

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
Travaux publics et Services gouvernementaux
Canada
Place Bonaventure, portail Sud-Est
800, rue de La Gauchetière Ouest
7^{ème} étage
Montréal
Québec
H5A 1L6
FAX pour soumissions: (514) 496-3822

SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

Vendor/Firm Name and Address
Raison sociale et adresse du
fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution
Travaux publics et Services gouvernementaux Canada
Place Bonaventure, portail Sud-Est
800, rue de La Gauchetière Ouest
7^{ème} étage
Montréal
Québec
H5A 1L6

Title - Sujet St-Jean-Richelieu-Groupe électro.	
Solicitation No. - N° de l'invitation W3380-13S231/A	Amendment No. - N° modif. 005
Client Reference No. - N° de référence du client W3380-13-S231	Date 2014-03-17
GETS Reference No. - N° de référence de SEAG PW-\$MTC-775-12528	
File No. - N° de dossier MTC-3-36201 (775)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2014-03-26	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Aguilera, Maria Pia	Buyer Id - Id de l'acheteur mtc775
Telephone No. - N° de téléphone (514) 496-3573 ()	FAX No. - N° de FAX (514) 496-3822
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction:	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

Solicitation No. - N° de l'invitation

W3380-13S231/A

Client Ref. No. - N° de réf. du client

W3380-13-S231

Amd. No. - N° de la modif.

005

File No. - N° du dossier

MTC-3-36201

Buyer ID - Id de l'acheteur

mtc775

CCC No./N° CCC - FMS No/ N° VME

AMENDMENT No. 004

EXTENSION OF TIME

PLEASE NOTE THAT THE TIME LIMIT FOR THE RECEPTION OF TENDERS PREVIOUSLY SET FOR MARCH 19th, 2014 IS REPORTED TO **MARCH 26TH, 2014 AT 02:00 PM (EASTERN DAYLIGHT TIME)**.

DELETE:

ANNEX A: STATEMENT OF WORK (in its entirety)

ANNEX B: TABLE OF PRICES (in its entirety)

REPLACE WITH:

ANNEX A: **STATEMENT OF WORK new version** (see the PDF document attached)

ANNEX B: **TABLE OF PRICES new version** (see the PDF document attached)

ADD:

ANNEX C: INVETORY (see the PDF document attached)

- All other terms and conditions remain unchanged -

**W3380-13-S231 – ANNEX A - INDEX OF DOCUMENTS
GENERATOR SETS INSPECTION AND MAINTENANCE**
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	– ELF forms 13, ELF 101, 102 and 103 (on request)	

SECTION 1 GS – GENERAL PROVISIONS

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2. Conditions
3. Hourly-rate work
4. Defects and abnormal conditions
5. Parts and tools
6. Labour
7. Work period
8. Powering off
9. Security requirements
10. Departmental requirements
11. Start of work
12. Knowledge of premises and systems
13. Protection of persons and property
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15. Cleanliness of premises
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SECTION 2 GS – SCOPE OF WORK

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2. Reports
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GENERATOR SETS (GEN) MODULE

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2. Operating conditions
3. Operation and maintenance
4. Inspection lists
5. Weekly inspections
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7. Semi-annual inspections
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10. List of equipment
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ANNEX B – PRICING

ANNEX C – INVENTORY

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1 DRAWINGS

1. No drawings are attached to these specifications.

2 CONDITIONS

1. All of the clauses and general conditions apply to and govern the performance of the work described herein.
2. Section 2 GS of these specifications shall be performed for a lump sum set out in Part A of the Pricing Table.
3. Any repairs required and authorized by the Department shall be done at the hourly rate set out in Part B of the Pricing Table.
4. The Contractor shall provide emergency service at all times to cover any possible power outages. The Contractor shall ensure that the necessary staff are on site within three (3) hours. Only the Departmental Representative can authorize service calls and work orders.
5. The Contractor shall provide all necessary parts for the maintenance or repair work for which the Contractor is responsible.
6. This offer covers a period of three (3) years firm and two (2) years optional for preventive maintenance of the equipment and systems listed in section 2 GS and the Generator Sets (GEN) Module of these specifications.

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**3. HOURLY-RATE
WORK (REPAIRS
AND SERVICE
CALLS)**

1. Repairs paid for at an hourly rate and service calls shall in all cases be authorized in advance (including verbally in the event of an emergency) by the Departmental Representative and confirmed by a duly completed "Call-Up against a Standing Offer" form.
2. The applicable hourly rates shall be the rates set out in Part B.
3. For emergency calls only (where the technician is not always on site), a fixed cost for transportation will be set, per site. These costs shall include all vehicle and equipment expenses for the return trip (see Pricing Table).

**4. DEFECTS AND
ANOMALIES**

1. Defects or anomalies in systems, instruments or equipment discovered during an inspection shall be promptly reported to the Department, which shall then be responsible for rectifying them. If the services of a licensed electrician are needed to install wiring or conduit, for example, the Department may choose to hire the Contractor holding this contract or any other contractor to carry out the work. In either case, the Contractor shall advise the Department or the Departmental Representative in order to help correct the defect or anomaly.
2. The Contractor is responsible for maintenance, repair and adjustment of equipment or systems carried out by a subcontractor. However, the Contractor is not responsible for work done by another contractor selected by the Department unless the Contractor subsequently inspects the equipment or systems repaired or adjusted by the other contractor.
3. Where repairs are carried out by the Contractor, the Contractor shall leave on site for verification any defective parts that were replaced and shall make a note to that effect in the report.

