NRC·CNRC　　**Office of Audit and Evaluation**

Audit of Occupational Safety and Health

March 2017

National Research Council Canada

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Executive Summary and Conclusion

Background

This audit report presents the findings of the National Research Council Canada's (NRC) *Audit of Occupational Safety and Health (OSH).*

An efficient and effective occupational safety and health framework is necessary to ensure there is a safe working environment at NRC. The *Canada Labour Code Part II* and *National Joint Council Occupational Health and Safety Directive* establish the legislative framework and outline the duties of both the employer and the workers pertaining to OSH. Management is responsible for overall occupational safety and health at NRC and employees have personal accountability.

Audit Objective

The objective of the audit was to provide independent assurance to NRC Senior Management with respect to the adequacy of the OSH management control framework employed by NRC. Specifically, the audit assessed whether NRC has in place:

- An adequate governance framework;
- An adequate OSH planning and management process; and
- An adequate monitoring and reporting framework.

Raison d'être

As part of annual risk-based audit planning process, NRC's Office of Audit and Evaluation identified occupational safety and health as a high priority area for examination. First and foremost, non-compliance with OSH legal standards and requirements increases the health and safety risks for NRC staff, contractors, and visitors. It could also adversely affect NRC's reputation as an employer and partner of choice, and ultimately affect its ability to realize its mandate.

Strengths

NRC has made notable improvements since the previous internal audit of OSH conducted in 2010-11. These improvements include the recent acquisition of an OSH eLearning system, the establishment of NRC's Leadership Safety Action Plan initiative, as well as the establishment of an electronic Hazardous Occurrence Investigation Reporting system, which is intended to ensure more consistency and completeness of information reported.

Areas for Improvement

Key opportunities for improvement were identified with regards to: clarifying expectations related to NRC's OSH program delivery model, including roles and responsibilities specific to the implementation of the OSH program throughout the organization; the implementation of its eLearning system; ███████████████████████████ ████████████████ [i] the development and maintenance of NRC's OSH policy suite;

the implementation of NRC's Hazards Prevention Program (HPP); as well as the maintenance and storage of OSH related records.

Audit Opinion and Conclusion

In my opinion as Chief Audit and Evaluation Executive, NRC's current occupational safety and health management control framework has key components in place to support NRC's OSH program. However, there is a need for improvement[1] to meet the complex occupational safety and health needs of the National Research Council.

NRC should further strengthen its OSH program through ongoing improvement and risk based considerations related to NRC's OSH management control framework as set out below.

Note sections of the report have been removed or severed in accordance with Section 16 (2) (c) of the Access to Information Act.

Statement of Conformance

In my professional judgment as the Chief Audit and Evaluation Executive, sufficient and appropriate audit procedures have been conducted and evidence has been gathered to support the accuracy of the audit opinion and conclusion. The audit conforms to the *Internal Auditing Standards for the Government of Canada*, as supported by the results of the quality assurance and improvement program.

Alexandra Dagger, CIA, Chief Audit and Evaluation Executive

Acknowledgements

The audit team would like to thank those who collaborated in this effort to highlight NRC's strengths and opportunities for improvement as they relate to this audit project.

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[1] See Appendix B for the list of potential overall ratings.

1.0 Introduction

This audit report presents the results of the Audit of Occupational Safety and Health (OSH). The Audit of OSH was approved by the President as part of NRC's 2015-16 to 2017-18 Risk-Based Audit Plan as recommended by NRC's Departmental Audit Committee.

2.0 Background and Context

An efficient and effective occupational safety and health program is necessary to ensure a safe working environment at NRC. The Canadian Centre for Occupational Health and Safety[2] defines an OSH program as a plan of action designed to prevent injuries and illness at work, and is required under occupational health and safety legislation. With regard to NRC, *The Canada Labour Code Part II* and its applicable regulations, and the *National Joint Council Occupational Health and Safety Directive,* establish the legislative framework and the duties of both employer and employee pertaining to the management of OSH.

According to NRC's OSH Policy, General Managers or Director Generals are responsible for overall occupational safety and health in their respective Portfolio, Branch or, IRAP (PBI). This includes ensuring that the *NRC Occupational Safety and Health Policy,* and all directives, standards, programs and, safe work procedures are implemented through specific delegation of authority to managers and supervisors. NRC's Occupational Safety and Health Management Control Framework, and its OSH Responsibility Structure are depicted in Appendix C.

Laboratory and fieldwork environments in which NRC researchers operate vary greatly in terms of activities and potential hazards. These laboratory and fieldwork environments have an inherently greater risk than an office work environment.

3.0 About the Audit

Objective

The objective of the audit was to provide independent assurance to NRC Senior Management with respect to the adequacy of the OSH management control framework employed by NRC. Specifically, the audit assessed whether NRC has in place:

- An adequate governance framework;
- An adequate OSH planning and management process; and
- An adequate monitoring and reporting framework.

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[2] The Canadian Centre for Occupational Health and Safety (CCOHS) is an independent departmental corporation under Schedule II of the *Financial Administration Act* and is accountable to Parliament through the Minister of Employment, Workplace Development and Labour. CCOHS functions as the primary national agency in Canada for the advancement of safe and healthy workplaces and preventing work-related injuries, illnesses and deaths.

Scope

The audit scope included governance, risk management, and control processes in place for ensuring occupational safety and health at both the corporate and local levels for the period extending from January 2014 to July 2016.

OSH inspections or observations of employees performing their duties were not part of the audit scope. This audit did not seek to provide assurance that employees consistently work in a safe manner and that workplaces are free of hazards.

The audit was not intended to provide assurance on environmental operations or security. However, the audit examined linkages between these functions and OSH.

Approach, Methodology, and Criteria

The audit was conducted in accordance with *Institute of Internal Auditors (IIA) Standards* and the *Internal Auditing Standards for the Government of Canada,* as required by the Treasury Board *Policy on Internal Audit.*

Due to the highly technical nature of the subject matter, the audit team was supported by an external consultant who acted as a subject matter expert in order to provide expertise on occupational safety and health.

