

Packaging and Transport of Nuclear Substances Regulations

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Packaging and Transport of Nuclear Substances Regulations

SOR/2000-208

Registration May 31, 2000

NUCLEAR SAFETY AND CONTROL ACT

Packaging and Transport of Nuclear Substances Regulations

P.C. 2000-788 May 31, 2000

Her Excellency the Governor General in Council, on the recommendation of the Minister of Natural Resources, pursuant to section 44 of the *Nuclear Safety and Control Act*^a, hereby approves the annexed *Packaging and Transport of Nuclear Substances Regulations* made by the Canadian Nuclear Safety Commission on May 31, 2000.^a S.C. 1997, c. 9

PACKAGING AND TRANSPORT OF NUCLEAR SUBSTANCES REGULATIONS

INTERPRETATION AND APPLICATION

Interpretation- 1

1. (1) The definitions in this subsection apply in these Regulations.

"A₁" and "A₂" have the respective meanings assigned to those terms by paragraph 201 of the *IAEA Regulations*. (A₁ et A₂)

"Act" means the *Nuclear Safety and Control Act*. (Loi)

"activity" means the number of nuclear transformations occurring per unit of time, as

measured in becquerels. (*activité*)

"carrier" has the meaning assigned to that term by the *Transportation of Dangerous Goods Regulations*. (*transporteur*)

"certificate" means a document issued by the Commission or by a designated officer authorized under paragraph 37(2)(a) of the Act, indicating that a package design, a design for special form radioactive material or a design for low dispersible radioactive material is certified. (*homologation*)

"certified" means certified by the Commission under paragraph 21(1)(h) of the Act or by a designated officer authorized under paragraph 37(2)(a) of the Act. (*homologué*)

"committed" has the meaning assigned to that term by subsection 1(1) of the *Radiation Protection Regulations*. (*engagé*)

"confinement system" means the assembly of fissile material and packaging components intended to preserve criticality safety. (*système d'isolement*)

"consignee" means a person who receives a consignment or a person to whom a consignment is being or is intended to be transported. (*destinataire*)

"consignment" has the meaning assigned to that term by paragraph 211 of the *IAEA Regulations*. (*envoi*)

"consignor" has the meaning assigned to that term by the *Transportation of Dangerous Goods Regulations*. (*expéditeur*)

"containment system" has the meaning assigned to that term by paragraph 213 of the *IAEA Regulations*. (*enveloppe de confinement*)

"contamination" has the meaning assigned to that term by paragraph 214 of the *IAEA Regulations*. (*contamination*)

"conveyance" has the meaning assigned to that term by paragraph 217 of the *IAEA Regulations*. (*moyen de transport*)

"criticality safety index" has the meaning assigned to that term by paragraph 218 of the *IAEA Regulations*. (*indice de sûreté-criticité*)

"depleted uranium" has the meaning assigned to that term by paragraph 246 of the *IAEA Regulations*. (*uranium appauvri*)

"effective dose" has the meaning assigned to that term by subsection 1(1) of the *Radiation Protection Regulations*. (*dose efficace*)

"equivalent dose" has the meaning assigned to that term by subsection 1(1) of the *Radiation Protection Regulations*. (*dose équivalente*)

"excepted package" means a package that meets the requirements of paragraph 515 of the *IAEA Regulations*. (*colis excepté*)

"exclusive use" has the meaning assigned to that term by paragraph 221 of the *IAEA Regulations*. (*utilisation exclusive*)

"fissile material" has the meaning assigned to that term by paragraph 222 of the *IAEA Regulations*. (*matière fissile*)

"*IAEA Regulations*" means the *Regulations for the Safe Transport of Radioactive Material*, 1996 Edition (Revised), being Safety Standards Series No. TS-R-1 (ST-1, Revised) published by the International Atomic Energy Agency, as modified for the purposes of these Regulations by subsections (2) and (3). (*Règlement de l'AIEA*)

"International Maritime Dangerous Goods Code" means the document of that name published by the International Maritime Organization, as amended from time to time. (*Code maritime international des marchandises dangereuses*)

"IP-1 package" [Repealed, SOR/2003-405, s. 3]

"IP-2 package" [Repealed, SOR/2003-405, s. 3]

"IP-3 package" [Repealed, SOR/2003-405, s. 3]

"licensed activity" means an activity described in any of paragraphs 26(a) to (c) of the Act that a licence authorizes the licensee to carry on. (*activité autorisée*)

"low dispersible radioactive material" means a material described in paragraph 225 of the *IAEA Regulations* that conforms to paragraphs 605 and 712 of those Regulations. (*matière radioactive faiblement dispersable*)

"LSA-I material" means

(a) ores containing naturally occurring radionuclides with a uranium and thorium concentration not greater than two per cent by mass;

