

Canadian Nuclear
Safety Commission

Commission canadienne de
sûreté nucléaire

Public meeting

Réunion publique

November 23, 2021

Le 23 novembre 2021

Public Hearing Room
14th floor
280 Slater Street
Ottawa, Ontario

Salle des audiences publiques
14^e étage
280, rue Slater
Ottawa (Ontario)

via videoconference

par vidéoconférence

Commission Members present

Commissaires présents

Ms. Rumina Velshi
Dr. Sandor Demeter
Dr. Stephen McKinnon
Dr. Marcel Lacroix
Dr. Timothy Berube
Ms. Indra Maharaj
Mr. Randall Kahgee

M^{me} Rumina Velshi
D^r Sandor Demeter
M. Stephen McKinnon
M. Marcel Lacroix
M. Timothy Berube
M^{me} Indra Maharaj
M. Randall Kahgee

Secretary:

Secrétaire:

Mr. Marc Leblanc

M^e Marc Leblanc

Senior General Counsel:

Avocate-générale principale :

Ms. Lisa Thiele

M^e Lisa Thiele

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by videoconference / par vidéoconférence

--- Upon commencing on Tuesday, November 23, 2021

at 2:00 p.m. / La réunion débute le mardi

23 novembre 2021 à 14 h 00

Opening Remarks

THE PRESIDENT: Good afternoon, and welcome to this virtual meeting of the Canadian Nuclear Safety Commission. Mon nom est Rumina Velshi. Je suis la présidente de la Commission canadienne de sûreté nucléaire.

I would like to begin by recognizing that our participants today are located in many different parts of the country. I will pause for a few seconds in silence so that each of us can acknowledge the Treaty and/or traditional territory for our locations. Please take this time to provide your gratitude and acknowledgment for the land.

Je vous souhaite la bienvenue and welcome to all those joining us via Zoom or webcast.

I would like to introduce the Members

of the Commission that are with us today remotely:
Dr. Sandor Demeter, Dr. Stephen McKinnon, Dr. Marcel Lacroix, Dr. Timothy Berube, Ms. Indra Maharaj, and Mr. Randall Kahgee. Ms. Lisa Thiele, Senior Counsel to the Commission, and Marc Leblanc, Commission Secretary, are also joining us remotely.

Our safety moment today is about flu prevention. Don't pass it on. The flu can be a serious disease. The flu is responsible for an average of 12,200 hospitalizations and approximately 3,500 deaths per year in Canada. The flu can affect anyone, including those who are healthy.

The flu vaccine prevents up to 80 percent of flu infections in healthy individuals.

Prevent the spread of flu: Get your flu shot, clean your hands often, cough and sneeze into your sleeve, not your hands, wear a mask, and stay home if you're sick.

Before I turn the floor over to Marc Leblanc for opening remarks respecting today's meeting, I want to take a moment to speak about Marc and to thank him.

This week's public proceedings will be the last ones in which Marc takes part as Commission Secretary. It has been for 20 years that Marc has assisted the Commission through its public proceedings and all of its tribunal functions with his steady hand and wise guidance. He has been a stable and dependable leader of the Commission's process almost from its inception and he has been a trusted and valued resource to the dozens of Commission Members and several Commission Presidents he has supported over that time.

On behalf of the Commission, Marc, I want to express publicly our thanks to you for your professionalism, dedication and your reliability as you leave the CNSC to embark on other pursuits. Please accept our heartfelt gratitude and our very best wishes.

Marc, over to you.

MR. LEBLANC: Well, that came as a surprise. Merci beaucoup, madame la présidente and Commission Members and colleagues.

So I'd like to -- j'aimerais aborder

certain aspects touchant le déroulement de la réunion aujourd'hui.

For this Commission meeting, we have simultaneous interpretation. Please keep the pace of your speech relatively slow so that the interpreters are able to keep up. To make the transcripts as complete and clear as possible, please identify yourself each time before you speak. The transcripts should be available on the CNSC website within one to two weeks.

I would also like to note that this proceeding is being video webcast live and that archives of these proceedings will be available on our website for a three-month period after the close of the proceedings.

As a courtesy to others, please mute yourself if you are not presenting or answering a question.

As usual, the President will be coordinating the questions. During the question period, if you wish to provide an answer or add a comment, please use the Raise Hand function.

The Nuclear Safety and Control Act authorizes the Commission to hold meetings for the conduct of its business. Please refer to the revised agenda published on November 18th for the list of items to be presented today and on Thursday, November 25th. All the Commission Member Documents, or CMDs, listed on the agenda are available on the CNSC website.

In addition to the written documents reviewed by the Commission for this meeting, CNSC Staff and other registered participants will have an opportunity to make verbal comments and Commission Members will have an opportunity to ask questions on the items before us.

Madame Velshi, présidente et première dirigeante de la CCSN, va présider la réunion publique d'aujourd'hui.

President Velshi.

THE PRESIDENT: Thank you.

CMD 21-M52.A

Adoption of Agenda

THE PRESIDENT: With this information, I would now like to call for the adoption of the agenda by the Commission Members as outlined in Commission Member Document CMD 21-M52.8. Do we have concurrence?

For the record, the agenda is adopted.

CMD 21-M53/21-M54

**Approval of the Minutes of Commission Meetings
held on September 3 and October 5, 2021**

THE PRESIDENT: The minutes of the meeting held on September 3rd and on October 5th, 2021 have been approved secretarially and will be available on the CNSC website shortly.

The first item today is the Regulatory Oversight Report on the Use of Nuclear Substances in Canada for 2020. The public was invited to comment in writing. The Commission received one submission.

We will hear the presentation from CNSC Staff and take a short break before the rounds of questions, which will include questions pertaining to the written submission.

Ms. Owen-Whitred, the floor is yours.

CMD 21-M35/21-M35.A

Oral presentation by CNSC staff

MS. OWEN-WHITRED: Thank you.

Good afternoon, Madam President, Members of the Commission. For the record, my name is Karen Owen-Whitred and I'm the Director-General of the Directorate of Nuclear Substances Regulation.

With me today I have Sylvain Faille, Director of the Nuclear Substances and Radiation Devices Licensing Division, Mark Broeders, Director of the Accelerators and Class II Facilities division, Eric Lemoine, Director of the Transport, Licensing and Strategic Support Division, Jennifer Pyne, Program Officer in that same division, Mathieu Laflamme, Senior Project Officer in the Operations Inspection

Division, along with many other CNSC Staff involved in the regulation of nuclear substances.

We are here today to present our Regulatory Oversight Report on the Use of Nuclear Substances in Canada for the year 2020. I would like to repeat the recognition that licensees covered by this report are located across many regions of Canada. I would like to take a moment to acknowledge all Treaties and traditional territories on which the licensees that are subject to this report are situated.

Today's report is one of a series of Regulatory Oversight Reports that, together, present a comprehensive view of the performance of the nuclear industry in Canada and outline our rigorous and extensive regulatory programs that collectively ensure across all activities and facilities that the CNSC regulates that Canadians and our environment are protected.

We continue to modernize our regulatory report in order to present a clear, easily digestible and comprehensive report on the industry

and our regulatory oversight.

After a brief introduction, we will discuss our regulatory oversight program and approaches, spotlight our response to the COVID pandemic and its effect on regulatory oversight, outline industry performance trends, discuss engagement activities aimed at building awareness and driving improvements in the industry, and finally address comments received during the intervention process.

We will also take this opportunity to provide the Commission with a brief update on Mississauga Metals and Alloys to fulfil the commitment made by CNSC Staff during the October 2021 Commission proceeding.

Before we go any further, I would like to bring two small errors in the Regulatory Oversight Report to the attention of the Commission. First, due to a transcription error, the number of nuclear energy workers, or NEWs, were included in the incorrect dose category. The error only affects the number of NEWs in the below detectable limit and the less than 0.5

millisievert categories and, therefore, it does not change any overall conclusions in the report.

The affected values appear in a number of different places through the report, so these changes are fully detailed on the next slide.

Second, in Section 1.3 of the report, which describes licensee performance in the radiation protection SCA, the unacceptable rating was erroneously attributed to an industrial radiography licensee. The text should have read an industrial sector licensee.

While I won't read through them, this slide details the specific changes to be made to the report due to the transcription error I already mentioned.

The affected figures and text related to both errors will be updated in the report itself before we post it to the CNSC website.

I will now take this opportunity to provide an update on Mississauga Metals and Alloys, or MMA, a waste nuclear substance licensee that is covered by this report as CNSC Staff committed during

the event initial report presented at a Commission meeting in October of this year.

Since CNSC Staff were before you on October 5th, 2021, we have continued discussions with key parties regarding next steps for MMA, have augmented the frequency of site visits by retaining a third party to support these, and have initiated discussions with the secretariat to establish the hearing timeline for the Commission to consider the revocation of the Mississauga Metals and Alloys' licence under the *Nuclear Safety and Control Act*.

CNSC Staff accompanied International Atomic Energy Agency inspectors on October 28th for a physical inventory verification. CNSC Staff confirmed during this verification that the waste material remains protected.

I will now pass the presentation to Eric Lemoine.

MR. LEMOINE: For the record, my name is Eric Lemoine, Director of Transport, Licensing and Strategic Support Division.

I'll start with a very brief

introduction. Nuclear substances and prescribed equipment are used in a broad range of applications. These applications are regulated under the Nuclear Substances and Radiation Devices Regulation and the Class II Nuclear Facilities Regulations.

Overall, the nuclear substances industry in Canada continued to operate safely in 2020. In a year dominated by the effects of the COVID-19 pandemic, CNSC oversight activities, including licensing and certification reviews, technical assessments and inspections confirm that licensees have appropriate safety programs in place in order to protect the health, safety and security of Canadians and the environment.

Further, CNSC Staff verified that licensees continued to maintain adequate measures to implement Canada's international obligations.

I will now provide a brief overview of the program covered by this oversight report.

This report covers four industry sectors: commercial, medical, industrial and academic and research. Additional information on each of these

sectors and the subsectors covered within them is available on the CNSC website in a technical briefing which was given to the Commission given in 2018.

Despite the pandemic, the total number of licences and the proportion of licences per sector remained stable in 2020.

In 2020, there were 2,035 licences held across the country, as well as 44 licences that were issued to licensees outside of Canada but who perform licensed activities within Canada. This represents a very slight decrease from last year where a total of 2,090 licences were reported, including those located outside of Canada.

It is important to note that the 2019 ROR included a section related to the two Class IB accelerators in Canada. These facilities are typically included in the ROR on nuclear substances every two to three years, which explains why they are not included in the 2020 ROR.

Collectively, licensees who make up the four sectors described in the previous slides are all part of the nuclear substances program. Overall,

the goals of this program are to identify, monitor and control risks associated with the program and to ensure the regulatory framework is clear and understood.