A risk assessment was conducted in order to identify the audit objective, scope and criteria.

The audit criteria for evaluating the adequacy[3] of the OSH management control framework have been primarily derived from, but not limited to, the *Canada Labour Code Part II* and the regulations pursuant to that Code, the standard Z1000 of the Canadian Standards Association (CSA) for Occupational Health and Safety Management, and the NRC Occupational Safety and Health policies, directives, and guidelines (see Appendix A).

The audit methodology included documentation review and interviews. Senior management or their delegates were consulted on an on-going basis throughout the audit process.

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[3] Concluding on the adequacy of NRC's OSH management control framework includes an examination of the effectiveness and efficiency of governance, risk management, and internal controls related to the management of OSH activities at NRC

4.0 Audit Findings and Recommendations

4.1 Governance – Senior Management Leadership and Employee Participation

Summary Findings

NRC's senior management provides strategic leadership for occupational safety and health activities and assumes overall responsibility for its ongoing implementation at NRC. However, more work is needed to operationalize NRC's OSH program at the PBI level to ensure that NRC's risks are systematically identified, assessed, and mitigated with appropriate controls in a timely manner. NRC's OSH policy committee and workplace committees are established in compliance with legislation in which employees participate.

OSH roles, responsibilities and authorities are established through policy instruments and job descriptions; however these were found to be inconsistent and at times conflicted with one another across NRC's policy, directives, and guidance. As such, there is an opportunity to clarify expectations related to NRC's OSH program delivery model, specifically with regards to the roles and responsibilities expected of NRC's OSH Advisors for the implementation of the OSH program throughout the organisation.

There is an opportunity to improve the development, maintenance, and communication of NRC's OSH policy suite and guidance, in order to ensure these address all of the hazards identified in NRC's Hazard Prevention Program as well those required by legislation.

Supporting Observations

Senior Management Leadership and Employees Participation

We found that strategically, NRC's senior management provides leadership (tone at the top) for occupational safety and health activities at NRC with regards to promoting occupational safety and health practices. However, more work is needed to operationalize NRC's OSH program at the PBI level to ensure that NRC's risks are systematically identified, assessed, and mitigated with appropriate controls in a timely manner. This point is discussed in more detail throughout this report below.

NRC has established a committee structure in accordance with the requirements of the *Canada Labour Code Part II (CLC Part II), Policy Committees, Workplace Committees and Health and Safety Representative Regulations and the National Joint Council Part XX.* This legislation sets out the requirements for organizations to establish two types of OSH committees: a National Health and Safety Policy Committee and Workplace Health and Safety Committees. We found that these committees have been established at NRC in the form of NRC's National Committee on Occupational Safety and Health (NCOSH) as well as Committees on NRC's Occupational Safety and Health (COSHs).

NCOSH reviews and oversees the development of organizational policy instruments, including directives, standards, programs, and safe work procedures, for approval by the Senior Executive Committee (SEC) and ultimately the NRC President. It encourages

occupational safety and health at NRC through communication, guidance, and by promoting cooperation across NRC, including portfolios, programs, and branches. It also addresses health and safety matters that have an organization-wide impact.

NRC has established a number of Workplace Health and Safety Committees, as required to help ensure that all parties in NRC's workplace collaborate to address matters relating to occupational safety and health.

We also examined these committees to determine whether employees participated in OSH management at NRC. Through reviews of committee terms of reference, committee memberships, agendas, minutes of meetings, and records of decisions, we found that employee participation was evident and, that employees are consulted with regards to the development of NRC's OSH policies, procedures, directives, standards and programs.

Roles, Responsibilities, and Authorities

According to NRC's OSH Policy, General Managers or Director Generals, managers, supervisors, and employees are responsible for overall occupational safety and health in their respective Portfolio, Branch or, IRAP. This includes ensuring that the *NRC Occupational Safety and Health Policy,* directives, standards, safe work procedures programs, including NRC's Hazard Prevention Program (HPP), are implemented. NRC's Human Resources Branch (HRB) provides occupational safety and health guidance, advice, and support to NRC management through its Corporate Occupational Safety and Health (OSH) Group, which reports directly to the Vice-President, Human Resources Branch. NRC's Occupational Safety and Health Management Control Framework, and its OSH Responsibility Structure are depicted in Appendix C.

We noted that the *NRC Occupational Safety and Health Policy* was recently updated and approved in July 2016. We found that roles and responsibilities of NRC's OSH Advisors as set out in the revised policy do not align with the model of OSH Program delivery being implemented at NRC. Specifically, NRC's updated policy specifies NRC's OSH Advisors as responsible for implementing the OSH program across NRC in collaboration with management. However, what was communicated and understood corporately was that OSH Advisors only support implementation and the responsibility for actual implementation rests with NRC management.

We noted that NRC's portfolios had concerns with the level of expertise and support provided by OSH Advisors for the implementation of NRC's OSH Program and the viability of assigned roles and responsibilities, both at the corporate and local levels. For example, we noted an instance where a portfolio found the need to establish its own Management Services Office, which includes portfolio oversight of OSH activities along with the communication of new OSH guidance and initiatives. We also found that other portfolios, due to the time and expertise required to implement OSH across their organizations, have had to secure a full time portfolio resource in order to develop and lead the implementation of their OSH requirements.

We examined the current job descriptions for NRC's OSH Advisors and found that the responsibilities as set out are actually aligned with NRC's most recent OSH policy and

consistent with the needs expressed by portfolios for dedicated resources taking the lead, with support from management, in the implementation of NRC's OSH program.

We also examined job descriptions for Vice-Presidents, Directors General, General Managers, Research & Development (R&D) Directors, and Directors of Operations and found that only one job description (Vice-President) did not outline roles and responsibilities specifically related to OSH. While we did not examine individual employee performance agreements, we noted that one portfolio examined as part of the audit indicated that all of its employees and supervisors must include at least one commitment related to OSH in their Commitments to Excellence (i.e. Performance Agreements).

