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Annual Program Report

Rapport annuel sur les programmes

**Regulatory Oversight
Report on the Use of
Nuclear Substances in
Canada: 2021**

**Rapport de surveillance
réglementaire sur
l'utilisation des
substances nucléaires
au Canada : 2021**

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Summary

This Commission member document (CMD) presents the *Regulatory Oversight Report on the Use of Nuclear Substances in Canada: 2021*.

Through inspections, reviews and assessments, Canadian Nuclear Safety Commission staff concluded that licensees in the medical, industrial, academic and research, and commercial sectors have made adequate provisions to protect the health, safety and security of persons and the environment.

There are no actions requested of the Commission. This CMD is for information only.

Résumé

Le présent document à l'intention des commissaires (CMD) présente le *Rapport de surveillance réglementaire sur l'utilisation des substances nucléaires au Canada : 2021*.

Au moyen d'inspections, d'examen et d'évaluations, le personnel de la Commission canadienne de sûreté nucléaire a conclu que les titulaires de permis dans les secteurs médical, industriel, commercial, universitaire et de recherche ont pris les dispositions nécessaires pour protéger la santé, la sûreté et la sécurité des personnes et de l'environnement

Aucune mesure n'est requise de la Commission. Ce CMD est fourni à titre d'information seulement.

Signed/signé le

16 August 2022

Karen Owen-Whitred

Director General

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Regulatory Oversight Report on the Use of Nuclear Substances in Canada: 2021



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Cover images

From left to right:

Portable gauge in use (Source: CNSC)

Inspection of a veterinary nuclear medicine licensee (Source: CNSC)

Industrial radiography camera (Source: CNSC)

Inspection of a medical linear accelerator (Source: CNSC)

Source height adjustment assembly of a pool-type irradiator (Source: CNSC)

Vial in a lead pot with a radioactive waste container in behind (Source: Shutterstock)

CNSC staff manning a booth at a conference (Source: CNSC)

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Regulatory Oversight Report on the Use of Nuclear Substances in Canada: 2021

Executive summary

This document presents the regulatory oversight report (ROR) on the use of nuclear substances in Canada in the medical, industrial, academic and research, and commercial sectors. Licensees covered by this report are, for the most part, regulated by the CNSC's Directorate of Nuclear Substance Regulation (DNSR). It also includes select waste nuclear substance licensees which are not reported in other RORs and are regulated by the Directorate of Nuclear Cycle and Facilities Regulation. Licensees covered by this report are located across Canada and CNSC staff acknowledge all Treaties and traditional territories on which the licensees that are subject to this report are situated.

The key message conveyed in this year's ROR continues to be the impact of the COVID-19 pandemic on regulatory oversight, as the CNSC balanced the need for in-person compliance activities with the health and safety of the public and of CNSC and licensee staff. While 2021 allowed for the return of in-person inspections at a higher frequency than in 2020, the number of inspections conducted was still lower than in the years prior to the pandemic. Despite this reduction, the indicators presented in this report demonstrate that the risks posed by the use of nuclear substances in Canada continue to be managed appropriately.

While overall compliance remains high, staff are beginning to see a moderate downward trend in some sectors for certain Safety and Control Areas (SCAs). In particular, there was a decline in ratings this past year for the radiation protection SCA in the academic and research sector and the security SCA in the medical sector. As explained in the 2020 ROR, we had anticipated this decline as a result of restrictions on in-person inspections over the past 2 years. This is primarily due to 2 reasons: first, inspections are a powerful tool for compliance promotion. As such, a lower frequency of inspections increases the probability of non-compliances by the licensee. Second, the nature of our risk-informed compliance program leads us to focus our inspection effort on those licensees with the greatest potential for compliance problems, thereby introducing a bias in the performance results.

In assessing licensee performance results for 2021, CNSC staff continue to conclude that nuclear substances in Canada are used safely. However, staff will continue to monitor performance and will be placing a priority on steadily increasing on-site presence. At the same time, the CNSC has a number of other ways to assure safety across the regulated sectors, including a strong approach to licensing, the ability to react quickly to unforeseen events, and graduated enforcement tools that enable staff to bring a licensee back into compliance in cases of unacceptable performance. In addition, our risk-informed inspection-planning process allows staff to target those licensees that are the highest priority, thereby ensuring that we are applying our inspector resources with maximum effectiveness.

The CNSC's annual regulatory oversight reports continue to evolve over time in response to feedback received from the Commission and from intervenors. As such, staff have included 2 new sections in this year's ROR: an explanation of the risk-informed planning process just mentioned, and an overview of how the CNSC assesses the environmental impact of nuclear substance licensees. We have also re-introduced a section describing how the CNSC fulfils its international commitments for the sectors covered in this report. This demonstration of responsiveness and transparency is a key element of our commitment to building trust in the nuclear regulator.

Based on the CNSC's regulatory oversight, flexibility, and actions responding to the changing work environment, the evaluations presented in this report confirm the following:

- the use of nuclear substances and prescribed equipment in Canada remains safe and secure

- a rigorous process is in place to plan inspections on a priority basis
- thorough assessments of licensee applications ensure licensees are compliant with regulatory requirements and understand their responsibilities
- doses to workers remain low and below prescribed limits
- non-compliances are addressed, and enforcement actions are closed in a timely manner
- events are reported and reviewed appropriately

Overall, licensees made acceptable provisions to protect health, safety, security and the environment from the use of nuclear substances and prescribed equipment, and took the measures required to implement Canada's international obligations and commitments.

Use of nuclear substances in Canada: 2021

The *Regulatory Oversight Report on the Use of Nuclear Substances in Canada: 2021* summarizes the safety performance of 1,500 licensees, which hold a total of 2,097 licences. The CNSC authorizes licensees to use nuclear substances and prescribed equipment in the medical, industrial, academic and research, and commercial sectors. For a description of the licensed activities covered within this report, refer to the [technical briefing to the Commission on nuclear substances in Canada](#) (CMD 18-M49). This ROR also includes five waste nuclear substances licensees (WNSL) that are not captured in any other CNSC ROR. They are included in the commercial sector throughout the report. Additional data on licensees covered by this ROR is available in [appendix A](#).

CNSC staff use many metrics to evaluate licensees' safety and security performance. This report uses a subset of these metrics, which – when taken together – will provide a well-rounded picture of performance for the licensees covered by this report. The metrics used in this report are:

- [compliance performance](#)
- [enforcement actions](#)
- [doses to workers](#)
- [reported events](#)

Licensing oversight also plays a key role in supporting licensee performance. Rigorous assessments of licensee programs along with timely desktop reviews of annual reports and changes submitted by the licensee are critical in ensuring that licensees have appropriate programs and people in place to ensure the safe and secure use of nuclear substances in Canada.

In addition to the standard review of performance indicators, the 2021 ROR includes an overview of how inspection planning is used to mitigate the risk that has been introduced due to the decrease in inspections performed. A detailed description of how inspections are planned is included in [section 2.0](#).

In response to intervenor feedback, additional information is included related to inspection criteria ([Appendix H](#)) and on environmental protection as it relates to most licensees covered by this ROR, which can be found in [section 3.7](#). The section on international commitments and obligations has also been re-introduced in the report in response to feedback (see [section 8.0](#)).

Finally, the report provides the Commission with information about stakeholder engagement, which is a critical element of the CNSC's regulatory approach. Given the breadth of licensees regulated in the area of nuclear substances, a particular focus is on reaching and engaging with licensee communities.

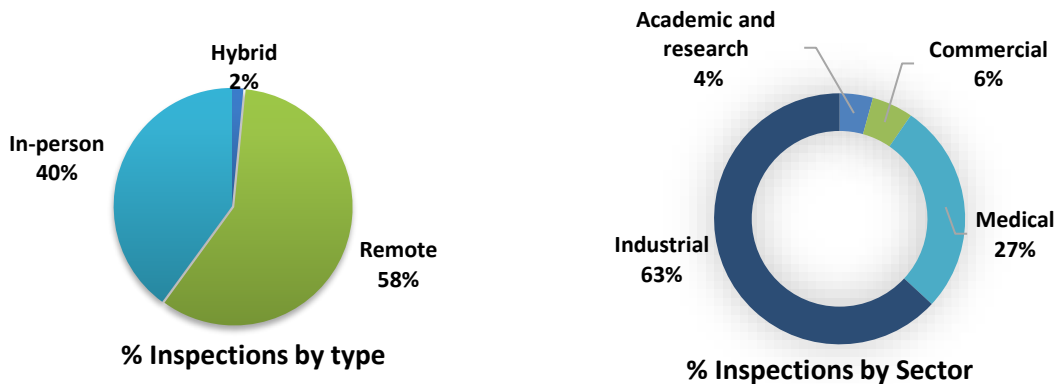
This ROR includes data in both the body and appendices; the main body of the report provides a high-level overview of the CNSC's regulatory efforts, along with the licensees' performance; the detailed data to support this overview is found in the appendices.

1.0 Inspection Overview in 2021

The COVID-19 pandemic continued to have an impact on regulatory oversight in 2021 as the CNSC balanced regulatory oversight with the health and safety of CNSC and licensee staff. Inspections in 2021 included a mix of remote, in-person and hybrid inspections depending on the restrictions in place at the time as well as on the comfort level of staff visiting a licensee site in-person. Until mid-2021, occupational health and safety protocols put in place in response to provincial and federal guidelines limited travel and in-person activities; however, when warranted by licensee performance, staff did perform in-person inspections. As restrictions started to ease and more routine, in-person inspections resumed in the summer, differing risk tolerances for travel and for in-person activities (for both the CNSC

as a whole and for individual staff members) were key considerations when determining whether an inspection would be done in-person or remotely. In the fall of 2021 (specific timelines dependent on location in Canada), the prevalence of new cases of the Omicron variant of COVID-19 across the country put a halt to routine on-site inspections once again.

In 2021, staff performed 583 inspections (233 in-person, 9 hybrid, and 341 remote). Most of these inspections were done in the industrial and medical sectors (63% and 27% respectively). This is expected as these two sectors make up approximately 79% of all licences and many of the licensed activities categorized as higher risk are part of these two sectors.



The number of inspections performed in 2021 exceeded the planned number of 495 inspections. It was also an increase over 2020 when only 371 inspections were performed (although still short of the number of annual baseline inspections conducted pre-pandemic). As a result of the pandemic once again limiting on-site inspections, the use of remote inspections continued to be an essential component of regulatory oversight in 2021 with 60% of inspections being done remotely or in a hybrid manner. While remote inspections are a useful tool, in most cases CNSC staff believe that on-site inspections are the preferred option when possible; as such, we expect the proportion of on-site inspections to increase as COVID restrictions continue to ease.

While the number of annual inspections has increased since 2020, CNSC staff can see a correlation between the reduced number of inspections due to the pandemic and the compliance results from the past 2 years (see [section 3.0](#) for a discussion of compliance performance in 2021). The inspection planning process used by CNSC staff is designed to consider such changes in performance, through a risk-informed approach that prioritizes the most critical inspections. Using this planning process allows CNSC staff to maintain assurance that the nuclear substances sector continues to be safe, despite the lower number of inspections – [section 2.0](#) of this report provides an overview of the CNSC’s inspection planning and prioritization process.

Notwithstanding these methods to mitigate the risk introduced by fewer inspections, CNSC staff will be working to increase the number of annual inspections in order to regain the baseline inspection frequency determined by our risk-informed compliance program. It is true that the primary responsibility for safety lies with the licensee and therefore the CNSC expects licensees to comply with regulatory requirements whether they are subject to a CNSC inspection or not. Nonetheless, inspections are an important component of regulatory oversight in order to verify licensee compliance with those requirements. Moreover, they provide an opportunity for inspectors to intervene early with licensees when performance starts to decline, whether from complacency, lack of understanding of regulatory requirements, or poor safety culture. Finally, inspections provide a unique opportunity to gather certain types of performance information, such as observing staff while they perform their work to see if they are following procedures or getting a sense of overall licensee safety culture and radiation protection program effectiveness. This is

especially true for licensees engaged in field work where it is important that workers follow their procedures to ensure their safety, since physical barriers are not always available. CNSC staff can then use this information to make risk-informed licensing decisions.

Given the importance of inspections generally, and the priority given to addressing the current backlog, the availability of a sufficient number of trained inspectors is a key program constraint that CNSC staff are monitoring closely. To ensure we have the necessary resources to conduct planned, baseline inspections, we aim to recruit new inspectors at a level that will compensate for natural attrition rates, and to retain the qualified staff already in place.

Finally, while important, inspections are not the only regulatory oversight tool available to the CNSC to assess licensee compliance. Throughout 2021, CNSC staff also continued to review annual compliance reports (ACRs) submitted by licensees and continued to monitor reported events. Both activities can provide indicators of licensee performance, to supplement inspection findings. Additionally, licensee programs are reviewed and evaluated as part of the licence assessments. High quality assessments help ensure that licensees have strong programs in place.

Considering the full suite of compliance activities, as well as the ability to prioritize the most risk significant inspections, CNSC staff have concluded that the impact on licensee performance from the continued reduced number of inspections conducted in 2021 remains acceptable. As restrictions continue to be lifted, CNSC staff anticipate that the number of on-site inspections performed will continue to increase, which will lead to increased confidence that nuclear substance licensees continue to operate in a safe manner. Staff presence at licensee sites will be a reminder to licensees that regulatory oversight and compliance with regulatory requirements continues to be a priority for the CNSC.

2.0 Inspection Planning Overview

Across Canada, there are over 2,000 nuclear substance licences issued by the CNSC and over 3,000 locations subject to CNSC inspections (since licensees can have more than one location). Given this high volume of licences and a finite number of inspectors, DNSR needs to deploy its resources to ensure maximum effectiveness. We do this through the application of a risk-informed inspection planning process, where resources and regulatory oversight are applied commensurate with the risk posed by the regulated activities.

The DNSR inspection planning process involves many considerations. First, we have established risk rankings for each type of licensed activity, which provides a relative order of regulatory effort – both licensing and compliance – to be applied to that activity. This risk ranking is the primary driver for setting a baseline inspection frequency for a specific facility or activity. This baseline is defined based on a well-performing licensee who meets all regulatory requirements in a particular area and was determined by CNSC staff using the risk index approach in accordance with CAN/CSA-IEC/ ISO 31010-10, Risk Management-Risk Assessment Techniques. Experience has demonstrated that not all licensees within a particular subsector require the same inspection frequency.

With this initial baseline established, staff prioritize inspections on a yearly basis using a risk-informed approach considering specific criteria. The prioritization exercise may consider any, or all, of the following criteria:

- Licensees most overdue for inspection
- New licensees (never inspected, potential unknown risks)
- Compliance/performance history at the licensee level including enforcement actions
- Sector and/or subsector performance trends
- Instigating factors (e.g., changes in radiation safety officers, amalgamation of licences, acquisitions, mergers and licence transfers)

- Staff input based on knowledge of a particular licensee
- List of licensees or locations that require a follow up inspection

The prioritization process considers all licensees that are due for an inspection according to the baseline. The process then involves assessing the risk profile of the licensees according to the frequency, recurrence and severity of past non-compliances, reviewing performance and compliance trends, and creating the priority lists based on defined criteria.

The priorities are separated into three categories:

- Priority 1 (P1) inspections must be performed as assigned, or declined with defensible and documented rationale (i.e. – decommissioned location, inaccessible, inventory not present, etc.)
- Priority 2 (P2) inspections, while not required to be performed, should be prioritized above all other remaining options
- Priority 3 (P3) inspections are the remainder of the inspections that are due, which can be performed after P1 and P2 inspections are considered

The prioritization of inspections into 3 categories helps ensure that staff are inspecting licensees and locations where the need is greatest. It allows flexibility to be built into the plan. The execution of the inspection plan is then dependant on available resources and restrictions (e.g., travel constraints during the pandemic). It is also dependent on unplanned work that must be addressed. For example, approximately 30% of compliance effort is spent on reactive work related to the follow-up of non-compliances by licensees or to verify licensee response to events. The amount of effort expended on these activities will vary depending on the performance of licensees and on the number of events reported that require follow up.

Overall, the inspection planning process is effective at ensuring resources are applied appropriately for compliance oversight purposes. When faced by the restrictions imposed by the pandemic, this established process allowed us to accommodate a reduction in annual inspections without compromising safety, by concentrating our resources on those highest priority inspections.

3.0 Compliance performance

[Appendix B](#) covers the full 2021 performance data, broken down by SCA, by sector and by subsector. In addition, the data shows the 5-year performance trends within each of these categories.

Overview of compliance framework

To measure licensee performance, CNSC staff use a well-established [Safety and Control Area Framework](#). The framework includes 14 safety and control areas (SCAs) covering all technical areas of regulatory oversight. While CNSC staff review and assess performance in all SCAs (if applicable) as part of licensing and compliance activities, the ROR focuses on those that are most effective in providing an overall indication of the safety performance of the licensees. These are: management system, operating performance, radiation protection, and security. Performance data in the environment protection and conventional health and safety SCA is also provided for the waste nuclear substance licensees. These licensees, unlike other licensees covered by this report, have a higher potential for environmental releases. In addition, due to the nature of the work performed and the introduction of other hazards to be mitigated, there is a potentially higher risk in conventional health and safety.

During licensing and compliance activities, CNSC staff evaluate the licensee's performance within each relevant SCA by reviewing licensee documents and conducting inspections. Owing to the broad nature of the different activities conducted by the licensees covered, not all SCAs apply to all activities or all

licensees. All relevant SCAs are assessed during inspections and a compliance rating is assigned for each SCA. Each SCA may include multiple assessment areas. The areas or items to be assessed arise from regulatory requirements, licence conditions and documents referenced in the licence. Some of these requirements are administrative in nature and are considered relatively low risk, while others are linked to an immediate risk to health, safety or security, and therefore any findings against these items during an inspection must be addressed immediately. Refer to [appendix H](#) for an inspection worksheet template used for a typical inspection of nuclear substances and radiation devices licensees, specifically those in the portable gauge subsector. All areas assessed within a given SCA impact the overall rating of an SCA. A description of the ratings is provided in [appendix I](#). The ratings definitions were updated in 2021 to improve clarity. CNSC staff presented the updated definitions and provided an explanation of these revisions to the Commission in January 2022 as part of the [Results of CNSC Staff Review of the Regulatory Oversight Report Process](#) presentation.

CNSC staff track and follow up on all required corrective actions arising from less than satisfactory performance (below expectation or unacceptable ratings), to ensure that all items of non-compliance are addressed to the satisfaction of CNSC staff. In the event an immediate risk to health, safety or security is identified, CNSC staff will take prompt action, which may include enforcement actions such as the issuance of orders. Administrative monetary penalties (AMPs) may also be used as part of a graduated approach to compliance, for issues that do not pose an immediate risk to health or safety.

Feedback from stakeholders: additional information on SCAs in the 2021 ROR

CNSC staff acknowledge that all SCAs are important, regardless of whether they're included in the ROR. Based on interventions in previous ROR proceedings and follow-up discussions with intervenors, the transport and packaging SCA and the environmental protection SCA continue to be the areas where stakeholder interest is high.

The interest in packaging and transport is not surprising due to the volume of shipments of nuclear substances made each year. However, the packaging and transport SCA is not applied in the same manner across all licensees, depending on the nature of the industry. For example, the packaging and transport SCA is of high importance in the portable gauge or industrial radiography subsectors as these are mobile radiation devices that are transported daily. In comparison, within the fixed gauge subsector, the packaging and transport SCA is of minimal importance as these radiation devices are generally in a fixed place for lengthy periods of time and may only be packaged for transport at the beginning and the end of their life. Comparing data for these different subsectors becomes difficult as the activities performed are varied and it would be challenging to present performance data in a meaningful way in the ROR. Instead, a review of the reported events related to packaging and transport provides a more meaningful indicator for this SCA across the sectors. As was done as part of the 2020 ROR, further analysis of this indicator is provided in [appendix E](#).

With regards to the environmental protection SCA, much of the interest CNSC staff have heard from stakeholders is related to the applicability of [REGDOC-2.9.1, Environmental Protection: Environmental Principles, Assessments and Protection Measures](#) to licensees covered by this report. Environmental protection is considered as part of all licence application assessments, and as part of compliance oversight. For some licensed activities where there are no interactions with or releases to the environment, no additional environmental protection measures are required. For all other licensed activities, REGDOC 2.9.1 is applied in a graded manner. In response to interest in this area, staff have included additional information on this topic in [section 3.7](#).

Overall analysis of 2021 compliance results

There was a total of 5 unacceptable ratings, [as defined by the CNSC](#), issued in 2021. All these unacceptable ratings were issued to the industrial sector, and all were issued in the SCAs covered by this report as described in the sections below. CNSC staff issued orders in 3 of the cases of unacceptable ratings and took licensing action in the other 2 cases. No unacceptable ratings were issued in SCAs not covered in this report.

A list of inspections performed in 2021 is available in [appendix F](#). Where items of non-compliance were identified, CNSC staff verified that licensees took appropriate corrective actions. Licensees promptly addressed any items of non-compliance that had immediate risks to health, safety, or security.

Overall licensee performance in the four sectors remained satisfactory and relatively stable over the past 5 years in all SCAs covered by this report; however, there was more significant variation at the sub-sector level, as further described below. This decline in performance in certain areas was not surprising and in fact, was predicted in the ROR on the use of nuclear substances in Canada: 2020. While a number of factors influence compliance, CNSC staff believe that there is a link between the decline in performance and the reduced number of inspections in recent years, as described in more detail in [section 1.0](#). In addition, downward trends in compliance over the past year could reasonably be attributed to other influences, including the typical adjustment period that follows the introduction of new regulatory requirements (notably for the radiation protection SCA, as described further below), as well as the impact of the pandemic on licensee operations, particularly in the medical sector. Finally, it is always important to keep in mind that, for some sectors, we are extrapolating overall performance in a given SCA based on very small datasets, which limits the reliability of any conclusions drawn.

Regardless of the reasons for the declining performance, CNSC staff continue to monitor compliance results and use those results as one of the inputs for our risk-informed approach to regulating these sectors. In addition, we maintain the capacity to respond quickly to an event and, as already mentioned, we ensure that licensees promptly address any risk-significant areas of non-compliance.

While not showing a particular decline this past year, the 2021 performance results in certain SCAs for some sectors continued a trend of slightly poorer performance over the last five years. In particular, this applies to the radiation protection SCA in the medical sector and the operating performance SCA in the fixed gauge sub-sector. Although the majority of licensees consistently achieve satisfactory ratings in these SCAs, CNSC staff have developed and implemented various strategies in recent years with the goal of promoting increased compliance among these licensees. While we acknowledge that more work needs to be done in these sectors, our current focus on regaining the baseline inspection frequency means we are not actively developing new regulatory responses at present. Until that baseline has been regained, CNSC staff will continue to closely monitor compliance indicators in these areas and will maintain the capacity to address any serious concerns in an expedited manner.

When reviewing the compliance results for 2021, it is important to put these results in context: while they represent a key indicator of licensee performance, they aren't the only one we use. In addition to analysing compliance data, CNSC staff also make use of other indicators, including those reported on in this ROR, in assessing risk and making decisions about how to implement our regulatory oversight.

A brief overview of the SCAs is provided below, with more details provided in [appendix B](#). [Appendix B.5](#) presents the inspection results by subsector, which provide another perspective on licensee performance in 2021.

3.1 Management system

The management system SCA covers the framework that establishes the processes and programs required to ensure that an organization achieves its safety objectives, continuously monitors its performance against those objectives, and fosters a healthy safety culture.

In 2021, all sectors performed well in this SCA with 97% of inspections receiving satisfactory ratings. This is comparable to previous years when most licensees consistently received satisfactory ratings for this SCA. There were no unacceptable ratings in this SCA.

Refer to [appendix B.1](#) for additional information.

3.2 Operating performance

The operating performance SCA refers to the licensee's ability to perform licensed activities in accordance with pertinent operational and safety requirements defined in the [Nuclear Safety and Control Act \(NSCA\)](#), its associated regulations and licence conditions. Licensees are expected to demonstrate that they comply with operational and safety requirements by providing workers with appropriate procedures for the safe use of nuclear substances and prescribed equipment, by ensuring that workers follow procedures, and by maintaining records that demonstrate compliance.

In 2021, overall licensee performance in this SCA improved with 87% of inspections yielding satisfactory ratings compared to 83% in 2020. Performance increased in all sectors except the commercial sector, where the percentage of inspections yielding satisfactory grades in this SCA decreased by 7% compared to 2020.

One licensee in the industrial sector received an unacceptable rating in this SCA. As a note, the same licensee was issued an unacceptable rating in the security SCA. In response to these poor ratings the CNSC issued [order 1340](#) to the licensee. The licensee complied with all terms of the order to the satisfaction of the CNSC and the order is now closed.

Refer to [appendix B.2](#) for additional information.

3.3 Radiation protection

Radiation protection programs are required for every licensee to ensure that contamination levels and radiation doses received by workers are monitored, controlled, and maintained below regulatory dose limits, and kept at levels that are as low as reasonably achievable (ALARA), social and economic factors being taken into account. Licensees are expected to monitor worker doses, post radiation warning signs, plan appropriately for radiological emergencies, manage oversight of operational activities, institute effective workplace practices that emphasize the use of time, distance and shielding to minimize exposure to radiation, and use appropriate protective equipment.

Overall, in 2021, licensees maintained similar ratings compared to previous years with 83% of inspections resulting in satisfactory ratings in the radiation protection SCA. While the medical and industrial sector ratings were similar to previous years, both the academic and research sector and the commercial sector demonstrated a decline in performance. In particular, the academic and research sector showed a significant decline in performance as compared to 2020 with only 78% of 23 inspections performed yielding a satisfactory rating in the radiation protection SCA in 2021 compared to 100% of the 10 inspections performed in 2020. As noted above, while these performance results are an indicator that CNSC staff factor into planning for inspections, we also note that while 5 of the 23 inspections performed received a below expectation rating in 2021, this is a small proportion of the 187 licences in the sector making it difficult to confirm if this is representative of the entire sector.

The revised [Radiation Protection Regulations](#) came into effect in late 2020. Part of the regulatory oversight program involved compliance promotion with the amended regulations by inspectors while performing compliance activities. As of mid-2021, all licensees were expected to have implemented any changes related to the amended regulations. It is therefore reasonable to conclude that this is another reason for declining performance, as licensees adjust to the new requirements. Notices of non-compliance were issued in cases where it was found licensees had not updated their programs to align with the amended regulations.

There were 3 unacceptable ratings issued in the radiation protection SCA in 2021. All 3 were issued in the industrial sector. In one case, [order 1223](#) was issued to an industrial radiography licensee in response to this rating. The licensee complied with all terms of the order to the satisfaction of the CNSC and the order is now closed.

In the second case, the licensee agreed to put all its portable gauges in storage and requested an amendment to its licence to reflect this change until a new radiation safety officer is in place and its radiation protection program is adequately implemented. As of the writing of this report, all portable gauges remained in storage.

The last unacceptable rating in this SCA was issued to a fixed gauge licensee. It was determined that there had been a significant failure by the licensee to implement their radiation protection program as well as a lack of management oversight for the licensed activities. The licensee intended to revoke its licence and had transferred 4 of their 5 fixed gauges for disposal just prior to the inspection. However, one of the gauges (a low risk, category 4 sealed source) that had been in storage was lost ([event ID 5357](#)) and not been found as of the writing of this report. The licence was revoked in May 2022; however, the licensee has committed to continuing the search and has a plan in place for if and when it is found. This plan includes immediate notification to the CNSC if the gauge is found and arranging for its disposal, including covering the costs.

Refer to [appendix B.3](#) for additional information

3.4 Security

Licensees are required to have in place physical security measures, practices and programs to prevent the loss, illegal use, illegal possession or illegal removal of nuclear substances during their entire lifecycle, including while they are in storage or during transport, as per the NSCA. The extent of the security measures required depends upon the types of nuclear substances used and activities performed by each licensee.

In 2021, nuclear substance licensees maintained strong compliance with applicable security regulatory requirements, including the general requirements contained in regulations, as well as in [REGDOC-2.12.3, Security of Nuclear Substances: Sealed Sources and Category I, II and III Nuclear Material](#), applicable to sealed sources and radiation devices. Consistent with previous years, 91% of licensees inspected received a satisfactory grade in this SCA.

However, the medical sector demonstrated a drop in performance with only 79% of the 34 inspections receiving a satisfactory grade in 2021 compared to 97% of the 33 inspections performed in 2020. In this sector, it is important to note though that only 7 inspected licences (of the 440 medical sector licences) received a below expectations rating, therefore, the data may not be sufficient to conclude that there has been an overall decrease of performance for the whole sector. Furthermore, the projected link between a reduction in inspections and a decline in licensee performance is particularly relevant for the security SCA, since certain elements of security inspections cannot be performed remotely.

There was also a significant increase in the number of security-related events reported in 2021 (more than double the average of the previous 4 years) with over 40% of these reported in the medical sector. The actual risk presented by these security breaches was low and no nuclear substances were lost due to any of the events. This is further discussed in [section 6.0](#).

As mentioned above, one licensee in the industrial sector received an unacceptable rating in both the security SCA and the operating performance SCA. In response to these poor ratings, [order 1340](#) was issued to the licensee and is now closed.

Refer to [appendix B.4](#) for additional information.

3.5 Conventional health and safety for waste nuclear substance licensees

The CNSC requires WNSLs to have a program in place to manage workplace safety hazards and to protect workers due to the nature of the work and the introduction of other hazards that need to be mitigated. For example, WNSLs handle, process, store, and transport different types of radioactive waste, which may require the use of overhead cranes and large equipment. The licensed activities directly introduce mechanical, ergonomic, chemical, electrical and fire hazards that need to be mitigated.

In 2021, no waste nuclear substance licensees received below-expectations or unacceptable ratings in the conventional health and safety SCA.

The licensees continued to implement health and safety programs in accordance with the applicable occupational health and safety legislation to protect the health and safety of their workers.

3.6 Environmental protection for waste nuclear substance licensees

Waste nuclear substance licensees have specific programs in place that identify, control and monitor all releases of radioactive and hazardous substances and their effects on the environment.

In 2021, no waste nuclear substance licensees received below-expectations or unacceptable ratings in the environmental protection SCA. The waste nuclear substance licensees continued to manage and monitor environmental releases as a result of licensed activities.

Waste nuclear substance licensees reported three events which potentially could have impacted the environment in 2021.

In the first event, the licensee reported that a holding tank of water from laundry was inadvertently discharged to the sewer. The intent was to transfer the water to a different tank, but the operator missed that the drain valve to the sewer was open. The water had been sampled beforehand, and results indicated that radiological parameters were all well below derived release limits and action levels. However, the concentrations of total suspended solids, total phosphorous (non-radioactive) and the biological oxygen demand exceeded the municipality's by-law limits. The municipality confirmed that there were no adverse conditions detected in the municipal sewage treatment plant as a result of the discharge.

In the second reported event, consolidated plant wastewater streams were discharged from a holding tank with the appropriate approvals as specified by procedures. A consolidated sample was preserved and subsequently analyzed, and the total non-radioactive phosphorous concentration indicated that there was a minor exceedance of 0.75 ppm over the limit (limit is 10 mg/L). Prior to the transfer to the holding tank, a separate analysis of the waste streams indicated that the consolidated liquid would be below the limit. The licensee believes there was an issue related to recirculation in the holding tank resulting in a non-

homogeneous sample being tested. There was no requirement to immediately notify the municipality and it was reported in the licensee's quarterly report submission to them. There were no adverse environmental effects.

Finally, one licensee reported that they were sampling local air and not the air released from the stacks for a period of a few weeks to a month due to equipment failures. No work with potential for high levels of airborne tritium was conducted in the area that the stack in question serves. Based on the work performed during that period, an estimated 2 GBq/week of tritium was emitted from the stack which is well below the action level, and there was no work conducted in this period that could have produced higher results. All other parameters, both radiological and non-radiological, were below the relevant limits and action levels.

All releases were kept well below regulatory limits and there was no impact on the health and safety of persons and the environment.

3.7 Environmental protection for other nuclear substance licensees

Performance results in the environmental protection SCA for nuclear substance licensees are not typically included in the ROR, since those licensees have minimal to no interactions with the environment. In response to questions raised by intervenors on previous RORs, CNSC staff are providing a more fulsome explanation of the rationale for excluding this SCA from the report.

CNSC staff apply [REGDOC-2.9.1, *Environmental Protection: Environmental Principles, Assessments and Protection Measures*](#) while reviewing licence applications for nuclear substance licences to ensure that there are no significant interactions with environment. These licences generally cover activities involving the use of sealed or unsealed sources.

