



**REQUEST FOR INFORMATION
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Proposal To: **National Research Council Canada**

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Title/Sujet Health, Safety & Environment (HSE) Branch - Environmental, Health and Safety (EHS) Management Solution	
Solicitation No./N. de l'invitation RFI 23-58272	Date 5 March 2024
Solicitation Closes/L'invitation prend fin at/à on/le 14 :00 March 27-2024	Time Zone/Fuseau Horaire EST
Address Enquiries To/Adresser demandes de renseignements à : Elizabeth.Pitre@nrc-cnrc.gc.ca	

Instructions: See Herein

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ENVIRONMENTAL, HEALTH AND SAFETY (EHS) MANAGEMENT SOLUTION

1.0 INTRODUCTION AND PURPOSE

The purpose of this request for information (RFI) is to assist the National Research Council of Canada (NRC) to gather information and to seek a cost estimate/model for the procurement of an Environmental, Health and Safety (EHS) Management Solution (requirements described in **Annex B**) in order to better manage health, safety and environmental risks across the organization.

The NRC's Health, Safety and Environment (HSE) Branch is seeking a proven, "commercial off-the-shelf" (COTS) environmental, health and safety management solution that offers, in a cost-effective way, excellent features and usability from the business perspective. The solution is intended to support the implementation, across the NRC of the entire Hazard Prevention Program (HPP), including environmental protection components in the spirit of standards such as ISO 14000 and ISO 45000. Specifically, the sought solution would/should have:

- an extensive EHS risk assessment module specifically with respect to
 - workspaces, projects, equipment and activities, as well as
 - the assessment of EHS programs implementation,
- core EHS management modules such as objective and targets, incident management, and reporting, that can be configurable to NRC's specific needs,
- pre-established and/or easily configurable modules to support the implementation of various EHS programs such as wastewater management, committees, ergonomics, etc.,
- the ability to access and integrate data from other NRC implemented solutions such as human resources or chemical management systems, and
- the necessary flexibility to evolve with the NRC organizational structure and footprint taking into consideration the double EHS management structure, one associated with line management of the CBIs (research centres, administrative branches, and IRAP [Industrial Research Assistance Program]) and the other with requirements associated with sites. (CBIs may be present on multiple sites and sites may host multiple CBIs.)

The expected scope of the solution is schematically presented at **Annex C** and **Annex D** of this document.

1.1 BACKGROUND

The National Research Council Canada (NRC) is the primary national agency of the Government of Canada dedicated to science and technology research and development. With its approximately 5,000 employees located in all Canadian provinces, the NRC plays a leadership role within the Canadian science, technology and innovation (STI) ecosystem through our research and technology expertise and capacity, business innovation support and science-based policy solutions for government.

Since December 2005, Canadian legislation requires employers under federal jurisdiction to develop, implement and monitor a program for the prevention and mitigation of hazards in the workplace. The Hazard Prevention Program (HPP) is the NRC's foundational program for identifying and managing occupational health and safety hazards as well as environmental ones (e. g., air/water/soil and ecosystems protection). The HPP assures that due diligence is used to reduce the risk level associated with hazards and to protect the health and safety of employees as well as the environment.

The Health, Safety and Environment Branch is responsible for:

- ensuring HSE program elements, including training, are updated and accessible to all NRC employees;
- providing support and advice on the implementation of the Hazard Prevention Program (HPP), including the completion of a triennial program level evaluation;
- reporting to internal and external stakeholders on an as-needed basis.

The experimental nature of the work performed in NRC facilities may be inherently more hazardous than other workplaces. Some work environments could expose staff to a variety of hazards including, amongst others, high-voltage electricity, toxic or corrosive chemicals, radiation, pathogens, extreme weather, powerful tools, heavy equipment, and explosives and combustible materials.