We found that OSH roles, responsibilities, and authorities are communicated in various ways outside of policy instruments or job descriptions such as in emails to staff, town hall PowerPoint presentations, newsletters, and posters. We also noted a best practice with regards to communication of OSH related roles, responsibilities, and activities within Automotive and Surface Transportation (AST). AST has made available its "*AST – Health and Safety Accountability Framework"* on NRC's intranet site *MyZone*. Its framework sets out "Performance Metrics", "Action Tasks – Key Activities", and "Principal Accountabilities" for the General Manager, Director of Operations, Site OSH Leads, Directors of R&D, Team Leads, Area Custodians, employees, Local COSH, and the Health and Safety Advisor.

OSH Policy Instruments (Development, Maintenance, and Communication)

Part 19 of the *Canada Occupational Health and Safety Regulation* requires that an organization's Hazard Prevention Program include all six components listed below:

1. Implementation Plan
2. Hazard Identification and Assessment Methodology
3. Hazard Identification and Assessment
4. Preventive Measures
5. Employee Education
6. Program Evaluation/Reports and Records

NRC's HPP is intended to form a foundational basis from which NRC's OSH Program is developed and implemented, including policies, directives, safety programs, and safe work procedures. The HPP by design is generic and requires each PBI to systematically identify their hazards, assess risks, and implement appropriate control and mitigation measures to reduce impacts/risks to the health and safety of employees, with the support of a Corporate OSH Advisor. We found that while NRC has developed a suite of OSH policy instruments, either locally or corporately, in support of NRC's HPP, the suite does not yet fully address all of the known hazards NRC employees face. As such, it does not yet fully and formally set out NRC's OSH policy stances and expectations. For example, we noted the following instruments were either under development or identified for development at the corporate or PBI level, but had not yet been formalized:

- Contractor Safety (under development)
- Orientation (under development)
- WHMIS 2015/Chemical Safety Program/Chemical Hygiene (under development)

- Working at Heights/Fall Protection (mentioned in the Personal Protective Equipment [PPE] but under development)
- Hazardous Energy (under development)
- Preventative Maintenance
- House Keeping
- Crane/Hoist Safety (identified as priority by NCOSH for 2017)
- Fork Lift (identified as priority by NCOSH for 2017)
- Slips/Trips and Fall Prevention
- Transportation of Dangerous Goods (under development)
- Machine Guarding (under development)
- Asbestos Management
- Firearms Safety (developed but not implemented)

With regard to firearms safety, we found through document review and interviews that NRC staff have occasionally, in the recent past, handled firearms for protection against dangerous wildlife while conducting fieldwork in the Arctic. The *Public Agents Firearms Regulations* set out specific requirements for the management, use, and handling of firearms by federal government employees. These include the requirement that federal government employees handling firearms must receive training before storing, handling, transporting, possessing, or using firearms. While we found evidence of such training being procured and provided to NRC staff, we did note that there was no evidence to support that all requirements were adhered to, specifically in regards to the Treasury Board of Canada *Occupational Health Evaluation Standard* requiring health examinations for federal government employees handling firearms. We also noted that NRC's Corporate OSH Group, following a request for assistance by a PBI, had developed a directive on firearms but this directive was not implemented nor did we find evidence that NRC's stance on the use of firearms was formally communicated to PBIs involved in conducting fieldwork in the Arctic. As such, we identified opportunities for improvement related to the development, communication, and implementation of internal controls around specific hazards facing NRC employees.

We also found that NRC's existing OSH policy instruments are not all up to date. For example, we found that NRC's *Respiratory Protection Program* and the *Personnel Protective Equipment Program* makes reference to outdated Canadian Standards Association standards. Addressing the maintenance of NRC's existing OSH policy instruments, as well as the development of new instruments, NRC's Corporate OSH Group has put in place an OSH Policy Instrument Development Project. The objective of this project is to define a new OSH policy instrument and guidance development process that will lead to more effective maintenance and implementation of up to date guidance and supporting tools. While we found that priorities have been identified for FY16-17, we did not find a comprehensive plan that included priority activities for policy suite development beyond this time frame.

In addition to staff or town hall meetings, the main mediums for communication of OSH policy instruments are e-mail notifications and NRC's intranet site *MyZone.* We found through an examination of OSH policy instruments available on *MyZone* that the content was not easily accessible or complete. For example, the updated *NRC Occupational*

Safety and Health Policy, approved in July 2016, had not yet been released on *MyZone* as of December 2016.

Recommendations

1. The Director, Health and Safety, should revisit NRC's model of OSH Program delivery with NRC senior management to ensure that it is aligned with organizational needs and expectations, and to ensure that roles and responsibilities are consistent across NRC's OSH policy instruments, in particular as they relate to the implementation of the OSH program throughout the organization. [Priority: **High**]

2. The Director, Health and Safety, using a risk based approach, should ensure that all required OSH policy instruments at NRC have been identified, prioritized, developed, communicated, and maintained in a timely manner. [Priority: **Moderate**]

4.2 Planning and Management Processes

Summary Finding

We found that NRC has communicated a multi-year OSH Improvement Plan that sets out NRC-wide OSH objectives and targets over a three to four year term.

We found that NRC has developed a hazard prevention program (HPP) that includes all of the six elements required by legislation and has developed tools to assist with its implementation. However, opportunities for improvement were observed with regards to the completion of HPPs, specifically with regards to the documentation of hazards, risk assessments, mitigation measures, as well as formalizing NRC's maintenance programs for machinery, equipment, and tools.

We found that systems supporting NRC's OSH program have not yet been fully developed or implemented, namely NRC's ████████████████ [i] and eLearning systems.

We also found that opportunities for improvement exist related to the effectiveness and efficiency of records management practices and systems currently supporting NRC's OSH program, at both the portfolio and Corporate OSH Group levels.

Opportunities exist for improving committee workplace inspections as well as the efficiency and effectiveness of OSH committees overall.

4.2.1 Risk-based OSH plans, objectives, and targets (KPIs)

Supporting Observations

OSH Plans and KPIs

We found that NRC's Corporate OSH Group has communicated a Multi-year OSH Improvement Plan that sets out NRC-wide OSH objectives and targets over a three to four year term. Specifically, this plan is intended to enable the development and implementation of all OSH program management system components. The plan is based on a phased approach which identifies 23 program elements along with team leads, associated implementation activities, and timelines.

