



Certification of Transport Packages and Special Form Radioactive Material

February 2022





Certification of Transport Packages and Special Form Radioactive Material

The Canadian Nuclear Safety Commission (CNSC) regulates the use of nuclear energy and materials to protect the health, safety and security of Canadians and the environment; and to respect Canada's international commitments on the peaceful use of nuclear energy.

Pursuant to the *Packaging and Transport of Nuclear Substances Regulations, 2015 (PTNSR 2015)*, the CNSC is authorized to certify transport package designs, special form radioactive material and low dispersion radioactive material. To achieve this, the CNSC has incorporated into its regulations, the International Atomic Energy Agency's transport regulations, namely the *Regulations for the Safe Transport of Radioactive Material, 2012 Edition*, Safety Standards Series SSR-6.

Two of the most common certified designs in use today are Type B packages and packages designed to contain fissile material. Type B packages contain radioactive material that emit large activities of radiation and must be certified by the CNSC. Examples include packages designed to transport cobalt therapy sources and exposure devices.

The hazards are controlled by the strength of the package, which is designed to pass stringent impact, drop and puncture tests, an engulfing fire test, and immersion in water. Type B packages may be constructed of steel with depleted uranium or lead as shielding. The weight can vary from about 25 kg to 35 tonnes, or more, depending on the radioactive activity of the material it is designed to contain. The shape of the package can also vary.

The CNSC also revalidates package design certificates that are issued by other countries. Occasionally, transport licences for when the requirements of the PTNSR 2015 cannot be met may also be approved by the CNSC.

What follows is the list of all special form radioactive material and package designs that are certified by the CNSC for use in Canada, as of February 8, 2022.



Valid Special Form Certificates

Certificate Number	Designer/Manufacturer	Source Model	Issue Date	Expiry Date
CDN/0001/S-73 (Rev. 19)	Nordion (Canada) Inc.	Capsule Assemblies listed in Appendix A	2021-06-09	2026-05-31
CDN/0004/S-96 (Rev. 12)	Nordion (Canada) Inc.	C-146; C-151 and XC-325 Teletherapy Source Capsules	2018-09-11	2023-09-30
CDN/0010/S-96 (Rev. 12)	Nordion (Canada) Inc.	C-188 Sealed Source, Types 1 to 13 inclusive	2021-08-19	2026-08-30
CDN/0011/S-73 (Rev. 8)	Best Theratronics	C-161 Type 8 Capsule and C-1000 Capsule	2017-07-07	2022-06-30
CDN/0014/S-96 (Rev. 7)	Nordion (Canada) Inc.	C-198 Capsule	2020-10-07	2025-10-31
CDN/0015/S-96 (Rev. 6)	Nordion (Canada) Inc.	C-168 Capsule	2021-07-26	2026-05-31
CDN/0017/S-96 (Rev. 4)	Best Theratronics	C-378 Capsule	2018-04-09	2023-04-30
CDN/0019/S-96 (Rev. 4)	Nordion (Canada) Inc.	C-442 Capsule	2021-11-15	2026-11-30
CDN/0034/S-96 (Rev. 1)	Best Theratronics	C1610	2019-11-05	2024-11-30
CDN/0035/S-96 (Rev. 1)	Best Theratronics	C3100	2019-11-05	2024-11-30
CDN/0036/S-96 (Rev. 1)	Nordion (Canada) Inc.	C-446	2021-12-09	2027-01-31
CDN/0038/S-96 (Rev. 0)	Nordion (Canada) Inc.	C-374	2018-04-19	2022-03-31
CDN/0040/S-96 (Rev. 0)	Nordion (Canada) Inc.	C-450	2018-06-29	2022-06-30