(b) radioactive material for which the A_2 value is unlimited, excluding fissile material in

quantities not excepted under paragraph 672 of the *IAEA Regulations* and ores that are not described in paragraph (a);

(c) unirradiated thorium or unirradiated natural or depleted uranium concentrates;

(d) mill tailings, contaminated earth, concrete, rubble, other debris and activated materials in which the radioactive material is essentially uniformly distributed and the average specific activity does not exceed 10^{-6} A₂/g; or

(e) other radioactive material in which the activity is distributed throughout and the estimated specific activity does not exceed 30 times the values for activity concentration specified in paragraphs 401 to 406 of the *IAEA Regulations*, excluding fissile material in quantities not excepted under paragraph 672 of those Regulations. (*matière FAS-I*)

"LSA-II material" means

(a) less than 225 litres of water with a tritium concentration not greater than 0.8 TBq/L; or

(b) material in which the activity is distributed throughout and the estimated average specific activity does not exceed 10^{-4} A₂/g for solids and gases, and 10^{-5} A₂/g for liquids. (*matière FAS-II*)

"LSA-III material" means material described in paragraph 226(c) of the *IAEA Regulations* that conforms to paragraph 601 of those Regulations. (*matière FAS-III*)

"natural uranium" has the meaning assigned to that term by paragraph 246 of the *IAEA Regulations*. (*uranium naturel*)

"package" means packaging with its radioactive contents, as presented for transport. (*colis*)

"packaging" has the meaning assigned to that term by paragraph 231 of the *IAEA Regulations*. (*emballage*)

"quality assurance" has the meaning assigned to that term by paragraph 232 of the *IAEA Regulations*. (*assurance de la qualité*)

"quality assurance program" [Repealed, SOR/2003-405, s. 3]

"radioactive material" means a nuclear substance that is a material described in paragraph 236 of the *IAEA Regulations*. (*matière radioactive*)

"radon progeny" has the meaning assigned to that term by subsection 1(1) of the *Radiation Protection Regulations*. (*produits de filiation du radon*)

"registered user" means a person who has received confirmation from the Commission that their use of a package has been registered under section 14. (*usager inscrit*)

"SCO-I" means a surface contaminated object, as defined in paragraph 241(a) of the *IAEA Regulations*. (*OCS-I*)

"SCO-II" means a surface contaminated object, as defined in paragraph 241(b) of the *IAEA Regulations*. (*OCS-II*)

"special arrangement" has the meaning assigned to that term by paragraph 238 of the *IAEA Regulations*. (*arrangement spécial*)

"special form radioactive material" means a material described in paragraph 239 of the *IAEA Regulations* that conforms to paragraphs 602 to 604 of those Regulations. (*matière radioactive sous forme spéciale*)

"specific activity" has the meaning assigned to that term by paragraph 240 of the *IAEA Regulations*. (*activité spécifique*)

"Technical Instructions for the Safe Transport of Dangerous Goods by Air" means the document of that name, designated as Doc 9284-AN/905, published by the International Civil Aviation Organization, as amended from time to time. (*Instructions techniques pour la sécurité du transport aérien des marchandises dangereuses*)

"transit" means the process of being transported through Canada after being imported into and before being exported from Canada, in a situation where the place of initial loading and the final destination are outside Canada. (*transit*)

"transport index" has the meaning assigned to that term by paragraph 243 of the *IAEA Regulations*. (*indice de transport*)

"Type A package" means a package that is designed to meet the requirements of paragraphs 413, 414 and 633 of the *IAEA Regulations*. (*colis du type A*)

"Type B package" means a package that is designed to meet the requirements of paragraph 415 or 416 and paragraph 650 or 665 of the *IAEA Regulations*. (*colis du type B*)

"Type C package" means a package that is designed to meet the requirements of

paragraphs 417 and 667 of the *IAEA Regulations*. (*colis du type C*)

"Type H(M) package" means an excepted package, Type IP-1 package, Type IP-2 package, Type IP-3 package or Type A package that meets the requirements of paragraph 632 of the *IAEA Regulations* and contains more than 0.1 kg of uranium hexafluoride material that is not fissile material. (*colis du type H(M)*)

"Type H(U) package" means an excepted package, Type IP-1 package, Type IP-2 package, Type IP-3 package or Type A package that meets the requirements of paragraph 629 of the *IAEA Regulations* and contains more than 0.1 kg of uranium hexafluoride material that is not fissile material. (*colis du type H(U)*)

"Type IP-1 package" means a package that is designed to meet the requirements of paragraphs 411 and 621 of the *IAEA Regulations*. (*colis du type CI-1*)

"Type IP-2 package" means a package that is designed to meet the requirements of paragraphs 411 and 412 of the *IAEA Regulations* and

(a) paragraph 622 of those Regulations; or

(b) the requirements for a Type IP-2 package in paragraphs 624 to 628 of those Regulations. (*colis du type CI-2*)

