



# Regulatory Oversight Report for Uranium and Nuclear Substance Processing Facilities and Research Reactors in Canada: 2020

Commission Meeting  
December 16, 2021  
CMD 21-M33.A



CNSC Staff Presentation



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# Presentation Outline

- Overview
- Indigenous Engagement and Consultation
- Facility Types
- Key Facility Highlights
- CNSC Regulatory Oversight
- CNSC Staff Assessment of Uranium and Nuclear Processing Facilities and Research Reactors
- Others Matters of Regulatory Interest
- Key Themes from Interventions
- Conclusions



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## Errata

### Corrections to Regulatory Oversight Report (CMD 21-M33):

- Section 6.7, page 31, add the following action level exceedances for PHCF:
  - Fenceline gamma action level exceedances on April 30 and May 31, 2020
  - Fluoride air emission action level exceedance on July 13, 2020
- Section 7.1, page 42, update the total number of transportation related events for Nordion to 5
- Appendix B, page 63, update Notices of Non-Compliance (NNC's) for NORDION-2020-01 (1 NNC) and NORDION-2020-02 (3 NNC's)
- Appendix G, page 85, update total uranium loadings to air and surface waters for the Blind River Refinery to 4.8 kg and 2.8 kg, respectively



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# OVERVIEW



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# CNSC Regulatory Oversight Reports

- Reports from CNSC staff to the Commission for information
- Presented by CNSC staff in public Commission proceedings
  - Licensee participation
  - Public and Indigenous participation
  - Participant funding provided

**Summary and highlights of CNSC staff oversight activities  
across nuclear industry**



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# CNSC Regulatory Oversight Reports for 2020 (RORs)

- November 23 and 25, 2021:
  - Use of Nuclear Substances in Canada
  - Canadian Nuclear Laboratories Sites
- December 15-16, 2021:
  - Uranium and Nuclear Substance Processing Facilities and Research Reactors
  - Canadian Nuclear Power Generating Sites
  - Uranium Mines and Mills



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# ROR for Uranium and Nuclear Substance Processing Facilities and Research Reactors

## Key Topics:

- CNSC's regulatory efforts:
  - Uranium and Nuclear Substance Processing Facilities (2020)
  - Research Reactors (2018 to 2020)
- Overviews highlighting licensing and compliance verification activities across similar facilities
- Ratings of licensee performance for 14 safety and control areas, with focus on:
  - Radiation protection
  - Environmental protection
  - Conventional health and safety



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## Regulatory Oversight Report Changes - 2020

- Upfront acknowledgement of Indigenous Nations and communities
- Intervenor review period increased from 30 to 60 days
- Plain language summary
- Information on all safety and control areas
- Change in safety and control area rating system
- Use of hyperlinks for online content
- Additional data context





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# INDIGENOUS ENGAGEMENT AND CONSULTATION



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# Indigenous Engagement and Consultation (1/2)

Uranium and nuclear substance processing facilities are located on the traditional territories and homelands of many Indigenous peoples, and is covered by several treaties

## Blind River Area

(Cameco Blind River Refinery)

- Mississauga First Nation
- Sagamok Anishnawbek Nation
- Serpent River First Nation
- Thessalon First Nation
- Métis Nation of Ontario (Region 4)

## Ottawa Valley Area

(SRB Technologies, Nordion Inc., Best Theratronics Ltd.)

- The Algonquins of Ontario
- Algonquins of Pikwàkanagàn First Nation
- Algonquin Anishinabeg Nation Tribal Council
- Kitigan Zibi Anishinabeg
- Kebaowek First Nation
- Métis Nation of Ontario (Regions 5 and 6)
- Mohawks of the Bay of Quinte

## Port Hope, Toronto, Peterborough Areas

(Cameco Port Hope Conversion Facility, Cameco Fuel Manufacturing, BWXT Nuclear Energy Canada Facilities in Toronto and Peterborough)

- Williams Treaty First Nations (7 distinct Nations)
- Mississaugas of the Credit First Nation
- Métis Nation of Ontario (Regions 6 and 8)
- Mohawks of the Bay of Quinte



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## Indigenous Engagement and Consultation (2/2)

- CNSC staff informed Indigenous Nations and communities of this report and participant funding opportunities
- CNSC staff continue to engage and identify opportunities to discuss and address topics of interest and concern
- CNSC staff continue to conduct ongoing engagement with interested and potentially affected Indigenous Nations and communities

**CNSC is committed to building long-term relationships with Indigenous Nations and communities**



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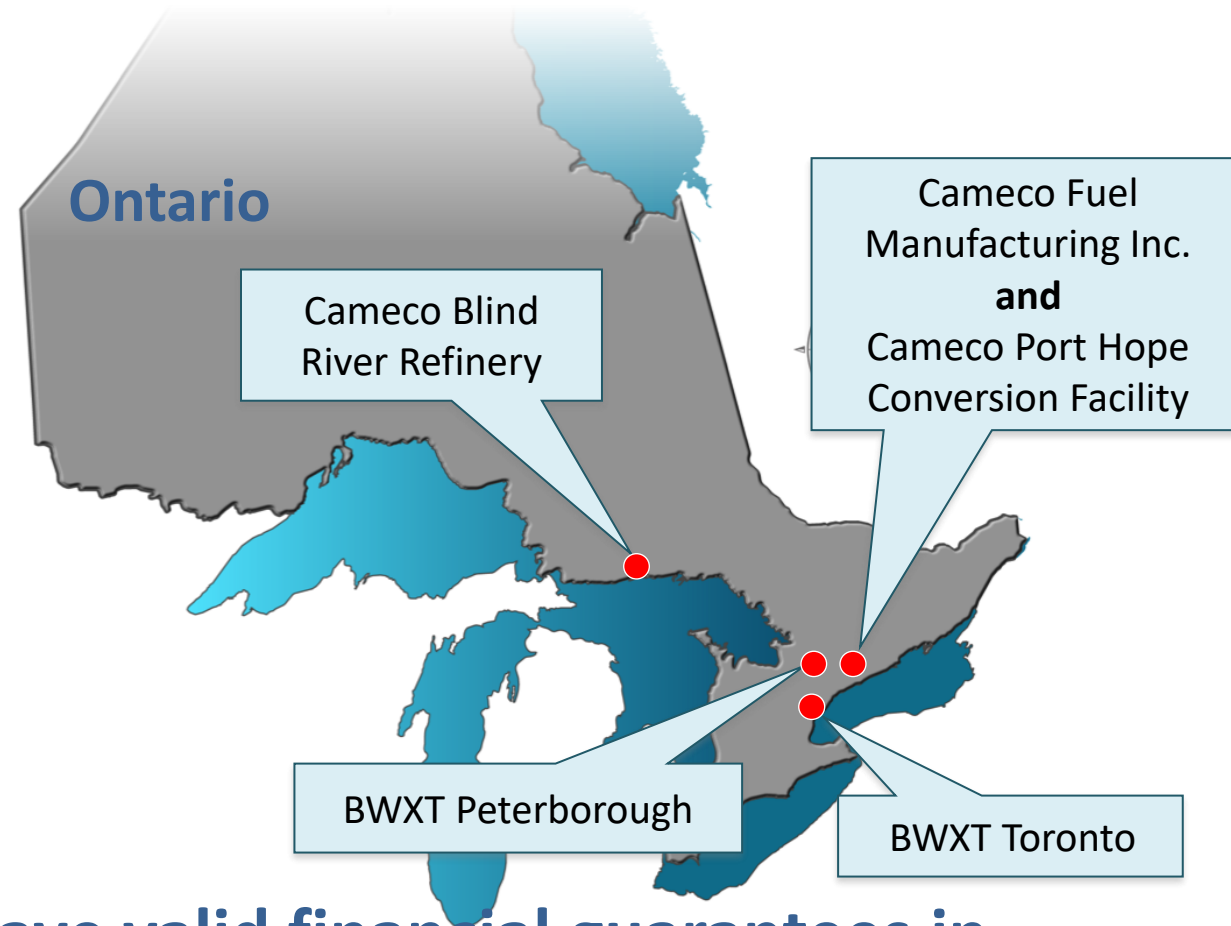
# FACILITY TYPES