Canadian Package Design Certificates

Certificate Number	Designer/Manufacturer	Package Model	Issue Date	Expiry Date
CDN/1039/B(U)-96 (Rev. 11)	BWXT Medical Ltd.	F-376 Transport Package	2021-06-17	2023-04-30
CDN/2003/B(U)-73 (Rev. 19)	Best Theratronics	F-143 Transfer Case, Serial Nos. 20, 50, 53, 54, 59, 62, 64; and F-158 Transfer Case, Serial Nos. 3, 4, 5, 6, 8, 9, 10, 14	2020-03-18	2025-03-31
CDN/2009/B(U)-73 (Rev. 15)	Nordion	F-147 Transfer Case, Serial Nos. 18, 24, 26, 27, 34-36, 39-48, 50, 52, 54, 56-60	2018-09-27	2022-11-30
CDN/2012/B(U)-73 (Rev. 25)	Nordion (Canada) Inc.	F-168 Shipping Flask, Serial Nos. 20, 21, 28, 31, 32, 33, 36, 38, 39, 42 to 52 inclusive.	2020-01-22	2025-03-31
CDN/2044/B(U)-73 (Rev. 12)	Best Theratronics	F-127-X J-Rod Shipping Container, Serial Nos. 49, 51, 53, and 55	2019-01-18	2023-02-28
CDN/2045/B(U)-73 (Rev. 21)	Nordion (Canada) Inc.	F-168-X Shipping Flask, Serial Nos. 22-X, 23-X, 25-X, 41-X	2021-12-22	2025-04-30
CDN/2047/B(U)-73 (Rev. 18)	Nordion (Canada) Inc.	F-231 and F-231-L, Serial Numbers 7, 8 and 9	2021-12-22	2024-04-30
CDN/2048/B(U)F-73 (Rev. 11)	Canadian Nuclear Laboratories Ltd.	F-257, Serial No. 002	2021-07-02	2026-09-30
CDN/2049/B(U)-96 (Rev. 12)	Ontario Power Generation	Tritiated Heavy Water Transportation Package	2019-07-11	2023-02-28
CDN/2051/B(U)-96 (Rev. 17)	BWXT Medical Ltd.	F-271 Transport Package	2021-06-18	2026-01-31
CDN/2052/B(U)-96 (Rev. 9)	Nuclear Waste Management Organization (NWMO)	Used Fuel Transportation Package (UFTP)	2022-01-06	2023-07-31
CDN/2055/B(U)-96 (Rev. 12)	Nordion	F-339 Transport Package	2019-11-14	2024-10-31
CDN/2058/B(U)-96 (Rev. 12)	Ontario Power Generation	Radioactive Filter Transportation Package (RFTP)	2020-04-21	2025-04-30
CDN/2060/B(U)-85 (Rev. 8)	Atomic Energy of Canada Limited	AECL (CRL) Tritide Package, Serial Nos. 2060-01, 2060-02, 2060-03	2021-10-21	2026-10-31
CDN/2061/B(U)F-85 (Rev. 10)	Atomic Energy of Canada Limited	Irradiated Material Transportation Package	2018-05-22	2022-05-31
CDN/2062/B(U)-96 (Rev. 9)	Best Theratronics	F147(96) Transfer Case, Serial Nos. 61 and higher	2019-01-28	2023-02-28
CDN/2071/B(U)-96 (Rev. 9)	Ontario Power Generation	Roadrunner, Serial No. Roadrunner-01	2017-09-28	2022-09-30
CDN/2072/B(U)-96 (Rev. 12)	Nordion (Canada) Inc.	F-127, F-127-X, F-127-S and RAI/F-127 Transport Packages, Serial Numbers 59 and up	2020-12-18	2025-04-30
CDN/2076/B(U)-96 (Rev. 12)	Best Theratronics	F-430/GC-40; F-430/GC-1000 and GC-3000; F-430/CIS model IBL 437C; F-430/CIS model IBL 637; F-430/Molsgaard model GC-2000; F-430/Gammator M38	2019-01-08	2023-02-28
CDN/2077/B(U)-96 (Rev. 7)	Nordion (Canada) Inc.	F-231, F-231-L, F-231-MK2 and F-231-MK2-L, Serial Nos. 11 and up	2021-02-16	2026-11-30
CDN/2078/B(U)-96 (Rev. 10)	BWXT Medical Ltd.	F-458/F-245; F-247; F-251; F-251 MKII; F-318 and F-448	2021-06-28	2025-10-31
CDN/2080/B(U)-96 (Rev. 6)	Nordion (Canada) Inc.	F-168/F-444 Transport Container	2019-08-02	2024-11-30
CDN/2081/B(U)-96 (Rev. 5)	Nordion (Canada) Inc.	F-168 (1996) and F-168-X (1996), Serial Nos. 53 and up	2021-07-07	2026-11-30
CDN/2083/B(U)-96 (Rev. 9)	Best Theratronics Ltd.	F-431/GC-1000; F-431/GC-3000 and F-431/Gammator M38	2021-11-23	2026-11-30
CDN/2084/B(U)-96 (Rev. 3)	Best Theratronics	F-423 Transport Package	2020-05-26	2025-06-30



