CANMET EXPERIMENTAL MINE, VAL D'OR - REROOFING OF THE SECONDARY BUILDING AND MECHANICAL SHOP

# NATURAL RESOURCES CANADA SAFETY PROGRAM FRAMEWORK

Version I



# **TABLE OF CONTENTS**

# **VERSION I PROJECT OWNER'S SAFETY PROGRAM**

1. GLOSSARY	5
2. INTRODUCTION	7
3. ROLES AND RESPONSIBILITIES OF THE STAKEHOLDERS	8
3.1 Natural Resources Canada (NRCan) 3.2 Contractor 3.3 Contractor's Representative 3.4 Subcontractor 3.5 Supplier 3.6 Worker 3.7 Worksite Committee	12 14 14 14
4. PROJECT DESCRIPTION	17
5. WORK SYSTEM	18
6. SPECIAL HEALTH AND SAFETY REQUIREMENTS 6.1 General health and safety obligations 6.2 Roofing work 6.3 Hot work 6.4 Work at heights 6.5 Lockout 6.6 Sandblasting 6.7 Scaffolding 6.8 Confined spaces 6.9 Work in isolated areas 6.10 Lifting operations	
7. EMERGENCY NUMBERS	56

8. NOTICE OF WORK DONE OUTSIDE REGULAR WORKING HOURS AND WEEKENDS	3 57
9. CONTRACTOR AND SUBCONTRACTOR COMMITMENT	58
10. TABLE OF VIOLATIONS AND DISCIPLINARY NOTICE FORMS	61
SECTION II: CONTRACTOR'S SAFETY PROGRAM	
1. CONTRACTOR'S HEALTH AND SAFETY POLICY	64
2. MANPOWER CURVES (2) ACCORDING TO WORK PHASES	65
3. SCHEDULE	66
4. ORGANIZATIONAL CHART OF HEALTH AND SAFETY RESPONSIBILITIES	67
5. PHYSICAL AND MATERIAL ORGANIZATION OF THE WORKSITE	68
6. FIRST AID AND TREATMENT	70
7. WORKSITE-RELATED RISK IDENTIFICATION LIST	71
8. WORK SAFETY PLANNING	72
9. REQUIRED EMPLOYEE TRAINING	73
10. PROCEDURE REGARDING ACCIDENTS/INJURIES	74
11. WORKSITE INSPECTION CHECKLIST BASED ON WORK SAFETY PLAN	75
12. DANGEROUS GOODS USED ON THE WORKSITE	76
13. WORK PLAN TEMPLATE	77

# **SECTION I**

# **PROJECT OWNER'S SAFETY PROGRAM**

# 1. GLOSSARY

- "Construction JSBA" means Joint Sector-Based Construction Association on Occupational Health and Safety.
- "Worksite" means the worksite allocated to the contractor for work execution.
- "CSST" means Commission de la Santé et Sécurité au Travail.
- "Contractor" (1) means any person who takes part in a contract; (2) any person who undertakes to perform work or supply materials in accordance with a contract. All general provisions of this contract must be integrated into all related contracts, with the exception of contracts allocated solely for supplying tools and materials in accordance with this contract (GC1 reference in this contract).
- "Property" means the workshop and the secondary building located at 1 Peter Ferderber in Val d'Or, Quebec, Canada.
- "Incident" means any event which has caused or may cause significant injury or property damages.
- "Project Owner" means Natural Resources Canada.
- "**Principal Contractor**" means the Contractor, for the purposes of the application of *An Act respecting occupational health and safety.*
- "Project Owner's Safety Program Framework" means the safety program framework developed by the Project Owner. It includes Section I "Project Owner's Safety Program", and Section II "Contractor's Safety Program."

"Contractor's Safety Program" means Section II of the Project Owner's Safety Program Framework, including the subcontractors' program which must be sent to the Project Owner by the established deadline, as per the requirements of the Project Owner's Safety Program Framework. The Contractor's Safety Program must follow the template appearing in the Project Owner's Safety Program Framework and describe, among other things, the work to be executed, work safety planning, special work methods, worker training, etc.

"Contractor's Representative" means a person named by the Contractor, who is present at the worksite full time, and who is responsible for health and safety matters on the worksite.

"Departmental Representative" means the agent or employee of Her Majesty who is designated pursuant to the Articles of Agreement as well as any person specially authorized by the Departmental Representative to fulfill, in his or her name, any function which has been conferred upon said representative, provided that this special authorization has been reported in writing to the Project Owner.

"ESDC" means Employment and Social Development Canada.

"NRCan" means Natural Resources Canada.

# 2. INTRODUCTION

A safety program is a key step in incorporating occupational health and safety into construction sites. Acting as the Project Owner in this instance, Natural Resources Canada is responsible for all work carried out therein, and as such, a copy of the Project Owner's Safety Program Framework is distributed to each Contractor.

Natural Resources Canada will ensure that all contract requirements as well as applicable laws and regulations are followed and respected by all stakeholders on the worksite. In the event of a discrepancy between requirements drawn from a law, a regulation, a safety program or contract documents, the strictest requirement shall apply.

The safety program aims to prevent any and all harm to workers' health and physical integrity. In order to do so, it is imperative that all parties commit to this objective.

# 3. ROLES AND RESPONSIBILITIES OF THE STAKEHOLDERS

### 3.1 Natural Resources Canada (NRCan)

#### NRCan's role includes:

- Developing the Project Owner's Safety Program Framework, including the section comprising the Contractor's Safety Program;
- Sending any and all emergency procedures for the property to the Contractor;
- Assessing the Contractor's Safety Program. If needed, requesting any amendments and corrections from the Contractor before said Contractor and any subcontractors begin any work;
- Ensuring that the Contractor and subcontractors working on the site commit in writing to respecting the Project Owner's Safety Program Framework, including the section comprising the Contractor's Safety Program. Sending the signed program to the Principal Contractor in order for it to be forwarded to the CSST;
- Ensuring that the Contractor and subcontractors respect the project specifications, all applicable laws and regulations pertaining to health and safety, and the Project Owner's Safety Program Framework, including the section comprising the Contractor's Safety Program;
- Advising the Contractor of any amendment or update made to the Project Owner's Safety Program Framework;
- Receiving from the Contractor (when applicable) temporary work plans and specifications bearing the seal of an engineer, and verifying their application;
- Receiving from the Contractor weekly worksite inspection reports;
- Receiving a copy of the minutes of every meeting of the Worksite Committee;
- Ensuring the Contractor's investigation report has been received within 24 hours of an accident;
- Advising the ESDC without delay of any serious accident occurring at the worksite;

• Ensuring that the Contractor submits a remedial plan after any marked increase in violations, accidents or hazardous situations is noted.

#### 3.2 Contractor

The Contractor has both legal and contractual obligations. The Contractor must therefore develop a safety program aiming to eliminate any risk of accidents or occupational diseases. This document must take into account the phases and types of work to be carried out. Therefore, the Contractor must:

- Prepare the Contractor's Safety Program section;
- If required by An Act respecting occupational health and safety, submit the safety program to the CSST at least 10 days prior to beginning any work. (Number of workers expected to be on site at the same time, or other requirement as per An Act respecting occupational health and safety, etc.);
- Submit the safety program to the Construction JSBA at least 10 days prior to beginning any work;
- Send a notice of start of construction to the CSST at least 10 days prior to beginning any work and submit a copy of said notice to the Contractor's Representative, who will ensure it is posted at the worksite;
- Send a construction site closure notice to the CSST at least 10 days prior to the planned completion the work on the site;
- Complete the Contractor's Safety Program using the model included herein and send it to the Departmental Representative (10) says prior to beginning any work. Worksite access will only be authorized after the Contractor's and the subcontractors' programs have been authorized by the Departmental Representative. The Contractor's Safety Program must also take into account the contractual elements specified herein, as well as the requirements stipulated in *An Act Respecting Occupational Health and Safety* (CQLR, chapter S-2.1) and in any regulations adopted pursuant to said act;
- As required by the Departmental Representative and before beginning any work, amend the Contractor's Safety Program and those of any subcontractors in order to ensure compliance. The Project Owner and Departmental Representative will not be held liable for any delays resulting from ensuring compliance to this requirement;
- Commit in writing to respect the Project Owner's Safety Program Framework, including the section comprising the Contractor's Safety Program;

- In the event that the Contractor or subcontractors do not respect the safety rules established by said safety programs (Project Owner's Safety Program Framework and Contractor's Safety Program), the Project Owner or his Representative may request in writing that the Contractor rectify the situation within a specific timeframe. If the Contractor fails to comply with such notice, the Project Owner or his Representative may have the necessary work carried out at the Contractor's expense;
- Ensure that all workers have received the training required as per the specifications, namely courses on Santé et sécurité générale pour les chantiers de construction, the Workplace Hazardous Materials Information System (WHMIS), lockout procedure, and the safe operation of aerial platforms;
- Ensure the implementation of the safety measures established in the aforementioned safety programs and advise the Departmental Representative of the methods used to control the application of said programs. In the event that the Contractor or subcontractors do not respect these safety measures, the Departmental Representative may have the necessary work carried out at the Contractor's expense;
- As soon as work has begun, name a representative for the Contractor to be present at the worksite full time to ensure health and safety, and provide the Departmental Representative the name of said Contractor's Representative. This person must be present at the worksite during any overtime, evening or night work, as well as any highrisk work or work involving more than one team;
- Before any work has begun, send the CSST and the Departmental Representative all certificates of compliance and plans, which must bear the seal of an engineer, as required by regulations, contract documents and the Project Owner's Safety Program Framework. A copy of such documents must be kept at the worksite;
- Ensure the required number of first-aid workers are present and keep the registry of first-aid workers up to date. At least one first-aid worker must be available at all times during work hours, including any and all overtime, evening and night work. The first-aid worker must be nearby and accessible to employees;
- Supply a first-aid kit on the premises allocated to the Contractor and keep it organized. If a first-aid worker intervenes at the worksite, he or she must describe the care given in a first-aid registry and immediately send the information to the Contractor's Representative;
- Supply and update a notice board regarding occupational health and safety in the
  workers' dining area; e.g., the Project Owner's Safety Program Framework, the
  Contractor's Safety Program, the name of the Contractor's Representative, remedial
  orders from the CSST and any other safety-related document must be posted on the
  notice board;

- For every worker who has access to the worksite, supply a photocopy of the certificate
  of completion of the Santé et sécurité générale sur les chantiers de construction course
  (offered by the Construction JSBA) or the qualification certificate mentioning that the
  aforementioned course was completed, as well as any other certificate required in
  relation to the work to be executed by the worker in question and as per contract
  documents;
- Form a Worksite (Safety) Committee as soon as work is begun and hold a first meeting of said Committee as soon as a minimum of 25 workers are present on site;
- Assign the Contractor's Representative to attend all Worksite (Safety) Committee meetings and follow up on all decisions made during said meetings;
- Ensure that every subcontractor holds "safety breaks" with his or her workers on a
  weekly basis and sends the Project Owner's Representative the minutes of all such
  meeting, signed by all attendees;
- Follow up on decisions made by Worksite (Safety) Committees and the Departmental Representative;
- Establish an efficient, permanent or intermittent, monitoring mechanism for all workers who may have to carry out work alone or in isolated areas;
- Supply the Departmental Representative with a current certificate of compliance for all motorized equipment being brought onto the worksite;
- Continuously update log books for cranes and any other equipment as required by regulations;
- Ensure that workers (in the context of their work activities) use the personal protection equipment and means stipulated in the Contractor's Safety Program and the Project Owner's Safety Program Framework (which includes the section comprising the Contractor's Safety Program);
- Obtain the Departmental Representative's authorization in writing for any amendment to a work procedure included in the Contractor's Safety Program;
- Notify the Departmental Representative and obtain his or her consent regarding any overtime work done by the Contractor's teams or the implementation of a new work team;
- Ensure that the Contractor's Representative investigates any accident which occurs during the execution of the Contractor's contract and sends the investigation report to the Departmental Representative within 24 hours;

- In the event of a serious accident occurring during the execution of the Contractor's contract, notify by the fastest communication means possible both the CSST and the Departmental Representative, and send both parties a written investigation report regarding the accident in question;
- Submit a remedial plan to the Departmental Representative after any marked increase in violations, accidents or hazardous situations is noted;
- Immediately inform the Departmental Representative in writing of any notice or report issued by the CSST. Within 24 hours, submit a copy of any such documents received.