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5. PARTS AND TOOLS

1. The Contractor shall repair or, where necessary, replace worn parts with new parts.
2. The Contractor shall supply all instruments, tools, parts and materials required for the maintenance, repair and replacement of the parts covered by the contract.
3. Replacement parts shall be authentic and shall be obtained from the equipment manufacturer. Where it is impossible to obtain authentic replacement parts or materials, the Contractor shall use parts or materials equal in quality to or better than the original parts or equipment; substitutes shall be approved by the Departmental Representative.
4. The Department reserves the right to decide on the quality of replacement parts; this decision shall be final and cannot be appealed.
5. Any parts installed without the Department's approval or deemed by the Department not to be in compliance shall be replaced within eight (8) days, failing which the Contractor shall be deemed to be in default.
6. Any change of parts shall be authorized in advance by the Departmental Representative.

6. LABOUR

1. Labour shall be provided by the Contractor and shall be fully qualified.
2. The Department reserves the right to reject and request the replacement of any individual it deems to be unacceptable.
3. The Contractor shall supervise its employees to ensure that their conduct and attire are appropriate and that their movement within the buildings is limited to the specific requirements of the work to be performed.
4. The Department shall make available to the Contractor a person to provide guidance as needed during the work period.

7. WORK PERIOD

1. The work period and schedule shall be established and co-ordinated with the timetable previously agreed to by

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the Contractor and the Technical Authority of the building and/or the Authority's authorized representative.

8. POWERING OFF

1. None of the owner's tools and/or equipment shall be powered off unless the Contractor is given official notice by the Departmental Representative.

9. SECURITY OF PREMISES

1. The Contractor and the Contractor's representatives shall abide by building security regulations.
2. The Contractor shall provide directives, notices and signs informing the building manager and occupants of work being executed.
3. Materials shall be delivered to the place designated by the building Departmental Representative. The Contractor's representatives shall clear that place upon receipt of materials unless otherwise authorized by the Building Manager.
4. The Contractor or the Contractor's representatives shall sign in and out at the place designated by the Departmental Representative, as applicable. They must indicate the time in and time out and state the reasons for the visit.

10. DEPARTMENTAL REQUIREMENTS

1. The Contractor shall have sufficient staff and shall demonstrate that every person other than apprentices has at least five (5) years of experience in his or her field.
2. Only qualified staff with the appropriate certification will be allowed to perform electrical, electronic or pneumatic work as the case may be.
3. The Contractor shall be fully responsible for any omissions, breakage or incompetence and the consequences of the actions of its personnel.

11. START OF WORK

The Contractor shall start system maintenance work immediately after being notified that it has been awarded the contract, according to the schedule.

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**12. KNOWLEDGE OF
PREMISES AND
SYSTEMS**

1. Prior to submitting a bid, the Contractor should have visited and carefully examined the premises and systems to become familiar with the existing conditions in the building, the work to be executed and the conditions in which the work is to be carried out.
2. No additional claims for special equipment will be considered by the Department that are due to a lack of information regarding the existing conditions.
3. Any technical information the Contractor needs before submitting a bid can be obtained from the competent Contracting Authority.

**13. PROTECTION OF
PERSONS AND
PROPERTY**

1. Take such security measures and precautions as are needed to protect individuals and property against accidents or damage while maintenance and repairs are being carried out.
2. The Contractor shall be expressly and fully liable for accidents or damage to individuals or property resulting from its activities on the premises.
3. Special care shall be taken to avoid soiling, scratching, damaging or hitting facing or finished surfaces with pieces of equipment, ladders, scaffolding or any other equipment that may be used in the course of the work.
4. During repairs or maintenance, any part or lubrication product (oil, antifreeze, diesel, rags, paper towels) replaced or used by the Contractor shall be disposed of outside of the Garrison. During annual maintenance, provide the Departmental Representative with proof (invoice) that the products were entrusted to a company specializing in petroleum products recovery.

14. FIRE PROTECTION

- a. In compliance with the new Treasury Board Fire Protection Standard (available at <http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=17316>), the facilities shall be maintained in accordance with the 2005 National Fire Code (NFC) and local fire codes, and the maintenance work shall be carried out in accordance with NFC-2005,

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local fire codes and Part 8 of NBC-2005 (the applicable regulations).

- b. The standards and directives issued by the Fire Protection Program (FPP), formerly known as the Fire Commissioner of Canada, are also be applicable as good practices. In specific cases, however, it is possible to be exempted from some of the requirements that go beyond the applicable regulations, if it can be demonstrated to the satisfaction of the FPP that the degree of difficulty or resulting costs would be too great for the additional safety level. These standards and directives are available at the following link: http://www.hrsdc.gc.ca/eng/labour/fire_protection/policies_standards/index.shtml.

