Audit of Occupational Safety and Health at Environmental Protection Service (EPS) Research Centres

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Audit and Evaluation Branch

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Table of Contents

Executive Summary

Recent changes to the Canada Labour Code have alerted senior management to their need to demonstrate due diligence as it pertains to the safety and health of departmental employees. As a result, Jacques Whitford Environment Limited (JWEL) was retained by the Audit and Evaluation (AEB) Branch of Environment Canada to conduct an audit of the Canada Labour Code Part II requirements for Occupational Safety and Health at Environmental Protection Service. The scope of the audit included the Wastewater Technology Centre (WTC), the Environmental Technology Centre (ETC) and two National Air Pollution Surveillance stations (NAPS). A questionnaire was developed from a review of CLC Part II combined with Risk Elements and Criteria provided by the Audit and Evaluation Branch of Environment Canada. The audit also included a walk through review of the facilities at the Environmental Technology Centre and NAPS Stations in Ottawa, and the Wastewater Technology Centre in Burlington.

The need for this audit was brought forth during the consultation phase of the 2002-2005 Audit and Evaluation Plan and was approved by the Departmental Audit and Evaluation Committee (DAEC). More specifically, the purpose of this audit was to determine whether the operations at the EPS centres were carried out in a way that meets the due diligence with regards to the occupational safety and health requirements of the Canada Labour Code part II. The focus of the audit was on section 125 and 135 of the CLC and any other sections of the Code deemed appropriate by the consultant.

Findings

Safety is clearly considered important within EPS facilities. The high standards of engineering in the labs at the facilities are evidence of this. Senior managers discuss safety within their meetings, as does the Joint Occupational Safety and Health (JOSH) committee that meets regularly and is supported by senior management. All employees who were interviewed had a very positive attitude towards safety. Safety is discussed at the various departmental meetings and ETC has developed a safety Local Area Network. The evaluation of the Workplace Hazardous Material Information System (WHMIS) program indicated that labelling is generally good with a few exceptions. These exceptions should be identified as part of the regular inspection process.

The CLC Part II regulations are new and the questionnaire developed from the Audit and Evaluation Branch criteria is very detailed. As a result this audit could be viewed as a GAP analysis between existing programs and the requirements of the new regulations. In this way it can be used as a road map to further enhancing the existing program.

Specifically the audit found:

1. **OSH Management System**: As evidenced through a lack of complete documentation, many of the safety programs are not formalized. In order for existing health and safety processes to be sustainable they should be included into an OSH management framework to ensure for instance that they continue independently of individual efforts.

The use of an OSH management system at all locations would also enable consistent demonstration of both management commitment to safety and ability to show 'Due Diligence' in the event of an incident.

2. **Employee Involvement / OSH Objectives**: Based on the results of the interviews, all employees knew of the safety intent of the organization but active involvement mainly lay with the members of the JOSH committee. The safety program would be strengthened by the chain of command having the leading role in the safety program and the JOSH having a monitoring role. Management use of formal OSH objectives and targets (such as injury rates, completion of corrective actions, and updating of safe work procedures) accompanied by performance indicators would allow better tracking and support of the safety program.

3. **Risk / Hazard Analysis**: Based on the review of the safety program, (as distinct from the environmental management system) the audit team was unable to find evidence of formal risk and hazard analysis for some of the routine activities such as acid transfer, hot work, line breaking, confined space entry etc., performed at the centres. Currently, the supervisors ensure that tasks are done correctly and that procedures represent the best and safest method. Identifying critical tasks is a mean for management to ensure appropriate measures are taken.

4. **Training**: While the centres do plan to complete CLC Part II training, a training needs analysis for employees should be instituted. This could then be used to set up a routine refresher safety training program.

5. **Chemical Receiving**: Based on the results of the interview, the audit team found that substances can be distributed into the workplace without the needed checks being completed. All locations should re-visit the receipt of all substances to ensure compliance with the WHMIS regulation and the CEPA New Substances regulation.

6. **Emergency Response Planning**: Emergency Preparedness Plans (EPP) are either in place or are being upgraded. Although fire drills have taken place regularly at the sites, there have been no drills or training on other relevant emergency scenarios (i.e. spill response, explosions, severe weather, worker rescue, bomb threats, etc.).

7. **Security**: The WTC facility has a visitor access process but it is not foolproof as it is possible to bypass the guard. In the event of an incident, it currently may be difficult to account for all visitors.

8. **NAPS Sites:** The NAPS sites were visited. The key findings were the need for a Working Alone Policy to be developed for the contractor who accesses the sites weekly, and for permanent wiring to be installed to limit the use of extension cords and power bars.

Detailed findings and recommendations are under Section 2.0.

1.   Introduction

1.1   Background

The September 2000 revision to CLC expanded accountability for OSH to everyone within a workplace; as such, all levels of management must be aware of their responsibilities, and can be held accountable for neglecting them. These changes find voice in Sections 125 (specific duties) and 135 (workplace health and safety committees).

1.2   Objectives

The objectives of the audit were to:
1. Determine whether operations at the Environmental Technology Centre, Wastewater Technology Centre and the two NAPS stations are carried out in a way that meets due care and diligence with regard to the occupational safety and health requirements of the Canada Labour Code Part II.
2. Verify through use of an approved audit questionnaire if an OSH management system is implemented which meets the requirements of the Canada Labour Code Part II.
3. Verify through use of an approved audit questionnaire if the criteria as laid out by Environment Canada (Appendix A) are being met.
4. Identify areas of improvement and make recommendations.

1.3   Scope and Limitations

The scope of the audit included relevant activities within the Wastewater Technology Centre, the Environmental Technology Centre and two National Air Pollution Surveillance stations in the NCR. The audit assessed current practices and reviewed applicable OSH management system documentation records. The findings in this report are related to observations made during auditor site visits, documentation and records review and interviews with personnel at WTC, ETC and NAPS stations.

The audit team developed a questionnaire based on criteria provided by the EC Audit Evaluation Branch. The questionnaire was reviewed and approved prior to its use. As requested the audit team made walk-through inspections at the facilities in order to assess how the safety program was transmitted down the organization and identify any evident issues rather than to make a regulatory check.

The report is based on the technical work performed by Jacques Whitford Limited. The audit reviewed samples of the information available at the time of the audit. Jacques Whitford Environment Limited have used standardized, internationally accepted auditing procedures and qualified personnel providing for reducing the risk of errors and omissions as much as possible, given the limited time and resources available to undertake the audit. The occupational safety and health investigation was conducted in accordance with accepted occupational safety and health practices.