#### 3.3 Contractor's Representative

The role of Contractor's Representative's is to ensure health and safety at the worksite, and he or she must follow up with the Departmental Representative regarding any observation made on site.

The Contractor's Representative's role includes:

- Overseeing the implementation of the Project Owner's Safety Program Framework;
- Ensuring that the Contractor and all subcontractors respect the Project Owner's Safety Program Framework;
- Inspecting the worksite daily and documenting inspections in writing, ordering the implementation of any measures necessary to ensure the health and safety of workers and following up on said measures;
- Submitting to the Departmental Representative on a daily basis a detailed report of any interventions made, including inspection reports;
- Analyzing and verifying hazardous situations for workers;
- Establishing procedures for high-risk work;
- Ordering work be interrupted, either partially or entirely, upon the Departmental Representative's request, or when a situation so requires;
- Taking all necessary measures to keep the worksite clean and well organized throughout the execution of the contract;
- On a biweekly basis, preparing a specific work plan including all activities to be carried out over the next two weeks (following the model presented in the Project Owner's

Safety Program Framework), and submitting the plan to the Departmental Representative at every worksite meeting;

- At least 5 days in advance, sending the Departmental Representative the lifting plans required for lifting operations (using the template included in the present Project Owner's Safety Program Framework);
- Requesting the inspection certificate for all heavy equipment, aerial platforms and lift trucks before they are brought onto the site and sending all certificates to the Departmental Representative;
- Checking log books for cranes on a weekly basis;
- Ensuring that a member of management and a representative of each subcontractor's employees attend all meetings of the Worksite (Safety) Committee;
- Attending and contributing to all meetings of the Worksite (Safety) Committee;
- Taking part in all safety-related meetings;
- As needed, acting as a consultant during "safety breaks" held by subcontractors;
- Being present at the worksite during regular work hours, as well as during any overtime or night work and any high-risk work or work involving more than one team;
- Complying without delay with any order (remedial or otherwise) issued by the CSST.
- In the event of an accident/incident, investigating the event in conjunction with the employer and the superintendent of the company in question, and sending the investigation report to the Departmental Representative within 24 hours of the event.

#### 3.4 Subcontractor

The subcontractor must:

 Comply with all rules and obligations applicable to the Contractor, just as any other employer.

# 3.5 Supplier

The supplier must:

- Comply with all rules and obligations applicable to the Contractor (just as any other employer) when delivering/assembling his or her own products and equipment at the worksite;
- Ensure that any dangerous substance supplied is labelled in compliance with Section 67 of An Act Respecting Occupational Health and Safety.

#### 3.6 Worker

The worker must:

- Sign an undertaking stipulating that he or she will respect the Project Owner's Safety Program Framework, including the section comprising the Contractor's Safety Program;
- Respect the preventive measures included in the Project Owner's Safety Program
  Framework, including the section comprising the Contractor's Safety Program, and in all
  applicable laws and regulations;
- Take note of all information received (welcome meeting, postings, newsletters, etc.);
- Collaborate with the Worksite Committee to implement the Project Owner's Safety Program Framework, including the section comprising the Contractor's Safety Program;
- Respect his or her own health, safety and physical integrity, and that of all people present at the worksite or within the vicinity;
- Upon arriving at the worksite, supply a photocopy of the certificate of completion of the
   Santé et sécurité générale sur les chantiers de construction course (offered by the
   Construction JSBA) or the qualification certificate mentioning that the aforementioned
   course was completed, as well as any other certificate required in relation to the work to
   be executed by the worker in question and as per contract documents;

- Immediately advise his or her employer of any product spilled into the environment;
- Consult with his or her immediate supervisor (as needed) regarding the interpretation of a provision and/or directive related to worksite health and safety;
- If applicable, take part in training and information sessions at the worksite, and sign the registry to document his or her presence at said sessions;
- Advise his or her immediate supervisor of any incident or hazard which may or has caused injury or property damages;
- Use the protective equipment and devices at his or her disposal and keep his or her work space clean and organized;
- Attend "safety breaks" and sign the minutes;
- Observe hazard symbols;
- Advise the first-aid station of any injury or ailment;
- Refuse to carry out a task if unaware of the risks involved;
- Refuse to carry out a dangerous task.

#### 3.7 Worksite Committee

The Contractor will establish a Worksite (Safety) Committee as soon as work has begun and the Committee's first meeting will be held as soon as a minimum of 25 workers are present on site. This Committee will come under the Contractor's responsibility and will be chaired by Contractor's Representative.

The Worksite Committee must include the following:

- The Contractor's Representative;
- A decision-level representative of each subcontractor;
- A representative of every representative association (union, labour union, association) which has at least one member employed by an employer at the worksite.

#### The Worksite Committee must:

- Hold a meeting at least once every two (2) weeks;
- Send its members the meeting agenda at least forty-eight (48) hours before the meeting;
- Encourage collaboration between employers and workers, as well as coordinate
  preventive measures as well as the implementation of the Project Owner's Safety
  Program Framework, including the section comprising the Contractor's Safety Program;
- Ensure the implementation of the Project Owner's Safety Program Framework, including the section comprising the Contractor's Safety Program;
- Receive the suggestions and complaints of workers, their representatives, unions, labour unions, associations, employers and the Project Owner with regards to occupational health and safety;
- Receive and examine notices and inspection reports issued by the CSST regarding the worksite;
- Receive and analyze statistics regarding accidents;
- In accordance with the law, send the CSST the information it requests;
- Prepare the minutes of each meeting, post them on the various bulletin boards and distribute them within forty-eight (48) hours of the meeting;
  - To the members of the Worksite Committee;
  - To the Departmental Representative;
  - To the Safety Officer;
  - To the Property Coordinator.

# 4. PROJECT DESCRIPTION

# CANMET EXPERIMENTAL MINE, VAL D'OR – REROOFING OF THE SECONDARY BUILDING AND MECHANICAL SHOP

The complex located at 1 chemin Peter-Ferderber in Val-d'Or (15 km south of the city), was originally built for purposes related to the operation of a mine and was acquired by the federal government in 1991.

The work mentioned in this contract is limited to the reroofing of the secondary building and the mechanical shop.

According to the information at our disposal, the secondary building (ground area of 140 m<sup>2</sup>) is over 35 years old and the mechanical shop (ground area of 797 m<sup>2</sup>) is over 50 years old. The secondary building comprises classrooms, as well as research and storage areas. The mechanical shop serves as maintenance workshops for rolling stock, storage facilities for mining equipment and drying facilities. It also contains the main electrical room.

The roofs of both buildings subject to this request are made of stapled galvanized steel sheets, the inner surface of which has been sprayed with urethane (50 mm).

# 5. WORK SYSTEM

The Contractor must ensure and uphold the following:

- 1 That the Tobacco Act is respected.
- 2 That no alcoholic beverages or illegal substances are brought to the worksite or consumed therein and that no person under the influence of such substances is allowed access to the site.
- 3 It is prohibited to leave empty bottles or any other trash anywhere on the worksite.
- 4 The Contractor may not, under any circumstances, use any of the existing equipment on the site.
- 5 The Contractor must comply with all other internal regulations, as established by the Departmental Representative.

# 6. SPECIAL HEALTH AND SAFETY REQUIREMENTS

# 6.1 General health and safety obligations

#### 1.1 GENERAL CONDITIONS

- .1 The Contractor must manage work operations so as to prioritize the health and safety of the public and worksite personnel as well as the protection of the environment over costs and work schedule.
- .2 The Contractor must complete the sections which have been identified in the Project Owner's Safety Program Framework before beginning any work.
- .3 The Contractor must have at all times a representative of his or her company on site when work is being carried out, who must have the capacity and authority to decide how to proceed in health and safety matters.
- .4 Furthermore, as per the First-aid Minimum Standards Regulation, the Contractor must make sure that at least one first-aid worker is present at the worksite at all times when there are workers on site, including during any overtime, evening or night shifts (as applicable). The first-aid worker must be nearby and accessible to employees.
- .5 The Contractor must take all necessary measures to keep the worksite clean and well organized throughout the execution of the contract.
- .6 Definitions for the purposes of the present contract:
  - .1 "Construction JSBA" means Joint Sector-Based Construction Association on Occupational Health and Safety.
  - .2 "Worksite" means the worksite allocated to the contractor for work execution.
  - .3 "CSST" means the Commission de la santé et sécurité au travail.

- "Contractor" (1) means any person who takes part in a contract. (2) any person who undertakes to perform work or supply materials in accordance with a contract. All general provisions of this contract must be integrated into all related contracts, with the exception of contracts allocated solely for the purpose of supplying tools and materials in accordance with this contract (GC1 reference in this contract).
- .7 "Property" means the workshop and NRCan's secondary building (CANMETMINING) located at 1 Peter Ferderber in Val d'Or, Quebec, Canada.
- .8 "Incident" means any event which has caused or may cause significant injury or property damages.
- .9 **"Principal Contractor"** means the Contractor, for the purposes of the application of An Act respecting occupational health and safety.
- .10 "Project Owner" means Natural Resources Canada (NRCan).
- .11 "Project Owner's Safety Program Framework" means the safety program framework developed by the Project Owner.
- .12 "Contractor's Representative" means a person named by the Contractor, who is present at the worksite full time, and who is responsible for health and safety matters on the worksite.
- "Departmental Representative" means the agent or employee of Her Majesty who is designated pursuant to the Articles of Agreement as well as any person specifically authorized by the Departmental Representative to fulfill, in his or her name, any function which has been conferred on said Representative, provided that this special authorization has been reported in writing to the Project Owner.
- .14 "ESDC" means Employment and Social Development Canada.
- .15 "NRCan" means Natural Resources Canada.

#### **1.2 REFERENCES**

- .1 Canada Labour Code, Section II, Canada Occupational Health and Safety Regulations.
- .2 Canadian Standards Association (CSA)
- .3 Workplace Hazardous Materials Information System (WHMIS) /Health Canada
- .4 An Act Respecting Occupational Health and Safety, CQLR, Chapter S-2.1
- .5 Safety Code for the Construction Industry, S-2.1, r. 4.
- .6 Regulation Respecting Occupational Health and Safety (ROHS)

#### 1.3 TRANSMISSION OF DOCUMENTS

- .1 Transmit documents as required pursuant to Section 013300 (Documents and samples to be submitted).
- .2 Submit the safety program specific to the worksite (as per Section 1.8) to the Departmental Representative at least 20 days prior to beginning any work, according to the template provided by NRCan. The Contractor must then update his or her safety program if work progress differs from initial forecasts. After receiving the program and at any time during execution of the work, the Departmental Representative may request that the program be modified or completed so as to better capture the reality of the worksite. The Contractor must then amend the program as needed before any work has begun. Even before any work has begun, the Departmental Representative can refuse the Contractor access to the worksite if the Contractor's Safety Program is incomplete or inadequate.
- .3 Submit a weekly report to the Departmental Representative on the daily inspections of the worksite.
- .4 Send the Departmental Representative a copy of any inspection report, remedial order or recommendation issued by federal or provincial inspectors, within 24 hours.
- .5 Send the Departmental Representative an investigation report regarding any accident resulting in injury and any incident which brings to light a potential hazard, within 24 hours.
- .6 Send the Departmental Representative the material safety data sheets for all controlled products to be used at the worksite at least three days before the products arrive on site, in order for the Departmental Representative to step in prior to their arrival.
- .7 Send the Departmental Representative copies of the training certificates required for the application of the safety program, namely:
  - Santé et sécurité générale pour les chantiers de construction;
  - First aid in the workplace and cardio-pulmonary resuscitation;
  - Work likely to emit asbestos dust;
  - Work in confined spaces;
  - Lockout procedure;
  - Wearing and adjusting personal protection equipment;
  - Lift truck operation;
  - Safe operation aerial platforms;
  - And any other training required pursuant to regulations or the safety program.