1.2 OBJECTIVES OF THE REQUEST FOR INFORMATION

The purpose of this Request for Information (RFI) is to engage suppliers to:

- a) Provide industry with an early opportunity to assess, comment and make suggestions related to the requirements;
- b) Determine the capability of suppliers to provide and/or meet the requirements;
- c) Obtain supplier feedback on any issues that would impact their ability to bid on the resulting Solicitation and/or deliver on Canada's requirements;
- d) Gather industry knowledge, expertise and recommendations with regard to best practices that would increase the success of the project and/or identify any risks that would impact the project;
- e) Enhance competition, access and fairness.

1.3 NATURE OF THE REQUEST FOR INFORMATION

This RFI is not a bid solicitation and will not result in the award of any Contract or Standing Offer nor will this RFI result in the creation of a list of suppliers. Therefore, potential suppliers of any goods and services described in this RFI should not reserve stock or facilities, nor allocate resources, as a result of any information contained in this RFI.

Whether or not a potential supplier responds to this RFI, it will not preclude that supplier from participating in any future procurement process. Also, this RFI will not necessarily result in the procurement of any of the services that it describes. It is simply intended to solicit feedback with respect to its content. Nothing in this RFI shall be construed as a commitment from the National Research Council Canada (NRC). NRC may use any non-proprietary information obtained as part of this review in the preparation of future requirements.

2.0 INSTRUCTIONS FOR RESPONDING TO THE REQUEST FOR INFORMATION

2.1 NATURE AND FORMAT OF RESPONSES REQUESTED

The department is seeking input and responses to specific questions (refer to the attached **Annex A**) from the industry and suppliers covering important elements of the requirement prior to proceeding with finalizing its procurement strategy.

Respondents are invited to provide comments regarding the content of **Annex A** by completing and returning **Annex A** in accordance with 4.0 Submission of Responses. Respondents should explain any assumptions they make in their interpretation of the requirements.

2.2 RESPONSE COSTS

NRC will not reimburse any respondent for expenses incurred in responding to this RFI.

3.0 TREATMENT OF RESPONSES

3.1 USE OF RESPONSES

Responses will not be formally evaluated. However, the responses received may be used by NRC to develop or modify procurement strategies or any draft documents contained in this RFI. NRC will review all responses received by the RFI closing date.

3.2 CONFIDENTIALITY

All information obtained with this RFI will be treated as confidential. Respondents should indicate and mark any portions of their response that they consider proprietary or confidential. NRC will handle these portions in a confidential manner in accordance with the Access to Information Act of Canada.

Although one of the primary purposes of this RFI is to obtain information directly from industry that will be used by the NRC to develop or modify procurement strategies or any draft documents contained in this RFI, the NRC will in no way make any direct attribution of any information obtained from respondents that has been identified by respondents as “confidential” or “proprietary” within their Responses.

4.0 SUBMISSION OF RESPONSES

4.1 IDENTIFICATION OF RESPONSE

The vendor must provide a contact name, email address and telephone number when submitting their response. In the event that a response is not sufficiently clear, NRC reserves the right to seek additional information at their sole discretion.

4.2 TIME AND PLACE FOR SUBMISSION OF RESPONSES

Respondents are requested to submit responses by **[March 27-2024 14:00 Eastern standard time]**. The review of responses will begin as they are received. Responses received after that date may not be reviewed.

Vendors are requested to submit responses to this RFI to the Contracting Authority.

4.3 ENQUIRIES

Only enquiries which clarify the questions asked or feedback requested may be answered with respect to this RFI. All enquiries must be submitted via email to the attention of the Contracting Authority.

4.4 CONTRACTING AUTHORITY

Contracting Authority: Elizabeth Pitre, Team Lead, IT Procurement Services
Finance and Procurement Services Branch
National Research Council Canada
Email address: Elizabeth.Pitre@nrc-cnrc.gc.ca

4.5 OFFICIAL LANGUAGES

Responses to this RFI are requested to be presented in either of the Official Languages of Canada (English or French).