An example of a program element contained in the plan is NRC's Leadership Safety Action Plan initiative (LSAP). This initiative has served to identify NRC's three top categories of injuries, namely: 1) slips, trips and falls, 2) material handling; and, 3) musculoskeletal injury. As a result, NRC has been actively engaged in reducing workplace injuries by focusing primarily on these areas, with the stated goal of reducing the rate of incidents by 50 percent over a three-year period. With regards to the portfolios examined, we found that NRC's LSAP initiative is being used as the basis to develop OSH related activities that focus on portfolio specific activities and needs. We also found that these activities are included in the respective portfolio operational and strategic plans examined.

Hazards Prevention Program (HPP)

As noted above, NRC's HPP is intended to form a foundational basis from which NRC's OSH Program is developed and implemented, including policies, directives, safety programs, and safe work procedures. The HPP by design is generic and requires each PBI to systematically identify their hazards and assess risks and implement appropriate control and mitigation measures to reduce impacts/risks to the health and safety of employees, with the support of a Corporate OSH Advisor. NRC developed its first HPP and implementation tools in 2012 that included all of the six components required. However, at the time of the audit, we found that NRC portfolios had not fully implemented all of the HPPs required to identify hazards and assess risks to ensure that preventive measures are identified and implemented to mitigate the risk of injury and ensure a safe workplace.

The individuals interviewed at both corporate and portfolio levels stated that the HPP of 2012 was complex to develop and implement. In response, a new HPP was developed by NRC's Corporate OSH Group, which is presently being piloted within two portfolios. As part of the audit, we examined five portfolio HPPs. We noted that the Corporate OSH group reported in its last annual report that the implementation rate for HPPs was between 65% and 100% for the portfolios examined as part of this audit. For the portfolios examined we found that there still exists a lack of consistent documentation around hazards (i.e. a hazards inventory), risk assessments, as well as mitigation measures. For example, in one portfolio HPP examined, we were unable to find evidence of an oversight process used to formalize the HPP. Specifically, we were unable to find evidence of final approval.

We also noted that Part 19 of the *Canadian Occupational Health and Safety Regulations* requires that a preventive maintenance program, as part of a HPP, be established for specific structures, machinery, equipment, and tools in order to avoid failures that could result in a hazard to employees.

While we observed that portfolios check and regularly calibrate equipment as part of their standard operating procedures and project management, we were unable to identify formalized preventive maintenance programs within their HPPs. We also noted that there was a lack of consistent records management practices with regards to maintenance records. Specifically, we found that portfolios maintain their maintenance records in various forms and mediums; that is, either manually or electronically, and not always accessible for those who need to know.

OSH Training

Both portfolios and the Corporate OSH Group have a role in providing OSH training and in maintaining training records. OSH training requirements are determined by the supervisor and employee based on the risks identified in the HPP. We examined whether training needs had been assessed and documented. We found that one portfolio under review had completed a training needs analysis by the nature of the workplace and hazards, while training needs analyses were found to be incomplete or non-existent for the other portfolios examined. With regard to training of COSH committee members, we were unable to find complete records within the portfolios selected for review. For those members with training records, we found that the majority of the training was more than three years old.

We found that the majority of portfolios utilize Claritynet, an electronic learning suite for online training, or external providers for in-person training, to deliver the employee's operational training needs. Training records are tracked locally by the portfolio and the records are shared with the Corporate OSH Group, but not on a consistent basis. The Corporate OSH Group provides online training through *MyZone* (e.g. training for COSH members) or in class training (e.g. standard training for NRC employees in First Aid, Rights and Responsibilities for OSH, and the Workplace Hazardous Material Information System (WHMIS)).

NRC recently purchased an electronic learning (eLearning) system in 2016 for OSH training. The new eLearning system is an advanced version of Claritynet. This system is designed to deliver courses and maintain records of training provided. It is anticipated that the system will consolidate training records that are currently kept across portfolios and the Corporate OSH Group. It is also anticipated that the system will eventually interface with NRC's planned talent management system, *Success Factors*, a next generation SAP Human Resources information system.

As of December 2016, we were advised that the formal plan for implementation of the eLearning system was still under development.

Documents and Records

Portfolios and Corporate OSH Group both keep documents and records to support implementation and monitoring of the OSH program. In some cases, the portfolios keep records locally, such as for training, and then share the records with the Corporate OSH Group. Portfolios are solely responsible for their HPP documents. As noted above, with regard to training and maintenance records, we found inconsistencies in records management practices. We also noted inconsistencies in the information retained locally and corporately. For example, the records for Hazardous Occurrence Investigation Reports (HOIRs) are inconsistent in terms of the number of incidents between the originals kept by the COSHs and the central database maintained by the Corporate OSH Group.

Note a section above has been removed from the report in accordance with Section 16 (2) (c) of the Access to Information Act.

Occupational Safety and Health Committees

Overall, we found that NRC's NCOSH and COSHs operate in general conformance[4] with legislation and policy requirements. However, we noted opportunities for improvement with regards to committee workplace inspections, and the efficiency and effectiveness of OSH committees.

The *Canada Labour Code Part II* requires COSHs to conduct workplace inspections every month that cover the entire workplace over a calendar year. Based on the interviews performed and the documentation examined, we were unable to conclude that all seven COSHs examined as part of the audit conducted monthly inspections for the period under review. We were unable to determine whether the entire workplaces were inspected as required. For at least one location examined as part of the audit, we found that the rooms occupied by common service staff were not inspected by any COSH. The responsibility for inspecting those rooms was delegated to the common service staff themselves. This approach does not meet legal requirements.

We also found that spaces rented out to tenants within NRC buildings are not inspected by NRC. We were advised that NRC's Corporate OSH Group is working on implementing a solution to ensure OSH compliance by its tenants and overall safety for all occupants and visitors.