- .8 Medical tests: When medical tests are required according to a law, regulation, instruction, specification or safety program, the Contractor must:
  - Prior to start-up, submit to the Departmental Representative the medical exam certificates for all supervisory staff and employees subject to the first paragraph of this section and who will be on duty when the worksite opens.
  - Submit, progressively and without delay, proofs of medical exams for all people who
    have recently arrived at the worksite and to whom the first paragraph of this section is
    applicable.
- .9 Emergency procedure: The emergency procedure is specified by the Contractor.
- .10 Notice of start of construction: The notice of start of construction is sent to the CSST by the Contractor. The Contractor must then post a copy of said notice in clear view at the worksite.
- .11 Permits: Obtain all required municipal, provincial and federal permits pursuant to the provisions of the contract. Send a copy of each permit request and permit received to the Departmental Representative without delay.
- .12 Engineer's plans and certificates of compliance: Submit to the CSST and Departmental Representative copies, duly signed by an engineer and bearing his or her seal, of all plans and certificates of compliance required as per the Safety Code for the Construction Industry (S-2.1, r. 4), or any other legislation, regulation, or another provision of the specifications or contract. A copy of these documents must be available at all times at the worksite.
- .13 Certificate of compliance issued by the CSST: The certificate of compliance is a document issued by the CSST, confirming that the Contractor is in good standing with the CSST, i.e., that said Contractor has paid all dues as per a given contract. This document must be provided to the Departmental Representative at the end of the work.

#### 1.4 RISK ASSESSMENT

1. The Contractor shall identify all hazards inherent to each task to be carried out at the worksite.

- 1. The Contractor shall plan and organize work so as to eliminate hazards at their source or to promote the safety of everyone on site and thereby minimize reliance on personal protection equipment. Where personal protection against falls is required, workers shall use a safety harness that complies with the CAN/CSA-Z-259.10-M90 standard. Use lifelines (safety lines equipped with a carabiner and anchor sling, as needed). Safety belts must not be used as protection against falls.
- 2. Any equipment, tool or protective gear which cannot be installed, fitted or used without compromising the health or safety of workers or the public shall be deemed inadequate for the work to be executed.
- 3. All mechanical equipment shall be inspected before delivery to the worksite. Before using any mechanical equipment, the Contractor is required to submit to the Departmental Representative a certificate of compliance signed by a qualified mechanic. The Departmental Representative may at any time, if a defect or a risk of accident is suspected, order the immediate shutdown of equipment and require a new inspection by a specialist of the Departmental Representative's own choosing.

#### 1.5 HEALTH AND SAFETY MEETINGS

- 1. The Contractor's decision-making representative shall attend all meetings at which worksite safety and health issues are to be discussed.
- 2. The Contractor must create a Worksite Committee and convene meetings in accordance with the Safety Code for the Construction Industry.

#### 1.6 REGULATORY REQUIREMENTS

- 1. Comply with all legislation, regulations and standards applicable to the worksite and its related activities.
- 2. If applicable, comply with specified standards and regulations to ensure safe operations at sites containing, or contaminated by, hazardous or toxic materials.
- 3. Regardless of the publication date shown in the Safety Code for the Construction Industry, always use the most recent version thereof.

#### 1.7 WORKSITE-SPECIFIC CONDITIONS

- 1. The following specifications must be considered by the Contractor at the worksite and in developing their safety program:
  - For roof work, the Contractor must install guard-rails as per Section 2.9.2 of the Safety Code for the Construction Industry (S-2.1, r. 4);
  - The waste chute must be approved by the Departmental Representative before being installed. The Contractor must ensure the following:
    - 1. Plans and certificates of compliance are to be submitted before the waste chute is used (Safety Code for the Construction Industry);
    - 2. The waste chute must be sealed against fluids:
  - Every time the waste container is lifted and when it is full, all openings to the chute must be padlocked. The Contractor's superintendent will be responsible for padlock keys.
  - The wall and any windows which are dirtied during the removal of debris at the end of work and after the removal of the chute must be cleaned;
  - The site must be restored to its original state after the work has been completed.

#### 1.8 HEALTH AND SAFETY MANAGEMENT

- 1. Acknowledge and assume all the tasks and obligations under the terms of *An Act Respecting Occupational Health and Safety* (CQLR, Chapter S-2.1) and the Safety Code for the Construction Industry (S-2.1, r. 4).
- 2. The Contractor shall develop their prevention program in accordance with the model presented in the Project Owner's Safety Program Framework and with a view to eliminating at the source any dangers to the health, safety or physical integrity of construction workers. This document must be based on the hazards identified and applied from the start of project work until the last stage of close-out is completed. Such document shall also take into consideration the relevant provisions of Section 013530 of the contract, the information appearing in Article 1.6, the Project Owner's Safety Program Framework, the Act Respecting Occupational Health and Safety (R.S.Q., Chapter S-2.1) and the Regulations enacted thereunder. The safety program must take into account every phase of the work to be carried out by the Contractor and its subcontractors, and must be submitted to all parties concerned, in accordance with the provisions set forth in Article 1.3.
- 3. The Contractor shall commit in writing to respect the Project Owner's Safety Program Framework, including their own Safety Program, and to ensure that employees and representatives also act accordingly. The Contractor shall provide to the Project Owner or his Representative written confirmation of having read and accepted the provisions of the Project Owner's Safety Program Framework, within ten (10) days at the latest after the contract is awarded.

4. In addition to the safety program, the Contractor must prepare, on a biweekly basis, a specific work plan including all activities to be carried out over the next two weeks (following the model presented in the Project Owner's Safety Program Framework), and submitting the plan to the Departmental Representative at every worksite meeting.

#### 1.9 CONTRACTOR'S REPRESENTATIVE

- 1. Regardless of the size of the site or the number of employees present, the Contractor shall designate one individual as the supervisor and person responsible for occupational health and safety matters. The Contractor shall take all necessary measures to ensure the health and safety of persons and property at the site and in the immediate vicinity that could be affected by the work being performed. The Contractor's Representative's tasks are defined in Section 4 of the Project Owner's Safety Program Framework.
- 2. The Contractor shall take all necessary measures to enforce and ensure compliance with the health and safety requirements set out in the contract documents, federal and provincial regulations, applicable standards and the site-specific prevention program, and comply promptly with any order or remedial notice issued by the *Commission de la santé* et de la sécurité du travail.
- 3. The Contractor shall take all necessary measures to keep the worksite clean and well organized throughout the execution of the contract.

#### 1.10 COMMUNICATION AND SIGNAGE

- 1. The Contractor shall make all the necessary arrangements to ensure effective communication of safety and health information at the worksite. As they arrive at the worksite, all workers must be informed of their rights and obligations pertaining to the worksite safety program. The Contractor shall draw attention to workers' right to refuse to perform work which they feel may threaten their own health, safety or physical integrity or that of other persons at the worksite. The Contractor shall keep and update a written record of all information transmitted with signatures of all workers so informed.
- 2. The following information and documents must be posted in a location readily accessible to all workers:
  - .1 Notice of start of construction;
  - .2 Identification of Principal Contractor;
  - .3 Company's OHS policy;
  - .4 Safety program (Project Owner's Safety Program Framework, including the section comprising the Contractor's Safety Program);
  - .5 Emergency plan;
  - .6 Data sheets for all hazardous materials used at the worksite;
  - .7 Minutes of Worksite Committee meetings;
  - .8 Names of Worksite Committee representatives;
  - .9 Names of first-aid workers:
  - .10 Action and remedial reports issued by the CSST.

#### 1.11 UNFORESEEN EVENTS

1. In the event that a source of danger not defined in the specifications nor identified in the preliminary worksite inspection arises as a result of or in the course of the work, the Contractor shall immediately suspend work, take appropriate temporary measures to protect workers and the public and notify the Departmental Representative both verbally and in writing. The Contractor must notify or update the worksite-specific safety program in order to resume work under safe conditions.

#### 1.12 INSPECTION OF WORKSITE AND CORRECTIONS OF HAZARDOUS SITUATIONS

- .1 Inspect work areas and complete the worksite inspection schedule at least once a day, and submit a report of these inspections to the Departmental Representative at least once a week or more frequently, as requested by the Departmental Representative.
- .2 Immediately take all necessary measures to correct any violation of legislative or regulatory requirements or hazards identified by a government inspector, the Departmental Representative or his or her representatives, the health and safety specialist or during routine inspections.
- .3 Submit to the Departmental Representative written confirmation of all measures taken to correct violations and hazardous situations.
- .4 Give the Contractor's Representative full authority to order any interruption and to resume work as when deemed necessary or desirable in the interests of safety and health. This person should always act so that the safety and health of the public and site workers, and environmental protection take precedence over cost and scheduling considerations.
- .5 Without limiting the scope of Sections 1.8 and 1.9, the Departmental Representative may order cessation of work if, in his/her view, there is any hazard or threat to the safety or health of site personnel, the public, or to the environment.

#### 1.13 STUD GUNS AND OTHER EXPLOSIVE-ACTUATED DEVICES

The use of stud guns and other explosive-actuated devices must be authorized by the Departmental Representative.

- 1. Any person using a stud gun shall hold a training certificate and meet all requirements of Section 7 of the Safety Code for the Construction Industry (S-2.1, r. 4).
- 2. Any other explosive-actuated device shall be used in accordance with the manufacturer's directions and applicable standards and regulations.

#### 1.14 ADDITIONAL REQUIREMENTS

.1 Besides the requirements of this section (01 35 29.6), the Contractor shall comply with all requirements included in the Project Owner's Safety Program Framework.

# 1.15 Personal hygiene

- 1. Do not eat, drink, or smoke in dusty areas.
- 2. Wash hands and face before drinking, eating or smoking.

# **6.2 ROOFING WORK**

# PROTECTION AGAINST FALLS FROM HEIGHTS

#### **Guardrails:**

- The installation of guardrails is mandatory. NRCan may set out restrictions regarding anchoring, in which case the Contractor must ensure that guardrails also meet all requirements of Section 3.8 of the Safety Code for the Construction Industry (S-2.1, r. 4).
- The Contractor agrees that guardrails will remain in place until the end of the project. The
  Departmental Representative will authorize the removal of guardrails after having
  confirmed that all required work, inspections and corrections have been carried out.

#### Harnesses:

- It is mandatory to wear a safety harness when installing guardrails.
- Lifelines must be used when using a safety harness (safety lines equipped with a carabiner and anchor sling, as needed).
- It is mandatory to wear a safety harness when installing or modifying parapets and flashing, if the guardrails need to be temporarily moved.
- It is mandatory to wear a safety harness when receiving materials and signaling to the crane operator close to a drop in height.
- It is mandatory to wear a safety harness for any work performed close to a drop in height, where collective protection measures are inadequate.
- The Contractor shall submit a separate anchoring method for the emergency cable system, in accordance to Section 2.10.12 of the Safety Code for the Construction Industry (S-2.1, r. 4), for every sector or work area.

#### Portable ladders:

 Commercially manufactured portable ladders shall meet the standards set out in CSA Standard CAN3-Z11-M81, Portable Ladders, the English version of which is dated September, 1981, as amended in March, 1983 and the French version of which is dated August, 1982, as amended in June, 1983.

- Subject to subsection (3), every portable ladder shall, while being used,
  - a) be placed on a firm footing;
  - b) be secured in such a manner that it cannot be dislodged accidentally from its position.
- In cases where a portable ladder cannot be securely fastened in place because of the
  nature of the location or of the work being done, it shall, while being used, be sloped so
  that the base of the ladder is not less than one-quarter and not more than one-third of
  the length of the ladder from a point directly below the top of the ladder and at the
  same level as the base.
- Every portable ladder that provides access from one level to another shall extend at least three rungs above the higher level.
- Metal or wire-bound portable ladders shall not be used where there is a risk that they
  may come into contact with any live electrical circuit or equipment.
- No employee shall work from any of the three top rungs of any single or extension portable ladder or from either of the two top steps of any step ladder.

# Scaffolding:

- Scaffolding platforms shall be inspected and assembled in accordance with the provisions of the Safety Code for the Construction Industry (L.R.Q.,S-2.1, r. 4).
- Wherever required, plans and certificates of compliance shall be submitted to the Departmental Representative before work begins.
- During scaffolding assembly, the Contractor must protect all workers against falls as per Section 3.9.4.5 of the Safety Code for the Construction Industry (S-2.1, r. 4).

# LIFTING MATERIALS

- The Contractor shall provide the Departmental Representative with a mechanical service inspection certificate for each lifting device. Inspections must be carried out just prior to the delivery of the equipment to the worksite.
- For all winch installations, the Contractor shall provide the Departmental Representative with the installation method recommended by the manufacturer. If unavailable, the Contractor shall then provide an installation procedure signed by an engineer and bearing his or her seal. The installation procedure must take into account

the load bearing capacity, the amount, weight and location of counterweights and any other detail that may affect the capacity and stability of the device.