1.4   Audit Methodology

In order to conduct the audit at ETC and WTC a preliminary review of background information was performed. An audit protocol was developed based on Canada Labour Code Part II and the Environment Canada criteria as defined in the RFP documents. More specifically, the audit protocol focused on the elements of the management framework that are deemed to be of high risk for a research centre environment (e.g., Management Framework, Communications, Work Procedures, Safety Instruction, Emergency Procedures, Job Hazard Analysis, Protective Equipment, Joint Occupational Safety & Health Committees, Workplace Inspections, and Hazardous Occurrence Reporting). The summation of this effort can be seen in the audit criteria – **Appendix A** – where the CLC Part II references are referenced to the EC criteria and the audit questions.

The audit protocol questions were based on the audit criteria above and on OHSAS 18001 requirements. JWEL auditors looked at means by which specific risk elements were addressed and proof of implementation. JWEL auditors then used the protocol to conduct an on-site examination of OSH management systems, documentation and records relating to Occupational Safety and Health. The audit questionnaire was approved by AEB and was an important tool in identifying key findings which led to the present recommendations. The audit questionnaire indicates the status associated to specific elements. Therefore finding related to the pre-approved questions help determine if there is 'conformance (C)', 'non conformance (NC)', or an 'opportunity for improvement (OI)'.

When facilities were visited JWEL ensured that the audit activities followed the pattern of:
1)   Opening Meeting – Presentation of the audit team, review of the purpose of the OSH audit, explanation of the limitation of the OSH audit, presentation of the methodology of the audit, presentation of the pre-approved audit questionnaire and setting up a time for closing meeting at the end of each day.
2)   On-site auditing activities – Interviews, site visit and hazard assessment, OSH management system documents and records review, and data entry into each facility's questionnaire.
3)   The closing meeting – Meet with the facility staff to present a summary of the main findings of the audit.

2.   Audit Findings

The following findings are based on a series of interviews and file reviews and are relevant to both facilities (ETC and WTC) unless otherwise specified. Detailed observations and suggested action plan for each facility is provided in the technical report.

2.1   Management Framework

Findings

- There is no evidence of an OSH management system in place grouping for example policies, directives, inspection criteria, etc with an appropriate documentation control process. Some of safety elements currently in place are not formalized as evidenced by the lack of complete documentation. Although there are activities such as the safety agenda item on the senior management meeting and the activities of the JOSH

committee, CLC part II section 125 requires that all elements of an OSH system be fully documented. All those questioned were aware of the OSH system at the site however, a lack of a formally documented program could make 'due diligence' hard to demonstrate in the event of a major incident. An example of this is that there is no formal Industrial Hygiene testing to identify the stressors such as noise, biological agents and ergonomics. At ETC, exposure assessments are only conducted if a concern is identified during an employee's semi-annual medical. There are many positive activities taking place in the centre, but this is not always reflected in the activities at shop-floor level (e.g. inconsistent use of personal protective equipment).

- Communication to employees regarding OSH is done through the JOSH and from departmental managers and based on the interviews, employee involvement is limited to the members of the JOSH committee. At the time of the audit, there was no evidence that OSH objectives or targets had been established and communicated to employees.

- Training is conducted on regulatory issues such as WHMIS, and Transportation of Dangerous goods has been reported to Labour Canada in the Case of ETC. Workplace training is either happening through the lab safety manual or through information sessions from supervisors. There is however, no evidence that a needs assessment has been completed for each job group and as a result, no training matrix with refresher dates exists.

Recommendations

Based on these findings, **it is recommended that the Environmental Protective Service**:

Recommendation 1

Develop an OSH Management System at all locations to enable consistent demonstration of both management commitment to safety and ability to show "Due Diligence". The OHSAS 18001 ''Occupational health and safety management systems - Specification'', which is similar to ISO 14001 "Environmental management systems – Specification with guidance for use'', already active in ETC, is one such means to achieve this system. The system should delineate how health and safety responsibilities flow down the chain of command.

Management Response:

Adopting an international standard, such as OHSAS18001, is recognized as a good approach to take in the longer term. EPS benefits from the ETC already having shown leadership in the Department by developing and implementing most elements of an ISO 14001 Environmental Management System (EMS). These two standards are eventually intended to be compatible and several elements in them are inter-changeable. Our long-term approach would be to combine the two systems into one Safety, Health & Environmental (SHE) management system. We note, however, that such comprehensive systems need significant resources and take a number of years to develop, and require dedicated ongoing resources to maintain. (The consultant indicated that implementation of such comprehensive approaches typically takes about three years in industrial settings.) Starting in fiscal year 2003-04, the ETC committed an additional $40K salary annually to accelerate its work on the development of an integrated SHE approach. Moreover, this fiscal year one of the ETC Divisions (ERMD) is allocating an additional $20K for contract support to accelerate work on Divisional systems. We will look for significant corporate support in continuing to take such a leadership Quality Management role inside the

Department. The precedent of the ETC and WTC moving to such a comprehensive system, will have significant resource implications beyond the ETC and WTC, since presumably the Department as a whole would eventually have to move to such an approach. Indeed, there could be resource implications government-wide

Recommendation 2

To verify that the engineering controls built into the facilities are working and are being used as designed and to supplement existing exposure monitoring programs, it is recommended that industrial hygiene personal dosimeter studies be conducted using indicator substances (as determined on a workplace specific basis). These results can be used to determine the repeat frequency and any need for additional medical testing.

Note: Some ongoing monitoring is performed already (e.g. CO sensors in ERMD; radiological dosimetry). Further, lab staff already participate in medical checks every two years via HC that are tailored to address any possible health concerns associated with the chemicals that they manage.

Management Response:

This recommendation would elevate the level of due diligence beyond the significant preventative and monitoring systems already in place, e.g. employment of highly qualified chemists; use of 100% fresh air replenishment in the labs; use of high-quality, well-maintained and regularly checked variable-flow fume hoods; regular review of potential chemical use and associated tailored biennial medicals for staff; radiological dosimeters; regular testing of drinking water; carbon monoxide and combustible gas monitors in the Vehicle Emissions Testing Laboratory; solvent monitors in the Ultra-Trace Laboratory; etc. Further, on a project- or issue-specific basis, supplementary measurements are occasionally taken if they are deemed desirable to supplement such routine monitoring (e.g. particulate matter; VOC). Additional Task Hazard Analyses will be completed for all remaining potentially significant activities at the ETC and WTC as part of the development and implementation of an OSHAS 18001 approach at the Centres. If any specific additional risks emerge from this process that warrant further indicator, monitoring or personal dosimeter programs, such programs will be undertaken as part of the implementation of the overall SHE system

Recommendation3

Develop an annual plan identifying objectives and targets (such as injury rates, completion of corrective action, and updating of safe work procedures) accompanied by performance indicators to allow better tracking and support of the safety program. These should be communicated to employees.