For sealed sources (e.g., fixed or portable gauges used in the industrial sector contain sealed sources), the analysis performed led staff to conclude that there are no routine interactions with the environment, and therefore there is no need for an environmental risk assessment and little to assess under the environmental protection SCA.

For unsealed sources (e.g., radioisotopes used in the medical sector), there is a higher chance of interaction with the environment. This could involve, for example, releases from the stacks of isotope processing facilities or the disposal of small amounts of medical isotopes to the landfill or the sewer. For these licensees, CNSC staff apply the requirements in [REGDOC-2.9.1, *Environmental Protection: Environmental Principles, Assessments and Protection Measures*](#) in a graded manner. Additional information on the application of REGDOC-2.9.1 in a graded manner for the nuclear substance licensees covered in this ROR are summarized below and will be covered in the proposed draft [REGDOC 2.9.2, *Controlling Releases to the Environment*](#), which is currently under development and is scheduled to be presented to the Commission in September 2022.

In general, for licences authorizing the use of unsealed nuclear substances, the following apply with respect to disposal or releases:

- standard exemption quantity (EQ) and unconditional clearance levels (UCLs) specified in Schedules 1 and 2, respectively of the [Nuclear Substances and Radiation Devices Regulations](#)
- generic conditional clearance levels (CCLs) documented in the [REGDOC 2.9.2, *Controlling Releases to the Environment*](#) on the condition that releases occur only through the specified pathway (i.e., solids to municipal landfill, gases to atmosphere, liquid to municipal sewer)
- practice-specific conditional clearance, which are CCLs which are only applicable to a defined practice or activity that have been developed by the CNSC for application to multiple licensees carrying out the specific practice or activity generally included as condition on a licence.

The majority of licensees covered by this ROR do not use unsealed sources as part of their licensed activities and therefore reporting on this SCA would not be effective in providing an overall indication of the safety performance of the licensees covered by this report. Licensees must however have programs in place to ensure they meet any release limits imposed upon them and the implementation of its program is verified during inspections and desktop reviews.

CNSC staff conclude that the oversight of the environmental protection SCA for nuclear substance licences and the assessment and controls put in place for environmental protection for the industry is such that there is no additional benefit to highlighting performance in this SCA for all licences covered in this report.

4.0 Enforcement

[Appendix C](#) presents enforcement action data by sector over the past 5 years and includes a list of all orders and AMPs issued in 2021.

The CNSC uses a graduated approach to enforcement to encourage compliance. When non-compliance (or continued non-compliance) has been identified, CNSC staff assess the significance of the non-compliance and determine the appropriate enforcement action including but not limited to orders and administrative monetary penalties (AMPs).

In 2021, CNSC staff issued 10 orders and 1 AMP. All enforcement actions were issued to licensees in the industrial sector except for 1 order which was issued to a non-licensee who was in possession of radiation devices without a licence that authorized possession. The fact that all but 1 enforcement action were issued to the industrial sector is consistent with trends from previous years.

As expected, since enforcement actions tend to be issued as a result of findings during inspections, the number of enforcement actions issued in 2021 was higher than the number issued in 2020 since the number of inspections performed also increased. Although neither the number of inspections, nor enforcements actions have reached pre-pandemic levels, staff anticipate that as the inspection numbers increase moving forward, the number of enforcement actions will also increase. All enforcement actions issued in 2021 are closed, and the CNSC is satisfied that the licensees and one non-licensee have addressed the conditions of the orders/AMPs.

Enforcement actions are posted on the CNSC [regulatory actions](#) web page as they are issued.

5.0 Effective doses to workers

[Appendix D](#) presents the full datasets and additional information on effective doses to workers in 2021.

Licensees are required to keep radiation doses to persons below regulatory limits and as low as reasonably achievable (ALARA) in accordance with their radiation protection program referenced in their licence.

Licensees must report the doses to their workers, whether estimated or measured, as part of their annual compliance reports. In 2021, doses were reported for 56,040 workers in the 4 sectors. Of those workers, 24,066 were nuclear energy workers (NEWs). The remaining 31,974 were not identified as NEWs and are referred to as non-NEWs in this report. Exposures to radiation continued to be very low for workers covered in this ROR for 2021, consistent with previous reporting years.

In 2021, no NEWs received doses above the regulatory limit of 50 mSv per calendar year. Of the 31,974 non-NEWs for which doses were reported, there were 7 reported doses greater than the regulatory limit of 1 mSv/year.

In one case, a portable gauge licensee reported that a seasonal worker received a dose of 3.82 mSv. Based on the work performed by the worker, the dose was deemed non-personal and likely resulted from improper storage of the dosimeter. The licensee began the process for a dose change request however was not able to reach the worker to sign the request as he was out of the country. The licensee subsequently received an email resignation from the employee stating that he would not be returning to work. The licensee tried to again reach him but was unsuccessful; therefore, the dose change request will not proceed.

Five of the doses that were reported as being above the 1 mSv/year limit for non-NEWs involved two licensees who did not correctly identify workers likely to exceed the regulatory limit. All 5 of the non-NEWs worked in the portable gauge subsector (2 for one licensee and 3 for another). Their doses were estimated based on the number of “shots” using a portable gauge. One shot is approximately equal to 1.2 µSv. The maximum number of “shots” by any of these workers was 1,962 which would be the equivalent of approximately 2.4 mSv. In all 5 cases, the workers left their employment before they could be acknowledged as NEWs. In these cases, it was the licensees that failed to correctly assess the work to be performed by their worker and to identify those workers likely to exceed the 1 mSv dose limit and to acknowledge them as NEWs. CNSC staff consider this to be an administrative non-compliance.

Finally in one case, a worker in the academic and research sector received a dose of 1.3 mSv. The licensee investigated the dose and concluded that the worker did not follow established safe work practices, leading to the elevated dose. The licensee reviewed all their workers' doses for the past five years and confirmed that all laboratory personnel are typically well below 0.2 mSv. The licensee implemented corrective actions to prevent recurrence. This event was presented to the Commission as an event initial report (EIR) on Jan. 21, 2021 ([CMD 21-M10](#)).

There was strong performance in the industry in 2021 with doses to all workers remaining generally low. Of the 7 reported instances where a worker not designated as a NEW exceeded the regulatory limit, only 1 was deemed as a true exceedance of the regulatory limits and no health effects are expected in that case.

6.0 Reportable events

[Appendix E](#) provides data on the types of events reported over 5 years and describes each event reported in 2021.

Licensees are required to have programs in place to manage unplanned events and accidents. The events that warrant mandatory reporting and the content of the reports are set out in the NSCA, its regulations and the licence conditions. CNSC staff review, assess and track all events reported by licensees.

Since 2014, reported events have been rated using the [International Nuclear and Radiological Event Scale \(INES\)](#), a seven point scale for communicating the safety significance of nuclear and radiological events to the public. Note that the scale is not a tool for comparing safety performances among facilities or organizations, but rather for effectively communicating the safety significance of events. CNSC staff assign a ranking to each event based on the INES scale.

The events reported to the CNSC by licensees covered by this oversight report typically fall in Levels 0 (no safety significance), 1 (an anomaly which may have an impact on defence in depth) or 2 (incident which may have more significant impacts on defence in depth, impacts on people or the environment, or impacts on radiological barriers and controls)

CNSC staff assessed 171 events related to nuclear substances and prescribed equipment in 2021. Of these events, 165 were rated as INES level 0 (no safety significance) and 6 as INES level 1 (anomaly). Of those rated as INES level 1, 5 of the events involved the theft of portable gauges and one involved the

loss of a fixed gauge. All 6 events involved category 4 sealed sources (i.e., low risk). Of the 5 stolen portable gauges, 2 were recovered and returned to the owner while the other 3 have not yet been recovered. The lost fixed gauge has not been found.

While there was an increase in events reported in 2021 in comparison to 2020, when 135 events were reported, the 171 events reported in 2021 is more consistent with the years preceding 2020. In 2020, the numbers reported were likely lower due to initial lockdowns and/or licensee restrictions on their operations during the initial stages of the pandemic. While lockdowns related to the pandemic occurred in 2021 as well, most licensees maintained normal or near-normal operations, therefore the number of events reported also returned to more normal levels.

Overall, the most significant change in types of events reported were related to security events, where significantly more breaches of security were reported in 2021 compared to the previous 4 years, as seen in [Appendix E, figure 18](#). Over 40% of the reported breaches of security were in the medical sector, with most of those reports involving unattended nuclear substances, unsecured doors, or disarmed alarm systems. As mentioned previously, medical sector licensees experienced significant impacts due to the pandemic which may have led to changes in staffing, day-to-day operations and overall workflow, any of which could have led to an increase in events. One medical sector licensee in particular reported multiple events. The licensee launched a review of their security program and CNSC staff have a strategy in place to manage this particular licensee, including a focussed security inspection in 2022. It is important to note that while the numbers trended upwards in 2021, the actual risk presented by these events was low and no nuclear substances were lost due to any of the events. Licensees employ multi-layered security programs. The failure of one or two barriers, did not lead to the breakdown of other barriers, which remained intact until they were discovered, and corrective action was taken.

There was also an increase in the number of spill, contamination and release events reported in 2021 compared to previous years. Over 60% of these were reported by the nuclear medicine sub-sector and involved spills or contamination with short-lived radioisotopes. None of the 26 events reported resulted in impacts to the environment and although none of them resulted in any exposures above the regulatory limit, and all were rated as INES level 0, a significant event was reported by a licensee in the commercial sector which led to an unplanned exposure to a NEW. A spill of greater than 100 exemption quantities of iodine-131 occurred in a radiation shielded box, under a vented hood. The subsequent clean-up resulted in an unplanned exposure to a NEW of 29 mSv (effective dose) and a committed equivalent dose to the thyroid of 560 mSv – both of which are below regulatory limits. The unplanned dose was determined to be a result of a gap in licensee procedures and a failure of the worker to follow thyroid monitoring procedures. The licensee has taken appropriate corrective measures to address these issues and the CNSC has shared lessons learned with other similar licensees. A verbal EIR was presented to the Commission in April 2021 with subsequent follow ups in [October 2021](#) and [March 2022](#).

For all events reported to the CNSC, licensees implemented appropriate response measures to mitigate the impacts of the events and to limit radiation exposure to workers and the public. CNSC staff reviewed the measures and found them to be satisfactory.

6.1 Update on Mississauga Metals & Alloys, Inc.

In the first quarter of 2021, Mississauga Metals & Alloys, Inc (MMA), one of the 5 waste nuclear substance licensees covered by this ROR, applied for, and received a short-term renewal of their waste nuclear substance licence, The licence included a condition they would comply with an arrears payment schedule as set out in their licence. On August 20, 2021, the licensee declared bankruptcy and staff undertook numerous actions as a result of this event. An [EIR](#) was presented to the Commission on October 5, 2021 and an update was provided during the presentation of the ROR on the Use of Nuclear Substances in Canada: 2020 on November 23, 2021.

Since then, CNSC staff have continued to undertake three main activities related to this complex file:

- Ensuring that the site remains safe and secure and evolving their approaches to this as site conditions have changed.
- Pursuing the provision of a contract to a third party expert to undertake the detailed characterization of the waste.
- Working with other interested parties (e.g., bankruptcy trustee, key creditors, other levels of government) to find a solution related to the authority to undertake the needed work on the site (e.g., characterization, disposition)

The waste nuclear substance licence expired on February 28, 2022 and has not been renewed. The CNSC continues to ensure the safety and security of the nuclear substances on the site

6.2 Update on the fatality at Kinectrics, Inc.

On June 14, 2021, a contractor was providing services to Kinectrics, Inc., another waste nuclear substance licensee, when an industrial accident led to the fatality of a contractor employee. The Ministry of Labour, Training and Skills Development (MLTSD) for the Province of Ontario was notified and commenced an investigation on June 14, 2021 which is expected to conclude in June 2022. An [EIR](#) was provided to the Commission at the October 5, 2021 meeting and CNSC staff will provide a further update during the presentation of this ROR in November 2022.

7.0 Public and stakeholder engagement

[Appendix G](#) includes a complete list of engagement activities undertaken in 2021.

The CNSC performs stakeholder engagement and outreach activities to facilitate communication on licensed activities and regulatory expectations between the CNSC and the nuclear substance licensees and other stakeholders. To date, Indigenous Nations and communities have not expressed a specific interest in this ROR and the licensed activities covered by this ROR. However, CNSC staff have participated in general outreach activities with Indigenous Nations and communities to provide information on the packaging and transport of nuclear substances upon request, but not specifically related to licensees covered by this report. CNSC staff remain open and committed to ongoing engagement and communication with any interested Indigenous Nations and communities who may express an interest in discussing topics and licenses covered in this ROR.

Stakeholder engagement and outreach are critical elements of the CNSC's regulatory approach. Given the breadth of licensees regulated in the area of nuclear substances, a particular focus is on reaching and engaging with licensee communities, a practice that leads to increased awareness and better understanding of the regulatory process and requirements. CNSC staff leverage a variety of fora to engage with licensees and promote the use of the tools that are developed to support their compliance with regulatory expectations.

In 2021, all outreach was done virtually or through written communications. Outreach included participation in town hall sessions, regular publication of the DNSR Digest, emails to targeted groups of licensees, meetings with associations or working groups, presentations at industry conferences and publishing articles in industry publications. For a complete list of outreach activities, refer to [appendix G](#).

8.0 International obligations and commitments

The mandate of the CNSC includes adherence to international commitments to which Canada is a party. CNSC staff had removed the section describing these commitments from previous RORs, in the interest of streamlining the report. However, based on recent feedback from intervenors, we have re-inserted this section.

Canada has committed to the implementation of various International Atomic Energy Agency (IAEA) codes, standards and guidance documents. For example, as part of Canada's commitment to the IAEA [Code of Conduct for the Safety and Security of Radioactive Sources](#), nuclear substance licensees with Category 1 and/or 2 (high-risk) sealed sources must inform the CNSC of any transfer, receipt, export or import of sealed sources. Licensees are to report their high-risk sealed sources inventory through the Sealed Source Tracking System (SSTS). SSTS is a secure information-management system that tracks new and existing high-risk sources within Canada which populates the National Sealed Source Registry (NSSR) so that the information is as current as the licence reporting allows. Licensees subject to this requirement have the relevant licence condition included on their licence and compliance with this condition is included as part of a regulatory inspection.

In addition, the CNSC considers international regulations or standards when developing regulations. For example, the [Packaging and Transport of Nuclear Substances Regulations, 2015](#), with which all licensees and non-licensees must comply, incorporates by reference the [IAEA Regulations for the Safe Transport of Radioactive Material](#) directly in the regulations.

The Government of Canada also has obligations on the peaceful uses of nuclear energy pursuant to the [Treaty on the Non-proliferation of Nuclear Weapons](#). CNSC requirements for nuclear substance licensees regarding Canada's international obligations are defined in the applicable regulations and licences.

Safeguards is a system of inspection and other verification activities undertaken by the IAEA to evaluate Canada's compliance with its obligations pursuant to its safeguards agreements with the IAEA. The objective of the Canada-IAEA safeguards agreement is for the IAEA to provide assurance to Canada and to the international community that all declared nuclear materials are in peaceful, non-explosive uses and that there is no indication of undeclared nuclear materials or activities. The CNSC has published [REGDOC-2.13.1, Safeguards and Nuclear Material Accountancy](#) which sets out the requirements and guidance for the establishment and maintenance of a safeguards program. Safeguarded materials include uranium, thorium and plutonium-239. Generally, among the licensees covered in this report, this material can be present as samples, check sources and shielding, among other forms. Licensees subject to safeguards have a licence condition included on their licence and the CNSC continues to engage with licensees to ensure that all nuclear material subject to safeguards is reported to the IAEA. In 2021, the IAEA performed three inspections and four complementary accesses at nuclear substance licensees to confirm licensees' declarations on the possession and use of nuclear material. While the IAEA reported that the results from these inspections were satisfactory and that their inspectors were able to carry out all planned activities for the complementary accesses, they have identified follow-up actions for the licensees and/or the CNSC. The CNSC is coordinating the resolution of these items with the licensees.

Nuclear substances licensees who import or export nuclear substances are subject to licence conditions which limit the types and amounts of nuclear substances which can be imported or exported by the licensee without a separate, valid import/export licence. In addition, [REGDOC-2.13.2, Import and Export](#), sets out guidance for current and prospective licensees who intend to import or export risk-significant radioactive sources (Category 1 and 2 radioactive sources). Compliance with import and export restrictions are verified as a part of standard regulatory oversight.

CNSC staff ensure that licensees implement measures required to meet Canada's international obligations and commitments.

9.0 Conclusion

In 2021, most inspected licensees were in compliance with regulatory requirements and achieved satisfactory ratings in the SCAs reported on in this report. Licensing and certification activities continued to play a critical role in ensuring licensee programs were in place. Strong programs contributed to overall licensee performance. Where compliance did not meet expectations, licensees implemented appropriate corrective actions. All enforcement actions in 2021 have been closed. Radiation exposure to workers continues to be very low and was consistent with previous years. When events did occur, licensees took appropriate measures to address the events and took steps to prevent recurrence of these events.

Regulatory oversight of licensees in 2021 was again impacted by the pandemic; however, a gradual return to in-person inspections along with the use of hybrid and remote inspections allowed for a more holistic inspection experience. After gaining experience with remote inspections in 2020, CNSC staff were able to pivot between remote, hybrid and in-person inspections as the pandemic allowed in 2021. Staff continue to address the backlog of inspections and will continue to monitor for possible negative trends in compliance over the coming years.

Overall, CNSC staff saw no significant changes in the distribution of licences, compliance trending, or doses to workers for any of the sectors covered by this report. Licensees corrected identified items of non-compliance to the satisfaction of CNSC staff. The evaluations of findings for the SCAs, resulting from the CNSC's comprehensive regulatory oversight of the industry, demonstrate that licensees made acceptable provisions to protect health, safety, security and the environment from the use of nuclear substances and prescribed equipment, and implemented the measures required to meet Canada's international obligations. Based on these evaluations, CNSC staff conclude that the use of nuclear substances and prescribed equipment in Canada remains safe and secure.

Appendix A: Regulatory program for the use of nuclear substances

This appendix presents additional regulatory data to complement the information provided in the main part of the document.

A.1 CNSC regulatory effort

CNSC designated officers made a total of 2,085 licensing and certification decisions related to activities covered in this report in 2021. The majority of these were licensing decisions, as shown in table 1. There was no significant change in the number or type of decisions made compared to 2020.

Table 1: Licensing and certification in 2021, all sectors combined

Type of decision	Number of decisions
Licensing (issuance of new licences, licence renewals, licence amendments, licence revocations and licence transfers)	1,621
Certification of prescribed equipment (radiation devices, Class II prescribed equipment and transport packages)	70
Certification of exposure device operators (EDOs) (issuance of new certification and renewal of certification)	379
Certification of Class II radiation safety officers (RSOs)	15
Total	2,085

The CNSC's risk-informed regulatory program applies resources and regulatory oversight commensurate with the risk associated with the regulated activity. Regulatory effort related to licensing, certification and compliance verification is derived from this program. As shown in table 2, the CNSC staff direct effort for regulating the use of nuclear substances in 2021 amounted to close to 12,551 person days or the annual equivalent of approximately 57 full-time staff. This is slightly higher than the 11,698 person days (53 full-time staff) directed to this program in 2020.

Table 2: CNSC staff direct effort for regulating the use of nuclear substances and prescribed equipment in 2021, all sectors combined

Activity	Person-days	Full-time equivalents
Licensing	5569	25.3
Certification	1632	7.4
Compliance verification	5350	24.3

A.2 Licensing

CNSC staff perform risk-informed technical assessments of applications submitted to the CNSC. The CNSC has produced a series of licence application guides to ensure that its expectations for applicants are clear, and to facilitate applicants' interactions with the regulator.

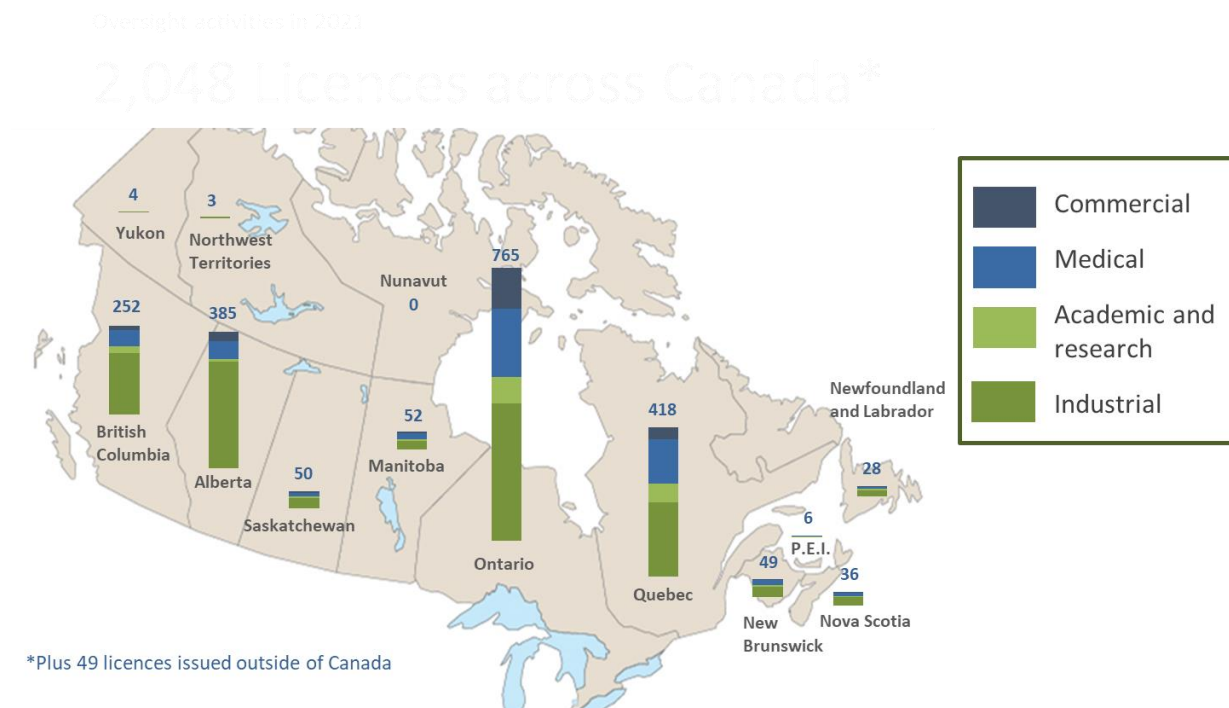
In 2021, there were 2097 nuclear substances and prescribed equipment licences held by 1500 licensees in Canada (table 3). These licences were issued to entities throughout Canada, as shown in figure 1. In addition, 49 of these licences were issued to companies headquartered in other countries (primarily the United States). Many of these companies service prescribed equipment located in Canada and the others have operational facilities in Canada.

The disparity between the number of licences and the number of licensees can be explained by the fact that while most licensees perform a single licensed activity and therefore require only one CNSC licence, others perform varied activities for which a licence is issued for each one. For example, a hospital may have multiple licences to cover radiation therapy facilities, diagnostic nuclear medicine, therapeutic nuclear medicine, processing of nuclear substances and research labs, each of which is covered by its own licence due to their unique requirements and programs. CNSC staff work with these licensees to ensure that there is the appropriate level of regulatory control while minimizing administrative burden wherever possible.

Table 3: Number of licences by sector, 2017 to 2021

Sector	2017	2018	2019	2020	2021
Medical	457	436	438	445	440
Industrial	1,287	1,259	1,228	1,207	1,221
Academic and research	195	192	187	189	187
Commercial	252	248	237	238	249
Total	2,191	2,135	2,090	2,079	2,097

Figure 1: Licence distribution across Canada



A.3 Certification of prescribed equipment

Certification of prescribed equipment confirms that the prescribed equipment is safe to use, that adequate measures are in place to protect the environment, the health, safety and security of persons and national security and that the design meets international requirements. Prescribed equipment includes radiation devices, class II prescribed equipment and transport packages and requirements for certification are set in the regulations. As seen in [table 1](#), designated officers made 70 decisions related to the certification of prescribed equipment in 2021, which is an increase over 2020 when 63 decisions were made. Similar to licensing, CNSC staff perform risk-informed technical assessments of certification applications submitted to the CNSC. The CNSC has regulatory documents in place to ensure that its expectations for applicants are clear. Service standards for the certification of Class II prescribed equipment, radiation devices and transport packages were formalized in 2021 in response to the implementation of the [Service Fees Act](#). Information on the service standards and CNSC performance can be found on the [CNSC website](#).

A.4 Certification of exposure device operators

Licensees are required under the [Nuclear Substances and Radiation Devices Regulations](#) to permit only CNSC-certified personnel and supervised trainees to use exposure devices containing nuclear substances. In 2021, the CNSC certified 61 new exposure device operators (EDOs) and renewed the certifications of 318 others, which is very similar to 2020 when CNSC certified 61 new EDOs and renewed 332 certifications. In 2021, [CSA PCP-09 Exposure Device Operator Personnel Certification Guide](#), was updated. This revision clarifies existing guidance and introduces new guidance to address common issues faced by applicants, employers, and training providers.

A.5 Certification of Class II radiation safety officers

All licensees that operate Class II nuclear facilities or that service Class II prescribed equipment must have a certified radiation safety officer (RSO) and a qualified temporary replacement. The RSO ensures that licensed activities are conducted safely and that all regulatory expectations are met.

In 2021, the CNSC certified 15 Class II RSOs, compared to 24 certifications in 2020. As in 2020, there were no Class II RSOs decertified in 2021.

Appendix B: Compliance performance

This appendix provides details regarding compliance in the 4 SCAs determined to be the most relevant in providing an overall indication of the safety performance of licensees in 2021.

It is important to note that below-expectations ratings do not necessarily mean that licensee actions were unsafe. It could mean any of the following: licensee performance does not meet CNSC staff expectations, the licensee has risk-significant non-compliance(s) or performance issue(s) and/or non-compliances or performance issues are not being adequately corrected. Staff will issue unacceptable ratings in cases where licensee actions are unsafe and in 2021, only 5 unacceptable ratings were issued.

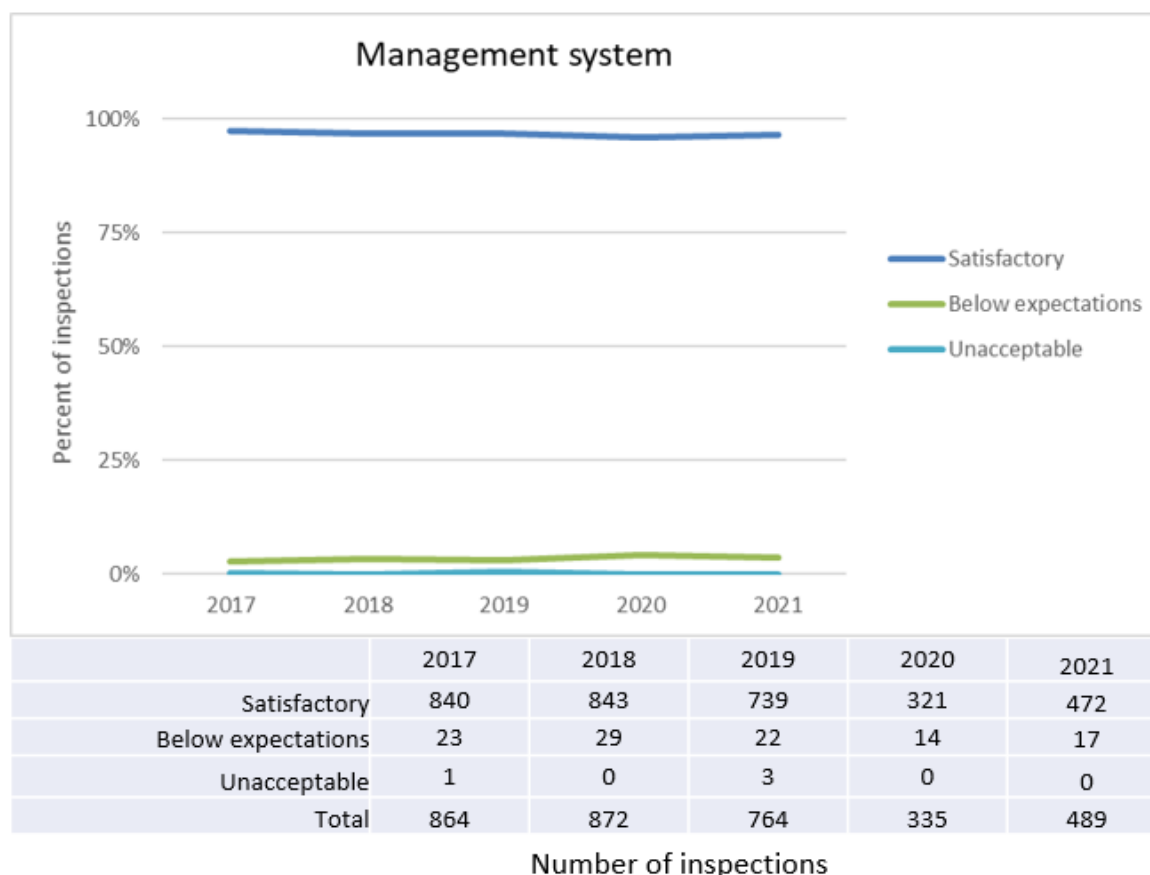
In all cases, for any below-expectations ratings, CNSC staff ensured that licensees took appropriate corrective actions. All unacceptable ratings resulted in CNSC staff issuing orders or taking licensing action with restrictions only lifted once CNSC was satisfied that all conditions were addressed by the licensee.

B.1 Management system

Of the 489 inspections that looked at the management system SCA, 97% of the licensees inspected demonstrated that adequate processes and programs were in place to achieve their safety objectives and received satisfactory ratings (figures 2 and 3).

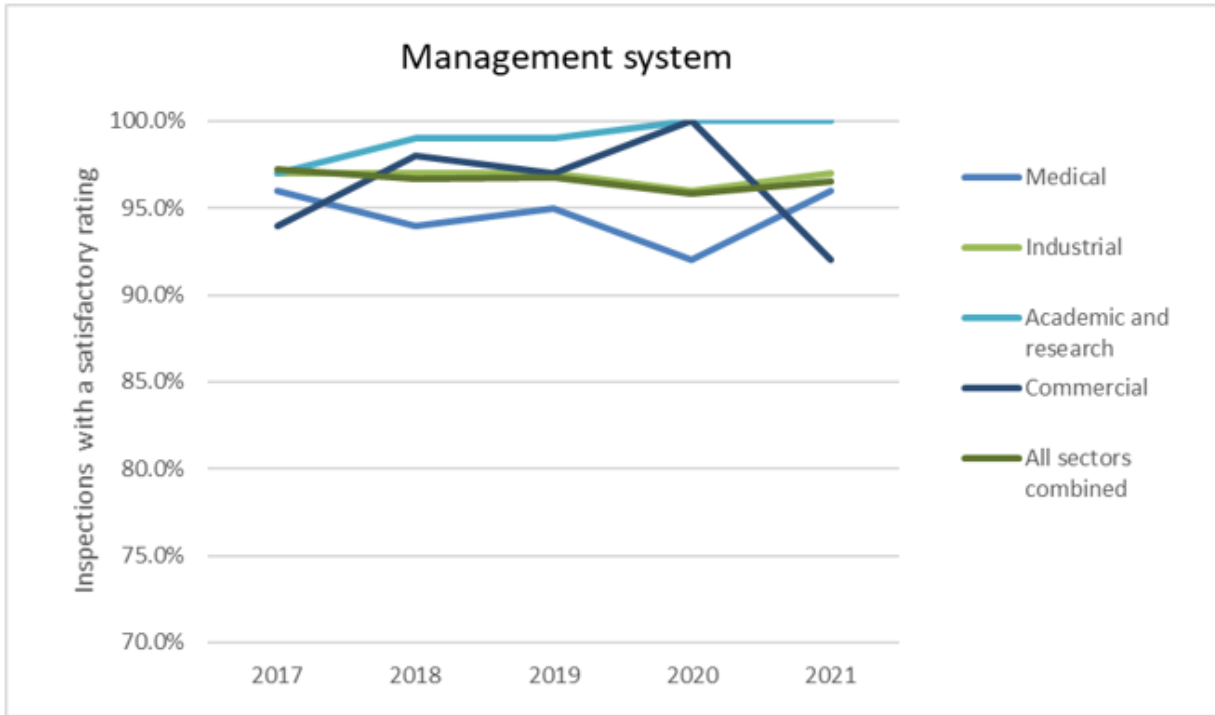
There were no unacceptable ratings in this SCA.