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# Uranium Processing Facilities

Facility	Licence Expiry	Financial Guarantee (approx.)
Cameco Blind River Refinery (BRR)	February 2022	\$48M
Cameco Port Hope Conversion Facility (PHCF)	February 2027	\$128.6M
Cameco Fuel Manufacturing Inc. (CFM)	February 2022	\$21M
BWXT Toronto and Peterborough (BWXT-NEC)	December 2030	\$52.4M



**All uranium processing facilities have valid financial guarantees in place for decommissioning**



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# Uranium Processing Facilities



Blind River Refinery UO<sub>3</sub> tote bin loading area  
*Source: Cameco*



Aerial image of Cameco's Port Hope Conversion Facility  
*Source: Cameco*

Uranium Pellet



CANDU  
fuel bundle

Manufactured uranium fuel pellets  
assembled into nuclear fuel bundle  
*Source: BWXT*

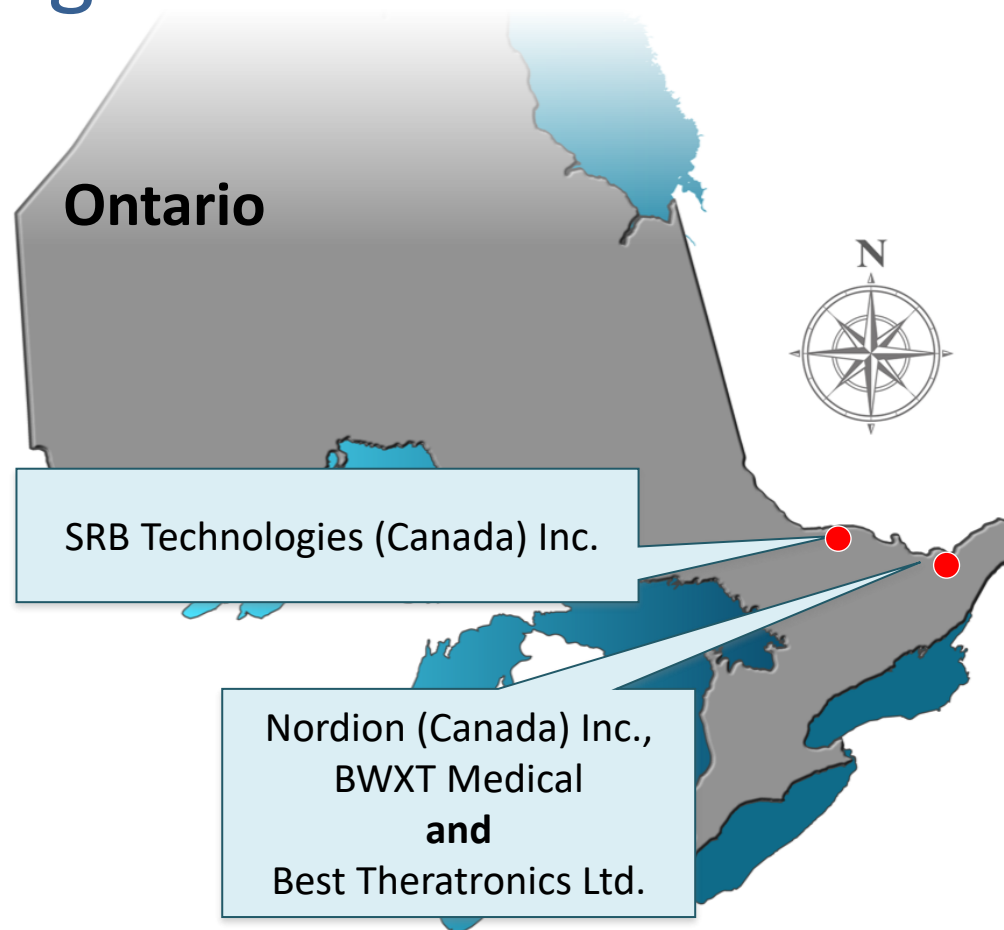


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# Nuclear Substance Processing Facilities

Facility	Licence Expiry	Financial Guarantee (approx.)
SRB Technologies (Canada) Inc. (SRBT)	June 2022	\$0.73M
Nordion (Canada) Inc.	October 2025	\$45.1M
Best Theratronics Ltd. (BTL)	June 2029	\$1.8M



**All nuclear substance processing facilities have valid financial guarantees in place for decommissioning**

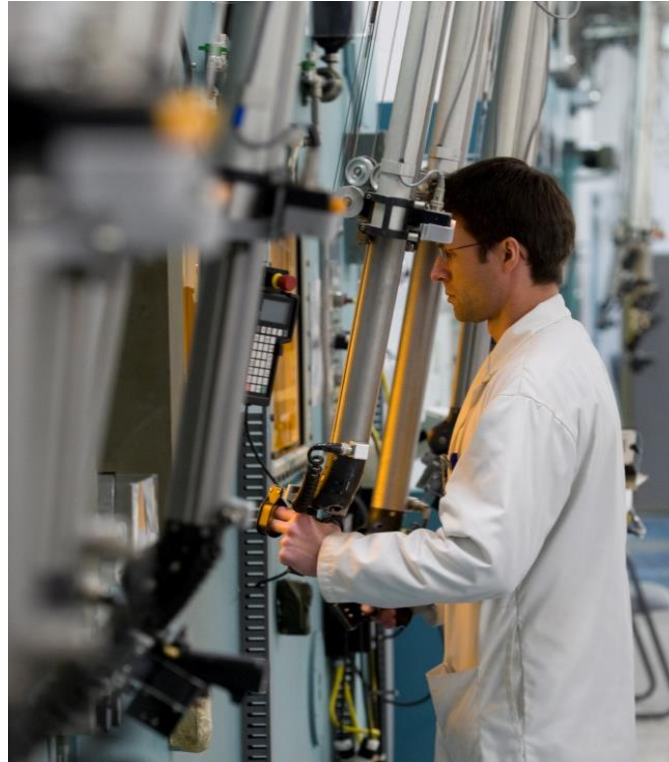


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# Nuclear Substance Processing Facilities