"Type IP-3 package" means a package that is designed to meet the requirements of paragraphs 411 and 412 of the *IAEA Regulations* and

(a) paragraph 623 of those Regulations; or

(b) the requirements for a Type IP-3 package in paragraphs 625 to 628 of those Regulations. (*colis du type CI-3*)

"unirradiated thorium" has the meaning assigned to that term by paragraph 244 of the *IAEA Regulations*. (*thorium non irradié*)

"unirradiated uranium" has the meaning assigned to that term by paragraph 245 of the *IAEA Regulations*. (*uranium non irradié*)

(2) For the purposes of these Regulations,

(a) the definition "LSA-I" in paragraph 226(a) of the *IAEA Regulations* is replaced by the definition "LSA-I material" in subsection (1);

(b) the definition "LSA-II" in paragraph 226(b) of the *IAEA Regulations* is replaced by

the definition “LSA-II material” in subsection (1);

(c) [Repealed, SOR/2003-405, s. 3]

(d) the A_1 value for californium 252 (Cf-252) shown in Table I of the *IAEA Regulations* is replaced by 1×10^{-1} (TBq) and the A_2 value for molybdenum 99 (Mo-99) is replaced by 8×10^{-1} (TBq);

(e) the industrial package types listed in the column headed “Not under *exclusive use*” in Table IV of the *IAEA Regulations* are replaced by “Type IP-3”;

(f) the phrase “other than ores containing only naturally occurring radionuclides” in paragraph 523(a) of the *IAEA Regulations* is deleted;

(g) figures 2 to 4, 6 and 7 in Section V of the *IAEA Regulations* are replaced by the corresponding figures illustrating the labels, the placard for substances of Class 7 and the orange panel specified in the *Transportation of Dangerous Goods Regulations*;

(h) the reference to “para. 646” in paragraph 648(a) of the *IAEA Regulations* is replaced by “para. 646(a)”;

(i) where the English and French versions of the *IAEA Regulations* each prescribe the use of a word, either the word prescribed by the English version or the word prescribed by the French version may be used; and

(j) the phrase “Neither beryllium nor deuterium shall be present in quantities exceeding 0.1% of the *fissile material* mass” in paragraph 672(a) of the *IAEA Regulations* is replaced by “Neither beryllium nor deuterium shall be present in quantities exceeding 1% of the applicable consignment mass limits set out in Table XII”.

(3) For the purposes of these Regulations, paragraph 514 of the *IAEA Regulations* is replaced by the following:

514. A *freight container, tank, intermediate bulk container or conveyance* dedicated to the transport of unpackaged *radioactive material* under *exclusive use* shall be excepted from the requirements of paragraphs 509 and 513 solely with regard to its internal surfaces and only for as long as it remains under that specific *exclusive use*.

(4) A package shall only qualify as a Type IP-2, Type IP-3, Type A, Type B or Type C package, a package for 0.1 kg or more of uranium hexafluoride, or a package for fissile material, and a radioactive material shall only qualify as a special form radioactive material, low dispersible radioactive material or LSA-III material, if it has been demonstrated that the package or material, as the case may be, meets the applicable performance standards referred to in Section VI of the *IAEA Regulations* in accordance

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with paragraphs 701, 702 and 713 to 717 of those Regulations.

SOR/2003-405, s. 3.

Application - 2

2. (1) Subject to subsection (2), these Regulations apply in respect of the packaging and transport of nuclear substances, including the design, production, use, inspection, maintenance and repair of packaging and packages and the preparation, consigning, handling, loading, carriage, storage during transport, receipt at final destination and unloading of packages.

(2) These Regulations, except for sections 3, 4, 5 and 6, do not apply in respect of the packaging and transport of a nuclear substance

(a) [Repealed, SOR/2003-405, s. 4]

(b) that is implanted in or incorporated into a person or an animal for medical purposes, or that subsists in the remains of a person;

(c) that is contained in a sample of material taken for bioassay purposes;

(d) by a licensee on private property for the purpose of the licensed activity, where access to the property is controlled;

(e) that is contained in human or animal tissue or animal remains, or a liquid scintillation medium, where the specific activity of the nuclear substance averaged over the mass of the material does not exceed 10^{-6} A₂/kg;

(f) that is contained in consumer products where no licence is required under sections 5 to 8 of the *Nuclear Substances and Radiation Devices Regulations*, following sale to the end user;

(g) that is an integral part of a conveyance and required for transport purposes;

(h) having an activity concentration that does not exceed the values for an exempt material specified in paragraphs 401 to 406 of the *IAEA Regulations*;

(i) in a consignment having a total activity that does not exceed the "activity limit for an exempt consignment" specified in paragraphs 401 to 406 of the *IAEA Regulations*; or

(j) consisting of natural material and ores containing naturally-occurring radionuclides that either are in their natural state, or have been processed only for purposes other than for extraction of those radionuclides, and that is not intended to be processed for use of those radionuclides, provided the activity concentration of the material does not

exceed 10 times the “activity concentration for an exempt material” values specified in paragraphs 401 to 406 of the *IAEA Regulations*.

