or 4 H 103 Bq/Cm2 (0.1 microcurie/Cm2) for all other alpha emitters; and (iii) The nonfixed contamination plus the fixed contamination on the inaccessible surface averaged over 300 Cm2 (or the area of the surface if less than 300 Cm2) does not exceed 4 H 104 Bq/Cm2 (1 microcurie/Cm2) for beta and gamma and low toxicity alpha emitters, or 4 H 103 Bq/Cm2 (0.1 microcurie/Cm2) for all other alpha emitters. (2) SCOBII: A solid object on which the limits for SCOBI are exceeded and on which: (i) The nonfixed contamination on the accessible surface averaged over 300 Cm2 (or the area of the surface if less than 300 Cm2) does not exceed 400 Bq/Cm2 (10-2 microcurie/Cm2) for beta and gamma and low toxicity alpha emitters or 40 Bq/Cm2 (10-3 microcurie/Cm2) for all other alpha emitters; (ii) The fixed contamination on the accessible surface averaged over 300 Cm2 (or the area of the surface if less than 300 Cm2) does not exceed 8 H 105 Bq/Cm2 (20 microcuries/Cm2) for beta and gamma and low toxicity alpha			

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				emitters, or 8 H 104 Bq/Cm2 (2 microcuries/Cm2) for all other alpha emitters; and (iii) The nonfixed contamination plus the fixed contamination on the inaccessible surface averaged over 300 Cm2 (or the area of the surface if less than 300 2) does not exceed 8 H 105 Bq/ Cm2 (20 microcuries/Cm2) for beta and gamma and low toxicity alpha emitters, or 8 H 104 Bq/Cm2 (2 microcuries/Cm2) for all other alpha emitters.			
' 71.4	Definitions.		[B]	**Amended Definition:** Transport index (TI) means the dimensionless number (rounded up to the next tenth) placed on the label of a package, to designate the degree of control to be exercised by the carrier during transportation. The transport index is the number determined by multiplying the maximum radiation level in millisievert (mSv) per hour at 1 meter (3.3 ft) from the external surface of the package by 100 (equivalent to the maximum radiation level in millirem per hour at 1 meter (3.3 ft)).			

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' 71.4	Definitions.		[B]	**Amended Definition:** Type A quantity means a quantity of radioactive material, the aggregate radioactivity of which does not exceed A1 for special form radioactive material, or A2, for normal form radioactive material, where A1 and A2 are given in Table AB1 of this part, or may be determined by procedures described in Appendix A of this part.			
' 71.4	Definitions.		[B]	**Amended Definition:** Type B quantity means a quantity of radioactive material greater than a Type A quantity.			
' 71.4	Definitions.		[B]	**Amended Definition:** Unirradiated uranium means uranium containing not more than 2 H 103 Bq of plutonium per gram of uranium-235, not more than 9 H 106 Bq of fission products per gram of uranium-235, and not more than 5 H 10-3 g of uranium-236 per gram of uranium-235.			
' 71.4	Definitions.		[B]	**Amended Definition:** UraniumCnatural, depleted, enriched: (1) Natural uranium means uranium with the naturally			

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				occurring distribution of uranium isotopes (approximately 0.711 weight percent uranium-235 and the remainder by weight essentially uranium-238). (2) Depleted uranium means uranium containing less uranium-235 than the naturally occurring distribution of uranium isotopes. (3) Enriched uranium means uranium containing more uranium-235 than the naturally occurring distribution of uranium isotopes.			
' 71.5	Transportation of licensed material.		[B]	**Amended Section:** (a) Each licensee who transports licensed material outside the site of usage, as specified in the NRC license, or where transport is on public highways, or who delivers licensed material to a carrier for transport, shall comply with the applicable requirements of the DOT regulations in 49 CFR parts 107, 171 through 180, and 390 through 397, appropriate to the mode of transport. (1) The licensee shall particularly note DOT regulations in the following areas: (i) Packaging--49 CFR part 173: subparts A, B, and I. (ii) Marking and labeling--49 CFR part 172: subpart D; and			

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				Sec. Sec. 172.400 through 172.407 and Sec. Sec. 172.436 through 172.441 of subpart E. (iii) Placarding--49 CFR part 172: subpart F, especially Sec. Sec. 172.500 through 172.519 and 172.556; and appendices B and C. (iv) Accident reporting--49 CFR part 171: Sec. Sec. 171.15 and 171.16. (v) Shipping papers and emergency information--49 CFR part 172: subparts C and G. (vi) Hazardous material employee training--49 CFR part 172: subpart H. (vii) Security plans--49 CFR part 172: subpart I. (viii) Hazardous material shipper/carrier registration--49 CFR part 107: subpart G. (2) The licensee shall also note DOT regulations pertaining to the following modes of transportation: (i) Rail--49 CFR part 174: subparts A through D and K. (ii) Air--49 CFR part 175. (iii) Vessel--49 CFR part 176: subparts A through F and M. (iv) Public Highway--49 CFR part 177 and parts 390 through 397. (b) If DOT regulations are not applicable to a shipment of licensed material, the licensee shall conform to the standards and requirements of the DOT specified in paragraph (a) of			

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				this section to the same extent as if the shipment or transportation were subject to DOT regulations. A request for modification, waiver, or exemption from those requirements, and any notification referred to in those requirements, must be filed with, or made to, the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555B0001.			
'71.6	Information collection requirements: OMB approval.		D	N/A	N/A		
'71.7	Completeness and accuracy of information		D	N/A	N/A		
'71.8	Deliberate misconduct.		C	**Amended Section:** (a) This section applies to anyC (1) Licensee; (2) Certificate holder; (3) Quality assurance program approval holder; (4) Applicant for a license, certificate, or quality assurance program approval; (5) Contractor (including a supplier or consultant) or subcontractor, to any person			