Figure 2: Inspection ratings for management system, 2017 to 2021



Number of inspections

Figure 3: Sector-by-sector comparison of satisfactory inspection ratings for the management system SCA, 2017 to 2021



	2017	2018	2019	2020	2021
Medical	106	110	155	44	101
Industrial	605	608	475	254	329
Academic and research	71	85	73	9	18
Commercial	58	40	36	14	24
All sectors combined	840	843	739	321	472

Number of inspections

B.2 Operating performance

For the operating performance SCA, 87% of the licensees inspected in this SCA ensured that adequate processes and programs were in place to achieve their safety objectives (figures 4 and 5) and received satisfactory ratings. Staff performed 531 inspections of this SCA.

There was 1 unacceptable rating issued to an industrial sector licensee in this SCA. Details on this unacceptable rating can be found in [section 3.2 of this report](#).

Figure 4: Inspection ratings for operating performance, 2017 to 2021

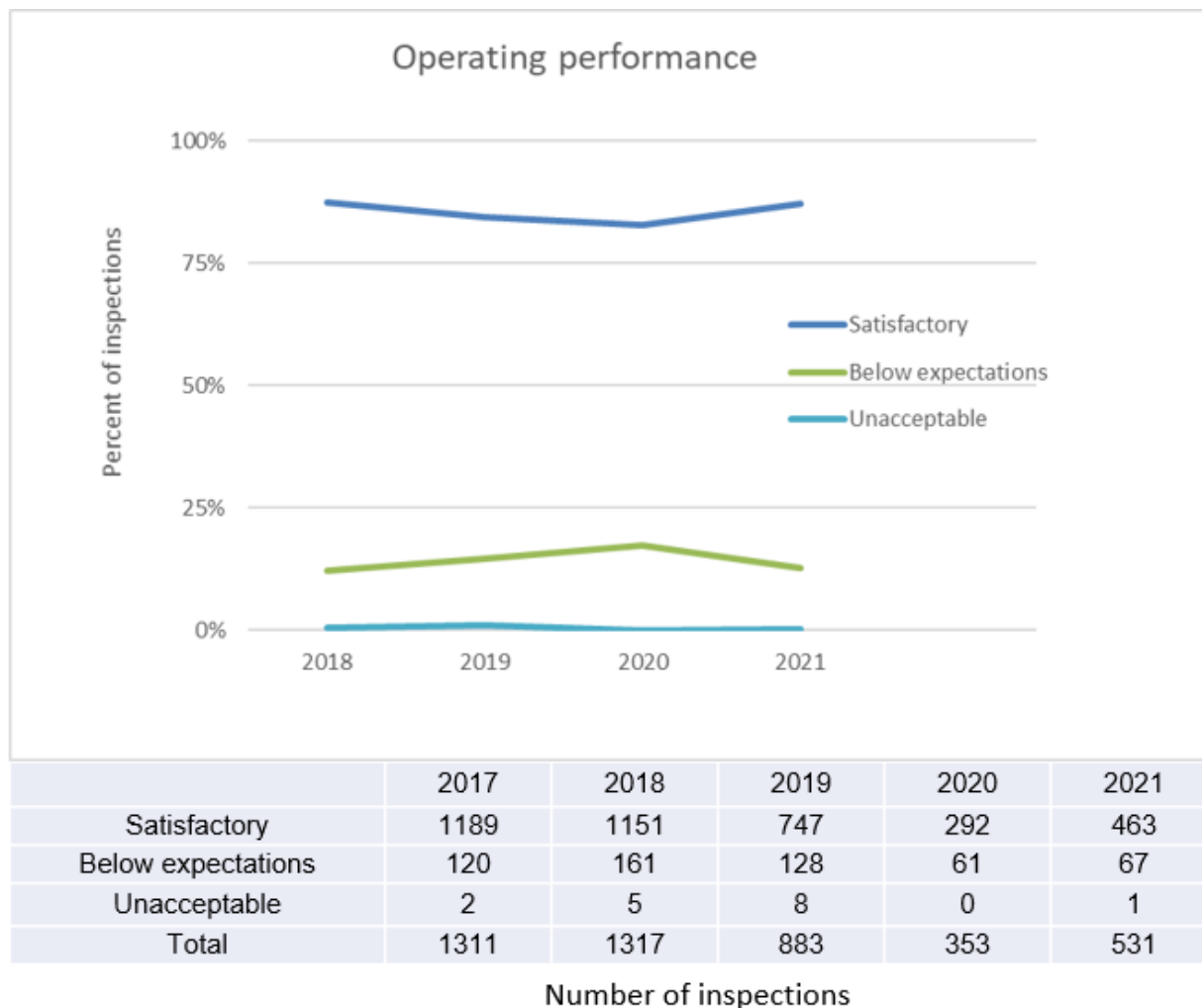
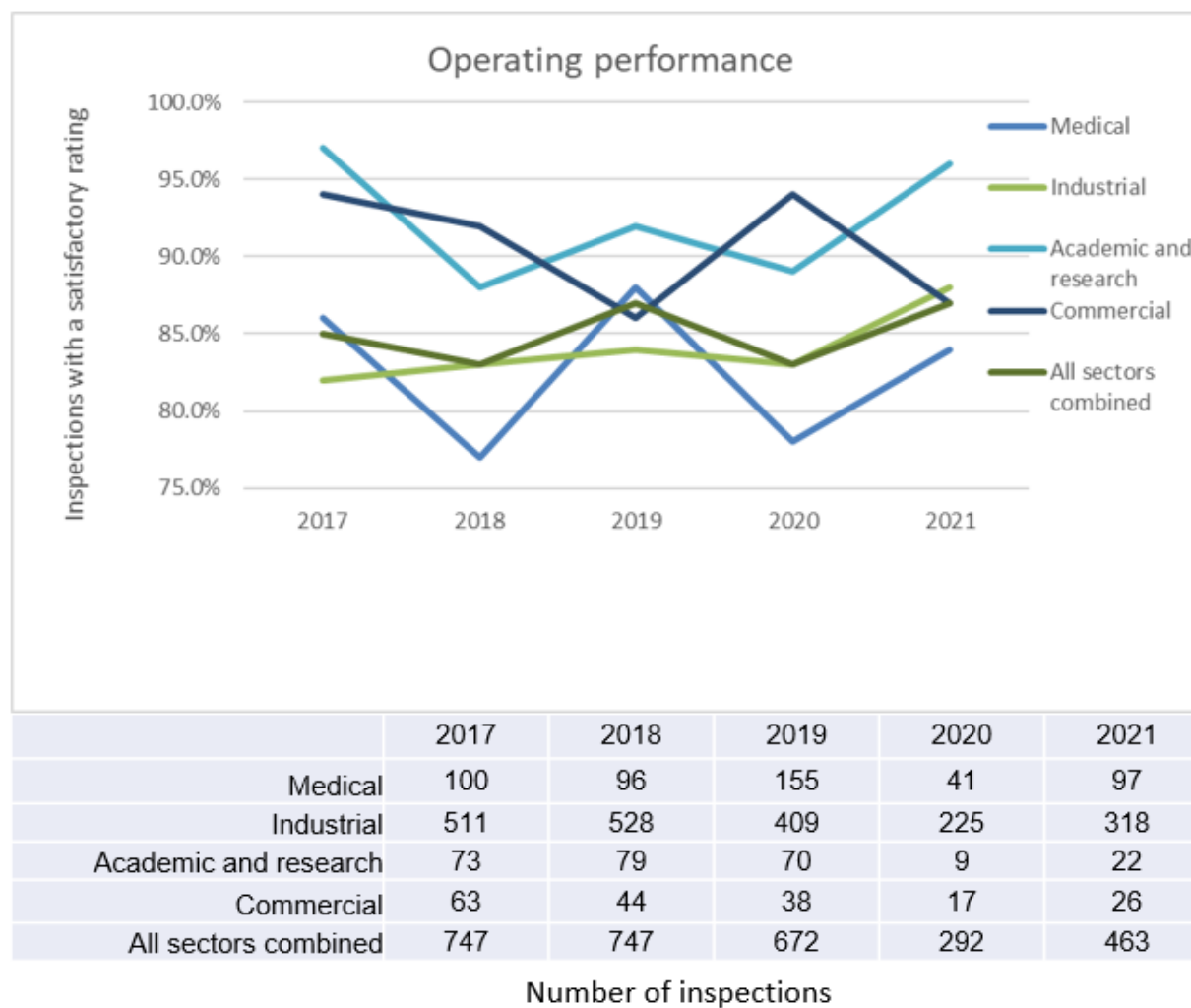


Figure 5: Sector-by-sector comparison of satisfactory inspection ratings for the operating performance SCA, 2017 to 2021



B.3 Radiation protection

In 2021, 561 inspections evaluated compliance in the radiation protection SCA. For the radiation protection SCA, 83% of the licensees inspected ensured that adequate processes and programs were in place to achieve their safety objectives and received satisfactory ratings (figures 6 and 7).

Three industrial sector licensees received an unacceptable rating in this SCA. Details on these unacceptable ratings can be found in [section 3.3 of this report](#).

Figure 6: Inspection ratings for radiation protection, 2017 to 2021

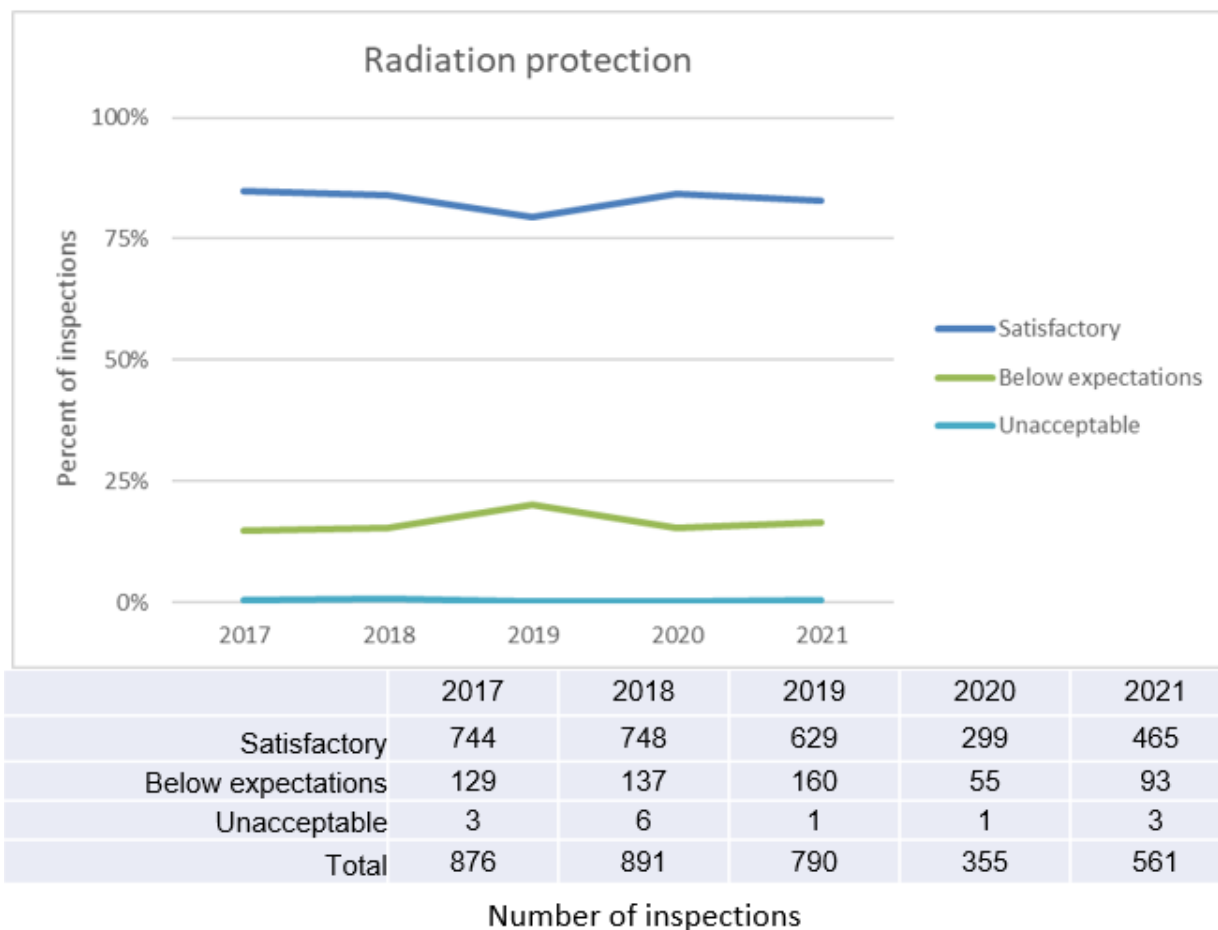
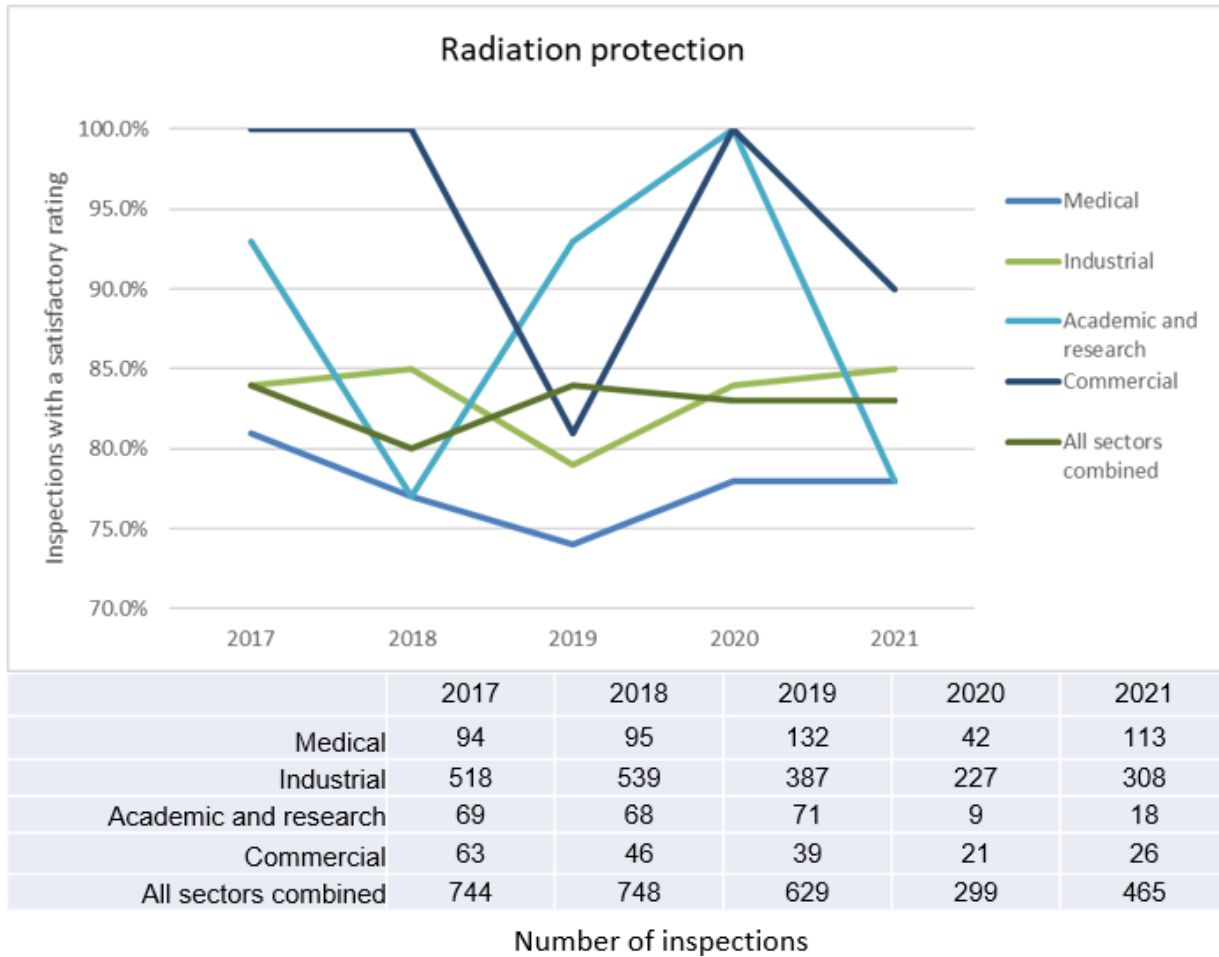


Figure 7: Sector-by-sector comparison of satisfactory inspection ratings for the radiation protection SCA, 2017 to 2021



B.4 Security

For the security SCA, 91% of the licensees inspected ensured that adequate processes and programs were in place to achieve their safety objectives and received satisfactory ratings (figures 8 and 9). Staff performed 228 inspections of this SCA.

One industrial sector licensee received an unacceptable rating for the security SCA. Details on this unacceptable rating can be found in [section 3.4 of this report](#).

Figure 8: Inspection ratings for security, 2017 to 2021

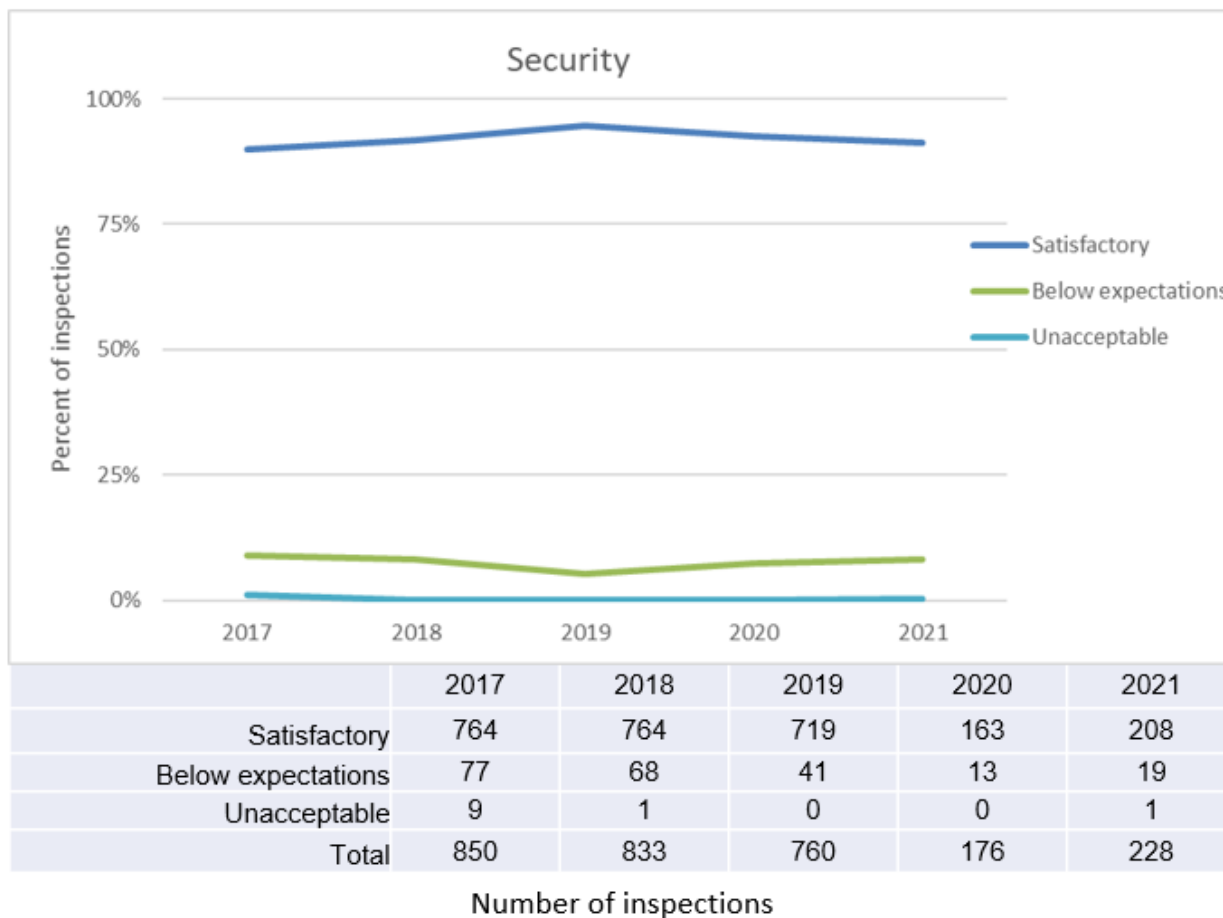
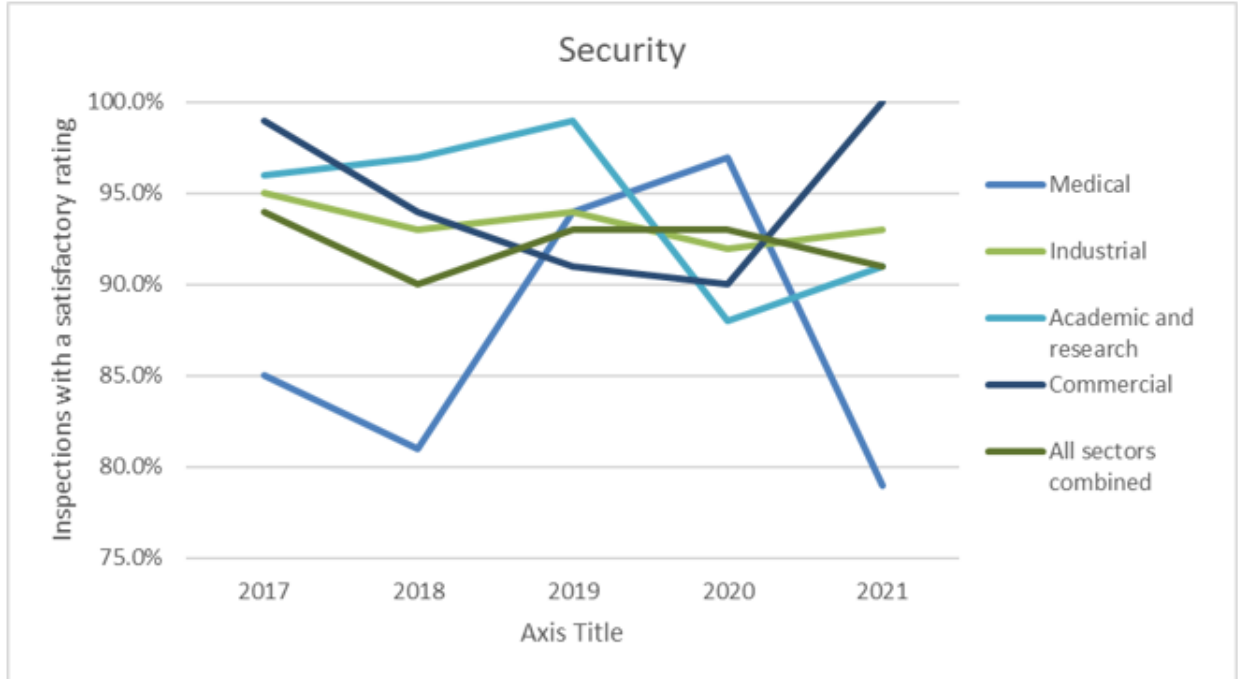


Figure 9: Sector-by-sector comparison of satisfactory inspection ratings for the security SCA, 2017 to 2021



	2017	2018	2019	2020	2021
Medical	96	96	158	31	27
Industrial	552	587	457	116	155
Academic and research	66	57	72	7	10
Commercial	50	46	32	9	16
All sectors combined	764	786	719	163	208

Number of inspections

B.5 Inspection rating, by sector

This section provides data at the sector and subsector level for each of the 4 key SCAs covered in this report. Any significant findings at the SCA level have been further explained in [section 3](#) of this report where additional analysis is included for [management system](#), [operating performance](#), [radiation protection](#) and [security](#). Due to the small number of WNSL, specific data related to the [environmental protection](#) SCA and the [conventional health and safety](#) SCA are not included in this section.

In reference to the tables below, green indicates > 85% of inspections in a year resulted in a satisfactory rating for an SCA. Yellow indicates 80% to 85% of inspections in a year resulted in a satisfactory rating for an SCA. Red indicates < 80% of inspections in a year resulted in a satisfactory rating for an SCA. Grey indicates no inspections were done.

A breakdown by subsector is not provided for the security SCA, given the potentially sensitive information associated with that SCA.

B.5.1 Medical sector

Tables 4 to 7 in this section show the inspection performance of licensees in the medical sector. The performance of the subsectors is shown for the years 2017 to 2021 as a percentage of the inspections that received satisfactory ratings for the SCA, together with the total number of inspections where performance in that SCA was assessed. The number of inspections shown in the “Entire medical sector” row is the aggregate for the entire sector, including subsectors not highlighted.

Table 4: Management system: Percentage of inspections with satisfactory ratings (and number of inspections conducted) for the medical sector and selected subsectors within the sector, 2017 to 2021

SCA	Subsector or sector	2017	2018	2019	2020	2021
Management system	Nuclear medicine	98% (91)	96% (103)	95% (103)	94% (47)	99% (89)
	Radiation therapy	82% (11)	50% (6)	100% (4)	0% (1)	70% (10)
	Veterinary nuclear medicine	100% (4)	100% (4)	75% (4)	(0)	100% (3)
	Entire medical sector	97% (110)	94% (117)	95% (163)	92% (48)	96% (105)

The reasons for below expectation ratings in the radiation therapy subsector varied from licensee to licensee but were most often related to repeated notices of non-compliance, procedures not being followed and poor management oversight of the program. CNSC staff continue to work with these licensees to correct items of non-compliance and to work on program deficiencies.

Table 5: Operating performance: Percentage of inspections with satisfactory ratings (and number of inspections conducted) for the medical sector and selected subsectors within the sector, 2017 to 2021

SCA	Subsector or sector	2017	2018	2019	2020	2021
Operating performance	Nuclear medicine	86% (90)	77% (104)	87% (155)	77% (48)	83% (89)
	Radiation therapy	89% (18)	67% (12)	100% (21)	100% (2)	90% (10)
	Veterinary nuclear medicine	100% (4)	100% (4)	100% (3)	100% (1)	100% (3)
	Entire medical sector	87% (116)	77% (124)	88% (176)	77% (51)	84% (115)

Table 6: Radiation protection: Percentage of inspections with satisfactory ratings (and number of inspections conducted) for the medical sector and selected subsectors within the sector, 2017 to 2021

SCA	Subsector or sector	2017	2018	2019	2020	2021
Radiation protection	Nuclear medicine	75% (89)	74% (104)	70% (155)	73% (48)	75% (119)
	Radiation therapy	100% (19)	100% (12)	100% (13)	100% (2)	100% (20)
	Veterinary nuclear medicine	100% (4)	50% (4)	100% (3)	100% (1)	33% (3)
	Entire medical sector	81% (116)	77% (124)	74% (178)	76% (51)	78% (145)

The nuclear medicine subsector continues to demonstrate lower performance in the radiation protection SCA. These findings have remained consistent over the last 5 years. The most frequent non-compliances have consistently been related to the lack of management oversight in the implementation of the radiation protection program. Items of non-compliances frequently include the failure of workers to conduct thyroid monitoring in accordance with their licence conditions, the failure to demonstrate that sampling and counting methods meet licence criteria for detecting loose contamination and the failure to calibrate survey meters at the required frequency. CNSC staff continue to work with these licensees to correct items of non-compliance and to work on program deficiencies. While staff are also continuing to prioritize inspections for medium risk licensees such as nuclear medicine licensees, the focus is currently on those licensees that are overdue for inspections. There was also a drop in the performance of veterinary nuclear medicine licensees in this SCA although due to the small number of inspections performed, it is difficult to say if this is representative of the subsector.

Table 7: Security: Percentage of inspections with satisfactory ratings (and number of inspections conducted) for the medical sector, 2017 to 2021

SCA	Subsector or sector	2017	2018	2019	2020	2021
Security	Medical sector	81% (118)	91% (119)	94% (168)	97% (33)	79% (34)

There has been a significant drop in medical sector licensee performance in the security SCA. [Section 3.4](#) provides additional details on these findings.

B.5.2 Industrial sector

Tables 8 to 11 in this appendix show the inspection performance of licensees in the industrial sector. The performance of the subsectors is shown for the years 2017 to 2021 as a percentage of the inspections that received satisfactory ratings for the SCA, together with the total number of inspections where performance in that SCA was assessed. The number of inspections for the “Entire industrial sector” row is the aggregate for the entire sector, including subsectors not highlighted.

A breakdown by subsector is not provided for the security SCA, given the potentially sensitive information associated with that SCA.

Table 8: Management system: Percentage of inspections with satisfactory ratings (and number of inspections conducted) for the industrial sector and selected subsectors within the sector, 2017 to 2021

SCA	Subsector or sector	2017	2018	2019	2020	2021
Management system	Portable gauge	99% (303)	98% (321)	100% (215)	98% (92)	96% (171)
	Fixed gauge	94% (130)	94% (112)	94% (124)	94% (94)	98% (64)
	Industrial radiography	96% (136)	96% (138)	98% (114)	98% (66)	99% (82)
	Oil-well logging	100% (42)	98% (43)	100% (24)	89% (9)	93% (15)
	Entire industrial sector	98% (620)	97% (608)	98% (487)	96% (261)	97% (340)

Table 9: Operating performance: Percentage of inspections with satisfactory ratings (and number of inspections conducted) for the industrial sector and selected subsectors within the sector, 2017 to 2021

SCA	Subsector or sector	2017	2018	2019	2020	2021
Operating performance	Portable gauge	82% (305)	86% (326)	82% (216)	82% (98)	89% (192)
	Fixed gauge	70% (136)	68% (111)	73% (124)	71% (94)	72% (64)
	Industrial radiography	89% (116)	88% (138)	93% (114)	98% (66)	95% (82)
	Oil-well logging	93% (42)	86% (44)	100% (24)	100% (9)	100% (14)
	Entire industrial sector	82% (625)	83% (633)	84% (484)	82% (267)	88% (363)

The fixed gauge subsector continues to demonstrate low performance in the operating performance SCA. These findings have remained consistent over the last 5 years. The most frequent non-compliances have consistently included failure of workers to follow their obligations, failure to meet condition requirements related to vessel or hopper entry or related to mounting and dismounting the gauges, and failure to maintain appropriate worker records. CNSC continue to work with these licensees to correct items of non-compliance and to work on program deficiencies. CNSC staff has also done specific outreach to licensees related to vessel entry procedures as that was one area of declining performance. While staff is continuing to prioritize inspections for medium risk licensees such as fixed gauge licensees, the current focus is on inspecting licensees that are overdue for an inspection.

Table 10: Radiation protection: Percentage of inspections with satisfactory ratings (and number of inspections conducted) for the industrial sector and selected subsectors within the sector, 2017 to 2021

SCA	Subsector or sector	2017	2018	2019	2020	2021
Radiation protection	Portable gauge	82% (306)	84% (326)	74% (216)	83% (98)	81% (192)
	Fixed gauge	80% (132)	77% (111)	73% (124)	82% (94)	80% (64)
	Industrial radiography	90% (130)	91% (138)	92% (114)	86% (66)	93% (82)
	Oil-well logging	86% (42)	91% (44)	92% (24)	89% (9)	93% (14)
	Entire industrial sector	84% (620)	85% (633)	79% (483)	84% (267)	85% (364)

Table 11: Security: Percentage of inspections with satisfactory ratings (and number of inspections conducted) for the industrial sector, 2017 to 2021

SCA	Subsector or sector	2017	2018	2019	2020	2021
Security	Industrial sector	91% (610)	94% (624)	94% (484)	92% (122)	93% (167)

B.5.3 Academic and research sector

Tables 12 to 15 in this appendix show the inspection performance of licensees in the academic and research sector. The performance of the subsectors is shown for the years 2017 to 2021 as a percentage of the inspections that received satisfactory ratings for the SCA, together with the total number of inspections for which performance in that SCA was assessed. The number of inspections for the “Entire academic and research sector” row is the aggregate for the entire sector, including subsectors not highlighted.

A breakdown by subsector is not provided for the security SCA, given the potentially sensitive information associated with that SCA.