Management Response:

As part of the long-term move to an OHSAS 18001 approach, an annual plan will be developed to supplement the existing annual reporting on OHS-related incidents. The completion of corrective action is documented on Workplace Inspection Forms for actions resulting from workplace inspections. Corrective actions are noted on Hazardous Occurrence Incident forms when a hazardous incident occurs. The updating or addition of

any Safe Work Procedures (SWP) or Job Hazard Analyses (JHA) will be noted in the report. The target for injuries and health-related impacts will be zero in every edition of the annual plan/report. The annual plan/report will be shared with all employees.

Recommendation 4

While some of the job descriptions include OSH responsibilities it is recommended that this be extended to cover all personnel in the centre for use at yearly review. Routine workplace training should be provided; workplace procedures prepared; and safety suggestion and recognition programs encouraged to enhance employee involvement.

Management Response:

The ETC has had a posted OHS Policy statement for about two decades, and both Centres have notice boards posting OHS-related information required by the Canada Labour Code (CLC) Part II. Moreover, the ETC also has an OHS LAN containing general and tailored OHS information, which is also accessible by WTC staff. OHS responsibilities are already a part of all Work Descriptions at the ETC and WTC as all description have been re-written into the USC format which contains sections dealing with Employee Well Being. Many staffing actions in the Centre, particularly for chemistry labs, quiz candidates on health and safety knowledge and expertise. As necessary, issues surrounding these elements of the work responsibilities will continue to be discussed with employees within and outside the framework of the annual performance reviews. OHS requirements (e.g. participation on the ETC JOSH Committee) are integrated in the multi-year contract with SAIC Canada (an 'alternative service delivery' arrangement), and in all personal service contracts at the ETC. The contract provisions require that the Contractor/Offeror shall comply with the standard rules relating to the access to the facilities and with the health and safety rules in effect at those facilities while on the premises. Centre-wide OHS-related routine workplace training will continue to be mandatory for all staff (e.g. Lab Safety; WHMIS) at the ETC, supplemented by continued routine training targeted at selected staff (e.g. TDGA; First Aid; Chemical Spill Response) and tailored on-the-job training for laboratory staff by laboratory supervisors/managers. Training on the Canada Labour Code Part II will be offered to all staff as part of the roll out of the overall Departmental Training Plan in this regard. Additional SWP will continue to be developed to supplement those already developed for the highest risk and most common practices in the Centres. The Centres will continue to adopt the Task Hazard Analyses (THA) developed by the Department (and approved by the Departmental OHS Policy Committee) to supplement those already available and posted on the ETC OHS LAN and Centres' OHS Notice Boards. The employees will be reminded annually, as part of the sharing of the annual OHS report/plan and at other times that OHS-related suggestions are encouraged – and that such suggestions may be made to any manager and/or to the long-standing Suggestion Boxes at the Centres. Various recognition/award programs are already in place in the Department. One of them (the Instant Award program) was used last fiscal year to recognise and celebrate the OHS-related contributions of an ETC staff member. Such award programs will continue to be used for OHS-related (and other) work in the future at both Centres.

Recommendation 5

Complete a Training Needs Assessment for all job groups and develop a training matrix specifying required training and refresher dates. The training matrix could then be used for the yearly goals and appraisal process. Training programs, could include, comprehension testing, and follow up. Information should be centralized to ensure records are readily retrievable.

Management Response:

A more formalized training needs assessment process will be developed as part of the long-term development on an OHSAS 18001 approach. It will likely be founded more on individual laboratory or even individual staff needs rather than a job-group approach, because of the varied nature of work in the different laboratories in the two Centres. This will integrate and formalize the existing individual general training need assessments performed as part of the annual employee performance appraisal process, and supplement the existing routine training programs/schedule (e.g. Lab Safety and WHMIS training for all staff; and TDGA, First Aid, CPR, Chemical Spill Response core and refresher training for selected staff). It should also allow regularization of OHS training programs currently offered by the Centres on a more opportunistic basis (e.g. Ergonomics; Fire Suppression; Fire Emergency Response). The existing routine core and refresher TDGA and First Aid courses already include scored comprehension testing, with a passing grade, and associated follow-up if the grade is not attained. The need for comprehension testing for other training will be assessed as part the more formalized training needs assessment development and implementation. The existing centralized training records will be supplemented by records which are not currently centralized and by records associated with any additional routine training components identified as part of the proposed more formalized needs assessment process.

2.2   Operations

Findings

- Work procedures are included in the Laboratory safety manual at ETC and included in the Canadian Centre for Inland Waters (CCIW) Laboratory Safety Manual at WTC. Neither manual includes step by step tasks nor do they specify the required PPE. Additionally, the CCIW manual does not address other procedures required at the WTC facility, such as Hot Work, Contractor Management, Line Breaking, Confined Space Entry and Lock: Tag: Try. Formal approval process and refresher frequencies for these documents are not in place.
- The site inspection and interviews found generally good WHMIS compliance with proper labelling with the exception of a few cases. These cases should be identified as part of the regular inspection process. It should be noted that, at the time of the audit, the inspection process had not yet been implemented at WTC. Material Safety Data Sheet (MSDS) are up to date and the process to assure all MSDS are on site is being revised by both facilities. WTC will be accessing ETC's database to facilitate this task. At WTC, employees interviewed indicated that the process to bring new chemicals on site was not clear or documented. At ETC, interviewed showed that MSDS were not checked at

receiving prior to distribution. This means that currently, chemicals could be distributed into the workplace without the proper checks.

- At WTC, the Emergency Preparedness Plan is currently being upgraded and should be aligned with those of CCIW due to the overlap in services. Operational issues such as head counts and a designated meeting place was raised as a concern by some interviewees. At ETC, an Emergency Preparedness Plan was observed, however, there was no evidence that emergency response coordinators or security guards had received training in regard of the EPP. Also, the audit team was unable to find evidence that Emergency Preparedness Plan procedures/scenarios were being tested.

It is recommended that the Environmental Protective Service:

Recommendation 6

EPS has built many safety controls into the design of the facilities and have completed risk analysis on some activities and tasks. It is recommended that this be enhanced by periodic formal and systematic review of potential hazards through actual observations of task performance.

Management Response:

Management discussion on risks has occurred as part of the standing OHS and EMS items on the ETC Management Committee Agenda (for over a decade) and through the Departmental-wide identification of work-related hazards (through the selection of tasks requiring Departmental THA). These discussions resulted in the posting of Safe Work Procedures (SWP) and Departmental THA on the ETC OHS LAN and Centres' OHS notice boards. For example, the work procedures posted at the ETC include all the relevant Departmental THA, plus specialized ETC SWP like: Acids & Bases; Hazardous Waste Handing; Solvents; Compressed Gases; Entering Dynamometer Pits; Liquid Nitrogen; Microwave-assisted Extractions; Radiation-generating Equipment; Soxhlet Extractions; Toxic Substances. The ETC SWP include requirements for personal protection/safety equipment. The SWP specify the kinds of work that require safety equipment, like safety glasses, rather than imposing a blanket requirement throughout all the laboratories. Additional SWP for Hot Work and Line Breaking have recently been developed at the ETC, in response to a recommendation from the audit. More formal and systematic review of potential hazards will be implemented as part of the implementation of the proposed OHSAS approach

Recommendation 7

Document a process to ensure that requirements of WHMIS and Hazardous Material Information Review (HMIR) are met e.g. method to control, store, identify and handle hazardous substances in the workplace. This process should ensure that no substances (including samples) can be received on site without a current MSDS.