With regards to effectiveness and efficiency, we found that NRC's Corporate OSH Group has been working on a COSH Effectiveness Project since 2014. This project is intended to increase the effectiveness of NRC's COSHs, once fully developed and implemented. The first phase of the project involved the creation of templates for COSH agendas and minutes to help with Employment and Social Development Canada (ESDC) annual reporting requirements and to achieve standardization across all COSHs. The project team also developed an activity report template to help COSHs track their outstanding action items among other tools. We noted that the Corporate OSH Group reported as of April 1st, 2016, approximately 70 percent of NRC COSHs were using the templates. We also noted that NRC's NCOSH management co-chair sent an email in October 2016 requiring the adoption of the templates by all COSHs no later than January 15th, 2017. We were advised that the next phase of the project will be to produce an upgraded minutes' tool that will automatically populate an action-items tracker as well as the Annual Workplace Committee Report. In addition, as part of the project, NRC's Corporate OSH Group has been exploring how templates could be developed and used for monthly inspections.

Recommendations

3. As part of NRC's new HPP, the Director, Health and Safety, should ensure that all OSH related records including all preventive maintenance programs records are developed, stored and managed in an appropriate authorized NRC repository, such as *DocZone*, in accordance with established retention schedule. [Priority: **Moderate**]

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[4] General conformance means that there is no material deficiency, although there may be some minor deficiencies.

4. The Director, Health and Safety, should ensure that NRC's eLearning and ▋▋▋▋▋ ▋▋▋▋▋▋▋ [i] systems are implemented in support of NRC's OSH program and to ensure NRC is meeting its regulatory requirements. [Priority: **High**]

5. The Director, Health and Safety, should ensure that the monthly COSH inspections are performed based on annual COSH inspection plans to ensure that the entire workplaces are covered at least once over the calendar year. [Priority: **Moderate**]

4.3   Monitoring and Reporting

> **Summary Finding**
>
> We found procedures to monitor, measure, assess, and report on NRC's Multi-year OSH Improvement Plan, specific elements of the plan such as NRC's LSAP, as well as injuries and non-injury events.
>
> With regards to accounting and planning for the time spent on OSH related activities outside of the Corporate OSH Group, opportunities exist to improve how NRC monitors and plans for costs associated with NRC's OSH program activities, including OSH science projects and interrelated facilities management costs.
>
> We found that effective and efficient procedures for investigation and response to hazardous occurrences, including near misses, are established and carried out, however we were unable to find evidence, in all cases examined, of an assessment of the effectiveness of the corrective actions taken.

Supporting Observations

Monitoring, Measuring, and Assessing Performance

We found procedures to monitor, measure, assess, and report on NRC's Multi-year OSH Improvement Plan, specific elements of the plan such as NRC's LSAP, as well as injuries and non-injury events. Specifically, we found that the Corporate OSH Group provides reports on the status of its Multi-year OSH Improvement Plan to NRC Senior Management and NCOSH but not necessarily at formally planned intervals. We also found that the Corporate OSH Group provides reports on injuries and non-injury events to PBI General Managers, Directors General, and Directors as well as the Senior Executive Committee and NCOSH on a quarterly basis. The group also prepares an annual report, which is presented to NCOSH and SEC. The last annual report presented in July 2016 covered 2015.

We also noted that NRC's OSH Advisors performed site visits and walkthroughs of the portfolio locations with a compliance based checklist. The checklists focus on the three main areas from the LSAP: slip, trip and falls; material handling; and musculoskeletal injury. We were advised that the LSAP is the Corporate OSH Group's only NRC-wide initiative against which follow-ups are conducted to determine performance against a specific target of a 50 percent reduction of the three previously mentioned types of injuries, over a three-year period. Two years after implementing the LSAP, the Corporate OSH Group reported reductions in the number of slips, trips and falls, and musculoskeletal injury but an increase in injuries related to material handling. In

response, the Corporate OSH Group introduced in 2016, NRC's Head Injury Reduction Campaign, exemplifying established processes for monitoring, measuring, correcting, and reporting.

With regards to compliance monitoring, we found that the Corporate OSH Group conducted compliance audits from 2012 up to 2014 in order to provide portfolios with an in-depth review of the OSH control framework. These compliance audits and follow-ups were suspended due to the cyber intrusion in summer 2014 because documentation was not accessible in the regions. The remaining audits that were initially planned prior to the cyber intrusion were completed in FY2016-17. However, we found that the issues identified during the compliance audits have not been followed-up by the Corporate OSH Group and there is no plan to follow-up on the issues identified. The Corporate OSH Group advised that they will reassess the compliance audit program over the next fiscal year.

We found that opportunities exist to improve how NRC monitors and plans for OSH considerations (risk) and costs as part of projects and program activities, including OSH related to revenue and science projects and resulting facility costs. Specifically, we found that NRC is not tracking all time spent on OSH related activities. At the time of the audit, modifications were being made to NRC's time reporting system to enable easier reporting of OSH related activities such as workplace inspections and participation in the local COSH. However, we found that time spent on OSH related work, including the review of NRC investment plans to ensure OSH requirements have been given due considerations, laboratory preparatory work related revenue and science projects, along with prevention activities are not consistently monitored across NRC, either at the portfolio or corporate levels.

Hazardous Occurrences and Investigations

NRC requires that all hazardous situations and occurrences be reported, recorded and investigated in accordance with the requirements identified in the CLC Part II and associated regulations. We found that effective and efficient procedures for investigation and response to hazardous occurrences, including near misses, are established and carried out; however we were unable to find evidence in all cases examined of an assessment of the effectiveness of the corrective actions taken.

We also noted through interviews that certain portfolio locations did not report all categories of incidents to the Corporate OSH Group. For example, one portfolio location informed us that they only reported incidents that involved compensation.