Table 12: Management system: Percentage of inspections with satisfactory ratings (and number of inspections conducted) for the academic and research sector and selected subsector within the sector, 2017 to 2021

SCA	Subsector or sector	2017	2018	2019	2020	2021
Management system	Laboratory studies and consolidated use	97% (73)	99% (84)	99% (74)	100% (9)	100% (16)
	Entire academic and research sector	97% (73)	99% (86)	99% (74)	100% (9)	100% (18)

Table 13: Operating performance: Percentage of inspections with satisfactory ratings (and number of inspections conducted) for the academic and research sector and selected subsector within the sector, 2017 to 2021

SCA	Subsector or sector	2017	2018	2019	2020	2021
Operating performance	Laboratory studies and consolidated use	97% (74)	88% (86)	95% (74)	89% (9)	94% (16)
	Entire academic and research sector	97% (75)	88% (90)	95% (74)	90% (10)	96% (23)

Table 14: Radiation protection: Percentage of inspections with satisfactory ratings (and number of inspections conducted) for the academic and research sector and selected subsector within the sector, 2017 to 2021

SCA	Subsector or sector	2017	2018	2019	2020	2021
Radiation protection	Laboratory studies and consolidated use	97% (74)	88% (86)	93% (74)	100% (10)	69% (16)
	Entire academic and research sector	97% (75)	88% (90)	93% (74)	100% (10)	78% (23)

There has been a significant drop in the performance of licensees in the radiation protection SCA both in the laboratory studies and consolidated use subsectors as well as in the entire sector overall. Additional details on these findings can be found in [section 3.3](#) of the report.

Table 15: Security: Percentage of inspections with satisfactory ratings (and number of inspections conducted) for the academic and research sector, 2017 to 2021

SCA	Subsector or sector	2017	2018	2019	2020	2021
Security	Academic and research sector	96% (69)	79% (72)	99% (73)	100% (7)	91% (11)

B.5.4 Commercial sector

Table 16 shows the inspection performance of licensees in the commercial sector. The performance of the sectors is shown for the years 2017 to 2021 as a percentage of the inspections that received satisfactory

ratings for the SCA, together with the total number of inspections for which performance in that SCA was assessed. The number of inspections for the commercial sector is the aggregate for the entire sector.

Due to the small number of inspections in each subsector, a breakdown by subsector is not provided. Identifying trends would be difficult in subsectors due to the low number of licensees in many of them.

Table 16: Percentage of inspections with satisfactory ratings (and number of inspections conducted) for the commercial sector, 2017 to 2021

SCA	2017	2018	2019	2020	2021
Management system	93% (62)	97% (41)	97% (40)	100% (14)	92% (26)
Operating performance	94% (67)	92% (48)	89% (36)	94% (18)	87% (30)
Radiation protection	95% (63)	100% (46)	83% (48)	100% (21)	90% (29)
Security	94% (53)	93% (41)	91% (35)	90% (10)	100% (16)

Appendix C: Enforcement actions issued in 2021

In 2021, CNSC staff issued 10 orders and 1 administrative monetary penalty (AMP). Most of the enforcement actions were issued to licensees in the industrial sector, consistent with previous years. The only exception was 1 order that was issued to a non-licensee in unauthorized possession of radiation devices. This order is not included in Figure 10 as the non-licensee is not part of any sector. As mentioned in [section 4.0](#) of the report, the increase in enforcement actions in 2021 compared to 2020 was expected as the number of inspections performed in 2021 also increased.

A complete list of orders issued is included in [Table 17](#). Information on the AMP issued is included in [Table 18](#). All enforcement actions are closed and the CNSC is satisfied that the licensees have addressed the conditions of the orders and/or paid the AMPs.

Figure 10: Sector-by-sector comparison of enforcement actions issued, 2017 to 2021

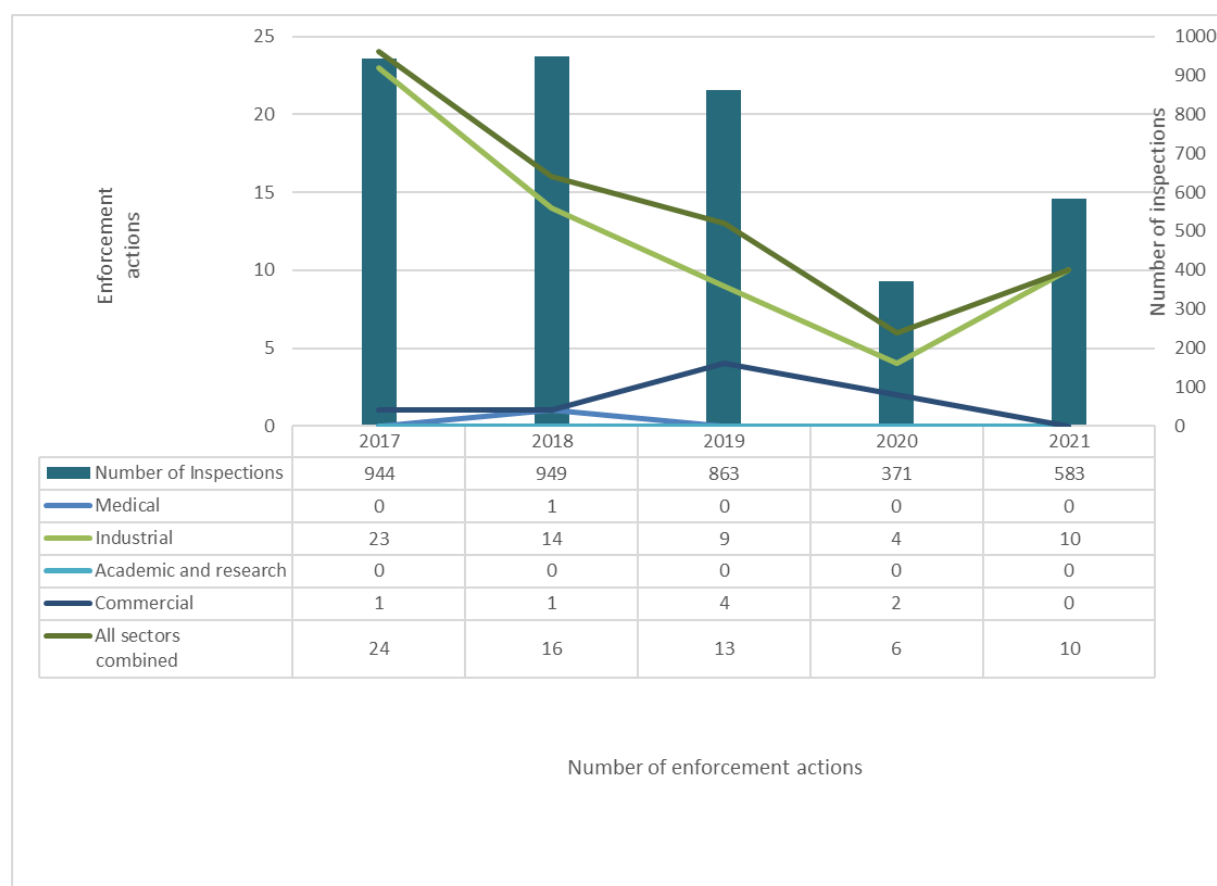


Table 17: Orders issued in 2021

Date of Issue	Order #	Locations	Licensee	Subsector-sector	Summary of order	Licensee response	Closed
February 15, 2021	1223	4712, 97 Street, Edmonton, Alberta	FOCUS NDTIS INC	Industrial radiography- industrial	The order was issued following a CNSC remote inspection of the licensee's location in Edmonton. The inspection identified several non-compliances with regulatory requirements related to inventory control, exposure device maintenance, records availability and maintenance, worker designation and training, ascertainment of doses and adherence to internal procedures. The inspection identified that the licensee has failed to implement an effective radiation protection program.	The licensee has complied with the terms of the order to the satisfaction of the CNSC.	April 22, 2021
March 17, 2021	0570	9637 45 Avenue Northwest (#201), Edmonton, Alberta	Canadian Engineering & Inspection Ltd.	Industrial radiography- industrial	The order was issued after the CNSC determined that the licensee's currently appointed radiation safety officer did not possess the required training and qualifications for effectively managing the licensee's radiation safety program.	The licensee has decided to dismantle its in-house radiography testing program and requested the revocation of their CNSC licence.	April 20, 2021
April 13, 2021	1080	9720, 68 Street SE, Calgary, Alberta	AM JADE CO.	N/A	The company was in unauthorized possession of four (4) uncertified Industrial Nucleonic Corp. model PHH-3 nuclear gauge containing greater than 10 Exemption Quantities of Cesium-137 sources.	The devices have been transferred to ALARA Consultants for disposal.	September 7, 2021
July 20, 2021	1243	2051 Williams Parkway, (unit 20), Brampton, ON	Davroc Testing Laboratories Inc.	Portable gauge- industrial	The order was issued following a CNSC field inspection at a construction site in Innisfil, Ontario, where it was observed that a worker had left a portable nuclear gauge unattended and unsecured without visual oversight.	The licensee has complied with the term of the order to the satisfaction of the CNSC.	August 17, 2021

Date of Issue	Order #	Locations	Licensee	Subsector-sector	Summary of order	Licensee response	Closed
August 23, 2021	1251	25 West Beaver Creek Road, Richmond Hill, ON	Candec Engineering Consultants Inc	Portable gauge-industrial	The order was issued based on the findings of a CNSC field inspection conducted on July 22, 2021, in Lindsay, Ontario, and a CNSC on-site records inspection conducted on August 23, 2021, at the licensee's facility in Richmond Hill, Ontario. The field inspection identified non-compliances related to device labelling and transport documentation requirements. The records inspection identified several non-compliances related to worker obligations, worker training, record keeping, leak testing, annual compliance report submissions, radiation detection instrumentation calibrations, posting of signs, emergency procedures, internal procedures and the transportation of the gauges. This includes repeat non-compliances from past inspections. In addition, the records inspection identified that the licensee did not meet one of its commitments that formed part of the licensing basis.	The licensee has complied with the term of the order to the satisfaction of the CNSC	September 27, 2021
September 15, 2021	0575	17 Rue De L'Industrie, St-Rémi, QC	Groupe ABS Inc.	Portable gauge-industrial	The order was issued following a CNSC field inspection at a construction site in Montréal, where it was observed that a worker had left a portable nuclear gauge unattended and unsecured. In addition, the inspection identified that the worker was not following internal procedures and was not adequately trained.	The licensee has complied with the term of the order to the satisfaction of the CNSC.	October 5, 2021

Date of Issue	Order #	Locations	Licensee	Subsector-sector	Summary of order	Licensee response	Closed
October 1, 2021	1252	164 Evans Ave, Toronto, ON	Cool Beer Brewing Co. Incorporated	Fixed gauge- industrial	The order was issued following a CNSC on-site inspection conducted on September 24, 2021, and a follow-up on-site verification conducted on September 28, 2021, at the licensee's facility in Toronto. The combined observations from these on-site verification activities identified that there is currently no trained Radiation Safety Officer (RSO) appointed who can provide an acceptable level of oversight to ensure safe operation and maintenance of the licensee's fixed nuclear gauge and who can implement any emergency procedures related to this device. The previous RSO left the company earlier in 2021.	The licensee has complied with the term of the order to the satisfaction of the CNSC.	October 19, 2021
October 4, 2021	1338	505 du Parc- Technologique Boulevard (Suite 200), Québec, QC	Englobe Corp.	Portable gauge- industrial	The order was issued following a CNSC field inspection at a construction site in Montréal, where it was observed that a worker had left a portable nuclear gauge unattended and unsecured. The inspection identified that the worker was not following internal procedures.	The licensee has complied with the terms of the order to the satisfaction of the CNSC.	October 26, 2021
October 4, 2021	1339	97 de la Couronne St, Repentigny, QC	9395-8049 Québec inc. opérant par sa filiale Solmatech inc.	Portable gauge- industrial	The order was issued following a CNSC field inspection at a construction site in Montréal, where it was observed that a worker had left a portable nuclear gauge unattended and unsecured. The inspection identified that the worker was not following internal procedures.	The licensee has complied with the terms of the order to the satisfaction of the CNSC.	November 8, 2021

Date of Issue	Order #	Locations	Licensee	Subsector-sector	Summary of order	Licensee response	Closed
October 14, 2021	1340	433 Chabanel Road W, Montréal, QC	FNX-INNOV Inc.	Portable gauge-industrial	The order was issued following a CNSC field inspection at a construction site in Laval, Québec where it was observed that a worker had left a portable nuclear gauge unattended and unsecured. The inspection identified that the worker was not following internal procedures.	The licensee has complied with the terms of the order to the satisfaction of the CNSC.	May 10, 2022

Table 18: Administrative monetary penalties issued in 2021

Date of Issue	AMP	Licensee	Subsector/sector	amount	AMP description	Closed
March 1, 2021	2021-AMP-01	Catalyst Paper Corporation	Fixed gauge-Industrial	\$2,000	Failure to comply with provision 48(c) of Nuclear Safety and Control Act: Failure to comply with a condition of the licence. Specifically, failure to comply with licence condition 2052-3 related to entry into a vessel or hopper fitted with a fixed gauge.	Paid on March 26, 2021

Appendix D: Doses to workers

Occupational doses were reported by licensees for a total of 56,040 workers in the 4 sectors in 2021. Of those workers, 24,066 were nuclear energy workers (NEWs). The differences in doses to workers among sectors reflect the nature of the various activities within those sectors. Figure 11 shows the doses received by non-NEWs monitored in 2021 and demonstrates that 93% of non-NEWs reported doses less than or equal to 0.5 mSv. Figure 12 shows the doses received by NEWs monitored in 2021. Based on the reported doses for NEWs, only 14% of NEWs received a dose of greater than 1 mSv with only about 1% receiving a dose above 5 mSv. Figure 13 shows the doses to NEWs from 2017 to 2021.

As the figures demonstrate, doses overall remained low and stable over the years. This is an indication that industry has successfully kept doses as low as reasonably achievable. Due to the nature of the work performed in many cases, it is inevitable that some workers will receive a dose. The constancy year over year indicates that doses have likely achieved a state of equilibrium—changes in operational procedures will likely not yield any significant improvement in dose.

Any unusual doses were further explained in [section 5](#) of this report.

Figure 11: Sector-by-sector comparison of annual effective doses to all non-NEWs reported by licensees in 2021

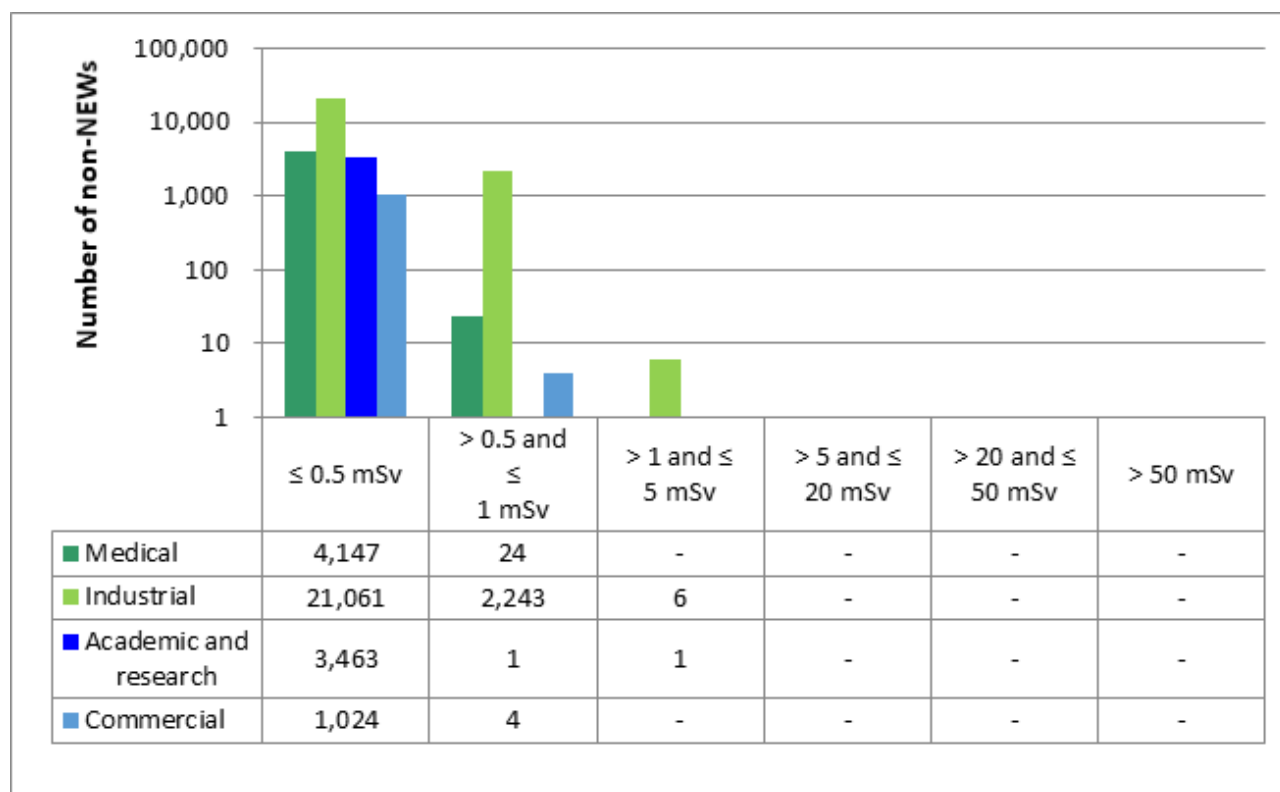
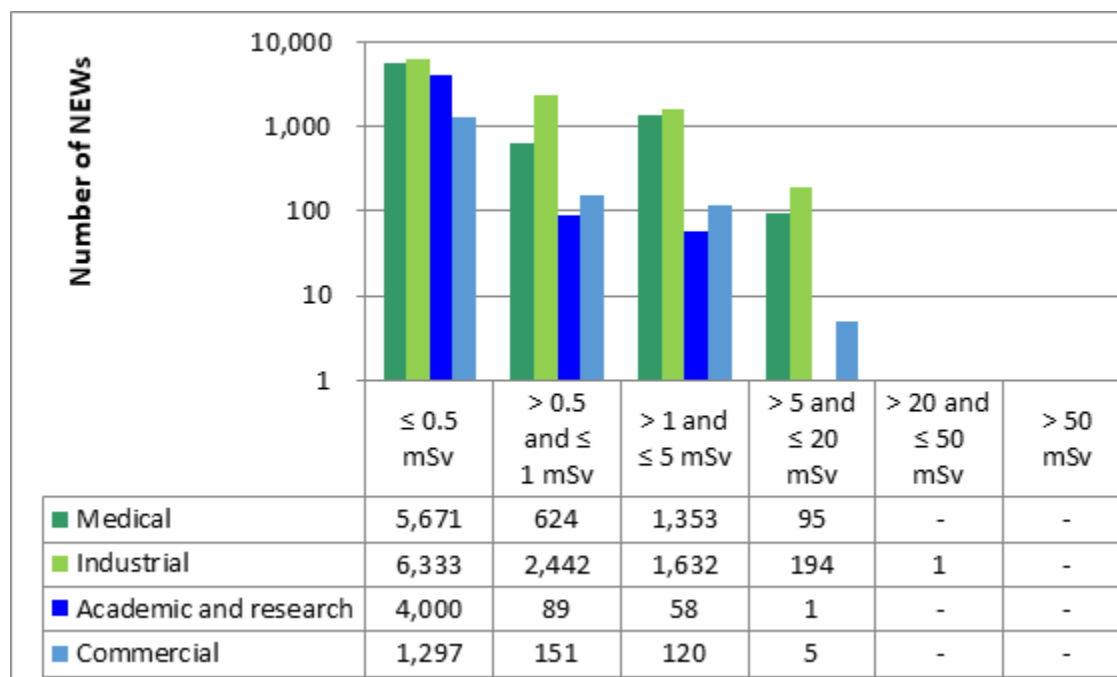
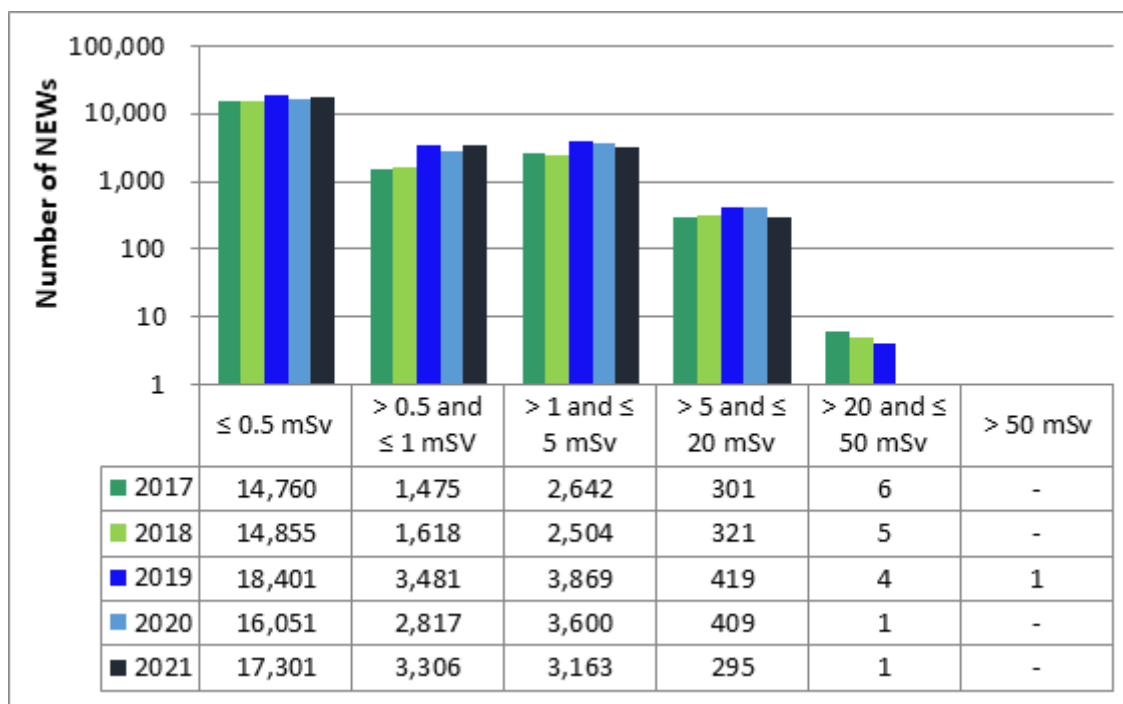


Figure 12: Sector-by-sector comparison of annual effective doses to all NEWs reported by licensees in 2021

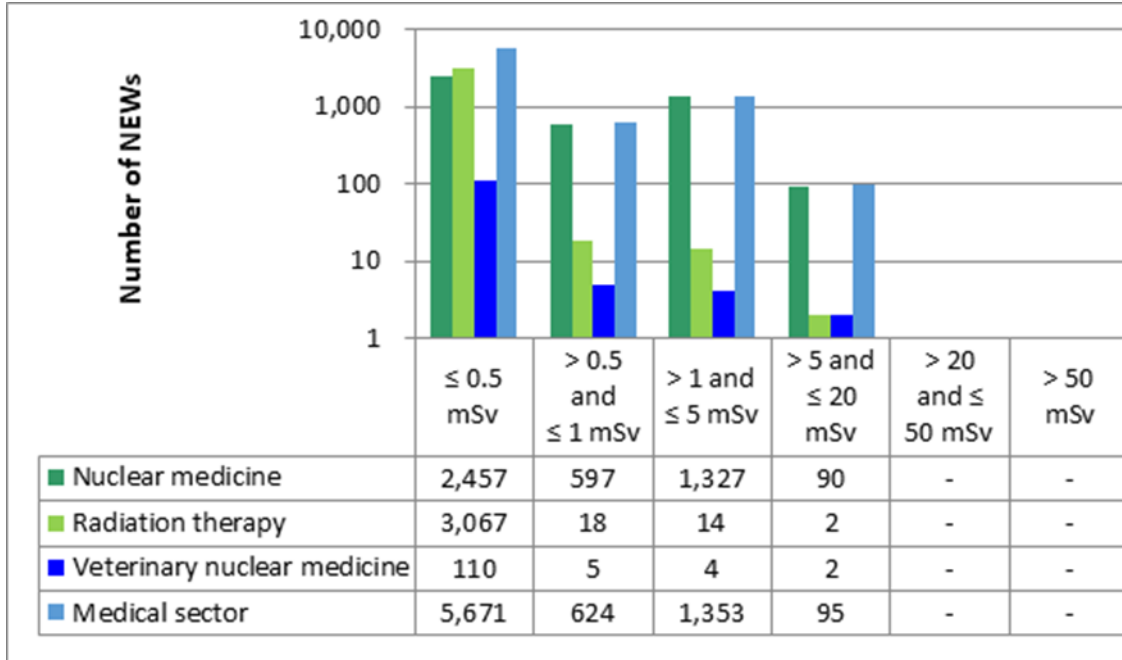
One NEW, working in the portable gauge subsector, was reported to have received a dose of 22.3 mSv, which was unexpected based on the work performed. The worker was observed while using the gauge and was deemed to be operating it safely. Upon further investigation the licensee determined that the worker was storing his dosimeter on top of the portable gauge case when not in use, which accounted for the unusual dosimeter readings. Even though the dose received was below the regulatory limits for a NEW, the worker was removed from work using a nuclear gauge as a personal safety precaution during the investigation. The worker has now moved into a different position, where he will no longer be using a portable gauge. No dose change request was submitted.

Figure 13: Annual effective doses to NEWs, 2017 to 2021, all sectors combined

D.1 Medical sector

Figure 14 shows the doses received by NEWs in the medical sector, as reported to the CNSC for 2021. Note that the total number of NEWs shown in the “Medical sector” row is the aggregate for the entire sector, including subsectors not highlighted. Results are similar to past years.

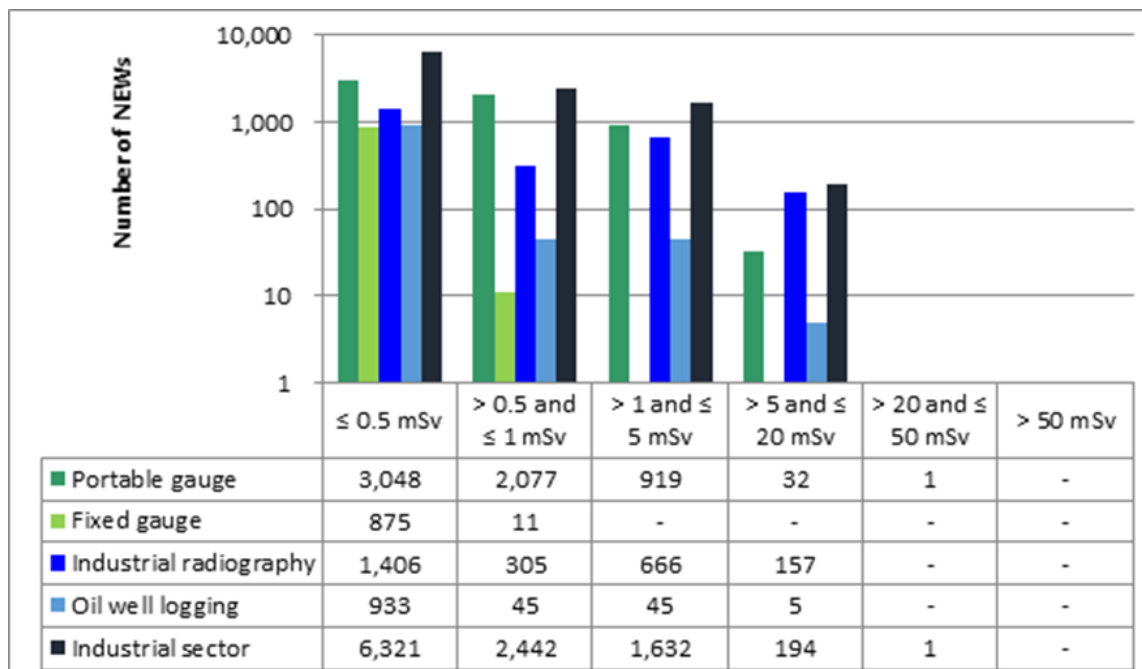
Figure 14: Doses to NEWs in the medical sector (selected subsectors and entire sector) reported for 2021



D.2 Industrial sector

Figure 15 shows the doses received by NEWs in the industrial sector, as reported to the CNSC for 2021. Note that the total number of NEWs shown in the “Industrial sector” row is the aggregate for the entire sector, including subsectors not highlighted. Results are similar to past years.

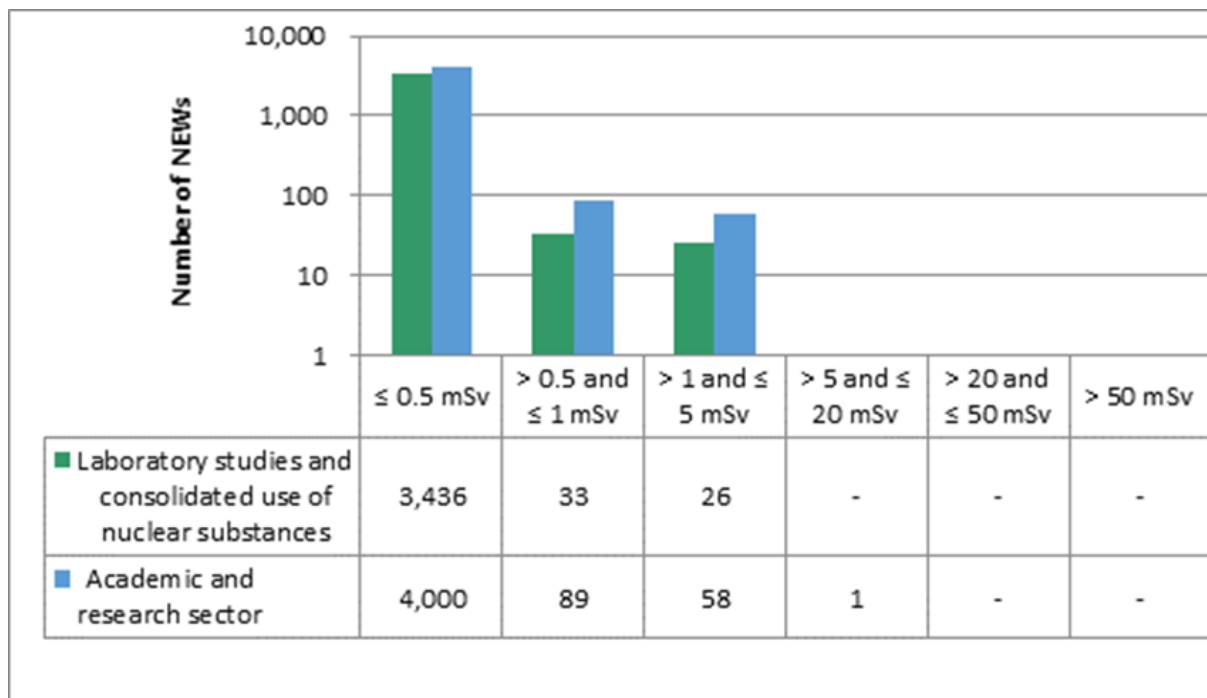
Figure 15: Doses to NEWs in the industrial sector (selected subsectors and entire sector) reported for 2021



D.3 Academic and research sector

Figure 16 shows the doses received by NEWs in the academic and research sector, as reported to the CNSC for 2021. Note that the total number of NEWs shown in the “Academic and research sector” row is the aggregate for the entire sector, including subsectors not highlighted. Results are similar to past years.