- In addition to the mechanical service inspection certificate, all cranes and crane-trucks must have aboard their annual inspection certificate and crane log book.
- Lifting devices shall be positioned in such a way that loads are not carried over workers, occupants or the public.
- The entire lifting area shall be closed off to prevent unauthorized people from entering it.
- The Contractor shall obtain, at his own expense, all of the permits required in the event that the public road must be temporarily closed off in order to meet the requirement stipulated in the preceding paragraph or for any other reason pertaining to the safety of workers, occupants or the public.
- The Contractor shall carefully inspect all of the slings and lifting accessories and make sure that those in poor condition are destroyed or scrapped.
- Compressed-gas cylinders shall be lifted with a basket specially designed for this purpose.

# PROTECTION AGAINST BURNS

- Individuals assigned to boilers shall wear long sleeves, safety glasses and a face shield when filling the boilers.
- Individuals working with asphalt or other hot liquids shall wear gloves, long sleeves and safety glasses.
- Where boilers are present, two full ABC fire extinguishers (minimum 10 lbs) are mandatory and they must have been verified within the previous year by a person qualified to do so.

# FIRE PROTECTION

 Work on construction sites must be carried out in compliance with Fire Commissioner of Canada Standard Cl 301, Standard for Construction Operations, June 1982. This standard is available at the following website:

http://www.hrsdc.gc.ca/fra/travail/protection\_incendies/politiques\_normes/commissaire/30 1/page00.shtml

- At the beginning of each shift on every site, the Contractor shall obtain a Hot Work Permit issued by the person in charge of the work location.
- A working portable fire extinguisher suitable to the fire risk shall be available and easily accessible within a 5 m radius from any flame, spark source or intense heat.
- An individual shall be appointed to go on rounds (fire) for a period of 30 minutes after the
  end of the shift. This individual shall countersign the permit and give it to the person in
  charge of the worksite (or the individual he/she appoints) after the 30-minute period.
- The storage of propane cylinders shall comply with the CAN/CSA-B149.2-F00 Propane Storage and Handling Code and meet the specific conditions outlined in this document. The cylinders shall be stored outdoors, in a safe place, away from any unauthorized handling, in a storage cabinet specially designed for this purpose. The cylinders shall be securely kept upright and locked at all times in a place where no vehicles are allowed, unless the cylinders are protected by bars or the equivalent.
- When a compressed gas cylinder is not in use, (S-2.1, r. 4, section 3.13.7):
  - a) it shall be held in place upright, with the valves on top; and
  - b) the protective cap shall be in place.

In the case of 100-lbs propane tanks, the valve must be closed off by a brass cap and the tank must be secured to a specially-designed trolley that is equipped with a retention mechanism.

- Compressed gas, fuel tanks or containers must be stored at least 10 m from any building.
- The number of propane cylinders on the roof shall not exceed the number of cylinders necessary for a day's work, and cylinders shall at all times be secured upright or held in a cart designed for this purpose.

- All of the cylinders used or stored on the worksite shall be equipped with a collar designed to protect the valve.
- Filling the cylinders on the worksite is forbidden, unless a procedure compliant with the CAN/CSA B149.2 standard is approved and authorized by the Departmental Representative.

# MATERIAL AND WASTE MANAGEMENT

- On the roof, any materials that are light or in sheets shall be kept in containers or be securely fastened. In the event of any violation, however minor it may be, the Departmental Representative may prohibit the storage of materials on the roof. The preceding paragraph also applies to waste.
- Waste shall be discarded as produced using a waste chute or appropriate containers.
- All waste must be removed from the roof at the end of shifts.
- Unless otherwise authorized by the Departmental Representative, all waste bins must be placed at least 3 m from any structure or building.

# GENERAL PROTECTION AND WORKSITE ORGANIZATION

- Regardless of the circumstances and the nature of the work, individuals with access to the
  worksite must wear protective footwear and hard hats. The Contractor shall provide chin
  cups or ratchet suspension helmets to workers who must bend over or crouch down.
- Covered passageways shall be set up to protect all entrances and exits.
- A safety perimeter on the ground must be placed under the work zone in order to protect the public and the occupants.
- The ground worksite, material handling area and boiler area shall be clearly sealed off to prevent occupants or the public from accessing the site and areas.
- Before installing any device that may emit gas or fumes, the Contractor shall receive authorization from the person in charge of the worksite, who shall make sure that there is no risk of gas or fumes infiltrating the building's ventilation system.

- The Contractor shall make sure that the worksite is kept clean and tidy for the duration of the work.
- Copies of material safety data sheets of all controlled products shall be forwarded to the Departmental Representative and to the person responsible of the worksite before work begins.
- The Contractor shall provide sanitary facilities and rest areas compliant with requirements of the Safety Code for the Construction Industry.

# 6.3 HOT WORK

Hot work means any work where a flame is used or a source of ignition may be produced, i.e., riveting, welding, cutting, grinding, burning and heating.

Before the beginning of work, the Contractor must have received a "Hot Work Permit" from the Departmental Representative. Work on construction sites must be carried out in compliance with Fire Commissioner of Canada Standard Cl 301, Standard for Construction Operations, June 1982. This standard is available at the following website:

http://www.hrsdc.gc.ca/fra/travail/protection\_incendies/politiques\_normes/commissaire/301/page00.shtml

A working portable fire extinguisher suitable to the fire risk shall be available and easily accessible within a 5 m radius from any flame, spark source or intense heat.

An individual shall be appointed to go on rounds (fire) for a period of 1 hour after the end of the shift. This individual shall countersign the permit and give it to the person in charge of the worksite (or the individual he/she appoints) after the 1-hour period.

The storage of propane cylinders shall comply with the CAN/CSA-B149.2-F00 standard, Propane Storage and Handling Code, and meet the specific conditions outlined in this document.

The cylinders shall be stored outdoors, in a safe place, away from any unauthorized handling, in a storage cabinet specially designed for this purpose. The cylinders shall be securely kept upright and locked at all times in a place where no vehicles are allowed, unless the cylinders are protected by bars or the equivalent.

All of the cylinders used or stored on the worksite shall be equipped with a collar designed to protect the valve. Filling the cylinders on the worksite is forbidden, unless a procedure compliant with the CAN/CSA B149.2 standard is approved and authorized by the Departmental Representative.

# WELDING AND CUTTING

Note: For welding and cutting activities, make sure that the following conditions are met, in addition to the above-mentioned conditions.

In the case of any electric welding, oxy-acetylene cutting and grinding operations to be performed in proximity to combustible materials, a metal fume extractor equipped with an activated charcoal filter in good working condition and operational must be placed at 6 inches from the work area.

The work must be carried out in accordance with articles "3.13 Compressed gas supply" and "3.14 Welding and cutting" of the Safety Code for the Construction Industry, S-2.1, r. 4).

Work on construction sites must be carried out in compliance with Fire Commissioner of Canada Standard Cl 302, Standard for Welding and Cutting, June 1982. This standard is available at the following website:

http://www.hrsdc.gc.ca/fra/travail/protection\_incendies/politiques\_normes/commissaire/302/page00.shtml.

Welding and cutting devices are extremely dangerous and represent a significant fire hazard on construction sites. The following precautions must be taken whenever this type of work is carried out:

- Store all compressed gas cylinders on fireproof surfaces and make sure that the room is well ventilated.
- Store all oxygen cylinders more than 6 metres from any flammable gas cylinder (ex: acetylene) or combustible materials such as oil or grease, unless the oxygen cylinder is separated from such materials by a wall made of non-combustible material, as mentioned in Article 3.13.4 of the Safety Code for the Construction Industry (S-2.1, r. 4).

- Set up fireproof materials when welding work is being performed with superposition and there is risk of falling sparks.
- Store the bottles far from all heat sources.
- Do not store the bottles close to staircases, exits, corridors and elevators.
- Do not put acetylene in contact with metals such as silver, mercury, copper and brass alloys with a copper content higher than 65%, to avoid the risk of an explosive reaction.
- Check that any electric-arc welding equipment has the appropriate voltage and is grounded.
- Ensure that power cords for the electric welding equipment are not damaged.
- Place welding equipment on flat ground and sheltered from bad weather.
- Move away or protect any combustible materials which can be close to welding equipment.
- It is prohibited to weld or cut any closed container.
- Apply protection measures when welding or cutting is carried out near drains, tanks or other containers containing flammable materials.
- Do not perform any cutting, welding or work with naked flame on a container, tank, pipe or other container containing a flammable or explosive substance, unless:
  - Air samples have been taken which indicate that work can be performed without danger; or
  - Provisions have been taken to ensure the safety of the workers.

# **6.4 WORK AT HEIGHTS**

- 1. The Contractor must ensure that any person who is carrying out work where there is a risk of falling more than 2,4 m must use fall protection equipment.
- 2. Plan and organize work so as to eliminate hazards at their source or to promote the safety of everyone on site, thereby minimizing reliance on personal protection equipment. When personal fall protection is required, workers must use a safety harness that complies with the CAN/CSA Z-259.10 M90 standard. Safety belts must not be used as protection against falls.
- 3. It is mandatory to wear a safety harness in any elevating platform with a telescopic, articulated or rotary boom.
- 4. Cordon off a danger zone wherever equipment for work in height is used.

### 6.5 LOCKOUT

1. For work on equipment that is powered by electricity or any other energy source or that is likely to be turned on accidentally, the Contractor shall provide in writing and apply a lockout procedure. For work on equipment that is powered by electricity, the Contractor shall also complete a lockout form, which will include, at the very least, the items appearing in the form presented on the next page.

Although the list below is not exhaustive, here are some examples where it is mandatory to use the form:

- 1) main building power feeders
- 2) feeder supply panels and sub-panels
- 3) bus ducts
- 4) motor control centres
- 5) emergency power circuits
- 6) fire alarm and fire protection equipment
- 7) mechanical protective equipment (sump pump, etc.)
- 8) alarm circuit for building services, including all heating, ventilating and air conditioning equipment
- 9) circuits **or networks** supplying more than one (1) piece of equipment
- 10) **circuits or networks** affecting one (1) single piece of equipment used in a cooling or heating system
- 11) After having completed the form, the Contractor shall have it countersigned by the Worksite Manager before starting work.
- 2. Notwithstanding the previous paragraphs, the Contractor shall, in emergency situations, receive an oral guarantee of isolation of the Worksite Manager and immediately countersign the request of electrical isolation.
- 3. The procedure requested at paragraph 1 must comply with the principles listed in the "Le cadenassage" pamphlet published by the Association paritaire pour la santé et la sécurité du travail secteur construction (ASP Construction), as well as the Z460-13 CSA standard and Section 185 of the Regulation Respecting Occupational Health and Safety.
- 4. Supervisors and all workers concerned must have followed the course given by ASP Construction, "Les techniques de cadenassage" [(514) 355-6190 or 1 800 361-6190)] or an equivalent course given by another firm.
- 5. Identify every work that must absolutely be done on live equipment and establish the safety measures to be applied, including any personal protection equipment.