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				identified in paragraph (a)(4) of this section; or (6) Employees of any person identified in paragraphs (a)(1) through (a)(5) of this section. (b) A person identified in paragraph (a) of this section who knowingly provides to any entity, listed in paragraphs (a)(1) through (a)(5) of this section, any components, materials, or other goods or services that relate to a licensee=s, certificate holder=s, quality assurance program approval holder=s, or applicant=s activities subject to this part may not: (1) Engage in deliberate misconduct that causes or would have caused, if not detected, a licensee, certificate holder, quality assurance program approval holder, or any applicant to be in violation of any rule, regulation, or order; or any term, condition or limitation of any license, certificate, or approval issued by the Commission; or (2) Deliberately submit to the NRC, a licensee, a certificate holder, quality assurance program approval holder, an applicant for a license, certificate or quality assurance			

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				program approval, or a licensee=s, applicant=s, certificate holder=s, or quality assurance program approval holder=s contractor or subcontractor, information that the person submitting the information knows to be incomplete or inaccurate in some respect material to the NRC. (c) A person who violates paragraph (b)(1) or (b)(2) of this section may be subject to enforcement action in accordance with the procedures in 10 CFR part 2, subpart B. (d) For the purposes of paragraph (b)(1) of this section, deliberate misconduct by a person means an intentional act or omission that the person knows:(1) Would cause a licensee, certificate holder, quality assurance program approval holder, or applicant for a license, certificate, or quality assurance program approval to be in violation of any rule, regulation, or order; or any term, condition, or limitation of any license or certificate issued by the Commission; or (2) Constitutes a violation of a			

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				requirement, procedure, instruction, contract, purchase order, or policy of a licensee, certificate holder, quality assurance program approval holder, applicant, or the contractor or subcontractor of any of them.			
'71.9	Employee protection.		D	N/A	N/A		
'71.10	Public inspection of application		D	N/A	N/A		
'71.11				[Reserved]			
'71.12	Specific exemptions.		D	N/A	N/A		
'71.13	Exemption of physicians.		[B]	**Amended Section:** Any physician licensed by a State to dispense drugs in the practice of medicine is exempt from ' 71.5 with respect to transport by the physician of licensed material for use in the practice of medicine. However, any physician operating under this exemption must be licensed under 10 CFR part 35 or the equivalent Agreement State regulations.			
'71.14 (a)	Exemption for low-level materials.		[B]	**Amended Paragraph:** (a) A licensee is exempt from all the requirements of this part with respect to shipment			

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				or carriage of the following low-level materials: (1) Natural material and ores containing naturally occurring radionuclides that are not intended to be processed for use of these radionuclides, provided the activity concentration of the material does not exceed 10 times the values specified in Appendix A, Table AB2, of this part. (2) Materials for which the activity concentration is not greater than the activity concentration values specified in Appendix A, Table AB2 of this part, or for which the consignment activity is not greater than the limit for an exempt consignment found in Appendix A, Table AB2, of this part.			
' 71.14 (b)	Exemption for low-level materials.		NRC	**Amended Paragraph:** (b) A licensee is exempt from all the requirements of this part, other than ' ' 71.5 and 71.88, with respect to shipment or carriage of the following packages, provided the packages do not contain any fissile material, or the			

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				material is exempt from classification as fissile material under ' 71.15: (1) A package that contains no more than a Type A quantity of radioactive material; (2) A package transported within the United States that contains no more than 0.74 TBq (20 Ci) of special form plutonium-244; or (3) The package contains only LSA or SCO radioactive material, providedC (i) That the LSA or SCO material has an external radiation dose of less than or equal to 10 mSv/h (1 rem/h), at a distance of 3 m from the unshielded material; or (ii) That the package contains only LSABI or SCOBI material.			
'71.15	Exemption from classification as fissile material.		[B]	**Amended Paragraph:** Fissile material meeting the requirements of at least one of the paragraphs (a) through (f) of this section are exempt from classification as fissile material and from the fissile material package standards of ' ' 71.55 and 71.59, but are			

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				subject to all other requirements of this part, except as noted. (a) Individual package containing 2 grams or less fissile material. (b) Individual or bulk packaging containing 15 grams or less of fissile material provided the package has at least 200 grams of solid nonfissile material for every gram of fissile material. Lead, beryllium, graphite, and hydrogenous material enriched in deuterium may be present in the package but must not be included in determining the required mass for solid nonfissile material. (c)(1) Low concentrations of solid fissile material commingled with solid nonfissile material, provided that: (i) There is at least 2000 grams of solid nonfissile material for every gram of fissile material, and (ii) There is no more than 180 grams of fissile material distributed within 360 kg of contiguous nonfissile material. (2) Lead, beryllium, graphite, and hydrogenous material enriched in deuterium may be present in the package but			

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				must not be included in determining the required mass of solid nonfissile material. (d) Uranium enriched in uranium-235 to a maximum of 1 percent by weight, and with total plutonium and uranium-233 content of up to 1 percent of the mass of uranium-235, provided that the mass of any beryllium, graphite, and hydrogenous material enriched in deuterium constitutes less than 5 percent of the uranium mass. (e) Liquid solutions of uranyl nitrate enriched in uranium-235 to a maximum of 2 percent by mass, with a total plutonium and uranium-233 content not exceeding 0.002 percent of the mass of uranium, and with a minimum nitrogen to uranium atomic ratio (N/U) of 2. The material must be contained in at least a DOT Type A package. (f) Packages containing, individually, a total plutonium mass of not more than 1000 grams, of which not more than 20 percent by mass may consist of plutonium-239, plutonium-241, or any combination of these			

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				radionuclides.			
' 71.16				[Reserved]			
' 71.17	General license: NRC-approved package.		[B]	(a) A general license is issued to any licensee of the Commission to transport, or to deliver to a carrier for transport, licensed material in a package for which a license, certificate of compliance (CoC), or other approval has been issued by the NRC. (b) This general license applies only to a licensee who has a quality assurance program approved by the Commission as satisfying the provisions of subpart H of this part. (c) This general license applies only to a licensee whoC (1) Has a copy of the CoC, or other approval of the package, and has the drawings and other documents referenced in the approval relating to the use and maintenance of the packaging and to the actions to be taken before shipment; (2) Complies with the terms and conditions of the license, certificate, or other approval, as applicable, and the applicable requirements of			