Licensing, compliance and certification activities are managed through a risk-informed approach. The results of regulatory activities associated with this program are communicated to the public and other stakeholders on an annual basis. Other stakeholder engagement and outreach activities are performed by staff to facilitate communication of licence activities and regulatory expectations.

I will now address how CNSC Staff responded to the new oversight environment created by the COVID-19 pandemic.

As with the rest of the world, the story of the nuclear substances program for 2020 was dominated by the effects of the pandemic. As a result, we have added a separate section in this presentation to discuss our overall response to the pandemic before further describing the 2020 safety

performance of licensees covered by this report.

CNSC Staff were able to maintain licensing and certification services under remote working conditions throughout 2020. Even prior to the pandemic, these activities were largely digital, resulting in minimal impacts from the COVID-19 pandemic. On the other hand, compliance efforts were affected by pandemic-related limitations to air and local travel and due to the fact that some licensees limited their operations at various points during the pandemic.

While a decrease in compliance verification could lead to a decrease in licensee performance, this change would happen over time and not immediately. CNSC Staff are confident that the minimal increase in risk due to a reduction in inspection remains acceptable. This topic will be expanded on later in the presentation.

This section of the presentation will cover measures taken by staff to adjust to the pandemic environment, additional details on planning and performing inspections in 2020 and explaining why

staff believe any incremental risk due to the modified regulatory oversight is within acceptable limits.

As a result of the COVID-19 pandemic and to ensure the health and safety of CNSC Staff, the CNSC initially activated its Business Continuity Plan, or BCP, on March 15th, 2020, and CNSC Staff were directed to work from home. As a result, all non-critical oversight activities, including routine onsite inspections, were suspended. In addition, access to CNSC systems were initially limited, which affected licensing and certification related activities.

CNSC Staff adapted to these limitations by exploring and implementing alternative strategies to ensure that its regulatory objectives continued to be met.

CNSC Staff immediately arranged for critical staff to be equipped and ready to respond to any unplanned events or situations, and this allowed for critical services such as licensing and certification activities to continue to be performed. While on-site inspections were suspended, we

reallocated resources to assist with licensing activities.

In the early stages of the pandemic, CNSC Staff conducted outreach activities to ascertain the operating environment of its licensees and to verify that all licensees had maintained measures for the safety and security of their nuclear substances. Between engagement with the licensees and the monitoring of reported events, staff are confident that they mitigated the effects of the temporary suspension of inspections during the early phase of the pandemic to ensure there was limited impact on safety.

In revising their regulatory oversight approach, CNSC Staff continued to improve by ensuring that its capability to perform regulatory functions in the pandemic environment was not compromised and remained effective. This included developing a strategy for performing compliance verification activities during exceptional circumstances, such as the COVID-19 pandemic.

As part of this strategy, CNSC Staff

developed processes for alternate compliance verification activities such as remote inspections and modified its inspections plans to leverage the use of the alternate compliance verification activities.

In addition, CNSC Staff developed relevant health and safety protocols for CNSC Staff in order to have appropriate measures and controls in place for travelling and performing on-site inspections safely. Throughout 2020, CNSC Staff also continued to review annual compliance reports submitted by licensees and continued to monitor reported events, both of which provided valuable indicators of safe performance. With all this taken into account, CNSC Staff have concluded that the risks posed by the reduced number of inspections conducted in 2020 remains acceptable.

In ongoing efforts to maintain regulatory oversight, staff performed inspections remotely, adjusted protocols based on lessons learned, and in 2021 staff began piloting on-site inspections with restrictions in place. A gradual return to in-person inspections is anticipated, with remote

inspections continuing to be a tool in the regulatory oversight program.

CNSC Staff developed a modified compliance verification strategy in order to guide the decisions on which type of compliance activity to perform during the pandemic, on-site or remote. These decisions were made on a case-by-case basis based on the status of the pandemic at the time, with the priority placed on the health and safety of both CNSC and licensee staff.

Regulatory oversight continued to be commensurate with the risk of the activity. All high-priority inspections in the revised 2020 plan were completed.

The development of remote inspection procedures allowed for the resumption of regulatory inspections in a safe manner. Where necessary, CNSC Staff did respond on site when needed despite the pandemic, including to address whistleblower instances and events. Additional details relative to remote inspections are provided on the next slide.

As mentioned earlier, remote

inspections allowed for the resumption of a critical part of regulatory oversight, especially involving our high priority licensees. Inspectors were able to remotely verify compliance with regulatory requirements using virtual means from the safety of their home or workplace. Inspectors did not have to put themselves at risk during the pandemic by travelling and visiting licensee sites during unsure times. Cost savings were also a benefit of moving to a remote inspection environment.

Although there were some benefits to performing remote inspections, there were also some challenges. Remote verification was limited to examining records and photos provided by the licensee as well as conducting basic interviews with the Radiation Safety Officer, or RSO.

Where possible, staff observed work being performed using video conferencing software. While they can be effective under certain circumstances, remote inspections do not provide a complete assessment of remote based activities. In comparison, on-site inspections allow staff to make

better use of visual clues during interviews and they eliminate some of the limitations related to protected document access as well as physical observations of workers performing their tasks.

The two main challenges to remote inspections identified by staff were having a reliable and secure platform for meeting with licensees and having an efficient way for licensees to securely send large amounts of documentation. In addition, contrary to what was expected, remote inspections have proven to take longer than expected than on-site inspections in many cases.

Staff did request feedback from licensees on the remote inspection process. And like staff, licensees reported that while the process was effective and they believed it was a positive experience, data gathering and the submission of the requested records was challenging.

Overall, while they are not sufficient on their own, remote inspections provided staff with a functional tool to verify compliance and they will remain part of the compliance program moving forward

in combination with on-site inspections.

As this slide demonstrates, staff adjusted their compliance oversight plans as the year progressed, and the effects of the pandemic on regulatory oversight were addressed. Staff completed less than half the number of inspections originally planned for 2020. Of the 371 inspections conducted in 2020, 178 of them were conducted remotely. By the end of 2020, staff had performed 71 more inspections than expected in the final revised plan.

Potential effects of the pandemic on regulatory oversight as a whole were mitigated by the strong risk-informed regulatory program in place. While the data shows a decrease in inspection frequency, staff were able to continue to focus on high risk and high priority work on a risk-informed basis.

The next slides will focus on the incremental risk of performance declining due to the decreased number of inspections.

I would like to preface the following explanation by stating this slide is for illustrative

purposes only. This is a visual representation of relative risk and is not based on a rigorous mathematical model. While a calculated value is used in the relative ranking, it is based on a scoring approach and is not an absolute measure of risk. We are testing out this visual as an attempt to explain how certain risks have changed due to the pandemic.

According to our program risk profile, we have assessed the risk to health and safety from unsafe licensee work practices as moderate. The risk profile concludes that the consequences of an event in these sectors would be relatively low.

Many licensees in these sectors deal with sealed sources contained in radiation devices or relatively small amounts of nuclear substances with relatively low levels of radiation. By contrast, the risk profile has assessed the probability of an accident to be relatively high due in part to the large number of licensees covered.

The blue star on the risk analysis heat map represents the estimated risk level related to unsafe licensee work practices pre-pandemic, while

the pink star represents the estimated risk level as a result of the reduction in inspections. This slight change is based on the increased likelihood that some licensees will not adhere to their normal safe work practices while there is decreased direct regulatory oversight.

As shown in the graphic, while there may be a small increase in the likelihood of unsafe work practices occurring with decreased inspections during the pandemic, the impact or consequences of an accident that could result from such practices would remain constant and, therefore, the overall total risk level would only increase by a small amount.

As mentioned in the previous slide, in order to mitigate this potential increase in risk, CNSC Staff prioritized our inspection efforts to ensure that all planned inspections of high-risk licensees were completed.

It is important to note that the primary responsibility for safety rests with the licensee, regardless of CNSC compliance oversight. However, as noted, licensee performance may be

affected by the reduction in inspections.

We wouldn't expect to see a measurable decrease in performance in the short term, and this is borne out by the data presented in this ROR. It is more likely that we would see the potential impact on performance due to the reduction in inspections as a general downward trend over the coming years. As such, staff will continue to monitor licensee performance and other indicators going forward, and we will adapt our compliance plans as necessary in order to appropriately respond to any indications of increased risk.

In particular, staff are currently focused on recalibrating the regulatory oversight of nuclear substances licensees by steadily increasing the number of on-site inspections as vaccination rates rise and the risks from COVID-19 continue to decline. At the same time, we will continue to make use of the advantages offered by remote inspections when appropriate.

Overall, CNSC Staff responded well to the changing regulatory oversight environment during

the pandemic and there was little impact on safety or security due to the revised regulatory oversight program.

CNSC Staff were able to maintain licensing and certification services -- I'll just wait for the slides.

Yeah, so slide 19. Correct. Thank you.

CNSC Staff were able to maintain licensing and certification services under remote working conditions throughout 2020. The development of remote inspections procedures allowed for the resumption of regulatory inspections in a safe manner. Staff continued to review annual compliance reports and to assess event reports, and to respond on site when deemed necessary.

Staff continue to monitor the effect of the pandemic on regulatory oversight while gradually returning to on-site inspections following all public health guidelines.

I will now pass the presentation to Jennifer Pyne to discuss the overall safety

performance of licensees in 2020.

MS. PYNE: Sorry about that. I'll just go back.

For the record, my name is Jennifer Pyne. I'm a Program Officer in the Transport Licensing and Strategic Support Division.

Now that we have provided an overview of how staff responded to the pandemic and the effects of the pandemic on regulatory oversight as a whole, I will now speak to the overall safety performance of licensees covered by this report.

The performance of licensees is presented according to four key metrics: Safety and Control Area Performance Results from inspections; Enforcement Actions; Doses to workers and Events. These four metrics, when taken together, provide a well-rounded picture of the performance of licensees covered by this report.

All relevant SCAs are evaluated during assessments and compliance verification activities; however, this ROR gives performance results and trends in four Safety and Control Areas for all sectors.

Management System, Operating Performance, Radiation Protection and Security were selected as being the most indicative of overall safety for the licensees covered by this report. This subset has also been selected for ease of communication, as presenting all SCAs would require additional time and every SCA is not necessarily applicable to all licensees, depending on the licensed activity.

Additional information will be provided on Environmental Protection and Occupational Health and Safety SCAs for the waste nuclear substance licensees, as these licensees have the potential for environmental releases as well as a potentially higher risk in the area of conventional health and safety.

It is important to note that a decreased number of inspections affected the performance metric sample size for each SCA and makes it challenging to compare performance results year over year. Emphasis for this year should not be on trending. While CNSC Staff are confident that performance trends identified are a true indication of licensee performance, it is not possible to draw

meaningful conclusions from any apparent upward or downward trends in performance this year.

The true impact on performance due to the effects of the pandemic will only be evident after trending data over a number of years. As regulatory activities return to normal in future, subsequent RORs will more accurately identify any deviations in trends.

