



Supplementary Information

Written submission from Nordion (Canada) Inc.

In the Matter of the

Nordion (Canada) Inc.

Application to renew Nordion's operating licence NSPFOL-11A.01/2025 for a period of twenty-five years.

Commission Public Hearing

June 11-12, 2025

Renseignements supplémentaires

Mémoire de Nordion (Canada) Inc.

À l'égard de

Nordion (Canada) Inc.

Demande visant à renouveler le permis NSPFOL-11A.01/2025 du site de Nordion pour une période de vingt-cinq ans.

Audience publique de la Commission

11-12 juin 2025



Nordion[®]

A Sotera Health company

Nordion Class 1B Facility

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Attachment 3: Supplementary
Report to Support License Renewal

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1. INTRODUCTION

This Supplementary Report was prepared to support Nordion's application for operating license renewal. This report was prepared using the document REGDOC 1.2.2, "Licence Application Guide: Class 1B Processing Facilities".

1.1. Background

Nordion is a major global supplier of Cobalt-60 sealed sources used in cancer therapy and irradiation technologies.

Nordion's innovative and industry-leading technologies are used to sterilize medical devices, instruments and supplies for the prevention of disease. Approximately 30-40% of the world's single-use medical supplies and devices are sterilized with this technology. This technology is also used to sterilize a vast array of consumer products, including food, contact-lens solution and cosmetics.

Nordion's facility, the Kanata Operations Building (KOB) is located at 447 March Road, Ottawa, Ontario. The KOB comprises an administrative area known as the "Non-Active Area" and a controlled access production area known as the "Active Area". The Active Area encompasses the Cobalt Operations Facility (COF), the Nuclear Medicine Production Facility (NMPF), and the Kanata Radiopharmaceutical Manufacturing Facility (KRMF).

In 2018, Nordion divested the Medical Isotopes business to BWXT Medical. BWXT continues to lease the NMPF and KRMF portions of the facility at 447 March Road, along with some non-active area office space, from Nordion. BWXT Medical operates the NMPF and KRMF under their own Class 1B licence.

Nordion operates within the COF portion of the facility under the Nordion operating licence, NSPFOL-11A.01/2025. The COF is dedicated to the manufacturing of high activity sealed radioactive sources.

There are approximately 170 Nordion personnel working at the site. The COF has been in operation for over 50 years.

2. BUSINESS PLAN

Today, Nordion's primary business is Gamma Technologies. The Gamma Technologies business is focused on producing high activity sealed sources, primarily for the medical and industrial sterilization markets. The industrial sterilization market is expected to grow by approximately 3-5% per year. This would require sealed source growth to match.

Site and production facilities are routinely assessed for improvement and replacement of legacy structures and equipment under its current licensing basis. A number of improvements have been made during the current licence period (see Attachment 2). This program of facility and equipment improvement and replacement will continue under the renewed licence.

Through continued preventative maintenance and planned replacement of capital assets, the facility and processing equipment is expected to have an operational life extending far beyond the requested licensing period of 25-years.

At the end of the proposed 25-year licence period, Nordion anticipates it will continue to operate. There is no foreseeable shutdown and decommissioning of the facility.

Below is a summary of large projects and significant activities anticipated for the next license period:

- Completion and use of Cell 1
- Upgrade of electrical infrastructure
- Upgrade of Building Management Systems (BMS)

These projects are not expected to have a significant impact on safety and will be undertaken with the framework of Nordion's Management System for Safety.

3. SAFETY AND CONTROL AREAS (SCAs)

3.1. Management System

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

3.1.1. General considerations

Nordion has implemented an Environmental, Health and Safety (EHS) Policy (CPM-6-06) which described the company's commitment to operate in a safe and responsible manner that respect the environment and the health of employees, customers, and the communities where Nordion operates. The EHS Policy is the foundation of Nordion's environmental, health and safety systems.

The Nordion facility operates under the direction of the Nordion EHS Committee, which is chaired by the Director, Regulatory & EHS or designate. The EHS Committee reviews the operations and approved changes to the facility. The EHS Committee oversees all CNSC related activities, as per Nordion's license conditions, and ensures review of design and safety of operations. Sub-committees are appointed as necessary, to conduct detailed technical reviews and report back to the EHS Committee. The EHS Committee regularly reviews occupational health and safety, radiation safety, and environmental management performance metrics.

The Nordion program is certified to the ISO:9001 and ISO:14001 standards.

3.1.2. Management system

Nordion has implemented SE-LIC-001, "Management System for Safety" (MSS). This program aligns with REGOC-2.1.1, "Management System" and meets the requirements of CSA N286:12, "Management system requirements for nuclear facilities".

Nordion's MSS (SE-LIC-001) and Environmental Management System (EMS) (SE-ENV-001) provide the means of controlling those activities that affect safety of Canadian Nuclear Safety Commission (CNSC) licensed activities. These programs apply to all CNSC licensed activities conducted under the Class 1B nuclear substance and processing facility operating license.

The MSS controls work carried out to perform, or in support of, licensed activities from the planning stages to completion, and covered the control of activities both at the working level, and at the corporate level. The latter ensures the oversight needed to provide corporate direction and maintained overall accountability and ensures that communication between individuals and organizations is effective and in the interest of safety.

The EMS is certified to ISO 14001, the internationally recognized standard for Environmental Management Systems. Nordion voluntarily maintains this certification to assure customers, regulators, and the community of Nordion's commitment to environmental leadership and continual improvement. In addition to the performance reviews and annual management reviews, each year Nordion's EMS is reviewed by a third party to ensure continual compliance with the requirements of ISO 14001.

3.1.3. Organization

Nordion's senior management organization structure and the EHS organizational structure is provided in the organizational charts (see Appendix A of application).

With respect to the licensed activities, the Nordion facility operates under the direction of the Nordion EHS Committee, which is chaired by the Director, Regulatory & EHS or designate. The EHS Committee reviews the operations and approves changes to the facility.

In addition to the EHS Committee described in section 3.1.1, Nordion has established a joint EHS Committee with BWXT Medical. Although the EHS Committees for each organization have the responsibility for activities under their respective licences, the Joint EHS Committee provides an opportunity to review and discuss site wide licensing and safety matters, including changes to FSARs, infrastructure work, changes to licensing basis, etc.