Management Response:

Contrary to the audit finding, a process to ensure that the requirements of WHMIS are met is in place at the ETC, including the development of a tailored database to track chemicals in the Centre. All staff (including students, contractors, and visiting researchers) are required to take the ETC course on WHMIS. A Standard Operating Procedure (SOP) for obtaining

and maintaining Material Safety Data Sheets (MSDS) has been developed by the ETC Joint Occupational Safety & Health (JOSH) Committee. This SOP requires that laboratories obtain an MSDS when ordering controlled products new to them, including following up with the supplier if an MSDS was not included with the controlled product. A copy of this MSDS is forwarded to the ETC Quality Systems Manager for addition to the ETC central library of MSDS. The CLC does not state that controlled products may not be distributed into the workplace without an MSDS, only that the employer shall obtain the MSDS "without delay". In fact, the ETC presently exceeds the legal requirement for MSDS, as both the CLC and the *Controlled Products Regulations* exempt laboratories from the requirement to obtain MSDS if they are receiving controlled products in containers less than 10 kilograms from laboratory supply houses. This exemption applies to all but a small portion of the controlled products in the ETC chemical inventory, yet the Centre maintains a library of nearly 1,000 MSDS. The audit recommendation that samples be required to have an MSDS also is in conflict with the applicable legislation - in this case Section 9 (1) of the *Controlled Products Regulations*, which exempts any laboratory samples packaged in containers containing less than 10 kilograms of the controlled product. Nevertheless, to ensure its procedures are as comprehensive as possible, ETC will investigate reviewing purchase orders before they go out (rather than the current practice of examining packing slips on orders delivered to the Centre) to confirm that no new chemicals are entering the building. Should this approach prove feasible, the MSDS SOP will be adjusted.

Recommendation 8

Review the Emergency Plan for accuracy ensuring that the one for WTC matches CCIW. The Emergency Preparedness Plan and Fire Safety Plan should reflect current realities (e.g. ensure effective emergency planning, training, awareness, response and review). A formal training program should be implement ensuring that EPP scenarios/procedures are tested. Records of these tests should be kept and reviewed to ensure appropriate corrective actions are taken.

Review visitor access needs at WTC to ensure better control.

Management Response:

The Emergency Response Plan for CCIW/WTC is currently being updated and WTC is actively participating in the process. The revised Plan is expected to be rolled out within the next two months. The CCIW/WTC Fire & Emergency Procedures are also being updated and will include other scenarios (spill response, bomb threats, etc.) in addition to fire response. The Director, WTC, has already implemented a procedure for head counts and a designated meeting place during an evacuation of WTC. This protocol will be incorporated into the official CCIW/WTC Plan. The ETC All Hazards Emergency Management Plan was being updated before a decision was made to undertake the audit. Part of the updating program included the delivery of staff training on the updated plan. The plan is now essentially updated and the training has been delivered to staff. The ETC Fire Safety Plan is currently being updated to make sure that it addresses all required issues and is being integrated into the All Hazards Emergency Management Plan. Evacuation is the central element of the ETC Fire Safety Plan (and of most of the ETC All Hazards Emergency Management Plan risk scenarios) and this element continues to be exercised on a regular basis at the ETC. A review is undertaken after each evacuation and corresponding actions/improvements implemented and documented. The ETC is the national centre of

excellence respecting scientific assessments at chemical spill and other environmental emergency sites. Thus, selected ETC staff receive (and indeed deliver to other chemical spill responders) regular training on safe assessment of chemical spills – one of the more important risk scenarios of the ETC All Hazards Emergency Management Plan. Records of such training and evacuation exercises are maintained. A regular training program on all risk scenarios of the plan will be developed as part of the longer term development of an OHSAS 18001 approach.

The WTC visitor access policy and process has been reviewed. The sophisticated key lock and electronic entry system is considered state of the art and allows monitoring of all authorized access and egress from the facility. However, all occupants have been reminded of the need to more stringently control the access of visitors to the Centre and, when in doubt, to challenge visitors for their authorization. Reminders to all occupants at WTC to abide by these rules will be sent out periodically.

2.3   Monitor and Control

Findings

- The JOSH at ETC has been functioning for some extended time and is meeting regularly. WTC's JOSH committee is now constituted and all co-located companies also have a representative on committee. The terms of reference clearly identifies the broad role and responsibilities of the committee members however, they do not address specific issues such as complaint resolutions, access to records or training needs. At the time of the audit, the CLC Part II training had not been provided but was scheduled for the committee members.
- Workplace inspections are currently taking place using a checklist specific to each division and JOSH is responsible to assure that those inspections are carried out. Although it is too early to make judgments on the sustainability of this process at WTC, the audit team observed some difference in standards during the site inspection at ETC. An example of this was storage of materials in aisles, blocking access to eyewash and storage of flammable in an inappropriate cabinet beneath a fume-hood. The wearing of safety glasses is also inconsistent across the facility.
- Staff interviewed knew of the required process in terms of completing incidents reports,

Recommendation 9

The JOSH committees should continue to encourage representation from co-located companies. The terms of reference should be revised to include guidelines for access to records, complaints resolution and other relevant responsibilities of the CLC code part II.

Management Response:

The ETC JOSH Committee will continue to include representation from co-located companies. As part of the move to an OHSAS 18001 type of approach, the committee terms of reference will be revised to reference aspects of the CLC Part II like access to records and complaint resolution.

Recommendation 10

Employee assigned to workplace inspections should receive training on how to conduct workplace inspections more specifically in hazards recognition.

Management Response:

Additional training needs for JOSH Committee members and other staff members will be identified as part of the move to an OHSAS 18001 type of approach. Such generic workplace inspection training would supplement the detailed and specifically-tailored workplace inspection forms that have been developed by management and staff for each of the ETC laboratories.

3.   Conclusion

Although safety is clearly important within EPS facilities, the audit has found that the safety programs, both at ETC and WTC, were not formalized which could lead to difficulties in demonstrating 'due diligence' in the event of an incident. However, the implementation of an Occupational Safety and Health Management such as OHSAS 18001 would allow for an auditable safety management system to be sustained.

Furthermore, conducting a hazard assessment of the facilities would allow for critical tasks to be identified and from these would flow the required procedures and employee training matrix.

The JOSH at both facilities is operating well and addition of some training and external safety expertise would raise their ability to monitor the programs.