I will start with a review of the Management System SCA.

In the management system SCA, performance across all sectors was strong. 96 percent of inspections met expectations in this Safety and Control Area, which is comparable to the 97 percent of inspections meeting expectations in 2019.

There were no unacceptable ratings for the management system SCA.

Licensees ensured that adequate processes and programs were in place to achieve their safety goals. Licensees took appropriate corrective actions when required.

Next I will speak about the Operating

Performance SCA.

83 percent of inspection results in the operating performance SCA met expectations, which is a slight decrease from the 86 percent reported in 2019.

The medical sector, more specifically the nuclear medicine sub-sector, demonstrated the largest drop in performance in this SCA. Due to the challenges inspecting the medical sector licensees during the pandemic, the small number of inspections done for the nuclear medicine sub-sector focused on those licensees where staff felt that additional regulatory oversight may be required either due to poor past performance or where the inspections were overdue. CNSC Staff continues to work on promoting compliance within the nuclear medicine sub-sector.

Despite the slight drop in performance overall, there were no unacceptable ratings in this SCA.

CNSC Staff ensured that licensees addressed all items of non-compliance in a timely manner.

The radiation protection SCA will be covered next.

In 2020, 84 percent of inspections met expectations in the radiation protection SCA, which is a slight increase from 2019 when 80 percent of licensees received satisfactory ratings. Overall, all sectors showed an increase in performance in this SCA.

As with the operating performance SCA, the nuclear medicine sub-sector continues to be a focus of attention for staff.

When performance did not meet expectations, licensees implemented corrective measures.

One licensee in the industrial sector, the portable gauge sub-sector, received an unacceptable rating in the radiation protection SCA. The results of an inspection showed a significant failure in implementing the licensee radiation protection program.

The licensee was issued an order as a result of the inspection requiring them to immediately place all radioactive materials in secure storage and

to cease all activities involving radioactive material until it could be demonstrated that there was effective management control of the radiation protection program and work practices.

The licensee has complied with the terms of the order and put corrective measures in place to address all items of non-compliance found during this Type II inspection that led to the issuance of the order. CNSC Staff were satisfied with the corrective actions put in place by the licensee and the order is now closed.

The final SCA that applies to all licensees is the security SCA.

In 2020, 93 percent of inspections met expectations for the security SCA, demonstrating they have provisions in place to prevent the loss, sabotage, illegal use or illegal removal of nuclear substances and prescribed equipment in their care and control. This is slightly lower than 2019, when 95 percent of inspections met expectations in this area.

Any items of non-compliance were addressed by the licensees to the satisfaction of CNSC

Staff.

None of the licensees received an unacceptable rating for the Security SCA and they continue to maintain strong compliance with security Requirements.

As noted earlier, performance in the environmental protection SCA and conventional health and safety SCA are reported on only for the waste nuclear substance subsector due to the potential for environmental releases as well as a potentially higher risk in the area of conventional health and safety due to the nature of the work and the introduction of other hazards that need to be mitigated.

No waste nuclear substance licensees received below expectation or unacceptable ratings in either of these SCAs.

The waste nuclear substance licensees continue to manage and monitor environmental releases as a result of licensed activities. In 2020, there were two unplanned releases reported by licensees.

In the first case, the licensee accidentally released 14,370 litres of untested

wastewater from its laundry operations into the municipal sewer system. The estimated activity concentration of the wastewater released was 1.2 Becquerels per litre, which is below the licensee's action level of 60 Becquerels per litre.

There was no impact on the health and safety of persons and the environment.

The second unplanned release occurred when a domestic water supply line to a building cracked, causing water to leak into the parking lot and collect in the building. The contamination levels of the water and soil samples taken were well below unconditional clearance levels and, therefore, there was no impact to the health and safety of persons or the environment.

All releases were kept below regulatory limits.

Licensees continue to implement health and safety programs in accordance with the applicable occupational health and safety legislation.

Overall, the data related to licensee performance in all SCAs covered by this report showed

no significant change, relatively speaking, from previous years. It may take a couple of years to show the full effect of the changes in regulatory oversight made due to the pandemic. For now, staff is keeping an eye on performance trends until a full transition to pre-pandemic oversight levels is reached.

I will now present information related to enforcement actions taken in 2020.

CNSC Staff have a range of enforcement tools available to address licensee non-compliance, including Orders, Administrative Monetary Penalties, or AMPs, licensing action and increased regulatory oversight.

Enforcement actions are selected and applied in a risk-informed manner.

In 2020, six escalated enforcement actions, all Orders and AMPs, were taken for reasons of safety and/or security.

There was a notable decrease in enforcement actions taken in 2020; however, this can likely be explained by the fact that staff performed less than half of the number of inspections normally

performed. Although affected by many variables, enforcement actions tend to be issued as a result of inspections, particularly those performed in the field. As such, fewer inspections would typically result in fewer enforcement actions.

It is notable that some of these enforcement actions were issued as a result of remote inspections, demonstrating the effectiveness of CNSC's regulatory oversight during the pandemic.

I will now move on to discuss worker doses.

The third indicator to consider when discussing the overall safety performance of licensees is doses to workers.

Licensees are required to monitor occupational radiation doses for workers. In 2020, almost 59,000 workers in all sectors were monitored. Workers who may, in the course of their job, receive more than one millisievert per year must be designated as Nuclear Energy Workers, or NEWs.

In 2020, 39 percent of all workers were designated as NEWs. All other workers are

referred to as non-NEWS in this report.

In 2020, no NEWS received doses above the regulatory dose limits.

Consistent with previous years, most NEWS received doses of less than one millisievert, and doses remained low overall for the NEWS.

61 percent of monitored workers are not designated as NEWS.

Despite the generally strong performance in the industry in 2020, there were still three instances where a worker not identified as an NEW exceeded the regulatory dose limit for effective dose for non-NEWS. These events were reported as required to staff by the licensees and are described more fully in the actual report. Event Initial Reports were presented to the Commission in two of these instances.

In all three cases, no health effects are expected.

I will now move on to events reported in 2020.

The final indicator of licensee safety

performance to be discussed are the events reported by licensees in 2020.

Licensees are required to have programs in place for the management of unplanned events and accidents. When a licensee or other user reports an event to the CNSC, staff review the information in the report and assess the proposed corrective measures. All reported events are tracked by staff.

A total of 135 events were reported to the CNSC in 2020. This is a decrease from 2019, when 188 events were reported. This decrease likely stems from the fact that many licensees have had slowdowns or shutdowns of their activities due to the pandemic in 2020.

CNSC Staff assign a ranking to each event based on the International Nuclear and Radiological Events Scale, or INES. INES is a seven-point tool used for communicating the safety significance of events to the public.

The events reported to the CNSC by licensees covered by this report typically fall in

level zero (no safety significance), 1, an anomaly that 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.

No events above Level 1 were reported to the CNSC in 2020. Additional details on these Level 1 events can be found in the oversight report.

Overall, licensees covered by this report performed well in four key metrics in 2020. There was only one unacceptable rating issued during an inspection for all SCAs covered in this report.

The one unacceptable rating in the radiation protection SCA led to an order being issued, which has since been closed.

While six enforcement actions were issued in 2020, all licensees responded appropriately and all actions were successfully closed.

Overall, doses remained low for all workers. Only three non-NEW workers of almost 59,000 monitored NEWs and non-NEW workers exceeded their dose

limits, and no health effects are expected at these low levels of exposure. No NEWS exceeded their dose limit.

Finally, no serious events were reported in 2020. Overall, staff were satisfied with the performance of licensees.

I would now like to speak briefly about staff engagement with licensees.

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, which leads to an increased awareness and better understanding of the regulatory process and requirements. This, in turn, can lead to improved workplace safety.

CNSC Staff leverage a variety of fora to engage with licensees and promote the use of the tools that are developed to support the compliance with regulatory requirements.

In 2020, due to the limitations

related to the pandemic, almost all outreach and stakeholder engagement activities were done virtually. As previously noted, in the early stage of the pandemic, staff conducted outreach and activities to ascertain the operating environment of its licensees and to verify all licensees had maintained measures for the safety and security of their nuclear substances.

A few specific examples of outreach are noted on the slide, and additional information is provided in the report.

Additionally, licensing and compliance staff are regularly in communication with licensees to address normal operations.

I will now pass the presentation back to Karen Owen-Whitred to discuss interventions received on this report.

MS. OWEN-WHITRED: A draft report was published for a 45-day comment period, and participant funding was made available and awarded to the Canadian Environmental Law Association, or CELA. In addition, on two occasions during the comment period, staff

reached out to all licensees covered by this report to ensure that they were aware of the opportunity to provide comments. Following the comment period, the CNSC received a single intervention from CELA.

I will take the next couple of slides to summarize some of the themes from the intervention along with the responses from CNSC Staff.

CELA provided many recommendations which they grouped into the areas listed on the slide.

The main theme that we identified within the intervention covers a variety of suggestions for improvement of the scope or content of the ROR, such as providing additional information on the nature of the sectors covered by this report and on performance data and other SCAs. CELA has submitted similar comments in the past, as have other intervenors in the context of other RORs issued by the CNSC.

In response to such comments and in recognition of the evolution of the RORs since they were first introduced, CNSC Staff developed a discussion paper to initiate an extensive

consultation, both internal and external, regarding the audience, purpose and frequency of the RORs.

CNSC Staff intend to present the results of this consultation to the Commission in January 2022, which will provide an opportunity for a more fulsome discussion of this topic. As such, we will defer any discussion of the content and purpose of the Nuclear Substances ROR until that time.

A second theme in CELA's intervention covers recommendations that are more specific to the Nuclear Substances ROR, such as the way in which we plan and execute inspections.

Once again, CELA has made these recommendations in the past and CNSC Staff have previously provided responses. Instead of following the same process this year, we recognize that a different approach is required in order to make sure that we have a clear understanding of CELA's position, and vice versa. As such, CNSC Staff would like to pursue discussions with CELA outside of the ROR process to allow for a more thorough discussion of these subjects.

Finally, CELA had a number of questions that required fairly straightforward answers, which we have addressed by covering the requested information in this presentation. This includes the process for reporting on Class IB Medical Accelerators, the doses to non-NEWs which exceeded the regulatory limit, and the two instances of unplanned environmental releases by waste nuclear substance licensees.

In conclusion, based on the CNSC's strong regulatory oversight, flexibility and immediate action responding to the pandemic, the evaluations presented in this Regulatory Oversight Report demonstrate that compliance performance across all sectors was generally high, all reported events were of low or negligible safety significance, doses to workers throughout the sectors remained low, and all enforcement actions issued in 2020 were closed in a timely way.

As explained earlier in the presentation, any incremental increase in risk due to a reduction in the number of inspections due to the

pandemic is considered acceptable. Staff will continue to monitor licensee compliance for possible downward trends moving forward and will react accordingly.