3.1.4. Performance assessment, improvement and management review

Performance reviews of the MSS and the EMS are conducted on a routine basis by the EHS Committee. At each EHS Committee meeting, the Committee reviews Nordion's EHS performance, including the status of EHS corrective actions and preventive actions (CAPAs), results of EHS incidents or investigations, status of EHS objectives and targets, internal EHS audit findings, and the status of actions from previous meetings. The EHS Committee reviews the information and documents actions resulting from the review in the meeting minutes.

In addition, the Committee conducts an annual management review of the MSS and the EMS to ensure these programs remain suitable and effective. Results from the annual EHS Performance Report are reviewed (see section 3.3.1). In addition, the management review involves the evaluation of:

- Actions from the previous meeting
- The EHS Policy (CPM-6-06)
- Adequacy of resources
- EHS objectives and targets
- Changing circumstances
- Recommendations for improvement

Actions and decisions resulting from the EHS Committee review of the MSS performance and environmental performance are documented in the EHS Committee meeting minutes.

EHS non-conformances and deficiencies are investigated to determine root causes. Nordion has implemented a CAPA program to address root causes.

3.1.5. Operating Experience

The EHS Committee has responsibility for conducting reviews of Operating Experience (OPEX). The OPEX process is an information gathering and review process to identify, obtain and evaluate in-house and external experiences related to the operations conducted under Nordion's operating facility license. The analysis of this information is used to take action to improve safety and the management processes.

3.1.6. Change Management

Nordion has established a change control process as part of the MSS (QAP AP-45). This is to ensure any changes are justified, reviewed, and approved by appropriate personnel, and to ensure their effect on existing conditions is assessed. The EHS Committee approves all significant changes to facilities.

Design control is applicable to all process equipment and facilities' buildings, systems and equipment in support of licensed activities. Nordion's design control program ensures that designs met established codes and standards and all applicable requirements.

3.1.7. Safety culture

Nordion has a strong safety culture. Safety is at the forefront of all the work that is undertaken. Nordion employees have performance objectives to work safely at all times, report occurrences of workplace injuries, unsafe conditions, near-misses, and to correct or coach co-workers who are working unsafely. Safety culture is embedded in Nordion's programs, standards and procedures and a near-miss reporting program is established.

Nordion typically assesses the health of the safety culture at Nordion every three years.

3.1.8. Configuration management

Configuration management is a component of Nordion's change management program. Any changes to current configurations are reviewed and approved by appropriate personnel (see section 3.1.6).

3.1.9. Records Management

Nordion has implemented a program for the control and retrieval of records management. Requirements and responsibilities for the identification, storage, protection, retrieval, retention and disposal had been established for key licensing records, as described in section 5.8.4 of SE-LIC-001. Nordion continues to migrate to electronic format for key records.

3.1.10. Business continuity

Nordion has implemented an Emergency Response Center (ERC) framework under SE-ERP-002, "Emergency Response Plan" to address business continuity from disruptions. In the ERC, an ERC Director is appointed. The ERC director will fill and structure the ERC with appropriate personnel to address the specific disruption and address business continuity.

3.2. Human Performance Management

3.2.1 General considerations

Nordion has implemented a performance management program under SE-LIC-001 that ensures there are sufficient workers with the required knowledge and skills.

Nordion has defined competency criteria for key positions within the MSS. These are described in SE-EHS-024, "EHS Competence Criteria". Job descriptions define the requirements of unionized positions.

The Director and Manager of each department is responsible for ensuring that the employees are competent and qualified to perform their required job functions and for determining and documenting the training needs of each employee in their department. Departmental Directors and Managers are responsible for ensuring the effectiveness of the training provided to the employee, managing the completion of employee training, and maintaining paper and/or electronic records as required.

Site security is provided for 24/7. A radiation surveyor is present on-site whenever active area work is occurring.

In the event of an emergency, there is an incident manager available at all times that can be called to site by security. The incident manager can initiate a call-in of all emergency response personnel.

There is a minimum of 1, and typically 2 Health Physicists on call to address potential radiation events.

Nordion routinely assesses the availability of qualified staff as part of the Emergency Response Program and through drills and exercises. Nordion tests its emergency call list annually and the results have demonstrated year over year that within one hour of the onset of an emergency, adequate emergency response personnel and at least one representative from each of the key emergency response groups would be available on-site.

As part of continuous improvement and to address any deficiencies in the training program, Nordion conducts a training needs analysis for any high or medium risk EHS incident where training was identified as the root cause.

3.2.2 Human Performance program

Nordion's management identifies qualifications and training requirements. Personnel are given appropriate training and instruction, and tasks are assigned to personnel who have been properly trained. Training programs are monitored and assessed regularly, and the competency of personnel is reviewed to maintain their effectiveness and skill levels. Records of training, qualifications, and experience are maintained.

Initial selection of qualified personnel is performed through the Human Resources hiring process. Personnel who are assigned responsibilities are competent on the basis of applicable education, training, skills, and experience. Established training programs ensure personnel have the required training to perform their job functions. The employee training programs support the Nordion MSS and ensure that the MSS is understood, implemented and maintained.

3.2.3 Personnel training

Nordion has implemented a systematic approach to training program described in SE-TRN-006 to meet the requirements of REGDOC 2.2.2, "Personnel Training".

Employees who are not classified as Nuclear Energy Workers (NEWs) receive a basic course on Health, Safety and Environment, which provides information on the facilities, emergency response procedures and alarms, and basic procedures to follow for safety in the workplace. NEWs receive a NEW Indoctrination Course. To be authorized to enter the Active Area unescorted, the employee must complete and pass a written test, as evidence of understanding the principles of radiation protection and Nordion safe work practices. NEW retraining and retesting are conducted on a three-year frequency. In addition, NEWs are provided with a half day Radiation Instrumentation Workshop, dealing specifically with the selection and use of radiation survey and contamination meters for the Active Area.

Supplementary EHS training programs are provided to all personnel depending on the nature of the job and the requirements specified by their manager. These programs include such topics as:

- Working with Radioiodine
- Emergency Response Awareness
- Care and Use of Respirators
- Material Handling Training
- Working Safely with Fume-hoods

3.2.4 Work Organization and job design

Minimum staff complement is described in section 3.2.1.

3.2.5 Fitness for duty

Nordion is not a high security site and this section does not apply.

3.3. Operating Performance

The Operating Performance SCA includes an overall review of the conduct of the licensed activities and the activities that enable effective performance.

3.3.1. General considerations

All work at Nordion is undertaken in a planned and controlled manner through the use of procedures or work permits.

The Building Management System (BMS) monitors the operating conditions of the facility to ensure activities remains with specifications and are carried out safely.

Structures, systems and components (SSCs) are regularly maintained and inspected (see section 3.5).