15. CLEANLINESS OF PREMISES

1. Debris shall not be allowed to accumulate. After each work period, the Contractor shall remove from the premises any waste and debris generated by its work. The Contractor shall leave the premises clean to the satisfaction of the Departmental Representative.

16. INSTRUCTIONS

The Contractor shall comply with any instructions or directives it receives from the Departmental Representative. The Contractor shall send its reports and other communications related to performance of the contract to the Departmental Representative in typed form.

17. COMMUNICATIONS

1. The addresses and telephone numbers where the Contractor or its supervisor or manager can be reached at any time of the day or night shall be placed on a list prepared and updated as needed by the Contractor and submitted to the Departmental Representative prior to the start of work.

18. REPORTS, CERTIFICATES AND WORKSHEETS

1. After each repair or service call, the Contractor shall provide two (2) copies of a worksheet accompanied by

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detailed certificates for the replacement parts. The worksheet must identify the date and the work performed, the parts replaced and/or repaired and the number of hours each employee spent on the job. The Contractor shall submit separate worksheets for maintenance work and repairs. Worksheets for emergency calls shall identify not only the information indicated above, but also the date and exact time of the call, the name of the person making the call, the contractor's arrival time at the premises and the contractor's departure time.

2. The Departmental Representative shall keep a copy signed by the Contractor. The other copy shall remain the property of the Contractor.
3. Where there is no authorized representative on site, the Contractor must forward to the Departmental Representative one (1) copy of the worksheet duly signed by a departmental representative.

**19. MANUFACTURER'S
INSTRUCTIONS**

Maintaining servicing of systems, devices and equipment shall be performed by the Contractor in strict compliance with the instructions and directives of the manufacturers and suppliers concerned.

**20. ISOLATION AND
ELECTRICAL
TRANSFER
REQUEST**

1. The Contractor shall complete form DPW-MTP2465, "Isolation and Electrical Transfer Request," in all instances of electrical power interruption or isolation described below in accordance with Part II, Division VIII, of the *Canada Labour Code*.
 1. Main building power supply lines.
 2. Power supply line panels and sub-panels.
 3. Bus bars.
 4. Motor control centres.
 5. Back-up power circuits.
 6. Fire alarm system and fire protection devices.

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7. Mechanical protection devices (sump pump, etc.).
8. Building services alarm circuit, including heating, ventilation and air conditioning.
9. Circuits powering more than one device.
10. Circuits connected to a single device incorporated into a cooling or heating system.

1. The Contractor shall complete the form and have it countersigned by the Departmental Representative before carrying out any work.

21. ADDITIONS/CHANGES

1. The Department reserves the right to move, change or add devices and connected equipment.

22. GENERAL SAFETY

1. GENERAL CLAUSES

NOTE:

The general and or/specific clauses below may apply to the contract only in part or not at all. Before undertaking any work, the Contractor shall confirm with the Departmental Representative whether the Contractor is required to comply with the conditions below, and shall comply in full if required.

- 1.1 In accepting this contract, the Contractor agrees to assume all of the responsibilities normally assigned to the principal contractor and the employer under the *Act respecting occupational health and safety* and to supervise the work.
- 1.2 The Contractor shall manage operations so that the health and safety of the contractor's employees, building/facility occupants and the public, as well as the protection of the environment, always take precedence over considerations of cost and scheduling. In addition, the Contractor must abide by all requirements contained in these specifications.
- 1.3 The Contractor shall comply at all times with the provisions of the *Act respecting occupational health and safety*, the *Safety Code for the Construction Industry* and the *Regulation Respecting Occupational Health and Safety* where applicable.

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- 1.4 The Contractor shall perform all work in accordance with the latest editions of the *National Fire Code of Canada*, the *National Building Code* and the *Canadian Electrical Code*, and any other applicable codes or standards.
- 1.5 The Contractor shall submit to the **Departmental Representative** a prevention program specific to any activities the Contractor is likely to carry out in the building at least 10 days prior to the start of work. The Contractor shall thereafter update the prevention program if the work proceeds differently than initially planned. The Departmental Representative may, after receiving the program and at any time during the work, require that the program be modified or supplemented in order to better reflect workplace conditions. The Contractor shall make any such required corrections before the start of work.

The program must be based on the risks identified and must take into account the information and requirements contained in these specifications. The program must remain in force throughout the term of the contract and must satisfy the following requirements:

- Include the company's policy on health and safety;
 - Include an organization chart of health and safety responsibilities;
 - Identify the risks specific to each category of task to be performed in execution of the contract and the corresponding preventive measures, based on regulatory requirements;
 - Identify the person responsible for applying the preventive measures;
 - Take into account risks that may affect the health and safety of workers, occupants of the building or facility and the public;
 - Include first aid and primary care standards;
 - Include a procedure in case of accident;
 - Include a worksite inspection checklist based on the content of the risk identification;
 - Include any repair tasks that may be assigned under this contract;
 - Include a written undertaking from all parties to adhere to the prevention program.
- 1.6 In addition to the program specified in the previous paragraph, for all cases in which the work to be completed involves a construction site as defined in the *Act respecting occupational health and safety*, R.S.Q., c. S-2.1, the Contractor shall develop a prevention program specific to the work to be completed and submit it to the building technical officer or authority, and must also submit it to the Commission de la santé et de la sécurité du travail (CSST) and the Association paritaire pour la santé et la sécurité du travail, in compliance with section 198 of this Act. The requirements related to that program are the same as the requirements listed in 1.5.
- 1.7 For all cases in which the work constitutes a construction site as defined in the *Act respecting occupational health and safety*, R.S.Q., c. S-2.1, a notice of opening of a construction site must be submitted to the CSST before the start of work and a copy must be submitted to the building technical authority. A copy of this notice must be posted in plain view on the site. When the site is disassembled, the notice of closing

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of a construction site must be submitted to the CSST with a copy to the building technical authority.