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				subparts A, G, and H of this part; and (3) Before the licensee=s first use of the package, submits in writing to: ATTN: Document Control Desk, Director, Spent Fuel Project Office, Office of Nuclear Material Safety and Safeguards, using an appropriate method listed in ' 71.1(a), the licensee=s name and license number and the package identification number specified in the package approval. (d) This general license applies only when the package approval authorizes use of the package under this general license. (e) For a Type B or fissile material package, the design of which was approved by NRC before April 1, 1996, the general license is subject to the additional restrictions of ' 71.19.			
' 71.18				[Reserved]			
' 71.20	General license: DOT specification container.		[B]	**Amended Section:** (a) A general license is issued to any licensee of the Commission to transport, or to deliver to a carrier for transport, licensed material in a specification container for			

Change to NRC Section	Title	State Section	Compatibility Category	Summary of Change To CFR	Difference Yes/No	Significant Yes/No	If a Difference, Why Or Why Not was a Comment Generated?
				fissile material or for a Type B quantity of radioactive material as specified in DOT regulations at 49 CFR parts 173 and 178. (b) This general license applies only to a licensee who has a quality assurance program approved by the Commission as satisfying the provisions of subpart H of this part. (c) This general license applies only to a licensee whoC (1) Has a copy of the specification; and (2) Complies with the terms and conditions of the specification and the applicable requirements of subparts A, G, and H of this part. (d) This general license is subject to the limitation that the specification container may not be used for a shipment to a location outside the United States, except by multilateral approval, as defined in DOT regulations at 49 CFR 173.403. (e) This section expires October 1, 2008.			

Change to NRC Section	Title	State Section	Compatibility Category	Summary of Change To CFR	Difference Yes/No	Significant Yes/No	If a Difference, Why Or Why Not was a Comment Generated?
' 71.21	General license: Use of foreign approved package.		[B]	**Amended Paragraph:** (a) A general license is issued to any licensee of the Commission to transport, or to deliver to a carrier for transport, licensed material in a package, the design of which has been approved in a foreign national competent authority certificate, that has been revalidated by DOT as meeting the applicable requirements of 49 CFR 171.12. (b) Except as otherwise provided in this section, the general license applies only to a licensee who has a quality assurance program approved by the Commission as satisfying the applicable provisions of subpart H of this part. (c) This general license applies only to shipments made to or from locations outside the United States. (d) This general license applies only to a licensee whoC (1) Has a copy of the applicable certificate, the revalidation, and the drawings and other documents			

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				referenced in the certificate, relating to the use and maintenance of the packaging and to the actions to be taken before shipment; and (2) Complies with the terms and conditions of the certificate and revalidation, and with the applicable requirements of subparts A, G, and H of this part. With respect to the quality assurance provisions of subpart H of this part, the licensee is exempt from design, construction, and fabrication considerations.			
' 71.22	General license: Fissile material.		[B]	**Amended Section: REFERENCE 10CFR71 for Tables 71-1 and 71-2** (a) A general license is issued to any licensee of the Commission to transport fissile material, or to deliver fissile material to a carrier for transport, if the material is shipped in accordance with this section. The fissile material need not be contained in a package which meets the standards of subparts E and F of this part; however, the material must be contained in a Type A package. The Type A package must also meet the DOT requirements of 49 CFR			

Change to NRC Section	Title	State Section	Compatibility Category	Summary of Change To CFR	Difference Yes/No	Significant Yes/No	If a Difference, Why Or Why Not was a Comment Generated?
				173.417(a). (b) The general license applies only to a licensee who has a quality assurance program approved by the Commission as satisfying the provisions of subpart H of this part. (c) The general license applies only when a package=s contents: (1) Contain less than a Type A quantity of fissile material; and (2) Contain less than 500 total grams of beryllium, graphite, or hydrogenous material enriched in deuterium. (d) The general license applies only to packages containing fissile material that are labeled with a CSI which: (1) Has been determined in accordance with paragraph (e) of this section;(2) Has a value less than or equal to 10; and (3) For a shipment of multiple packages containing fissile material, the sum of the CSIs must be less than or equal to 50 (for shipment on a nonexclusive use conveyance) and less than or equal to 100 (for shipment on an exclusive use conveyance). (e)(1) The value for the CSI			

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				must be greater than or equal to the number calculated by the following equation: $CSI = 10\left[\frac{\text{grams of } ^{235}U}{X} + \frac{\text{grams of } ^{233}U}{Y} + \frac{\text{grams of Pu}}{Z}\right]$ (2) The calculated CSI must be rounded up to the first decimal place; (3) The values of X, Y, and Z used in the CSI equation must be taken from Tables 71B1 or 71B2, as appropriate; (4) If Table 71B2 is used to obtain the value of X, then the values for the terms in the equation for uranium-233 and plutonium must be assumed to be zero; and (5) Table 71B1 values for X, Y, and Z must be used to determine the CSI if: (i) Uranium-233 is present in the package; (ii) The mass of plutonium exceeds 1 percent of the mass of uranium-235; (iii) The uranium is of unknown uranium-235 enrichment or greater than 24 weight percent enrichment; or (iv) Substances having a moderating effectiveness (i.e., an average hydrogen density greater than H2O) (e.g., certain hydrocarbon oils or plastics) are present in any			

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				form, except as polyethylene used for packing or wrapping.			
' 71.23	General license: Plutonium beryllium special form material.		[B]	**Amended Paragraph:** (a) A general license is issued to any licensee of the Commission to transport fissile material in the form of plutonium-beryllium (Pu-Be) special form sealed sources, or to deliver Pu-Be sealed sources to a carrier for transport, if the material is shipped in accordance with this section. This material need not be contained in a package which meets the standards of subparts E and F of this part; however, the material must be contained in a Type A package. The Type A package must also meet the DOT requirements of 49 CFR 173.417(a). (b) The general license applies only to a licensee who has a quality assurance program approved by the Commission as satisfying the provisions of subpart H of this part. (c) The general license applies only when a package=s contents: (1) Contain less than a Type A quantity of material; and (2) Contain less than 1000 g of			

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				plutonium, provided that: plutonium-239, plutonium-241, or any combination of these radionuclides, constitutes less than 240 g of the total quantity of plutonium in the package. (d) The general license applies only to packages labeled with a CSI which: (1) Has been determined in accordance with paragraph (e) of this section; (2) Has a value less than or equal to 100; and (3) For a shipment of multiple packages containing Pu-Be sealed sources, the sum of the CSIs must be less than or equal to 50 (for shipment on a nonexclusive use conveyance) and less than or equal to 100 (for shipment on an exclusive use conveyance). (e)(1) The value for the CSI must be greater than or equal to the number calculated by the following equation: $CSI = 10\left[\frac{\text{grams of } ^{239}Pu + \text{grams of } ^{241}Pu}{24}\right];$ and (2) The calculated CSI must be rounded up to the first decimal place.			