The EHS committee reviews key facility metrics, such as environmental release data to ensure operational performance.

When EHS-related non-conformances (i.e. deficiencies in equipment, systems or management processes which were used to carry out, or in support of, licensed activities) are found, they are identified, recorded and reported as required.

Incidents and non-conformances are identified through the non-conformance procedures, investigations, and internal audits as outlined in the MSS.

Nordion annually conducts internal audits to verify compliance with applicable procedures and requirements. These audits ensure that Nordion's programs and systems are compliant to applicable standards and regulatory requirements, conform to internal policies and procedures, and are properly implemented and maintained.

A process is in place for reviewing and analyzing EHS related non-conformances and CAPAs. Annually, an EHS Performance Report is prepared to document the analysis of data from the previous year. The data is analyzed to determine the presence of any undesirable trends, the effectiveness of corrective action taken and whether additional corrective action is needed. The EHS Performance Report is distributed and reviewed by the EHS Committee in the annual Performance Review of the MSS and the EMS (see section 3.1.4).

CAPAs are issued as required to address incidents and non-conformances. Nordion has a CAPA process to investigate and identify the root cause of environmental and safety issues and to implement and track corrective actions needed to prevent recurrence. It is also used to initiate preventive actions to deal with potential problems.

Nordion maintains an inventory of non-production radioactive sources and material under SE-LIC-015, "Radioactive Material Inventory".

3.3.2 Conduct of Licensed Activities

Work undertaken at Nordion is planned and controlled. Work activities are identified, sequenced, and defined in approved plans, procedures, instructions, and drawings. Work activities included design control, procurement, operations, shipping, receiving, handling and maintenance. The department and, where appropriate, the identity of the person performing the work was also specified. Supervisor acceptance was scheduled as required.

Requirements are identified for avoiding damage, contamination, and foreign material ingress, for maintaining clean and protective conditions, and for proper handling, storing, shipping and preservation. Independent verifications were identified and scheduled to verify that specific requirements are met. Procedures, instructions, drawings, programs, and tools were identified, prepared and approved for use.

Safety analysis reports for sealed source manufacturing (IS/SR 1057 Z000, "Final Safety Analysis Report for Cobalt Operations") described the following:

- Operations within the KOB
- The potential radiation safety and occupational safety hazards that exist
- The worst-case accident scenarios
- The measures in place to mitigate the consequences of the hazards

Non-radioactive hazardous chemicals used at Nordion for processing, analytical testing, decontamination, and cleaning purposes are typically used in small quantities and are handled and disposed of in accordance with company operating procedures and relevant legislation. Any hazardous chemicals that come in contact with radioactive products are segregated for approved disposal, rather than being disposed of as hazardous chemical waste.

3.3.3 Procedures

Nordion ensures that documents are controlled consistent with intended use to meet the requirements of CSA N286:12. Documents contain unique identification and are developed by workers with the required knowledge. Documents are reviewed and approved within an electronic document management system (DMS) and reviewed on a routine basis to ensure they remained current.

3.3.4 Operating limits and conditions

Nordion has defined safety operating limits and conditions through the Final Safety Analysis Reports (FSARs) and in SE-LIC-007, "EHS Committee Approved Activity Limits for Facilities". These limits are posted at hotcells and pool storage locations. Any exceedance of the operating limits and conditions would be investigated to determine root cause and appropriate corrective actions implemented.

3.4 Safety Analysis

The Safety Analysis SCA covers maintenance of the safety analysis that supports the overall safety case for the facility. Safety analysis is a systematic evaluation of the potential hazards associated with the conduct of a proposed activity or facility and considers the effectiveness of preventative measures and strategies in reducing the effects of such hazards.

3.4.1 General considerations

Safety analysis is performed according to an established process as outlined in CPM-6-20, "Safety Analysis Reports". Safety assessments are performed for new Active Area facilities or processes or when changes are to be performed on a facility, ventilation system, safety system, equipment, operation or process which will significantly affect the worst-case scenario as outlined in an existing safety analysis. The assessment includes a description of the safety-related systems, features, and administrative controls (i.e. operating procedures, training, etc.) in place to detect, prevent and control hazards to protect the environment and assure adequate safety of employees and the public. Safety analysis of facilities and processes are documented in FSARs. FSARs are prepared by project leaders and approved by the EHS Committee. The FSAR provides the evidence that safety requirements have been met and that the facility, equipment, or operation is safe.

The EHS Committee is responsible for reviewing and approving significant changes to facilities which could alter any conclusions reached regarding the safety of the facility as established in the approved safety analysis. FSARs must be approved by the EHS Committee prior to a new process going into full production or prior to unrestricted production start-up following modifications.

The safety case for the overall facility is maintained in the COF and the Cobalt Pools FSARs (IS/SR 1057 Z000, "FSAR for Cobalt Operations" and IN/SR 2638 Co60, "FSAR for Cobalt Pools"). These two primary FSARs described the operations within the facility, the potential radiation safety and occupational safety hazards that exist, the worst-case accident scenarios and the measures in place to mitigate the consequences of the hazards. Secondary FSARs (IN/SR 1859 C000, "FSAR for Waste Diversion Program" and IN/SR 2315 Co60, "FSAR for Cobalt Operations Radioactive Waste Management") are also prepared to provide analysis of the safety hazards unique to those areas. These secondary FSARs are reviewed and approved internally as per an established review schedule. When modifications are made to secondary FSARs, an assessment is performed and details are captured in the primary FSARs, as required. The overall safety case for the facility is reviewed and approved by the EHS Committee.

Nordion reviewed and updated the Fire Hazard Analysis in 2021 and remains valid. The Fire Hazard Analysis was conducted by a qualified third party and assessed potential risks from a fire to personnel safety, property and operations, and the environment to ensure these risks were managed in a manner that minimizes potential impacts. Any changes to the facility that potentially impact fire protection systems are reviewed by a qualified third party to ensure that these changes do not pose a risk to life, safety or the environment. These reviews are submitted to the CNSC.

Annually, a third party conducts a compliance review regarding inspection, testing and maintenance of Nordion's Fire Protection System. These reviews are submitted to the CNSC.

3.4.2 Criticality safety

Nordion does not handle fissionable materials.

3.5 Physical Design

The Physical Design SCA relates to activities that impact the ability of SSCs to meet and maintain their design basis given new information arising over time and taking changes in the external environment into account.