5.0 FOLLOW-UP ACTIVITY

Should respondents include information which is of particular relevance and interest to the NRC, and should the NRC (at its exclusive option) determine that follow-on clarification meeting(s) with one or more respondents would be of potential benefit to the NRC, then the NRC may (at its exclusive option) invite selected respondents to participate in “clarification meeting(s)” to provide clarification on their response(s), demonstrate their technologies or make a presentation to the NRC Contracting Authority and NRC Technical Authorities, in order for the NRC to learn more about the capabilities and features of their Response. Respondents interested in participating in a potential clarification meeting should clearly indicate their interest to present and/or demonstrate their capabilities, in relation to this RFI, in their response package. Should the NRC elect to have a clarification meeting, the NRC Contracting Authority will notify the respondent by email to schedule a meeting for a mutually agreed upon date and time.

In the event of such an occurrence, any requested clarification meetings may take place at the NRC’s facilities, location to be determined, or may take place via teleconference or other mutually convenient means, as agreed to between the NRC and the selected respondents.

The NRC will not reimburse any respondent for expenses incurred in responding to this RFI. Respondents will be responsible for all costs associated with the preparation and submission of any response to this RFI, including any costs associated with accepting the NRC’s invitation(s) to participate in any clarification meeting(s).

ANNEX A - Industry Engagement Questions

Note: Annex A is provided as a separate document.

ANNEX B - EHS Solution Requirements

The following are the requirements for the HSE Branch – Environmental, Health and Safety Management Solution.

1.0 Solution Content - Business Requirements

1. Prospective solution shall provide a powerful, proven and comprehensive Environmental Health & Safety (EHS) solution that automates, centralizes and manages all aspects of a diverse, multi-location and multi-organizational units' enterprise operation through fully-integrated features that offer the management of:
 - 1.1 Hazard assessments and action plan tracking
 - 1.1.1 Workspaces (Tier 3)
 - 1.1.2 Projects (Tier 4)
 - 1.1.3 Equipment and Activities (Tier 5)
 - 1.1.4 Implementation Plan (for Assessments)
 - 1.2 EHS Objectives & Targets
 - 1.3 Permits & Licenses
 - 1.4 Incident Management
 - 1.5 Compliance Assessments (Tiers 1 & 2)
 - 1.6 Action Plans
 - 1.7 Training (for specific equipment or tasks)
 - 1.8 Audits & Inspections
 - 1.9 Reporting
 - 1.10 EHS Reviews
 - 1.11 EHS Programs - Wastewater Management, Committees, Hazardous Products, Materials Handling, Ergonomics, etc.

2.0 Solution - Required Modules for the Tiers 1 to 5 Assessments and Management

2. Prospective solution shall offer the following key components:
 - 2.1 Workspace Management
 - 2.1.1 Site and CBI Master Lists
 - 2.1.2 Site and CBI Workspace Master Lists
 - 2.1.3 Lists of Authorized Site/CBI Personnel
 - 2.2 Reference Library
 - 2.2.1 HSE Requirements applicable to all of NRC
 - 2.2.2 Approved Controls/Procedures
 - 2.2.3 Reference Documents & Templates

- 2.3 Planning Module (Implementation Plans)
 - 2.3.1 Creation of Annual Plans
 - 2.3.2 Track Current Status of Planned and Actual Assessments
- 2.4 Data Module
 - 2.4.1 Data Warehouse
 - 2.4.2 Data Integration
 - 2.4.3 Data Cube/Business Intelligence (e.g., Preventive Maintenance, Risk Registry to be extractable or via API)
- 2.5 Assessment Module
 - 2.5.1 HSE Program Assessments (Tiers 1 & 2)
 - 2.5.2 Hazard Identification and Risk Assessments (HIRA)
 - 2.5.3 Project Assessments
- 2.6 Action Plan Module
 - 2.6.1 Create Corrective Action(s)
 - 2.6.2 Assign Personnel
 - 2.6.3 Finalize Action Plan
 - 2.6.4 Monitor/Evaluate Status of Action Items
 - 2.6.5 Update Action Plan
 - 2.6.6 Complete Action Plan
- 2.7 Control Module
 - 2.7.1 Identify Required Level of Approval
 - 2.7.2 Review Assessment
 - 2.7.3 Review Action Plan
 - 2.7.4 Approve Assessment
 - 2.7.5 Review Completed Action Plan
 - 2.7.6 Finalize Assessment
- 2.8 Reporting / Reference Module
 - 2.8.1 Site/CBI/NRC/Divisional Summary/Dashboard
 - 2.8.2 HPP Annual Plan Summary/Dashboard
 - 2.8.3 Finalized Assessments
 - 2.8.4 Reference Materials (e.g., Controls/Procedures)