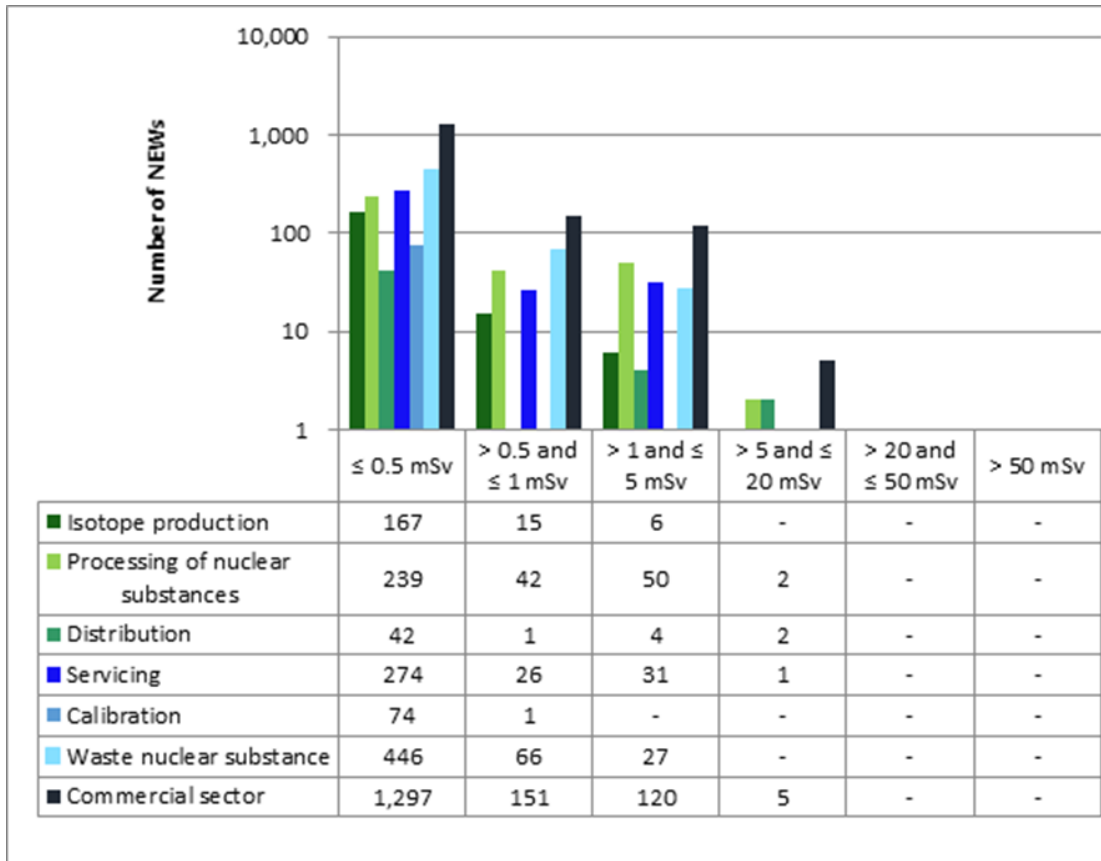
Figure 16: Doses to NEWs in the academic and research sector (selected subsector and entire sector) reported for 2021



D.4 Commercial sector

Figure 17 shows the doses received by NEWs in the commercial sector, as reported to the CNSC for 2021. Note that the total number of NEWs shown in the “Commercial sector” row is the aggregate for the entire sector, including subsectors not highlighted. Results are similar to past years.

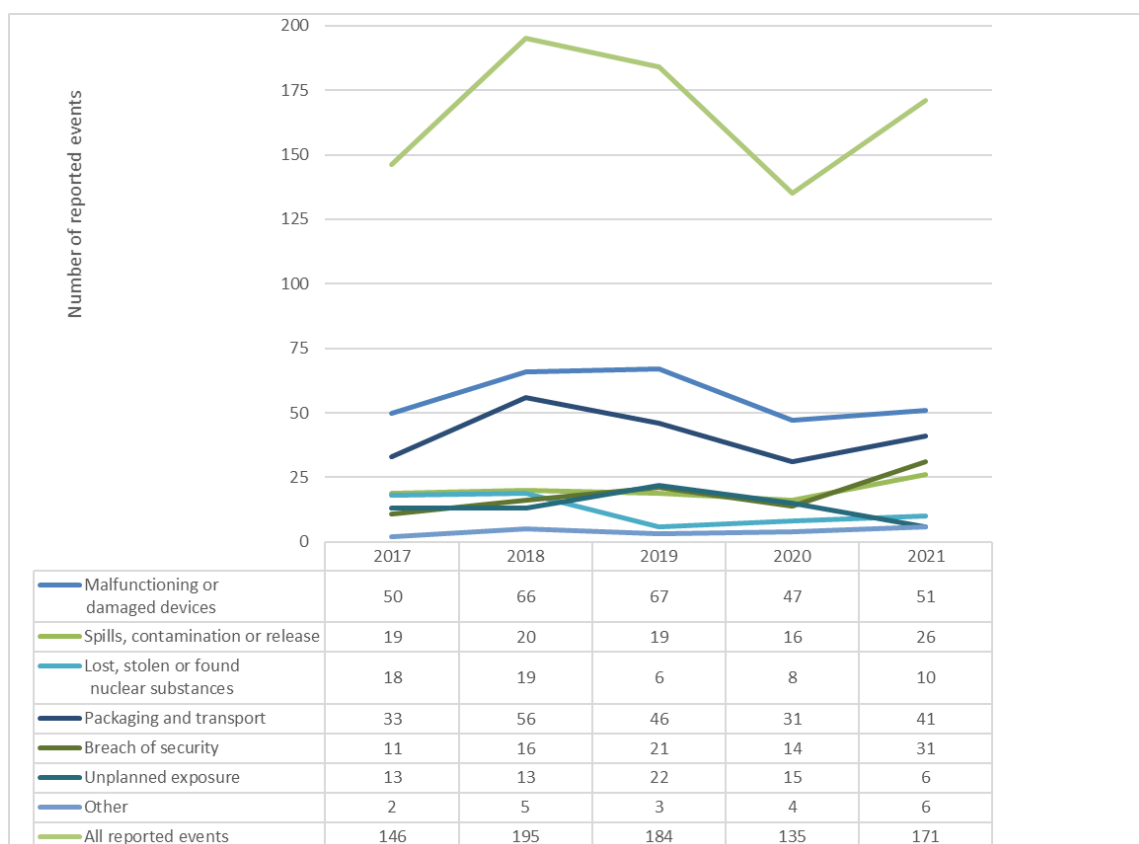
Figure 17: Doses to NEWs in the commercial sector (selected subsectors and entire sector) reported in 2021



Appendix E: Reportable events

In 2021, CNSC staff received 197 notifications of events from licensees related to nuclear substances and prescribed equipment. Of those, staff assessed 171 of these as reportable events. Notifications that are not considered as reportable events include events such as action level exceedances, fishing operations (well-logging) and a flood where no nuclear substances or prescribed equipment were affected. Of the 171 reportable events, 165 were rated as level 0 (no safety significance) on the International Nuclear and Radiological Event Scale (INES) and 6 were rated as INES level 1 (anomaly). For all the events reported, licensees implemented appropriate response measures to mitigate the impacts and to limit radiation exposure to workers and the public. CNSC staff reviewed the response measures and found them to be satisfactory.

Figure 18: Reportable events from 2017 to 2021, all sectors combined



Unplanned exposures may include individuals crossing safety barriers while industrial radiography was occurring, skin contamination events, and any events where regulatory limits were exceeded.

As noted in [section 6.0](#), event data related to transport is a more meaningful indicator than licensee performance ratings for the packaging and transport SCA. Out of the 171 events reported in 2021, 41 (24%) were related to transport. For the most part (76%), the transport events were related to minor motor vehicle accidents (MVAs) where there was no damage to the package being transported and no injury to the driver. None of the transport-related events were considered risk-significant; all were rated as INES level 0. Given the large number of packages containing radioactive material that are shipped on a regular basis in Canada, the small number of transport events reported in 2021 – all of which were of low-risk significance – provide an indicator of the overall level of safety of this activity.

Table 19: Reportable events by sector and subsector in 2021

Subsector	Malfunctioning or damaged devices	Spills, contamination, or release	Lost, stolen or found nuclear substances	Packaging and transport	Breach of security	Unplanned exposure	Other
Commercial (Total reportable events in the sector: 42)							
Isotope production	3	6	-	1	-	-	-
Processing of nuclear substances	-	1	-	12	-	1	-
Distribution	-	-	-	2	-	-	-
Servicing	-	-	-	-	-	-	-
Calibration	-	-	-	-	-	-	-
Waste nuclear substance	-	3	-	2	5	-	6
Other	-	-	-	-	-	-	-
Medical (Total reportable events in the sector: 41)							
Nuclear medicine	1	15	2	5	3	1	-
Radiation therapy	2	-	1	-	10	-	-
Veterinary nuclear medicine	-	-	-	-	-	-	-
Other	1	-	-	-	-	-	-
Industrial (Total reportable events in the sector: 82)							
Portable gauge	17	-	5	16	6	-	-
Fixed gauge	22	-	2	-	1	-	--
Industrial radiography	4	-	-	3	-	4	-
Oil-well logging	-	1	-	-	-	-	-
Other	1	-	-	-	-	-	-
Academic and Research (Total reportable events in the sector: 6)							
Laboratory studies and consolidated use	-	-	-	-	3	-	-
Other	-	-	-	-	3	-	-
All sectors combined (Total reportable events: 171)							
Total events- all sectors combined	51	26	10	41	31	6	6

Note: Where a specific sub-sector is not highlighted, the number of events is captured under “other” in each sector.

Table 20: Reportable events in 2021

Event ID	Date reported	INES rating	Event type	Sector	Event summary
5111	January 11	0	Transport	Industrial	Portable gauge fell off forklift during unloading. Gauge was sent for inspection and maintenance prior to use.
5115	January 14	0	Device damaged	Industrial	An exposure device was run over by a truck. Damage was limited to the camera crank handle and the cable. There was no loss of containment or overexposure as a result of this event.
WNSL-1	January 15	0	Transport	Commercial	A shipment meant to contain only empty low level radioactive waste (LLRW) bins also contained one bin of actual LLRW. The full bin was properly packaged and returned. There were no overexposures as a result of this event.
5122	January 18	0	Breach of security	Medical	The door of a hot lab was left unlocked for a period of 24 hours after a delivery. All nuclear substances were accounted for.
5124	January 21	0	Transport-MVA	Commercial	A vehicle transporting empty excepted packages was involved in a minor motor vehicle accident. There was no damage to the packages.
5126	January 26	0	Breach of security	Medical	Nuclear substances were left unattended in a hallway for a brief period. All nuclear substances were accounted for.
5129	January 27	0	Device damaged	Industrial	A fixed gauge was not functioning properly due to debris collecting in the source housing. The sealed source was removed and re-installed by a licensed third party into a new source holder and then put back into operation.
5131	February 1	0	Device damaged	Industrial	A fixed gauge shutter was stuck in the open position. The shutter was successfully repaired. There were no overexposures as a result of this event.
5134	February 2	0	Device damaged	Industrial	An exposure device was dropped from scaffolding causing minor damage to the casing. The exposure device was sent for repair and leak testing. There were no overexposures as a result of this event.
5136	February 4	0	Transport	Commercial	Two Type A packages were damaged by a forklift. There was no loss of containment and no external contamination on the packages. Both packages were able to be delivered.

Event ID	Date reported	INES rating	Event type	Sector	Event summary
5149	February 5	0	Transport-MVA	Industrial	A vehicle transporting an exposure device was involved in a motor vehicle accident. There was no damage to the exposure device.
5140	February 11	0	Release	Commercial	Unplanned release of fluorine-18 to the environment. There were no overexposures to workers or the public because of this event.
5143	February 16	0	Transport-MVA	Commercial	A vehicle transporting medical isotopes was involved in a motor vehicle accident. There was no damage to the packages.
5144	February 16	0	Spill	Medical	Spill > 100 EQ of technetium-99m. There was no skin contamination and no overexposures.
5146	February 17	0	Device damaged	Industrial	A portable gauge was run over by a truck on a construction site. The gauge was removed from service and sent for repairs. There was no loss of containment or overexposure as a result of the event.
WNSL-2	February 25	0	Security	Commercial	Security related event-confidential
5154	February 27	0	Device damaged	Industrial	A portable gauge was run over by an asphalt roller on a construction site. The damage was limited to the handle of the gauge. There was no loss of containment or overexposure as a result of the event.
5157	March 3	0	Device damaged	Medical	The handle on a rubidium-82 generator was stuck, preventing use of the generator. The generator was removed from service and stored for decay prior to returning to the supplier. There was no contamination or releases as a result of this event.
5158	March 4	0	Transport	Medical	A seal on a Type A package containing technetium-99m was broken upon receipt of the package. All nuclear substances were accounted for but were not used by the licensee.
5159	March 4	0	Device damaged	Industrial	An exposure device fell from height causing damage to the source tube. The exposure device was sent for repair and inspection. There were no overexposures as a result of the event.
5160	March 4	0	Transport-MVA	Industrial	A vehicle transporting a portable gauge was involved in a motor vehicle accident. There was no damage to the portable gauge.

Event ID	Date reported	INES rating	Event type	Sector	Event summary
5161	March 5	0	Device malfunction	Industrial	A malfunctioning fixed gauge was discovered as part of a routine inspection. The fixed gauge was serviced on-site and is now functional. There was no loss of containment or overexposures as a result of the event.
5166	March 5	0	Transport	Commercial	A Type A package was damaged during transport. There was no loss of containment and no external contamination on the package.
5164	March 6	0	Device malfunction	Industrial	An exposure device was malfunctioning during use. It was deemed not repairable and was disposed of appropriately. There were no overexposures as a result of the event.
5165	March 8	0	Transport-MVA	Commercial	A vehicle transporting empty excepted packages was involved in a minor motor vehicle accident. There was no damage to the packages.
WNSL-3	March 10	0	Transport-MVA	Commercial	A truck rolled backwards down a small grade, broke through a storage fence, and connected with a transport container. There was no damage to the container or the contents.
WNSL-4	March 10	0	Equipment malfunction	Commercial	Air samplers were sampling local air instead of air released from the stacks due to equipment malfunction. Based on the work performed during that time, there were no releases that would have exceeded action levels. The air samplers were replaced.
5167	March 15	0	Contamination	Medical	A NEW received skin contamination with technetium-99m. The extremity dose to the right hand was 88.5 mSv which is below regulatory limits but above the reporting threshold of 50 mSv.
5169	March 18	0	Device damaged	Industrial	A fixed gauge was displaced by about two inches from its expected position. The only noticeable damage was to the housing paint. There was no loss of containment or overexposure as a result of this event.
5170	March 19	0	Transport	Medical	Upon receipt of a Type A package containing zirconium-89, contamination on the external surface was discovered. The vial within the package was empty of its contents. There was no contamination found on any surface where the package transited or on any person who handled the package. The package was stored for decay prior to disposal.

Event ID	Date reported	INES rating	Event type	Sector	Event summary
5177	March 22	0	Device damaged	Industrial	A fixed gauge was malfunctioning due to a damaged tube between the source window and the sensor. There were no overexposures as a result of this event.
5175	March 23	0	Transport-MVA	Commercial	A vehicle transporting spent technetium-99m generators was involved in a minor motor vehicle accident. There was no damage to the packages.
5180	April 5	1	Stolen	Industrial	A portable gauge (Category 4) in its Type A package was stolen from a secured industrial site along with other tools. The portable gauge has not been recovered.
5185	April 5	0	Device malfunction	Commercial	A status light for a hot cell associated with cyclotron operations malfunctioned. Repairs were identified and completed.
5194	April 6	0	Found	Industrial	A member of the public was in unauthorized possession of four historical fixed gauges that were discovered in an equipment inventory check. These were likely the remains of a previous occupant at the site. The sources were shielded and inaccessible to the public. An order was issued by the CNSC to dispose of the gauges through an authorized CNSC licensee. There were no overexposures related to this event.
5184	April 7	0	Device damaged	Industrial	A portable gauge was run over by a truck on a construction site. The gauge was removed from service and sent for repairs. There was no loss of containment or overexposure as a result of the event.
5187	April 9	0	Breach of security	Academic and research	A security system in an administrative area was left unarmed. There was no actual attempt at intrusion. All other systems were in place.
5195	April 20	0	Breach of security	Academic and research	A security system was not armed over a weekend likely due to a power disruption. There was no actual attempt at intrusion. Other security systems remained in place.

Event ID	Date reported	INES rating	Event type	Sector	Event summary
5196	April 20	0	Unplanned exposure	Commercial	A spill of >100 EQ of iodine-131 occurred in a radiation shielded box, under a vented hood. The subsequent clean-up resulted in an unplanned exposure to a NEW of 29 mSv (effective dose) and a committed equivalent dose to the thyroid of 560 mSv. Both of these are below regulatory limits. A verbal EIR was presented to the Commission in April 2021 with subsequent follow ups in October 2021 and March 2022 .
5204	April 20	0	Device malfunction	Industrial	Elevated dose rates were discovered around a fixed gauge. Physical barriers have been installed to ensure no overexposure results and the gauge will be replaced during next shutdown.
WNSL-5	April 25	0	Security	Commercial	Security related event-confidential
5214	April 27	0	Device malfunction	Medical	A medical linear accelerator turned on unexpectedly during safety checks due to a faulty board. No one was in the room when it came on. There were no overexposures related to this event.
5206	April 29	0	Breach of security	Medical	Due to an electronic network upgrade, the signal from one particular surveillance device was not available live to the security personnel. The licensee confirmed, however, that all the essential barriers remain in place. The licensee implemented corrective actions and repairs have been done.
5200	April 30	0	Unplanned exposure	Industrial	Four non-NEWs were unknowingly in a vessel, inside a barrier set for industrial radiography exposures, at the time when two exposures were taken. A re-enactment of the event confirmed that there were no over-exposures as a result of this event.
5201	April 30	0	Device damaged	Industrial	A fixed gauge was damaged when the mounting support broke and the gauge fell from about 2.5 meters. The shutter was closed and locked and the gauge placed in secure storage. There was no loss of containment or overexposure related to this event.
5203	May 3	0	Spill	Commercial	A spill of >100 EQ of strontium-82 occurred in a clean room. The room was decontaminated and there were no overexposures as a result of this event.

Event ID	Date reported	INES rating	Event type	Sector	Event summary
WNSL-6	May 6	0	Contamination	Commercial	The equipment meant to separate contaminated from non-contaminated coveralls designated for repair malfunctioned. Some contaminated coveralls were sent for repair to a non-licensed facility. Due to the low levels of contamination (just above the release limits) no unplanned exposures were anticipated.
5209	May 9	1	Stolen	Industrial	A portable gauge (Category 4 sealed source) in its Type A package was stolen from a parked vehicle. The portable gauge has not been recovered.
5211	May 10	0	Breach of security	Industrial	A lock on a security cage around fixed gauge appeared to have been tampered with. Further investigation revealed that the lock likely wore through the hasp due to constant vibration. There was no unauthorized entry to the building on the day in question and all nuclear substances are accounted for.
5216	May 18	0	Transport-MVA	Industrial	A vehicle transporting a portable gauge was involved in a motor vehicle accident. There was no damage to the portable gauge.
5217	May 19	0	Unplanned exposure	Medical	The licensee reported that a NEW had received a dose of 146 mSv. Upon investigation, it was deemed to be a non-personal dose and a dose change request was submitted and approved. An EIR was reported to the Commission in June 2021 with a follow-up in October.
5218	May 19	0	Spill	Medical	Spill > 100 EQ of fluorine-18 occurred while injecting a patient. There was no skin contamination and no overexposures.
5219	May 20	0	Breach of security	Industrial	A portable gauge was left unattended on a restricted-access work site. The source was shielded, and the trigger locked. The worker realized their error and contacted someone on site to secure the gauge. There were no overexposures related to this event.
5306	May 24	0	Device damaged	Industrial	A neutron generator was damaged as it was being recovered from a well. The device was sent for disposal. There were no unplanned exposures as a result of this event.

Event ID	Date reported	INES rating	Event type	Sector	Event summary
5221	May 25	0	Breach of security	Academic and research	A security system was not armed over a weekend likely due to a faulty electric panel. There was no actual attempt at intrusion. Other security systems remained in place.
WNSL-7	May 26	0	Equipment malfunction	Commercial	A hand and foot radiation monitor was found to be out of calibration for five days. No adjustments were required once calibrated. No contamination was missed during this period.
WNSL-8	May 27	0	Equipment malfunction	Commercial	Sprinkler system was out of service due to a municipal water line failure and shutdown.
5226	May 27	0	Breach of security	Industrial	A portable gauge was left unsecured in the back of a truck. Another worker noticed and installed a lock and notified the radiation safety officer.
5230	June 1	0	Breach of security	Industrial	A portable gauge was left unattended on a restricted-access work site. The source was shielded, and the trigger locked. Site supervisor stayed close to the gauge until the licensee returned. There were no overexposures related to this event.
5233	June 3	0	Spill	Medical	Spill > 100 EQ of fluorine-18 occurred and included contamination of a NEW. After decontamination, the estimate of the maximum dose received by the NEW was 406 µSv. There were no overexposures related to this event.
5234	June 3	0	Device damaged	Industrial	A portable gauge was run over by a van on a construction site. The gauge was removed from service and sent for repairs. There was no loss of containment or overexposure as a result of this event.
5245	June 3	0	Contamination	Commercial	A vial of fluorine-18 broke in its shielded container, leading to contamination of the surrounding area. There was no skin contamination. There were no overexposures related to this event.
5238	June 7	0	Unplanned exposure	Industrial	A worker at the job site (member of the public) crossed a barrier during an industrial radiography exposure. Based on a re-enactment, there was no overexposure to the member of the public as a result of this event.
5243	June 9	0	Device malfunction	Industrial	The shutter on a fixed gauge was stuck in the open position. Due to the positioning of the gauge, there was no risk to the workers. The gauge was repaired, and the shutter is now functional.

Event ID	Date reported	INES rating	Event type	Sector	Event summary
5246	June 11	0	Unplanned exposure	Industrial	A worker at the job site (member of the public) crossed a barrier during an industrial radiography exposure. Based on a re-enactment, there was no overexposure to the member of the public as a result of this event.
5247	June 11	0	Device damaged	Industrial	A portable gauge was run over by a bulldozer on a construction site. The gauge was removed from service and sent for disposal. There was no loss of containment or overexposure as a result of this event.
5248	June 11	0	Transport-MVA	Industrial	A vehicle transporting a portable gauge was involved in a motor vehicle accident. There was no damage to the portable gauge.
WNSL-9	June 14	0	Death at a licensee facility	Commercial	There was a fatality of a sub-contractor providing a service to the licensee. The fatality was industrial in nature. The Ministry of Labour, Training and Skills Development (MLTSD) for the Province of Ontario was notified and commenced an investigation on June 14, 2021. An EIR was presented to the Commission during the October 5, 2021, meeting.
5250	June 16	0	Spill	Medical	Spill of >100 EQ of technetium-99m occurred when a vial was dropped on the floor. There was no personal contamination and no overexposures as a result of this event.
5251	June 17	0	Transport-MVA	Commercial	A vehicle transporting empty packages with trace amounts of technetium-99m was involved in a minor motor vehicle accident. There was no damage to the packages.
5252	June 17	0	Contamination	Commercial	Contamination of a worker shoe was discovered during an exit scan. There was no contamination outside the facility. The area was decontaminated.
5253	June 17	0	Contamination	Industrial	A NEW was contaminated with bromine-82 while performing work on a pipeline. The NEW received a maximum dose of 20 mSv. No overexposures as a result of this event.
5257	June 19	0	Transport-MVA	Industrial	A vehicle transporting a portable gauge was involved in a motor vehicle accident. There was no damage to the portable gauge.

Event ID	Date reported	INES rating	Event type	Sector	Event summary
5265	June 23	0	Device damaged	Industrial	A portable gauge was run over by an asphalt roller on a construction site damaging the cover and the handle. The gauge was removed from service and sent for repair. There was no loss of containment or overexposure as a result of this event.
5267	June 23	0	Device damaged	Industrial	A portable gauge was damaged when it was hit by a piece of equipment on a construction site. The gauge was removed from service and sent for disposal. There was no loss of containment or overexposure as a result of this event.
5269	June 24	0	Device malfunction	Industrial	The shutter on a fixed gauge was stuck in the open position. The gauge was dismantled and sent for disposal. There were no overexposures as a result of this event.
5272	June 29	0	Transport	Medical	A package containing a Mo-99/Tc-99m generator was received with minor damage to the package. The generator was intact and there was no loss of containment as a result of this event.
5273	June 30	0	Lost	Medical	Lost iodine-125 seed (Category 5 sealed source). The source was not recovered.
5274	July 3	0	Transport-MVA	Commercial	A truck carrying pallets of smoke detectors was involved in a MVA. The outer case packs were damaged however the smoke detectors were intact.
5384	July 5	0	Contamination	Commercial	A spill > 100 EQ of fluorine-18 occurred. Three NEWs were contaminated however there were no overexposures as a result of this event.
5275	July 7	0	Transport	Medical	An excepted package with minor damage to the package was received. The source was intact and there was no loss of containment as a result of this event.
5276	July 7	0	Transport-MVA	Commercial	A vehicle transporting technetium-99m in a Type A package as well as empty excepted packages was involved in a minor motor vehicle accident. There was no damage to the packages.
5278	July 9	0	Device damaged	Industrial	A portable gauge was damaged when it was hit by a vehicle on a construction site. There was no loss of containment or overexposure as a result of this event.

Event ID	Date reported	INES rating	Event type	Sector	Event summary
5280	July 14	1	Stolen	Industrial	A vehicle with a portable gauge (Category 4 sealed source) in its Type A package secured in it, was stolen from a worker residence. The portable gauge has not been recovered.
5281	July 14	0	Device damaged	Industrial	A portable gauge was damaged when it was run over by a truck on a construction site. The gauge was removed from service and sent for disposal. There was no loss of containment or overexposure as a result of this event.
5282	July 14	0	Spill	Commercial	Minor leak of carbon-11. There was no skin contamination and no overexposures as a result of this event.
5284	July 15	0	Device malfunction	Industrial	The shutter on a portable gauge was stuck in the open position. The gauge was cleaned and service prior to being returned to service. There were no overexposures as a result of this event.
5283	July 19	0	Spill	Medical	Two spills > 100 EQ of technetium-99m each. There was no skin contamination and no overexposures as a result of these events.
5286	July 19	0	Device malfunction	Medical	A brachytherapy unit malfunctioned during a treatment of a patient. The unit was returned to service once reset. There were no overexposures as a result of this event.
5289	July 20	0	Contamination	Medical	A NEW inadvertently poked themselves with a needle contaminated with technetium-99m. There was no overexposure as a result of this event.
5288	July 22	0	Transport-MVA	Industrial	A vehicle transporting a portable gauge was involved in a motor vehicle accident. There was no damage to the portable gauge.
WNSL-10	July 26	0	Bankruptcy	Commercial	A licensee declared bankruptcy. All nuclear substances are secured. An EIR was presented to the Commission during the October 5, 2021 meeting and an update was provided during the November 23, 2021 meeting as part of the Regulatory Oversight Report on the Use of Nuclear Substances in Canada:2020.
5295	July 30	0	Spill	Medical	A spill > 100 EQ of fluorine-18 occurred. There was no skin contamination and no overexposures because of this event.

Event ID	Date reported	INES rating	Event type	Sector	Event summary
5303	August 2	0	Transport-MVA	Industrial	A vehicle transporting a portable gauge was involved in a motor vehicle accident. There was no damage to the portable gauge.
5320	August 2	0	Breach of security	Industrial	A portable gauge was left unattended and unsecured in a pickup truck parked for the night. The gauge was still in its case when the breach was discovered.
5302	August 5	0	Transport-MVA	Industrial	A vehicle transporting a portable gauge was involved in a motor vehicle accident. There was no damage to the portable gauge.
5309	August 6	0	Device damaged	Industrial	The shutter of a fixed gauge was stuck in the open position. Due to the position of the gauge and with supplemental shielding in place, the licensee continued to use the gauge until it was replaced. The damaged gauge was transferred to a service company for eventual disposal. There were no unplanned exposures as a result of this event.
5300	August 9	0	Device malfunction	Industrial	The shutter on a fixed gauge was stuck in the open position. The gauge was dismantled and sent for disposal. There were no overexposures as a result of this event.
5305	August 10	0	Device malfunction	Commercial	A cyclotron shut down unexpectedly during a power outage when it should have been connected to a back-up power supply. The equipment has been returned to service.
WNSL-11	August 14	0	Equipment malfunction	Commercial	A fire alarm was falsely triggered. It was confirmed there was no fire in the area.
5241	August 17	0	Spill	Commercial	Spill > 100 EQ of fluorine-18 occurred during a transfer procedure. There was no skin contamination of the NEW. There were no overexposures related to this event.
5308	August 19	0	Device damaged	Industrial	The weld between a mounting plate and the source holder of a fixed gauge was damaged. The fixed gauge was sent for disposal. There were no unplanned exposures as a result of this event.
5311	August 23	0	Device damaged	Medical	A spring was broken on one of the sources in a self-shielded irradiator. The irradiator was repaired and returned to service.

Event ID	Date reported	INES rating	Event type	Sector	Event summary
5318	September 1	0	Breach of security	Industrial	Two portable gauges were left unattended by a delivery company at an incorrect address. Once tracked by the licensee, the gauges were recovered and placed in secure storage. The gauges were intact and there were no unplanned exposures as a result of this event.
5319	September 1	0	Spill	Medical	A spill > 100 EQ of fluorine-18 occurred. There was no skin contamination and no overexposures as a result of this event.
5321	September 2	0	Device malfunction	Industrial	The stop bolt on a portable gauge handle was loose causing the handle to fall of the gauge. The issue was addressed. There were no overexposures as a result of this event.
5322	September 3	0	Contamination	Medical	Three check sources were found to be contaminated with cesium-137 during routine wipes upon receipt of the sources. The package was not contaminated. There was no skin contamination and no overexposures as a result of this event.
5324	September 4	0	Breach of security	Academic and research	Concrete blocks were inadvertently removed from a hallway wall during renovations. This wall was part of the outer room, which houses an inner room where the prescribed equipment is located. The wall has since been permanently repaired. There was no loss of nuclear substances or any unplanned exposure as a result of this event.
5326	September 7	0	Transport-MVA	Commercial	A vehicle transporting empty cases with trace amounts of technetium-99m was involved in a minor motor vehicle accident. There was no damage to the packages.
5331	September 13	0	Transport-MVA	Industrial	A vehicle transporting an industrial radiography camera was involved in a motor vehicle accident. There was no damage to the industrial radiography camera.
5332	September 14	0	Transport-MVA	Industrial	A vehicle transporting a portable gauge was involved in a minor motor vehicle accident. There was no damage to the portable gauge.
5334	September 15	0	Device damaged	Industrial	A padlock ring used to lock the handle that controls the shutter on a fixed gauge was damaged. The gauge was removed from service. There were no overexposures as a result of this event.

Event ID	Date reported	INES rating	Event type	Sector	Event summary
5336	September 17	0	Device damaged	Industrial	Two fixed gauges with malfunctioning shutters were discovered. Both gauges were removed from service. There were no overexposures as a result of this event.
5337	September 21	0	Breach of security	Medical	An alarm was not set on a room that contains sealed sources for a brief period. The nuclear substances were undisturbed, and the alarm activated. There was no actual attempt at intrusion.
5338	September 21	0	Transport-MVA	Commercial	A vehicle transporting a small amount of technetium-99m in multiple packages was involved in a minor motor vehicle accident. There was no damage to the packages.
5341	September 22	0	Transport-MVA	Industrial	A vehicle transporting a portable gauge was involved in a minor motor vehicle accident. There was no damage to the portable gauge.
5340	September 23	0	Transport-MVA	Industrial	A vehicle transporting an industrial radiography camera was involved in a motor vehicle accident. There was no damage to the industrial radiography camera.
5343	September 27	0	Lost	Medical	A brachytherapy plaque containing iodine-125 seeds was lost. The plaque was not recovered. No overexposures are anticipated as a result of this event.
5344	September 28	0	Device damaged	Industrial	A portable gauge was run over by an excavator on a construction site damaging its plastic cover. The gauge was removed from service and sent for repairs. There was no loss of containment or overexposure as a result of the event
5345	September 28	0	Breach of security	Academic and research	A motion sensor was disarmed for a period of 45 minutes. The system was reset and confirmed to be functional. All nuclear substances were accounted for
5346	September 29	0	Breach of security	Industrial	A portable gauge was left unattended on a secured work site. The site supervisor stayed with the gauge until the licensee returned. The gauge showed no signs of damage or tampering and there were no unplanned exposures as a result of this event.
5348	September 30	0	Breach of security	Medical	A brachytherapy source was left unattended and unsecured overnight. The source was intact, in its package when discovered. It was then secured properly.