Building Name and Address - Nom et adresse de l'immeuble sectific Location of Installation or Equipment to be isolated (indicate floor, wing, roger), etc.)  direct precis de finistallation ou de l'appareillage devant être coupé à la source age. Falle le n° de la sièce, le n° du panneau, etc.)  soription of installation or Equipment to be isolated scription de l'installation ou de l'appareillage devant être coupé à la source procedures for isolation - Procédures de coupure à la source precision de l'installation ou de l'appareillage devant être coupé à la source precision de l'installation ou de l'appareillage devant être coupé à la source procedures for isolation - Procédures de coupure à la source precision à Procedures for isolation Formation procédé comporte plus d'une opération à Procédures for isolation Formation procédé comporte plus d'une opération, vous devez rempir le formulaire procéde de la pour la coupure à la source d'appareillages haute let joint.  Adaie of Line Drawlings Required Upon Completion cossité de mettre à jour les schémas électriques une fois les travaux terminés equested by - Demandé par une of Person in Charge - Nom de la personne responsable signature.  Request Approved - Demande autorisée Blance of Guarantor - Nom du garant Signature Signature.	must be complete:  "Proced ures de corpetation, le formu	Nº de der  Date and Date Isolation Coupure Isolation Coupure Isolation State I	to Start On a la source (	quest - Da	te et heur Heure buter le Hour Heure Heure Hour Heure	mulaire.)
pecific Location of Installation or Equipment to be Isolated (indicate noor, wing, roll, etc.)  and in precise de finistallation ou de l'appareillage devant être coupé à la source aux. Falle, le ré de la elèce, le ré du panneau, etc.)  scription of Installation or Equipment to be Isolated scription de l'installation ou de l'appareillage devant être coupé à la source procédures for Isolation - Procédures de coupure à la source procédures for Isolation Formatique devant être coupé à la source procédures invoire more than one opération à Procédures for Isolation Formatique procédé comporte plus d'une opération, vous devez remplir le formulaire procédé comporte plus d'une opération, vous devez remplir le formulaire procédé comporte plus d'une opération, vous devez remplir le formulaire procédé de la pour la coupure à la source d'appareillages haute le la pour la coupure à la source d'appareillages haute le la pour la coupure à la source d'appareillages haute le la pour la coupure à la source d'appareillages haute le la pour la coupure à la source d'appareillages haute le la personne responsable.  Signature la squaest Approved - Demande autorieée la la source de la la squaest Approved - Demande autorieée la la source la la squaest Approved - Demande autorieée la la squaest Approved - Demande la la s	must be complete:	Date and Date Isolation Coupure Date Isolation Coupure Date Isolation For Date Isolation Isolation For Date Isolation Isolat	Time of Rec  YA B  to Start On a la source  YA B  to End On a la source  YA B  med.) Isource et ib	dewant de sy dewant se dewant se de sy dewant se dewant	Hour Heure butter lie Hour Heure termimer Heure présent fo	Tele Television (Ched. e.) dott être rem
droit précis de l'installation ou de l'apparellage devant être coupé à la source aux. Falle le r° de la plèce, le r° du panneau, etc.)  scription of installation or Equipment to be isolated soription de l'installation ou de l'apparellage devant être coupé à la source occidentes for isolation - Procédures de coupure à la source occidentes for isolation - Procédures de coupure à la source occidentes for isolation Form OTA : Lorsqu'un procédé comporte plus d'une opération à Procédures for isolation Form OTA : Lorsqu'un procédé comporte plus d'une opération, vous devez rempir le formulaire pour la coupure à la source d'apparellages haute et joint.  Indiage   When high voltage equipment is to be isolated à Proportal coupure à la source d'apparellages haute et joint.  Indiage   Pour la coupure à la source d'apparellages haute et joint.  Indiage   Pour la coupure à la source d'apparellages haute et joint.  Indiage   Pour la coupure à la source d'apparellages haute et joint.  Indiage   Pour la coupure à la source d'apparellages haute et joint.  Indiage   Pour la coupure à la source d'apparellages haute et joint.  Indiage   Pour la coupure à la source d'apparellages haute et joint.  Indiage   Pour la coupure à la source d'apparellages haute et joint.  Indiage   Pour la coupure à la source d'apparellages haute et joint.  Indiage   Pour la coupure à la source d'apparellages haute et joint.  Indiage   Pour la coupure à la source d'apparellages haute et joint.  Indiage   Pour la coupure à la source d'apparellages haute et joint.  Indiage   Pour la coupure à la source d'apparellages haute et joint.  Indiage   Pour la coupure à la source d'apparellages haute et joint.  Indiage   Pour la coupure à la source d'apparellages haute et joint.	must be complete: «Frocéd ures de c	Date Isolation Coupure Isolation Coupure Coupure dand attaccoupure at a	to Start On a la source (	dewant de	Hour Heure butter lie Hour Heure termimer Heure présent fo	Tele Television (Ched. e.) dott être rem
scription of installation or Equipment to be isolated scription de l'installation ou de l'appareillage devant être coupé à la source occidures for isolation - Procédures de coupure à la source occidures for isolation - Procédures de coupure à la source or isolation Formation - Procédures invoite more than one opération a Procédures for isolation Formation - Procédures involvement procédé comporte plus d'une opération, vous devez remplir le formulaire d'appareillages haute let joint de la source d'appareillages haute let joint les schémas électriques une fois les travaux terminés equested by - Demandé par une of Person in Charge - Nom de la personne responsable signature de la sequest Approved - Demande autoriéée et les la source de la signature de la signature de la sequest Approved - Demande autoriéée et les la source de la signature	minst be complete: «Proced ures de o	Date Isolation Coupure Isolation Coupure Coupure dand attaccoupure at a	to Start On a la source (	dewant de	Hour Heure butter lie Hour Heure termimer Heure présent fo	Tele Television (Ched. e.) dott être rem
Signature  Request Approved - Demande autorieée	must be complete: «Proced ures de co	Isolation Coupure  Date Isolation Coupure Coupure dand attaccoupure \$10  Coupure \$1	to Start On a la source   YA b  to End On a la source   YA b  hed.)  In must be doedures de	dewant de 4 By  dewant se 4 By  completed coupure a	Houre He Houre Houre Houre Houre present fo	in i
Signature  Request Approved - Demande autorieée	minst be complete: «Proced ures de o rocedures for liso tension, le formu	Coupure Date Isolation Coupure Date dand attaccoupure & la coupure & l	to End Cin a la source :  XA b  The End Cin a la source :  XA b  The End () a source : et la  The End () a source :  The End () a	dewant see	buter le Hour Heure termimer Hour Heure présent fo	mulaire.)  ched. e» doit être rem
Signature  Request Approved - Demande autorieée	minst be complete: «Proced ures de o rocedures for liso tension, le formu	Date Isolation Coupure Cate ed and attac coupure à la olation For ulaire «Pro	to End On a la source et le	dewant see	Hour Heure termimer Hour Heure present fo	mulaire.)  ched. e» doit être rem
Signature  Request Approved - Demande autorieée	must be complete: «Procéd ures de c rocedures for liso tension, le formu	Isolation Coupure Date  dand attac coupure à la  olation For ulaire «Pro	to End On à la source : **A ** med.) i source : et le mi must be c cédures de	dewant se d D-)  completed coupure a  No Nion	termimer Hour Heure présent fo	mulaire.)  ched. e» doit être rem
tage   When high voltage equipment is to be isolated a Pour I account in the pour I acco	must be completed in Procedures de a rocedures for lisa tension, le formu	Coupure  Date  dand attac  coupure à la  olation For  ulaire «Pro	a la source et le manust be de cédures de	annexer au completed coupure a	Hour Heune present fo present fo	mulaire.)  scheid.  ses doit être rem
When high voltage equipment is to be isolated a Procedures for isolation Form  When high voltage equipment is to be isolated a Procedure procedure plus d'une opération, vous devez rempir le formulaire  When high voltage equipment is to be isolated a Prour la coupure à la source d'apparellages haute let joint.  Indian de la paraving sequired upon Completion cassité de mettre à jour les schémas électriques une fois les travaux terminés equesied by - Demandé par une of Person in Charge - Nom de la personne responsable signature  Request Approved - Demande autorisée Barrier de Guarantor - Nom du garant Signature	must be completed in Procedures de a rocedures for lisa tension, le formu	Cate  Id and attace coupure à la  olation For utaire «Pro	hed.) sources et l'a	annexer au completed coupure a	Hour Heune present fo present fo	mulaire.)  scheid.  ses doit être rem
When high voltage equipment is to be isolated a Procedures for isolation Form  When high voltage equipment is to be isolated a Procedure procedure plus d'une opération, vous devez rempir le formulaire  When high voltage equipment is to be isolated a Prour la coupure à la source d'apparellages haute let joint.  Indian de la paraving sequired upon Completion cassité de mettre à jour les schémas électriques une fois les travaux terminés equesied by - Demandé par une of Person in Charge - Nom de la personne responsable signature  Request Approved - Demande autorisée Barrier de Guarantor - Nom du garant Signature	must be complete: «Procéd ures de c ro-cedures for lise tension, le formu	olation For	m must be o	completed coupure a No Non	Heine present to	ched. e» doit être rem
When high voltage equipment is to be isolated a Procedures for isolation Form  When high voltage equipment is to be isolated a Procedure procedure plus d'une opération, vous devez rempir le formulaire  When high voltage equipment is to be isolated a Prour la coupure à la source d'apparellages haute let joint.  Indian de la paraving sequired upon Completion cassité de mettre à jour les schémas électriques une fois les travaux terminés equesied by - Demandé par une of Person in Charge - Nom de la personne responsable signature  Request Approved - Demande autorisée Barrier de Guarantor - Nom du garant Signature	«Procéd ures de c rocedures for liso tension, le formu	olation For	m must be o	completed coupure a No Non	l and atta la la sourc	ched. e» doit être rem Hour - Heure
edate of Line Drawings Required Upon Completion cossité de métire à jour les schémas électriques une fois les travaux terminés squested by - Demandé par ime of Person in Chairge - Nom de la personne responsable  Request Approved - Demande autorisée  Interior Guarantier - Nom du garant  Signature  Signature	, • [			Nion	D-J	
Request Approved - Demande autorisée  Request Approved - Demande autorisée  Request Approved - Demande autorisée  Interest Guaranter - Nom du garant  Signature  Signature  Signature  Signature	, <b>)</b> [			Nion	D-J	
equested by - Demandé par sime of Person in Charge - Nom de la personne responsable signature :  Request Approved - Demande autorisée :  sime of Guaranter - Nom du garant :  Signature :				10000	D-J	
Request Approved - Demande autorisée  signature  Bignature  Signature  Signature  Signature				10000	DV	
Request Approved - Demande autorieée Billianne of Guaranter - Nom du garant Signature				GA M	DH	HOUSE
nne of Guarantor - Nom du garant Signature						<u> </u>
nne of Guarantor - Nom du garant Signature						
Insisting Confirmed TO BE COMDISTED DRIVE TO COMMISSIONAL			Da	ate GA M	64	Hour - Heure
Isolation Confirmed - TO BE COMPLETED DRICK TO COMPENSEMENT						3. 1/2
			cl			
Coupure à la source confirmée - À REMPLIR AVAINT DE COMMENCER L	ES TRAVAUX		2			
xiation has been tested and it is determined safe for workers to perform the wo procede de coupure à la source a été mis à l'essal et les travaux peuvent être	exécutés en sé	écurité.				1
ime of Person in Charge - Nom de la personne responsable Signature			Da	ate ra m	64	Hour - Heure
			100			_:_
Completion of Requested isolation Time and Completion of Work Confli	med				D	
Achèvement de la périodie demandée pour la coupure à la source et cor			des travau			
ne Drawlings Updated as Required s schemas électriques ont été mis à lour tel que demandé	•	Yes Oul		No Non		
ime of Person in Charge - Nom de la personne responsable   Signature			Da	ate		Hour - Heure
and the second s			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	FA M	O-J	HOME
Approvat of Completion of Work and Confirmation that Equipment or In Approbation d'achévement des travaux et confirmation de la remise sou	staliation has b	een Re-er	nergized u då Finetal	liation	E	
me of Manager in Charge of Workste or Supervisor Signature	y ventrical no La	ogipui 911 W	Da	417		Hour - Heure
m du gestionnaire responsable du lieu de travail ou du superviseur			Y	FA M	01	HOHM
(GSC-TPSGC 13 (12/1997) THIS RECORD MUST BE KEPT FOR ONE A CONSERVER PENDANT UN				OF WORL		
A CONSERVER PENDANT UN	AIN APRES LA					
Copy 1 . Manager in Charge of Worksite or Supervisor	Сору		o be submitte	ed to, and tion of the		by thie Guarantor

### 6.6 SANDBLASTING

Sandblasting must be carried out in accordance with Section 3.20 Sandblasting of the Safety Code for the Construction Industry (S-2.1, r. 4).

### Ventilation

The area must be isolated and ventilated by extraction. (Safety Code for the Construction Industry, Section 3.20.5). The Contractor shall seal off the work area and the work clothes changing room from the rest of the building with an airtight enclosure that has an exhaust ventilation system. The ventilation system shall meet the following standards: (a) it shall be equipped with a high-efficiency filter; (b) it shall provide at least four (4) changes of air per hour; (c) it shall ensure negative pressure of between 1 and 4 Pa.

### Respiratory protection

It is mandatory for any worker using an abrasive air blaster to wear an air-supplied hood as specified in the current *Guide des appareils de protection respiratoire utilisés au Québec*, published by the *Institut de recherche Robert-Sauvé en santé et en sécurité du travail*, gloves and clothing designed to provide protection against dust and abrasive or metal projections, unless the worker is isolated from the process.