Finally, staff made use of virtual connections to continue to engage with stakeholders throughout the year. Based on the indicators covered in the report as well as the results of all other regulatory activities, CNSC Staff conclude that the use of nuclear substances and prescribed equipment in Canada continues to be safe.

This concludes our presentation. Staff remain available to answer any questions you may have.

Thank you.

CMD 21-M35.1

**Written submission from the
Canadian Environmental Law Association**

THE PRESIDENT: Thank you, Ms. Owen-Whitred, Mr. Lemoine and Ms. Pyne.

We will actually now proceed with the written submission filed by the Canadian Environmental Law Association as outlined in CMD 21-M35.1, and I'll open the floor to Commission Members for questions. And we'll start with Dr. Berube.

MEMBER BERUBE: Yes, good afternoon. Welcome, all, to the ROR.

The question I have that CELA has brought up has to do with the actual number of inspections that have been conducted over the last five years. Specifically, they make an indication that the number of total inspections has decreased over the last five-year period. Understanding, of course, last year was an anomaly due to COVID, there is definitely a downward trend which is significant.

So CNSC, if you could, please explain to me why that is occurring, the decreased number of inspections?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

Before I turn this question to Mathieu Laflamme to go over this downward trend in more

detail, I just want to note there has been a noticeable decrease in inspections year over year, and this is due in part to a different focus that we have in our inspections that we have applied to inspection planning over the years, which is more focused on performance instead of a certain type of focus that led to a larger number of inspections in the past.

But I'll ask Mathieu to provide some more details on that.

MR. LAFLAMME: Mathieu Laflamme, Senior Project Officer in the Operations Inspection Division, for the record.

So there are several factors that contribute to fewer inspections being performed over the past five years. The main three factors are changes in inspector resources and the need for onboarding new inspectors.

So because we have a broad range of different licensees that we need to inspect, getting an inspector fully up to speed to be able to independently inspect all use types can take up to two years. So that's one factor.

Another factor is the increase in inspection practices over the years, such as the verification of security requirements that are described in RegDoc 2.12.3. And another is the -- as Karen mentioned, the transition from performing records-based inspections to performance-based inspections.

With respect to the increased focus on performance-based inspections, this led to an increase in compliance verification activities in remote locations, where longer travel time is required. In addition, our inspection worksheets have been revised in recent years to include performance information so that performance-based verification is embedded in all inspections.

As a result, while the amount of time and effort spent on routine inspections have increased, so has their effectiveness in identifying non-compliances or areas that require further improvement.

Another factor, and because of this, is there's more time and resources spent on reviewing

corrective actions from non-compliances and as well as every year it depends. So we might have an increase in reactive inspections, different responses to events or following up to poor performance, which can all have different factors year over year.

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

I just want to conclude, then, by saying that while the number of inspections has gone down year over year, we do not believe that that has had any impact on the effectiveness of our compliance program.

THE PRESIDENT: Any follow-up question, Dr. Berube?

MEMBER BERUBE: That's fine, thank you.

THE PRESIDENT: Thank you.
Dr. Demeter?

MEMBER DEMETER: Thank you very much.

Just a general comment. I like the format of the report and the summary plus the details in the appendices.

Dealing specifically with CELA, you mentioned why the Class IB is going to be done more periodically, and to sort of tie that into the report, where there's a comment like there were two unplanned releases to the environment as a result of licensed activities in 2020, if there was a notable event related to Class IB, although you don't have a full report on them, would those notable reports be in this report, or would they not be?

So if there was a release by a cyclotron to the atmosphere, would we see it in this report because it was notable or would we have to wait every two years?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

So if there was any kind of a notable event associated with those two Class IB facilities, we would be more likely to report them effectively immediately to the Commission through our Event Initial Report process, and that would be the case for any of the licensees that are included in this current report as well. And then we would use that less

frequent ROR that covers the Class IB facilities as a summary to put them all together and present them to the Commission at a later date.

But you would get the information effectively immediately through that EIR process.

MEMBER DEMETER: Thank you.

And just to clarify for the record, so aside from Class IB, there is a lot of, I think I'm getting the terminology correct, Class II medical cyclotrons which are included in this report. So some cyclotrons aren't included because they're IB and a lot of the smaller medical cyclotrons are included, as they're not IB. Is that correct?

MS. OWEN-WHITRED: Karen Owen-Whitred.

That is correct. However, I'll just -- if you'd like, I can get Mark Broeders to just provide some more precision with respect to the different classes of accelerators.

MEMBER DEMETER: No, that's okay. I just wanted to make sure that the medical cyclotrons were included in this report versus the research cyclotrons, which have a different energy level.

MS. OWEN-WHITRED: That is correct.

MEMBER DEMETER: Thank you.

THE PRESIDENT: Dr. McKinnon.

MEMBER McKINNON: Yes, thank you.

In connection with CELA's intervention, there were questions about inspection frequency and the criteria for risk level. So in connection with the criteria favouring the inspection of higher-risk licensees, how does CNSC ensure that the lower-risk licensees are still inspected with a reasonable frequency?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

I'm going to turn that back to Mathieu Laflamme. Before I do, I will just confirm that we have a risk-based approach, as you've mentioned, that we apply to our inspection planning every year, and I'll ask Mathieu to speak a little bit more about how we manage the low-risk licensees in particular.

MR. LAFLAMME: Mathieu Laflamme, for the record.

I'll first speak to what our

methodology is for inspection planning.

So OID uses a prioritization process to create its annual inspection plans. So what we do is first licensees or locations that are identified as having the highest perceived risk are prioritized in this plan. The criteria for prioritization are determined on an annual basis through risk-informed decisions.

So first we ensure that licensees identified as the highest risk based on that risk-ranking program are inspected as per their respective inspection frequencies. Then we prioritize licensees, whether they're of lower risk or higher risk, that have poor performance, so looking at previous inspection data, if there's any whistleblowers or any enforcement actions or events to ensure that corrective actions have been adequately implemented.

We then prioritize licensees of what we call medium risk but at lower risk than our higher-risk licensees, based on other factors such as previous inspection date and performance trends. So

we would look at all the different sectors and identify which group of licensees we should focus on.

That being said, this is how we prioritize our inspections, but every year we sample a large number of licensees across all sectors, so we ensure that the inspections that we have identified with the highest perceived risk are inspected, but during inspection trips and things like that we have an opportunity to be able to inspect all these other licensees.

So generally speaking, about 60 percent of inspections that we inspect every year are not considered in our high risk; they're from our licensees of the lower risks.

MEMBER MCKINNON: So there's no way a low-risk licensee would fall through the cracks and have a long period without any inspection.

MR. LAFLAMME: Mathieu Laflamme, for the record.

So we ensure through our prioritization process that we look at the previous inspection dates, and if there are any licensees that

have not been inspected in quite some time, we ensure that they form part of our prioritized list so that they are sure to get inspected.

MEMBER McKINNON: Thank you very much.

THE PRESIDENT: Sorry. Just to follow up on Dr. McKinnon's question, how long is "quite some time"? Is it three years, is it 10 years?

MR. LAFLAMME: Mathieu Laflamme, for the record.

So our licensees inspection frequencies range every two to five years. So when I mean "in quite some time", some medium-risk licensees might be inspected every three years, but that's per plan. So when I mean "quite some time", it might be an extra year where we maybe haven't met, so we want to make sure those are prioritized over others.

And it's also important to note that all licensees are required to submit an annual compliance report annually, so we assess those too -- and use that as some performance indicators as well.

THE PRESIDENT: Thank you.

Dr. Lacroix?

MEMBER LACROIX: Thank you.

One of the recommendations made by CELA is to include the environmental protection SCA in the ROR for all sectors and I was wondering, what would be the impact as far as staff is concerned? What would be the additional amount of work and what would be the added value to the ROR?

So I would like to hear your point of view on this matter. Thank you.

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

It would be difficult for me to quantify, I think, the additional amount of effort. It would be non-zero, if I can put it that way. It would not be extensive, but it would be non-zero.

And I think the second part of your question is maybe more to the point on our position, which is that we don't see the added value given the nature of our licensees and the fact that, for example, a large majority of them are working with either sealed sources or pieces of equipment for which

there are no releases to the environment whatsoever.

That being said, I would like to ask Mark Broeders to provide some perspective on how we have assessed the environmental risk related to licensees in this sector just to provide a little bit more context on this subject.

MEMBER LACROIX: Thank you.

MR. BROEDERS: Good afternoon. I'm Mark Broeders, for the record. I'm the Director of the Accelerators and Class II Facilities Division.

As Ms. Owen-Whitred pointed out, we have done some work in this area to quantify when an ERA is required, an environmental risk assessment is required for licensees. RegDoc 2.9.2, Controlling releases to the environment, describes scenarios whereby some licensees may not require site-specific ERA because we've taken a class approach and done a predetermination for similar licensed activities. As long as they stay within certain parameters, we can conclude that the risk to the environment is negligible, so a site-specific ERA does not provide incremental value in that context.

For example, Ms. Owen-Whitred referenced sealed sources. There are other expectations of licensees that would mitigate that risk, for example, sealed source leak testing.

So we know that if the sealed source is intact, the risk to the environment is negligible, so by extension a site-specific ERA would not add much value.

So for most licensees, that's the case. RegDoc 2.9.2, Appendix A, does outline the scenarios where that's not the case. And if they fall outside those pre-determined parameters in a site-specific ERA, it would be required and does add value and is warranted.

MEMBER LACROIX: Thank you.

THE PRESIDENT: Ms. Maharaj?

MEMBER MAHARAJ: Thank you, Madam Velshi. I have a couple questions with respect to the classification of the results of inspections.

So in the slide range from about slide 20 to slide 27, staff took us through the results of inspections and showed how there were no unacceptable

ratings except for the one in radiation protection, but there were still gaps between acceptable and unacceptable, which I'm assuming is the space for below expectations.

So my first question is, am I correct in that gradient?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

Yes, you are correct with that explanation.

MEMBER MAHARAJ: Okay. So we have acceptable, below expectations, unacceptable, and then the wheels are off the bus.

So my question to staff is, we're seeing results that look fantastic, high 90 percents, 100 percent of environmental compliance are reaching the satisfactory level. My question starts to be, are these results reflective of a deep enough dive into the facilities and into the licensees or are the thresholds for being acceptable set high enough to continue to encourage our licensees to be better and better as opposed to meeting a reasonable or perhaps

less-than-reasonable standard?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

So if I can repeat your question to make sure that I've understood. Effectively, if the performance is consistently extremely high, should we be concerned perhaps that our targets are set to be too easily achievable and therefore there's not enough of a challenge for sufficient rigour to ensure that licensees are, in fact, performing safely?

MEMBER MAHARAJ: Yes, you did that much better than I did.

MS. OWEN-WHITRED: Thank you.

I'm going to ask Mark Broeders to speak in the context of the licensees that are overseen by his particular division with respect to this question.