Event ID	Date reported	INES rating	Event type	Sector	Event summary
5349	September 30	0	Transport-MVA	Commercial	A vehicle transporting technetium-99m in multiple packages was involved in a minor motor vehicle accident. There was no damage to the packages.
WNSL-12	October 1	0	Release	Commercial	A holding tank of water from laundry was inadvertently discharged to the sewer. Sampling prior to the discharge indicated that any release of nuclear substances was below derived release limits and action levels.
5354	October 6	0	Device damaged	Industrial	The rod to operate the shutter on a fixed gauge was difficult to operate. The gauge has been repaired. There were no overexposures as a result of this event.
5355	October 7	0	Transport-MVA	Industrial	A vehicle transporting a portable gauge was involved in a motor vehicle accident. There was no damage to the portable gauge.
5356	October 7	0	Transport-MVA	Industrial	A vehicle transporting a portable gauge was involved in a motor vehicle accident. There was no damage to the portable gauge.
WNSL-13	October 8	0	Breach of security/Sabotage	Commercial	A disgruntled employee attempted to sabotage some of the radiation protection program components. There were no environmental releases, no overexposures and no health and safety issues raised as a result of this event.
5357	October 13	1	Lost	Industrial	A fixed gauge (Category 4 sealed source) was reported as being lost. The gauge has not been recovered.
5358	October 13	0	Device malfunction	Commercial	A spill > 100 EQ of fluorine-18 occurred. There was no skin contamination and no overexposures as a result of this event.
5371	October 14	0	Breach of security	Medical	As part of regular checks of the security systems, it was noticed that the alarm system was not functional. The system was repaired while awaiting the installation of a new system. There was no actual attempt of intrusion.
5359	October 15	0	Device malfunction	Industrial	Two fixed gauges with shutters stuck in the open position were reported. The gauges were repaired. There were no overexposures as a result of this event.
WNSL-14	October 18	0	Security	Commercial	Security related event-confidential

Event ID	Date reported	INES rating	Event type	Sector	Event summary
5360	October 19	1	Stolen	Industrial	A secured portable gauge was stolen from a parked vehicle. The gauge was subsequently found and returned to the licensee.
5361	October 19	0	Transport	Medical	Licensee received a damaged package containing medical isotopes. The contents of the package were intact. There was no contamination as a result of this event.
5363	October 20	0	Breach of security	Medical	Untrained cleaning staff had access to a hot lab. Access has been removed.
5365	October 21	1	Stolen	Industrial	A vehicle with a portable gauge inside was stolen during the night from a worker's residence. The gauge was recovered and showed no signs of tampering.
5366	October 21	0	Spill	Medical	A spill > 100 EQ of technetium-99m occurred. The technologist was contaminated however there were no overexposures as a result of this event.
5369	October 21	0	Device damaged	Industrial	Welds holding two fixed gauges to the base plate were cracked. Both gauges were removed from service and sent for disposal. There were no unplanned exposures as a result of this event.
5373	October 26	0	Transport-MVA	Industrial	A vehicle transporting a portable gauge was involved in a motor vehicle accident. There was no damage to the portable gauge.
5387	November 5	0	Breach of security	Medical	A treatment room containing prescribed equipment was left unsecured with the motion sensor disarmed. There was no actual attempt at intrusion.
5409	November 5	0	Device malfunction	Industrial	The shutter of a portable gauge was stuck in a partially open position. The gauge was removed from service and sent for repairs. There was no overexposures as a result of this event.
5390	November 9	0	Lost	Medical	A cobalt-57 sealed source was reported as missing. The source was recovered and sent for disposal.
5391	November 9	0	Spill	Medical	An iodine-125 seed was accidentally cut in half. The pieces were collected and stored securely. There was no skin contamination as a result of this event.

Event ID	Date reported	INES rating	Event type	Sector	Event summary
5392	November 10	0	Device damaged	Industrial	A portable gauge was damaged by a reversing truck. Only the casing of the gauge was damaged. The gauge was removed from service and sent for repairs. There was no loss of containment or overexposure as a result of the event.
5395	November 10	0	Transport-MVA	Commercial	A vehicle transporting excepted packages with trace amounts of technetium-99m was involved in a minor motor vehicle accident. There was no damage to the packages.
5396	November 10	0	Breach of security	Medical	Computers in a linear accelerator facility were vandalized. The linear accelerator was not tampered with. Security assessment of the facility was undertaken by the licensee, recommendations made and an implementation plan is in place.
WNSL-15	November 11	0	Release	Commercial	Wastewater streams were discharged from holding tanks. Subsequent analysis of a sample indicated that the total phosphorus (non-radioactive) released was slightly higher than limits. There were no adverse environmental effects.
5402	November 17	0	Unplanned exposure	Industrial	A worker at the job site (member of the public) crossed a barrier during an industrial radiography exposure. Based on the position of the worker and the time in the area, there was no overexposure to the member of the public as a result of this event.
5403	November 19	0	Breach of security	Medical	A treatment room containing prescribed equipment was left unsecured with the motion sensor disarmed. There was no actual attempt at intrusion.
5404	November 20	0	Device damaged	Industrial	A portable gauge was damaged by a snowplow on a construction site. Only the casing of the gauge was damaged. The gauge was removed from service and sent for repairs. There was no loss of containment or overexposure as a result of the event.
5406	November 23	0	Transport-MVA	Commercial	A vehicle transporting excepted packages with trace amounts of technetium-99m was involved in a minor motor vehicle accident. There was no damage to the packages.

Event ID	Date reported	INES rating	Event type	Sector	Event summary
5413	November 26	0	Transport	Medical	Contamination was detected on the exterior of packages containing medical isotopes. The hands of one non-NEW were contaminated however there were no overexposures as a result of this event.
5415	December 1	0	Contamination	Medical	A NEW's wrist was contaminated with lutetium-177. A dose change request was submitted to add the dose to the NEW's extremity dose record. There were no overexposures as a result of this event.
5416	December 1	0	Device damaged	Industrial	A fixed gauge found to be bent causing it to malfunction. The gauge was removed from service for disposal.
5418	December 1	0	Breach of security	Medical	During routine testing, the licensee's security measures did not function as intended. There was no actual attempt at intrusion.
5421	December 2	0	Breach of security	Academic and research	An untrained cleaning staff had access to a room with a self-shielded irradiator. Access has been removed.
5484	December 2	0	Breach of security	Medical	A cyber-security event was reported at the licensed facility.
5422	December 6	0	Transport-MVA	Industrial	A vehicle transporting a portable gauge was involved in a motor vehicle accident. There was no damage to the portable gauge.
5423	December 7	0	Spill	Medical	A spill > 100 EQ of technetium-99m occurred. There was no skin contamination and there were no overexposures as a result of this event.
5424	December 7	0	Device damaged	Industrial	Shutter handle of a fixed gauge became detached. The gauge will be replaced. There were no overexposures as a result of this event.
5427	December 8	0	Transport-MVA	Industrial	A vehicle transporting a portable gauge was involved in a motor vehicle accident. There was no damage to the portable gauge.
5431	December 8	0	Spill	Medical	A spill > 100 EQ of technetium-99m occurred. The technologist was contaminated however there were no overexposures as a result of this event.
5429	December 9	0	Device malfunction	Industrial	Shutter of a fixed gauge was stuck in the open position. The shutter was repaired. There were no overexposures as a result of this event.

Event ID	Date reported	INES rating	Event type	Sector	Event summary
5432	December 9	0	Device damaged	Industrial	A portable gauge was run over by a bulldozer on a construction site. The gauge was removed from service and sent for disposal. There was no loss of containment or overexposure as a result of the event.
5436	December 14	0	Device damaged	Industrial	A fixed gauge found to be bent causing it to malfunction. The gauge was removed from service for disposal.
5440	December 16	0	Breach of security	Medical	An alarm was not set on a room that contains sealed sources. There was no actual attempt at intrusion.
WNSL-16	December 17	0	Security	Commercial	Security related event-confidential
5462	December 21	0	Transport-MVA	Industrial	A vehicle transporting a portable gauge was involved in a motor vehicle accident. There was no damage to the portable gauge.
5443	December 24	0	Device damaged	Industrial	A portable gauge was damaged when the corner banged against a concrete foundation. Only the casing was damaged. The gauge was removed from service and sent for repair. There was no loss of containment or overexposure as a result of this event.
5445	December 28	0	Device malfunction	Industrial	The shutter of a fixed gauge was fixed in the closed position. The gauge was removed from service for possible repair. There was no overexposure as a result of this event.

Appendix F: Inspections conducted in 2021**Table 21: Inspections conducted in 2021**

Inspection date	Licensee name	City	Province/State	Inspection type	Sector
2021-01-06	Stantec Consulting Ltd.	Laval	Quebec	Type II	Industrial
2021-01-06	Roxul Inc.	Grand Forks	British Columbia	Type II	Industrial
2021-01-11	UTQUALITY INC.	Edmonton	Alberta	Type II	Industrial
2021-01-12	Cariboo Pulp & Paper Company	Quesnel	British Columbia	Type II	Industrial
2021-01-13	Bulkley Valley Engineering Services Ltd.	Smithers	British Columbia	Type II	Industrial
2021-01-13	Résoscan Inc.	Greenfield Park	Quebec	Type II	Medical
2021-01-14	Collège d'enseignement général et professionnel de Trois-Ri	Trois-Rivières	Quebec	Type II	Industrial
2021-01-14	Steel Inspection & Testing Ltd.	St Catharines	Ontario	Type II	Industrial
2021-01-14	Mills Memorial Hospital	Terrace	British Columbia	Type II	Medical
2021-01-14	Mills Memorial Hospital	Terrace	British Columbia	Type II	Medical
2021-01-15	Kubota Materials Canada Corporation	Orillia	Ontario	Type II	Industrial
2021-01-18	Canadian Light Source	Saskatoon	Saskatchewan	Type II	Academic and Research
2021-01-18	Woodstock General Hospital	Woodstock	Ontario	Type II	Medical
2021-01-19	Ultratest N.D.T. Services (2010) Inc.	Edmonton	Alberta	Type II	Industrial
2021-01-19	Centre intégré de santé et de services sociaux de la Montéré	St-Hyacinthe	Quebec	Type II	Medical
2021-01-19	Centre intégré de santé et de services sociaux de la Montéré	St-Hyacinthe	Quebec	Type II	Medical
2021-01-20	Echo NDE Inc.	Red Deer	Alberta	Type II	Industrial
2021-01-20	Metalogic Inspection Services Inc.	Edmonton	Alberta	Type II	Industrial
2021-01-20	Teck Metals Ltd.	Trail	British Columbia	Type II	Industrial
2021-01-20	Rampure Radiology Associates Inc.	Windsor	Ontario	Type II	Medical
2021-01-21	FNX-INNOV Inc.	Longueuil	Quebec	Type II	Industrial
2021-01-22	ArcelorMittal Long Products Canada Real Estate Inc.	Contrecoeur	Quebec	Type II	Industrial
2021-01-25	2540794 Ontario Inc.	Toronto	Ontario	Type II	Medical
2021-01-26	FB Nondestructive Examination Ltd.	Moose Jaw	Saskatchewan	Type II	Industrial
2021-01-26	Centre de santé et de services sociaux de Sept-Îles	Sept-Îles	Quebec	Type II	Medical
2021-01-26	Toronto West Cardiac and Medical Imaging Centre Ltd.	North York	Ontario	Type II	Medical

Inspection date	Licensee name	City	Province/State	Inspection type	Sector
2021-01-26	Centre intégré de santé et de services sociaux de Lanaudière	Saint-Charles-Borromée	Quebec	Type II	Medical
2021-01-26	Centre de santé et de services sociaux de Sept-Îles	Sept-Iles	Quebec	Type II	Medical
2021-01-26	Centre intégré de santé et de services sociaux de Lanaudière	Saint-Charles-Borromée	Quebec	Type II	Medical
2021-01-27	West-Can Inspection Ltd.	Sunnyside	Manitoba	Type II	Industrial
2021-01-27	Humber River Hospital	Toronto	Ontario	Type II	Medical
2021-01-27	Humber River Hospital	Toronto	Ontario	Type II	Medical
2021-01-28	Royal Military College of Canada	Kingston	Ontario	Type II	Academic and Research
2021-01-28	Dexter Construction Company Limited	Waverley	Nova Scotia	Type II	Industrial
2021-01-28	Union Street Geotechnical Ltd.	Red Deer	Alberta	Type II	Industrial
2021-01-28	Northern Alberta Institute of Technology	Edmonton	Alberta	Type II	Industrial
2021-01-28	Silicium Québec Commandité Inc.	Bécancour	Quebec	Type II	Industrial
2021-01-28	Teck Coal Limited	Sparwood	British Columbia	Type II	Industrial
2021-01-28	Teck Coal Limited	Sparwood	British Columbia	Type II	Industrial
2021-01-29	Elander Inspections Ltd.	Richmond	British Columbia	Type II	Industrial
2021-02-01	Clear Image Inspection Ltd.	Bentley	Alberta	Type II	Industrial
2021-02-02	Nordion (Canada) Inc.	Kanata	Ontario	Type I	Commercial
2021-02-02	RTD Quality Services Inc.	Victoria	British Columbia	Type II	Industrial
2021-02-02	Hunt Inspection Ltd.	Lacombe	Alberta	Type II	Industrial
2021-02-02	Custom Fabricators & Machinists Limited / Fabricants et Mach	Saint John	New Brunswick	Type II	Industrial
2021-02-03	Interior Health Authority	Cranbrook	British Columbia	Type II	Medical
2021-02-03	Centre intégré universitaire de santé et de services sociaux	Montréal	Quebec	Type II	Medical
2021-02-03	Interior Health Authority	Cranbrook	British Columbia	Type II	Medical
2021-02-03	CIUSSS du Nord-de-l'Île-de-Montréal	Montréal	Quebec	Type II	Medical
2021-02-04	Municipal Enterprises Limited	Bedford	Nova Scotia	Type II	Industrial
2021-02-05	Women's College Hospital	Toronto	Ontario	Type II	Medical
2021-02-05	Chatham-Kent Health Alliance	Chatham	Ontario	Type II	Medical
2021-02-05	Women's College Hospital	Toronto	Ontario	Type II	Medical
2021-02-05	Chatham-Kent Health Alliance	Chatham	Ontario	Type II	Medical
2021-02-09	General Dynamics	Repentigny	Quebec	Type II	Industrial
2021-02-09	Q Test Inspection Ltd.	Calgary	Alberta	Type II	Industrial

Inspection date	Licensee name	City	Province/State	Inspection type	Sector
2021-02-09	Merivale Medical Imaging Inc.	Nepean	Ontario	Type II	Medical
2021-02-09	McConnell Brain Imaging Center	Montréal	Quebec	Type II	Medical
2021-02-09	McConnell Brain Imaging Center	Montréal	Quebec	Type II	Medical
2021-02-10	Peterson Contracting Ltd.	Williams Lake	British Columbia	Type II	Industrial
2021-02-10	Perfection Inspection Limited	Cambridge	Ontario	Type II	Industrial
2021-02-10	Unique Detection Services Limited	Cambridge	Ontario	Type II	Industrial
2021-02-10	Rain Carbon Canada Inc.	Hamilton	Ontario	Type II	Industrial
2021-02-10	Schlumberger Canada Limited	Nisku	Alberta	Type II	Industrial
2021-02-10	Izaak Walton Killam Health Centre	Halifax	Nova Scotia	Type II	Medical
2021-02-10	Ottawa Cardiovascular Centre - Orleans Inc.	Ottawa	Ontario	Type II	Medical
2021-02-11	Mississauga Metals and Allows	Brantford	Ontario	Type II	Commercial
2021-02-11	Nelson's Welding Inspection Limited	Drayton Valley	Alberta	Type II	Industrial
2021-02-11	Stratford General Hospital	Stratford	Ontario	Type II	Medical
2021-02-11	Stratford General Hospital	Stratford	Ontario	Type II	Medical
2021-02-12	Hôpital Montfort	Ottawa	Ontario	Type II	Medical
2021-02-13	Med-Scan Ultrasound Services Ltd.	Maple	Ontario	Type II	Medical
2021-02-15	FOCUS NDTIS INC.	Edmonton	Alberta	Type II	Industrial
2021-02-17	Fluid Projects Consulting Inc.	Calgary	Alberta	Type II	Industrial
2021-02-17	Syncrude Canada Ltd.	Fort McMurray	Alberta	Type II	Industrial
2021-02-18	Centre universitaire de santé McGill / McGill University Health Centre	Montréal	Quebec	Type II	Medical
2021-02-19	Commandité Stadacona WB Ltée	Québec	Quebec	Type II	Industrial
2021-02-22	Thunder Bay Regional Health Sciences Centre	Thunder Bay	Ontario	Type I	Medical
2021-02-23	Ontario Power Generation	Toronto	Ontario	Type II	Academic and Research
2021-02-23	Simon Fraser University	Burnaby	British Columbia	Type II	Academic and Research
2021-02-23	Centre hospitalier Ste-Croix	Drummondville	Quebec	Type II	Medical
2021-02-23	Centre hospitalier Ste-Croix	Drummondville	Quebec	Type II	Medical
2021-02-24	Gregson Holdings Ltd.	Nanaimo	British Columbia	Type II	Industrial
2021-02-24	Les Laboratoires d'Essais Mequaltech Inc.	Lévis	Quebec	Type II	Industrial
2021-02-24	Institut de Cardiologie de Montréal	Montréal	Quebec	Type II	Medical

Inspection date	Licensee name	City	Province/State	Inspection type	Sector
2021-02-24	Winnipeg Regional Health Authority	Winnipeg	Manitoba	Type II	Medical
2021-02-24	Initio Medical Group Inc.	Burnaby	British Columbia	Type II	Medical
2021-02-24	Centre intégré universitaire de santé et de services sociaux	Victoriaville	Quebec	Type II	Medical
2021-02-24	Winnipeg Regional Health Authority	Winnipeg	Manitoba	Type II	Medical
2021-02-24	Centre intégré universitaire de santé et de services sociaux	Victoriaville	Quebec	Type II	Medical
2021-02-24	Institut de Cardiologie de Montréal	Montréal	Quebec	Type II	Medical
2021-02-25	Thurber Engineering Ltd.	Victoria	British Columbia	Type II	Industrial
2021-02-25	Labcan (1989) Ltée	Trois-Rivières	Quebec	Type II	Industrial
2021-02-25	Thermo Design Engineering Ltd.	Edmonton	Alberta	Type II	Industrial
2021-02-25	Regional Health Authority A	Bathurst	New Brunswick	Type II	Medical
2021-02-25	York X-Ray Management Limited O/A York Radiology Consultants	Willowdale	Ontario	Type II	Medical
2021-03-01	Simon Fraser University	Burnaby	British Columbia	Type II	Academic and Research
2021-03-01	D.L.H Medical Inc.	Brampton	Ontario	Type II	Medical
2021-03-02	Queensway Carleton Hospital	Nepean	Ontario	Type II	Medical
2021-03-03	Semm Logging Inc.	Mississauga	Ontario	Type II	Industrial
2021-03-03	Oak Ridges Medical Diagnostic Imaging Inc.	Richmond Hill	Ontario	Type II	Medical
2021-03-03	Clinique Radiologique de la Capitale Inc.	Québec	Quebec	Type II	Medical
2021-03-04	Foothills Radiography & Inspection Services Ltd.	Edson	Alberta	Type II	Industrial
2021-03-04	Brant Community Healthcare System	Brantford	Ontario	Type II	Medical
2021-03-04	Brant Community Healthcare System	Brantford	Ontario	Type II	Medical
2021-03-05	Ontario Power Generation Inc.	Bowmanville	Ontario	Type II	Industrial
2021-03-08	Dixie X-Ray Associates Limited	Woodbridge	Ontario	Type II	Medical
2021-03-09	E.F. Monk Holdings Limited	Dartmouth	Nova Scotia	Type II	Industrial
2021-03-09	WRHA Grace Hospital Site	Winnipeg	Manitoba	Type II	Medical
2021-03-10	Suncor Energy Inc.	Fort McMurray	Alberta	Type II	Industrial
2021-03-10	Northumberland Hills Hospital	Cobourg	Ontario	Type II	Medical
2021-03-11	Isologic Innovative Radiopharmaceuticals Ltd.	Burlington	Ontario	Type II	Commercial
2021-03-11	Catalyst Paper Corporation	Port Alberni	British Columbia	Type II	Industrial
2021-03-11	Reliance OFS Canada Ltd.	Estevan	Saskatchewan	Type II	Industrial

Inspection date	Licensee name	City	Province/State	Inspection type	Sector
2021-03-11	Centre intégré de santé et de services sociaux de la Montéré	Salaberry-de-Valleyfield	Quebec	Type II	Medical
2021-03-11	Centre intégré de santé et de services sociaux de la Montéré	Salaberry-de-Valleyfield	Quebec	Type II	Medical
2021-03-12	Flatiron Construction Canada Limited	Lillooet	British Columbia	Type II	Industrial
2021-03-15	Alberta Health Services	Calgary	Alberta	Type I	Medical
2021-03-15	Victoria General Hospital	Winnipeg	Manitoba	Type II	Medical
2021-03-19	Toronto Cardiac Diagnostics Inc.	North York	Ontario	Type II	Medical
2021-03-22	Candu Energy Inc.	Mississauga	Ontario	Type II	Commercial
2021-03-22	Suncor Energy Inc./ Suncor Énergie Inc.	Edmonton	Alberta	Type II	Industrial
2021-03-23	1068648 B.C. Ltd.	Terrace	British Columbia	Type II	Industrial
2021-03-24	Wood Canada Limited / Wood Canada Limitée	Terrace	British Columbia	Type II	Industrial
2021-03-24	Canadoil Forge Ltée/Canadoil Forge Ltd.	Bécancour	Quebec	Type II	Industrial
2021-03-24	NHS - St. Catharines Site	St Catharines	Ontario	Type II	Medical
2021-03-24	Di-Med Services Limited	Aurora	Ontario	Type II	Medical
2021-03-24	NHS - St. Catharines Site	St Catharines	Ontario	Type II	Medical
2021-03-25	Corcare Nuclear Medicine Inc.	Toronto	Ontario	Type II	Medical
2021-03-25	2345171 Ontario Inc.	Guelph	Ontario	Type II	Medical
2021-03-25	MyHealth Partners Inc.	London	Ontario	Type II	Medical
2021-03-30	Institut universitaire de cardiologie et de pneumologie de Québec	Ste-Foy	Quebec	Type II	Medical
2021-03-30	Centre intégré de santé et de services sociaux de Lanaudière	Lachenaie	Quebec	Type II	Medical
2021-03-30	Institut universitaire de cardiologie et de pneumologie de Québec	Sainte-Foy	Quebec	Type II	Medical
2021-03-30	Centre intégré de santé et de services sociaux de Lanaudière	Lachenaie	Quebec	Type II	Medical
2021-03-31	Goldcorp Canada Ltd.	Houston	British Columbia	Type II	Industrial
2021-04-01	Delwisch Developments Ltd.	Smithers	British Columbia	Type II	Industrial
2021-04-06	Cascades Sonoco Inc.	Kingsey Falls	Quebec	Type II	Industrial
2021-04-06	Cancer Care Manitoba	Winnipeg	Manitoba	Type II	Medical
2021-04-06	Winnipeg Regional Health Authority	Winnipeg	Manitoba	Type II	Medical
2021-04-06	Nova Scotia Health Authority	Halifax	Nova Scotia	Type II	Medical
2021-04-06	QEII Health Sciences Centre	Halifax	Nova Scotia	Type II	Medical
2021-04-08	Saskatchewan Health Authority	Saskatoon	Saskatchewan	Type II	Medical
2021-04-09	FP Innovationas	Vancouver	British Columbia	Type II	Industrial

Inspection date	Licensee name	City	Province/State	Inspection type	Sector
2021-04-09	The Ottawa Hospital	Ottawa	Ontario	Type II	Medical
2021-04-09	Regina Qu'Appelle Health Region	Regina	Saskatchewan	Type II	Medical
2021-04-09	Regina Qu'Appelle Health Region	Regina	Saskatchewan	Type II	Medical
2021-04-09	The Ottawa Hospital	Ottawa	Ontario	Type II	Medical
2021-04-12	AM Inspection Limited	Weyburn	Saskatchewan	Type II	Industrial
2021-04-13	Bonnechere Excavating Inc.	Renfrew	Ontario	Type II	Industrial
2021-04-13	Paragon Wireline Services Ltd.	Calmar	Alberta	Type II	Industrial
2021-04-13	Cambridge Memorial Hospital	Cambridge	Ontario	Type II	Medical
2021-04-14	Regional Municipality of Durham	Whitby	Ontario	Type II	Industrial
2021-04-14	Emil Anderson Construction Co. Ltd.	Vancouver Island	British Columbia	Type II	Industrial
2021-04-14	H & H Construction Inc.	Petawawa	Ontario	Type II	Industrial
2021-04-14	Louis Dreyfus Company Canada ULC	Yorkton	Saskatchewan	Type II	Industrial
2021-04-14	Centre hospitalier universitaire Sainte-Justine	Montréal	Quebec	Type II	Medical
2021-04-14	Centre de santé et de services sociaux du sud-ouest-Verdun	Verdun	Quebec	Type II	Medical
2021-04-14	Centre hospitalier universitaire Sainte-Justine	Montréal	Quebec	Type II	Medical
2021-04-14	Centre de santé et de services sociaux du sud-ouest-Verdun	Verdun	Quebec	Type II	Medical
2021-04-14	Centre hospitalier universitaire Sainte-Justine	Montréal	Quebec	Type II	Medical
2021-04-19	Mahlo America, Inc.	Montréal	Quebec	Type II	Commercial
2021-04-19	Hôpital Maisonneuve Rosemont	Montréal	Quebec	Type I	Medical
2021-04-20	TISI Canada Inc.	Kitchener	Ontario	Type II	Industrial
2021-04-21	Centre intégré de santé et de services sociaux de la Montérégie-Est	Longueuil	Quebec	Type II	Medical
2021-04-21	Centre intégré de santé et de services sociaux de la Montérégie-Est	Longueuil	Quebec	Type II	Medical
2021-04-22	Huckleberry Mines Ltd.	Houston	British Columbia	Type II	Industrial
2021-04-22	Mistras Services Inc.	Oakville	Ontario	Type II	Industrial
2021-04-22	Huckleberry Mines Ltd.	Houston	British Columbia	Type II	Industrial
2021-04-26	Regional Health Authority B	Saint John	New Brunswick	Type II	Medical
2021-04-27	Suncor Energy Inc./Suncor Énergie Inc.	Sarnia	Ontario	Type II	Industrial
2021-04-28	Service New Brunswick	Saint John	New Brunswick	Type II	Commercial
2021-04-28	Pro-Test Professional Testing & Inspection Co. Ltd.	Winnipeg	Manitoba	Type II	Industrial

Inspection date	Licensee name	City	Province/State	Inspection type	Sector
2021-04-28	Samuel, Son & Co. Limited	Stoney Creek	Ontario	Type II	Industrial
2021-04-28	Samuel, Son & Co. Limited	Burlington	Ontario	Type II	Industrial
2021-04-28	Samuel, Son & Co. Limited	Winnipeg	Manitoba	Type II	Industrial
2021-04-28	CISSS de l'Abitibi-Témiscamingue	Rouyn-Noranda	Quebec	Type II	Medical
2021-04-29	Vanko Analytics Limited	Edmonton	Alberta	Type II	Commercial
2021-04-29	CT & Associates Engineering Inc.	Edmonton	Alberta	Type II	Industrial
2021-04-29	Lavis Contracting Co. Limited	Clinton	Ontario	Type II	Industrial
2021-04-29	E.I. duPont Canada Company	Kingston	Ontario	Type II	Industrial
2021-04-30	The University Hospital of Northern British Columbia,	Prince George	British Columbia	Type II	Medical
2021-04-30	The University Hospital of Northern British Columbia,	Prince George	British Columbia	Type II	Medical
2021-05-05	Vancouver Island Health Authority	Nanaimo	British Columbia	Type II	Medical
2021-05-05	Centre intégré universitaire de santé et de services sociaux	Montréal	Quebec	Type II	Medical
2021-05-05	Vancouver Island Health Authority	Nanaimo	British Columbia	Type II	Medical
2021-05-05	Centre intégré universitaire de santé et de services sociaux	Montréal	Quebec	Type II	Medical
2021-05-06	Wood Canada Limited / Wood Canada Limitée	Prince George	British Columbia	Type II	Industrial
2021-05-06	Horton CBI, Limited	Sturgeon County	Alberta	Type II	Industrial
2021-05-11	Parkland Geotechnical Consulting Ltd.	Calgary	Alberta	Type II	Industrial
2021-05-11	Oshanek Inspection Services (1972) Ltd.	Fox Creek	Alberta	Type II	Industrial
2021-05-11	Oshanek Inspection Services (1972) Ltd.	Grande Prairie	Alberta	Type II	Industrial
2021-05-12	Resource Management International Inc.	Lashburn	Saskatchewan	Type II	Industrial
2021-05-12	Northern Alberta Institute of Technology	Edmonton	Alberta	Type II	Industrial
2021-05-12	Air Transat A.T. Inc.	Montréal	Quebec	Type II	Industrial
2021-05-19	Centre intégré universitaire de santé et de services sociaux	Montréal	Quebec	Type II	Medical
2021-05-19	Centre intégré universitaire de santé et de services sociaux	Montréal	Quebec	Type II	Medical
2021-05-21	De Beers Canada Inc.	Yellowknife	Northwest Territories	Type II	Industrial
2021-05-21	DeBeers Canada Inc.	Yellowknife	Northwest Territories	Type II	Industrial
2021-05-21	Catalyst Paper Corporation	Crofton	British Columbia	Type II	Industrial
2021-05-25	Université de Montréal	Montréal	Quebec	Type II	Academic and Research

Inspection date	Licensee name	City	Province/State	Inspection type	Sector
2021-05-25	Kodiak Nondestructive Testing Services Ltd.	Nanaimo	British Columbia	Type II	Industrial
2021-05-25	Tracerco Radioactive Diagnostic Services Canada, Inc.	Edmonton	Alberta	Type II	Industrial
2021-05-26	Nucléom Inc.	Montréal	Quebec	Type II	Industrial
2021-05-27	École Polytechnique de Montréal	Montréal	Quebec	Type II	Academic and Research
2021-05-27	Canadian Inspection Ltd.	Edmonton	Alberta	Type II	Industrial
2021-05-27	Atlantic Coated Papers Ltd. / Papiers Couchés d'Atlantic Ltée	Whitby	Ontario	Type II	Industrial
2021-05-28	RTD Quality Services Inc.	Burlington	Ontario	Type II	Industrial
2021-05-28	The Minute Maid Company Canada Inc./	Peterborough	Ontario	Type II	Industrial
2021-05-31	CISSS de Laval	Laval	Quebec	Type I	Medical
2021-06-01	Niagara Health System	St Catharines	Ontario	Type I	Medical
2021-06-01	Alberta Health Services	Edmonton	Alberta	Type II	Medical
2021-06-02	RTD Quality Services Inc.	Surrey	British Columbia	Type II	Industrial
2021-06-02	Alberta Health Services	Edmonton	Alberta	Type II	Medical
2021-06-03	B. J. Halow & Son Constructors Ltd.	Rosslyn	Ontario	Type II	Industrial
2021-06-03	Kam Tech Quality Management Inc.	Kamloops	British Columbia	Type II	Industrial
2021-06-04	TISI Canada Inc.	Slave Lake	Alberta	Type II	Industrial
2021-06-06	Centre for Addiction and Mental Health	Toronto	Ontario	Type I	Commercial
2021-06-07	Health Sciences North	Sudbury	Ontario	Type I	Medical
2021-06-08	Université du Québec à Rimouski	Rimouski	Quebec	Type II	Academic and Research
2021-06-08	Université du Québec à Rimouski	Rimouski	Quebec	Type II	Academic and Research
2021-06-08	Université du Québec à Rimouski	Rimouski	Quebec	Type II	Academic and Research
2021-06-08	Université du Québec à Rimouski	Rimouski	Quebec	Type II	Industrial
2021-06-09	Pinchin Ltd.	Waterloo	Ontario	Type II	Industrial
2021-06-09	IRISNDT Corp.	Edmonton	Alberta	Type II	Industrial
2021-06-09	2376440 Ontario Inc.	Sudbury	Ontario	Type II	Medical
2021-06-09	Guelph General Hospital	Guelph	Ontario	Type II	Medical
2021-06-10	9372-2619 Québec inc.	Alma	Quebec	Type II	Industrial
2021-06-11	McElhanney Ltd.	Prince George	British Columbia	Type II	Industrial
2021-06-11	Suncor Energy Inc./Suncor Énergie Inc.	Sarnia	Ontario	Type II	Industrial
2021-06-14	Frontop Engineering Limited	Markham	Ontario	Type II	Industrial