- 1.8 The Contractor shall submit the following documents to the Departmental Representative:
- A copy of the training certificates required for application of these specifications and safe planning of the work (for example, general health and safety for construction sites, asbestos, lock-out, first aid);
 - A copy of the safety data sheet for every controlled product used on the worksite, at least three days before the product is used on site;
 - Confirmation of the medical examinations of its supervisory employees and all employees where a medical examination is required under a statute, regulations, a directive, specifications or an accident prevention program. The Contractor shall also thereafter promptly submit confirmations of medical exams for all persons new to the worksite;
 - A copy, signed and sealed by an engineer, of all plans and compliance certificates required under the *Safety Code for the Construction Industry* (c. S-2.1, r. 6), any other statute or regulation, or any other clause of the specifications or the contract. A copy of these documents shall also be sent to the CSST and be available on the work site at all times;
 - A mechanical inspection certificate for the machinery used to perform the work (e.g., elevating platforms);
 - An investigation report within 24 hours of any accident that results in an injury or any incident that brings to light a potential hazard;
 - A copy, within 24 hours, of any inspection report, notice of correction or recommendation issued by federal or provincial inspectors.
- 1.9 The Contractor shall ensure that the materials, equipment, tools and protective gear used to perform the work are maintained and kept in good condition. Any equipment, tools or protective gear that cannot be installed or used without compromising the health and safety of workers or of the public shall be deemed unsuitable for the purposes of the work. The Departmental Representative reserves the right to forbid the use of any materials, equipment or tools deemed to be dangerous, defective or inappropriate.
- 1.10 The Contractor shall ensure that its workers have received the training and information needed to perform their tasks safely and that all necessary tools and protective equipment are available, comply with the applicable standards, statutes and regulations and are used.

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- 1.11 The Contractor shall take such measures as are needed 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 prevention program specific to the work, and comply promptly with any order or notice of correction issued by the CSST.

Regardless of the number of workers assigned to the work, the Contractor shall designate a person to act as workplace health and safety officer and give that person the authority to order work stopped or resumed when the person deems such action necessary for health and safety reasons.

- 1.12 Without limiting the scope of the preceding paragraph, the Departmental Representative may at any time order that work be stopped if he or she believes there is a hazard or risk to the health and safety of the employees assigned to the work, the public or the environment.

The Contractor shall take such measures as are needed to ensure effective communication of health and safety information. As soon as they arrive on the work site, all workers shall be informed of the details of the prevention program and their obligations and rights. The Contractor shall maintain a log of information provided and obtain the signature of every worker who is given the information.

The Contractor shall inform its workers that they have the right to refuse any work that entails a risk to their health or safety.

- 1.13 The Contractor shall inspect the work site and submit to the Departmental Representative a duly completed work site inspection sheet every working day or at an interval determined with the Departmental Representative on the Call-up Against a Standing Offer form.
- 1.14 The Contractor shall promptly take all necessary measures to correct instances of non-compliance with statutes and regulations and hazardous situations identified by a government inspector, by the Departmental Representative or by the Saint-Jean Garrison health and safety co-ordinator or in the course of a periodic inspection. Submit to the Departmental Representative written confirmation of any measures taken to correct violations and hazardous situations.
- 1.15 The Contractor agrees to comply with first aid and emergency response standards in accordance with the applicable policies and regulations and any other clause of the specifications.
- 1.16 The Contractor shall review the building and facility evacuation procedure and provide its employees with the training and information they need to apply the procedure.
- 1.17 For all cases in which the work to be completed involves a construction site as defined in the *Act respecting occupational health and safety*, R.S.Q., c. S-2.1, a decision-making representative of the Contractor must attend all meetings where health and safety on the site is considered. The Contractor shall set up a work site

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committee and hold meetings in compliance with the requirements of the *Safety Code for the Construction Industry*, S-2.1, r.6.