SOR/2003-405, s. 4.

LICENCE APPLICATIONS

Licence to Transport Category I, II or III Nuclear Material - 3

3. An application for a licence to transport Category I, II or III nuclear material, as defined in section 1 of the *Nuclear Security Regulations*, other than a licence to transport while in transit or a licence to transport under special arrangement, shall contain, in addition to the information required by section 3 of the *General Nuclear Safety and Control Regulations*, the information required by section 5 of the *Nuclear Security Regulations*.

Licence to Transport while in Transit - 4

4. An application for a licence to transport a nuclear substance while in transit shall contain the following information:

- (a) the name, address and telephone number of the consignor;
- (b) a description of the nuclear substance, including the name, the chemical and physical form, the activity — or in the case of fissile material, the mass — of each nuclear substance in a package and the total quantity of the activity or mass in the consignment;
- (c) the country of origin of the nuclear substance;
- (d) the name and address of each consignee;
- (e) the reason for selecting a route through Canada;
- (f) the name of every carrier;
- (g) the route and schedule;
- (h) the dates, times and locations of arrival into and departure from Canada;
- (i) the date, time and location of any scheduled stop or transshipment in Canada;
- (j) where the nuclear substance is required to be transported in a package of a certified design or in a package that has been approved as Type B(U)-96, Type C-96 or H(U)-96 by a foreign competent authority in accordance with the applicable process specified in the *IAEA Regulations*, the number of the certificate or approval applicable

to the package;

(k) the number of packages that are to be transported;

(l) the types of conveyance to be used during transit;

(m) where a vessel is to be used as a conveyance during transit, the name of the vessel and its flag state;

(m.1) for a special use vessel to be used as a conveyance during transit, a document issued by the competent authority of the vessel's flag state approving a radiation protection programme;

(n) where the nuclear substance is to be transported by sea, the *International Maritime Dangerous Goods Code* transport schedule number for the nuclear substance;

(o) the United Nations number for the nuclear substance;

(p) the identification number of the emergency response assistance plan approved under section 7 of the *Transportation of Dangerous Goods Act, 1992* or a reference to the effect that such a plan is not required by that Act, as the case may be; and

(q) where the nuclear substance is Category I, II or III nuclear material, as defined in section 1 of the *Nuclear Security Regulations*, the information required by section 5 of those Regulations.

SOR/2003-405, s. 5.

Licence to Package or Transport under Special Arrangement - 5

5. An application for a licence to package or transport a nuclear substance under special arrangement shall contain, in addition to the information required by section 3 of the *General Nuclear Safety and Control Regulations*,

(a) the information specified in paragraph 825 of the *IAEA Regulations*; and

(b) where the nuclear substance is Category I, II or III nuclear material, as defined in section 1 of the *Nuclear Security Regulations*, the information required by section 5 of those Regulations.

SOR/2003-405, s. 6.

EXEMPTIONS FROM LICENCE REQUIREMENT - 6

6. (1) A person may transport a nuclear substance without a licence to carry on that activity, except in the following cases:

(a) the nuclear substance is Category I, II or III nuclear material, as defined in section 1 of the *Nuclear Security Regulations*, and is transported outside an area in which the material is required to be processed, used or stored by section 7 of those Regulations;

(b) the nuclear substance is 0.1 kg or more of uranium hexafluoride and is transported while in transit;

(c) the nuclear substance is required to be transported in a package of a certified design or in a package that has been approved as Type B(U)-96, Type C-96 or H(U)-96 by a foreign competent authority in accordance with the process specified in the *IAEA Regulations* and is transported while in transit; or

(d) the nuclear substance is transported under special arrangement.

(2) A person may possess, transfer, import, export, use, abandon, produce or service a package, special form radioactive material or low dispersible radioactive material without a licence to carry on that activity.

(3) A person may package a nuclear substance without a licence to carry on that activity, except if the nuclear substance is required to be transported under a special arrangement.

(4) For greater certainty, the exemptions established in subsections (1) to (3) relate only to the activities specified in those subsections and do not derogate from the licence requirement imposed by section 26 of the Act in relation to other activities.

SOR/2003-405, s. 7.