Image of a 70 MeV cyclotron at BTL  
Source: CNSC staff



Nordion personnel working with a hot cell manipulator.  
Source: Nordion



Exit Signs



Safety Markers



Raw Light Sources



Safety Signs



Tactical Devices

Source: SRB Technologies





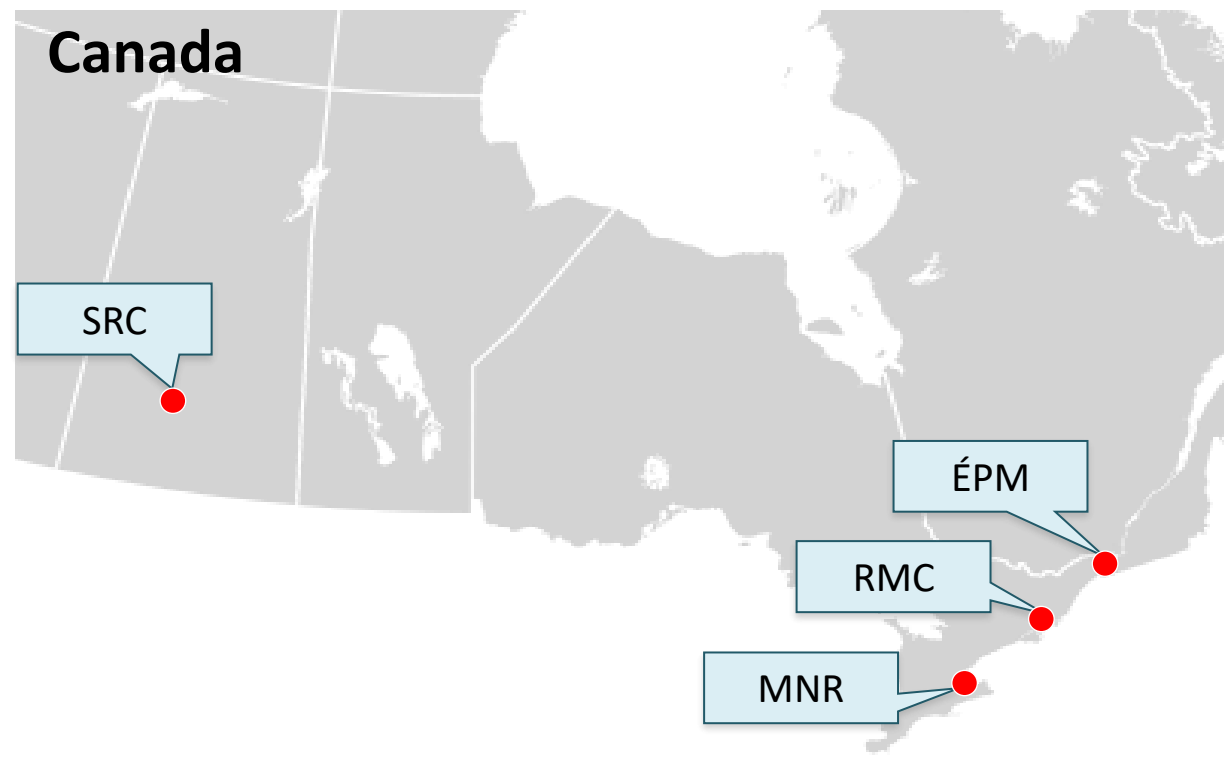
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# Research Reactor Facilities

Facility	Licence Expiry	Financial Guarantee (approx.)
École Polytechnique de Montréal SLOWPOKE-2 (ÉPM)	June 30, 2023	\$1.4M
McMaster Nuclear Reactor (MNR)	June 30, 2024	\$11.7M
Royal Military College of Canada SLOWPOKE-2 (RMC)	June 30, 2023	N/A
Saskatchewan Research Council SLOWPOKE-2 (SRC)	Licence to abandon	N/A

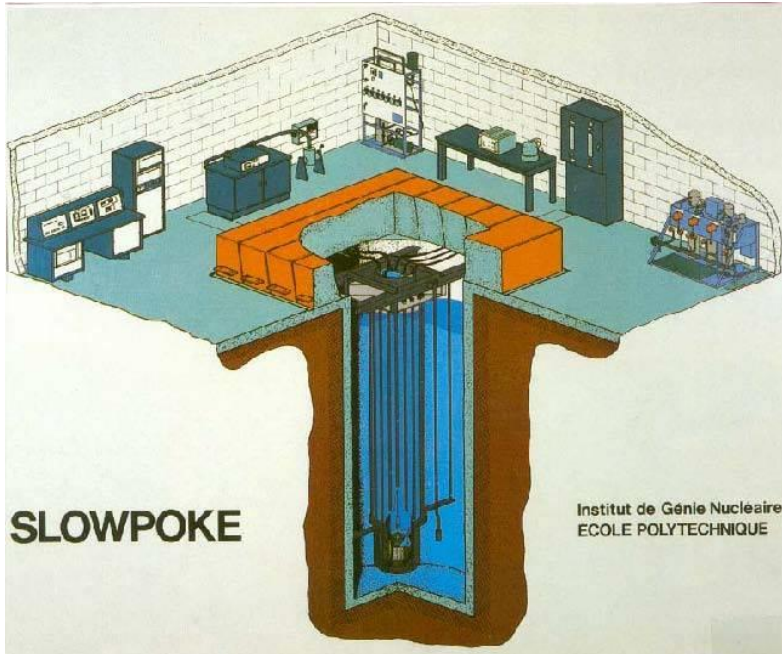


**All research reactors have valid financial guarantees in place for decommissioning**



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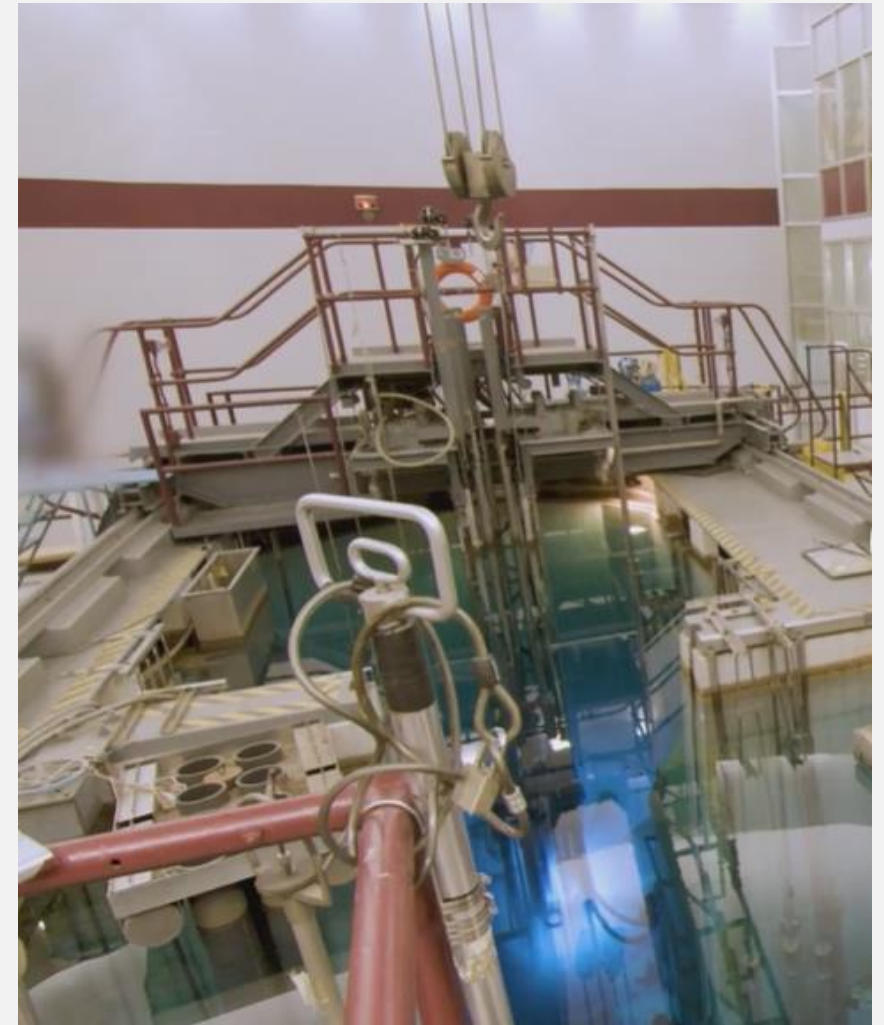
# Research Reactor Facilities



ÉPM SLOWPOKE-2 Reactor Diagram  
*Source: CNSC Website*



SRC Reactor Facility pool and overflow  
channels filled with grout  
*Source: SRC*



MNR Reactor Pool  
*Source: MNR Website*



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# KEY FACILITY HIGHLIGHTS



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# Facility Highlights

## Uranium and Nuclear Substance Processing Facilities and Research Reactors

	2020							2018-2020				
Highlights	BRR	PHCF	CFM	BWXT NEC	SRBT	Nordion	BTL	ÉPM	MNR	RMC	SRC	TOTAL
Licensing decisions	0	0	0	1	0	0	0	0	0	0	1	2
Regulatory limit exceedances	0	0	0	0	0	0	0	0	0	0	0	0
Action Level exceedances	1	4	0	1	0	0	0	0	0	0	0	6
Reportable events	3	8	1	1	0	10	1	1	1	0	0	26