Appendix A: AUDIT PROTOCOL AND QUESTIONNAIRE

ENVIRONMENT CANADA OCCUPATIONAL SAFETY AND HEALTH AUDIT PROTOCOL

Risk Element	Criteria	Question
MANAGEMENT FRAMEWORK		
Leadership Commitment and Accountability *Management establishes policy, provides perspective, sets expectations and provides the resources necessary for successful operations. Assurance of operational integrity requires management leadership and commitment visible to the organization and accountability at all levels.*	1. There should be an OSH operational management system established that is communicated and supported at every level of the organization. 2. Management should demonstrate commitment through active and visible participation in the process. 3. Management should establish the scope, priority and pace for implementation of the OSH system considering the complexity and risks involved with its operations and products. 4. Roles, responsibilities, authorities and accountabilities for the system should be known and exercised. 5. Clear goals and objectives should be established for the system and performance should be evaluated against these goals and objectives. 6. The system should ensure that expectations are translated into procedures and practices. 7. The system should ensure active participation and involvement from employees and lessons should be shared across the organization. 8. Management should consult, support and work with the JOSH.	Describe the OSH management framework in the Wastewater Technology Centre/Environment Technology Centre. For example: • Where is OSH roles, responsibilities and accountabilities formally described? • how does management liaise with the OSH safety representative; do they meet to address matters and consult on implementation / monitoring of programs (125(1)(z.08, z.15, z.19)) • what is process to respond to oral / written direction by Appeals or Health & Safety Officer? (125(1)(x)) How is senior management involved in the OSH process? Provide an example of how management demonstrates commitment to the OSH program. (EC OS&H Standard) How does management work in cooperation with safety and health representatives and committees to ensure the implementation of the OSH program, including any changes to the program? For example, does the employer respond to recommendations made by committees and representatives within 30 days? (125(1)(z.02, z.06, z.09, z.10, z.18))

Risk Element	Criteria	Question
		How does management ensure that all hazardous substances in the workplace are controlled, stored, identified and handled in the prescribed manner? (125.1)
		Is there an annual OSH plan? What standards, safety codes, goals and objectives are set for the OSH program? How is OSH performance measured against these goals or objectives? How are goals communicated to employees? (EC OS&H Standard)
		How does management ensure employees are involved actively in OSH and cooperate with the JOSH committee / H&S rep? (126(1)(f))
		How does the centre ensure that: • occupational diseases and hazardous occurrences are investigated recorded and reported in the prescribed manner; • potable water, first-aid facilities, sanitary / personal and health facilities are provided for all employees; (125(1)(h, i, j)) • operation of boilers, elevators, HVAC, oil burning equipment meets safety standards; (125(1)(m)) • vehicles and mobile equipment used by employees in the course of their employment meets safety standards; (125(1)(k)) • new employees are indoctrinated with the centers safety policies and procedures; • safety equipment, materials, devices and clothing are provided for every employee; (125(1)(l, z.07))

Risk Element	Criteria	Question
		• permanent and temporary buildings & structures meet prescribed standards; (125(1)(a)) • levels of ventilation, lighting , temperature, humidity, sound & vibration meet prescribed standards; (125(1)(n)) • machinery, equipment and tools meet prescribed safety and ergonomic standards and are safe under all conditions of use; (125(1)(t)) • employees are protected against violence in the workplace? (125(1)(z.16))
Communications *Communications encompass the exchange of information and the notification of OSH related matters. EC is required to ensure that every employee is made aware of every known or foreseeable safety and health hazard in the area where the employee works. Good communications include established external channels with central agencies and internal channels within the department that would promote and facilitate the sharing of information on OSH issues and best practices.*	1. There should be an established means of Inter-Josh or inter-Sector communications to spread information on OSH related matters (i.e. inspection checklists, hazardous occurrences), and to share best practices methods. 2. There should be a corporate safety manual in place which contains common safety related elements which can be used as a reference source for OSH related matters. 3. There should be formal means for communicating with designated departmental experts in certain OSH related topics so that legal or safety related information and advice can be quickly and easily obtained by managers or staff. 4. The facility should have a process in place to generate and compile S&H information (including accidents, spills illnesses and other occurrences) for internal and Central Agency use, e.g. Labour Canada, Health Canada and Treasury Board. 5. S&H information should be reported to the	How does the organization distribute information on OSH-related matters (i.e. reports, results of inspections, hazardous occurrence reports and corrective activities) to the Policy committee, JOSH / H&S rep? (125(1)(z.11)) Is there a corporate safety manual in place? What does it contain? How is it used? How is it maintained and updated? (EC OS&H Standard) How do you communicate with designated Departmental or Central Agency experts in OSH-related topics so that legal or safety related information and advice can be quickly and easily obtained by managers or staff? (EC OS&H Standard) How do you compile and generate OSH information (including accident, spill, illness and other occurrences) for internal and Central Agency use, e.g. Labour Canada, Health Canada. How do you report this information to the appropriate authorities? How / where are records of exposures to hazardous substances

Risk Element	Criteria	Question
	appropriate authorities (either internal or external) in a timely, accurate and complete manner. (Written reports? To whom? How often?). 6. There should be mechanisms in place to conduct follow-up investigations, issue reports and revise policies if required. 7. An Employee Assistance Program should be in place. The staff should be aware of its existence and it should be functional as it relates to S&H. 8. Safety documentation should be formally approved, recorded and a review system should be established.	maintained? (125.1(f)) Is an Employee Assistance Program in place? Does it have an OSH component? If so, are the staffs made aware of its existence. Is it functioning, as it should as it relates to OSH? (EC OS&H Standard) How are employees involved in the safety programs – are there any recognition, suggestion or reward systems or programs? Are there updated safety bulletin boards at key locations in the facility with the following prominently posted: • copy of CLC Part II and H&S policy; (125(1)(d)) • names, work tel numbers of JOSH committee; (125(1)(z.17)) • other printed matter? What mechanism is in place for an employee to formalize a complaint regarding safety and health issues? How are employees made aware of the appropriate recourse they are able to exercise? (127.1 (1)) How are new / revised safety codes and standards adopted and implemented? (125(1)(v)) How are employees with special needs given direction, notices, training etc? (122.2(1)) How are regulations made under the CLC Part II made available to employees? If electronic, what training is provided? (125(1)(e, f))