- 1.18 For all cases in which the work to be completed involves a construction site as defined in the *Act respecting occupational health and safety*, R.S.Q., c. S-2.1, the following information and documents shall be posted in an area that workers can access easily:
- Notice of opening of work site;
 - Identification of principal contractor;
 - Company policy on occupational health and safety;
 - Prevention program specific to the work site;
 - Emergency plan;
 - Safety data sheets for all controlled products used on the work site;
 - Minutes of work site committee meetings;
 - Names of the work site committee members;
 - Names of the first aid attendants;
 - Action and correction reports issued by the CSST.
- 1.19 The Contractor shall mark off and control access to the work area and install barricades as needed.
- 1.20 The Contractor shall take such measures as are necessary to keep the workplace clean and orderly throughout the work and shall ensure that at the end of each workday, the workplace is free of any hazards.
- 1.21 When a worker works alone in an isolated place where it is impossible to ask for assistance, the Contractor shall identify the risks related to the situation and provide the Departmental Representative with a procedure for preventing those risks and quickly getting help in an emergency.
- 1.22 Where a hazard not identified in the specifications arises because of or in the course of the work, the Contractor shall stop work immediately, implement temporary protective measures for workers and the public, and notify the Departmental Representative orally and in writing. The Contractor shall then make the necessary changes to the prevention program in order for work to resume safely.
- 1.23 In the event of an incident, the Contractor shall take such measures as are needed, including stoppage of work, to ensure the health and safety of workers and the public and shall contact the Departmental Representative promptly.
- 1.24 Subcontracting is not permitted without special authorization from the Departmental Representative. In making a decision, the Departmental Representative will consider the Subcontractor's ability to meet these requirements.
- 1.25 Sealing guns and other cartridge devices shall not be used without authorization from the Departmental Representative.

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Notwithstanding the above;

- Every person who uses a sealing gun must have a training certificate and meet all of the requirements set out in section 7 of the *Safety Code for the Construction Industry*, c. S-2.1, r. 6;
- Every cartridge device shall be used in accordance with the manufacturer's instructions and the applicable standards and regulations.

1.26 On the work site, the Contractor shall take into account the following conditions in developing a safe work plan:

Some rooms have asbestos in the pipe insulation. While there is no requirement in these specifications for handling asbestos, the Contractor shall notify the Departmental Representative immediately if such insulation is disturbed during the work or if unscheduled work makes it necessary for the Contractor to handle asbestos.

If the Contractor is asked to carry out work where asbestos dust is likely to be released, the Contractor shall comply with the requirements of section 3.23 of the *Safety Code for the construction industry, An Act respecting occupational health and safety* (R.S.Q., c. S-2.1).

The Contractor may be asked to do roofing work. The Contractor shall indicate in its prevention program the measures to be taken to prevent falls.

The Contractor may be asked to do work near a body of water or a holding tank. The Contractor shall indicate in its prevention program the measures to be taken to prevent the risk of drowning, electric shock and electrocution.

The Contractor may be asked to do work at heights in the receiving area, in plants or elsewhere. The Contractor shall indicate in its prevention program the measures to be taken for work at heights.

The Contractor may be asked to inspect or check electrical rooms. The Contractor shall indicate in its prevention program the measures it plans to take to protect people in those areas.

Work in confined spaces may be required. The Contractor shall include in its prevention program the measures it intends to take when working in these areas, and take into account the requirements of section 2.4 of the *Safety Code for the construction industry, An Act respecting occupational health and safety* (R.S.Q., c. S-2.1).

The Contractor may be asked to do work in laboratories. The Contractor shall contact the Departmental Representative to determine whether special procedures need to be taken.

2. SPECIFIC CLAUSES

2.1 Lock-out

2.1.1 Whenever work is being done on electric equipment that could be powered on inadvertently, the Contractor shall produce in writing and apply a lock-out procedure and complete the Request for Isolation and Re-energization form (see PWGSC ELF Form 13, provided under separate cover), provided by the Departmental Representative.

The following is a partial list of situations where use of the form is mandatory:

- Main building power supply lines
- Power supply line panels and sub-panels
- Bus bars (shielded)
- Motor control centres
- Back-up power circuits
- Fire alarm and fire protection devices
- Mechanical protection devices (sump pump, etc.)
- Building services alarm circuit, specifically, all heating, ventilation and air conditioning systems
- Circuits powering two or more pieces of equipment
- Circuits powering a single piece of equipment used in a cooling or heating system

The Contractor shall complete the form and have it countersigned by the Departmental Representative before carrying out any work.

2.1.2 Notwithstanding the preceding clauses, the Contractor shall, in an emergency, obtain oral confirmation of power cut-off from the Departmental Representative. As soon as that confirmation is obtained, record in writing the request for electrical cut-off or bypass.

2.1.3 The procedure referred to in clause 2.1.1 shall comply with the principles set out in the brochure on lock-out published by the Association paritaire en santé et sécurité du secteur de la construction (ASP Construction).

2.1.4 The supervisors and workers concerned must have completed the course on lock-out techniques offered by ASP Construction, 514-355-6190 or 1-800-361-6190, or an equivalent course offered by another organization.

2.1.5 For any work that absolutely must be carried out with the power on, the Contractor shall identify the situation in writing and make provisions for the preventive measures that will be applied, including personal protective equipment.