3.5.1 General considerations

Nordion has designed its facility, equipment and processes to ensure the safety of the public and the environment in both normal and accident conditions. Through the FSAR process, Nordion identifies SSC's important to safety and ensures such SSCs are maintained and inspected.

3.5.2 Design governance

Design control is applicable to all process equipment and facilities' buildings, systems and equipment in support of licensed activities. Nordion's design control program ensures that design meets established codes and standards and all applicable requirements. Design requirements are identified, documented and controlled.

Changes to design of existing processing facilities and buildings, systems and equipment are controlled in accordance with Nordion's change control procedure (QAP-AP-45). The Design Authority ensures that these changes do not impinge on the established safety margin for the protection of health, safety and the environment. The EHS Committee is responsible for approving significant changes to facilities which could alter any conclusions reached regarding the safety of the facility as established in the approved safety analysis. They are responsible for approving any safety systems that are intended to protect the operator, other employees and the public from a radiation hazard. As stated previously, changes to nuclear processing facilities and associated activities are documented in safety analysis reports. EHS Compliance works through the EHS Committee to review and approve the safe design of new and modified facilities.

Nordion has a procedure to ensure that any newly purchased equipment or instruments are identified to the Facilities Department. Procurement and Facilities are responsible for ensuring all outside maintenance or calibration firms being used by Nordion are qualified to carry out the work.

Nordion also has a procedure to define the process for conceptual, ergonomic, and final design reviews, and control of design. Subject matter experts are engaged to ensure a good design based on their knowledge and subject matter expertise that aligns to existing specifications, regulations, and quality requirements.

The EHS Requirements Checklist ensures that changes within Nordion that may have environment, health, and safety impacts are appropriately evaluated by qualified EHS personnel. This applies to acquisitions of capital equipment, new products, materials, or chemicals that are being brought on-site for the first time, and for projects that could have a significant impact on the environment, health and safety (e.g. the installation of new facilities, the design of new production processes, modifications to existing facilities or processes, and changes to the Nuclear Ventilation System (NVS)).

3.5.3 Site characterization

The detailed site characterization is provided in the FSARs.

3.5.4 Facility design

The facility is described in both SE-LIC-018, "Facility Description" and the FSARs.

3.5.5 System and component design

The characteristics and major components of the systems applicable to the licenced activities are described in the FSARs.

3.5.6 Waste treatment and control

Wastewater from the active area is collected in delays tanks. The tanks are sampled for radioactivity concentrations and is released only if within the limits set out in the licence.

3.5.7 Control facilities

Nordion's infrastructure (i.e. hotcells and storage pools) are designed to provide passive protection of the radioactive material.

Nordion has the ability to remotely monitor the conditions of the facility in the event of an emergency.

3.5.8 Structure design

The structure is described in the Cobalt Facility FSARs.

3.6 Fitness for Service

The Fitness for Service SCA covers activities that impact the physical condition of SSCs to ensure that they remain effective over time. This area includes programs that ensure all equipment is available to perform its intended design function when called upon to do so.

3.6.1 General considerations

Nordion has implemented programs and processes to ensure that the facilities and equipment remain fit for service through our facility maintenance plan and instrument maintenance plan.

Through the FSAR program, Nordion identifies all SSCs important to safety. Maintenance and inspection frequency is identified through the change control process and is administered through Nordion Advanced Maintenance Management System (AMMS).

3.6.2 Maintenance program

Nordion has a system in place for the maintenance and control of equipment that supports the facility. The program provides guidelines for the documentation and maintenance of the system to ensure responsibilities are identified, filing systems are maintained, and all necessary controls are in place for facility calibration and maintenance.

Nordion uses AMMS to control Nordion's calibration and maintenance activities. The AMMS is used to catalogue all equipment requiring calibration or maintenance, record equipment information, schedule maintenance, and issue work orders.

Detailed processes and rules governing the preventative maintenance program are available in R-Master, "Facilities Maintenance Master Plan" and CP-001 "Calibration Master Plan".

The AMMS provides the necessary oversight to ensure equipment integrity. All equipment inspections and preventative maintenance schedules are dictated by the use of the AMMS.

Unscheduled repairs are reviewed on an annual basis by Facilities to assess for trends in equipment failures. Recurring failures are reviewed by EHS Compliance for the determination of any additional corrective actions.

In addition, every year a detailed review is carried out at the senior management level to discuss aging equipment at the Facility. This annual business plan review takes into account criteria such as: safety of facility; regulatory requirements; and site improvements. Projects are prioritized into categories and funds are allocated as required to approved projects.

3.6.3 Aging management program

Aging management is covered under Nordion's maintenance program (see section 3.6.2).

3.6.4 Periodic inspection and testing programs

Maintenance and inspection of SSC's important to safety performed under the maintenance program (see section 3.6.2). Pressure vessels and boilers are authorized under the TSSA. Required inspections were performed by Nordion's insurer Zurich Canada who provide the inspection reports to the TSSA.

3.7 Radiation Protection

The Radiation Protection SCA covers the implementation of a radiation protection program in accordance with the *Radiation Protection Regulations*. This program must ensure that contamination and radiation doses received are monitored and controlled and maintained as low as reasonably achievable (ALARA).

3.7.1 General considerations

Nordion has measures and systems in place to ensure that radiation exposure to employees and the public are kept ALARA. This reflects the corporate commitment to provide employees with a safe and healthy work environment and to protect the public and the natural environment as described in CPM-6-06, "Nordion Environmental, Health and Safety Policy", and CPM-6-19, "Nordion Environmental, Health and Safety Responsibilities and Committees".

Nordion has in place a program to keep radiation doses received by workers and members of the public ALARA under SE-RP-001, "Radiation Protection Manual – Ottawa Site" and SE-RP-002, "Keeping Radiation Exposures and Doses ALARA". This program defined requirements for management control over work practices, personnel qualification and training, control of occupational and public exposure to radiation, planning for unusual situations, and review of radiation doses and trends by the EHS Committee. Nordion has established a personnel monitoring program to control radiation exposure. To ensure that the external exposure of NEWs to ionizing radiation from all routine work is kept to a minimum and within safe limits, an intensive program of routine radiation surveys is carried out in all Active Areas.

All employees who regularly work in the Active Area are classified as Nuclear Energy Workers (NEWs) and are assigned monthly dosimeters from a dosimetry service company licensed by the CNSC. Nordion refers to these personnel dosimeters as TLDs regardless of the technology used.