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' 71.24				[Reserved]			
' 71.25				[Reserved]			
' 71.47	External radiation standards for all packages		[B]	**Amended Paragraph:** (a) Except as provided in paragraph (b) of this section, each package of radioactive materials offered for transportation must be designed and prepared for shipment so that under conditions normally incident to transportation the radiation level does not exceed 2 mSv/h (200 mrem/h) at any point on the external surface of the package, and the transport index does not exceed 10. (b) A package that exceeds the radiation level limits specified in paragraph (a) of this section must be transported by exclusive use shipment only, and the radiation levels for such shipment must not exceed the following during transportation: (1) 2 mSv/h (200 mrem/h) on the external surface of the package, unless the following conditions are met, in which case the limit is 10 mSv/h (1000 mrem/h): (i) The shipment is made in a closed transport vehicle; (ii) The package is secured			

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				within the vehicle so that its position remains fixed during transportation; and (iii) There are no loading or unloading operations between the beginning and end of the transportation;(2) 2 mSv/h (200 mrem/h) at any point on the outer surface of the vehicle, including the top and underside of the vehicle; or in the case of a flat-bed style vehicle, at any point on the vertical planes projected from the outer edges of the vehicle, on the upper surface of the load or enclosure, if used, and on the lower external surface of the vehicle; and (3) 0.1 mSv/h (10 mrem/h) at any point 2 meters (80 in) from the outer lateral surfaces of the vehicle (excluding the top and underside of the vehicle); or in the case of a flat-bed style vehicle, at any point 2 meters (6.6 feet) from the vertical planes projected by the outer edges of the vehicle (excluding the top and underside of the vehicle); and (4) 0.02 mSv/h (2 mrem/h) in any normally occupied space, except that this provision does not apply to private carriers, if exposed personnel under their control wear radiation dosimetry devices in			

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				conformance with 10 CFR 20.1502. (c) For shipments made under the provisions of paragraph (b) of this section, the shipper shall provide specific written instructions to the carrier for maintenance of the exclusive use shipment controls. The instructions must be included with the shipping paper information. (d) The written instructions required for exclusive use shipments must be sufficient so that, when followed, they will cause the carrier to avoid actions that will unnecessarily delay delivery or unnecessarily result in increased radiation levels or radiation exposures to transport workers or members of the general public.			
' 71.53				[Reserved]			
' 71.81	Applicability of operating controls and procedures.		D	N/A	N/A		
' 71.83	Assumptions as to unknown properties.		[B]	**Amended Section:** When the isotopic abundance, mass, concentration, degree of irradiation, degree of moderation, or other pertinent			

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				property of fissile material in any package is not known, the licensee shall package the fissile material as if the unknown properties have credible values that will cause the maximum neutron multiplication.			
' 71.85	Preliminary determinations.		[B]	**Amended Section:** Before the first use of any packaging for the shipment of licensed material -- (a) The licensee shall ascertain that there are no cracks, pinholes, uncontrolled voids, or other defects that could significantly reduce the effectiveness of the packaging; (b) Where the maximum normal operating pressure will exceed 35 kPa (5 lbf/in^2) gauge, the licensee shall test the containment system at an internal pressure at least 50 percent higher than the maximum normal operating pressure, to verify the capability of that system to maintain its structural integrity at that pressure; and (c) The licensee shall conspicuously and durably mark the packaging with its model number, serial number,			

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				gross weight, and a package identification number assigned by NRC. Before applying the model number, the licensee shall determine that the packaging has been fabricated in accordance with the design approved by the Commission.			
' 71.87	Routine determinations.		[B]	**Amended Section:** Before each shipment of licensed material, the licensee shall ensure that the package with its contents satisfies the applicable requirements of this part and of the license. The licensee shall determine that -- (a) The package is proper for the contents to be shipped; (b) The package is in unimpaired physical condition except for superficial defects such as marks or dents; (c) Each closure device of the packaging, including any required gasket, is properly installed and secured and free of defects; (d) Any system for containing liquid is adequately sealed and has adequate space or other specified provision for expansion of the liquid; (e) Any pressure relief device is operable and set in			

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				accordance with written procedures; (f) The package has been loaded and closed in accordance with written procedures; (g) For fissile material, any moderator or neutron absorber, if required, is present and in proper condition; (h) Any structural part of the package that could be used to lift or tie down the package during transport is rendered inoperable for that purpose, unless it satisfies the design requirements of ' 71.45; (i) The level of non-fixed (removable) radioactive contamination on the external surfaces of each package offered for shipment is as low as reasonably achievable, and within the limits specified in DOT regulations in 49 CFR 173.443; (j) External radiation levels around the package and around the vehicle, if applicable, will not exceed the limits specified in ' 71.47 at any time during transportation;			

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				and (k) Accessible package surface temperatures will not exceed the limits specified in ' 71.43(g) at any time during transportation.			
' 71.88	Air transport of plutonium.		[B]	**Amended Section:** (a) Notwithstanding the provisions of any general licenses and notwithstanding any exemptions stated directly in this part or included indirectly by citation of 49 CFR chapter I, as may be applicable, the licensee shall assure that plutonium in any form, whether for import, export, or domestic shipment, is not transported by air or delivered to a carrier for air transport unless: (1) The plutonium is contained in a medical device designed for individual human application; or (2) The plutonium is contained in a material in which the specific activity is less than or equal to the activity concentration values for plutonium specified in Appendix A, Table A-2, of this part, and in which the radioactivity is essentially uniformly distributed; or (3) The plutonium is shipped in			