### 6.7 SCAFFOLDING

### **FOUNDATION**

- Scaffolding shall be installed on a solid foundation so that it does not slip or rock.
- Contractors wishing to install scaffolding on a roof, overhang, canopy or awning shall submit their calculations and loads to the Departmental Representative and shall obtain permission from the Departmental Representative before beginning installation.

### ASSEMBLY, BRACING AND MOORING

 All scaffolding shall be assembled, braced and moored in accordance with the manufacturer's instructions and the provisions of the Safety Code for the Construction Industry.

- Where a situation requires the removal of part of the scaffolding (e.g., crosspieces), the Contractor shall submit an assembly procedure duly signed by an engineer and bearing his or her seal, certifying that the scaffolding assembled in that manner will allow the work to be performed safely, given the loads to which it will be subject.
- For scaffolding where the span between two supports is greater than 3 m, the Contractor shall provide an assembly plan duly signed by an engineer and bearing his or her seal.

### PROTECTION AGAINST FALLS DURING ASSEMBLY

- Workers working above the ground shall be protected against falls at all times during assembly.
- Before the work begins, the Contractor shall submit to the Departmental Representative a procedure stating the protective measures to be used which identifies the anchor points for safety cables or moorings, if applicable. Said procedure shall comply with Sections 3.9.4.5, 2.9.1 and 2.10.12 of the Safety Code for the Construction Industry (amended August 2, 2001)

### **PLATFORMS**

- Scaffolding platforms shall be designed and installed in accordance with the provisions
  of the Safety Code for the Construction Industry.
- If planks are used, they must be approved and stamped in accordance with Section 3.9.8 of the Safety Code for the Construction Industry (in effect as of January 1st, 2002).
- The platforms must cover the entire surface protected by the guardrails.
- Notwithstanding the foregoing, any scaffolding of 4 sections (or 6 metres) high or higher shall have a full platform covering the entire surface of the putlogs every 3 m or any fraction thereof, and the components of that platform must not be moved at any time to create an intermediate landing.

### **GUARDRAILS**

- A guardrail shall be installed on every landing.
- Cross braces shall not be considered guardrails.
- Wherever scaffolding of 4 sections (or 6 metres) high or higher requiring full platforms is used, guardrails shall be installed on each landing at the start of work and shall remain in place until the work is completed.

### **ACCESS**

- The Contractor shall ensure that access to scaffolding does not compromise worker safety.
- Wherever scaffolding platforms are comprised of planks, ladders shall be installed in such a way that planks extending beyond the platform do not block the way up or down.
- Notwithstanding the provisions of the Safety Code for the Construction Industry, stairs shall be installed on all scaffolding that includes 6 or more rows of uprights or 6 sections or more (or 9 metres) in height.

#### PROTECTION OF THE PUBLIC AND OCCUPANTS

- The Contractor shall identify the boundaries of and barricade the work area so as to limit access to authorized workers only.
- The Contractor shall install covered walkways, nets or other similar devices to protect the public or the occupants against falling objects.

### **USE OF PUBLIC ROADS**

- Whenever it is necessary to encroach on a public road, the Contractor shall obtain, at the Contractor's expense, any authorizations and permits required by the competent authority.
- The Contractor shall install, at the Contractor's expense, any signage, barricades or other devices needed to ensure the safety and security of the public and the Contractor's own facilities.

### **6.8 CONFINED SPACES**

### Classifying and assessing confined spaces

NRCan shall classify and evaluate all confined spaces on properties of which it is the custodian. Confined spaces are divided into three categories: 1- low risk, 2- medium risk, 3- high risk. An evaluation report is produced for each confined space, which identifies all of the characteristics and entry requirements of the confined space, and which will serve as one of the elements taken into account in issuing permits and developing work procedures.

All confined spaces shall be properly identified according to their classification. A signboard approved by NRCan must be placed at the entrance of confined spaces or installed as close as possible to such spaces.

### Class 1

For all Class 1 (low risk) confined spaces, every person involved shall have completed the basic training, the contents of which will be given if necessary. While it is not necessary to implement specific work practices in low-risk confined spaces, the Contractor shall employ methods to ensure the health and general safety of individuals who must perform work in such spaces.

Before entering confined spaces, the Contractor must inform the Worksite Manager of the date and time agreed for entry and exit. People who have access to low-risk confined spaces must indicate the relevant information in the confined spaces access log, i.e., all persons entering this category of confined space must register each entry and each exit.

#### Classes 2 and 3

For all confined spaces of classes 2 and 3 (medium and high risk), the following measures must be strictly enforced.

- 1. The Contractor's Safety Program the shall include a written procedure that identifies:
  - The tools required to perform the work;
  - The equipment installed or to be installed in the confined space and measures for its installation, use, maintenance, protection or travel;
  - Pipes and conduits entering the confined space;
  - The hazards and safety measures to be taken depending on the work to be performed;
  - Contaminants that might be encountered in the confined space;
  - The means and rescue equipment and actions that are appropriate in case of emergency.
- 2. The Contractor shall complete an access permit. Said permit shall be valid for the duration of a shift and must consider the information contained in the evaluation report and the specific conditions for the work to be performed. However, the Contractor may use their own form, if it contains all the information that appears on the form provided by NRCan.
- 3. The Contractor shall prepare a Hot Work Permit when the work to be performed includes welding, cutting or any other activity producing a flame or sparks.
- 4. All persons with access to the confined space must hold the following training certificates:
  - Security for work in confined spaces NRCan (ASP Construction)
  - First aid in the workplace and CPR (by an organization recognized by the CSST)
  - Use of ventilation (ASP Construction)
  - Use of safety harness (ASP Construction)
  - Use and maintenance of respiratory protective equipment (ASP Construction)
  - Gas detection devices (ASP Construction).

- When using equipment with supplied-air or autonomous respirators, comprehensive training on the preparation, maintenance and use of these devices (manufacturer, supplier, or recognized organization) is required.
- In remote areas where there is no local rescue and emergency response unit available, the Contractor shall designate persons qualified to conduct rescue operations in confined spaces. Rescuers designated by the Contractor must receive the appropriate training on the use of lifesaving equipment.
- 5. All persons who use a supplied-air respirator must present a medical certificate confirming their ability to work in confined spaces. The certificate is valid for two years.
- 6. Employees required to work in sewage collection systems or other similar systems should be immunized against infectious diseases, according to the immunization program prescribed by Health Canada, that is, against diphtheria and tetanus, and in the case of work undertaken with Correctional Services Canada, against hepatitis "B".
- 7. Vaccination against diphtheria and tetanus is strongly recommended for all work in confined spaces.
- 8. The Contractor shall establish an emergency and rescue procedure with municipal and ambulance services. The procedure, phone numbers and location of the nearest telephone shall be prominently displayed near the work location.
- 9. Before entering the confined space and every 15 minutes thereafter, the Contractor shall take readings of the concentration of oxygen, flammable gases and any toxic gases likely to be present, in particular carbon monoxide and hydrogen sulphide. The readings shall be recorded in a log unless the detection devices have an alarm and operate continuously. The detection devices used shall be calibrated and adjusted by a qualified person according to the manufacturer's instructions so that the alarms comply with the limits set out in the permit.
- 10. The Contractor shall supply its own gas detection devices and keep them in good working condition. Furthermore, the Contractor must provide a calibration certificate. The Departmental Representative may have the accuracy of the Contractor's devices checked at any time by a qualified person. If a detection device fails, work shall be suspended immediately, and all workers shall leave the confined space. No claim for lost time will be accepted in those circumstances.
- 11. If the alarm on a detection device sounds, all workers shall leave the confined space. The Contractor shall then determine the source of the contamination, neutralize it and ventilate the confined space in order to eliminate any remaining contaminant, as well as keep individuals out of the confined space until the oxygen and gas levels have returned to normal.

- 12. Compressed gas cylinders and welding machines must not be taken into confined spaces: such equipment must remain outside and should not block the access or exit; all bottles must be secured properly.
- 13. Electric tools and devices used to access confined spaces shall be grounded and, if necessary, designed to be explosion-proof. All equipment shall be connected to a ground fault interrupter or stepdown transformer. The Contractor shall, at his own expense, have a qualified electrician modify the power outlets and/or circuit breakers that he intends to use which do not match these criteria.
- 14. The Contractor shall provide a ventilation system to keep contaminant levels below the allowable limits.
- 15. The Contractor shall post signs to prevent unauthorized persons from entering the confined space.
- 16. Where it is impossible to keep the noise level below 85 dB, the Contractor shall provide all workers with ear protectors appropriate to the level desired and work to be performed.
- 17. The Contractor shall ensure that all workers wear the personal protective equipment that is required.
- 18. The Contractor shall assign a competent person to assume the duties of custodian. The custodian must:
  - Be familiar with working in confined spaces.
  - Ensure constant communication with all workers present in the confined space.
    The instructions used must be adapted to confined spaces. The Contractor shall
    select means of communication based on the hazards identified and other relevant
    factors, that is, the protective equipment that workers are required to wear, noise
    levels in and near confined spaces, remoteness, lighting conditions, etc.
  - Be familiar with the gas detection devices and that they are in working order throughout the work.
  - Be familiar with the back-up ventilation systems and ensure that they are in working order throughout the work.
  - Be familiar with emergency procedures.
  - Ensure that:
    - All workers entering the confined space shall follow the Contractor's work procedure.
    - The conditions and the working environment inside the confined space are not detrimental to the workers' health and safety.
- 19. The custodian shall remain at the entrance to the confined space as long as there is a worker in the space.

- 20. The Contractor shall designate a person responsible for the safety in confined spaces. This person must be present at all times on site.
- 21. The same person may serve as custodian and confined spaces safety officer, provided that he or she can meet all the requirements of both positions.

+	Pu 56	ublic Works and Glovernment ervices Canlada	Travaux publics et Se gouvernementaux Ca				- Control of the Cont
Valld f Ce per	or eigh	at (8) incurs only. It valuable pendant huit (8) incur	PF	CONFINED SPA RMIS D'ACCES		TRY PERMIT SPACES CLOS	Permit no. Nº du permis
		ind time re d'émission			te and tim eure d'exp		
	Contr Entre	actor preneur	PWGSC Personnel Personnel de TPSG C				
Locati	lon - Li	leu		Dept M	In.	Confinied space no. N° de l'espace clos	Confined space class Catégorie d'espace clos
Descr	iption :	of work to be completed - De	scription du travall à effec	wer			
Yes Out	N/A s.o.			AZARDS OF THE CO UES PRÉSENTÉS PA			
		Oxygen Hiazard: < 19.5% ( Mainque d'oxygéne : < 19.5	or⇒ 23.0% 5% ou⇒ 23.0%				
		Fiammables: > 10% of LE Produits inflammables: 10		erleure - Précisez			
		Toxic Chemicals: > TLV-T Produits chimiques toxique	WA - Specify s: > valeur TLV-TWA - I	Précisez			
		Mechanical Hazards; - Spe Risiques mécaniques : - Pr					
	Electrical Hazards: - Specify Choos électriques : - Préciséz						
Physical Hazards: nese; visition, light, laze; x-my; lest; cold; Risques physiques : brute; visitions, lamins, lese; system; x;					rAcisez		
		Others: - Specify Autres : - Précisez				r water tier	
	Respire Discosi	equired for CS Entry - Equip etery/Arr purifying protection tif de protection des voles orres et de purification de rair	Lifelines and Safety h	iarnesses et harnals de sécurilé  rersonnel  resonnel  resonnel	Lighting Disposit Ventilati Équipen Secure Zoine pri	mes de verrouillage units lis d'éclairage	Hearing protection Protecteurs auditifs Head protection Casque protection Gaints Eye protection Protection Protection Protection Visière
Perso	n in ch	narge: - Personne responsabl	E			Signature	
Safety	/ Waite	her - Gardien				Signature	
-		ersonnes qui entrent dans l'e ency/medical response tean		vention médicale et d'	urgence	Tellephone nos INºs de 9	elephoine
The ab Tous k en dab Mama	iove Infl es rensa e du ger Im a		nt complets et exacts. L'inform		s et à l'équip	nas been extracted from the later rement regula est fondée sur la c dignature	
PWSS	O-TES	GC 101 (595) Copy	To be completed by M	an ager in Charge of Min	rkette or tu	penden	

Copy
Copie 1 To be completed by Manager in Charge of Worksite or Supervisor
Copie 1 A remplir et à concerver par le gestion naire respondable du lieu de travail ou le superviseur

PWG\$C-TP\$GC 103 (10/96)

### CONFINED SPACE ENTRY LOG REGISTRE D'ACCÈS AUX ESPACES CLOS

Site supervisor - Superviseur du site		Telephone number - Numero de téléphone			
Name Nom	Date	Confined Space Location Identification de l'espace	Time in Heure Clentree	Time out Heure de sortie	
				a a	
				- 4	

### 6.9 WORK IN ISOLATED LOCATIONS

Tunnels, crawl spaces, mechanical rooms, roofs, mechanical shafts, pent roofs and pumping stations are considered to be isolated locations.