Employees who normally work outside the Active Area and visit the Active Area on an irregular basis are also classified as NEWs but are assigned quarterly TLDs. Contractors who were given access to the Active Area are called “Contractor NEWs” at Nordion. They are trained as NEWs, tested and have security clearance, but are subject to the regulatory dose limit and internal levels of non-NEWs. Contractor NEWs are not permitted to handle radioactive material at Nordion.

Radiation doses to employees are reviewed and assessed in accordance with the ALARA principle. Nordion has also developed approved activity limits for hotcells and storage pools to control employees’ external radiation exposure. Use of activity in excess of these limits is only allowed under approved Work Permit.

Deviations to the radiation protection program are investigated, root causes determined, and corrective actions implemented (SE-RP-003, “Investigations”).

3.8 Conventional Health and Safety

The Conventional Health and Safety SCA covers the implementation of a program to manage workplace safety hazards and to protect personnel and equipment.

3.8.1 General considerations

Nordion has established an Occupational Health and Safety Program to prevent, manage and respond to potential or actual hazards or emergencies in the workplace. The Program’s elements are typically developed and managed under the following headings:

- Accident Prevention
- Occupational Health
- Safety Communication and Reporting
- Emergency Response
- Safety Training

The Director, Regulatory & EHS has overall responsibility for the Occupational Health and Safety Program.

The Workplace Health and Safety Committee provides oversight of conventional safety and conducts regular safety inspections. The EHS Committee and the Senior Leadership Team sets targets each year in the areas of Medical Treatment Incidents, Lost Time Incidents, and annually reviews the overall performance of the Occupational Health and Safety Program. Conventional Health and Safety performance is reviewed monthly by senior management and by the applicable health and safety committees.

The Workplace Health and Safety Committee is represented by union and management and typically meets on a monthly basis.

Nordion has a program in place to capture potential accidents through near-miss reporting. Employees are encouraged to report near misses, thus allowing prevention or mitigation of potential incidents. Employees also have the right to refuse dangerous work.

3.9 Environmental Protection

The Environmental Protection SCA covers programs that identify, control and monitor all releases of radioactive and hazardous substances and effects on the environment from facilities or as the result of licensed activities.

3.9.1 General considerations

Nordion has established an Environmental Protection Program to manage actual and potential environmental aspects resulting from activities, products and services.

The Environmental Protection Program outlines Nordion’s programs and processes to ensure safety and the application of the ALARA principal specifically related to:

- Airborne effluent

- Liquid effluent
- Environmental dosimetry
- Environmental contamination
- Hazardous chemical storage and handling
- Waste management and disposal

The Director, Regulatory & EHS has overall responsibility for the Environmental Protection Program.

Nordion's production facilities have been designed and are operated in a manner to ensure that releases to the environment via air or water emissions are within the limits approved by the CNSC and to prevent radioactive waste or hazardous chemicals from being released to municipal garbage or sewer systems.

An environmental monitoring program has been established to monitor and measure effluent releases and environmental contamination.

3.9.2 Effluent and emission control

3.9.2.1 Airborne Effluent

Production operations are contained within hotcells or fume-hoods. Ventilated air from these containment systems is filtered through roughing and HEPA filters. These systems are designed with redundant fan/motor and filtration units that include pre-filters, primary and secondary filtration units to filter particulates airborne effluent. The NVS has been designed and is maintained to prevent the unnecessary release of radioisotopes and other hazardous materials to the atmosphere.

The program for monitoring airborne effluent includes qualitative continuous monitoring of process ventilation and stack emissions. This is performed with the use of in-situ detectors and data recording.

Quantitative analysis of effluent is performed by weekly air sampling of stack emissions using stack cartridges filters.

Ventilation and stack sampling is conducted by using particulate. Particulates are sampled by use of cellulose filter papers and analyzed by gamma measurement.

3.9.2.2 Liquid Effluent

Wastewater which might potentially contain small amounts of radioactive contamination (from emergency showers, personnel wash sinks, water used for routine floor cleaning, etc.) was collected in holding tanks and then sampled and analyzed against derived release limits to ensure that it is in compliance with license conditions prior to being released to the municipal sanitary sewer.

3.9.3 Environmental management system

Nordion has implemented an environmental protection program to meet the following:

- CNSC REGDOC-2.9.1, "*Environmental Protection Policies, Programs and Procedures*"
- CSA N288.4, "*Environmental Monitoring Programs at Class 1 Nuclear Facilities and Uranium Mines and Mills*"
- CSA N288.5, "*Effluent Monitoring Programs at Class 1 Nuclear Facilities and Uranium Mines and Mills*"
- CSA N288.6, "*Environmental Risk Assessments at Class 1 Nuclear Facilities and Uranium Mines and Mills*"

In addition, Nordion's Environmental Protection Program meets the requirements of ISO 14001, "*Environmental management systems – Requirements with guidance for use*".

Nordion's environmental protection program is described in SE-ENV-015, "Nordion Environmental Protection Program" and SE-ENV-001 "Environmental Management System". The program ensures the control, monitoring and recording of releases of radionuclides and hazardous substances to the environment.

3.9.4 Assessment and monitoring

Annually, soil samples are taken and analyzed from various locations on Nordion property to test for the presence of radioisotopes and to detect potential soil contamination.

Nordion monitors groundwater annually for both non-radioactive and radioactive contaminants. This monitoring is done to ensure there are no significant changes in results since the Limited Phase I and Phase II Environmental Site Assessment which was conducted by an environmental engineering company for Nordion in August 2005.

Since 2006, quarterly sampling of the sanitary releases is conducted to analyze for non-radiological contaminants and ensure they remain with the City of Ottawa by-law limits.

3.9.5 Protection of people

Limits for radioactive emissions are determined by the Derived Release Limit (DRL). The DRL was determined for each of the major radioisotopes processed in the facility and then approved by the CNSC. The DRL takes into account the critical pathway analyses and the most probable location of highest radiation exposure. The DRL uses the 1.0 mSv annual public dose limit as the limiting factor.

Since 2015, the highest yearly dose to a member of the public from licence activities at the site has been 5.7 uSv.

3.9.6 Environment risk assessment

Nordion undertook an update to its ERA in 2022. In 2024, Nordion hired a third-party consultant to review the 2022 ERA. The third-party consultant confirmed that the 2022 ERA remained sufficient.

3.10 Emergency Management and Fire Protection

The Emergency Management and Fire Protection SCA covers emergency plans and emergency preparedness programs that exist for emergencies and for non-routine conditions. This area also includes any results of participation in exercises.