3.0 Solution - Additional / Desirable Modules

- 3. Prospective solution should offer, or be able to rapidly offer additional configurable modules or features in the areas of HSE such as:
 - 3.1 Wastewater Management
 - 3.2 Committees
 - 3.3 Hazardous Products
 - 3.4 Materials Handling
 - 3.5 Ergonomics
 - 3.6 Other EHS Programs

4.0 Solution - HPP/HIRAs Management

- 4.1 The prospective solution shall provide the necessary structure and design to support HSE Hazard Identification and Risk Assessments (HIRA) for:
 - 4.1.1 Workspaces;
 - 4.1.2 Equipment and/or Activities;
 - 4.1.3 Projects; and
 - 4.1.4 offer the ability to share relevant assessment information with “Local / Site Coordinators” that may be from different NRC’s organizational units together with associated risk level and action plans.
- 4.2. Prospective solution shall have the ability to:
 - 4.2.1 create procedures such as SWP (Safe Work Procedures) or JHAs (Job Hazard Assessment), using automated, business-prescribed workflow rules and/or templates;
 - 4.2.2 associate these to the equipment / location / workplace and CBI as required; and
 - 4.2.3 easily share this information across the organization.
- 4.3. The prospective solution shall have the ability to automatically create risk registries per organizational units, sites, and at NRC level.
- 4.4 The prospective solution shall include a module to assess individual CBIs compliance of NRC’s Health, Safety and Environmental programs based on pre-defined criteria (Tiers 1 & 2 program assessments) and manage associated resulting action plans.
- 4.5 The prospective solution shall offer the ability to develop or configure an Implementation Plan module to track and report on the Hazards and Prevention Program (HPP) risk assessments (HIRAs) objectives and targets in pre-defined areas, and tracking of individual assessments.
- 4.6 Prospective solution should offer training management module for equipment or activity-specific training.

5.0 The following are the requirements for *an example of a potential program - Wastewater Management* - to be implemented through the solution.

The solution should be able to consolidate information such as the following and link it with NRC databases such as building inventories, diagrams, etc.:

Solution - Wastewater Management - General Provisions

- 5.1 Every NRC facility will develop and maintain a documented inventory of all sanitary and storm water discharge locations.

5.2 Each facility will maintain a sewer use layout diagram showing connection locations to the regional / municipal sewers, as well as connection and discharging locations for interior drains and in-ground infrastructure.

6.0 The solution should be able to consolidate information *such as the following* and link it with the NRC databases such as building inventories, diagrams, etc.:

Solution - Wastewater Management - Preventive Maintenance

- 6.1 Each facility will ensure preventive maintenance programs for the following:
 - 6.1.1 Equipment generating wastewater (e.g., discharges to sanitary or storm drains)
 - 6.1.2 Equipment treating wastewater (e.g., pH neutralization)
 - 6.1.3 Equipment storing wastewater (e.g., septic tank).
- 6.2 These preventive maintenance activities will be conducted according to the maintenance schedules, which will be developed for each facility.
- 6.3 Each facility must maintain copies of service records to verify work completed by contractors or internal personnel on sewers, drains and other in-ground infrastructure, and to retain a history of servicing over time.
- 6.4 The prospective solution shall provide inventory management functionality capable of accurately tracking, analyzing and managing wastewater program information (discharge locations, layout diagrams) and preventive maintenance programs, procedures, equipment, service records, sampling data, compliance criteria for NRC facilities, locations, sites and CBIs, enabling smarter, accurate and cost-effective business decisions.
- 6.5 The prospective solution shall have the ability to seamlessly integrate, upload and search for wastewater sampling data.
- 6.6 The prospective solution shall have the ability to produce periodic reports and track trends across the organization through the selection and application of various parameters.
- 6.7 The prospective solution shall have the ability to compare current data against regulatory specifications with flexibility dependent on location and timeframe.
- 6.8 The prospective solution shall have the ability to:
 - 6.8.1 incorporate current NRC buildings map; and
 - 6.8.2 create an interactive map for sampling locations.