Depending on the type or urgency of the work to be done, where an employee must work alone in an isolated location, it shall be mandatory for the employee to so advise his immediate supervisor and the work manager.

The employer shall provide the employee working under these conditions with a means of communication to enable him/her to communicate in the event of an emergency, until the work in question is completed.

### 6.10 LIFTING OPERATIONS

The Contractor must be capable at all times of demonstrating that its lifting operations are not hazardous to the safety of workers or occupants. A lifting plan including, at a minimum, the information contained in the following example shall be forwarded upon request to the safety officer and, in the event of any doubt, the Departmental Representative may require that the lifting plan be duly signed by an engineer and bear his or her seal.

The Contractor must plan lifting operations in order to prevent any loads from passing above occupied areas. Where loads are to be carried above an occupied area, it will be mandatory for the lifting plan to be duly signed by an engineer and bear his or her seal in order to guarantee the safety of the occupants of the area in question.

### 1.1 Safe use of mobile tower cranes and traditional mobile telescopic cranes

**RE:** This document is meant to serve as a guide for the safe use of mobile tower cranes and traditional mobile telescopic cranes in construction work. (Note: This section is supplementary to the OHS requirements set out in the specifications and the current Construction Safety Program – in the event of a discrepancy between two requirements concerning an element, the most rigorous of the two shall apply.)

ACTIONS	RESPONSIBILITY	
<b>General note</b> : This safety gui regulations and standards cortelescopic cranes.	ide has been developed in accordance with existing neerning mobile tower cranes and traditional mobile	
(between quotation marks) are the right column.	es of the stakeholders: The following abbreviations e used to establish the division of responsibilities in	
<ul> <li>Project Manager: "PM." work to be performed.</li> </ul>	" Represents the Principal Contractor, authorizes the	PM
- General Contractor: <b>"G</b> plans, as well as the wo	<b>C.</b> " Coordinates the development of work and lifting rk to be performed.	GC
- Crane operation subc	contractor, crane operator and assistant(s): "C." n and installation drawing. The crane operator is perations; as soon as they begin, the crane operator	C
	" Responsible for the protection of the public and	FLAG

- Slinger(s): "SLING." Main worker involved in lifting and placing materials on foundations.
- OHS Technical Advisor, Construction: "OHS." The Principal Contractor's Representative; i) ensures that all stakeholders are aware of their responsibilities regarding lifting operations, and ii) performs spot checks to ensure work is being carried out correctly (safety breaks before lifting operations begin).
- 1. <u>Applicable Quebec legislation</u>: Standards set out in the Safety Code for the Construction Industry (S-2.1, r. 4). They are mandatory.
  - 1.1 <u>Traditional mobile telescopic cranes</u>: CSA-Z-150-1974 and its supplement No. 1-1977; the sections of the Code are the following: 2.15.4, 2.15.7.2 and 3.10.7(4).
  - **"2.15.4. Boom:** The boom of a hoisting apparatus not covered by CSA Standard Z150-1974 Safety Code for Mobile Cranes and its supplement No. 1-1977 or CSA Standard Z248-1975 Code for Tower Cranes shall be installed and built according to the specifications approved by an engineer."
  - **"2.15.7.2.** A mobile crane shall conform to CSA Standard Z150-1974 Safety Code for Mobile Cranes and its supplement No. 1-1977, with the exception of section 4.3.2.5.

A **mobile crane log book** shall be kept up-to-date in accordance with that standard and shall comply with Schedule 9."

### "3.10.7. Lifting of workers:

- 4. During the hoisting of a worker with a mobile crane:
  - a) the crane shall conform to CSA Standard Z150-1974 Safety Code for Mobile Cranes and its supplement No. 1-1977;
  - b) the platform shall be suspended or held in such a way that:
    - i. the slope of the floor does not exceed 1/5 in the worst loading conditions; and ii. the flexible suspension members of the platform and the supporting hitch or pin have a minimum safety factor of 10;
  - c) an additional link shall tie the supporting hitch of the platform to a point located above the hook; and
  - d) the mobile crane shall be equipped with an upper limit switch for the hook or with a boom allowing the lifting of the platform at least to 3 m above the highest work level."

### **APPENDIX 9**

(a. 2.15.7.2) MOBILE CRANE LOG BOOK

- 1.2 **Tower cranes:** CSA-Z248-1975 and the section of the Code is the following: 2.15.7.4
  - "2.15.4. Boom: The boom of a hoisting apparatus not covered by CSA Standard Z150-1974 Safety Code for Mobile Cranes and its supplement No. 1-1977 or CSA Standard Z248-1975 Code for Tower Cranes shall be installed and built according to the specifications approved by an engineer."
  - "2.15.7.4. A tower crane shall conform to CSA Standard Z248-1975 Code for Tower Cranes.

A tower crane log book shall be kept up-to-date in accordance with that standard and shall comply with Schedule 10."

**SLING** 

OHS

 $\mathbf{C}$ 

#### **APPENDIX 10**

(a. 2.15.7.4) TOWER CRANE LOG BOOK

### 2. Key risks associated with this equipment:

- 2.1 Falling equipment (danger of workers being crushed by loads)
- 2.2 Overturning (danger of overturning if all stabilizers are not used)
- 2.3 Electrocution (danger of coming into contact with power supply)
- 2.4 Building damage, in the case of direct contact with the boom or the load
- 2.5 Dangerous manoeuvres (direct relation between the impact of the fall and the height at which loads are suspended above the building) Examples:
  - Loads must be handled no more than 1 meter above pent roofs or parapets on the roof.
  - The swing of the load could compromise the crane's stability.
- 2.6 Collapse, if daily verifications are not carried out.
- 2.7 During start-up operations, crane operators sometimes perform manoeuvres to install the boom outside the safety perimeter (danger of collision with vehicles and risk that visitors or other individuals present in the area may approach manoeuvres).

### 3. Basic safety measures:

- 3.1 Yearly verification by an engineer (certificates of compliance for major components) and verification by a mechanic (with a minimum of 5 years of experience) immediately before the equipment is delivered to the worksite.
- 3.2 Use of a communication system (two-way radios) to avoid misinterpreting visual signals when working on the third floor or above of a building.
- 3.3 Daily verification by the operator (log book) before beginning crane operations.
- 3.4 Use of accessories, in good condition: Example:
  - Synthetic slings (no tears) or metal slings (10 broken wires in a strand); the data plate must be present to advise the user of the sling's rated capacity.
- 3.5 Do not use such lifting equipment
  - when the anemometer at the end of the boom indicates a wind speed above 30 km/hour; or
  - at temperatures of minus 30°C.
- 3.6 If the ground is unstable, request the assistance of the engineer to determine the dimensions and type of leveling pads necessary to distribute the weight (different dimensions and thicknesses) over the ground (varies in the case of embankments).

 $\mathbf{C}$ 

C + FLAG + SLING C

C

C

C

- 3.7 Immediately stop using lifting equipment if a major component or safety mechanism is defective (e.g., malfunctioning stabilizers or limiting device for safe operation near power lines).
- 3.8 Safe use of tower cranes and Potain cranes, requiring:
  - an engineer's plan and certificate of compliance before it is first used;
  - use flagpersons with two-way radios;
  - flagpersons must wear an orange security vest so as to be identifiable as such on the worksite;
  - a safety meeting must be held before the beginning of tower crane operations in order to establish each worker's role and the authority of flagpersons, who may stop any operations and move any worker for manoeuvres which require stopping a load above workers on the worksite;
  - loads must not be moved over the public; flagpersons must establish a safety perimeter for lifting components and loads;
  - the use of tower cranes and Potain cranes to lift workers is prohibited;
  - the crane operator must test the crane's breaks to ensure that they
    are in good working order and to avoid dropping a load; the crane
    operator must also carry out the rest of the verifications required as
    per the tower crane log book.

### 4. Requirements as per the Construction Safety Program:

- 4.1 Creation of lifting plan and installation drawing:
  - Carried out by a qualified person: e.g., an engineer, an assessor or technical advisor from the crane company
  - To include an assessment of the area, taking measurements to determine the distance covered by the boom, the items to be lifted (size and weight), the type and capacity of crane - and review, as appropriate, the data sheets of products to be lifted;
  - In certain cases, namely when loads must be moved above occupied areas, the installation drawing must be certified by an engineer;
  - In light of their expertise regarding the site, OHS advisors in construction must be present during the development of the lifting plan.
- 4.2 Ensure public safety:

Immediate safety measures barring public access to the site where lifting activities are executed:

 During start-up operations, crane operators may carry out manoeuvres to install the boom outside the safety perimeter: For all start-up operations outside the perimeter, **no less than** two flagpersons must be present wearing reflective security vests (green on the roads and orange in parking areas) and carrying a flag. C

C C+ FLAG

FLAG

OHS +C + FLAG + SLING

GC + C

GC + C

 $\mathbf{C}$ 

PM + GC + C

**OHS** 

**OHS** 

GC

Duration of lifting operations – 1 day: Implementation of a safety perimeter using barricades and red tape; use of flagpersons with safety vests and flags (as necessary). When the area is high traffic or when it is more difficult to control access to the site: prioritize the installation of a fence.

- Duration of lifting operations – over 1 day: Implementation of a safety perimeter using metal fencing (1.8 m high), which must be padlocked in the evening.

- If the Contractor would like to change positioning as established in the start-up plan, all new parameters must be confirmed with the Principal Contractor.

- If the sidewalk is blocked, a safe alternative route must be made available for pedestrians.

- Approaching distances to power lines must be taken into account. If a problem remains, Hydro-Québec must be involved.

In the case of occupied buildings,

- Plan to evacuate the sector's occupants in certain cases (e.g., laundry room, Human Resources meeting room). Also plan for signage. A communication plan may also be necessary.
- Obtain written confirmation that the lifting equipment's catalyst is functional.
- Environmental measures to be considered: OHS Technical Advisors in Construction will further validate this function using a 4-gas detector and will verify the fresh-air inlets. As needed, take the following measures: reposition the fresh air inlet or integrate activated carbon filters.

### 4.3 Slinging and lifting loads:

- Loads must be slung by experienced slingers, who shall make sure to install two (2) appropriate guiding ropes in order to avoid the impact of wind on the load or any risk of collision with the building or the crane's boom.
- The slinger must never be close to or under the load. Instead, the slinger must use guide ropes to lead the load to the area where it is to be positioned or moored.

### 4.4 As per the Code, experienced flagpersons and slingers:

- Flagpersons must be identified and wear required safety vests: Green on roads and orange within the worksite and facilities.