In addition, we examined a sample of the HOIRs that were provided by portfolio locations for completeness and accuracy. We found that 88 percent of the HOIR forms were consistently complete and filled out correctly with sufficient detail. Root causes of hazardous occurrences were always followed-up on with planned corrective actions but we were unable to determine through the documentation obtained that the corrective actions indicated on the initial reports were always assessed for effectiveness. Interviewees assured us that all incidents are investigated and that the appropriate corrective measures are put into place, acknowledging that there is room for improvement for recordkeeping on the implementation and tracking of corrective actions until their resolution within COSH meeting minutes. We were also advised that the

portfolios generally discuss OSH incidents and resolutions throughout portfolio team meetings in order to share lessons learned and to increase OSH awareness.

We noted the implementation of a new electronic HOIR (eHOIR) system on MyZone. The new electronic form provides additional guidance as to how to accurately categorize incidents when filling out an HOIR, and has now included workplace violence, formal internal health and safety complaints, as well as "good catches" as possible events to report. The appropriate stakeholders, including senior management, the COSH, and the OSH Group, are also notified when an electronic HOIR is started.

Recommendations:

6. With regards to accounting and planning for the time spent on OSH related activities outside of the Corporate OSH Group, the Director, Health and Safety, should revisit NRC's model of OSH time reporting with NRC senior management to ensure that NRC is taking into account the true time and cost of its OSH program. [Priority: **High**]

7. The Director, Health and Safety, should ensure that follow-ups are conducted on all OSH incidents until their resolution and that complete documentation of the implementation of the corrective actions is retained according to appropriate record retention schedules. [Priority: **Moderate**]

8. The Director, Health and Safety, should ensure that the portfolios report all categories of hazardous occurrence incidents by recording them in the electronic HOIR system on *MyZone*. [Priority: **High**]

4.4 Linkages between the Corporate OSH Group, Environmental Stewardship Office, and Security Branch

As indicated in the scope section of this report, we examined linkages between OSH, environmental operations, and security. Based on the interviews conducted, linkages between these three corporate functions are limited. Interviewees mentioned that communications between these functions and coordination could be improved as well as the clarification of their responsibilities when they intersect in situations such as emergency evacuation ███████████████████ [i]

Recommendation:

9. The Vice-President, Human Resources Branch and the Vice-President of Business and Professional Services, and of Corporate Management should ensure stronger linkages are established between the Corporate OSH Group, the Environmental Stewardship Office and the Security Branch. [Priority: **High**]

Appendix A: Audit Criteria

Line of Enquiry	Audit Criteria
Governance – Senior Management Leadership and Employee Participation	1. Senior management provides leadership for occupational safety and health (OSH) activities and assumes overall responsibility for OSH management at NRC
	2. Roles, responsibilities, and authorities for OSH are established and communicated
	3. OSH policies, directives, standards and programs, and procedures are established, effectively communicated, maintained, and reviewed as necessary, with input from management, workers and worker representatives with due consideration of efficiency, legal and policy requirements
Planning and Management Processes	4. Hazards and risks are identified and assessed on an ongoing basis and timely manner, and results of this process are used to set objectives and targets (KPIs) and to develop preventive and protective measures in an effective and efficient manner
	5. Risk-based OSH objectives, targets (KPIs) and plans are established and implemented for relevant functions and levels within the organization
	6. Preventive and protective measures are established to address identified hazards with due regard for level of risks, relevant legal and policy requirements, and recognized best practices
	7. OSH training activities are established and delivered to ensure that workers are competent to carry out their duties in a safe manner and are aware of OSH requirements, rights and responsibilities
	8. Documents and records are created and maintained to support the effective and efficient management of OSH at NRC and to assess conformance with legal and policy requirements
	9. Committees are established and operate in an effective and efficient manner as per relevant legal and policy requirements
Monitoring and Reporting	10. Effective and efficient procedures to monitor, measure, assess and report on NRC's OSH objectives, plans, programs and performance are established, implemented and maintained
	11. Effective and efficient procedures for investigation and response to hazardous occurrences, including near misses, are established and carried out
	12. Senior management reviews the organization's OSH management control framework and its implementation at planned intervals to ensure its continuing suitability, adequacy, and effectiveness

Appendix B: Potential Overall Ratings

Management Attention Required

There are significant weaknesses in the design and/or effectiveness of the selected key management controls that require management's attention. Critical practices / processes do not meet the expectations and / or key principles described in Government of Canada and NRC regulations, policies and directives. There are significant opportunities for improvement.

Needs Improvement

The design and/or effectiveness of the selected key management controls needs improvement. Some areas of practice / processes meet the expectations and/ or key principles described in Government of Canada and NRC regulations, policies and directives. There are several opportunities for improvement.

Adequate

The design and/or effectiveness of the selected key management controls needs improvement. Some areas of practice / processes meet the expectations and/ or key principles described in Government of Canada and NRC regulations, policies and directives. There are several opportunities for improvement.

Strong

The design and/or effectiveness of the selected key management controls are strong. All areas of practice / processes meet the expectations and /or key principles described in Government of Canada and NRC regulations, policies and directives. No areas for improvement were identified.

Appendix C: NRC's Occupational Safety and Health Management Control Framework

NRC Management

As per the NRC *Occupational Safety and Health Policy* the President is *"responsible for overall occupational safety and health at NRC"* while Vice-Presidents, Directors General or General Managers are *"responsible for overall occupational safety and health in their respective Portfolio, Branch or, IRAP)"*. The Policy also describes the roles and responsibilities of the Managers and Supervisors, employees, etc.

NRC Corporate Occupations Safety and Health Group

NRC's Human Resources Branch (HRB) provides health and safety guidance through the Occupational Safety and Health (OSH) Group which reports directly to the Vice-President, Human Resources Branch.

Since the previous internal audit of OSH in 2010-11, the Corporate OSH Group has undergone a significant reorganization. In April 2011, the OSH Group was transferred from the Administrative Services and Property Management (ASPM) to the Human Resources Branch (HRB). Then in April 2012, the institutes' Local OSH Advisors were transferred to the Corporate OSH Group. Since then, roles and responsibilities of the OSH Advisors changed from an Institute OSH expert that was in charge of the implementation and monitoring of the OSH program for a specific institute, to a corporate advisor that oversees, on average, two portfolios or locations without the responsibility for the implementation of the NRC OSH program. The corporate advisors are not necessarily physically located in the regions for which they are responsible.