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2.2 Work at heights

- 2.2.1 The Contractor shall provide the equipment needed to work at heights (e.g. ladders, stepladders, elevating platforms, scaffolding).
- 2.2.2 The Contractor shall ensure that every person who does work that entails a risk of falling more than 2.4 metres is protected against falls.
- 2.2.3 The Contractor shall plan and organize work so as to foster the elimination of hazards at the source or ensure group protection and thus minimize the need for personal protective equipment. Where personal fall protection is needed, workers shall use a safety harness conforming to standard CAN-CSA-Z-259.10-M90. A safety belt shall not be used for fall protection.
- 2.2.4 Protective equipment, tools or devices that cannot be installed or used without compromising the health and safety of workers or the public are deemed to be inadequate for the work to be performed.
- 2.2.5 Workers shall always wear a safety harness when working on a telescoping, articulated or rotating elevating platform.
- 2.2.6 The danger zone shall be marked off wherever equipment for work at heights is used.

2.3 Asbestos

Before beginning any work liable to emit asbestos dust, the Contractor shall:

- 2.3.1 Provide a written procedure covering all of the items listed in section 3.23 of the *Safety Code for the construction industry S-2.1*, r. 6.
- 2.3.2 Show that all workers concerned have been trained in asbestos hazards and the procedure described above (ASP Construction) (s. 3.23.7).
- 2.3.3 Show that it has all the equipment needed to comply with the procedure and safely perform the work.

2.4 Confined spaces

Saint-Jean Garrison classifies and evaluates all confined spaces on properties of which it is the custodian. Confined spaces are divided into three classes: 1–low risk; 2–medium risk; and 3–high risk. An evaluation report is produced for every confined space. The report identifies all of the characteristics and entry requirements of the confined space. This report is one of the elements taken into account in issuing permits and developing work procedures.

All confined spaces shall be properly identified based on their classification. A Saint-Jean Garrison-approved sign shall be posted at the entrance or as close as possible to confined spaces.

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2.4.1 Class 1

For all Class 1 (low risk) confined spaces, every person involved shall have completed the basic training. While it is not necessary to implement specific work practices in low-risk confined spaces, the Contractor shall apply methods to ensure the general health and safety of persons required to carry out work in such spaces.

Before accessing the confined spaces, the Contractor must notify the Departmental Representative of the scheduled date and time for access and exit.

Persons with access to low-risk confined spaces shall record the relevant information in the Confined Space Entry Log (see PWGSC ELF form 103 provided under separate cover); in other words, persons entering a low-risk confined space are required to record the time in and time out in the log on each occasion.

2.4.2 Classes 2 and 3

For all Class 2 and Class 3 (medium- and high-risk) confined spaces, the following measures shall be rigorously applied.

2.4.2.1 The Contractor's prevention program shall contain a written procedure identifying:

- The tools needed to perform the work;
- The equipment installed or to be installed in the confined space and the measures to be taken to install, use, maintain, protect or move the equipment;
- 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;
- Appropriate rescue measures and equipment and emergency measures.

2.4.2.2 The Contractor shall complete an access permit (see PWGSC ELF Form 101 provided under separate cover). The permit is valid for one shift and shall take into account the information contained in the evaluation report and any specific conditions related to the work to be performed. The Contractor can, however, use its own form provided that it contains all the information appearing on the form supplied by the person in charge of the work site.

2.4.2.3 The Contractor shall complete a Hot Work Permit where the work to be performed includes welding, cutting or any other

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activity that produces a flame or sparks (see PWGSC ELF Form 102 provided under separate cover).

2.4.2.4 Every person who has access to a confined space shall hold the following training certificates:

- PWGSC Safe Work in Confined Spaces (ASP Construction)
- Workplace First Aid and CPR (organization recognized by the CSST)
- Use of Ventilation Devices (ASP Construction)
- Use of Safety Harnesses (ASP Construction)
- Use and Maintenance of Respiratory Protection Devices (ASP Construction)
- Gas Detection Devices (ASP Construction)

Where the use of supplied-air or self-contained respirators is planned, full training in the preparation, maintenance and use of the devices (manufacturer, supplier or recognized organization) is required.

In remote areas where there is no local emergency response unit, the Contractor shall designate persons to carry out rescue operations in confined spaces. The rescuers designated by the Contractor shall complete relevant training in the use of rescue equipment.

2.4.2.5 Every person who has access to a confined space shall produce a medical certificate confirming his or her fitness to work in a confined space. Such certificates are valid for two years.

2.4.2.6 Employees required to work in sewage collection systems or similar systems shall be vaccinated against infectious diseases in accordance with the immunization program prescribed by Health Canada, that is, against diphtheria and tetanus.

2.4.2.7 While it is mandatory only in the cases referred to previously, vaccination against diphtheria and tetanus is strongly recommended for all work in confined spaces.

2.4.2.8 The Contractor shall establish an emergency and rescue procedure with municipal and ambulance services. The procedure, telephone numbers and location of the nearest telephone shall be clearly posted near the work location.

2.4.2.9 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

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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.