MR. BROEDERS: Mark Broeders, for the record.

So indeed, the -- the way we determine grades for a particular licensee is a fairly systemic approach. So for example, you look at a particular

SCA like management system, we're looking at a more global sense, not at a particular granular level. So yes, the expectations will evolve over time depending on new requirements that are imposed. But at the end of the day, what we want to do is derive a grade that represents the overall performance for that SCA, keeping in mind that the objective in that context is to tell the licensee where they should be focusing efforts to improve and, equally, important where they're doing well and to protect those good results and continue doing what they're doing.

So I think in general, I think that -- does that answer your question in terms of the grading approach?

MEMBER MAHARAJ: Yes and no. I understand, Mr. Broeders, that you're trying to establish a standard that can be applied across a number of licensees so that it doesn't -- so that it's not specifically overly influenced by the particular work of one licensee in the category. But I still question whether or not and I ask is there a process by which you review what is necessary for a licensee

to do in order to achieve satisfactory when what you're seeing is nearly 100 percent of your licensees are already there?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

I'm going to turn to Mathieu Laflamme to speak a little bit about our compliance worksheets, which perhaps gets to the level of detail that you're looking for.

MR. LAFLAMME: Mathieu Laflamme, for the record.

So DNSR uses checklists called worksheets for all nuclear substance arranged by types inspected by the operations inspection division. These worksheets constitute pre-established criteria and cover most, but not all, aspects of a licensee's safety program that are generally assessed during a routine inspection.

So for a non-routine inspection, the scope is defined by the trigger.

But the purposes of these worksheets is to provide a consistent, uniform approach to verify

compliance with applicable regulatory requirements when conducting inspections.

So line items on the worksheets represent a regulatory requirement that could be verified during the inspection. Each one of those line items corresponds to a particular safety and control area, so management system, radiation protection, et cetera.

Each line item that is verified during inspection is then graded and contributes to the overall SCA performance related to that line item. The grading for each inspected line item in the worksheet is entered into our internal database which is used to calculate the overall SCA rating.

Each line item on the worksheets are risk ranked, so low, medium or high risk. So an algorithm is used to calculate the overall SCA rating based on the licensee's performance of each of those line items.

So for example, if there's a non-compliance towards an item that's considered high risk, then that would heavily weigh into the SCA

overall rating in comparison to non-compliances related to items that are of lower risk. And to ensure consistency, inspection reports as well as worksheet line item grading are peer reviewed to ensure consistency.

Now, whether the line item is a non-compliance, whether it's from low, medium or high risk, the CNSC Staff inspectors ensure that licensees take appropriate corrective actions to correct the non-compliance, but also to ensure that it doesn't repeat.

MEMBER MAHARAJ: And how often do you review the worksheets to adapt them to improvements in technology and safety standards, safety techniques, that sort of thing? How often are they reviewed and updated?

MR. LAFLAMME: Mathieu Laflamme, for the record.

So our worksheets are actually updated continuously. So as soon as there's a new requirement or there's a change in requirement, whether it's licence condition or anything like that that's

applicable to a specific regulated licensee, we update our worksheets in our database and our inspectors get the worksheet from the database to ensure that they have the most up to date version. Any time there's a change in requirement or a new requirement added, we update our worksheets accordingly.

MEMBER MAHARAJ: What about if there's a change in the industry for how to do something better? How does that get incorporated into the standard of performance that you're inspecting against?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

It might help to put this in context to remember that while the Class I facilities that are coming before you perhaps more frequently, that the Commission would be used to discussing, are more performance based in the expectations and the activities of the licensees, whereas for the licensees that are covered by this Regulatory Oversight Report, the requirements are quite prescriptive and they're laid out in regulation such that it becomes more of a

binary, have you met the regulatory requirement, yes or no.

So it's less the kind of general or gradual or over time increase in performance based on, as you said, different improvements in the industry itself and more about have you met that particular regulatory requirement; yes or no.

MEMBER MAHARAJ: Okay. Thank you, Ms. Owen-Whitred. That helps me get that context better.

THE PRESIDENT: And maybe I'll pull that thread a bit.

How do you, staff, get calibrated or get reassured that your requirements, so the CNSC requirements, are indeed at a high enough standard to ensure there's a good outcome?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

So there are -- in our sector as with other sectors that come before you, there could be applicable standards coming from the Canadian Standards Association. There are requirements that we would apply that are based on international

regulations which we then adapt for domestic purposes, and then we ourselves, in our regulatory framework, program, we routinely review and, if necessary, update whether our regulations or regulatory documents to make sure that they remain modern.

THE PRESIDENT: Excellent. Thank you.
Mr. Kahgee.

MEMBER KAHGEE: Thank you very much for your presentation.

I have two questions just to follow up in the context of CELA's written intervention. What corrective measures were taken by the licensee with respect to the two unplanned releases?

MS. OWEN-WHITRED: Karen Owen-Whitred.

I'm going to ask Andrew McAllister to address that question, or perhaps Kiza Sauv .

MR. McALLISTER: Thank you, Ms. Owen-Whitred. Andrew McAllister, Director of the Nuclear Processing Facilities Division.

I will speak to the first one, Mr. Kahgee, which was the release of the untested wastewater from the laundry operations.

So the analysis of what caused that was that there was a discharge valve that was connected to the wastewater tank to the municipal sewer system that was left in a partially open position after the last authorized release was performed. Therefore, when the next load of laundry was washed, the wastewater collected in the tank was sent directly to the municipal drain without prior testing and authorization.

What the licensee did was they implemented an engineering solution that automatically closes the valve after a pre-set time and sounds an alarm that the valve is closed to notify the workers.

With respect to the second event, I would actually -- if Eric Fortier is available to provide a bit more detail. That waste nuclear substance licence resides under his division, if he's able to do so, or Ms. Sauvé can provide those details.

MR. FORTIER: Eric Fortier, for the record.

What happened in the second event is that it was a pipe owned by the city that had a leak.

So it was repaired and measures were put in place, but it's a city-owned pipe so, unfortunately, they will have to look at it.

Maybe Kiza has more details, but there wasn't much that the licensee could have done.

MS. SAUVÉ: Kiza Sauvé, for the record, Director of Health Science and Environmental Compliance Division.

The only thing I think I can maybe add for this is that the licensee did take water samples and the water spill was cleaned up. The cracked water supply line was repaired and restarted on June 7th. So there was no release of radioactivity to the environment as a result, and I think that's about the best I can do.

If you'd like more information, we've got more staff that might have some more information.

MEMBER KAHGEE: So my assumption, then, is that there was follow-up with CNSC Staff with respect to both of these incidents in terms of the corrective measures that were undertaken?

MR. McALLISTER: Andrew McAllister,

for the record.

Yes, Mr. Kahgee, they were done to the satisfaction of CNSC Staff.

MEMBER KAHGEE: The second question I have just again with respect to CELA's intervention. Now, CNSC Staff in their presentation indicated that a number of the recommendations and concerns raised in the intervention are concerns that have historically been raised before. That also seems to be the indication that CELA has given, so there seems to be concurrence and agreement there.

I guess my question, then, is, what outreach efforts have been taken by CNSC to have more substantive discussions on these concerns and the nature of the recommendations that have been raised?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

So as you've noted, we can see that if CELA is raising the same concerns and CNSC Staff are providing the same answers, clearly there's a disconnect or perhaps a miscommunication, which is why we do want to follow up more directly and have more of

a discussion so that we can understand those positions. We haven't done that yet. It's our intention to do that.

MEMBER KAHGEE: Do you have a sense of timing on that, or is that too premature?

MS. OWEN-WHITRED: I can say it would be our intent to do that certainly before we present the next ROR to the Commission.

MEMBER KAHGEE: Perfect. Thank you very much.

THE PRESIDENT: Ms. Owen-Whitred, I would suggest you have that discussion before you come in front of the Commission with the ROR process, the discussion paper in January, just to make sure that you understand CELA's concerns and that they have been dispositioned as you come up with whatever it is in the discussion paper, if that timing works.

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

We can certainly reach out and see if that timing is possible on both sides. It can get a little bit complicated just because of the holiday

season between now and then, but we'll certainly do our best.

THE PRESIDENT: Thank you.

I had another follow-up question from the CELA intervention, and it was around the recommendations on international obligations, and they wanted more information on that.

I wondered if you could comment on that because maybe CELA's expectations around what's meant in international obligations and staff's submission on that may be a bit different than what staff may be seeing as international obligations. Can you comment on that?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

I'll attempt to answer your question at a relatively high level, and then if you would like more detail, just let me know.

So there are international obligations on Canada under a variety of subjects. What I mean by that is they could be related to safety, they could be related to security or they could be related to

safeguards, which comes back to the -- is concerned with the non-proliferation of nuclear weapons.

So there are -- you know, in this case in this sector, there are a number of obligations that would span those three categories. As one specific example, we have committed to the International Atomic Energy Agency's Code of Conduct with respect to sealed sources, the management of sealed sources, both with respect to the safety of those sources as well as ensuring that they're not diverted for non-peaceful uses. So that's the nature of the obligations that we talk about, that wide variety.

We don't, you know, go through them systematically in this Regulatory Oversight Report to kind of report on them one by one. We just offer that higher-level conclusion that all appropriate obligations have been met.

THE PRESIDENT: Thank you.

I suspect that's another area you want to discuss to make sure there is a meeting of the minds on what's expected.

Commission Members, any more questions

on the CELA intervention? Maybe by a show of hands, please?

Okay. I don't see any hands up.

Why don't we now open the floor for any other questions on the Regulatory Oversight Report, and we'll start with Dr. Demeter.

MEMBER DEMETER: Thank you.

This is a theme that seems to be occurring in this ROR, so I'll read the statement from the CMD and then we'll talk about the question. This is regarding the nuclear medicine subsector.

So these results demonstrate that the performance of the nuclear medicine subsector continues to be lower than other subsectors, particularly in operating performance and radiation protection. And that seems, based on the information presented, to be not a single-year theme but a multi-year theme.

So I want to get a sense from staff, what is their goal, where do they want to raise this bar to, how are you going to do it and what are the timelines?

MS. OWEN-WHITRED: Karen Owen-Whitred,
for the record.

I'll answer a couple of the questions that you've asked and then I'll pass it to Mathieu Laflamme to provide a little bit more detail.

So when we're talking about what is the goal, within our program area we have a series of metrics and those are the indicators by which we assess on an annual basis whether or not we believe the program has performed effectively. One of those indicators is -- one of those metrics is the measurement of the number of satisfactory ratings amongst our licensees. And the goal that we have set is at 90 percent. You know, if you're asking what would we like to see in this sector and in those SCAs, I would say that's the bar that we would be aiming for.

I also want to just reiterate that this is a trend that we are familiar with and, you know, we've noticed over the years and, as we've reported in previous RORs, it's an area in reaction to those observations we've adapted our oversight or

compliance oversight report -- sorry, we've adapted our compliance oversight accordingly.