## The National Committee on Occupational Safety and Health

NRC's National Committee on Occupational Safety and Health (NCOSH) is a corporate health and safety policy committee that was created in compliance with sub-section 134.1 (1) of the *Canada Labour Code (CLC) Part II*, which requires employers with more than 300 employees to have such a committee. Its mandate is to promote occupational safety and health at NRC through increased communication, consistent direction and cooperation among all portfolios, programs, and branches. NCOSH is responsible for addressing issues that have a NRC-wide impact. NCOSH reviews and oversees the development of policies, program, directives, procedures, guidelines, and standards to obtain approval by NRC's SEC and the President prior to their implementation.

Local Committees on Occupational Safety and Health

The local Committees on Occupational Safety and Health (COSH) are the work place health and safety committees that were created in compliance with Section 135 (1) of the *CLC Part II,* which requires employers to establish such committees for each workplace controlled by the employer where 20 or more employees are normally employed. As of July 2016, there were 34 active COSHs at NRC. At a high level, the

mandate of these workplace committees is to address health and safety matters that apply to individual workplaces.

The following diagram depicts the NRC's OSH Responsibility Structure
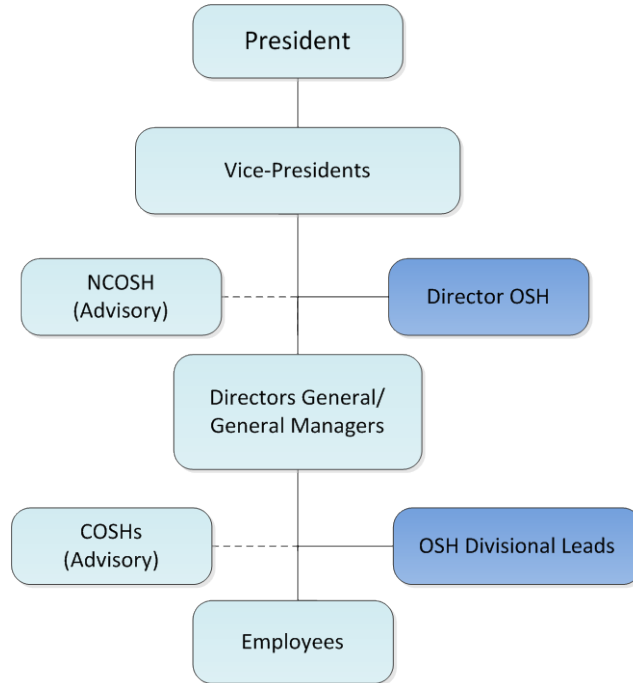
Appendix D: Portfolio Site Selection

The table below presents the portfolio sites selected for examination as part of the audit.

Division	Portfolio	Site
Engineering	Aerospace	• U-61 and U66A - Ottawa, Ontario
	Automotive and Surface Transportation	• Lester Road - Ottawa, Ontario
Life Sciences	Health and Human Therapeutics	• M-54 Building - Ottawa, Ontario • HHT Royalmount - Montreal, Quebec
Emerging Technologies (Platforms)	Security and Disruptive Technology	• Sussex Building - Ottawa, Ontario • Chalk River, Ontario
Emerging Technologies (National Infrastructure / Future Technologies)	Measurement Science and Standards	• M-36 Building - Ottawa, Ontario

Appendix E: Management Action Plan

Definition of Priority of Recommendations	
High	Implementation is recommended **within six months** to reduce the risk of potential high likelihood and/or high impact events that may adversely affect the integrity of NRC's governance, risk management and control processes.
Moderate	Implementation is recommended **within one year** to reduce the risk of potential events which may adversely affect the integrity of NRC's governance, risk management and control processes.
Low	Implementation is recommended **within one year** to adopt best practices and/or strengthen the integrity of NRC's governance, risk management and control processes.

Recommendation	Corrective Management Action Plan	Expected Implementation Date and Responsible NRC Contact
1. The Director, Health and Safety, should revisit NRC's model of OSH Program delivery with NRC senior management to ensure that it is aligned with organizational needs and expectations, and to ensure that roles and responsibilities are consistent across NRC's OSH policy instruments, in particular as they relate to the implementation of the OSH program throughout the organization. [Priority: **High**]	Accepted The Human Resources Branch (HRB) has been involved in NRC Dialogue Tiger Team No. 7 which took an in-depth look at the issues and needs of PBI's for occupational health and safety, and environmental stewardship to ensure that the OSH delivery model was aligned with expectations. A key outcome from the tiger team was recommendations for changes to the roles and responsibilities for OSH management and the resource and organizational implications of such changes. Prior to taking any action, HRB will wait for the executive decision on the OSH Tiger Team	*Date:* 30 July 2017 (dependent on timeline associated with Dialogue recommendations) *Contact:* Director, Health and Safety

Recommendation	Corrective Management Action Plan	Expected Implementation Date and Responsible NRC Contact
	report submission that details OSH delivery model options that meet the organizational needs and expectations identified through collaborative stakeholder sessions throughout NRC. a) Develop and activate implementation plan for new delivery model working closely with stakeholders. Contingency plan: I. If the Tiger team OSH delivery model options are not adopted or resourced, the Corporate OSH Group will prioritize initiatives based on current resources and risks for review by clients. Amend roles and responsibilities in all policy instruments in keeping with identified model.	
2. The Director, Health and Safety, using a risk based approach, should ensure that all required OSH policy instruments at NRC have been identified, prioritized, developed, communicated, and maintained in a timely manner. [Priority: **Moderate**]	Accepted Presently, the development of OSH policy instruments for HRB-OSH are prioritized, based on direction received, in the following order: 1) SEC priorities, then, 2) NCOSH priorities, and 3) OSH functional priorities based on its three year strategic plan, material regulatory and applicable standard changes, as well as 4) PBI specific requests. With multiple stakeholders establishing priorities independently of each	