Risk Element	Criteria	Question
Training *Training is designed to ensure that workers are knowledgeable on how to perform the work they are assigned and how to carry out the procedures in a safe and efficient manner. Training takes many forms and includes formal courses, seminars, conferences, orientation and on-the-job training. EC is required to ensure that every employee receives appropriate training in areas pertinent with the area where the employee works. A good training program would include a formal and objective training needs analysis, training results and evaluation process, and a training re-evaluation process.*	1 A record of OSH training undertaken by all staff should be maintained for reference purposes. 2 There should be an OSH orientation program for managers and formal training on safety concepts, proper handling of hazardous material and reporting occurrences. 3 There should be a formal OHS training needs identification process for staff. This will include training for both regulatory requirements and workplace SOPs. OSH training needs should be included as part of the annual performance appraisal process. There should be an annual OSH plan which reflects employee training needs so as to link the identification process, training scheduled and performance appraisals. 4 The training should include emergency response and preparedness. If not, there should be adequate, published, accessible, procedures available to staff. 5 A mechanism should be in place to assess the effectiveness of the training. 6 The organization should assess the level of risk in each laboratory to determine the level of training needed in this area.	Is a record kept of regulatory and workplace OSH training undertaken by all staff? Is it maintained for reference purposes? (125(1)(g)) For managers / supervisors, is there: • a regulatory and workplace OS orientation program; (EC OS&H Standard) • formal training on safety concepts, proper handling of hazardous material, responsibilities under CLC Part II, and reporting occurrences? (125(1)(z)) For staff: (125(1)(q)) • is there a formal OHS training needs identification process for both regulatory and workplace requirements, including their responsibilities under CLC Part II; • are OSH training needs included as part of the annual performance appraisal process; • is there an annual OSH plan which reflects employee training needs so as to link the identification process, training scheduled and performance appraisals? How is missing training identified and corrected? What modules do the training provided to management and staff include? Does the training include emergency response and preparedness? If not are there adequate, published, accessible, procedures available to staff? (EC OS&H Standard) Is there a mechanism in place to assess the effectiveness of the training and to demonstrate employee acceptance of the training and understanding of the topic? (EC OS&H

Risk Element	Criteria	Question
		Standard)
OPERATIONS		

Work Procedures - *Work procedures are essential for describing what employees should do when performing a specific task and how to carry out the procedures in a safe and efficient manner. Work procedures should be specific in the description and the order procedures are to be carried out, on the operation of tools, equipment and machinery, on the job hazards and safety instructions, and on the use of personal protective equipment, devices and clothing.*	1. OSH work procedures should be developed based upon a periodic task analysis.
	
	2. Work procedures should state a step-by-step method to perform a procedure safely and properly.
	
	3. A permanent file should be kept on all critical tasks. The file should be periodically reviewed and updated by a front line supervisor.
	
	4. There should be a preventative maintenance program in place.
	
	5. There should be monitoring systems in place to ensure:
	
	  a) hazardous substances are properly labelled;
	
	  b) MSDS (Material Substance Data Sheets) are kept with material so that they are available for staff reference;
	
	  c) Industrial Hygiene factors such as air, water, noise, biological contaminants etc. are regularly measured or reviewed so they remain within safe limits;
	
	  d) adequate funding is made available on a timely basis for recommended OSH corrective measures.
	
	1. There should be checks to ensure any areas of operations that require staff to be certified e.g. steam generation, handling of radioactive material are reviewed.
	
	2. There should be checks to ensure all staff has
		Are OSH work procedures developed for each task? Are they based upon a periodic task analysis? Is an approval system in place with a defined review period? (EC OS&H Standard)
		
		Do work procedures state a step-by-step method to perform a procedure safely and properly? Are PPE and safety hazards identified at each step? (EC OS&H Standard)
		
		Is a permanent file kept on all critical tasks that is periodically reviewed and updated by a front line supervisor? (EC OS&H Standard)
		
		Is there a preventative maintenance program in place? Who is responsible for the records and activities? (EC OS&H Standard)
		
		Are responsibilities defined and monitoring systems in place to ensure:
		
		• *hazardous substances are properly labelled;*
		
		• *controlled products under HMIR Act are labelled as prescribed; (125.1(d))*
		
		• *environmental factors such as air, water, noise, biological contaminants etc. are regularly measured or reviewed to ensure they are within safe limits?; (EC OS&H Standard)*
		
		• *there is an effective WHMIS (Workplace Health Management Information System) in place?; (EC OS&H Standard)*
		
		• *MSDS (Material Substance Data Sheets) are kept so that they are available for staff*

Risk Element	Criteria	Question
	the necessary qualifications and/or certification. 3. *Ergonomics should be considered part of S&H.*	*reference; (125.1(e))* • *are there any areas of operations that require staff to be certified (e.g., steam generation, handling of radioactive material)? Does the staff have the necessary qualifications and/or certification? (EC OS&H Standard)* Is an Industrial Hygiene testing program in place where potential employee exposure may be present? Are the results made available to employees and the JOSH? Is adequate funding made available on a timely basis for recommended OSH corrective measures? (EC OS&H Standard) Are employees aware of their right to refuse work if they have reasonable grounds? Is a resolution process in place? (128(1, 2, 6-14)) Is there a process in place to address concerns raised by pregnant / nursing employees as prescribed? (132)
Safety Instructions – *The appropriateness, adequacy and timeliness of safety instructions are essential to a safe and health workplace. General safety instructions should be included in a corporate safety manual, laboratory specific safety instructions should be included in a laboratory specific manual, and job specific safety instructions should be included in work procedures.*	1. Safety instructions on important work procedures or equipment operations should be documented in a safety/operating manual which is kept in an accessible location and is available at all times for staff reference. 2. Safety instructions should have factored in the requirements of central agency guidelines/directives and appropriate Acts and their associated Regulations.	Do employees comply with instructions from the employer concerning health and safety? 126(1)(s, z..04) Are safety instructions on important work procedures or equipment operations documented in a safety/operating manual? Is it in an accessible location and available at all times for staff reference? Who is responsible to maintain and approve this manual? (EC OS&H Standard) Do safety instructions factor in the requirements of central agency guidelines/directives and

Risk Element	Criteria	Question
		appropriate Acts and their associated Regulations? (EC OS&H Standard)
		Are all persons granted access to the workplace
		• familiar with and use prescribed PPE; (125(1) (w))
		• do not endanger H&S of employees i.e. contractors; (125(1)(y))
		• informed of every known and foreseeable hazard they may be exposed to? (125(1)(z.14))
		Is there an Internal Complaint resolution process that outlines procedures for investigation, JOSC involvement, and inform employer in writing? (127.1)
Hazard Analysis - *Job Hazard Analysis (JHA) is a process used to review job methods, uncover potential hazards, propose controls and develop safe work procedures. JHA should be carried out and documented to demonstrate that each step of a test has been appropriately observed, that potential hazards and dangers have been identified, and that safe work procedures have been developed.*	3. There should be planned, periodic and systematic analysis of potential hazards at the work site through actual observations of task performance and a discussion of potential situations between management and staff. 4. There should be a set of in-place procedures to ensure that new or revised preventative measures including Industrial hygiene factors arrived at through hazard analysis or workplace measurement are incorporated into standard operating procedures and OSH training. 5. There should be a process whereby consideration is given to S&H issues while planning for changes to operations, reduction in staff, introduction of new hazardous.	Is there a planned, periodic and systematic analysis of potential hazards at the work site taken through actual observations of task performance and a discussion of potential situations between management and staff? Who has responsibility for this process? (EC OS&H Standard) Are there procedures to ensure that new or revised preventative measures arrived at through hazard analysis are incorporated into standard operating procedures and OSH training? (EC OS&H Standard) Is there a process whereby consideration is given to OSH issues while planning for changes to operations, reduction in staff, introduction of new hazardous materials into the workplace etc. (EC OS&H Standard) How is it ensured that the workplace, work