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				a single package containing no more than an A_2 quantity of plutonium in any isotope or form, and is shipped in accordance with ' 71.5; or (4) The plutonium is shipped in a package specifically authorized for the shipment of plutonium by air in the Certificate of Compliance for that package issued by the Commission. (b) Nothing in paragraph (a) of this section is to be interpreted as removing or diminishing the requirements of ' 73.24 of this chapter. (c) For a shipment of plutonium by air which is subject to paragraph (a)(4) of this section, the licensee shall, through special arrangement with the carrier, require compliance with 49 CFR 175.704, U.S. Department of Transportation regulations applicable to the air transport of plutonium.			
'71.89	Opening instructions.		[B]	**Amended Section:** Before delivery of a package to a carrier for transport, the licensee shall ensure that any special instructions needed to safely open the package have been sent to, or otherwise			

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				made available to, the consignee for the consignee's use in accordance with 10 CFR 20.1906(e).			
' 71.91	Records.		D	N/A	N/A		
' 71.93	Inspection and tests.		D	N/A	N/A		
' 71.95	Reports.		D	N/A	N/A		
' 71.97	Advance notification of shipment of irradiated reactor fuel and nuclear waste.		B	**Amended Section:** (a) As specified in paragraphs (b), (c) and (d) of this section, each licensee shall provide advance notification to the governor of a State, or the governor's designee, of the shipment of licensed material, through, or across the boundary of the State, before the transport, or delivery to a carrier, for transport, of licensed material outside the confines of the licensee's plant or other place of use or storage. (b) Advance notification is required under this section for shipments of irradiated reactor fuel in quantities less than that subject to advance notification requirements of ' 73.37(f) of this chapter. Advance notification is also required under this section for shipment			

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				of licensed material, other than irradiated fuel, meeting the following three conditions: (1) The licensed material is required by this part to be in Type B packaging for transportation;(2) The licensed material is being transported to or across a State boundary en route to a disposal facility or to a collection point for transport to a disposal facility; and (3) The quantity of licensed material in a single package exceeds the least of the following: (i) 3000 times the A_1 value of the radionuclides as specified in appendix A, Table A-1 for special form radioactive material; (ii) 3000 times the A_2 value of the radionuclides as specified in appendix A, Table A-1 for normal form radioactive material; or (iii) 1000 TBq (27,000 Ci). (c) Procedures for submitting advance notification. (1) The notification must be made in writing to the office of each appropriate governor or governor's designee and to the Director, Division of Nuclear Security, Office of Nuclear Security and Incident			

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				Response. (2) A notification delivered by mail must be postmarked at least 7 days before the beginning of the 7-day period during which departure of the shipment is estimated to occur. (3) A notification delivered by any other means than mail must reach the office of the governor or of the governor's designee at least 4 days before the beginning of the 7-day period during which departure of the shipment is estimated to occur. (i) A list of the names and mailing addresses of the governors' designees receiving advance notification of transportation of nuclear waste was published in the Federal Register on June 30, 1995 (60 FR 34306). (ii) The list will be published annually in the Federal Register on or about June 30 to reflect any changes in information. (iii) A list of the names and mailing addresses of the governors' designees is available on request from the Director, Office of State Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.			

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				(4) The licensee shall retain a copy of the notification as a record for 3 years. (d) Information to be furnished in advance notification of shipment. Each advance notification of shipment of irradiated reactor fuel or nuclear waste must contain the following information: (1) The name, address, and telephone number of the shipper, carrier, and receiver of the irradiated reactor fuel or nuclear waste shipment; (2) A description of the irradiated reactor fuel or nuclear waste contained in the shipment, as specified in the regulations of DOT in 49 CFR 172.202 and 172.203(d); (3) The point of origin of the shipment and the 7-day period during which departure of the shipment is estimated to occur; (4) The 7-day period during which arrival of the shipment at State boundaries is estimated to occur; (5) The destination of the shipment, and the 7-day period during which arrival of the shipment is estimated to occur; and (6) A point of contact, with a telephone number, for current			

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				shipment information.			
' 71.00	Violations		D	N/A	N/A		
' 71.100	Criminal penalties.		D	N/A	N/A		
' 71.101 (a), (b), (c)(1)	Quality assurance requirements.		D for those States which have no users of Type B packages- other than Industrial Radiography C for those States which have users of Type B packages- other than Industrial Radiography.** **Note: 10 CFR Part 71.101 (g) indicates that QA programs for industrial radiography Type B Package users are covered by 10 CFR 34.31(b). It is also indicated that this	**Amended Paragraphs (a), (b)&(c)(1):** (a) Purpose. This subpart describes quality assurance requirements applying to design, purchase, fabrication, handling, shipping, storing, cleaning, assembly, inspection, testing, operation, maintenance, repair, and modification of components of packaging that are important to safety. As used in this subpart, >>quality assurance== comprises all those planned and systematic actions necessary to provide adequate confidence that a system or component will perform satisfactorily in service. Quality assurance includes quality control, which comprises those quality assurance actions related to control of the physical characteristics and quality of the material or component to predetermined requirements. The licensee, certificate holder, and applicant for a CoC are responsible for the			

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			section satisfies ' 71.12 (b) and thus would satisfy those sections referenced in this provision (' ' 71.101 through 71.137)	quality assurance requirements as they apply to design, fabrication, testing, and modification of packaging. Each licensee is responsible for the quality assurance provision which applies to its use of a packaging for the shipment of licensed material subject to this subpart. (b) Establishment of program. Each licensee, certificate holder, and applicant for a CoC shall establish, maintain, and execute a quality assurance program satisfying each of the applicable criteria of ' ' 71.101 through 71.137 and satisfying any specific provisions that are applicable to the licensee=s activities including procurement of packaging. The licensee, certificate holder, and applicant for a CoC shall execute the applicable criteria in a graded approach to an extent that is commensurate with the quality assurance requirement=s importance to safety. (c) Approval of program. (1) Before the use of any package for the shipment of licensed material subject to this subpart, each licensee shall obtain Commission approval of its quality			