3.10.1 General considerations

Nordion has developed emergency management and fire protection programs that meet the requirements of REGDOC-2.10.1, "*Nuclear Emergency Preparedness and Response*" and CSA N393, "*Fire Protect for Facilities that Process, Handle or Store Nuclear Substances*".

Emergency response planning is required to reduce or mitigate operational impacts and potential environmental, health and safety impacts that may occur in the event of an emergency. Nordion has an extensive emergency preparedness program to respond to various types of emergency situations, including on-site and off-site emergencies. Nordion has established a number of Emergency Response Plans (ERPs) to address various emergency situations, the primary plan being the SE-ERP-002, "Emergency Response Plan". These plans outline response actions to be taken to minimize potential environmental, health and safety impacts. Depending on the nature and scale of an emergency, the appropriate ERP is activated. The ERPs are routinely reviewed, updated, and tested in the form of drills, desk top training exercises and full-scale evacuation exercises. Nordion has established a schedule to test each of these plans with a target of testing each plan within a five-year period.

Nordion maintains an inventory of emergency equipment that is routinely inspected.

Emergency response training is provided to workers with emergency response duties.

An Emergency Response Planning Committee has been established and meets on a regular basis to discuss and assess the Company's emergency planning needs, to plan emergency response exercises and drills to test existing ERPs and as necessary, to review the emergency response plans for suitability and effectiveness. In addition, emergency response procedures are regularly reviewed and revised, as necessary, in particular immediately following the occurrence of an incident, accident or emergency situation.

Testing of the Emergency Response Contact List is performed annually to ensure accuracy of off-hour contact information listed, to determine availability of personnel, and to estimate response times.

Nordion works in partnership with local Fire and Police Departments to ensure safe and appropriate response to potential emergency situations. Nordion provides regular orientation sessions to the local Fire and Police Departments to familiarize them with the facility and to discuss how to work together in an emergency situation. Nordion invites local emergency response organizations to participate in emergency response drills at the site to test how these types of emergencies would be managed. Emergency response drills have been attended by the local Fire Department, Hazardous Materials (HAZMAT) and Paramedics who participated as exercise players, allowing them and Nordion to improve interoperability of response.

The emergency response plans outline steps to be taken to notify the surrounding community and businesses in the event of an emergency which could impact the local community. Checks of emergency response equipment are generally managed through the AMMS and/or by Radiation Surveyors. A schedule of drills and exercises is also maintained to ensure testing and exercises are conducted regularly.

3.10.2 Nuclear emergency preparedness and response

In addition to the general emergency response procedure described above, Nordion has implemented a radiation emergency response plan to address any radiation related emergencies. During an emergency situation, Nordion has the capability to monitor facility conditions remotely to ensure proper response.

3.10.3 Conventional emergency preparedness and response

In addition to the radiation emergency response plan, Nordion has also implemented:

- Communicable Disease and Bio-Terrorist response plan
- Chemical spill response plan
- Transportation Emergency response plan
- First Aid program

These plan all fall under the general emergency response procedure described above.

3.10.4 Fire emergency preparedness and response

Nordion's Fire Safety Plan (SE-ERP-001) and Fire Protection Program (SE-EHS-007) has been established to minimize the probability and consequences of a fire at Nordion. The objective of this program is to promote life safety, the conservation of property and essential equipment, the protection of the environment, and the continuity of operations through provisions of fire prevention and fire protection measures.

This program outlined Nordion's commitments to:

- Maintain a Fire Hazard Analysis
- Ensure the design, analysis, and operation of Nordion facilities are planned and controlled
- Manage changes that could impact fire protection to minimize potential impacts
- Ensure Nordion operates, maintains, tests, and inspects the facility in accordance with applicable codes and requirements
- Ensure impairments to fire protection systems are managed in a manner to minimize the duration of equipment outages and that they are pre-planned wherever feasible
- Ensure impaired equipment is identified, tagged, and tracked and appropriate personnel are notified
- Ensure areas are kept clear of debris and the movement and storage of flammable and combustible materials is controlled
- Establish and regularly test Fire Safety Plans

3.11 Waste Management

The Waste Management SCA covers internal waste-related programs that form part of the facility's operations up to the point where the waste is removed from the facility to a separate waste management facility. This area also covers the planning for decommissioning.

3.11.1 General considerations

To minimize potential impacts to the environment, Nordion has established comprehensive waste management programs for managing radioactive, hazardous and non-hazardous waste.

Nordion has established a radioactive waste management program, which complies with applicable laws, regulations and license conditions. Nordion has also established waste diversion programs designed to divert waste below CNSC accepted clearance levels for release through conventional waste methods.

3.11.2 Waste characterization

Waste from the Active Area is categorized into waste types, typically : routine waste, non-routine waste, and divertible waste. Routine waste is waste generated from production processes and is routinely shipped to approved external radioactive waste management facilities. This waste has been characterized into repositories, or "Waste Blocks". Radioactive waste that has not been characterized into a waste block is considered non-routine radioactive waste. Non-routine radioactive waste is evaluated for conventional waste disposal or packaged for shipment to a licensed radioactive waste management facility. Waste generated within the Active Area that meets the CNSC unconditional clearance levels is diverted from the solid active waste stream being sent to licensed radioactive waste facilities and is disposed of by conventional waste disposal methods, such as landfill.

Waste from other radioisotope licensees is not transferred to Nordion for subsequent disposal, with the exception of spent sealed sources that may be returned to Nordion for recycling or other end-of-life management.

3.11.3 Waste Minimization

To continuously improve performance and to meet the spirit of ISO 14001, Nordion regularly monitors waste and establishes objectives and targets for continuous improvement.

Nordion encourages and promotes techniques that reduce waste, in all areas of operation. Nordion has implemented an Active Area waste diversion program. The waste diversion programs have successfully diverted waste from disposal at a licensed radioactive waste facility to regular landfill through segregation at the source and the use of sensitive monitoring equipment for verification that the segregated waste is below the unconditional clearance levels prescribed in CNSC regulations.

Waste that does not meet the unconditional clearance levels may be stored for decay and subsequently re-monitored or sent to a separate licensed radioactive waste management facility. Hazardous and biological materials are diverted to separate waste streams prior to segregation at the source of the solid waste.

Nordion has implemented a Cobalt-60 recycling program. Returned sealed sources are cut open and the Cobalt-60 material is reused to make new sealed sources.

3.11.4 Waste Management practises

Nordion manages its radioactive wastes in a manner that ensures conformance with the regulatory objectives, requirements, and guidelines of the CNSC, as well as the waste acceptance requirements of radioactive waste receivers.