7.0 Solution - Functional / Features Summary

- 7.1 The prospective solution shall provide for the integration with Microsoft Outlook email and calendars to facilitate the creation, adoption and tracking of action plans with associated due dates, reminders, pop-up alerts, responsibilities and tasks involved.
- 7.2 Prospective solution shall provide the ability to generate automatic notifications, updates or reminders (of deadlines, reports, submissions, etc.) via email.
- 7.3 Prospective solution shall possess the capacity to accommodate NRC frame of locations, sites and CBIs.
- 7.4 Prospective solution shall be scalable and adaptable so as to evolve (expand or contract) with business needs (e.g., new CBIs, new positions, partnerships, projects, etc.) to accommodate further HSE program implementations.
- 7.5 The prospective solution shall be scalable and adaptable so as to evolve (expand or contract) in order to provide Research Centres, branches, sites, buildings and facilities with the ability to create specific objectives and track progress against these objectives.
- 7.6 Prospective solution should accommodate integrations with:
 - 7.6.1 NRC email list;
 - 7.6.2 NRC organization chart for associated managers, supervisors and directors; and link to other data managed in other systems such as the chemical management system, the radiation and biohazard management system, etc. via APIs.
- 7.7 Prospective solution shall be fully functional in either of the Official Languages of Canada (English or French) based on user choice.
- 7.8 The prospective solution shall support a hierarchical, tiered (role-based) security model to delegate the appropriate level of user, application, and administrative access.
- 7.9 The prospective solution shall allow user permissions to be managed based on multiple criteria. (e.g., user role, HSE operational entity, facility, program/activity and/or location).
- 7.10 The prospective solution shall provide:
 - 7.10.1 tools for managing user accounts, security settings on data and other applications;
 - 7.10.2 full password security based on roles and groups and provides an automatic logoff feature after a specific period of inactivity.

8.0 Solution - Reporting

- 8.1 Prospective solution shall offer:
 - 8.1.1 selection of standard (demographic, statistical) reports, graphs and charts with custom report options; and
 - 8.1.2 the ability for data to be searchable through Microsoft Power Query; and
 - 8.1.3 the ability to filter or export data (into Excel, PDF, HTML, SQL or document formats) consolidated in the solution in order to re-use gathered data outside the solution; and
 - 8.1.4 the ability to export data for Power BI manipulation (or equivalent).
- 8.2 The prospective solution shall have the ability to:
 - 8.2.1 provide an easy extraction of standard, integrated reports on the current status of all assessments (HIRAs and Programs); and
 - 8.2.2 create unique, individual, customizable or ad-hoc reports, lists or summaries through the selection and application of additional search features (specific fields, topics, locations and other filters).
- 8.3 The prospective solution shall have the ability to:
 - 8.3.1 standardize and streamline the process of data collection (via Excel or PDF extraction), reporting and documentation; and
 - 8.3.2 set target dates for specific locations and/or sites as well as for CBIs.