CERTIFICATION OF PACKAGES, SPECIAL FORM RADIOACTIVE MATERIAL AND LOW DISPERSIBLE RADIOACTIVE MATERIAL

[SOR/2003-405, s. 8]

Application for Certification - 7

7. (1) The Commission or a designated officer authorized under paragraph 37(2)(a) of the Act may certify a package design, a design for special form radioactive material or a design for low dispersible radioactive material after receiving an application that includes

the following information:

(a) the information referred to in paragraphs 803, 805(b), 807, 810 and 813 of the *IAEA Regulations*, as applicable;

(b) the number of any approval issued by a foreign competent authority in accordance with the applicable process specified in the *IAEA Regulations*;

(c) [Repealed, SOR/2003-405, s. 9]

(d) in respect of a package design,

(i) the recommended inspection and servicing program, and

(ii) instructions for packaging, transport, receiving, maintenance and unpackaging;
and

(e) at the request of the Commission, any other information that is necessary to enable the Commission to determine if the application for certification meets the requirements of these Regulations.

(2) An applicant shall give the Commission a reasonable opportunity to observe any test that the applicant conducts to demonstrate compliance of a package design, a design for special form radioactive material or a design for low dispersible radioactive material with these Regulations, including reasonable notice of the date and time of the test.

(3) The Commission or a designated officer authorized under paragraph 37(2)(a) of the Act may recertify a design certified under subsection (1) if its technical specifications have not changed and the Commission or designated officer receives an application from the certificate holder no later than 60 days after the expiry date of the certificate. The application shall include the following information:

(a) a statement confirming that the drawings and procedures previously submitted have not changed or, if they have changed, a copy of the revised drawings and procedures and a statement confirming that the changes are without technical significance and do not affect the safety of the design;

(b) a statement confirming that each package has been maintained in compliance with the drawings and procedures previously submitted;

(c) in respect of a package design, a statement confirming that the instructions previously submitted have not changed;

(d) unless previously submitted, the model number and drawings of any capsule

containing radioactive material;

(e) in respect of a certified package design, other than one referred to in paragraph (f), a list of the serial numbers of packages manufactured and maintained in accordance with the certified package design;

(f) in respect of a certified package design that was certified after approval by a foreign competent authority, a list of the serial numbers of all packages currently in use or intended to be used in Canada;

(g) a list of the known users of the latest certified package design;

(h) a summary of the maintenance performed and any operational or maintenance problems encountered with the package, including the date, nature of the maintenance or problem and any action taken;

(i) in respect of a design originating in a foreign country, a copy of each package design approval document or low dispersible radioactive material approval document issued by the foreign competent authority since the last certification;

(j) a copy of the documents submitted to the foreign competent authority in order to obtain a package design approval document referred to in paragraph (i); and

(k) at the request of the Commission, any other information that is necessary to enable the Commission to determine if the application meets the applicable requirements of these Regulations.

SOR/2003-405, s. 9.

Refusal to Certify - 8

8. (1) The Commission or a designated officer authorized under paragraph 37(2)(a) of the Act shall notify a person who has applied for the certification of a package design, a design for special form radioactive material or a design for low dispersible radioactive material of a proposed decision not to certify the design, as well as the basis for the proposed decision, at least 30 days before refusing to certify it.

(2) The notice shall include a description of the person's right to be provided with an opportunity to be heard in accordance with the procedure referred to in section 10.

SOR/2003-405, s. 10.

Decertification - 9

9. (1) The Commission or a designated officer authorized under paragraph 37(2)(a) of the Act shall notify a person to whom a certificate for a package design, a design for special

form radioactive material or a design for low dispersible radioactive material has been issued and, in the case of a certificate for a package design, any registered user of a package of that design, of a proposed decision to decertify the design, as well as the basis for the proposed decision, at least 30 days before decertifying it.

(2) The notice shall include a description of the person's and the registered user's right to be provided with an opportunity to be heard in accordance with the procedure referred to in section 10.

SOR/2003-405, s. 11.

Opportunity To Be Heard - 10

10. (1) Where a person referred to in section 8 or 9 or a registered user referred to in section 9 has received a notice and has requested, within 30 days after the date of receipt of the notice, an opportunity to be heard either orally or in writing, the person or the registered user shall be provided with such an opportunity in accordance with the request.

(2) On completion of a hearing held in accordance with subsection (1), every person and registered user who was notified in accordance with section 8 or 9 shall be notified of the decision and the reasons for it.

(3) Where neither a person referred to in section 8 or 9 nor a registered user referred to in section 9 requests an opportunity to be heard within the period referred to in subsection (1), they shall be notified of the decision and the reasons for it.

PACKAGES, SPECIAL FORM RADIOACTIVE MATERIAL, LOW DISPERSIBLE RADIOACTIVE MATERIAL AND PACKAGING

[SOR/2003-405, s. 12]

Production of Packages - 11

11. (1) No person shall produce a package of a certified design unless it is produced in accordance with the specifications set out in the certificate.

(2) Every person who produces a package of a certified design shall clearly mark the package with the certificate number, design number and serial number.

Production or Possession of Special Form Radioactive Material and Low Dispersible Radioactive Material

[SOR/2003-405, s. 13] - 12

12. (1) No person shall produce special form radioactive material unless

(a) it is of a certified design; and

(b) it is produced in accordance with the specifications set out in the certificate.