- 2.4.2.10 The Contractor shall supply its own gas detection devices and keep them in good condition. The Departmental Representative may have the Contractor's devices checked for accuracy by a qualified person at any time. 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 such circumstances.
- 2.4.2.11 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 and shall keep individuals out of the confined space until the oxygen and gas levels have returned to normal.
- 2.4.2.12 Compressed gas cylinders and welding machines shall not be taken into confined spaces. Such equipment shall remain outside and shall not block any entrance or exit. All cylinders shall be properly secured.
- 2.4.2.13 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 step-down transformer. The Contractor shall, at its own expense, have a qualified electrician modify any power outlets and/or circuit breakers it plans to use which do not meet these criteria.
- 2.4.2.14 The Contractor shall provide a ventilation system in order to keep the contaminant levels below the allowable limits.
- 2.4.2.15 The Contractor shall post signs to stop unauthorized persons from entering the confined space.
- 2.4.2.16 Where it is impossible to keep the noise level below 85 dB, the Contractor shall provide all workers with ear protectors appropriate to the desired level of attenuation/mitigation and the work to be performed.
- 2.4.2.17 The Contractor shall ensure that all workers wear the required personal protective equipment.
- 2.4.2.18 The Contractor shall assign a qualified person to assume the duties of Custodian. The Custodian shall:

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- Be familiar with the procedure for working in a confined space.
- Ensure constant communication with all workers in the confined space. The directives applied shall be adapted to confined spaces. The Contractor shall select means of communication taking into account the identified hazards and other pertinent factors, that is, the protective equipment workers are required to wear, noise levels in and near confined spaces, remoteness, lighting conditions, etc.
- Be familiar with the gas detection devices and ensure 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 observe the Contractor's work procedure;
 - ✓ Working conditions and the work environment inside the confined space are not detrimental to the workers' health and safety.

2.4.2.19 The Custodian shall remain at the entrance to the confined space as long as there is a worker in the space.

2.4.2.20 The Contractor shall designate a person to be in charge of safety in confined spaces. The designated person shall be on the work site at all times.

2.4.2.21 The same person may not serve as Custodian and Confined Spaces Safety Officer unless he or she is able to meet the requirements of both positions.

2.5 Hot work

2.5.1 Hot work means any work that involves the use of a flame or has the potential to produce an ignition source, such as riveting, welding, cutting, grinding, burning and heating.

2.5.2 The Contractor shall not start work that involves hot work until it has received a PWGSC "Hot Work Permit" (see PWGSC ELF form no. 102 provided under separate cover) from the Departmental Representative.

2.5.3 Work shall be performed in accordance with Fire Commissioner Standard FC 301 – Standard for Construction Operations, June 1982. The standard can be found at the following address:

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http://www.rhdcc.gc.ca/fra/travail/protection_incendies/politiques_normes/commissaire/301/page00.shtml

- 2.5.4 A working fire extinguisher appropriate to the fire hazard shall be available and readily accessible within five (5) metres of any flame, sparks or intense heat.
- 2.5.5 A person shall be designated to conduct fire checks for at least thirty (30) minutes after the end of the shift. The person who does the checks shall countersign the permit and give it to the Building Technical Authority (or a designated representative) after the thirty (30)-minute period ends.
- 2.5.6 Propane cylinders shall be stored in accordance with standard CAN/CSA-B149.2-00 Propane Storage and Handling Code and shall meet the specific conditions set out in this document. Cylinders shall be stored outdoors in a safe place where they will not be handled by unauthorized persons, in a storage unit designed for that purpose; they shall be stored securely in an upright position, and the storage unit shall be locked at all times; the storage unit shall be located in an area where there is no vehicle traffic unless the area is protected by gates or an equivalent means.

All cylinders used or stored on work sites shall have a collar designed to protect the valve.

Refilling of cylinders on worksites is not permitted unless a procedure conforming to standard CAN/CSA B149.2 is approved and authorized by the Departmental Representative.

2.5.7 Welding and cutting

Note: For welding and cutting work, the following conditions shall be met in addition to the conditions stated above.

2.5.7.1 Welding and cutting must be performed in accordance with sections “3.13. Compressed gas supply” and “3.14. Welding and cutting” of the *Safety Code for the construction industry* (R.S.Q., c S-2.1, r. 6).

2.5.7.2 Work shall be performed in accordance with Fire Commissioner Standard FC 302 – Standard for Welding and Cutting, May 1979. The standard can be found at the following address:

http://www.rhdcc.gc.ca/fra/travail/protection_incendies/politiques_normes/commissaire/302/page00.shtml

2.5.7.3 Welding and cutting devices are extremely dangerous in terms of fire risk. The following precautions shall be taken when that type of work is being carried out:

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- Store compressed gas cylinders on a flame-retardant surface and ensure that the room is well ventilated.
- Store oxygen cylinders at least 6 metres away from cylinders containing flammable gas (e.g., acetylene) or such combustible materials as oil and grease unless they are separated by a wall made of non-combustible material, as specified in section 3.13.4 of the *Safety Code for the construction industry*, S-2.1, r. 6.
- Put fireproof cloths in place when overhead welding is being done and there is a risk of falling sparks.
- Store cylinders away from heat sources.
- Do not store cylinders near stairs, exits, corridors or elevators.
- To avoid the risk of explosion, do not allow acetylene to come into contact with such metals as silver, mercury, copper and brass alloys containing more than 65% copper.
- Make sure that all electric arc welding equipment has the required voltage rating and is grounded.
- Make sure that the lead wires of the electric welding equipment are not damaged.
- Place the welding equipment on a flat surface protected from the weather.
- Remove or protect combustible materials that may be near the welding site.
- Never weld or cut closed containers.
- Take protective measures when welding or cutting near pipes, tanks or other containers containing flammable substances.
- Do not cut, weld or carry out open-flame work on a tank, pipe or other container that may contain a flammable or explosive substance unless:
 - air samples have been taken and indicate that the work can be done safely; or
 - measures have been taken to ensure worker safety.