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				assurance program. Using an appropriate method listed in ' 71.1(a), each licensee shall file a description of its quality assurance program, including a discussion of which requirements of this subpart are applicable and how they will be satisfied, by submitting the description to: ATTN: Document Control Desk, Director, Spent Fuel Project Office, Office of Nuclear Material Safety and Safeguards.			
' 71.101 (c)(2), (d)&(e)	Quality assurance requirements.		NRC	**Amended Paragraphs (c)(2), (d)&(e):** (c)(2) Before the fabrication, testing, or modification of any package for the shipment of licensed material subject to this subpart, each licensee, certificate holder, or applicant for a CoC shall obtain Commission approval of its quality assurance program. Each certificate holder or applicant for a CoC shall, in accordance with ' 71.1, file a description of its quality assurance program, including a discussion of which requirements of this subpart are applicable and how they will be satisfied. (d) Existing package designs. The provisions of this			

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				paragraph deal with packages that have been approved for use in accordance with this part before January 1, 1979, and which have been designed in accordance with the provisions of this part in effect at the time of application for package approval. Those packages will be accepted as having been designed in accordance with a quality assurance program that satisfies the provisions of paragraph (b) of this section. (e) Existing packages. The provisions of this paragraph deal with packages that have been approved for use in accordance with this part before January 1, 1979, have been at least partially fabricated before that date, and for which the fabrication is in accordance with the provisions of this part in effect at the time of application for approval of package design. These packages will be accepted as having been fabricated and assembled in accordance with a quality assurance program that satisfies the provisions of paragraph (b) of this section.			
' 71.101 (f)	Quality assurance		D	**Amended Paragraph (f):** (f) Previously approved	N/A		

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	requirements.			programs. A Commission-approved quality assurance program that satisfies the applicable criteria of subpart H of this part, Appendix B of part 50 of this chapter, or subpart G of part 72 of this chapter, and that is established, maintained, and executed regarding transport packages, will be accepted as satisfying the requirements of paragraph (b) of this section. Before first use, the licensee, certificate holder, and applicant for a CoC shall notify the NRC, in accordance with ' 71.1, of its intent to apply its previously approved subpart H, Appendix B, or subpart G quality assurance program to transportation activities. The licensee, certificate holder, and applicant for a CoC shall identify the program by date of submittal to the Commission, Docket Number, and date of Commission approval.			
' 71.101 (g)	Quality assurance requirements.		C	**Amended Paragraph (g):** (g) Radiography containers. A program for transport container inspection and maintenance limited to radiographic exposure devices, source changers, or packages transporting these devices and meeting the			

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				requirements of ' 34.31(b) of this chapter or equivalent Agreement State requirement, is deemed to satisfy the requirements of ' ' 71.17(b) and 71.101(b).			
' 71.103 (a)	Quality assurance organization.		[C] for those States which have users of Type B packages- other than Industrial Radiography D otherwise **Note: 10 CFR Part 71.101 (g) indicates that QA programs for industrial radiography Type B package users are covered by 10 CFR 34.31 (b). It also indicated that this section satisfies ' 71.12 (b) and thus would satisfy those sections referenced in	**Amended Paragraph (a):** (a) The licensee[2] , certificate holder, and applicant for a CoC shall be responsible for the establishment and execution of the quality assurance program. The licensee, certificate holder, and applicant for a CoC may delegate to others, such as contractors, agents, or consultants, the work of establishing and executing the quality assurance program, or any part of the quality assurance program, but shall retain responsibility for the program. These activities include performing the functions associated with attaining quality objectives and the quality assurance functions. --- [2] While the term >>licensee== is used in these criteria, the requirements are applicable to whatever design, fabrication, assembly, and testing of the package is accomplished with			

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			this provision (' '71.101 through 71.137.)	respect to a package before the time a package approval is issued.			
'71.103 (b)	Quality assurance organization.		C for those States which have users of Type B packages- other than Industrial Radiography D otherwise	**Amended Paragraph (b):** (b) The quality assurance functions areC (1) Assuring that an appropriate quality assurance program is established and effectively executed; and (2) Verifying, by procedures such as checking, auditing, and inspection, that activities affecting the functions that are important to safety have been correctly performed.			
'71.103 (c), (d), (e)&(f)	Quality assurance organization.		D	**Amended Paragraphs (c), (d), (e)&(f):** (c) The persons and organizations performing quality assurance functions must have sufficient authority and organizational freedom toC (1) Identify quality problems; (2) Initiate, recommend, or provide solutions; and (3) Verify implementation of solutions. (d) The persons and organizations performing quality assurance functions shall report to a management level that assures that the	N/A		

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				required authority and organizational freedom, including sufficient independence from cost and schedule, when opposed to safety considerations, are provided. (e) Because of the many variables involved, such as the number of personnel, the type of activity being performed, and the location or locations where activities are performed, the organizational structure for executing the quality assurance program may take various forms, provided that the persons and organizations assigned the quality assurance functions have the required authority and organizational freedom. (f) Irrespective of the organizational structure, the individual(s) assigned the responsibility for assuring effective execution of any portion of the quality assurance program, at any location where activities subject to this section are being performed, must have direct access to the levels of management necessary to perform this function.			