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# Facility Highlights Reportable Events

Facility	Reportable Event Highlights
Nordion	false fire & low flow alarms, missing, damaged or improper packaging of packages, incorrect source exportation, imports of products without licences
PHCF	releases into the Port Hope Harbour, fluoride air emissions, hydrogen fluoride leaks, minor injuries, transportation
BRR	transportation, onsite fire
CFM	venting of a liquid hydrogen tank
BWXT Peterborough	sprinkler impairment
BTL	smoke accumulation
ÉPM	expired reactor operator certificate
MNR	impaired trip signal

**CNSC staff are satisfied with the corrective actions implemented by licensees**



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## Facility Highlights BWXT-NEC

### 2020 Licence Renewal

- **March 2020** - Commission Hearings ([CMD 20-H2.A](#) and [CMD 20-H2.B](#))
- **April 2020** - [Continuation of Hearing](#)
  - Additional sampling of beryllium in soil
  - Supplementary CMD submission ([CMD 20-H2.D](#) and [CMD 20-H2.E](#))
- **December 2020** - Commission renewed the BWXT-NEC licence ([Record of Decision 20-H2](#) )
  - Two 10-year facility specific licences
  - Additional Indigenous and public engagement



CNSC staff at the Toronto Meet the Nuclear Regulator outreach – January 22, 2020

Source: CMD 20-H2.A



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## Facility Highlights CNSC Staff Engagement Efforts Summary

### Winter/Spring 2021:

- Monthly meetings with Curve Lake First Nation
- Public information webinars
- Meeting with BWXT-NEC Peterborough Community Liaison Committee
- Meeting with Dr. Aherne on beryllium sampling and IEMP support
- Meeting with Peterborough Board of Health

### Summer/Fall 2021:

- Monthly meetings with Curve Lake First Nation
- IEMP sampling in the Peterborough community
- Continued discussions with Dr. Aherne

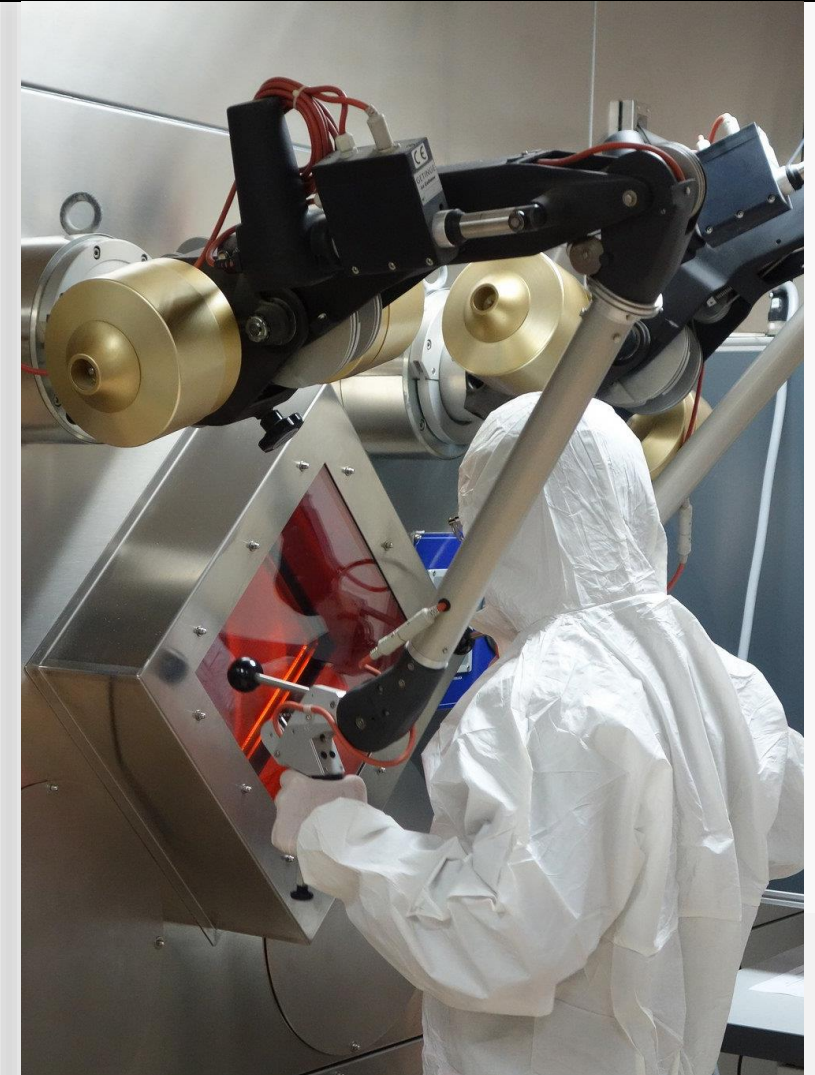
**CNSC staff continue to engage with Indigenous Nations and communities and the public on activities associated with the BWXT-NEC licence renewal**



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## Facility Highlights Nordion and BWXT Medical

- **April 2018** – BWXT Medical acquired Nordion’s medical isotope business
- **December 2018** – BWXT Medical applied to CNSC to obtain a licence to operate the facility under a separate licence
- **June 2021** - Commission Hearing ([CMD 21-H5.A](#))
- **October 2021** – Commission granted a 10-year licence to BWXT Medical (Record of Decision 21-H5)



Medical isotope production  
Source: IAEA





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## Facility Highlights SRC SLOWPOKE-2 Reactor Facility

### **December 2019** - Approval for decommissioning:

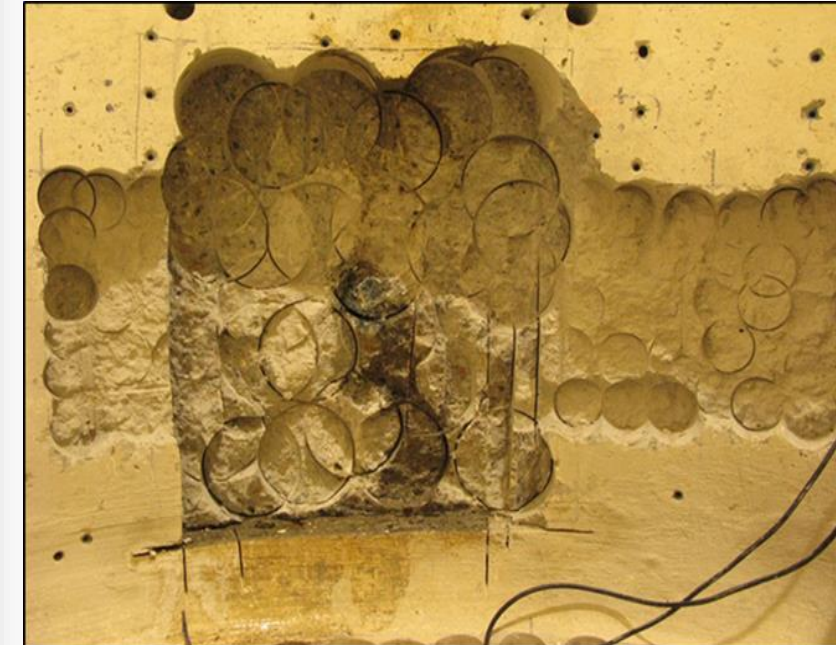
- Following Sept 2019 Commission Hearing, the Commission approved the amendment in Dec 2019 ([Record of Decision 19-H100](#)), authorizing SRC to decommission the facility

### **October 2020** - Request for licence to abandon:

- SRC submitted a request for a licence to abandon and revocation of the non-power reactor operating licence ([CMD 21-H104.1](#))

### **October 2021** - Commission issues licence to abandon

**Decommissioning activities conducted safely and met regulatory requirements**



Excavated portion of concrete and rebar from the reactor pool structure in order to be below the Unconditional Clearance Level (UCL)  
*Source: CNSC Inspection Report*