Inspection date	Licensee name	City	Province/State	Inspection type	Sector
2021-06-14	Trenergy Inc.	St Catharines	Ontario	Type II	Industrial
2021-06-16	Alberta Power (2000) Ltd.	Forestburg	Alberta	Type II	Industrial
2021-06-17	New Gold Inc.	Kamloops	British Columbia	Type II	Industrial
2021-06-17	Acuren Inc.	Fort Saskatchewan	Alberta	Type II	Industrial
2021-06-17	New Gold Inc.	Kamloops	British Columbia	Type II	Industrial
2021-06-18	Terraspec Engineering Inc.	Peterborough	Ontario	Type II	Industrial
2021-06-21	Eastern Regional Health Authority	St. John's	Newfoundland and Labrador	Type II	Commercial
2021-06-21	Les Inspections Thermetco Inc.	Montréal	Quebec	Type II	Industrial
2021-06-22	Intratech Engineering Laboratories Ltd.	Scarborough	Ontario	Type II	Industrial
2021-06-22	Les Inspections Thermetco Inc.	Montréal	Quebec	Type II	Industrial
2021-06-23	St. Mary's General Hospital	Kitchener	Ontario	Type II	Medical
2021-06-23	St. Mary's General Hospital	Kitchener	Ontario	Type II	Medical
2021-06-25	Hôpital Régional d'Edmundston	Edmundston	New Brunswick	Type II	Medical
2021-06-25	Régie Régionale de la santé A Bureau 600	Edmundston	New Brunswick	Type II	Medical
2021-06-28	Glassine Canada Inc.	Québec	Quebec	Type II	Industrial
2021-06-29	Capital Paving Inc.	Puslinch	Ontario	Type II	Industrial
2021-06-29	MDG Contracting Services Inc.	Likely	British Columbia	Type II	Industrial
2021-06-29	Eastern Regional Health Authority	St. John's	Newfoundland and Labrador	Type II	Medical
2021-06-29	The Eastern Regional Integrated Health Authority	St. John's	Newfoundland and Labrador	Type II	Medical
2021-06-30	Terra International (Canada) Inc.	Courtright	Ontario	Type II	Industrial
2021-07-05	Hartstone Inc.	Olds	Alberta	Type II	Industrial
2021-07-05	Meadow Lake Mechanical Pulp Ltd.	Meadow Lake	Saskatchewan	Type II	Industrial
2021-07-05	Alberta Health Services	Red Deer	Alberta	Type I	Medical
2021-07-06	Abraflex (2004) Ltd.	Paisley	Ontario	Type II	Commercial
2021-07-07	Terra International (Canada) Inc.	Courtright	Ontario	Type II	Industrial
2021-07-07	Orillia Soldier's Memorial Hospital	Orillia	Ontario	Type II	Medical
2021-07-09	Forward Engineering & Associates Inc.	Toronto	Ontario	Type II	Industrial
2021-07-09	Taylor Geotechnical Ltd.	Canmore	Alberta	Type II	Industrial
2021-07-12	Accuray Incorporated	Sunnyvale	California	Type I	Commercial
2021-07-12	XE Inspection Inc.	Fort McMurray	Alberta	Type II	Industrial
2021-07-12	R.W. Tomlinson Limited	Ottawa	Ontario	Type II	Industrial
2021-07-13	Golder Associates Ltd.	Cambridge	Ontario	Type II	Industrial
2021-07-13	Chung & Vander Doelen Engineering Ltd.	Kitchener	Ontario	Type II	Industrial
2021-07-13	Steed and Evans Limited	St. Jacobs	Ontario	Type II	Industrial

Inspection date	Licensee name	City	Province/State	Inspection type	Sector
2021-07-13	Pinchin Ltd.	Waterloo	Ontario	Type II	Industrial
2021-07-13	AM Inspection Limited	Stettler	Alberta	Type II	Industrial
2021-07-13	AM Inspection Limited	Stettler	Alberta	Type II	Industrial
2021-07-14	Q Test Inspection Ltd.	Sylvan Lake	Alberta	Type II	Industrial
2021-07-14	TISI Canada Inc.	Red Deer	Alberta	Type II	Industrial
2021-07-14	TISI Canada Inc.	Red Deer	Alberta	Type II	Industrial
2021-07-15	Terracon Geotechnique Ltd.	Calgary	Alberta	Type II	Industrial
2021-07-15	Independent Materials Testing Services Ltd.	Regina	Saskatchewan	Type II	Industrial
2021-07-15	PRI ENGINEERING CORP.	Lindsay	Ontario	Type II	Industrial
2021-07-15	Mistras Canada, Inc.	Sherwood Park	Alberta	Type II	Industrial
2021-07-15	Thunder Bay Regional Health Sciences Centre	Thunder Bay	Ontario	Type II	Medical
2021-07-16	Intratech Engineering Laboratories Ltd.	Scarborough	Ontario	Type II	Industrial
2021-07-16	Toronto Inspection Ltd.	Markham	Ontario	Type II	Industrial
2021-07-16	Interface Testing Services Inc.	Sarnia	Ontario	Type II	Industrial
2021-07-19	C.B. Non-Destructive Testing Ltd	Oakville	Ontario	Type II	Industrial
2021-07-20	Golder Associates Ltd.	Barrie	Ontario	Type II	Industrial
2021-07-20	Soil Engineers Ltd.	Richmond Hill	Ontario	Type II	Industrial
2021-07-20	Davroc Testing Laboratories Inc.	Brampton	Ontario	Type II	Industrial
2021-07-20	H. Manalo Consulting	Winnipeg	Manitoba	Type II	Industrial
2021-07-20	Peto MacCallum Ltd.	Barrie	Ontario	Type II	Industrial
2021-07-20	BDT Engineering Ltd	Lethbridge	Alberta	Type II	Industrial
2021-07-20	WSP Canada Inc.	Red Deer	Alberta	Type II	Industrial
2021-07-20	WSP Canada Inc.	Barrie	Ontario	Type II	Industrial
2021-07-20	EXP Services Inc. / Les Services EXP Inc.	Montréal	Quebec	Type II	Industrial
2021-07-20	EXP Services Inc. / Les Services EXP Inc.	Montréal	Quebec	Type II	Industrial
2021-07-20	Roseke Engineering Ltd.	Lethbridge	Alberta	Type II	Industrial
2021-07-21	AM Inspection Limited	Stettler	Alberta	Type II	Industrial
2021-07-21	AM Inspection Limited	Stettler	Alberta	Type II	Industrial
2021-07-21	Building Products of Canada Corp./	La Salle	Quebec	Type II	Industrial
2021-07-22	Smith Dow & Associates Ltd.	Red Deer	Alberta	Type II	Industrial
2021-07-22	9395-8049 QC inc.	St-Jérôme	Quebec	Type II	Industrial
2021-07-22	9395-8049 QC inc.	Saint-Laurent	Quebec	Type II	Industrial
2021-07-22	Candec Consultants Ltd.	Richmond Hill	Ontario	Type II	Industrial
2021-07-22	Sola Engineering Inc.	Vaughan	Ontario	Type II	Industrial
2021-07-22	DS Consultants Ltd.	Vaughan	Ontario	Type II	Industrial
2021-07-22	FNX-INNOV Inc.	St-Laurent	Quebec	Type II	Industrial

Inspection date	Licensee name	City	Province/State	Inspection type	Sector
2021-07-22	Les Laboratoires d'Essais Mequaltech Inc.	Montréal	Quebec	Type II	Industrial
2021-07-23	MPE Engineering Ltd.	Lethbridge	Alberta	Type II	Industrial
2021-07-23	Tetra Tech Canada Inc.	Lethbridge	Alberta	Type II	Industrial
2021-07-23	Peter Kiewit Sons ULC	Calgary	Alberta	Type II	Industrial
2021-07-23	LN Land Development Technologies Inc.	Lacombe	Alberta	Type II	Industrial
2021-07-27	Chung & Vander Doelen Engineering Ltd.	Kitchener	Ontario	Type II	Industrial
2021-07-27	M.C.P.D. Consultants Inc.	Brampton	Ontario	Type II	Industrial
2021-07-27	Coco Paving Inc.	Hamilton	Ontario	Type II	Industrial
2021-07-27	Engtec Consulting Inc.	Mississauga	Ontario	Type II	Industrial
2021-07-27	Soil-Mat Engineers & Consultants Ltd.	Hamilton	Ontario	Type II	Industrial
2021-07-27	Uni-Tech Inspections Services Ltd.	South Glengarry	Ontario	Type II	Industrial
2021-07-27	EnviroGeotech Consulting Inc.	Medicine Hat	Alberta	Type II	Industrial
2021-07-28	Queen's University	Kingston	Ontario	Type II	Academic and Research
2021-07-28	Uni-Vert Tech Inc.	Sainte-Marcelline de Kildare	Quebec	Type II	Commercial
2021-07-28	Uni-Vert Tech Inc.	Sainte-Marcelline de Kildare	Quebec	Type II	Commercial
2021-07-28	Thurber Engineering Ltd.	Oakville	Ontario	Type II	Industrial
2021-07-28	Englobe Corp.	Laval	Quebec	Type II	Industrial
2021-07-28	GeoPacific Consultants Ltd.	Calgary	Alberta	Type II	Industrial
2021-07-28	Stantec Consulting Ltd.	Waterloo	Ontario	Type II	Industrial
2021-07-28	SNC-Lavalin GEM Québec Inc.	Laval	Quebec	Type II	Industrial
2021-07-28	Lone Pine Geotechnical Ltd.	Calgary	Alberta	Type II	Industrial
2021-07-28	Lone Pine Geotechnical Ltd.	Calgary	Alberta	Type II	Industrial
2021-07-28	EXP Services Inc. / Les Services EXP Inc.	Halifax	Nova Scotia	Type II	Industrial
2021-07-28	Watt Consulting Group Ltd.	Calgary	Alberta	Type II	Industrial
2021-07-28	LN Land Development Technologies Inc.	Lacombe	Alberta	Type II	Industrial
2021-07-29	Hydro Québec	Varenes	Quebec	Type II	Industrial
2021-07-30	Aecon Construction and Materials Limited	Caledon	Ontario	Type II	Industrial
2021-07-30	Highway Construction Inspection Ontario Inc.	Barrie	Ontario	Type II	Industrial
2021-07-30	Miller Paving Limited	Markham	Ontario	Type II	Industrial
2021-07-30	Canadian Blood Services	Ottawa	Ontario	Type II	Medical
2021-08-03	Stantec Consulting Ltd.	Port Hawkesbury	Nova Scotia	Type II	Industrial
2021-08-03	Watt Consulting Group Ltd.	Calgary	Alberta	Type II	Industrial
2021-08-04	Steed and Evans Limited	St. Jacobs	Ontario	Type II	Industrial

Inspection date	Licensee name	City	Province/State	Inspection type	Sector
2021-08-05	Global Engineering & Testing Ltd	Calgary	Alberta	Type II	Industrial
2021-08-05	Groupe ABS Inc.	Vaudreuil	Quebec	Type II	Industrial
2021-08-05	Tetra Tech Canada Inc.	Red Deer	Alberta	Type II	Industrial
2021-08-09	Stuart Hunt & Associates Ltd.	Mississauga	Ontario	Type II	Commercial
2021-08-10	Moncrief Construction Limited	Kenora	Ontario	Type II	Industrial
2021-08-10	Mistras Canada, Inc.	Red Deer	Alberta	Type II	Industrial
2021-08-11	Mahlo America, Inc.	Bolton-est	Quebec	Type II	Commercial
2021-08-11	Ciment Québec	Saint-Basile	Quebec	Type II	Industrial
2021-08-11	Edward Wong & Associates Inc.	Markham	Ontario	Type II	Industrial
2021-08-11	Edward Wong & Associates Inc.	Markham	Ontario	Type II	Industrial
2021-08-12	Watt Consulting Group Ltd.	Calgary	Alberta	Type II	Industrial
2021-08-12	NWP Industries General Partner Ltd..	Crossfield	Alberta	Type II	Industrial
2021-08-13	PNJ Engineering Inc.	Vaughan	Ontario	Type II	Industrial
2021-08-13	LAW Inspection Services Inc.	Lethbridge	Alberta	Type II	Industrial
2021-08-16	Atomic NDT Ltd.	Sylvan Lake	Alberta	Type II	Industrial
2021-08-16	Buffalo Inspection Services (2005) Inc.	Camrose	Alberta	Type II	Industrial
2021-08-18	Spectrum NDT Ltd.	Calgary	Alberta	Type II	Industrial
2021-08-19	Hartstone Inc.	Olds	Alberta	Type II	Industrial
2021-08-20	Cornwall Gravel Company Limited	Cornwall	Ontario	Type II	Industrial
2021-08-20	Davroc Testing Laboratories Inc.	Brampton	Ontario	Type II	Industrial
2021-08-20	Englobe Corp.	Toronto	Ontario	Type II	Industrial
2021-08-21	Acuren Inc.	Cantley	Quebec	Type II	Industrial
2021-08-23	Thunder Bay Regional Health Sciences Centre	Thunder Bay	Ontario	Type I	Commercial
2021-08-23	Candec Consultants Ltd.	Richmond Hill	Ontario	Type II	Industrial
2021-08-24	Seymour Pacific Developments Ltd.	Winnipeg	Manitoba	Type II	Industrial
2021-08-24	Gamma-Tech Inspection Ltd.	Calgary	Alberta	Type II	Industrial
2021-08-25	Sunnybrook Health Sciences Centre	Toronto	Ontario	Type II	Commercial
2021-08-25	Morey Associates Limited	Kemptville	Ontario	Type II	Industrial
2021-08-26	8418748 Canada Inc.	Montréal	Quebec	Type II	Industrial
2021-08-26	Louis W. Bray Construction Limited	Vars	Ontario	Type II	Industrial
2021-08-26	Pavages Multipro inc.	Terrebonne	Quebec	Type II	Industrial
2021-08-26	9139-6903 Québec Inc.	St-Laurent	Quebec	Type II	Industrial
2021-08-26	Les entreprises Rolland inc.	St-Jérôme	Quebec	Type II	Industrial
2021-08-27	Solroc Inc.	Saint-Laurent	Quebec	Type II	Industrial
2021-08-27	Bonnechere Excavating Inc.	Renfrew	Ontario	Type II	Industrial
2021-08-27	H & H Construction Inc.	Petawawa	Ontario	Type II	Industrial

Inspection date	Licensee name	City	Province/State	Inspection type	Sector
2021-08-27	Nelson River Construction Inc.	Winnipeg	Manitoba	Type II	Industrial
2021-08-30	Alberta Health Services	Lethbridge	Alberta	Type II	Medical
2021-08-31	Clunie Consulting Engineers Ltd.	Prince Albert	Saskatchewan	Type II	Industrial
2021-08-31	Higher Ground Consulting Inc.	Calgary	Alberta	Type II	Industrial
2021-08-31	Groupe CRH Canada Inc. / CRH Canada Group Inc.	Laval	Quebec	Type II	Industrial
2021-08-31	Soleno textiles techniques Inc.	Laval	Quebec	Type II	Industrial
2021-09-01	District Municipality of Muskoka	Bracebridge	Ontario	Type II	Industrial
2021-09-01	Fowler Construction Company Ltd.	Bracebridge	Ontario	Type II	Industrial
2021-09-01	9395-8049 QC inc.	Repentigny	Quebec	Type II	Industrial
2021-09-01	SNC-Lavalin GEM Québec Inc.	Laval	Quebec	Type II	Industrial
2021-09-01	IRISNDT Corp.	Calgary	Alberta	Type II	Industrial
2021-09-01	Titan Non-Destructive Examination Services Ltd.	Didsbury	Alberta	Type II	Industrial
2021-09-02	Greenwood Paving (Pembroke) Ltd.	Pembroke	Ontario	Type II	Industrial
2021-09-02	Thunder Bay Regional Health Sciences Centre	Thunder Bay	Ontario	Type II	Medical
2021-09-03	Voltage Wireline Inc.	Lacombe	Alberta	Type II	Industrial
2021-09-06	Pinter & Associates Ltd.	Saskatoon	Saskatchewan	Type II	Industrial
2021-09-06	Pinter & Associates Ltd.	Regina	Saskatchewan	Type II	Industrial
2021-09-08	University of Ottawa	Ottawa	Ontario	Type II	Academic and Research
2021-09-08	McClymont and Rak Engineers Inc.	Vaughan	Ontario	Type II	Industrial
2021-09-08	Landtek Limited	Hamilton	Ontario	Type II	Industrial
2021-09-08	The Hospital for Sick Children	Toronto	Ontario	Type II	Medical
2021-09-08	The Hospital for Sick Children	Toronto	Ontario	Type II	Medical
2021-09-08	The Hospital for Sick Children	Toronto	Ontario	Type II	Medical
2021-09-10	Sartell Instrumentation Limited	Mississauga	Ontario	Type II	Commercial
2021-09-10	Sartell Instrumentation Limited	Mississauga	Ontario	Type II	Commercial
2021-09-10	Manitoba Infrastructure	Dauphin	Manitoba	Type II	Industrial
2021-09-10	Manitoba Infrastructure	Russell	Manitoba	Type II	Industrial
2021-09-10	Manitoba Infrastructure	Snow Lake	Manitoba	Type II	Industrial
2021-09-10	The Pepsi Bottling Group (Canada), ULC	Mississauga	Ontario	Type II	Industrial
2021-09-14	Shelby Engineering Ltd.	Sherwood Park	Alberta	Type II	Industrial
2021-09-14	Uniroc Inc.	Mirabel	Quebec	Type II	Industrial
2021-09-14	Uniroc Inc.	Mirabel	Quebec	Type II	Industrial
2021-09-14	Groupe MC2 Inc.	Pointe-aux-Trembles	Quebec	Type II	Industrial
2021-09-15	Groupe ABS Inc.	Montréal	Quebec	Type II	Industrial

Inspection date	Licensee name	City	Province/State	Inspection type	Sector
2021-09-15	Groupe ABS Inc.	Montréal	Quebec	Type II	Industrial
2021-09-15	SNC-Lavalin GEM Québec Inc.	Montréal	Quebec	Type II	Industrial
2021-09-15	MR Engineering Ltd.	Edmonton	Alberta	Type II	Industrial
2021-09-15	Soil-Mat Engineers & Consultants Ltd.	Hamilton	Ontario	Type II	Industrial
2021-09-15	Mistras Canada, Inc.	Calgary	Alberta	Type II	Industrial
2021-09-15	Buffalo Inspection Services (2005) Inc.	Three Hills	Alberta	Type II	Industrial
2021-09-15	Bunge Canada Holdings I Inc.	Hamilton	Ontario	Type II	Industrial
2021-09-16	Sintra Inc.	St-Isidore	Quebec	Type II	Industrial
2021-09-16	EXP Services Inc. / Les Services EXP Inc.	Granby	Quebec	Type II	Industrial
2021-09-17	Excavation Daniel Latour Inc.	Lavaltrie	Quebec	Type II	Industrial
2021-09-17	Atlantic Packaging Products Ltd.	Scarborough	Ontario	Type II	Industrial
2021-09-18	TTES Consulting Inc.	MacGregor	Manitoba	Type II	Industrial
2021-09-18	TTES Consulting Inc.	Reston	Manitoba	Type II	Industrial
2021-09-18	TTES Consulting Inc.	Brandon	Manitoba	Type II	Industrial
2021-09-20	Parkland Geotechnical Consulting Ltd.	Red Deer	Alberta	Type II	Industrial
2021-09-20	Sunnybrook Health Sciences Centre	Toronto	Ontario	Type II	Medical
2021-09-20	Sunnybrook Health Sciences Centre	Toronto	Ontario	Type II	Medical
2021-09-20	Sunnybrook Health Sciences Centre	Toronto	Ontario	Type II	Medical
2021-09-21	Parkland Geotechnical Consulting Ltd.	Red Deer	Alberta	Type II	Industrial
2021-09-21	CISSS Bas-Saint-Laurent	Rimouski	Quebec	Type II	Medical
2021-09-22	York University	Toronto	Ontario	Type II	Academic and Research
2021-09-22	York University	Toronto	Ontario	Type II	Academic and Research
2021-09-22	York University	Toronto	Ontario	Type II	Academic and Research
2021-09-22	York University	Toronto	Ontario	Type II	Academic and Research
2021-09-22	St Lawrence Testing & Inspection Co. Ltd.	Cornwall	Ontario	Type II	Industrial
2021-09-22	Intertape Polymer Inc.	Cornwall	Ontario	Type II	Industrial
2021-09-23	R.W. Tomlinson Limited	Ottawa	Ontario	Type II	Industrial
2021-09-23	McIntosh Perry Consulting Engineers Ltd.	Nepean	Ontario	Type II	Industrial
2021-09-23	Carp Road Animal Hospital	Stittsville	Ontario	Type II	Medical

Inspection date	Licensee name	City	Province/State	Inspection type	Sector
2021-09-24	Lascalles Engineering and Associates Ltd.	Hawkesbury	Ontario	Type II	Industrial
2021-09-24	Sonoco Flexible Packaging Canada Corporation	Terrebonne	Quebec	Type II	Industrial
2021-09-27	Englobe Corp.	La Baie	Quebec	Type II	Industrial
2021-09-27	CanRoof Corporation Inc.	Toronto	Ontario	Type II	Industrial
2021-09-27	Simmons Pet Food On, Inc.	Mississauga	Ontario	Type II	Industrial
2021-09-27	Maksteel Holdings ULC	Mississauga	Ontario	Type II	Industrial
2021-09-28	CEGEP de Chicoutimi	Chicoutimi	Quebec	Type II	Industrial
2021-09-28	Cool Beer Brewing Co. Incorporated	Toronto	Ontario	Type II	Industrial
2021-09-28	Voltage Wireline Inc.	Brooks	Alberta	Type II	Industrial
2021-09-28	Centre intégré universitaire de santé et de services sociaux	Chicoutimi	Quebec	Type II	Medical
2021-09-28	Centre intégré universitaire de santé et de services sociaux	Chicoutimi	Quebec	Type II	Medical
2021-09-29	Unity Health Toronto	Toronto	Ontario	Type II	Academic and Research
2021-09-29	Unity Health Toronto	Toronto	Ontario	Type II	Academic and Research
2021-09-29	Pavex Ltée	St-Félicien	Quebec	Type II	Industrial
2021-09-29	Unity Health Toronto	Toronto	Ontario	Type II	Medical
2021-09-29	Unity Health Toronto	Toronto	Ontario	Type II	Medical
2021-09-29	Unity Health Toronto	Toronto	Ontario	Type II	Medical
2021-09-29	Unity Health Toronto	Toronto	Ontario	Type II	Medical
2021-10-01	CMT Engineering Inc.	St Clements	Ontario	Type II	Industrial
2021-10-04	Stuart Hunt & Associates Ltd.	Mississauga	Ontario	Type II	Commercial
2021-10-04	Englobe Corp.	Anjou	Quebec	Type II	Industrial
2021-10-04	Englobe Corp.	Anjou	Quebec	Type II	Industrial
2021-10-04	9395-8049 QC inc.	Repentigny	Quebec	Type II	Industrial
2021-10-05	Construction & Pavage Portneuf Inc.	St-Marc-Carières	Quebec	Type II	Industrial
2021-10-05	Groupe Géos Inc.	Lévis	Quebec	Type II	Industrial
2021-10-05	Boss Wireline Services Ltd.	Brooks	Alberta	Type II	Industrial
2021-10-06	Tecsol GM Inc.	Québec	Quebec	Type II	Industrial
2021-10-06	Trenergy Inc.	St Catharines	Ontario	Type II	Industrial
2021-10-07	NDT Group Inc.	Brantford	Ontario	Type II	Industrial
2021-10-07	Centre intégré de santé et de services sociaux du Bas-Saint-Laurent	Rivière-du-Loup	Quebec	Type II	Medical
2021-10-08	The Graff Company Ltd.	Mississauga	Ontario	Type II	Industrial
2021-10-12	Certified Testing Systems (2009) Inc.	Kitchener	Ontario	Type II	Industrial
2021-10-13	West Fraser Mills Ltd.	Hinton	Alberta	Type II	Industrial

Inspection date	Licensee name	City	Province/State	Inspection type	Sector
2021-10-13	Spectrum Wireline Services Ltd.	Red Deer County	Alberta	Type II	Industrial
2021-10-13	Teck Coal Limited	Elkford	British Columbia	Type II	Industrial
2021-10-14	9395-8049 QC inc.	Saint-Laurent	Quebec	Type II	Industrial
2021-10-14	9395-8049 QC inc.	Saint-Laurent	Quebec	Type II	Industrial
2021-10-14	FNX-INNOV Inc.	Longueuil	Quebec	Type II	Industrial
2021-10-14	Trican Well Service Ltd.	Hinton	Alberta	Type II	Industrial
2021-10-14	Royal Victoria Health Centre	Barrie	Ontario	Type II	Medical
2021-10-15	Trans Mountain Pipeline ULC	Jasper	Alberta	Type II	Industrial
2021-10-19	NOVA Chemicals Corporation	Lacombe	Alberta	Type II	Industrial
2021-10-20	Chief Medical Supplies Ltd.	Mississauga	Ontario	Type II	Industrial
2021-10-21	Highland Valley Copper	Logan Lake	British Columbia	Type II	Industrial
2021-10-25	McMaster University	Hamilton	Ontario	Type II	Academic and Research
2021-10-25	MWM Consulting Inc.	Saint John	New Brunswick	Type II	Industrial
2021-10-25	RTD Quality Services Inc.	Saint John	New Brunswick	Type II	Industrial
2021-10-26	Construction & Pavage Portneuf Inc.	St-Marc-Carières	Quebec	Type II	Industrial
2021-10-26	Maskimo Construction Inc.	Trois-Rivières	Quebec	Type II	Industrial
2021-10-26	FNX-INNOV Inc.	Trois-Rivières	Quebec	Type II	Industrial
2021-10-26	Custom Fabricators & Machinists Limited / Fabricants et Mach	Dartmouth	Nova Scotia	Type II	Industrial
2021-10-26	Nova Scotia Health Authority	Halifax	Nova Scotia	Type II	Medical
2021-10-26	Nova Scotia Health Authority	Halifax	Nova Scotia	Type II	Medical
2021-10-26	Nova Scotia Health Authority	Halifax	Nova Scotia	Type II	Medical
2021-10-26	Nova Scotia Health Authority	Halifax	Nova Scotia	Type II	Medical
2021-10-26	Pet Focus Veterinary Group Inc.	Dartmouth	Nova Scotia	Type II	Medical
2021-10-27	Centre for Probe Development and Commercialization /	Hamilton	Ontario	Type II	Commercial
2021-10-27	Nova Scotia Health Authority	Halifax	Nova Scotia	Type II	Commercial
2021-10-27	Nova Scotia Health Authority	Halifax	Nova Scotia	Type II	Commercial
2021-10-27	GHD Consultants Ltd.	Chicoutimi	Quebec	Type II	Industrial
2021-10-27	Harbourside Geotechnical Consultants Limited	Dartmouth	Nova Scotia	Type II	Industrial
2021-10-27	Canadoil Forge Ltée/Canadoil Forge Ltd.	Bécancour	Quebec	Type II	Industrial
2021-10-27	Intertape Polymer Inc.	Truro	Nova Scotia	Type II	Industrial
2021-10-27	Commandite Kruger Wayagamack Inc.	Trois-Rivières	Quebec	Type II	Industrial
2021-10-27	McMaster University	Hamilton	Ontario	Type II	Medical
2021-10-28	St-Isidore Asphalte Ltée	St-Isidore	New Brunswick	Type II	Industrial

Inspection date	Licensee name	City	Province/State	Inspection type	Sector
2021-10-28	Le Groupe Roy Consultants Ltee	Bathurst	New Brunswick	Type II	Industrial
2021-10-28	Integrated Sustainability Consultants Ltd.	Calgary	Alberta	Type II	Industrial
2021-10-28	Gemtec Consulting Engineers and Scientists Limited	Bathurst	New Brunswick	Type II	Industrial
2021-10-28	Les Laboratoires d'Essais Mequaltech Inc.	Bécancour	Quebec	Type II	Industrial
2021-10-28	Trevali Mining (New Brunswick) Ltd.	Bathurst	New Brunswick	Type II	Industrial
2021-10-28	Commandité Kruger Trois-Rivières Inc.	Trois-Rivières	Quebec	Type II	Industrial
2021-11-02	Agriculture Canada	St-Hyacinthe	Quebec	Type II	Industrial
2021-11-02	Mistras Canada, Inc.	Sherwood Park	Alberta	Type II	Industrial
2021-11-05	SNC-Lavalin GEM Québec Inc.	Laval	Quebec	Type II	Industrial
2021-11-05	SNC-Lavalin GEM Québec Inc.	Laval	Quebec	Type II	Industrial
2021-11-08	University Health Network	Toronto	Ontario	Type II	Medical
2021-11-09	Mezei Inspections Ltd.	Drayton Valley	Alberta	Type II	Industrial
2021-11-09	Recon Petrotechnologies Ltd.	Edmonton	Alberta	Type II	Industrial
2021-11-10	ROFS Canada Ltd.	Blackfalds	Alberta	Type II	Industrial
2021-11-10	Yemsol Ltd.	Edson	Alberta	Type II	Industrial
2021-11-10	Galey Inspection Services Ltd.	Parkland County	Alberta	Type II	Industrial
2021-11-10	Galey Inspection Services Ltd.	Sexsmith	Alberta	Type II	Industrial
2021-11-10	ROFS Canada Ltd.	Red Deer	Alberta	Type II	Industrial
2021-11-15	Candu Energy Inc.	Whitby	Ontario	Type II	Commercial
2021-11-16	Kinectrics Inc	Teeswater	Ontario	Type II	Commercial
2021-11-16	Inline Group Inc.	Kitimat	British Columbia	Type II	Industrial
2021-11-16	Inline Group Inc.	Edmonton	Alberta	Type II	Industrial
2021-11-18	Spectris Canada Inc.	St-Laurent	Quebec	Type II	Commercial
2021-11-18	Golder Associates Ltd.	Calgary	Alberta	Type II	Industrial
2021-11-18	Cytec Canada Inc.	Niagara Falls	Ontario	Type II	Industrial
2021-11-18	Sleeman Breweries Ltd.	Guelph	Ontario	Type II	Industrial
2021-11-19	McMaster University	Hamilton	Ontario	Type II	Academic and Research
2021-11-19	McMaster University	Hamilton	Ontario	Type II	Academic and Research
2021-11-19	McMaster University	Hamilton	Ontario	Type II	Academic and Research
2021-11-19	McMaster University	Hamilton	Ontario	Type II	Academic and Research
2021-11-19	McMaster University	Hamilton	Ontario	Type II	Commercial
2021-11-19	Shad & Associates Inc.	Vaughan	Ontario	Type II	Industrial

Inspection date	Licensee name	City	Province/State	Inspection type	Sector
2021-11-19	Geomaple geotechnics Inc.	North York	Ontario	Type II	Industrial
2021-11-22	CHU de Québec - Université Laval	Québec	Quebec	Type II	Medical
2021-11-22	CHU de Québec - Université Laval	Québec	Quebec	Type II	Medical
2021-11-23	Cox Construction Limited	Guelph	Ontario	Type II	Industrial
2021-11-23	Magna Exteriors Inc.	Guelph	Ontario	Type II	Industrial
2021-11-23	Canada Border Services Agency	Ottawa	Ontario	Type II	Industrial
2021-11-24	University of Ontario Institute of Technology	Oshawa	Ontario	Type II	Academic and Research
2021-11-24	Davroc Testing Laboratories Inc.	Brampton	Ontario	Type II	Industrial
2021-11-24	Davroc Testing Laboratories Inc.	Brampton	Ontario	Type II	Industrial
2021-11-24	Davroc Testing Laboratories Inc.	Brampton	Ontario	Type II	Industrial
2021-11-24	Gunron Inspections Ltd.	Dawson Creek	British Columbia	Type II	Industrial
2021-11-24	Gunron Inspections Ltd.	Yellowhead County	Alberta	Type II	Industrial
2021-11-24	Polar Pak Inc.	Brampton	Ontario	Type II	Industrial
2021-11-24	Centre de santé et de services sociaux de Sept-Îles	Sept-Iles	Quebec	Type II	Medical
2021-11-24	William Osler Health Centre	Brampton	Ontario	Type II	Medical
2021-11-24	Centre de santé et de services sociaux de Sept-Îles	Sept-Iles	Quebec	Type II	Medical
2021-11-24	William Osler Health Centre	Brampton	Ontario	Type II	Medical
2021-11-25	Lakeridge Health	Oshawa	Ontario	Type II	Medical
2021-11-25	Lakeridge Health	Oshawa	Ontario	Type II	Medical
2021-11-26	Petro-Canada Lubricants Inc.	Mississauga	Ontario	Type II	Industrial
2021-11-26	Petro-Canada Lubricants Inc. / Lubrifiants Petro-Canada Inc.	Mississauga	Ontario	Type II	Industrial
2021-11-26	CHU de Québec - Université Laval	Québec	Quebec	Type II	Medical
2021-11-26	CHU de Québec - Université Laval	Québec	Quebec	Type II	Medical
2021-11-29	University of Western Ontario	London	Ontario	Type II	Academic and Research
2021-11-29	CISSS-Trois Rivières	Trois-Rivières	Quebec	Type I	Medical
2021-11-29	Provincial Health Services Authority	Kelowna	British Columbia	Type II	Medical
2021-11-30	Weatherford Canada Ltd.	Edmonton	Alberta	Type II	Industrial
2021-11-30	Weatherford Canada Ltd.	Edmonton	Alberta	Type II	Industrial
2021-11-30	Weatherford Canada Ltd.	Nisku	Alberta	Type II	Industrial
2021-11-30	London Health Sciences Centre	London	Ontario	Type II	Medical
2021-11-30	QEII Health Sciences Centre	Halifax	Nova Scotia	Type II	Medical