Change to NRC Section	Title	State Section	Compatibility Category	Summary of Change To CFR	Difference Yes/No	Significant Yes/No	If a Difference, Why Or Why Not was a Comment Generated?
'71.105 (a), (c)&(d)	Quality assurance program.		C for those States which have users of Type B packages- other than Industrial Radiography** D otherwise **Note: 10 CFR Part 71.101 (g) indicates that QA programs for industrial radiography Type B package users are covered by 10 CFR 34.31 (b). It also indicated that this section satisfies '71.12 (b) and thus would satisfy those sections referenced in this provision ('' 71.101 through 71.137.)	**Amended Paragraphs (a), (c)&(d):** (a) The licensee, certificate holder, and applicant for a CoC shall establish, at the earliest practicable time consistent with the schedule for accomplishing the activities, a quality assurance program that complies with the requirements of '' 71.101 through 71.137. The licensee, certificate holder, and applicant for a CoC shall document the quality assurance program by written procedures or instructions and shall carry out the program in accordance with those procedures throughout the period during which the packaging is used. The licensee, certificate holder, and applicant for a CoC shall identify the material and components to be covered by the quality assurance program, the major organizations participating in the program, and the designated functions of these organizations.(c) The licensee, certificate holder, and applicant for a CoC shall base the requirements and procedures of its quality assurance program on the following considerations			

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				concerning the complexity and proposed use of the package and its components: (1) The impact of malfunction or failure of the item to safety; (2) The design and fabrication complexity or uniqueness of the item; (3) The need for special controls and surveillance over processes and equipment; (4) The degree to which functional compliance can be demonstrated by inspection or test; and (5) The quality history and degree of standardization of the item. (d) The licensee, certificate holder, and applicant for a CoC shall provide for indoctrination and training of personnel performing activities affecting quality, as necessary to assure that suitable proficiency is achieved and maintained. The licensee, certificate holder, and applicant for a CoC shall review the status and adequacy of the quality assurance program at established intervals. Management of other organizations participating in the quality assurance program shall review regularly the			

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				status and adequacy of that part of the quality assurance program they are executing.			
' 71.105 (b)	Quality assurance program.		[C]	**Amended Paragraph (b):** (b) The licensee, certificate holder, and applicant for a CoC, through its quality assurance program, shall provide control over activities affecting the quality of the identified materials and components to an extent consistent with their importance to safety, and as necessary to assure conformance to the approved design of each individual package used for the shipment of radioactive material. The licensee, certificate holder, and applicant for a CoC shall assure that activities affecting quality are accomplished under suitably controlled conditions. Controlled conditions include the use of appropriate equipment; suitable environmental conditions for accomplishing the activity, such as adequate cleanliness; and assurance that all prerequisites for the given activity have been satisfied. The licensee, certificate holder, and applicant for a CoC shall take			

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				into account the need for special controls, processes, test equipment, tools, and skills to attain the required quality, and the need for verification of quality by inspection and test.			
' 71.127	Handling, storage, and shipping control.		[C]- for those States which have users of Type B packages- other than Industrial Radiography** D otherwise **Note: 10 CFR Part 71.101 (g) indicates that QA programs for industrial radiography Type B package users are covered by 10 CFR 34.31 (b). It also indicated that this section satisfies ' 71.12 (b) and thus would satisfy those sections	**Amended Section:** The licensee, certificate holder, and applicant for a CoC shall establish measures to control, in accordance with instructions, the handling, storage, shipping, cleaning, and preservation of materials and equipment to be used in packaging to prevent damage or deterioration. When necessary for particular products, special protective environments, such as inert gas atmosphere, and specific moisture content and temperature levels must be specified and provided.			

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			referenced in this provision (' '71.101 through 71.137.)				
'71.129	Inspection, test, and operating status.		[C]- for those States which have users of Type B packages- other than Industrial Radiography** D otherwise **Note: 10 CFR Part 71.101 (g) indicates that QA programs for industrial radiography Type B package users are covered by 10 CFR 34.31 (b). It also indicated that this section satisfies '71.12 (b) and thus would satisfy those sections referenced in this provision	**Amended Section:** (a) The licensee, certificate holder, and applicant for a CoC shall establish measures to indicate, by the use of markings such as stamps, tags, labels, routing cards, or other suitable means, the status of inspections and tests performed upon individual items of the packaging. These measures must provide for the identification of items that have satisfactorily passed required inspections and tests, where necessary to preclude inadvertent bypassing of the inspections and tests. (b) The licensee shall establish measures to identify the operating status of components of the packaging, such as tagging valves and switches, to prevent inadvertent operation.			

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			(' '71.101 through 71.137.)				
'71.131	Nonconforming materials, parts, or components.		[C]- for those States which have users of Type B packages- other than Industrial Radiography** D otherwise **Note: 10 CFR Part 71.101 (g) indicates that QA programs for industrial radiography Type B package users are covered by 10 CFR 34.31 (b). It also indicated that this section satisfies '71.12 (b) and thus would satisfy those sections referenced in this provision (' '71.101 through	**Amended Section:** The licensee, certificate holder, and applicant for a CoC shall establish measures to control materials, parts, or components that do not conform to the licensee=s requirements to prevent their inadvertent use or installation. These measures must include, as appropriate, procedures for identification, documentation, segregation, disposition, and notification to affected organizations. Nonconforming items must be reviewed and accepted, rejected, repaired, or reworked in accordance with documented procedures.			

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			71.137.)				
' 71.133	Corrective action.		C- for those States which have users of Type B packages- other than Industrial Radiography** D otherwise **Note: 10 CFR Part 71.101 (g) indicates that QA programs for industrial radiography Type B package users are covered by 10 CFR 34.31 (b). It also indicated that this section satisfies ' 71.12 (b) and thus would satisfy those sections referenced in this provision (' ' 71.101 through 71.137.)	**Amended Section:** The licensee, certificate holder, and applicant for a CoC shall establish measures to assure that conditions adverse to quality, such as deficiencies, deviations, defective material and equipment, and nonconformances, are promptly identified and corrected. In the case of a significant condition adverse to quality, the measures must assure that the cause of the condition is determined and corrective action taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken must be documented and reported to appropriate levels of management.			