(2) Every person who produces special form radioactive material shall identify it by marking it, or any source holder to which it is permanently attached, in a legible and durable manner.

(3) No person shall possess special form radioactive material unless

(a) it is of a certified design; or

(b) it has been approved by a foreign competent authority in accordance with the applicable process specified in the *IAEA Regulations*.

(4) Every person who produces or possesses special form radioactive material approved under the 1973, 1973 (As Amended), 1985 or 1985 (As Amended 1990) Editions of the *IAEA Regulations* shall act in accordance with paragraph 818 of the *IAEA Regulations*.

(5) No person shall produce low dispersible radioactive material unless

(a) it is of a certified design; and

(b) it is produced in accordance with the specifications set out in the certificate.

(6) Every person who produces low dispersible radioactive material shall identify it by marking it in a legible and durable manner.

(7) No person shall possess low dispersible radioactive material unless it is of a certified design.

SOR/2003-405, s. 14.

Quality Assurance Program for Packages, Special Form Radioactive Material and Low Dispersible Radioactive Material

[SOR/2003-405, s. 15] - 13

13. Every person who designs, produces, tests, uses, inspects, maintains or repairs a package, special form radioactive material or low dispersible radioactive material shall

(a) implement and maintain a written quality assurance program in accordance with paragraph 310 of the *IAEA Regulations*;

(b) keep a record of the program and of any information collected under the program; and

(c) retain the record of information collected under the program for the period ending two years after the date on which the package is removed from service.

SOR/2003-405, s. 16.

Registration of Use of Packages - 14

14. (1) No person shall use a package of a certified design unless they have received confirmation from the Commission that their use of the package has been registered by the Commission.

(2) The Commission shall register a person's use of a package of a certified design after receiving the following information from the person:

(a) the person's name, address, telephone number and fax number;

(b) the name of a person who can be contacted for transport purposes;

(c) the number of any licence that the person holds in respect of the contents of the package;

(d) the number of any approval issued by a foreign competent authority in accordance with the applicable process specified in the *IAEA Regulations*;

(e) [Repealed, SOR/2003-405, s. 17]

(f) the design number and serial number for the package; and

(g) a statement confirming that the person possesses the instructions necessary to prepare the package for shipment, as set out in the certificate for the package design.

SOR/2003-405, s. 17.

PACKAGING AND TRANSPORT OF RADIOACTIVE MATERIAL

General Obligations - 15

15. (1) Every person who transports, or causes to be transported, radioactive material shall act in accordance with the requirements of the *Transportation of Dangerous Goods Regulations*.

(2) Every consignor, other than a consignor of an excepted package, shall act in accordance with paragraphs 550 to 561 of the *IAEA Regulations*.

(3) Every consignor of an excepted package shall act in accordance with paragraph 554 of the *IAEA Regulations*.

(4) Every consignor of radioactive material shall advise the consignee that the material is going to be transported.

(5) Every carrier of radioactive material shall act in accordance with paragraphs 562 to 569 and 571 to 580 of the *IAEA Regulations*.

(6) Every carrier of radioactive material shall transport the material in accordance with the consignor's instructions.

(7) Every carrier of radioactive material shall implement and maintain work procedures to ensure compliance with these Regulations and shall keep a record of those procedures.

SOR/2003-405, s. 18.

Packages for Transport - 16

16. (1) Subject to subsections (2) and (3), no consignor shall present for transport, and no carrier shall transport, radioactive material unless

(a) the material is contained in

(i) an excepted package,

(ii) a Type IP-1, Type IP-2 or Type IP-3 package,

(iii) a Type A package,

(iv) a Type B or Type C package of a certified design,

(v) a package for fissile material of a certified design,

(vi) a package for 0.1 kg or more of uranium hexafluoride of a certified design,

(vii) a package whose design is in accordance with the criteria set out in paragraph 815 of the *IAEA Regulations* and for which package certification is not otherwise required under these Regulations, if the material is packaged in accordance with that paragraph, or

(viii) packaging manufactured to a package design certified in accordance with the criteria set out in paragraph 816 or 817 of the *IAEA Regulations*, where the material is packaged in accordance with those paragraphs; and

(b) the activity or mass of the material is within the applicable limits referred to in paragraphs 408 to 415 and 417 to 419 of the *IAEA Regulations*.

(2) Notwithstanding subsection (1), a consignor may present for transport, and a carrier may transport,

(a) radioactive material under special arrangement;

(b) a package that is in transit and that is of a design that has been approved as a Type B(U)-96 or Type C-96 package by a foreign competent authority in accordance with the applicable process specified in the *IAEA Regulations*; or

(c) a package containing 0.1 kg or more of uranium hexafluoride of a design that has been approved as H(U)-96 by a foreign competent authority in accordance with the applicable process specified in the *IAEA Regulations*.