Certificate Number	Designer/Manufacturer	Package Model	Issue Date	Expiry Date
CDN/2087/B(U)-96 (Rev. 7)	Ontario Power Generation	Multi-Purpose Transportation Package: MPTP-XX, MPTP-SF-XX	2021-08-10	2026-09-30
CDN/2091/ B(U)-96 (Rev. 3)	Aspect Technology Ltd.	12K Transport Package (serial numbers 001 AS - 040 AS, XXX AS), Maxibulk Inner Container; Minibulk Inner Container; 10 Channel Inner Container	2019-11-08	2024-11-30
CDN/2093/ B(U)-96 (Rev. 1)	Ontario Power Generation	Retube Waste Container Transportation Package (RWCTP)	2019-01-29	2023-01-31
CDN/2094/B(U)-96 (Rev. 4)	BWXT Medical Ltd.	F-522	2021-09-20	2025-03-31
CDN/2098/B(U)F-96 (Rev. 0)	NAC International Inc.	OPTIMUS-H	2021-08-18	2026-08-18
CDN/2099/B(U)F-96 (Rev. 1)	NAC International Inc.	OPTIMUS-L	2021-08-09	2025-06-30
CDN/2100/B(U)-96 (Rev. 1)	Nordion (Canada) Inc.	R7008, Serial Nos. 3750/01 to 3750/09 and 3750/17 to 3750/20	2020-05-13	2025-03-31
CDN/2101/B(U)-96 (Rev. 0)	ISO-RAD Canada Inc.	ISORAD-TC1	2021-06-30	2026-05-31
CDN/2102/B(U)-96 (Rev. 0)	Nordion (Canada) Inc.	R7006, Serial Numbers 3300/01, 3300/02, 3300/03, 3300/05, 3300/06, 3300/09 and 3300/10	2020-10-14	2025-10-31
CDN/2104/B(U)-96 (Rev. 0)	Nordion (Canada) Inc.	R7009, Serial Number 3939/01	2021-05-12	2026-05-31
CDN/2105/B(U)-96 (Rev. 0)	Nordion (Canada) Inc.	R7021, Serial Numbers 3981/08 to 3981/12	2021-09-24	2026-09-30
CDN/3012/B(M)-96 (Rev. 14)	BWXT Medical Ltd.	F-279 Shipping Flask	2021-07-08	2025-09-30