Inspection date	Licensee name	City	Province/State	Inspection type	Sector
2021-11-30	QEII Health Sciences Centre	Halifax	Nova Scotia	Type II	Medical
2021-11-30	QEII Health Sciences Centre	Halifax	Nova Scotia	Type II	Medical
2021-11-30	QEII Health Sciences Centre	Halifax	Nova Scotia	Type II	Medical
2021-12-01	Task-Master Inspections Ltd.	Fort Saskatchewan	Alberta	Type II	Industrial
2021-12-01	Provincial Health Services Authority	Prince George	British Columbia	Type II	Medical
2021-12-01	Toronto Equine Hospital	Mississauga	Ontario	Type II	Medical
2021-12-02	St. Joseph's Health Care, London	London	Ontario	Type II	Commercial
2021-12-02	2709081 Ontario Limited	Tottenham	Ontario	Type II	Industrial
2021-12-09	Isologic Innovative Radiopharmaceuticals Ltd.	Montréal	Quebec	Type II	Commercial
2021-12-09	GeoPacific Consultants Ltd.	Kamloops	British Columbia	Type II	Industrial
2021-12-09	2141478 Alberta Ltd.	Edmonton	Alberta	Type II	Industrial
2021-12-09	Central Alberta Medical Imaging Services Limited	Red Deer	Alberta	Type II	Medical
2021-12-14	42256 Yukon Inc.	Edmonton	Alberta	Type II	Industrial
2021-12-14	Valbruna ASW Inc.	Welland	Ontario	Type II	Industrial
2021-12-15	FNX-INNOV Inc.	Baie-Comeau	Quebec	Type II	Industrial
2021-12-15	Agrium Inc.	Redwater	Alberta	Type II	Industrial
2021-12-16	Cepsa Chimie Bécancour Inc. / Cepsa Química Bécancour Inc.	Bécancour	Quebec	Type II	Industrial
2021-12-16	Beta Research Laboratories Ltd.	Calgary	Alberta	Type II	Industrial
2021-12-17	Isologic Innovative Radiopharmaceuticals Ltd.	Burlington	Ontario	Type II	Commercial
2021-12-20	BWXT	Kanata	Ontario	Type II	Industrial
2021-12-21	Mevex Corporation	Stittsville	Ontario	Type II	Commercial

Appendix G: Stakeholder engagement activities in 2021

Date	Audience/meeting attendees	Type of activity	Topics
January 2021	Medical Physicists	Article in the Canadian Organization of Medical Physicists' InterACTIONS publication	<ul style="list-style-type: none"> Personal information exchange during the COVID pandemic.
January 2021	CNSC, Canadian Radiation Protection Association (CRPA), Canadian Organization of Medical Physicists (COMP)	C3 Working Group virtual meeting	<ul style="list-style-type: none"> Lessons learned from COVID-19 Operating, commissioning, decommissioning project Amendments to the Radiation Protection Regulations Emergency stop button testing discussion Workload Licence appendix format
February 2021	Metis Nation of Ontario (MON)	Virtual meeting	<ul style="list-style-type: none"> Transport of radioactive materials
March 2021	Public	Virtual meeting	<ul style="list-style-type: none"> Participation as a judge at the Ottawa Regional Science Fair
March 2021	Canadian Radiation Protection Association (CRPA)	Virtual meeting	<ul style="list-style-type: none"> Transport and packaging SCA as it relates to nuclear substance licensees
March 2021	Accelerators and Class II Facilities licensees	Virtual town hall	<ul style="list-style-type: none"> Changes to the Radiation Protection Regulations Remote inspections Event reporting General Q&A session
April 2021	Medical Physicists	Article in the Canadian Organization of Medical Physicists' InterACTIONS publication	<ul style="list-style-type: none"> Amendments to the Radiation Protection Regulations
May 2021	Licensees possessing an Elekta Linear Accelerator	Targeted email	<ul style="list-style-type: none"> Unexpected beam initiation for Elekta Linear Accelerators
May 2021	CNSC, Canadian Radiation Protection Association (CRPA), Canadian Organization of Medical Physicists (COMP)	C3 Working Group virtual meeting	<ul style="list-style-type: none"> Engineering approaches to Interlock System Design and Testing Proposed changes to the Class II Nuclear Facilities and Prescribed Equipment Regulations related to radiation safety systems and CRPA membership comments on these changes
May 2021	Saugeen Ojibway Nation (SON)	Virtual meeting	<ul style="list-style-type: none"> Transport of radioactive materials
June 2021	Federal Authority for Nuclear Regulation, United Arab Emirates	Virtual meeting	<ul style="list-style-type: none"> Inspection planning and enforcement activities
June 2021	Portable gauge licensees	Targeted email	<ul style="list-style-type: none"> Seeking feedback on the CNSC Mobile App Pilot Project for users of nuclear substances and radiation devices
June 2021	Petroleum Services Association of	Virtual meeting	<ul style="list-style-type: none"> Discuss strategy to communicate the risk of workers crossing radiography barriers

Date	Audience/meeting attendees	Type of activity	Topics
	Canada and Energy Safety Canada		
June 2021	Accelerators and Class II Facilities licensees	Virtual town hall	<ul style="list-style-type: none"> • Lifecycle licensing • Newly published REGDOC-1.4.1, <i>Licence Application Guide: Class II Nuclear Facilities and Prescribed Equipment</i> • New annual compliance form • Proposed changes to the Class II Nuclear Facilities and Prescribed Equipment Regulations
June 2021	Medical Physicists	Presentation at the Canadian Organization of Medical Physicists conference	<ul style="list-style-type: none"> • Lifecycle licensing approach
June 2021	Medical Physicists	Presentation of research done by CNSC staff member at the Canadian Organization of Medical Physicists conference	<ul style="list-style-type: none"> • Radiochromic film dosimetry for x-ray scatter imaging
July 2021	Medical Physicists	Article in the Canadian Organization of Medical Physicists' InterACTIONS publication	<ul style="list-style-type: none"> • Emergency preparedness for source-based radiation therapy equipment events
July 2021	Portable gauge licensees	Targeted email	<ul style="list-style-type: none"> • Regulatory requirements and commitments made with respect to monitoring worker radiation dose.
August 2021	Portable gauge licensees	Targeted email	<ul style="list-style-type: none"> • The role internal audits play in ensuring safe operations, finding opportunities for improvement, and identifying emerging issues before they become incidents or non-compliances
September 2021	All DNSR licensees that have thyroid monitoring conditions included on their licence.	Targeted email	<ul style="list-style-type: none"> • Thyroid screening after a spill of radioiodine.
September 2021	Fixed gauge licensees that do vessel or hopper entry.	Targeted email	<ul style="list-style-type: none"> • A checklist was shared with all fixed gauge licensees that had the vessel or hopper entry licence condition included on their licence. This resource was dedicated to providing licensees with guidance on how to safely enter any vessel or hopper fitted with radiation devices to reinforce safe work practices and increase compliance and prevent events related to vessel or hopper entry.
September 2021	Cyclotron radiation safety officers	Virtual town hall	<ul style="list-style-type: none"> • Basis for surface contamination limits • Thoughts and Experiences from decommissioning a RDS-112 Cyclotron (presentation by a licensee) • Best practice for radioactive shipments (presentation by a licensee) • Workstation monitoring for skin dose control
October 2021	Medical Physicists	Article in the Canadian Organization of Medical Physicists'	<ul style="list-style-type: none"> • Celebrating the CNSC: 75 Years of Nuclear Safety in Canada

Date	Audience/meeting attendees	Type of activity	Topics
		InterACTIONS publication	
October 2021	Members of the public	Virtual meetings (1 session in English, 1 session in French)	<ul style="list-style-type: none"> • Transport of radioactive materials
November 2021	Portable gauge licensees	Targeted email	<ul style="list-style-type: none"> • Importance of complete, accurate and accessible records
November 2021	CNSC, Canadian Radiation Protection Association (CRPA), Canadian Organization of Medical Physicists (COMP)	C3 Working Group Meeting-Virtual	<ul style="list-style-type: none"> • Service technician project • Opportunities for improvement in Accelerators and Class II Facilities Division
December 2021	Accelerators and Class II Facilities licensees	Virtual town hall	<ul style="list-style-type: none"> • Discussion about Safety Culture • Self Audit Program Experience (presented by a licensee) • Applicant Authority Welcome package (presented by a licensee) • Internal Audit Program (presented by a licensee)
December 2021	Portable gauge licensees	Targeted email	<ul style="list-style-type: none"> • Annual maintenance planning
February, May and December 2021	Industrial Radiography Working Group (industry reps and CNSC staff)	Virtual meetings	<ul style="list-style-type: none"> • Planning and strategy for the annual industrial radiography meeting • Regulatory updates • Exposure device operator (EDO) certification • Inspection and maintenance of exposure devices
Monthly in 2021	All DNSR licensees	Targeted emails	<p>Topics covered in the DNSR Digest in 2021:</p> <ul style="list-style-type: none"> • Beware of Phishing Attempts (from CNSC email address) • Regulatory Document 2.9.2, Controlling Releases to the Environment (public consultation) • Radiation Protection Regulations update • Management of disused sources • Proposed amendments to the General Nuclear Safety and Control Regulations and the Nuclear Non-Proliferation Import and Export Regulations on the CNSC e-consultation platform • DNSR Mobile App • Contacting the CNSC (new email address and mailing address) • PDF Help for forms on the web. • Proper handling of dosimeters • Publication of REGDOCS 2.7.1, Radiation Protection and 2.7.2, Dosimetry, Volume I: Ascertaining Occupational Dose • How to provide feedback on REGDOCS and regulations • What constitutes basic servicing • Expectations regarding training records • General reminders about security

Date	Audience/meeting attendees	Type of activity	Topics
			<ul style="list-style-type: none"> • Reminder on reporting requirements for damaged/malfunctioning radiation devices and prescribed equipment. • Regulatory Oversight Report on the Use of Nuclear Substances in Canada:2020 out for public comment • Recently published REGDOCs • Regulatory Amendments-Have your say • Audit of licensee programs • Servicing vs maintenance • New annual compliance report forms • PDF Help on CNSC website

*No formal outreach activities were conducted for WNSLs as they are a small subsector, so information is best disseminated to licensees on an individual basis.

**Staff also participate in various international meetings and conferences to share the Canadian/CNSC perspective on topics of interest

Appendix H: Blank Inspection Worksheet

Canadian Nuclear
Safety CommissionCommission canadienne
de sûreté nucléaire**Abbreviations**

RP - Radiation Protection
 SCA - Safety and Control Area
 LC - Licence Condition

GN - General Nuclear Safety and Control
 SSR-6 - IAEA Safety Standards 2012 Edition
 PTNS, 2015 - Packaging and Transport of Nuclear
 Substances, 2015
 TDG - Transport of Dangerous Goods Regulations

NSCA - Nuclear Safety and Control Act
 NSRD - Nuclear Substances and Radiation Devices
 CII - Class II Nuclear Facility and Prescribed Equipment

Type II Inspection Worksheet

Use Type: 811 - portable gauges

Licensee:				Report Number:	
Licence Number:				Inspection Date:	
Address:				Inspector Name:	
City:	Province:	Postal Code:		Use Type Number:	811 (811)
Person Seen:	Phone Number:			Risk Group:	2.00

Seq.	Description	Regulatory Requirements	Compliance Expectations	Risk
SCA: 1 Radiation Protection				
1	Storage	LC 2575-2	(a) Access to storage areas containing nuclear substances or radiation devices is restricted to authorized personnel. (b) Dose rates at occupied areas outside storage areas do not exceed 2.5 µSv/hr. (c) Dose limits are not exceeded as a result of nuclear substances or radiation devices in storage.	H
	Rating:	Comments:		
2	Meter calibrated	NSRD 20	Survey meter that is used has been calibrated within the previous twelve months of its use.	H
	Rating:	Comments:		
3	ALARA/RP program	RP 04 (a)	The licensee has implemented a radiation protection program that keeps doses ALARA and includes: (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.	H
	Rating:	Comments:		
4	Ascertainment and recording of doses	RP 05	(1) Personnel doses are ascertained and recorded. (2) Doses are determined by (a) direct measurement or (b) estimation.	H
	Rating:	Comments:		
5	Dose limits/body	RP 13 (1)	Dose limits not exceeded.	H
	Rating:	Comments:		
6	Container/Device labelled	RP 20	Each container or device containing greater than one Exemption Quantity of nuclear substance(s) is labelled with the radiation warning symbol and the required wording.	H
	Rating:	Comments:		
7	Posting of Signs	RP 21	A radiation warning symbol is posted: (a) at the boundary of and at every point of access where there is more than 100 times the Exemption Quantity (EQ) of nuclear substances; or (b) where the radiation dose rate could exceed 0.025 mSv/h.	H
	Rating:	Comments:		

SCA: 1 Radiation Protection				
8	Survey meter availability	LC 2922	Provisions have been made to ensure a survey meter can be available to workers at any site where a radiation device is used, within 2 hours.	M
	Rating:	Comments:		
9	Radiation Warning Sign	RP 22	When a radiation warning symbol is used, it is posted in accordance with regulations.	L
	Rating:	Comments:		
SCA: 2 Emergencies and Unplanned Events				
10	Reportable events	GN 29	Incidents and unplanned events have been immediately reported to the CNSC and a detailed written report was submitted within 21 days (refer to NSRD 38).	H
	Rating:	Comments:		
11	Device accidents	NSRD 21	Any radiation device involved in an accident or incident has been tested/inspected and confirmed to be functioning properly prior to return to use.	H
	Rating:	Comments:		
12	Field devices I.D.	NSRD 22	Device is labelled with contact information including a 24 hour telephone number.	H
	Rating:	Comments:		
13	Contact details posted	NSRD 23	The name or job title and a 24 hr. telephone number are posted in a readily visible location where the nuclear substance is stored or used (refer to RP 21).	H
	Rating:	Comments:		
14	Radiation safety	NSRD 17	Referenced emergency procedures are available to workers at the site of licensed activity.	M
	Rating:	Comments:		
15	Failed leak test	NSRD 18 (3)	Appropriate actions were taken upon detection of a leaking source.	M
	Rating:	Comments:		
16	Leak test/event	NSRD 18 (1) (c)	Leak testing was performed immediately after any event that may have damaged the sealed source(s).	L
	Rating:	Comments:		
SCA: 5 Training and Qualification				
17	Training and sufficient workers	GN 12 (1) (a), (b)	There are (a) a sufficient number of trained and (b) qualified workers to carry on licensed activity.	M
	Rating:	Comments:		
18	Nuclear Energy Workers informed	RP 07	(1) Each NEW has been informed in writing of their NEW designation, of the risks associated with their work, of the regulatory dose limits and of their individual dose. (2) Female NEW has been informed in writing of their rights (RP 07) and obligations (RP 11). (3) A signed acknowledgment form is available for each NEW.	M
	Rating:	Comments:		
SCA: 6 Operational Procedure				
19	Use of equipment & procedures	GN 12 (1) (e)	Licensee ensures equipment, clothing and procedures are used appropriately at the site of the licensed activity.	H
	Rating:	Comments:		
20	Authorized transfer	GN 13	All transfers of nuclear substances or radiation devices have been done to authorized licensees.	H
	Rating:	Comments:		

SCA: 6 Operational Procedure

21	Worker's obligations	GN 17	Every worker: (a) uses equipment, devices, facilities and clothing in a responsible and reasonable manner in accordance with the Act, Regulations and Licence Conditions; (b) complies with procedures and measures established by the licensee; (c) informs the licensee or supervisor of any situation where there may be: (i) an increase in the risk to the environment or the health and safety of persons; (ii) a threat to security; (iii) a failure to comply with regulatory requirements; (iv) sabotage, theft, loss or illegal use or possession of prescribed equipment, or (v) a release into the environment not authorized by the licence; (d) observes and obeys all notices and warning signs; and (e) takes all reasonable precautions to ensure the safety and security of individuals, the environment and the nuclear substances or facilities.	H
	Rating:	Comments:		
22	Import Export Restrictions	LC 2480	The licensee is not authorized to import or export all items described in the schedule, Parts A and B, of the Nuclear Non-proliferation Import and Export Control Regulations, and specifically listed in the licence condition.	H
	Rating:	Comments:		
23	Device certification and transfer	NSRD 11	(1) The radiation device in use is a certified model (unless authorized in the licence). (2) The radiation device transferred to other licensees is a certified model.	H
	Rating:	Comments:		
24	Licensed dosimetry	RP 08	A licensed dosimetry service is used where the effective dose of a NEW will likely exceed 5 mSv in a one-year period.	H
	Rating:	Comments:		
25	Device provided & maintained	GN 12 (1) (d)	Required devices have been provided and have been maintained according to manufacturer's instruction.	M
	Rating:	Comments:		
26	Maintenance limitations	LC 2093-0	Maintenance is limited to cleaning and lubrication in accordance with the manufacturer's instructions.	M
	Rating:	Comments:		
27	Inventory	NSRD 36 (1) (a)	A complete nuclear substance and radiation device inventory is available.	M
	Rating:	Comments:		
28	Worker records retained	NSRD 36 (1) (b), (d), (2)	(1)(b) The name of each worker who handles nuclear substances and/or radiation devices is recorded. (1)(d) Training records for all workers who handle nuclear substances and/or radiation devices are available. (2) Worker training records are kept on file for three years after termination.	M
	Rating:	Comments:		
29	Post licence	GN 14	"(1) A copy of the licence or an appropriate notice is posted in a conspicuous place at the site of the licensed activity. (2) The complete licence is available at field locations. "	L
	Rating:	Comments:		
30	Records retained	GN 28	(2) The CNSC was notified 90 days prior to the disposal of any prescribed records.	L
	Rating:	Comments:		
31	Operation Limitations - General	LC 2917	Activities and procedures, as listed in the licence appendix, are followed.	L
	Rating:	Comments:		

SCA: 6 Operational Procedure				
32	Inaccuracies Notification Rating:	LC 2920-6 Comments:	Changes to documents listed in the licence appendix have been reported to the CNSC.	L
33	Leak test Rating:	NSRD 18 (1) (a), (b), (d) Comments:	Leak testing is performed at the required frequency following acceptable procedures.	L
34	Transfer documents Rating:	NSRD 19 Comments:	(1)A copy of the most recent leak test result is provided for all transfers of radiation devices as well as instructions to follow in the event of an accident. (2)A copy of the most recent leak test result is provided for all transfers of sealed source or nuclear substance used as shielding.	L
35	Records retained Rating:	NSRD 36 (1) (c), (e), (3), (4) Comments:	(1)(c) Records of transfer, receipt, disposal and abandonment are available. (1)(e) Records of inspection, measurement, test and servicing are available. (3), (4) Records of inspection, measurement, test and servicing are kept on file for three years.	L
36	Frivolous posting of signs Rating:	RP 23 Comments:	Radiation warning symbols are not posted where there is no radiation, nuclear substance or prescribed equipment.	L
37	List of NEWs Rating:	RP 24 Comments:	A record including names and job category of each NEW is available.	L
SCA: 7 Organisation and Management				
38	Licence details Rating:	NSCA 26 Comments:	Licence activities are conducted in accordance with the licence.	H
39	Change notified Rating:	GN 15 (c) Comments:	Changes of personnel responsible for management and control of licensed activity (RSO, Applicant Authority and Signing Authority) have been reported to the CNSC within 15 days.	M
40	Location notification Rating:	LC 2300-2 Comments:	CNSC was informed in writing, within seven days, of sites where licensed activities were conducted for more than 90 days. Discontinuance of such sites was also reported within 7 days.	M
41	Annual Compliance Report Rating:	LC 2916 Comments:	The licensee submits the annual compliance report in the form specified in the appendix of the licence for each year the licence is valid.	M
42	Act/Regs available Rating:	GN 12 (1) (k) Comments:	A copy of the Act and Regulations (paper or electronic copy) are readily available to all workers.	L
43	Record requirements (>90 days at sites) Rating:	LC 2350-2 Comments:	Records and operational procedures are available at storage/use locations (greater than 90 consecutive days).	L
SCA: 11 Security				
44	Security indicators Rating:	GN 12 (1) (c), (g), (h), (i), (j) Comments:	Provisions are in place to ensure the security of nuclear substances and radiation devices and the health and safety of persons. This may be achieved through restricted access (for example use of locks, alarms, and security systems) and reporting of incidents including loss, theft and sabotage.	H

SCA: 11 Security

45	Sealed Source Security Requirements	LC 2490-3	Licensees have in place security measures including: -Inventory accounting -Access control measures -Up-to-date security plan -Information security measures -Intrusion detection with monitoring and testing -Response protocol -Secure storage of substances and devices -Security awareness program -Vehicle security measures	H
	Rating:	Comments:		

SCA: 12 International Obligations/Safeguards

46	Import Restrictions	LC 2402-4	Imports are within the limits specified in the licence condition.	H
	Rating:	Comments:		
47	Export Restrictions	LC 2403-7	Exports are within the limits specified in the licence condition.	H
	Rating:	Comments:		

SCA: 13 Packaging and Transport

48	Package secured in vehicle	PTNS 25 (4)	Consignments are segregated and securely stowed (refer to SSR-6 562, 564, 574 - PTNS 25(1) and TDG 5.4). Category II-Yellow and III-Yellow packages are not carried in compartments occupied by passengers - SSR-6 563.	H
	Rating:	Comments:		
49	Excepted packages content/activity	PTNS 26(1)(a)	Excepted packages meet the following criteria: - dose rate below 0.005 mSv/h – PTNS 25(4)(a) and SSR-6 516; - activity within limits of PTNS 26(2) and SSR-6 422; - consignor or consignee I.D. - PTNS 28(1)(i) and SSR-6 531; - UN number on package - PTNS 28(1)(i) and SSR-6 532; - package must be accompanied by a shipping document (a log kept by driver is acceptable for UN 2909, 2910, 2911) that identifies the shipping name and UN number - PTNS 29(2)(a) and TDG 1.43; - "RADIOACTIVE" visible inside package (UN2910) upon opening - PTNS 26(1)(a)(i) and SSR-6 424(b)(i). For UN 2908 (Empty Packages): - contamination inside an empty package does not exceed 100 times the levels specified in SSR-6 427(c) and PTNS 26(1)(a)(i); - Labels removed PTNS 26(1)(a)(i) and SSR-6 427(d); - package integrity must not be compromised – PTNS 26(1)(a) and SSR-6 306(b).	H
	Rating:	Comments:		
50	Type A package requirements	PTNS 28 (1)	A Type A package must be prepared and labelled in accordance of PTNS 28(1) and associated requirements from SSR-6. Package requirements are as follows: - contact dose rate below 2 mSv/h (non-exclusive use) - SSR-6 527; - name of consignor or consignee package - SSR-6 531; - shipping name - SSR-6 532 and TDG 4.11; - activity within limits - PTNS 26(2) and SSR-6 428; - UN number - SSR-6 532 and TDG 4.12; - "Type A" marking - SSR-6 534(b); - VRI code - SSR-6 534(c); - two (I-white, II-Yellow or III-Yellow) labels - SSR-6 538, 539, and TDG 4.6, 4.7; - identify the radionuclide on labels - SSR-6 540 (a); - maximum activity on labels - SSR-6 540 (b)(c) and TDG 4.14; - transport Index on labels (II-Yellow and III-Yellow) - SSR-6 540(d) as determined by SSR-6 523-524; - package integrity must not be compromised - PTNS 24(a) and SSR-6 306(b).	H
	Rating:	Comments:		

SCA: 13 Packaging and Transport

51	Reporting requirements	PTNS 37-38-40	The consignor, the carrier and the consignee must provide an immediate report to CNSC (PTNS 37 (1)) and a 21 day report (PTNS 38) when becoming aware of any of the following situations: - failure to comply with the requirements of section 26; - a conveyance carrying radioactive material is involved in an accident; - package damage or tampering or leaking; - radioactive material lost, stolen or loss of control; - radioactive material has escaped from a containment system, a package or a conveyance during transport; - failure to comply with the Act and Regulations can lead to a situation in which the environment, the health and safety of persons or national security is adversely affected; - the level of non-fixed contamination as defined in the IAEA Regulations, during transport exceeds limits; - licensee has provided reports of damage or tampering discovered while opening packages as per PTNS 40(4), (5), (6).	H
	Rating:	Comments:		
52	Type A package certification	PTNS 42	Type A package design, test results and packaging instructions kept on file for two years after last shipment.	H
	Rating:	Comments:		
53	Showing proof of TDG training	PTNS 25 (1)	A person handling dangerous goods must provide their training certificate or copy of it to an inspector immediately upon request. TDG 6.8 This requirement does not apply for excepted package (TDG 1.43 (b)).	M
	Rating:	Comments:		
54	Competent authority certificates	PTNS 25 (2)(c)	Consignor has competent authority certificates for applicable sources and packages (refer to SSR-6 561).	M
	Rating:	Comments:		
55	Transport document requirement	PTNS 29(1)	The consignor of radioactive material provides a shipping document that includes the following (refer to TDG 3.5 and SSR-6 546): - consignor and consignee names and addresses; - 24 hour contact number; - number of packages; - UN number*; - shipping name*; - Class # 7*; - radionuclide identification*; - form*; - maximum activity*; - category of package*; - transport index*; - competent authority certificate number(s)*. For consignments of more than one package, the required information (*) must be given for each package. - Consignor's certification with printed name of the consignor - PTNS 25(1), TDG 3.6.1	M
	Rating:	Comments:		
56	Shipping doc kept 2 years	TDG 3.11	Shipping documents used are kept on file for two years.	M
	Rating:	Comments:		
57	Transport document location	TDG 3.7	Shipping document is located within driver's reach or in a door pocket on the driver's side.	M
	Rating:	Comments:		

SCA: 13 Packaging and Transport

58	TDG training certificate	TDG 6.1, 6.3, 6.5	The employer is responsible for: 6.1(2)(a) ensuring that only an adequately trained worker who holds a valid TDG certificate handle Class 7 dangerous goods ; or 6.1 (2)(b) performs those activities in the presence and under the direct supervision of a person who is adequately trained and who holds a training certificate in accordance with this Part. 6.3 issuing training certificate that includes: - the employer's business address; - the employee's name; - aspects of handling and transporting; - employee and employer signatures; and - the expiry date of the certificate (TDG 6.5).	M
	Rating:	Comments:		
59	TDG training certificate on file	TDG 6.6, 6.7	A copy of the TDG training certificate is kept on file for two years and is available to the inspector.	M
	Rating:	Comments:		

Disclaimer - CNSC licensees may use this worksheet voluntarily to ascertain the CNSC's general expectations regarding regulatory requirements. Such requirements would generally be assessed during a Type I and Type II Inspection of licences issued pursuant to the Nuclear Substances and Radiation Devices Regulations. The expectations listed for each regulatory requirement are only provided as a guide. Similar worksheets will be used by CNSC staff for on-site inspections. Inspections, will, however, be carried out on a case-by-case basis in the context of the licensed activities and the circumstances of individual situations. This worksheet is not intended to limit the scope of CNSC inspections or the powers of CNSC inspectors. Licensees should contact the CNSC to obtain information regarding their specific licence requirements.

Appendix I: Safety performance rating levels

The following rating levels, as shown in table 22, reflect the transition in rating terminology used by the CNSC. While some inspection reports still use the previous rating levels due to the licensing and compliance system in use, licensees using nuclear substances and radiation devices can expect this transition to take place over time. For the purposes of reporting in this ROR, the previous rating levels are converted to the new rating levels. The rating definitions below were updated in 2021 and endorsed by the CNSC management team. The fully satisfactory rating is no longer used.

Table 22: Compliance rating terminology in transition

Previous rating level	Description	New rating level	Description
A and B	Meets expectations	SA	Satisfactory
C	Improvement is required	BE	Below expectations
D	This area is seriously compromised		
E	Breakdown	UA	Unacceptable

Satisfactory (SA)

Licensee meets all of the following criteria:

- Performance meets CNSC staff expectations
- Licensee non-compliances or performance issues, if any, are not risk-significant
- Any non-compliances or performance issues have been, or are being, adequately corrected

Below Expectations (BE)

One or more of the following criteria apply:

- Performance does not meet CNSC staff expectations
- Licensee has risk-significant non-compliance(s) or performance issue(s)
- Non-compliances or performance issues are not being adequately corrected

Unacceptable (UA)

One or both of the following criteria apply:

- Risk associated with a non-compliance or performance issue is unreasonable
- At least one significant non-compliance or performance issue exists with no associated corrective action

Appendix J: Relevant documents

J.1 Act and regulations

- [Nuclear Safety and Control Act](#)
- [Administrative Monetary Penalties Regulations](#)
- [Class II Nuclear Facilities and Prescribed Equipment Regulations](#)
- [General Nuclear Safety and Control Regulations](#)
- [Nuclear Substances and Radiation Devices Regulations](#)
- [Packaging and Transport of Nuclear Substances Regulations, 2015](#)
- [Nuclear Security Regulations](#)
- [Radiation Protection Regulations](#)
- [Nuclear Non-proliferation Import and Export Control Regulations](#)
- [Canadian Nuclear Safety Commission Cost Recovery Fees Regulations](#)
- [Transport of Dangerous Goods Act, 1992](#) (Transport Canada)
- [Transportation of Dangerous Goods Regulations](#) (Transport Canada)

J.2 Regulatory documents

- [REGDOC-1.4.1, Licence Application Guide: Class II Nuclear Facilities and Prescribed Equipment](#)
- [REGDOC-1.5.1, Application Guide: Certification of Radiation Devices or Class II Prescribed Equipment](#)
- [REGDOC-1.6.1, Licence Application Guide: Nuclear Substances and Radiation Devices](#)
- [REGDOC-1.6.2, Radiation Protection Programs for Nuclear Substances and Radiation Devices Licences](#)
- [REGDOC-2.2.2, Personnel Training](#)
- [REGDOC-2.2.3, Personnel Certification: Radiation Safety Officers](#)
- [REGDOC-2.2.3, Personnel Certification: Exposure Device Operators](#) (and the associated [CSA PCP-09, Certified Exposure Device Operator Personnel Certification Guide](#))
- [REGDOC-2.5.5, Design of Industrial Radiography Installations](#)
- [REGDOC-2.5.7, Design, Testing and Performance of Exposure Devices](#)
- [REGDOC-2.7.1, Radiation Protection](#)
- [REGDOC-2.7.2, Dosimetry, Volume I: Ascertaining Occupational Dose](#)
- [REGDOC-2.9.1, Environmental Protection: Environmental Principles, Assessments and Protection Measures](#)
- [REGDOC-2.11, Framework for Radioactive Waste Management and Decommissioning in Canada](#)
- [REGDOC-2.11.1, Waste Management, Volume I: Management of Radioactive Waste](#)
- [REGDOC-2.11.2, Decommissioning](#)
- [REGDOC-2.12.3, Security of Nuclear Substances: Sealed Sources and Category I, II and III Nuclear Material](#)
- [REGDOC-2.13.1, Safeguards and Nuclear Material Accountancy](#)
- [REGDOC-2.13.2, Import and Export, Version 2](#)
- [REGDOC-2.14.1, Volume I: Information Incorporated by Reference in Canada's Packaging and Transport of Nuclear Substances Regulations, 2015](#)
- [REGDOC-3.1.3, Reporting Requirements for Waste Nuclear Substance Licensees, Class II Nuclear Facilities and Users of Prescribed Equipment, Nuclear Substances and Radiation Devices](#)
- [REGDOC-3.2.1, Public Information and Disclosure](#)
- [REGDOC-3.2.2, Indigenous Engagement](#)

- [REGDOC-3.3.1, *Financial Guarantees for Decommissioning of Nuclear Facilities and Termination of Licensed Activities*](#)
- [REGDOC-3.5.2, *Compliance and Enforcement: Administrative Monetary Penalties*](#)
- [REGDOC-3.5.2, *Compliance and Enforcement, Volume II: Orders under the Nuclear Safety and Control Act*](#)
- [REGDOC-3.5.3, *Regulatory Fundamentals*](#)
- [REGDOC-3.6, *Glossary of CNSC Terminology*](#)

J.3 Other relevant documents

- [RD-364, *Joint Canada-United States Guide for Approval of Type B\(U\) and Fissile Material Transportation Packages*](#) (2009)