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# CNSC REGULATORY OVERSIGHT



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## CNSC Regulatory Efforts

Regulatory oversight includes licensing, compliance verification and reporting activities

Compliance is verified through:

- Inspection/verification activities
- Reviews of operational activities and documentation
- Licensee reporting of performance data, including annual reports and unusual occurrences

**Risk-informed and performance-based approach**



CNSC staff performing inspection at Cameco PHCF in 2020

Source: CNSC Inspection Report

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## Uranium and Nuclear Substance Processing Facilities and Research Reactors Regulatory Effort

	BRR <sup>c</sup>	PHCF <sup>c</sup>	CFM <sup>c</sup>	BWXT- NEC <sup>c</sup>	SRBT <sup>c</sup>	Nordion <sup>c</sup>	BTL <sup>c</sup>	ÉPM <sup>d</sup>	MNR <sup>d</sup>	RMC <sup>d</sup>	SRC <sup>d</sup>
Number of Inspections (NNC <sup>a</sup> )	3 (2)	3 (7)	3 (9)	4 (4)	2 (3)	2 (3)	2 (6)	2 (4)	3 (6)	2 (2)	2 (1)
Person Days for Compliance	243.1	269.1	175.9	247.3	87.4	124.3	160.1	68.3	231.4	85.8	167.4
Person Days for Licensing	92.7	17.2	24.2	525.7	11.8	0.7	6.5	26.9	76.1	21.3	287.7
Number of Safeguards Inspections led by IAEA <sup>b</sup>	7	11	4	10	0	0	0	2	0	2	3
Number of CNSC-initiated Safeguards Field Activities	0	0	0	0	0	0	0	1	0	0	0

<sup>a</sup> NNC: Notice of Non-Compliance<sup>b</sup> Canada has met its international obligations on the peaceful use of nuclear energy<sup>c</sup> Regulatory effort in 2020<sup>d</sup> Regulatory effort 2018-2020



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# CNSC Regulating Under COVID-19 Restrictions

- On March 15, 2020, CNSC implemented its Business Continuity Plan
- Travel to licensees' sites temporarily suspended
- CNSC staff provided technology to work from home
- COVID-19 protocol developed (e.g., pre-job brief, personal protective equipment)
- As a result, CNSC staff conducted:
  - Inspections using a combination of remote and onsite methods on risk-informed basis
  - Desktop reviews of licensee reports and submissions
  - Remote engagement with Indigenous Nations and communities, the public, applicants and licensees
- Commission hearings and meetings have been held virtually

Refer to [CMD 21-M33](#) for more information on CNSC response to COVID-19 and modified oversight approach for the nuclear fuel cycle program



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## Licensee COVID-19 Responses

- Licensees implemented business continuity plans and shut down non-essential activities
- Where activities continued, enhanced hygiene, screening protocols and physical distancing were implemented while reducing onsite workforce to essential workers only
- Reduced operations included work to ensure sites, facilities, equipment and grounds were maintained and kept safe and compliant with regulatory requirements
- All facilities maintained appropriate security measures throughout this period

**Safety and security maintained at all times**



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# CNSC STAFF ASSESSMENT



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## CNSC Staff Assessment Ratings and Performance

Safety and control areas (SCAs) are used to assess and evaluate licensee performance

CNSC staff rated performance as:

- Satisfactory (SA)
- Below expectations (BE)

Ratings are derived from results of regulatory oversight activities

### Safety and Control Areas

Management System

Human Performance Management

Operating Performance

Safety Analysis

Physical Design

Fitness for Service

Radiation Protection

Conventional Health and Safety

Environmental Protection

Emergency Management and Fire Protection

Waste Management

Security

Safeguards and Non-Proliferation

Packaging and Transport





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## CNSC Staff Assessment Ratings and Performance

CNSC staff use expert professional judgement to rate performance based on multiple inputs, including:

- Key performance indicators
- Results of compliance verification activities
- Repeat instances of non-compliance
- Effectiveness of licensee corrective actions

**Ratings represent a holistic summary of each SCA**



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# CNSC Staff Assessment SCA Ratings and Performance 2020

## Legend

SA = Satisfactory

Safety and Control Area	BRR <sup>a</sup>	PHCF <sup>a</sup>	CFM <sup>a</sup>	BWXT NEC <sup>a</sup>	SRBT <sup>a</sup>	Nordion <sup>a</sup>	BTL <sup>a</sup>	ÉPM <sup>b</sup>	MNR <sup>b</sup>	RMC <sup>b</sup>	SRC <sup>b</sup>
Management System	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Human Performance Management	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Operating Performance	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Safety Analysis	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Physical Design	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Fitness for Service	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Radiation Protection	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Conventional Health and Safety	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Environmental Protection	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Emergency Management and Fire Protection	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Waste Management	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Security	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
Safeguards and Non-Proliferation	SA	SA	SA	SA	N/A	SA	SA	SA	SA	SA	SA
Packaging and Transport	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA

<sup>a</sup> SCA ratings in 2020

<sup>b</sup> SCA ratings from 2018-2020



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## Radiation Protection Performance

- Radiation protection program implemented as required by the *Radiation Protection Regulations*
- Licensee programs were effective in controlling radiological hazards
- Doses to workers were well below the regulatory limits at all facilities over the reporting period



CNSC staff checking total contamination at BRR  
*Source: CNSC inspection report*



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## Radiation Protection Performance Action Level Exceedance

One radiation protection action level exceedance was reported:

July 2020 – BRR (Blind River, ON)

- Skin dose of 26.4 mSv
- Exceeded action level (15 mSv) but well below regulatory dose to skin limit (500 mSv)
- Cameco determined that most of the dose was received while the dosimeter was lost in a processing area
- Cameco requested a dose change request which was approved by the CNSC

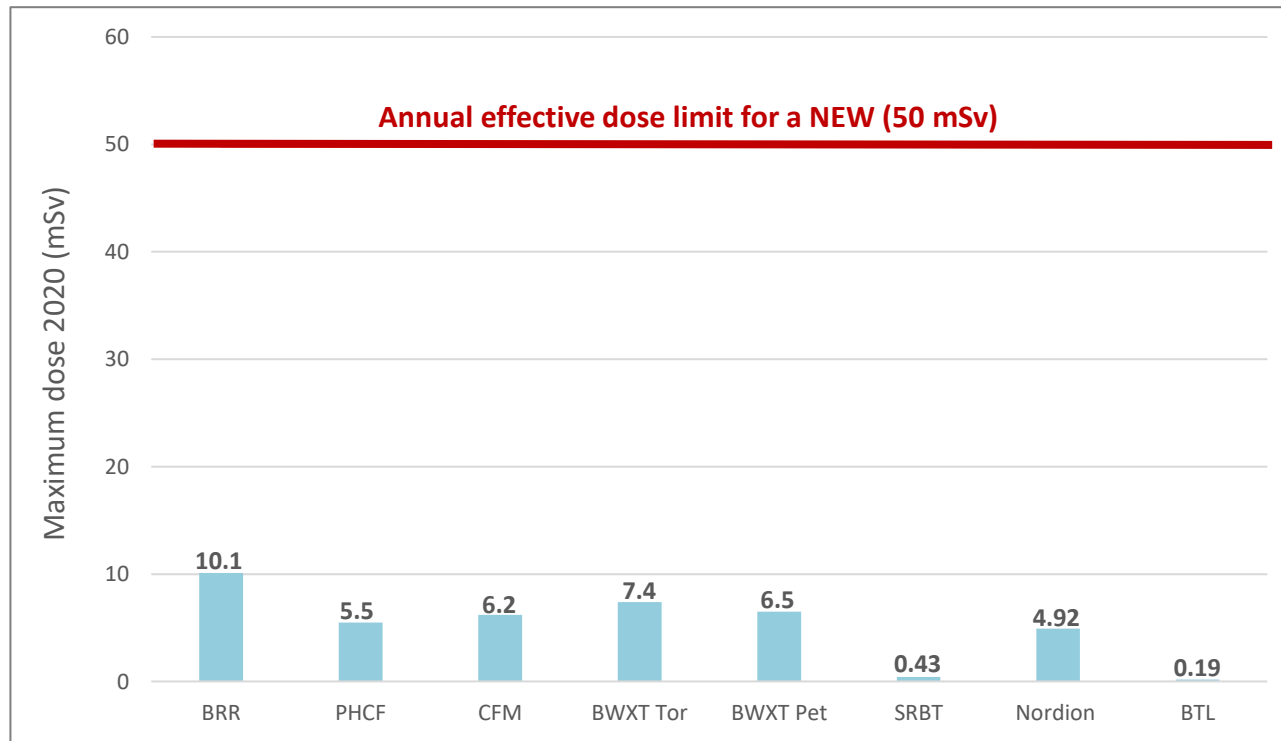
**No impact to workers, the public or the environment as a result of the  
action level exceedance**