Nordion production facilities have been designed and are operated in a manner to prevent radioactive waste from being released to municipal garbage or sewer systems and to ensure that releases to the environment via air or water emissions are within limits approved by the CNSC. All radioactive waste that is generated through production operations is collected and sent to a CNSC approved radioactive waste management facility.

Nordion has designated space and processes to store and segregate radioactive waste that is generated in production operations. One room is dedicated for all waste storage. Space is also designated for storage of containers and management of waste being prepared for shipment to external waste management facilities.

Non-radioactive chemical waste is consolidated in designated cabinets in the shipping areas. Non-radioactive chemicals are primarily used in the quality control labs for analyses and testing. Waste chemicals are brought to the chemical storage sheds where they are picked up by a licensed waste disposal company for treatment and/or disposal.

Nordion has established programs for managing non-hazardous waste in the Non-Active Areas of the facility to divert waste such as plastics, metals, paper, cardboard, and organics from landfill. Annually Nordion conducts a waste audit of non-hazardous waste to determine diversion program performance.

Nordion also establishes targets to reduce non-hazardous waste sent to landfill. Initiatives to meet these targets include reducing waste, raising awareness of existing recycling programs and looking for further opportunities to divert waste as feasible.

3.11.5 Decommissioning Plan

Nordion's Decommissioning Plan is described in SE-LIC-009, "Preliminary Decommissioning Plan for Class 1B Facility (KOB)". This plan was approved in February 2023 and remained sufficient for current activities.

3.12 Security

The security SCA covers the programs required to implement and support the security requirements stipulated in the regulations, the license, orders, or expectations for the facility or activity.

Information regarding the Security safety and control area is considered confidential-prescribed information and will be provided under separate cover.

3.12.1 General considerations

Nordion has implemented robust site and transport security programs to meet the requirements of REGDOC 2.12.3, **Security of Nuclear Substances: Sealed Sources and Category I, II and III Nuclear Material**. Nordion has 24/7 on-site security. Security guards are trained in accordance with Nordion's training program. The details of Nordion's security program are outlined in the Nordion Security Plan and the Transport Security Plan that have been submitted to and approved by CNSC staff and will not be described further in this attachment due to the security nature of the information.

Nordion has implemented a cyber security program through its parent company, Sotera Heath. This program is based on the NIST cybersecurity framework. IT assets are managed. Firewalls have been implemented to address security threats. Training on IT security threats and security networks is provided to employees on a regular basis. Testing of potential threat vectors is performed on employees and the results reviewed to implement additional training as may be required.

3.13 Safeguards and Non-Proliferation

The safeguards and non-proliferation SCA covers the programs and activities required for the successful implementation of the obligations arising from the Canada and International Atomic Energy Agency (IAEA) safeguards agreements, as well as all other measures arising from the *Treaty on the Non-Proliferation of Nuclear Weapons*.

3.13.1 General considerations

Nordion has a program in place for the management of safeguarded material at the Nordion Ottawa site, SE-LIC-016, "Management of Safeguarded Material". The program meets the safeguards requirements of specified license conditions, CNSC regulatory document RD-336, "Accounting and Reporting of Nuclear Material", CNSC Nuclear Non-Proliferation Import and Export Control Regulations, the Nuclear Safety and Control Act and General Nuclear Safety and Control Regulations.

The type of safeguarded nuclear material that Nordion has is primarily depleted uranium, with some small amounts of enriched uranium, natural uranium, plutonium, and thorium. The material is in the form of check sources and standards, and shipping containers with depleted uranium as shielding.

3.13.2 Nuclear accountancy and control

Nordion completes a Physical Inventory Taking (PIT) of safeguarded material on an annual basis. The Annual PIT is followed by a CNSC Physical Inventory Taking Evaluation (PIT-E). Complementary Access Inspections were conducted by the IAEA in 2015, 2017, 2022 and the IAEA also conducted a Physical Inventory Verification in 2019.

Nordion is fully compliant with RD-336, "*Accounting and Reporting of Nuclear Material*".

3.13.3 Access and assistance to the IAEA

Nordion provides access and assistance to the IAEA through requests from the CNSC. Nordion treats these IAEA access requests as a regulatory inspection and ensure facility workers and resources are available, as is done for any CNSC inspection.

3.13.4 Operational and design information

Nordion provides a Design Information Questionnaires (DIQ) and the additional protocol to the CNSC as required. The DIQ and additional protocol are reviewed by appropriate staff to ensure the submissions are accurate.

3.13.5 Safeguards equipment, containment and surveillance

No IAEA equipment is present at Nordion's site.

3.14 Packaging and Transport

The Packaging and Transport SCA covers programs for the safe packaging and transport of nuclear substances to and from the licensed facility.

3.14.1 Package design and maintenance

Nordion has developed a program for the design and maintenance of transport packages. This program is described in section 3.14.2.

Nordion's transport packages are primarily Type B packages certified by the CNSC.

Any changes to package design are done in accordance with Nordion's change control process.

3.14.2 Package and transport program

The Packaging and Transportation Program at Nordion is detailed in SE-OP-036, "Transportation of Radioactive Materials Program", SE-OP-014, "Shipping Radioactive Material", and SE-OP-015, "Receiving Radioactive Material". These procedures provide a high-level overview of Nordion's transportation of radioactive materials program. The program applies to employees involved in design, production, use, inspection, maintenance and repair of packages, and the preparation, consigning, handling, loading, carriage, storage during transport, receipt at final destination, and unloading of packages. It applies to various types of packages including Type A, Type B, and Excepted packages. The content of the program was modeled on regulatory requirements listed in the CNSC, *Packaging and Transportation of Nuclear Substances Regulations*, Transport Canada, *Transportation of Dangerous Goods Regulations*, IAEA, *TS-R-1 Regulations for the Safe Transport of Radioactive Material (1996 Revised Edition)*, US DOT, 49 CFR, and US NRC, 10 CFR part 71.

The Packaging and Transportation Program outlined the various processes that are used to monitor and maintain the health of this program.

Some of the elements discussed include:

- Design
- Testing/Assessment/Documentation
- Regulatory Approvals
- Manufacturing/Procurement
- Inspection/Maintenance
- Loading/Packaging
- Shipment
- Customer Use of Packages
- Return Shipment
- Decommissioning of Transport Packages

- Security
- Safety
- Package Quality
- Regulatory Oversight

Nordion also has a Transport Package Quality Plan to describe how the quality assurance requirements for the design, fabrication, assembly, testing, maintenance, repair, modification, and use of Nordion radioactive material transport packaging are achieved. It identifies the activities, responsibilities, and actions necessary to ensure that all regulatory, customer, and internal Quality Assurance program requirements are met.