Of course, in 2020 that particular sector was particularly challenging. We weren't inspecting hospitals and medical facilities as we would otherwise have given that they were quite occupied dealing with the pandemic, so you know, you'll see -- you won't have seen much progress on that front in 2020.

With that overall introduction, I'll ask Mathieu to see if he can provide a little bit more information on what we're doing in that sector.

MR. LAFLAMME: Mathieu Laflamme, for the record. I can speak from a compliance standpoint.

So we do recognize that with the OP and RP SCAs that performance has been low over the past five years, and over the previous years we've actually decided to alter our resources towards inspecting licensees in the nuclear sector. In fact, in 2020, pre-pandemic, our plan was to prioritize nuclear medicine as one of the sectors where we would conduct those inspections so that we could work with

the licensees, promote outreach while we're on inspection, promote safety culture as well as identify and get them to correct non-compliances.

One area that we are trying to focus on with compliance promotion is related to the conduct of internal audits so not in just the fact that to conduct an internal audit, but how can they leverage that to identify issues themselves and improve their programs that way.

I will note that although performance is lower in these areas, we're not -- it doesn't bring any concerns of health and safety risks to workers and patients based on the type of isotopes being used, so what we're seeing here are many of the non-compliances are a bit more administrative in nature, which does reduce the performance of those areas.

THE PRESIDENT: Are you okay with that, Dr. Demeter?

MEMBER DEMETER: Yes. I think, you know, from a continuous quality improvement point of view, I know that they're all satisfactory but they're not meeting expectations at a rate that other sectors

are. So it sort of begs the question to look at root causes of what are the particular challenges in this sector that you don't see in the other sectors that are getting higher ratings. Although they're considered safe and satisfactory, from a continuous quality improvement point of view I think there's some room to work here to identify those challenges compared to other sectors and figure out if there's a way of bringing them up into the fold.

THE PRESIDENT: Thank you.

Dr. McKinnon?

MEMBER McKINNON: I'd like to go back to the issue of risk and inspection frequency.

In the executive summary, there was a very interesting discussion about the increased risk of unsafe work practice as a result of the reduction in the inspection rate, but it was also concluded that the total risk level would only be increased by a small amount and would remain acceptable.

So I have a couple of questions related to that. Firstly, how is the level of acceptable risk determined? Is this something -- is

it calculated and compared to an acceptability criterion or is it an estimate?

And related to that question, you've mentioned that it's very difficult to look at trends over the years, but given, you know, history of several years, is there enough data available to quantify the relationship between inspection frequency and risk?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

First of all, with respect to your question about the quantification of acceptability of risk, this is something that it's important to clarify in the context of these reports that we are using language that is attempting to be simple and clear and accessible and communicating very clearly this message that, you know, according to the application of our program and all of the indicators that we're seeing, we do believe that the industry is safe. It is not intended to be a quantified ranking that would meet a very explicit level of criteria that would say, you know, acceptable or not acceptable from that

perspective. So it's more of a communication language and it's more of a comparative language, and I would say that that's what we were attempting to demonstrate by including the heat map in the presentation.

So we have done baseline risk assessments for the various risks that would be associated with our program, and you can see from the heat map that there's an attempt to -- again, the caveat in the presentation was that it's not a rigorous methodology, it's more of a comparative and for the purposes of communication to demonstrate that the different levels of risk, being moderate -- I don't have them in front of me right now, but you saw that kind of green, yellow, orange, red sectors. And then that allows us to relatively compare in this particular case what we believe the increase in risk to be.

So I'm just going to pause there and see if I'm on the right track of answering at least the first part of your question.

MEMBER McKINNON: Yes. I was perhaps reading too much into the heat map and the slight

movement of the points and I was wondering, you know, on what basis that was done, you know, because you do have data and I know you calculate things, but there's also estimates made. And that clarifies that aspect.

MS. OWEN-WHITRED: And the second part of your question, I believe, was asking whether we have sufficient data historically to have some sort of a correlation between our inspection results and the level of risk. Is that what you were asking?

MEMBER McKINNON: Yes, exactly. Yes.

MS. OWEN-WHITRED: If you can just give me one moment to confer with my colleagues and I will be back with a response to that.

--- Pause

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

I might need to defer that question until we have time to look into the data.

Perhaps I should just answer you that we don't have something like that in front of us right now, so it would be a question of something that we would have to look into.

MEMBER McKINNON: I guess the reason I was asking that question is really to try and set up a follow-up question which you may be able to ask. It doesn't require any data.

If you have a relationship between the inspection frequency and the effectiveness of the program, you would have a means of determining whether the reduced inspection rate, which is the regime that we're under now, does -- you are saying that there may be a slight increase in risk. But if it is considered acceptable still, would you consider adopting lower inspection rates in the future as part of your methodology?

MS. OWEN-WHITRED: I think that also helps -- perhaps I can provide an additional clarification.

We have a risk-based regulatory plan which we -- a risk-informed, I should say, regulatory plan which we review on a five-year cycle and we just wrapped one up, I think, two years ago. Through that process, we do review on that regular basis the baseline risk rankings of all of the different types

of licensees that we cover and that then, in turn, sets the inspection frequency that you were mentioning.

So there has been some variation over the years where we've reviewed and determined, for example, that we could reduce the frequency and still maintain acceptable results based on our historical data and our understanding of the sector. I would say that we feel -- based on the fact that we just finished our most recent review not that long ago, that we feel that the frequency that we're at right now is the right level of frequency for the three different risk rankings that we use, the low, medium, high.

MEMBER MCKINNON: That helps a lot. It's been a very interesting discussion. Thanks for your comments.

THE PRESIDENT: Thank you.

Dr. Lacroix.

MEMBER LACROIX: Thank you.

This is a follow-up to Dr. Demeter's question.

On page 24 of the submission, in Table 4 concerning the SCA management, I've noticed that nuclear medicine is all green from 2016 to 2020 and radiation therapy is in the red for three years. On Table 6 for radiation protection, nuclear medicine is all in red from 2016 to 2020, but in the radiation therapy it is all green.

So may I conclude that nuclear medicine is good at managing but poor at radiation protection, and it's the other way around for radiation therapy?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

I believe on the surface, given the numbers that we've presented, that that would be an accurate statement. That would be a way of interpreting the data that we have presented.

MEMBER LACROIX: I would like to hear from Dr. Demeter on this matter.

MEMBER DEMETER: It was one of my questions, but I will wait until my turn.

THE PRESIDENT: We'll come back to

you, then.

Ms. Maharaj.

MEMBER MAHARAJ: I just have a little bit of follow-up with respect to the Mississauga Metals and Alloys, if I may, Madam President.

THE PRESIDENT: Of course.

MEMBER MAHARAJ: So I understand that this entity is now bankrupt and that they do have material on site that requires attention and there are some steps.

What is the timeline for ensuring that any material requiring attention is removed from their care? Can you give me just some clarity around the steps that are being taken to ensure that the facility as well as any waste materials are under control and that this particular company is going to be not allowed to have control given that they're bankrupt and no longer an entity?

MR. McALLISTER: Thank you for your question. Andrew McAllister, Director of Nuclear Processing Facilities Division.

So to build on what we updated you on

in the beginning of October, we still are in discussions with different parties as to what regulatory actions we should contemplate. So in that Event Initial Report, we talked about examining are we able to order an entity to take on certain activities. While that is figuring itself out because there are legal implications to all of that, we are looking at exactly what you indicated, can we do things in parallel while one thing plays itself out relative to the other.

So we are looking into from a -- what are the next steps needed to safely characterize the material on site and then ultimately remove it.

So in a parallel stream, we are looking at that, what it would take to do a proper characterization of the material to then set themselves up for what would then be the options to ultimately remove that material from site.

So those are some of the parallel activities happening.

In the meantime, as we said, we continue that oversight from a safety and security

perspective and, as Ms. Owen-Whitred mentioned, recently the IAEA did a site inspection and CNSC Staff helped facilitate that inspection. And so it's really an evolving file, and for sure there will be developments on this file in the coming months, I can assure you of that.

MEMBER MAHARAJ: Thank you.

And just as one follow-up, Mr. McAllister, I recall from October that there was a conversation around whether or not the fencing was secured around that facility or around the storage -- the outdoor storage of waste materials. Has that been resolved now? Is that site physically secured with locks?

MR. MCALLISTER: Currently what CNSC Staff have done is we have a few things. One is we've actually changed the locks on intermodal containers to our own and applied lockout tags and, as I said, we have continued with the every-second-day site visits by a third party.

So in the circumstances, we're satisfied with the security arrangements in place, but

we will continue to review them as the file progresses.

MEMBER MAHARAJ: Thank you, Mr. McAllister.

THE PRESIDENT: Thank you.
Mr. Kahgee.

MEMBER KAHGEE: Yes, thank you.

I just had a follow-up question with respect to stakeholder engagement. Obviously, the pandemic presented some very unique challenges to span the scope of that. But I did notice in the ROR there's a reference there that says a particular focus is on reaching and engaging with licensee communities. Obviously, that's given the scope and the breadth of licensees that are regulated. I'm just curious whether that engagement also includes Indigenous communities.

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

So I would say at the more general level the way in which the CNSC engages with Indigenous communities, it offers us that opportunity

to ask if there were any questions or concerns that would relate to this sector in particular, and we don't tend to hear any such questions or concerns related to medical or industrial or commercial sectors, the uses of nuclear substances and radiation in those sectors. If anything, the questions that we would get, not so much related to these licensees, but it happens to be an area that falls under our area of management within the CNSC, is transportation.

So the particular application would be more related to the Class I licensees themselves and the types of material that they would be transporting. And so at any rate, on that subject, that is an area on which we provide additional or specific outreach to interested Indigenous communities who have questions about transportation.

MEMBER KAHGEE: Thank you.

THE PRESIDENT: Dr. Berube.

MEMBER BERUBE: I have a question pertaining to the security SCAs in terms of the level of difficulty experienced due to COVID on getting on-site inspections which are, from what you've

stated, very difficult to do without having a physical presence of inspectors on site to take a look at things because of the nature of way security is performed.

Given that is the case and the sensitivity of security in general, as we move forward, what are your plans for addressing the gaps, the current gaps, in the security inspections? How is that going to affect your sensitivity analysis and also affect the frequency of inspections for the next little while?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

I'm going to start by going to Mark Broeders to speak about the plans for security-related inspections within his area and then, if we need additional details, we can go to our nuclear security specialist as well.

So we'll start with Mark, please.

MR. BROEDERS: Mark Broeders, for the record.

As you correctly pointed out, security

inspections are typically treated as a separate entity for reasons of need to know and keeping the report limited to those who do need to know.