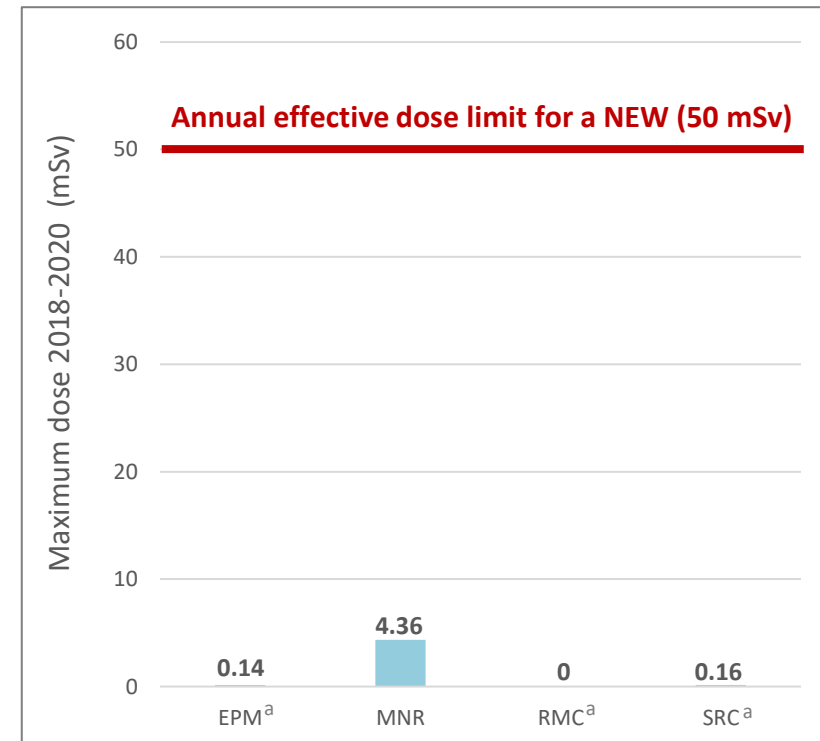
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# Radiation Protection Performance Maximum Doses to Nuclear Energy Workers (NEWs)

### Uranium and Nuclear Substance Processing Facilities (2020)



### Research Reactors (2018-2020)



<sup>a</sup> Workers classified as non-NEWs subject to the 1 mSv/yr dose limit



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## Environmental Protection Performance

- Effluent monitoring programs were effective in controlling airborne and waterborne releases of radioactive and hazardous substances
- Environmental monitoring programs confirmed that the health and safety of people and the environment remained protected
- All releases were well below regulatory limits at all sites



CNSC staff inspecting ambient air monitor at BWXT - Toronto

Source: CNSC CMD 20-H2.A



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## Environmental Protection Performance Action Level Exceedances

Action level exceedances were reported on 5 occasions:

BWXT-NEC (Toronto, ON)

- March 17, 2021: pH liquid effluent action level exceedances
  - 27 exceedances between 2019-2020 (No exceedances above city sewer limits)

PHCF (Port Hope, ON)

- March 13, 2020: Uranium sanitary sewer action level exceedance
  - Groundwater infiltration from a heavy precipitation event
- April 30 and May 31, 2020: Fenceline gamma action level exceedances
- July 13, 2020: Fluoride air emission action level exceedance



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## Environmental Protection Performance Action Level Exceedances

Additional details on PHCF action level exceedances:

- April 30 and May 31, 2020: Fenceline gamma action level exceedances
  - Gamma radiation measurements of 0.28 and 0.26  $\mu\text{Sv/hr}$  (0.22  $\mu\text{Sv/hr}$  action level)
  - Exceedance due to uranium hexafluoride cylinder storage
  - Cameco reviewed and adjusted the cylinder storage in the area
- July 13, 2020: Fluoride air emission action level exceedance
  - Fluoride emission of 273 g/hr (230 g/hr action level)
  - Valve replaced immediately and plant restarted following day

**No impact to workers, the public or the environment as a result of these action level exceedances**

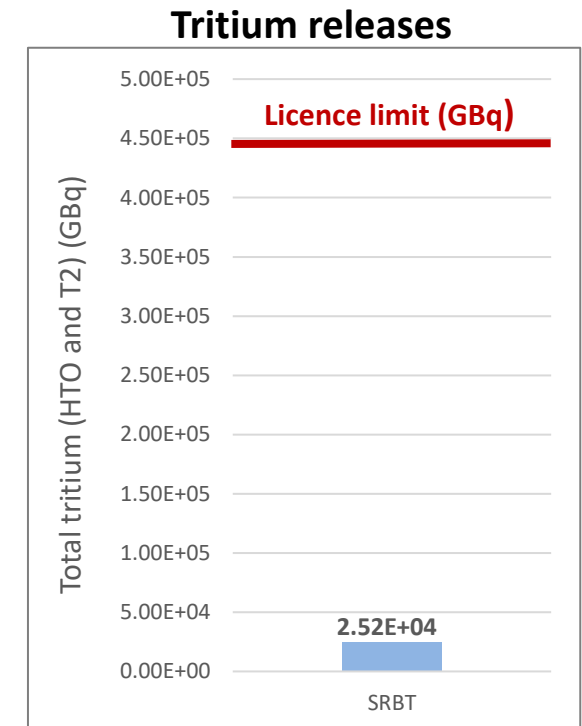
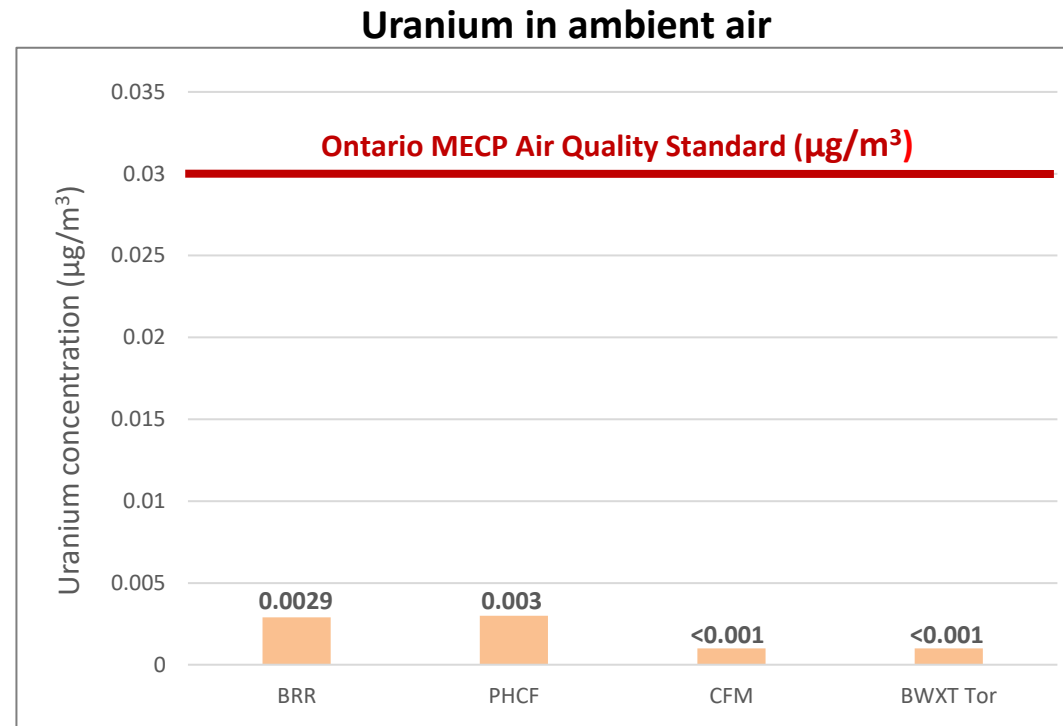