(3) Subsection (1) does not apply to a consignor who presents for transport, or a carrier who transports, LSA-I material or an SCO-I in accordance with paragraph 523 of the *IAEA Regulations*.

(4) Subject to subsection (5), every consignor and carrier of radioactive material shall act in accordance with paragraphs 501 to 547 of the *IAEA Regulations*.

(5) A consignor may present for transport, and a carrier may transport, radioactive material in a package that is not labelled in accordance with paragraphs 541 to 543 of the *IAEA Regulations*, if the package

(a) is an exposure device, as defined in the *Nuclear Substances and Radiation Devices Regulations*, of a certified model and

(i) is to be transported, or is transported, under exclusive use,

(ii) has clearly marked on it the word "RADIOACTIVE" or "RADIOACTIF", the basic trefoil symbol set out in Figure 1 in Section V of the *IAEA Regulations* and the name, address and telephone number of the person who is authorized by a license

to possess the radioactive material that it contains,

(iii) has clearly stamped on it, or visibly and legibly inscribed on a durable steel or brass tag that is readily visible and securely affixed to it by means of metal fasteners, the name, quantity in becquerels, date of measurement of that quantity and form of the radioactive material that it contains, as well as the maximum permissible activity of the package, and

(iv) is transported by a vehicle that displays on each side and on each end a placard for substances of Class 7 specified in the *Transportation of Dangerous Goods Regulations*;

(b) is an excepted package;

(c) contains only LSA-I material other than uranium hexafluoride and

(i) is to be transported, or is transported, under exclusive use,

(ii) has clearly marked on it the words "RADIOACTIVE LSA-I: EXCLUSIVE USE" or "FAS-I RADIOACTIF : USAGE EXCLUSIF", and

(iii) is transported by a vehicle that displays on each side and on each end a placard for substances of Class 7 specified in the *Transportation of Dangerous Goods Regulations*; or

(d) is labelled in accordance with the *International Maritime Dangerous Goods Code* or the *Technical Instructions for the Safe Transport of Dangerous Goods by Air*.

SOR/2003-405, s. 19.

Transport Documents - 17

17. (1) Subject to subsection (2), every consignor of radioactive material shall include in the transport documents for the consignment the information referred to in paragraph 549 of the *IAEA Regulations* which shall be clearly and indelibly printed in the documents.

(2) Subsection (1) does not apply

(a) with respect to an excepted package; or

(b) to a consignor who provides transport documents that have been prepared in accordance with the *International Maritime Dangerous Goods Code* or the *Technical Instructions for the Safe Transport of Dangerous Goods by Air*.

(3) No person shall transport a consignment of radioactive material unless the consignment is accompanied by the transport documents referred to in subsection (1) or

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(2).

SOR/2003-405, s. 20.

Radiation Protection Program - 18

18. (1) Every consignor, carrier and consignee of radioactive material shall implement a radiation protection program and shall, as part of that program,

(a) keep the amount of exposure to radon progeny and the effective dose and equivalent dose received by and committed to persons as low as reasonably achievable, social and economic factors being taken into account, through the implementation of

(i) management control over work practices,

(ii) personnel qualification and training,

(iii) control of occupational and public exposure to radiation, and

(iv) planning for unusual situations;

(b) prevent persons from receiving doses of radiation higher than the radiation dose limits prescribed by the *Radiation Protection Regulations*; and

(c) train persons referred to in the program on the application of the program.

(2) Every consignor, carrier and consignee shall

(a) keep a record of its radiation protection program and of any information collected under the program; and

(b) retain the record of information collected under the program for the period ending two years after the date on which it is collected.

Dangerous Occurrences - 19

19. (1) Every consignor who becomes aware of any of the following dangerous occurrences shall immediately make a preliminary report to the Commission and to the holder, if any, of a licence to import the radioactive material that is involved in the occurrence:

(a) a conveyance carrying radioactive material is involved in an accident;

(b) a package shows evidence of damage, tampering or leakage of its contents;

(c) any failure to comply with the Act, these regulations or any licence or certificate

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applicable to a package that may reasonably be expected to lead to a situation in which the environment, the health and safety of persons or national security is adversely affected;

(d) radioactive material is lost, stolen or no longer in the control of a person who is required to have control by the Act or the regulations made under the Act;

(e) radioactive material has escaped from a containment system, a package or a conveyance during transport;

(f) fissile material is outside the confinement system during transport; or

(g) the level of non-fixed contamination during transport exceeds the limits specified in paragraphs 508 and 509 of the *IAEA Regulations*.

(2) Every carrier, consignee or holder of a licence to transport the nuclear substance while in transit who becomes aware of any of the dangerous occurrences referred to in subsection (1) shall immediately make a preliminary report to the Commission and to either the consignor or the holder, if any, of a licence to import the radioactive material that is involved in the occurrence.