Having said that, in consultation with some subject matter experts at the CNSC, we determined that the inspection frequency for security approaches five years. So given that we've had a year and a half, roughly, where we've had to deter some of these inspections, it hasn't led to a noticeable or appreciable increase in risk but does increase the sort of backlog of inspections, and so we're tackling that now. They are the priority now where we can do inspections safely, we are -- we're starting to, with security.

I should point out, for the sake of efficiency, some of the other SCAs require more frequent inspections than every five years. So if we're on site and we know those licensees have high-risk sources, we will do a security inspection because we're there. Why wouldn't we? It's good value for the taxpayer, and generate those reports.

We had a little bit of a buffer built

up prior to the pandemic. That's why we're confident in saying we can afford to wait 18 months to resume security inspections so that no licensee extends beyond the five-year period.

THE PRESIDENT: I had a question around the lack of interventions that we just received the one from CELA, and maybe get staff's perspective on what do you think are the reasons for that.

And how much attention does the ROR get within the sector and by the different licensees? Do they get their own individualized report card and what behaviours does that drive?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

Historically, we tend to get two interventions. We tend to get one from CELA and one, typically, from the Canadian Radiation Protection Agency. So that's the one that we didn't receive this year.

It would be pure speculation on my part, but there are two possible reasons that I could put forward for why CRPA did not submit an

intervention this year. One, it could simply be the effects of the pandemic, that the breadth of that industry, which includes medical sector, for example, had very much other things on their minds this past year and it just might not have been a high priority for them.

The other thing that I can say is, similar to what we have already indicated that we are -- we have already indicated our plans to follow up with CELA with respect to their intervention this year, we actually did that with CRPA this past year.

We were seeing the same cycle of very similar questions asked. We were providing very similar answers and there seemed to be a disconnect.

So I would like to believe that that did also help, that if we addressed their questions directly that led to maybe a belief on their part that an intervention wasn't required this year. But again, that's my speculation, not what we've heard from them.

With respect to how they use the ROR, we did see through the discussion paper in that consultation process that I mentioned earlier -- and

this is corroborated by other interactions we've had with industry -- that they do very much value the ROR somewhat in the sense of a report card, as you've mentioned. This is an industry that very much would like to know what the industry standards are, you know, what performance is generally across the board, where we might be seeing trends or issues of concern which would then allow them to inform their own programs.

So there seems to be a lot of value for sure in the data that are provided in the ROR. And we do have -- in addition to the ROR, we do have other methods of reaching out and connecting with those licensees and associations to try to provide that kind of information that they're looking for.

THE PRESIDENT: Thank you very much.

Dr. Demeter.

MEMBER DEMETER: Thank you. Thank, Dr. Lacroix, for opening this.

I did notice that as well, and I have to say at first I thought it was a small denominator issue with the radiation therapy, but if I look at

veterinary medicine, they're more consistent, they have smaller denominators, so I think it's more than that.

I'm very happy that radiation therapy is 100 percent across the board because they have relatively much higher doses that they play with and unintentional exposures would lead to higher consequences, so I think there's much more stringent conservative radiation protection requirements in radiation therapy.

So it leaves the one question remaining is, what's up with the management system in radiation therapy? What contributes to these below expectation values for the five years in radiation therapy? What's unique compared to the other aspects of the medical therapy?

This is Table 4, management system percent of inspections meeting expectations, and radiation therapy runs from zero with a denominator of one up to a high of 82 in one year, but generally much lower than the other sectors.

So what's up with the management

issues?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

I believe I'm going to turn this to Mark Broeders. And before I do that I will just say, yes, after I attempted to answer the previous question, I realized that the denominator issue is part of the answer. So to be more precise, there are fewer inspections associated with that subsector which could have some impact on the comparative results between those two subsectors but, as you've pointed out, there's perhaps a correlation but not an exact causation relationship between those two.

With that, I'll turn it over to Mark to see if he can provide some context on that management system SCA with respect to radiation therapy, that subsector.

MR. BROEDERS: Mark Broeders, for the record.

So notwithstanding 2020, which was only one inspection, the period 2016 to 2018, the results were lower than we would expect. I would

suggest that that's a little bit of selection bias.

As you might imagine, if we have a licensee that's performing poorly, we accelerate our inspection plans for those licensees, so whereby they might be on a nominal three-year cycle, if we see performance is concerning, we will actually accelerate the inspection frequency perhaps to yearly and go back and visit and, if they still haven't improved, they'll continue to get a poor grade.

Just because there's dozens of cancer centres in Canada, like I said, out of 10 or six in the one year, I expect at least some of those would be repeat inspections because we had concerns about performance.

THE PRESIDENT: I have a question on Table 4 as well for veterinary nuclear medicine for 2020 where there's zero inspections. Is a green box appropriate? Should it not just be white?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

I hadn't thought about white. I was going to say that what we would typically do is the

compliance results would be considered consistent unless we have an inspection result that would indicate otherwise, so it would carry on the previous results.

THE PRESIDENT: Right. Green seems to imply there's been improvement, but we don't know.

MS. OWEN-WHITRED: Right.

THE PRESIDENT: Moving on to Dr. McKinnon.

MEMBER McKINNON: Perhaps I will follow up on this same theme that we're discussing now in connection with the inspection ratings by sector. Many of the aspects that I had comments on have been answered.

I, for example, I look at Table 9 in this same section of the report. Just as an example, I could see that the fixed gauge area -- this is the operating performance category. So the fixed gauge and the industrial sector, they all have relatively high numbers of inspections but generally lower performance over the years, so it seems like even with the increased inspection rates, their performance is

not improving at all.

So you know, is this something fundamentally wrong, the wrong things are being inspected, or why is it not being improved? What are they doing wrong? Could you comment on that?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

I'm going to go to Mathieu Laflamme for that one.

MR. LAFLAMME: Mathieu Laflamme, for the record.

So for the fixed gauge subsector, primarily with the operating performance, one of the main areas where we are seeing non-compliances is related to the vessel entry licence condition.

So that licence condition over -- we found that compliance in that area isn't always -- there's poor performance in that area, so it's one of the areas that we had more focus towards, and a lot of our inspections end up being performance-based for that reason and some even -- so with respect to the vessel entry licence condition,

all of the non-compliances are related to recordkeeping, maintaining records, documenting dose rates and things like that.

One of the things that OID actually did this year is, recognizing the continued poor performance in this area, we developed a guidance checklist that we sent to all fixed gauge licensees that have this licence condition to remind them -- to use as like an outreach material, but also to remind them what the requirements are, how do they need to comply with it, and we hope to see some improvements there.

THE PRESIDENT: Dr. Lacroix.

MEMBER LACROIX: Quick question for staff. You mentioned briefly the challenges of remote inspections. And I was wondering how could a remote inspection affect the outcome of a safety assessment? In other words, could an in-person inspection reach a conclusion and the remote inspection reach a completely different result, outcome?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

I'll start by saying, given the nature of our inspections and the criteria and the checklists that we use that have been described previously, I would say that it's very unlikely that you would get a significantly different or opposite result if you would compare remote or what we call on-site inspections, but I'll ask Danielle, who is one of our inspectors, to give a little bit more context around that.

MS. SCHMIDT: Danielle Schmidt, for the record.

So what we're finding with the remote inspections is that it's just records based so what we're getting submitted and what we're asking for is different than what we see when we go on site. So when we do performance based, it could change the outcome between the two types of inspections.

Does that make sense, or does that answer your question?

MEMBER LACROIX: Well, partly in the sense that can we trust remote inspections in the sense that are we sure that the installation is safe?

For instance, I may be mean here, but could the operator be dishonest?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

So based on the experience that we've gained over the past year, I would say that we are clear that remote inspections are not as effective as on-site inspections with perhaps some very specific exceptions.

What we have noticed, for example, is that interviews can be more effective remotely. They seem to be perhaps -- there's a greater comfort level when you're interviewing somebody over video as opposed to being in the same room with them. Other than that, I would say our conclusion is that on-site inspections are more effective.

That being said, what's important to remember for the results that we are providing for 2020 is that we weren't -- the choice before us wasn't between a remote inspection and an on-site inspection; it was between a remote inspection or nothing at all, although I should qualify that and say, of course,

that when we're talking about compliance oversight, inspections aren't the only activity that we have available to us.

So even if a remote inspection isn't as effective as an on-site inspection, it is complemented by the other measures that we have available to us, annual compliance reports being one example, event reports being another, that would allow us to calibrate to a certain extent those results to provide us with the assurance that the results from a remote inspection aren't completely off-base or misleading.

MEMBER LACROIX: Thank you.

THE PRESIDENT: Thank you.

I think the one other thing I'd add, Ms. Owen-Whitred, is the unannounced inspections, which also, you know, give a certain insight that you could never do with remote inspections where everything is so orchestrated and planned and prepared.

Let's then move to Ms. Maharaj, please.

MEMBER MAHARAJ: Thank you, Madam Velshi.

I have a question with respect to Figure 12 in Appendix D of the submission, and it was also on your slide 29, Ms. Owen-Whitred, whichever is quickest.

This is just a general question about dosages to humans. What I see when I look at this particular graph is that the distribution of dosage over a period of five years is remarkably consistent, and while the majority by a long haul of dosages under 0.5 millisieverts, and that's fantastic, there doesn't seem to be any reduction over that five-year period in either the numbers of people in any category of dosage amount or in the numbers, so there's no leftwards movement of individuals into a lesser level of exposure.

And my question is perhaps just grounded in curiosity. Are we to expect that these are just the standard amounts of exposure that we can expect, or is this an area where we ought to expect to see over time a reduction in dosage to individuals

because of improvements in technology, improvements in procedures? Why is it flat?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

I'm just monitoring to see if we have a particular answer that we can provide you, but while my colleagues are considering, what I would say is there is a certain amount of detail that is lost in the way in which the data are presented necessarily. They're aggregated into those groups, which wouldn't necessarily show fluctuations within the .5 to 1 millisievert. There could be a downward trend within that category, for example, year over year that you wouldn't see in these graphs.

I'm not sure that we have an answer for you that would get at why we would see the consistency across the years and across those different dose categories. That's not something that we have with us.

MEMBER MAHARAJ: What I'm really looking to understand is, there are a small number of individuals each year who fall in the greater than 20

and less than 50 millisievert category, but it's, relatively speaking, flat for the four years that are shown. 2020 is the one year where there's a significant decrease.

Is there even any attempt or should we expect to always see people exposed in this category? Should we not see over time that that category falls away and there's zero and we get better and better at this?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

So I think effectively what you're asking about is the ALARA principle, if we would see over time == you know, if all of the industries are seeking to keep their doses as low as reasonably achievable, would we expect to see a decrease. Again, this is speculation based on attempting to answer this question here and now.