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# Environmental Protection Performance Annual Releases from UNSPF (2020)

- Direct releases from the UNSPF are primarily limited to atmospheric releases:
  - Uranium (BRR, PHCF, CFM, and BWXT-Toronto and Peterborough)
  - Tritium (SRBT)
- Negligible releases at Nordion and BTL



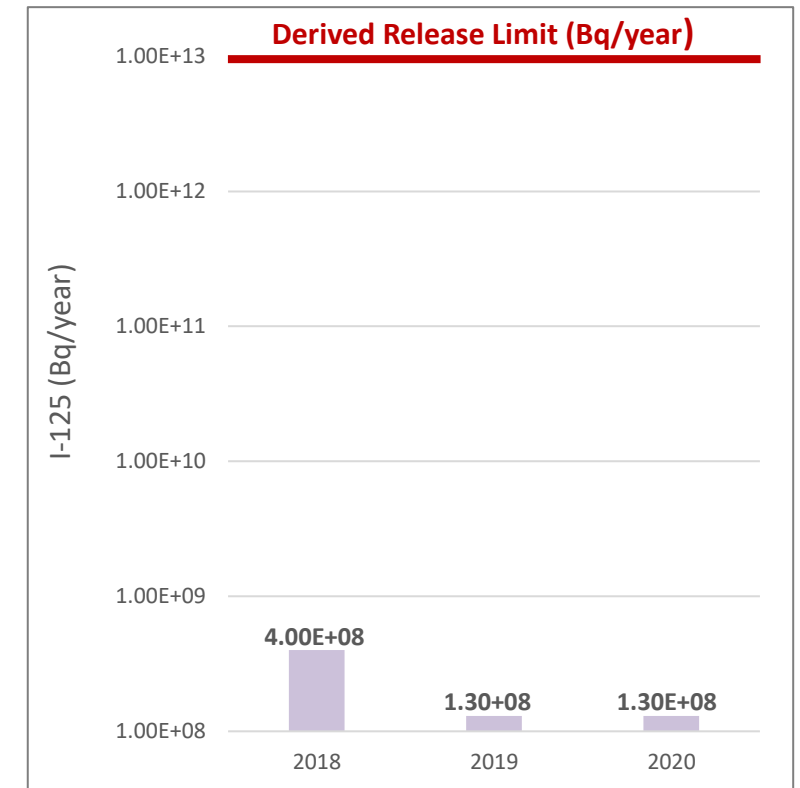
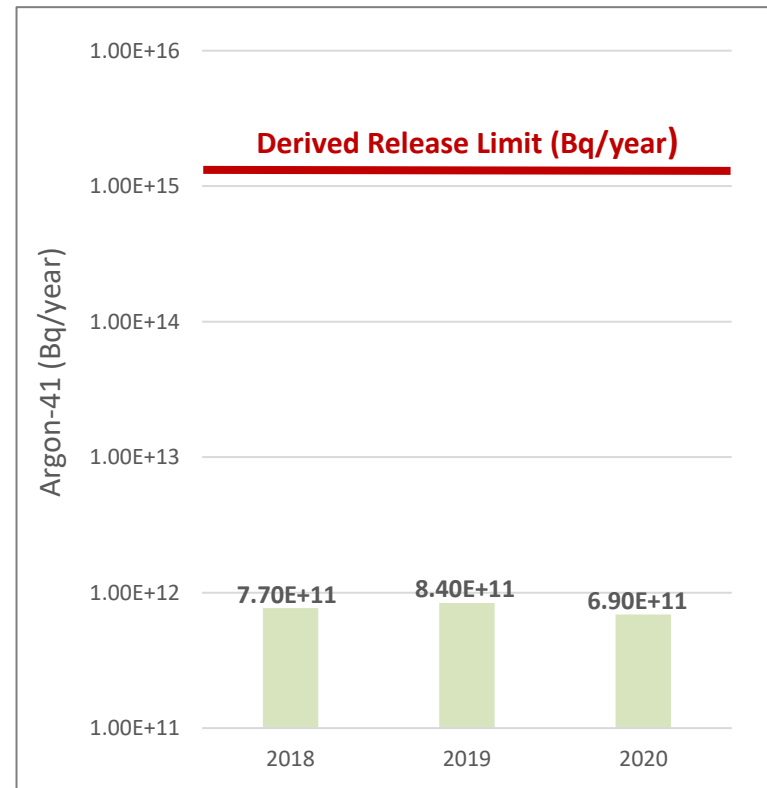
Note: BWXT Peterborough does not conduct ambient air monitoring as emissions at the point of release are already below the Ontario Ministry of the Environment, Conservation and Parks (MECP) air quality standard for uranium

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# Environmental Protection Performance Annual Releases from Research Reactors (2018-2020)

- Direct releases from the research reactors are limited to small residual releases to the atmosphere
- Negligible airborne and liquid radiological releases at the SLOWPOKE-2 facilities (ÉPM, RMC, SRC)