GC

PM+ OHS

**SLING** 

**FLAG** 

<ul> <li>Flagpersons must never, under any circumstances, allow for the load be moved over the public.</li> </ul>	FLAG
<ul> <li>On the roof: All flagpersons who approach a drop in height must be restrained by a fall arrest connecting device and a safety harness attached to a lifeline which is tied to a part of the building's structure.</li> <li>The use of two-way radios is mandatory with buildings over 3 stories</li> </ul>	FLAG
high When lifting operations require actions outside the established safety perimeter, flagpersons must be present to secure the unprotected area and	
avoid any manoeuvres above the public.	FLAG
4.5 Presence of OHS Technical Advisors, Construction: their presence is required prior to all lifting operations; they shall host a safety break focusing on each worker's role in the upcoming lifting operation.	OHS

End of procedure

## **SAFE LIFTING PLAN**

Date:

Con	tractor:
TYP	PE OF CRANE USED:
LOA	AD DETAILS:
• V	Weight and length of load as determined by crane operator and supervisor:
• V	Width, height or diameter of load:
• L	ength of load:
• (	Guide ropes:
• F	Height of obstacle to be cleared:
• L	_owering:
• \	Verification of lifting equipment:
• 1	Marking off work area:
• 1	Marking off crane area:
• L	ifting capacity according to location:
	o Maximum weight:
	o Angles allowed:
• F	Reach:
	<ul> <li>On the reverse, indicate the worksite location, angles covered, safety perimeter and maximum allowable load.</li> </ul>
• 8	Supply an installation drawing for the crane

Signatures of crane operator and the safety officer

## 7. EMERGENCY NUMBERS

EMERGENCY NUMBERS	PHONE NUMBER
AMBULANCE	911
FIRE DEPARTMENT	911
POLICE	911
C.S.S.T.	1-866-302-2778
ESDC	1-800-641-4049
PROJECT MANAGER (NRCAN) Stéphane Marois	418-648-7076
PROJECT MANAGEMENT SUPPORT (MHPM PI	ROJECT MANAGEMENT)
James Skaperdas	514-449-7611
POISON CONTROL CENTRE QUEBEC	1-800-463-5060
ENVIRONNEMENT QUÉBEC	1-866-694-5454
ENVIRONMENT CANADA	1-866-283-2333
CANUTEC	613-996-6666
GAZ MÉTROPOLITAIN	1-800-361-8003
HYDRO-QUÉBEC	1-800-361-8003
INFO-EXCAVATION	1-800-663-9228

## 8. NOTICE OF WORK DONE OUTSIDE REGULAR WORKING HOURS AND WEEKENDS

## CANMET EXPERIMENTAL MINE, VAL D'OR – REROOFING OF THE SECONDARY BUILDING AND MECHANICAL SHOP

Submitted to:	
General Contractor:	
Subcontractors on worksite:	
Work planned for: / /  Saturday: / /  dd /mm /  yyyy	Evening of: / /  dd /mm / yyyy  Sunday: / /  dd /mm / yyyy
	end: <u>:</u>
Total number of workers on site	
	ill be on site:
	ill be on site:
Notice completed by:	

### Notes:

This notice must be sent to the Departmental Representative at least 24 hours before the work is performed. For work done on weekends, this notice must be sent on the Thursday prior to the weekend in question.

This authorization is valid only for the date and duration indicated. This is not an authorization for overtime and does not obligate either the Project Owner or his Representative to compensate the Contractor and/or Subcontractor for the expenses incurred for time worked outside of regular working hours.

### 9. CONTRACTOR AND SUBCONTRACTOR'S COMMITMENT

## CANMET EXPERIMENTAL MINE, VAL D'OR – REROOFING OF THE SECONDARY BUILDING AND MECHANICAL SHOP

I declare that I have read the Project Owner's Safety Program Framework and commit myself, my employees, my subcontractors, my suppliers, visitors and any other person for which I am responsible, to comply with the Project Owner's Safety Program Framework. This commitment also applies to section II of the present document (Contractor's Safety Program).

Moreover, the Project Owner shall not be held liable for any losses or costs incurred by the Contractor or his subcontractors, his employees or representatives for any delay, work stoppages, or for the non-compliance of a provision of the Safety Code for the Construction Industry or of any other law or regulation concerning occupational health and safety.

The Contractor undertakes to hold harmless, defend and compensate the Project Owner, if necessary, following any inspection report, correction notice, infringement notice, advance notice, lawsuit or judgment in all matters related to the violation of a provision of an act or a regulation regarding occupational health and safety under the Contractor's responsibility, when the Project Owner can be charged with said violation under a provision of an act or regulation concerning occupational health and safety.

In the event of inconsistency, the Project Owner's Safety Program Framework shall take

precedence over the Contractor's and/or Subcontractor's safety programs, in accordance Article 203 of An Act Respecting Occupational Health and Safety.				
Contractor's identification and address:				
 Date	Contractor's Representative's signature			

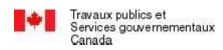
Subcontractor's identification and address:				
Date	Subcontractor's Representative's signature			
Subcontractor's ident	ification and address:			
 Date	Subcontractor's Representative's signature			
Subcontractor's ident	ification and address:			
Date	Subcontractor's Representative's signature			
Subcontractor's ident	ification and address:			
 Date	Subcontractor's Representative's signature			

Subcontractor's identification and address:			
Date	Subcontractor's Representative's signature		
Subcontractor's ident	ification and address:		
Dete	O La contracto de Decembra de de circo de contracto de co		
Date	Subcontractor's Representative's signature		
Subcontractor's ident	ification and address:		
 Date	Subcontractor's Representative's signature		
Subcontractor's ident	ification and address:		
 Date	Subcontractor's Representative's signature		

### 10-TABLE OF VIOLATIONS AND DISCIPLINARY NOTICE FORMS

Any violation of NRCan's safety program, various safety regulations, legislation, codes, government standards and worksite-specific standards must be made known verbally by the Principal Contractor's Representative or the Contractor's Representative and **put in writing in a disciplinary notice** (see next page). The offender (employer or worker) must correct the situation immediately upon noting the violation. The employer's representative (responsible for work on site) is responsible and accountable for supervising the health and safety of stakeholders on the worksite. **According to the severity of the action in question and its impacts on our clients, the sanction may be increased and expulsion may last until the end of work on site or be permanent.** 

Table of violations					
Type of violation	1st violation	2nd violation	3rd violation		
Exposing oneself to one or more of the following hazards (zero tolerance from the CSST): - Fall exceeding 3 meters; - Electrocution; - Being buried during digging operations; - Scaffolding collapse; - Disregard of lockout procedure; - Silica or asbestos.	Written notice	Expulsion from the worksite for the rest of the day and the following day	Permanent <b>expulsion</b> from the worksite		
Welding and cutting procedure not respected	Written notice	Permanent expulsion from the worksite			
One or more of the following violations: - Use of inadequately labeled scaffolding; - Superimposed work; - Passing a load over workers; - Working under a load.	Written notice	Expulsion from the worksite for the rest of the day and the following day	Permanent <b>expulsion</b> from the worksite		
Lifting equipment: - Disregard of operating procedure; - Use of non-compliant equipment.	Written notice	Expulsion from the worksite for the rest of the day	Permanent <b>expulsion</b> from the worksite		
Threaten the integrity of another worker or the public.	Written notice and expulsion from the worksite for the rest of the day and the following day	Permanent expulsion from the worksite			
Contribute to the contamination of laboratory areas	Written notice #1	Written notice #2	Expulsion from the worksite for 2 or more days depending on the severity of the violation		



Public Works and Government Services Canada

Disciplinary notice					
Company name	:	Date:			
Employee's nar	ne:	Union and local:			
Worksite:					
Brief o	description of the incident or beha	aviour which resulted in this measure:			
Previous notice	(yes/no):	Date:			
This measure will remain in your file and may result in more rigorous disciplinary measures, potentially as serious as expulsion from the worksite, if this incident is repeated or another significant incident occurs.					
	Employee's signature:	Date:			
-	Employer signature:	_ Date:			
-	Witness signature:	Date:			

Employee's name: .....Employer's name: .....

## **SECTION II**

## **CONTRACTOR'S SAFETY PROGRAM**

## 1. CONTRACTOR'S HEALTH AND SAFETY POLICY

# 2. CURVES SHOWING SIZE OF WORK FORCE ACCORDING TO WORK STAGES

## 3. SCHEDULE

# 4. ORGANIZATION CHART OF HEALTH AND SAFETY RESPONSIBILITIES

## 5. PHYSICAL AND MATERIAL ORGANIZATION OF THE WORKSITE

### **ACCESS TO THE WORKSITE:**

At all times, access to the worksite must be controlled, delimited, maintained and limited to persons authorized by the person in charge of the site. All visitors and workers must, at a minimum, wear a safety hat certified in accordance with standard CSA Z94.1-M1977 and safety shoes conforming to the standard Protective Footwear, CSA Z195-M1984.

(TO BE COMPLETED BY THE CONTRACTOR)

### **WORKSITE TRAILER / PLACE FOR TAKING MEALS 3.2.9)**

The Contractor must, at a minimum, comply with section 3.2.9 of the Safety Code for the Construction Industry.

(TO BE COMPLETED BY THE CONTRACTOR)

## **TOILET FACILITIES (S.C. 3.2.7), DRINKING WATER (S.C. 3.2.6)**

The Contractor must provide a sufficient number of toilets as required by section 3.2.7 of the Safety Code for the construction industry. The Contractor must provide the workers with drinking water as required by section 3.2.6 of the Safety Code for the Construction Industry. (TO BE COMPLETED BY THE CONTRACTOR)

### **SITE MAINTENANCE:**

The worksite, including the roads within it, the entrances to it and the exits from it, shall be kept in good order so that no danger results from the storage of materials or equipment, the accumulation of waste or the condition of materials or of pieces of equipment. Take all the specified steps to remove waste from the site and keep the site well maintained at all times.

(TO BE COMPLETED BY THE CONTRACTOR)

## 6. FIRST AID AND FIRST AID MEASURES

Furthermore, as per the First-aid Minimum Standards Regulation, the Contractor must make sure that at least one first-aid worker is present at the worksite at all times when there are workers on site, including during any overtime, evening or night shifts (as applicable). The first-aid worker must be nearby and accessible to employees.

(CONTRACTOR SHALL SPECIFY THE FOLLOWING: first-aid room, kits, names of first-aid workers, etc.)

## 7. LIST OF IDENTIFIED RISKS ON THE WORKSITE

(WORKING ENVIRONMENT GENERAL RISKS - TO BE PROVIDED BY THE CONTRACTOR)

## 8. WORK SAFETY PLANNING

(TO BE PROVIDED BY THE CONTRACTOR – MUST ALSO INCLUDE THE SAFETY PLAN FOR THE WORK TO BE DONE BY ALL SUBCONTRACTORS, IDENTIFYING TASKS TO BE PERFORMED, RISKS ASSOCIATED WITH THESE TASKS, PREVENTION MEASURES WITH REGARD TO THESE RISKS AND IMPLEMENTATION METHODS)

### 9. REQUIRED EMPLOYEE TRAINING

(TO BE PROVIDED BY THE CONTRACTOR – MUST INCLUDE A COPY OF THE CERTIFICATES OR A NOTE SIGNED BY THE CONTRACTOR STATING THAT THEIR EMPLOYEES HAVE COMPLETED THIS TRAINING)

- Safety Course for Construction Work
- Content of the Contractor's orientation session
- Workplace Hazardous Materials Information System (WHMIS) (if applicable)
- Lockout (if applicable)
- Aerial platforms (if applicable)
- Lift trucks (if applicable)
- Other training (if required)

## 10. PROCEDURE REGARDING ACCIDENTS/INJURIES

(THE CONTRACTOR MUST INCLUDE ITS PROCEDURE IN ACCORDANCE WITH PART 9 OF THE PROJECT OWNER'S SAFETY PROGRAM AS WELL AS A BLANK ACCIDENT REPORT)

## 11. WORKSITE INSPECTION CHECKLIST BASED ON SAFE WORK PLANNING

(THE CONTRACTOR SHALL DEVELOP AN INSPECTION SHEET BASED ON ALL THE WORK TO BE PERFORMED ON THE SITE – THIS SHEET SHALL BE COMPLETED DAILY DURING THE WORK)

## 12. DANGEROUS GOODS USED ON THE WORKSITE

(TO BE PROVIDED BY THE CONTRACTOR – UP-TO-DATE MATERIAL SAFETY DATA SHEETS SHALL BE SUBMITTED TO THE DEPARTMENTAL REPRESENTATIVE AND BE AVAILABLE ON THE WORKSITE WHEN THESE MATERIALS ARE TO BE USED)

## 13. WORK PLAN TEMPLATE

TO

PERIOD FROM:

# CANMET EXPERIMENTAL MINE, VAL D'OR – REROOFING OF THE SECONDARY BUILDING AND MECHANICAL SHOP

CONTRACTOR: DESCRIPTION OF WORK EXECUTED DURING THIS PERIOD:					
ACTIVITIES	LOCATION OF	TOOLS/EQUIPMENT	MEANS OF ACCESS USED		
	WORK	USED	(IF APPLICABLE)		
	<u> </u>		1		
RISKS	PF	REVENTIVE MEASURES	PERSON RESPONSIBLE		
Prepared by:		Date:			