Risk Element	Criteria	Question
		space, and procedures meet prescribe ergonomic standards? (125(1)(u)) Has there been a review to ensure that employees have safe entry to and exit from the workplace? (125(1)(p))
Protective Equipment – *Protective materials, equipment, devices and clothing are essential to protect the safety and health of persons in the workplace. Work procedures must specify general and personal protective equipment that must be in place and used when tests are performed. Safety materials, equipment, devices and clothing must be provided to every person who has access to the work place.*	6. The need for protective equipment for those exposed to hazardous materials or procedures should be determined through a periodic review of operations. 7. PPE must be provided to those employees identified as being exposed to a stressor. 8. Steps should be taken to ensure that equipment meets the safety requirements of the Canada Labour Code.	Do all employees use safety equipment, devices and clothing intended for the employee's protection? (125(1)(a)) Is the need for protective equipment for those exposed to hazardous materials or procedures determined through a periodic review or operations? Who is responsible for this? (125(1)(z.14)) Are all guards, guardrails, barricades and fences installed as prescribed? (125(1)(b) How are they maintained? (125(1)(r))
Emergency Procedures – *Emergency procedures are essential to protect the safety and health of employees and to minimize property damage. Laboratories must plan what to do in the event of an emergency. Personnel must be trained in procedures and the use of fire protection and emergency equipment.*	9. There should be an emergency plan in place which: • assigns responsibility for the plan; • contains a communication plan element; • provides adequate training in first aid and CPR; • provides for an emergency response team which has received training and have designated back ups; • ensures emergency evacuation, fire or other emergency procedures are regularly inspected to ensure that they are prominently displayed. 10. Staff should be aware to what extent emergency responses can be provided by local organizations such as the Fire Department etc.	Is there an emergency plan in place which: • assigns responsibility for the plan with regular updates and reviews; • contains a communication plan element; • provides adequate training in first aid and CPR; • provides for an emergency response team which has received training and have designated back ups; (EC OS&H Standard) • regularly inspects emergency evacuation, fire or other emergency procedures to ensure that they are prominently displayed? (125(1)(o)) Is staff aware to what extent emergency responses can be provided by local

Risk Element	Criteria	Question
	11. Roles and responsibilities for action in the event of an emergency should be clear.	organizations such as the Fire Department etc.? (EC OS&H Standard)
	12. The fire department should have an up-to-date copy of the layout of the facility indicating where dangerous substances are located and other information which will help them in the event of a fire. This information should be updated when changes are made to operations and facilities.	Are individual roles and responsibilities clear, both internally and externally in the event of an emergency? (EC OS&H Standard)
		Does the fire department have an up-to-date copy of the layout of the facility indicating where dangerous substances are located and other information which will help them in the event of a fire? How is this information updated when changes are made to operations and facilities? (EC OS&H Standard)
	13. Emergency procedures should be tested periodically through fire drills and other emergency evacuation drills. Results of such drills should be reviewed with personnel.	
	14. First aid supplies and equipment should be available in areas of high risk.	Are the emergency procedures tested periodically through fire drills and other emergency evacuation drills. Are employees made aware of any deficiencies highlighted in drill reports? (EC OS&H Standard)
		Are first aid supplies and equipment available in areas of high risk? How is first aid stations monitored and maintained? (EC OS&H Standard)
		Are employees aware of the requirement not to disturb / interfere with wreckage following an incident where a worker is killed / severely injured? (127(1))
MONITORING AND CONTROL		
Joint Occupational Safety and Health Committees (JOSH) – *JOSH Committees are comprised of representatives of management and employees who work together to improve JOSH in their workplace. In order for JOSH Committees to operate efficiently and effectively, they must have appropriate terms of reference*	1. JOSH committees should be supported by a general OSH or Sector policy statement on safety and health.	Is a Policy Health and Safety Committee in place to address health and safety issues? (134.1(1-3))
	2. Employees who have JOSH roles and responsibilities should be clearly identified.	What are the roles and responsibilities of the committee? For example, is the Policy Health and Safety Committee responsible for:
	3. Senior management should be active and visible	• the development of health and safety

Risk Element	Criteria	Question
and sufficient management representation, they must clearly identify, track and resolve issues, concerns, occurrences and incidents, and they must issue complete, clear and concise reports.	in JOSH meetings and deliberations. 4. JOSH committee members should have written guidelines on their roles and responsibilities regarding OSH issues, their access to records and information and their authority in regards to the correction of OSH issues deemed by them to be unsatisfactory. 5. JOSH committees should have an effective means of tracking outstanding OSH inspection report recommendations until they are resolved. 6. JOSH committees should keep written minutes of their actions and deliberations. 7. The frequency of JOSH meetings should be in accordance with departmental policy. 8. The JOSH should: • submit an annual report on its activities, including statistics and information on accidents, hazardous occurrences, etc.; • have its own "terms of reference" document; • maintain records on, • the safety and health records of employees • records of accidents and injuries • inspection reports • employee training.	policies and programs; (125(1)(z.03), 134.1(4)(a)) • providing education for employees in health and safety matters; • monitoring data on workplace accidents, injuries and health hazards, H&S program implementation; (134.1(4)(g)); • participation in the implementation of any change that may affect workplace safety and health?; (134.1(4)(h), 125(1)(z.05, z.06)); • participation in the development and monitoring of hazard prevention program? (134.1(4)(c)). Are JOSH committees supported by a general OSH or Sector policy statements on safety and health? (135(1)) Are employees who have JOSH roles and responsibilities clearly identified? Who are they? Do at least half not perform managerial function? How are members selected? (135(1)) Do JOSH committee members have written guidelines on their: • roles and responsibilities regarding OSH issues; • their access to records and information and their authority regarding the correction of OSH issues deemed by them to be unsatisfactory i.e. governmental / employer reports regarding H&S of employees; (134.1(6), 135(1)(8, 9))