Recommendation	Corrective Management Action Plan	Expected Implementation Date and Responsible NRC Contact
	other, this creates conflicting demands for cross-purposes, resulting in delays in the development and implementation of critical at-risk controls and the delivery of the OSH model framework.	
	a) The Corporate OSH Group will amalgamate all priorities into a single HRB-OSH policy framework. The current HRB-OSH policy framework consists of 1) the OSH Policy; 2) Policy Directives that are regulatory driven; and 3) detailed programs and standards.	*Date:* 30 June 2017 *Contact:* Director, Health and Safety
	b) A timeline for Policy Directives will be established.	*Date:* 30 June 2017 *Contact:* Director, Health and Safety
	c) New Policy Directive development timeline will be submitted to NCOSH for review and SEC for approval.	*Date:* 30 September 2017 *Contact:* Director, Health and Safety
3. As part of NRC's new HPP, the Director, Health and Safety, should ensure that all OSH related records including all preventive maintenance programs records are developed, stored and managed in an appropriate authorized NRC repository, such as *DocZone*, in accordance with established retention schedule. [Priority: **Moderate**]	Accepted As part of the OSH policy framework, the Corporate OSH Group will issue a standard that details minimum requirements for a preventive maintenance program, including record retention, to be included as part of each PBI's HPP. *(Note that given that the chosen repository for NRC is DocZone, this action will be dependent on the implementation of that system across the organization)*	*Date:* 30 September 2017 *Contact:* Director, Health and Safety

Recommendation	Corrective Management Action Plan	Expected Implementation Date and Responsible NRC Contact
4. The Director, Health and Safety, should ensure that NRC's eLearning ███████████████████████████████████ i [Priority: **High**]	Accepted ██ i b) Work on e-learning modules will continue and the launch of the first wave of modules is planned for late summer.	*Date:* 30 June 2017 *Contact:* Vice-President, Human Resources Branch *Date:* 30 July 2017 *Contact:* Director, Health and Safety
5. The Director, Health and Safety, should ensure that the monthly COSH inspections are performed based on annual COSH inspection plans to ensure that the entire workplaces are covered at least once over the calendar year. [Priority: **Moderate**]	Accepted The requirements currently outlined in COSH committee terms of reference that reflect roles, responsibilities and duties, in particular the requirements around monthly work site inspections for covering the entire site annually, for which the committee was established, will be re-enforced: a) A communique will be issued by NCOSH to all COSH committee co-chairs to re-enforce the requirement to conduct monthly inspections covering the entire site, annually; b) The COSH inspection reports and follow-up actions will be documented through *DocZone*	*Date:* 30 June 2017 *Contact:* Director, Health and Safety *Date:* 30 September 2017 *Contact:* Director, Health and Safety

Recommendation	Corrective Management Action Plan	Expected Implementation Date and Responsible NRC Contact
6. With regards to accounting and planning for the time spent on OSH related activities outside of the Corporate OSH Group, the Director, Health and Safety, should revisit NRC's model of OSH time reporting with NRC senior management to ensure that NRC is taking into account the true time and cost of its OSH program. [Priority: **High**]	Accepted The tracking of time spent on OSH-related activities captured through time sheet reporting has previously been raised through HRB. Similarly, the issue of validating time spent on OSH also represented a key issue raised during NRC Dialogue, which brought forward specific recommendations as part of the OSH and Environment Tiger Team report submission to NRC Dialogue Hub. a) OSH will work with HRB and Communications to develop communication and awareness materials that re-enforce consistent tracking of time spent on OSH activities. b) Pending executive decision, OSH will implement tiger team OHS&E recommendations to validate time reporting on OSH activities.	*Date:* 31 July 2017 *Contact:* Director, Health and Safety *Date:* 30 August 2017 (dependent on acceptance of Tiger Team's recommendation) *Contact:* Director, Health and Safety

Recommendation	Corrective Management Action Plan	Expected Implementation Date and Responsible NRC Contact
7. The Director, Health and Safety, should ensure that follow-ups are conducted on all OSH incidents until their resolution and that complete documentation of the implementation of the corrective actions is retained according to appropriate record retention schedules. [Priority: **Moderate**]	Accepted Presently, the Corporate OSH Group reviews all reported eHOIR incidents. Detailed reviews are conducted for compensable injury producing incidents, whereby, HRB-OSH tracks and reports on the timeliness of reporting, quality of investigation and corrective measures and resolution. The Corporate OSH Group typically does not track and follow-up on all other non-injury incidents, with a few exceptions.	
	a) The Corporate OSH Group will review and update COSH committee Terms of References to clarify the committees' roles in tracking corrective measure implementation.	*Date:* 31 August 2017 *Contact:* Director, Health and Safety
	b) The Corporate OSH Group will investigate the feasibility of automating the tracking of the implementation of corrective measures from eHOIRs by COSH committees as part of the COSH effectiveness initiative.	*Date:* 31 August 2017 *Contact:* Director, Health and Safety
	c) The Corporate OSH Group will develop and issue a communiqué to all COSH-chairs clarifying these responsibilities and will incorporate these changes into the next scheduled updates of COSH committee member training updates.	*Date:* 31 August 2017 *Contact:* Director, Health and Safety

Recommendation	Corrective Management Action Plan	Expected Implementation Date and Responsible NRC Contact
8. The Director, Health and Safety, should ensure that the portfolios report all categories of hazardous occurrence incidents by recording them in the electronic HOIR system on *MyZone*. [Priority: **High**]	Accepted The Corporate OSH Group will work with corporate Communications to develop an awareness campaign to re-enforce the reporting of all categories of eHOIR incidents.	*Date:* 30 May 2017 *Contact:* Director, Health and Safety
9. The Vice-President, Human Resources Branch and the Vice-President of Business and Professional Services, and of Corporate Management should ensure stronger linkages are established between the Corporate OSH Group, the Environmental Stewardship Office and the Security Branch. [Priority: **High**]	Accepted This recommendation will be discussed at a Senior Executive Committee.	*Date:* 30 July 2017 *Contact:* Vice-President, Human Resources Branch

[i] Note sections of the report have been removed or severed in accordance with Section 16 (2) (c) of the Access to Information Act.