9.0 Solution - Operational Support Requirements:

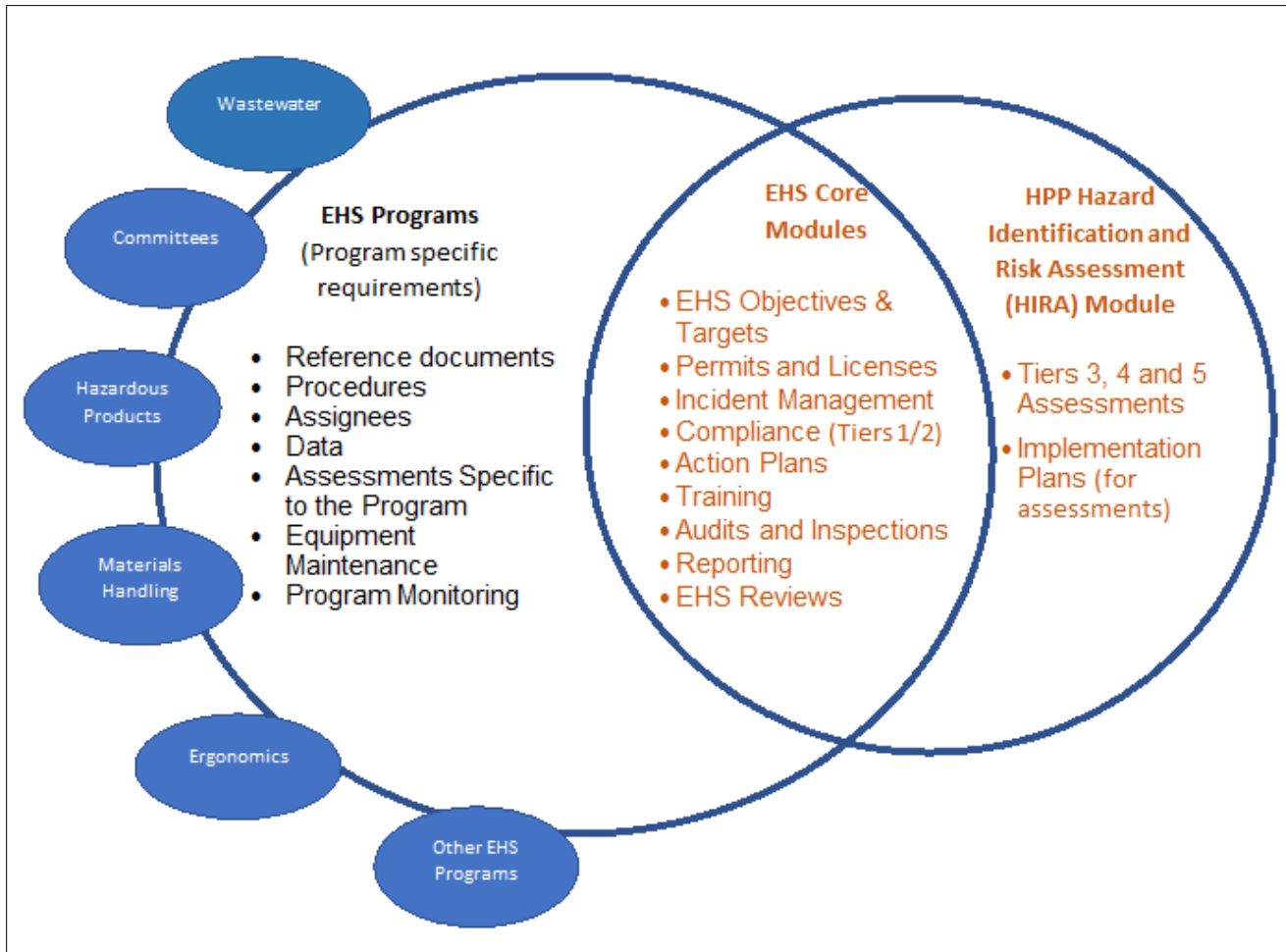
- 9.1 An enterprise-grade configurable cloud or hybrid computing solution is preferred.
- 9.2 If the solution is managed and provided as a service (SaaS), it should include service level agreements (SLA) for operational support.
- 9.3 The service model will include operational support; including system and information security, data management, identity management, patching, upgrades and general system management.