Risk Element	Criteria	Question
		• requirement to cooperate with Appeals / Health & Safety Officers? (137)(n))5
		What are the roles and responsibilities of the JOSH committee? For example, is the committee responsible for:
		• complaint resolution and participation in the complaint resolution process as it pertains to the safety and health of employees; (135 (7)(a))
		• participation in the implementation and monitoring of safety and health issues; (135 (7)(b))
		• participation in all inquiries, investigations, studies and inspections pertaining to the safety and health of employees, including exposure to hazardous substances; (125(7)(e, j)) (135 (7)(e,j))
		• workplace health and safety inspections are carried out so that every part of the workplace is inspected annually? (135 (7)(k))
		Is senior management active and visible in JOSH meetings and deliberations?
		Do JOSH committees have an effective means of tracking outstanding OSH inspection report recommendations until they are resolved?
		Do JOSH committees keep written minutes of their actions and deliberations? (135.1 (9))
		What is the frequency of JOSH meetings? Is this in accordance with departmental policy (at least 9 times per year)? (135(10))

Risk Element	Criteria	Question
		Does the JOSH: • submit an annual report on its activities, including statistics and information on accidents, hazardous occurrences, etc.; • have its own "terms of reference" document; • maintain records on the safety and health records of employees, records of accidents and injuries, inspection reports, employee training? Is the JOSH consulted in any OSH changes to the operations and on all incident corrective activities? Has a health and safety representative been appointed for the workplace? What are the responsibilities of the health and safety representative? (only required for workplaces with less than 20 employees) (136) Have JOSH committee members been trained on their roles / responsibilities? (125(1)(z.01))?
Inspections - *A work place inspection is part of an OSH program in which the work place is examined closely on a regular basis: to identify and record potential and actual hazards associated with buildings, equipment, environment, processes and practices; identify any hazards which require immediate attention, whether they are unsafe conditions or unsafe acts; ensure that existing hazard controls are functioning adequately; and to recommend corrective action where appropriate. Work place inspections must be properly planned, conducted, reported and*	1. Inspections should be carried out using a pre-established check list of review elements or modules 2. Review elements should be: • comprehensive (that is include all necessary types of equipment or situations considering the nature of the facility and the work being conducted; • constantly reviewed to ensure that they are kept current; • amended when necessary.	Are inspections carried out using a pre-established checklist of review elements or modules? Who is responsible to develop the checklists and to review inspection frequencies? How are inspection teams assigned? (EC OS&H Standard) Are such review elements: (EC OS&H Standard) • comprehensive (that is, do they include all necessary types of equipment or situations considering the nature of the facility and the work being conducted); • constantly reviewed and amended to ensure

Risk Element	Criteria	Question
monitored.	3. The source of inspection checklists being used should be reasonable given the needs of the organization and the need to standardize, as much as possible, the scope and nature of inspections from one site to another. 4. Carrying out OSH inspections should form an integral part of the organization's annual planning exercise. 5. Inspections should be pre-planned to the extent that they are scheduled to ensure that all elements are reviewed at least once per year, that inspection team members are selected in advance, that they are notified in a timely fashion, and given whatever training that may be required for them to carry out their inspection duties effectively. 6. Technical specialists should be assigned to inspection teams whenever review elements require the assessment of a specialist in the OSH issue being examined. 7. Inspection reports should be: a) prepared in writing; b) discussed with the responsible manager before being finalized; c) complete, in that they contain sufficient detail to describe the issue in question and they contain recommendations to rectify the situation. 1. Inspection reports should categorize substandard matters as being personnel or job-related (personnel-related would include such matters as lack of knowledge, inadequate training, unsafe behaviour, personal suitability (ability to handle	that they are kept current?; Are inspections pre-planned to the extent that they are scheduled to ensure that all elements are reviewed at least once per year, that inspection team members are selected in advance, that they are notified in a timely fashion, and given whatever training that may be required for them to carry out their inspection duties effectively? (125(1)(z.01, z.12))? Are technical specialists assigned to inspection teams whenever review elements require the assessment of a specialist in the OSH issue being examined? (EC OS&H Standard) Are inspection reports: (EC OS&H Standard) • prepared in writing; • discussed with the responsible manager before being finalized; • complete, in that they contain sufficient detail to describe the issue in question and they contain recommendations to rectify the situation? Do inspection reports categorize substandard matters as being personnel or job-related? (i.e., personnel-related would include such matters as lack of knowledge, inadequate training, unsafe behaviour, personal suitability (ability to handle stress, etc.) while job-related would include poor work standards, inadequate maintenance, the purchase of poor material, abnormal equipment usage, etc.) (EC OS&H Standard)

Risk Element	Criteria	Question
	stress, etc.) while job-related would include poor work standards, inadequate maintenance, the purchase of poor material, abnormal equipment usage, etc.)	
Incident Reporting - *The reporting investigation and analysis of hazardous occurrences is an effective way of preventing accidents if it leads to corrective actions that prevent or reduce the number of hazardous occurrences. Hazardous occurrences must be properly reported, investigated and analyzed.*	2. Hazardous situations or incidents should be promptly reported and investigated. 3. For hazardous situations/incidents: • a risk factor or priority should be assigned for correcting the identified deficiency; • a time frame should be established to correct the deficiency; • the responsibility to correct the deficiency should be clearly assigned; • the status of corrective action should be reviewed regularly by the responsible JOSH committee. 4. There should be a tracking system in place to record the number and nature of incidents so that any "patterns" can be detected and analyzed for possible cause(s). 5. Hazardous situations should be promptly rectified, standard operating procedures manuals or instructions adjusted to reflect revised steps (if required) and training carried out to instruct staff in the new safety measures in place. 6. There should be a process to ensure that personnel have been identified to be responsible for input of accurate information in reporting systems. 7. A reporting system should be in place to provide employees the opportunity to report deficiencies without fear of retaliation or retribution.	Who is responsible to maintain the incident reporting system? Are incidents reported to authorities as prescribed? (125(1)(c)) Are hazardous situations or incidents promptly reported and investigated? Is a root cause identified? How is it ensured that employees report all hazardous circumstances or occurrences and contraventions to CLC Part II to the employer in the prescribed manner? (125(1)(g,h,j)) For hazardous situations/incidents: • is a risk factor or priority assigned to correcting the identified deficiency? • is a time frame established to correct the deficiency? • is the responsibility to correct the deficiency clearly assigned? • is the status of corrective action reviewed regularly by the responsible JOSH committee? (EC OS&H Standard) Is there a tracking system in place to record the number and nature of incidents so that any "patterns" can be detected and analyzed for possible cause(s)? (EC OS&H Standard) Are hazardous situations promptly rectified and standard operating procedures manuals or instructions adjusted to reflect revised steps (if required) and training carried out to instruct staff

Risk Element	Criteria	Question
		in the new safety measures in place? (EC OS&H Standard)
		Is there a process to ensure that personnel have been identified to be responsible for input of accurate information in reporting systems (EC OS&H Standard)
		Is there a reporting system in place to provide employees the opportunity to report deficiencies without fear of retaliation or retribution or other penalty (wages, dismissal, lay off, demotion etc)? (126(3), 147)

Note: The questions in the third column states whether it refers to a departmental standard or CLC standards and regulations