(3) The preliminary reports referred to in subsections (1) and (2) shall include information on the location and circumstances of the dangerous occurrence and on any action that the consignor, carrier or consignee has taken or proposes to take with respect to it.

(4) Immediately after a dangerous occurrence referred to in subsection (1), the consignor, the carrier, the consignee or any other person who controls any area affected by the dangerous occurrence shall

(a) limit, to the extent possible, the spread of any radioactive material;

(b) place barriers, signs or personnel at every point of entry into the affected area to control the entry of persons into that area;

(c) record the name, address and telephone number of any person who may have been exposed to or contaminated by radioactive material and request that the person remain available for assessment by an expert in radiation protection; and

(d) have an expert in radiation protection assess the situation and report the results of the assessment to the Commission.

(5) Within 21 days after a dangerous occurrence referred to in subsection (1), the consignor, the carrier, the consignee and the holder of a licence to transport the nuclear substance while in transit shall file a full report with the Commission, and the report shall

contain the following information about the occurrence:

- (a) the date, time and location;
- (b) the probable cause;
- (c) the names of the persons involved;
- (d) the circumstances;
- (e) the effects on the environment, the health and safety of persons, and national or international security that have resulted or may result;
- (f) the doses of radiation that any person has received or is likely to have received; and
- (g) the actions taken by the consignor, the carrier and the consignee.

SOR/2003-405, s. 21.

“Accidental Release” under the Transportation of Dangerous Goods Act, 1992 - 20

20. For the purpose of the definition “accidental release” in section 2 of the *Transportation of Dangerous Goods Act, 1992*, the following levels of ionizing radiation are established:

- (a) 10 mSv/h on the external surface of a package that is being transported under exclusive use, 2 mSv/h on the surface of the conveyance, and 0.1 mSv/h at a distance of 2 m from the surface of the conveyance; and
- (b) 2 mSv/h on the external surface of a package that is not being transported under exclusive use, 0.1 mSv/h at a distance of 1 m from the package, 2 mSv/h on the surface of the conveyance, and 0.1 mSv/h at a distance of 2 m from the surface of the conveyance.

Opening of Packages - 21

21. (1) No person, other than the consignor or the consignee of the package, shall open a package unless

- (a) measures are taken to prevent persons from receiving doses of radiation higher than the radiation dose limits prescribed by the *Radiation Protection Regulations*; and
- (b) the package is opened in the presence of an expert in radiation protection.

(2) When a person other than the consignor or the consignee opens a package, the person shall restore the package to a condition that meets the requirements of these Regulations before forwarding it to the consignee.

(3) On receipt of a package, and on opening a package, every person shall verify whether

(a) the package is damaged;

(b) the package shows evidence of having been tampered with;

(c) any portion of the fissile material is outside the confinement system; and

(d) any portion of the contents of the package is outside the containment system or the package.

(4) Every person who discovers that a package is damaged or that any portion of the fissile material is outside the confinement system shall file a full report of the discovery with the consignor and with the Commission within 21 days after the discovery.

(5) Every person who discovers that a package shows evidence of having been tampered with or that any portion of the contents of a package has escaped from the containment system or the package shall immediately make a preliminary report to the Commission and to either the consignor or the holder, if any, of a licence to import the radioactive material that is involved.

(6) The preliminary report of a discovery referred to in subsection (5) shall include information on the location and circumstances of the discovery and on any action that the person has taken or proposes to take with respect to it.

(7) Every consignor and every holder of a licence to import radioactive material who receives a preliminary report of a discovery referred to in subsection (5) shall file a full report of the discovery with the Commission within 21 days after receiving the preliminary report.

SOR/2003-405, s. 22.

Undeliverable Consignments - 22

22. If a consignment cannot be delivered to the consignee, the carrier shall

(a) notify the consignor, the consignee and the Commission; and

(b) place the consignment in an area to which access is controlled by the carrier and

keep it there until it can be delivered to the consignor or the consignee.

RECORDS TO BE KEPT AND RETAINED - 23

23. (1) Every person who packages radioactive material in a Type IP-2, Type IP-3 or Type A package shall keep a record of the following information and documents concerning the package:

- (a) the technical specifications of its design;
- (b) the type, quantity and physical form of the radioactive material that it is designed to contain;
- (c) any document that demonstrates that the package meets the requirements of these Regulations, including the written quality assurance program; and
- (d) instructions for packaging, transport, receiving, maintenance and unpackaging.

(2) Every person who is required by subsection (1) to keep a record shall retain the record for the period ending two years after the date on which the packaging occurs.

SOR/2003-405, s. 23.

COMING INTO FORCE - 24

24. These Regulations come into force on the day on which they are approved by the Governor in Council.

Last updated: 2008-05-26



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