Ar-41 and I-125 releases at MNR

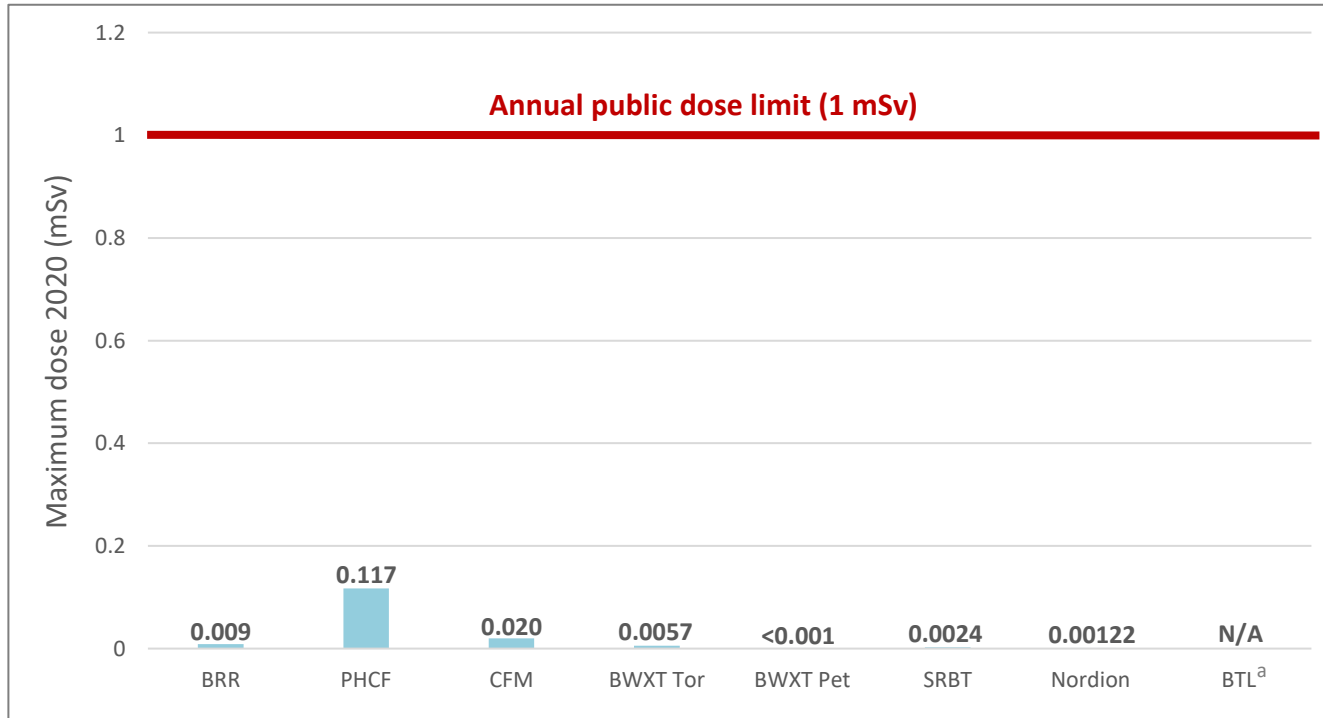




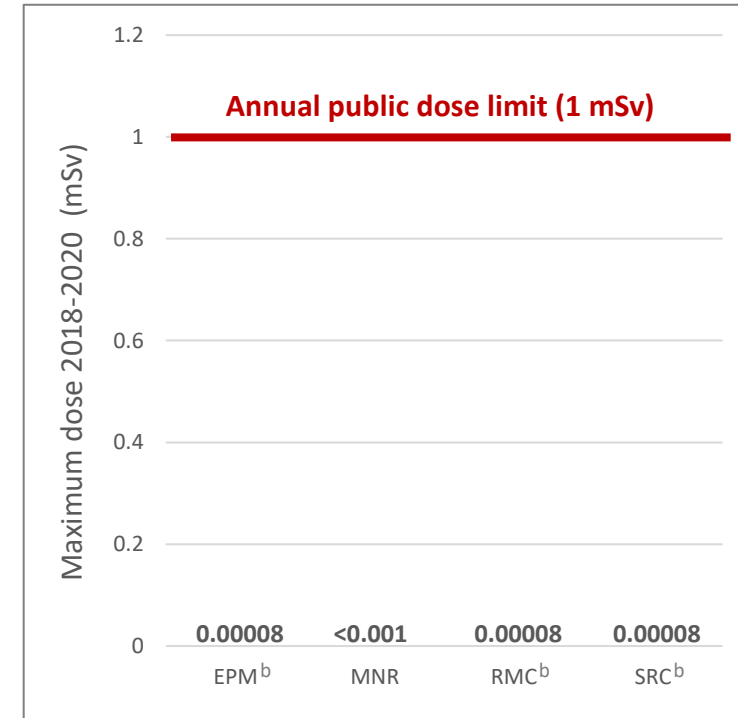
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# Environmental Protection Performance Maximum Doses to Public

### Uranium and Nuclear Substance Processing Facilities (2020)



### Research Reactors (2018-2020)



<sup>a</sup> No activities occur inside the BTL facility that result in the release of radioactive material to the environment

<sup>b</sup> These values were estimated by CNSC staff using a sector specific environmental risk assessment model



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## Conventional Health and Safety Performance Lost-Time Injuries (LTI)

- Effective safety programs promote safe and healthy workplaces and minimize incidences of occupational injuries and illnesses
- Lost-time injuries:
  - Injury that results in the worker being unable to return to work for a period of time
  - Key performance indicator for conventional health and safety
- No lost-time injuries for the uranium and nuclear substance processing facilities in 2020 or for research reactors from 2018-2020

**Licensees maintained effective oversight of health and safety of workers**



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# OTHER MATTERS OF REGULATORY INTEREST



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## Public Engagement

CNSC staff routinely engage with the public as a means to inform the public of the CNSC's role, and to discuss issues of concern related to CNSC-regulated activities

January 2020 – BWXT-NEC Open Houses

### Two open house sessions:

1. Toronto, Ontario
2. Peterborough, Ontario



CNSC staff providing information to participants attending an open house in Peterborough, 2020.  
Source: CNSC



ROR for UNSPF and RRs: 2020  
CMD 21-M33.A

## Participant Funding Program (PFP)

- Funding was provided to assist members of the public and Indigenous Nations and communities in providing valuable information directly to the Commission
- PFP awarded based on independent funding committee recommendations

Recipient
Algonquins of Ontario
Curve Lake First Nation



ROR for UNSPF and RRs: 2020  
CMD 21-M33.A

## Independent Environmental Monitoring Program (IEMP)

CNSC staff sample air, water, soil, vegetation, and various foods to independently verify that the communities and the environment are protected

In 2020, CNSC staff conducted IEMP sampling at 3 Cameco facilities:

- [BRR \(Blind River, ON\)](#)
- [PHCF \(Port Hope, ON\)](#)
- [CFM \(Port Hope, ON\)](#)



CNSC staff taking a water sample near the BRR facility in Blind River, Ontario in 2020.

Source: CNSC

**All IEMP results are posted on the CNSC's website**





ROR for Uranium and Nuclear Substance Processing Facilities and Research Reactors: 2020  
CMD 21-M33.A

# SAFETY PERFORMANCE CONCLUSIONS



ROR for UNSPF and RRs: 2020  
CMD 21-M33.A

## Safety Performance Conclusions

# Uranium and Nuclear Substance Processing Facilities and Research Reactors

CNSC staff have confirmed that over the period reviewed, licensees operating uranium and nuclear substance processing facilities and research reactors in Canada:

- Adequately controlled radiation exposures to keep doses ALARA
- Maintained releases to levels protective of the environment
- Continued to protect workers with conventional health and safety programs
- Continued to effectively implement programs in support of all SCAs
- Addressed all areas of non-compliance in a timely manner

**CNSC staff are satisfied that licensees continue to protect the health and safety of workers, public and the environment**



ROR for Uranium and Nuclear Substance Processing Facilities and Research Reactors: 2020  
CMD 21-M33.A

# KEY THEMES FROM INTERVENTIONS



ROR for UNSOPF and RRs: 2020

CMD 21-M33.A

## Key Themes from Interventions

Three interventions received, in which CNSC staff observed the following key themes:

- Engagement and consultation with Indigenous Nations and communities
  - Increased communication, engagement and consultation from the licensees and the CNSC
  - Recommendations for addressing ongoing capacity challenges that limit participation
  - Participation in environmental monitoring activities
- CMD text and format
  - Recommendations for improving how Indigenous Nations and communities are acknowledged and referred to within the CMD text
- Supplemental information
  - Requests for additional information related to environmental protection measures, environmental monitoring data and transportation of nuclear material



ROR for UNSPF and RRs: 2020

CMD 21-M33.A

## Key Themes from Interventions – Next Steps

CNSC staff are committed to working with Indigenous Nations and communities:

- To better understand and address the issues/concerns raised in the interventions
- To improve how Indigenous Nations and communities are acknowledged and referred to within the CMD text and format
- To enhance our relationships with interested and potentially affected Indigenous Nations and communities, including through formal agreements, where appropriate



ROR for Uranium and Nuclear Substance Processing Facilities and Research Reactors: 2020  
CMD 21-M33.A

# CONCLUSIONS



ROR for UNSPF and RRs: 2020  
CMD 21-M33.A

## Conclusions

### **CNSC staff's regulatory oversight activities confirmed that:**

- Licensees are taking action in a timely manner
- Licensees' programs are implemented effectively
- Priority areas using a risk-informed approach and verification activities are maintained
- Trends across the uranium and nuclear substance processing facilities and research reactors demonstrate that the industry continues to operate safely

**Operations at uranium and nuclear substance processing facilities and research reactors were conducted safely**



Canadian Nuclear  
Safety Commission

Commission canadienne  
de sûreté nucléaire

Canada

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