10.0 Solution - Non-Functional / Technical Summary:

10.1 Prospective solution:

- 10.1.1 shall be fully functional in either Official Language (English or French);
- 10.1.2 shall offer a Protected B environment and associated requirements for security and servers shall reside onshore within Canadian geographic borders;
- 10.1.3 shall be compatible with and accessible via designated NRC network systems;
- 10.1.4 shall fully comply with Government of Canada standards, policies and regulations respecting the delivery of applications that are more accessible, usable, interoperable and optimized for mobile devices:
 - 10.1.4.1 [Standard on Web Accessibility](#)
 - 10.1.4.2 [Standard on Web Usability](#)
 - 10.1.4.3 [Standard on Web Interoperability](#)
- 10.1.5 shall be compliant with the highest standards of Canadian online data security regulations including the federal [Privacy Act](#), Personal Information Protection and Electronic Documents Act ([PIPEDA](#)), and Canada Anti-Spam Legislation ([CASL](#));
- 10.1.6 shall allow for integration of NRC credentials (username and password) to enable authorized users to conveniently access solution with a single sign-on (SSO);
- 10.1.7 should provide integration points through a set of Application Programming Interfaces (APIs) and/or Software Development Kit (SDK) and/or other frameworks for developing custom business logic modules.

ANNEX C - Scope of EHS Solution



Comments:

1. Priority modules and programs

- a. The following modules are priority:
 - i. The HPP Hazard Identification and Risk Assessment (HIRA) module
 - ii. The EHS Core Modules
 - iii. The Wastewater Management program
- b. The solution needs to be configurable enough to adapt the solution “ready to use” EHS programs module and/or to create NRC specific program modules. The programs that are likely to be the first ones to be implemented in the solution (beyond wastewater management) include
 - i. Committees
 - ii. Hazardous Products
 - iii. Materials Handling
 - iv. Ergonomics

2. About the HPP Hazard Identification and Risk Assessment (HIRA) module

- a. In addition to the creation and documentation of projects, workspaces and/or equipment & activities hazard identification and risk assessments (HIRAs), this module should be able to handle supporting documentation for the control measures such as procedures, trainings, inspections, preventive maintenance, etc. related to the equipment and/or activity being assessed. It also needs to have the capabilities to manage an overall implementation plan for define and track progress in managing the necessary HIRAs.

3. About the EHS Core Modules

- a. These modules are not program specific and tend to be applicable to the entire EHS system. They can, however draw on some of the data associated with one or multiple programs.
- b. They need to be manageable at different levels of the organization (organizational unit level, corporate level, site level, etc.)
- c. The NRC already has a training management solution for generic courses assigned to employees. For this solution, the focus on training would be on equipment and activity-specific training (supporting documentation and management of these training).

4. About the EHS programs

- a. Each program focuses on a specific area. While they are different in structure and scope, many will need the definition and/or documentation of items such as
 - i. Reference documents (directive, guidance documents, associated regulations, forms)
 - ii. Procedures (such as operation procedures specifically related to the requirement of the program)
 - iii. Assignees for the program implementation or monitoring (e.g., HPP coordinator, laser safety officer, etc.)
 - iv. Data including documents and forms such as monitoring data, completed inspection forms, etc.
 - v. Assessments specific to the program (e.g., for classification of confined spaces, ergonomics assessments, etc.), etc.
 - vi. Equipment maintenance could cover information such as on preventive maintenance requirements for control equipment (e.g., for fume hoods, detectors, specialized PPE, etc.) and for equipment themselves to prevent injuries or release to the environment (e.g., brakes on lift trucks, hooks on hoisting equipment, underground storage tanks, etc.)
 - vii. Program monitoring
- b. NRC has a number of EHS programs including the ones presented above. It is expected that over time (several years) a large portion of these programs will be rolled into the solution. In some case, the data about the programs' implementation may have to be accessed via an API.

ANNEX D - HPP - HIRAs Business Requirements