Canadian Revalidation of Package Design Certificates

Certificate Number	Designer/Manufacturer	Package Model	Issue Date	Expiry Date
CDN/E044/-96 (Rev. 22)	Source Production & Equipment Co., Inc.	C-1 Source Changer	2021-10-25	2026-10-31
CDN/E094/-96 (Rev. 13)	Industrial Nuclear Company Inc.	IR-100	2020-10-21	2024-10-31
CDN/E150/-96 (Rev. 24)	Columbiana Hi Tech	UX-30	2019-11-22	2024-12-31
CDN/E170/-96 (Rev. 7)	Source Production & Equipment Co.	SPEC-150 Exposure Device	2020-06-01	2025-06-30
CDN/E173/-96 (Rev. 14)	NAC International, Inc.	NAC-LWT Shipping Container	2021-05-11	2025-04-30
CDN/E175/-96 (Rev. 9)	QSA Global Inc.	650L Source Changer	2020-11-26	2025-11-30
CDN/E177/-96 (Rev.12)	TN International	TN-BGC1 Transport Package	2021-08-27	2024-03-01
CDN/E184/-96 (Rev.4)	Industrial Nuclear Company Inc.	OP-100	2019-07-29	2024-02-28
CDN/E189/-96 (Rev. 8)	Energy Solutions	10-160B: Serial Nos. Trillium TP-01 and TP-02	2020-10-14	2025-10-31
CDN/E192/-96 (Rev.10)	DAHER Nuclear Technologies GmbH (DNT)	BU-D Transport Container	2020-11-20	2024-01-31
CDN/E193/-96 (Rev. 4)	Source Production & Equipment Co., Inc.	SPEC-300 Radiography Camera	2020-04-16	2025-04-30
CDN/E199/-96 (Rev. 16)	QSA Global Inc.	880 Delta, 880 Sigma, 880 Elite, 880 SC	2021-06-18	2026-05-31
CDN/E201/-96 (Rev. 4)	Cameco Corporation	48X, 48Y Cylinders	2021-05-26	2026-02-28
CDN/E202/-96 (Rev. 4)	Global Nuclear Fuel	RAJ-III	2019-04-05	2022-09-03
CDN/E204/-96 (Rev. 7)	GE Healthcare Ltd.	3605D	2018-05-23	2022-12-31
CDN/E207/-96 (Rev. 6)	Global Nuclear Fuel	NPC Transport Package	2021-03-05	2025-11-30
CDN/E213/-96 (Rev. 10)	Croft Associates Ltd.	SAFESHIELD 2773A Transport Package	2021-06-29	2025-06-30
CDN/E216/-96 (Rev. 8)	Westinghouse Electric Company	Traveller STD, Traveller XL Package, Traveller VVER	2022-02-01	2025-03-31
CDN/E217/-96 (Rev. 7)	QSA Global Inc.	976A, 976C, 976F	2019-07-19	2024-07-31
CDN/E219/-96 (Rev. 8)	Oak ridge Y-12 National Security Complex	ES-3100	2021-03-01	2025-07-31
CDN/E224/-96 (Rev. 2)	NTP Radioisotopes (Pty) Ltd.	JANE Transport Container	2017-11-21	2023-01-02
CDN/E238/-96 (Rev. 4)	QSA Global Inc.	Sentry 110, 330 and 867	2021-07-07	2026-05-31
CDN/E239/-96 (Rev. 2)	Mitsubishi Nuclear Fuel Co. Ltd.	MST-30	2021-01-28	2025-03-04
CDN/E241/-96 (Rev. 3)	QSA Global Inc.	702	2019-01-18	2023-02-28
CDN/E243/-96 (Rev. 3)	QSA Global Inc.	360-2, 360-4, 360-4W, 360-10, 360-10W Source Changers	2019-01-18	2023-08-31
CDN/E253/-96 (Rev. 3)	EnergySolutions	8-120-B	2018-06-15	2022-12-31
CDN/E254/-96 (Rev. 1)	EnergySolutions	10-160B	2020-04-23	2025-10-31
CDN/E258/-96 (Rev. 0)	REVISS Services (UK) Limited	R7016	2018-11-30	2023-03-31
CDN/E261/-96 (Rev. 0)	DAHER Nuclear Technologies GmbH (DNT)	DN30	2019-12-20	2023-12-26



Certificate Number	Designer/Manufacturer	Package Model	Issue Date	Expiry Date
CDN/E262/-96 (Rev. 0)	Framatome	FCC3	2021-08-20	2023-04-30
CDN/E263/-96 (Rev. 0)	Framatome	FCC4	2021-08-23	2022-12-31
CDN/E264/-96 (Rev. 0)	Advanced Nuclear Fuel Corp.	ANF-10	2020-08-04	2024-03-31
CDN/E266/-96 (Rev. 0)	Croft Associates Ltd.	3979A	2021-07-28	2026-04-30
CDN/E267/-96 (Rev. 0)	Nuclear Fuel Industries, Ltd.	GP-01	2021-09-16	2023-09-08