I would say that given the numbers of population that we're looking at, the total population, and then given the numbers that you're looking at in that greater than 20 and less than or

equal to 50 millisievert range, I do think that is a natural result of the very large number of NEWS that are being monitored in any given year and the fact that the nature of the work in which they're engaged sometimes necessarily does lead to those higher doses, while remembering that those doses remain within our regulatory limits and that's what we are, of course, focused on, is ensuring to the extent possible that no doses exceed those regulatory limits in a given year.

Just to add slightly to that, if we're talking about a lot of industrial activity, which would be one of the sectors covered by this report, that effectively that's a less controlled environment and so naturally there is going to be -- again, due to the nature of the work, as I mentioned earlier, we are going to see doses in that range.

MEMBER MAHARAJ: So it's a statistical inevitability, is essentially what I'm hearing.

MS. OWEN-WHITRED: That is my immediate reaction to this question. As I said, it's not something that we've done the analysis on that I would be able to present you with a more detailed

analytical response.

MEMBER MAHARAJ: I understand. Thank you.

THE PRESIDENT: Mr. Kahgee.

MEMBER KAHGEE: I have no additional questions at this time.

THE PRESIDENT: Thank you.

Dr. Berube?

MEMBER BERUBE: Yes, I have one question pertaining to Table 3, your CMD, where we're looking at the number of licensees by sector.

I've been looking over the last five years, and I see a significant reduction in the number of licensees. I'm wondering what actually is causing that in terms of the number of licensees? Is that because of consolidation, people getting out of the sector? I mean, our population's been growing during the same time, which would mean to me there would be more need.

So could you give me some insight into this and, actually, how does that impact your inspections in terms of difficulty if there's

consolidation or people leaving the actual business?

MS. OWEN-WHITRED: Sorry. I was just trying to get to the table that you referenced, so this was Table 3, the number of licences by sectors.

Karen Owen-Whitred, for the record.

I'll ask Mark Broeders to provide a little more detail on this, but the short answer is this does reflect a consolidation of licences, at least some of that reduction is reflected by a consolidation of licences over time.

But I'll ask Mark if he can add to that at all.

MR. BROEDERS: Mark Broeders, for the record.

So there are two aspects here. I can speak to the consolidation of licences part. I think there's also a consolidation of companies as well that has the same net effect.

On the consolidation of licences front, there's been an active effort in the Directorate to consolidate licences that fall under the same management system umbrella so that it makes

sense -- it just makes sense. That's the way they operate; that's the way we should oversee them. It's an increase in efficiency for both the licensee and for us alike and, at the end of the day, it's a better representation of how they actually operate in terms of when we do an inspection and assign grades.

In terms of the consolidation of companies, there has been some consolidation in the industrial sector. I don't have the details of that. Maybe my colleagues in OID can provide a little bit more detail about that.

MS. OWEN-WHITRED: Before we go there, I'll just stop and ask if that was sufficient to answer your question.

MEMBER BERUBE: The question really becomes if it's consolidation that adds more complexity to the inspection, especially in transition issues simply because corporations, organizations have different cultures, different procedures, different staffing levels, all kinds of things going on there, so I'm just wondering how that adds to the complexity of actual inspections during the actual transition

phases and do you actually expect to see this continue as we move forward, more consolidation, because, of course, that's going to impact your operations as well.

MS. OWEN-WHITRED: I'll

ask -- apologies. Karen Owen-Whitred, for the record.

I'll ask Michael Davey if perhaps he can provide some information on what we are seeing and expecting to see with respect to those amalgamations.

One thing that I would just point out, you are correct when you say that there's an additional complexity when you're talking about two companies merging. It's also important to remember the context in this sector.

The companies themselves could be one individual or very small companies to begin with that potentially are merging. So while that's true that the complexity increases, the complexity is quite low to begin with, so an increase in complexity would not have a significant impact on either the performance of the licensee or our inspections.

I'll just see if Michael Davey can add

anything with respect to what we might expect to see in terms of continued consolidation.

MR. DAVEY: Michael Davey, for the record, licensing specialist with Nuclear Substances and Radiation Devices Licensing Division.

Yes, as Karen was speaking, there have been a number of consolidations in the corporate sector. A lot of these are similar licensees, for example, a portable gauge licensee. Recent ones have combined smaller operations into their larger operations, and what we see is with these types of devices the actual procedures are very similar from device to device, so it's not that complex for them to implement the new program at the same time because the procedures are generally the same type of procedures. It's just a matter of ensuring that the new management system is in place and that they're aware of the current radiation safety manual and how those new procedures are different from the current procedures they may have had in place.

With respect to more changes in the future, it seems to be relatively consistent. We're

seeing it from time to time, especially when you see downturns in certain sectors. You can often see that some of the smaller companies are just being purchased from other companies and being consolidated into larger organizations.

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

Just to wrap that up, I want to also note that if there were any consolidation with any companies, that would involve an assessment by CNSC Staff followed by an inspection to ensure that the consolidation didn't lead to any concerns with respect to the management system or other aspects that could introduce increased complexity due to that consolidation.

MEMBER BERUBE: That's fine. I just wanted to make sure nothing was getting dropped in that process. I know how difficult that can be sometimes, especially if there are significant differences.

Thank you.

THE PRESIDENT: Thank you.

I have two final questions. One is, we have really not heard much about how this sector has dealt with the pandemic and the impact it has had, whether it's around cases, whether it's around continued operations, whether it's around business continuity plans, et cetera.

It would be helpful if you could just give us a quick sketch of that, and then I have a follow-up question, but maybe we'll start with that, please.

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

I'll ask first Mark and then Michael to give some -- a response that are closer to their respective areas of licensing. But what I would say is that it's not surprising that there was a significant impact over this past year on certain subsectors that we are regulating such as, for example, the medical sector writ large as well as, for example, construction industry that would have had to shut down or at least pause temporarily potentially due to the effects of the pandemic.

But Mark and then Michael could provide some more detail on those impacts.

MR. BROEDERS: Mark Broeders, for the record.

So in the commercial sector in particular, some cyclotrons shut down temporarily, particularly those that were supporting research only where the research stopped because of the pandemic. They ceased operation as well, but they have since resumed.

Some third-party service providers that were mentioned earlier in the presentation that are primarily located outside of Canada, some of them were challenged in terms of being able to come to Canada to perform necessary servicing work. To be clear, it never jeopardized safety. It didn't impact patient safety. But these are some service providers that maybe provided some optional services and they just -- it was too challenging for them to be able to come across the border to perform that work. They have either temporarily suspended or withdrew their licence altogether.

On the medical sector, they were impacted, of course, at first. They're largely moving forward as if there was no pandemic.

Now, the rate of commissioning new machines marches unabated with respect to their operations. I understand in some cases they had some impact of how they performed their clinical work to try to minimize the wait times that were creeping up. But from the point of view of safety, there's been little impact in that regard.

In the industrial sector, a slowdown initially, particularly, for example, border services using mobile accelerators for cargo screening. There was a temporary slowdown, but they're back to operating at full speed. In fact, there's an inspection happening as we speak at one of those facilities.

And I think that pretty much wraps up the overview from a Class II perspective.

THE PRESIDENT: Thank you.

MS. OWEN-WHITRED: So if I can turn to Michael.

Go ahead, Michael.

MR. DAVEY: Michael Davey, Licensing Specialist, Nuclear Substances and Radiation Devices Licensing Division.

Primarily for our medical sector, we did see an initial slowdown at the medical facilities. That was just due to the basic breakout of COVID, things were being cancelled. It has slowly been returning to normal and at this level it's pretty much at pre-pandemic levels.

And with the industrial sector, it was another one where initially a lot had stopped, but things are getting back in place. But then you would take something like a fixed-gauge licensee that could possibly be an essential service. In that case, many of them were able to continue on throughout without any shutdowns required because they were just an essential service and they were necessary in order to maintain their product.

I'm just trying to think if there was any other major industries. I think I'll leave it at that for now.

MS. OWEN-WHITRED: If I may, Karen Owen-Whitred.

I just want to wrap that up by saying, as we mentioned in the report and in the presentation, we had a concerted campaign early in the pandemic to proactively and actively reach out to every licensee to make sure that there were no safety concerns with respect to their individual status related to the pandemic, and then that type of contact is just maintained throughout the year through our regular licensing and compliance activities.

THE PRESIDENT: Thank you.

My last question, something that we've seen in previous RORs but didn't see in this one is this is very much a retrospective look. But looking ahead, are there any focus areas for you other than the resumption of physical inspections, anything in particular that you are going to be prioritizing?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record.

I will ask Ms. Lucie Simoneau if she can speak about inspection focus in her particular

area and then, Mark, there may be something more that you would like to add in your area.

MS. SIMONEAU: Lucie Simoneau, for the record, Operation and Inspection Division.

If you don't mind, I will answer in French, then I will let you have time to put on your headset for the translation.

THE PRESIDENT: I could do use the practice. Thank you.

M^{me} SIMONEAU : O.K.

Au niveau de la conformité, on a repris graduellement les inspections sur site avec nos titulaires. On continue à focusser au niveau des départements de médecine nucléaire principalement l'observation des travailleurs, et nos titulaires qui sont à haut risque et autres priorités. Donc, comme Mathieu l'a dit précédemment, on a une certaine catégorie de titulaires à haut risque qu'on continue à inspecter parce qu'ils sont dus. Ensuite, les titulaires qui ont des problèmes au niveau de la conformité font partie de nos titulaires à inspecter.

Le but encore cette année est de

s'assurer que tous les titulaires... toutes les inspections que nous avons déterminées comme étant de priorité un vont être effectuées, en plus des autres qui sont de moins d'importance mais qui demeurent une nécessité d'être inspectées sont rattachées à ces inspections-là en fonction de la disponibilité et du temps des inspecteurs.

THE PRESIDENT: Thank you.

M^{me} SIMONEAU : Plaisir.

MR. BROEDERS: Mark Broeders, for the record, just to complement Ms. Simoneau's response.

For the Class II inspections, every inspection is peer reviewed after the fact to ensure that we have a consistent approach across the country and have discussed the appropriateness of grading and so on.

One of the outcomes of that discussion, however, is whether we're satisfied that the remote inspection has sufficient sensitivity in terms of giving us satisfaction that the licensee is indeed safe. If we have any concerns, they go on a list for prioritization when we can return to hybrid

or physical inspections going forward, and they will be one of the priority groups when we return to a more normal inspection process.

THE PRESIDENT: Thank you. Thank you very much.

Commission Members, one last chance, anyone have any questions? I see no hands up.

Thank you, staff, for the presentation and for responding to our questions.

This concludes the public meeting of the Commission for today. The meeting will resume on Thursday, November 25th at 10:00 a.m. Eastern Standard Time. Again, thank you all for your participation.

Stay safe, stay well. Bonne fin de journée.

--- Whereupon the meeting adjourned at 4:19 p.m.,
to resume on Thursday, November 25, 2021
at 10:00 a.m. / La réunion est ajournée à 16 h 19
pour reprendre le jeudi 25 novembre 2021
à 10 h 00