This plan is applicable to all Nordion Type A and Type B Transport Packages. Radioactive materials transport packaging falls within the scope of Nordion's ISO 9001 Quality Management System. This Quality Plan supplements the Quality Manual where requirements are specific to transport packages.

Compliance with the program document, the quality plan, and any referenced procedures is tracked through Nordion's Quality Systems (Deviations, Non-Conforming Materials Reports and Customer Complaints). As required, events are investigated, and corrective actions assigned.

3.14.3 Registration for use

All new package designs, or changes to current package designs, follow the change control process. This process contains a checklist that has a specific section related to transport considerations. Appropriate staff review all new designs or changes to current design and assess the regulatory requirements (transport licence amendment, new transport licence, etc).

3.15 Reporting

Nordion is committed to openness and transparency with the CNSC and has implemented SE-EHS-009, "EHS Regulatory Reporting and Notifications" to ensure compliance with REGDOC -3.1.2, "*Reporting Requirements, Volume I: Non-Poer Reactor Class I Facilities and Urnaium Mines and Mills*".

Nordion has implemented a program for reporting of high activity sealed sources. This program is described in SE-OP-079, "Sealed Source Reporting".

3.16 Public Information and disclosure program

Nordion is committed to transparency with the public and has implemented SE-LIC-010, "Nordion Public Information Program". This program meets the requirements of REGDOC-3.2.1, "*Public Information Disclosure*". Nordion's public information program is designed to meet three key objectives:

- To build public awareness about Nordion's business products, services, operations and that Nordion is a nuclear facility through timely and ongoing clear, consistent and transparent communications;
- To proactively engage identified stakeholders and utilize available communications tools and channels to foster ongoing public awareness and outreach;
- To obtain stakeholder feedback and create a two-way dialogue to continuously improve Nordion's Program.

Nordion reaches out to the local community through the following primary means:

- Public surveys, conducted every 2 years to gauge community interest and concerns;
- Public awareness events and mailings, typically provided every two years, providing information on Nordion's activities;
- Posting of event reports and environmental data (via the Annual Compliance Report) to the Nordion website.

As part of our licensing renewal efforts, Nordion will engage with the local community to inform them of the renewal application and process and address any questions or concerns that are brought forward. A copy of our application will be posted on the Nordion website.

3.17 Indigenous engagement

The Nordion facility is situated in the unceded territories of the Algonquin Anishinaabe. There are several Indigenous Nations and groups that would have an interest in Nordion activities. Primarily, these are:

- The Algonquins of Pikwakanagan First Nation (AOPFN)
- The Kebaowek First Nation
- The Algonquins of Ontario.

In prior years, Nordion would provide these Indigenous Nations and groups invitations, typically via email, to various Nordion outreach events.

In 2023, Nordion began to implement a more robust Indigenous engagement program and reached out directly to the AOPFN. In the same year, the Nordion Senior Leadership Team attended cultural awareness training with the AOPFN in their community. Also, in 2023, Nordion and BWXT Medical hosted a delegation from the AOPFN at the Nordion facility, providing a tour of the Nordion operations and starting discussions on engagement.

In late 2023, Nordion hired a consultant to develop an engagement program. Nordion will be reaching out the AOPFN in Spring 2024 with a draft engagement plan for discussion. As part of this engagement plan, Nordion is planning to provide a community event with the AOPFN to discuss the licence renewal.

In Spring 2024, Nordion will also be providing a formal notice to both the Kebaowek First Nation and the Algonquins of Ontario of our application to renew our licence and will be seeking opportunities to discuss concerns or questions they may have.

3.18 BWXT Medical

In 2018, Nordion divested the Medical Isotopes business to BWXT Medical. Nordion retained what was referred to as the Gamma Technologies business, which is described as the Nordion activities in this renewal application. BWXT Medical leases back the Nuclear Medicine Production Facility and Kanata Radiopharmaceutical Manufacturing Facility. In late 2021, BWXT Medical received a Class 1B licence to operate their business in the leased portion of the facility. Nordion continues to operate the Gamma Technologies business in the COF under the Nordion Class 1B licence. Nordion remains the owner of the site and the buildings located at 447 March Road. This arrangement has resulted in two separate Class 1B licensees.

Nordion and BWXT Medical share a number of key programs. The emergency response program is a shared program. For site wide emergencies, a Nordion employee takes the lead as the incident commander. However, the remaining emergency response functions will be called from either BWXT Medical or Nordion personnel, depending on the situation. In the event of a site-wide emergency or other reportable event that occurs in the shared spaces, both Nordion and BWXT Medical provide independent reporting to the CNSC duty officer or respective project officer, as the situation requires.

In addition to emergency response, security is a shared program that is managed by Nordion. Calibration services is a shared program managed by BWXT Medical.

Procedure SE-LIC-023, "BWXT Medical-Nordion Safety Responsibility" has been developed to define the relationship and programs between Nordion and BWXT Medical.

Although Nordion and BWXT Medical share a site and a number of programs, each licensee is responsible for activities under its respective licence.

GLOSSARY

AOPFN	Algonquin of Pikwakanagan First nation
ALARA	As Low As Reasonably Achievable
AMMS	Advanced Maintenance Monitoring System
CAPA	Corrective Action Preventative Action
CNSC	Canadian Nuclear Safety Commission
COF	Cobalt Operations Facility
CSA	Canadian Standards Association
DIQ	Design Information Questionnaires
DMS	Document Management System
DOT	Department of Transport
DRL	Derived Release Limit
EHS	Environment, Health and Safety
EMS	Environmental Management System
ERC	Emergency Response Center
ERP	Emergency Response Plans
FSAR	Final Safety Analysis Report
HAZMAT	Hazardous Materials
HEPA	High Efficiency Particulate Air
IAEA	International Atomic Energy Agency
ISO	International Organization for Standardization
KRMF	Kanata Radiopharmaceutical Manufacturing Facility
KOB	Kanata Operations Building
NEW	Nuclear Energy Worker
NMPF	Nuclear Medicine Production Facility
NVS	Nuclear Ventilation System
OPEX	Operating Experience
PIT	Physical Inventory Taking
PIT-E	Physical Inventory Taking – Evaluation
SCA	Safety and Control Area
SSC	Structures, Systems and Component
TLD	Thermo-luminescent Dosimeter
TSSA	Technical Standards and Safety Authority