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' 71.135	Quality assurance records.		C- for those States which have users of Type B packages- other than Industrial Radiography** D otherwise **Note: 10 CFR Part 71.101 (g) indicates that QA programs for industrial radiography Type B package users are covered by 10 CFR 34.31 (b). It also indicated that this section satisfies ' 71.12 (b) and thus would satisfy those sections referenced in this provision (' ' 71.101 through 71.137.)	**Amended Section:** The licensee, certificate holder, and applicant for a CoC shall maintain sufficient written records to describe the activities affecting quality. The records must include the instructions, procedures, and drawings required by ' 71.111 to prescribe quality assurance activities and must include closely related specifications such as required qualifications of personnel, procedures, and equipment. The records must include the instructions or procedures which establish a records retention program that is consistent with applicable regulations and designates factors such as duration, location, and assigned responsibility. The licensee, certificate holder, and applicant for a CoC shall retain these records for 3 years beyond the date when the licensee, certificate holder, and applicant for a CoC last engage in the activity for which the quality assurance program was developed. If any portion of the written procedures or instructions is superseded, the licensee, certificate holder, and applicant for a CoC shall retain the superseded material for 3 years after it is			

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				superseded.			
' 71.137	Audits.		C - for those States which have users of Type B packages- other than Industrial Radiography** D otherwise **Note: 10 CFR Part 71.101 (g) indicates that QA programs for industrial radiography Type B package users are covered by 10 CFR 34.31 (b). It also indicated that this section satisfies ' 71.12 (b) and thus would satisfy those sections referenced in this provision (' ' 71.101 through 71.137.)	**Amended Section:** The licensee, certificate holder, and applicant for a CoC shall carry out a comprehensive system of planned and periodic audits to verify compliance with all aspects of the quality assurance program and to determine the effectiveness of the program. The audits must be performed in accordance with written procedures or checklists by appropriately trained personnel not having direct responsibilities in the areas being audited. Audited results must be documented and reviewed by management having responsibility in the area audited. Follow up action, including re-audit of deficient areas, must be taken where indicated.			
Appendi	Determination		[B]	**REFERENCE 10CFR71 FOR**			

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x A to Part 71	of A_1 and A_2			**TABLES A-1, A-2, A-3, and A-4** **Amended Appendix:** I. Values of A_1 and A_2 for individual radionuclides, which are the bases for many activity limits elsewhere in these regulations, are given in Table AB1. The curie (Ci) values specified are obtained by converting from the Terabecquerel (TBq) figure. The curie values are expressed to three significant figures to assure that the difference in the TBq and Ci quantities is one tenth of one percent or less. Where values of A_1 and A_2 are unlimited, it is for radiation control purposes only. For nuclear criticality safety, some materials are subject to controls placed on fissile material. II. a. For individual radionuclides whose identities are known, but which are not listed in Table AB1, the A_1 and A_2 values contained in Table AB3 may be used. Otherwise, the licensee shall obtain prior Commission approval of the A_1 and A_2 values for radionuclides not listed in Table AB1, before shipping the material. b. For individual radionuclides			

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				whose identities are known, but which are not listed in Table AB2, the exempt material activity concentration and exempt consignment activity values contained in Table AB3 may be used. Otherwise, the licensee shall obtain prior Commission approval of the exempt material activity concentration and exempt consignment activity values for radionuclides not listed in Table AB2, before shipping the material. c. The licensee shall submit requests for prior approval, described under paragraphs II.a. and II.b. of this Appendix, to the Commission, in accordance with ' 71.1 of this part.III. In the calculations of A_1 and A_2 for a radionuclide not in Table AB1, a single radioactive decay chain, in which radionuclides are present in their naturally occurring proportions, and in which no daughter radionuclide has a half-life either longer than 10 days, or longer than that of the parent radionuclide, shall be considered as a single radionuclide, and the activity to be taken into account, and the A_1 and A_2 value to be applied,			

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				shall be those corresponding to the parent radionuclide of that chain. In the case of radioactive decay chains in which any daughter radionuclide has a half-life either longer than 10 days, or greater than that of the parent radionuclide, the parent and those daughter radionuclides shall be considered as mixtures of different radionuclides. IV. For mixtures of radionuclides whose identities and respective activities are known, the following conditions apply: a. For special form radioactive material, the maximum quantity transported in a Type A package is as follows: $\sum_{l} \frac{B(i)}{A_1(i)} \leq 1$ where B(i) is the activity of radionuclide I, and $A_1(i)$ is the A_1 value for radionuclide I. b. For normal form radioactive material, the maximum quantity transported in a Type A package is as follows: $\sum_{l} \frac{B(i)}{A_2(i)} \leq 1$ where B(i) is the activity of			

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				radionuclide I, and $A_2(i)$ is the $A_2(i)$ value for radionuclide I. c. Alternatively, the A_1 value for mixtures of special form material may be determined as follows: $= \frac{1}{\sum_{l} \frac{f(i)}{A_1(i)}}$ A_1 for mixture where f(i) is the fraction of activity for radionuclide I in the mixture, and $A_1(i)$ is the appropriate A_1 value for radionuclide I.d. Alternatively, the A_2 value for mixtures of normal form material may be determined as follows: $= \frac{1}{\sum_{l} \frac{f(i)}{A_2(i)}}$ A_2 for mixture where f(i) is the fraction of activity for radionuclide I in the mixture, and $A_2(i)$ is the appropriate A_2 value for radionuclide I. e. The exempt activity concentration for mixtures of nuclides may be determined as follows: $= \frac{1}{\sum_{l} \frac{f(i)}{[A](i)}}$ Exempt activity concentration for mixture where f(i) is the			

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				fraction of activity concentration of radionuclide I in the mixture, and [A] is the activity concentration for exempt material containing radionuclide I.f. The activity limit for an exempt consignment for mixtures of radionuclides may be determined as follows: $= \frac{1}{\sum_{i} \frac{f(i)}{A(i)}}$ Exempt consignment activity limit for mixture where f(i) is the fraction of activity of radionuclide I in the mixture, and A is the activity limit for exempt consignments for radionuclide I. V. When the identity of each radionuclide is known, but the individual activities of some of the radionuclides are not known, the radionuclides may be grouped, and the lowest A_1 or A_2 value, as appropriate, for the radionuclides in each group may be used in applying the formulas in paragraph IV. Groups may be based on the total alpha activity and the total beta/gamma activity when these are known, using the lowest A_1 or A_2 values for the alpha emitters and beta/gamma emitters.			