Scaffolding

2.6.1 Footings

- Scaffolding shall be placed on solid footings to prevent it from sliding or tipping.
- If the Contractor wishes to place scaffolding on a roof, an eave, a canopy or a garret, the Contractor shall submit its calculations to the Engineer and obtain the Engineer's authorization before proceeding, for the approval of the Departmental Representative.

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2.6.2 Assembly, bracing and anchoring

- All scaffolding shall be assembled, braced and anchored in accordance with the manufacturer's instructions and the provisions of the *Safety Code for the construction industry*.
- In situations where it is necessary to remove some scaffolding components (e.g. cross pieces), the Contractor shall submit an assembly procedure signed and sealed by an engineer certifying that the scaffolding will allow work to be carried out safely, taking into account the loads that will be applied.
- Where the span between two scaffolding supports is greater than 3 m, the Contractor shall provide an assembly plan signed and sealed by an engineer.

2.6.3 Fall protection during assembly

- Throughout the assembly process, workers shall be protected against falls.
- Before starting work, the Contractor shall submit to the Departmental Representative a procedure specifying the protective measures used and, if applicable, the anchor points for safety cables or retainers. This procedure shall comply with the provisions of sections 3.9.4(5), 2.9.1 and 2.10.12 of the *Safety Code for the construction industry* (as amended on August 2, 2001).

2.6.4 Platforms

- Scaffold platforms shall be designed and installed in accordance with the provisions of the *Safety Code for the construction industry*.
- If planks are used, they shall be approved and stamped in accordance with section 3.9.8 of the *Safety Code for the construction industry* (in force on January 1, 2002).
- Platforms shall cover the entire surface protected by guardrails.
- Notwithstanding the above, scaffolding four sections (or 6 m) high or higher shall have a full platform covering the entire surface of the putlogs every 3 m or portion thereof, and at no time shall the components of such platforms be moved to create intermediate platforms.

2.6.5 Guardrails

- A guardrail shall be installed on every platform.
- Cross-bracing shall not be considered guardrails.
- On scaffolding four (4) sections (or 6 m) high or higher that require full platforms, guardrails shall be installed on all such platforms at the start of work and remain in place until completion of the work.

2.6.6 Access

- The Contractor shall ensure that access to scaffolding does not compromise worker safety.

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- Where the scaffolding platforms are made up of planks, ladders shall be installed to ensure that any planks that extend past the edge do not prevent workers from moving up or down.
- Notwithstanding the provisions of the *Safety Code for the construction industry*, stairs shall be installed on all scaffolding with six (6) or more sets of uprights that are six (6) sections (or 9 m) high or higher.

2.6.7 Protection of the public and occupants

- The Contractor shall mark out and barricade its 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 and occupants from falling objects.

2.6.8 Use of public roads

- Where it is necessary to encroach on a public road, the Contractor shall obtain at its own expense any authorizations and permits required by the competent authority.
- The Contractor shall install at its own expense all signage, barricades and other devices needed to ensure the safety of the public and its own facilities. Ladders shall be installed so as to ensure that planks that extend past the edge do not prevent workers from moving up or down.

Notwithstanding the provisions of the *Safety Code for the construction industry*, stairs shall be installed on all scaffolding with six (6) or more sets of uprights that are six (6) sections (or 9 m) high or higher.

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1. GENERAL

1. The Contractor shall provide the labour, materials, tools and equipment needed to perform the maintenance work described in this section on all of the equipment comprising the system described in the GEN module, including all components thereof and inspections. The Contractor shall follow the description of work and omit irrelevant items.
2. The purpose of the specifications is to ensure that the equipment is kept in excellent operating condition. The specifications shall be considered a minimum standard under which the Contractor shall work and in no way represents the full extent of the Contractor's responsibilities and obligations.
3. All work shall be performed in accordance with the manufacturer's instructions, the latest editions of the *National Building Code of Canada*. Testing shall comply with CSA C 282, latest revision, as well as the NFC section 6.7 and any other applicable standards.
4. While the building is occupied, the Contractor shall not carry out any tests or inspections that could accidentally trigger the transfer switch. Testing during occupancy hours is prohibited without written authorization by the Departmental Representative.
5. The Contractor shall arrange with the Departmental Representative when to operate the generator set under load.
6. Workforce development shall meet CSA C 282, latest revision.
7. Annual oil changes shall be done in accordance with the manufacturer's recommendations.
8. Adjust injectors (if required) in accordance with the manufacturer's recommendations. Should the injectors need replacing, a written estimate shall be submitted to the Departmental Representative. The Departmental Representative may seek a second opinion following the Contractor's recommendation.

2. REPORTS

1. Within 5 business days of the completion of the work, the Contractor shall provide the Departmental Representative with a complete typed report of the

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inspections, including the list of equipment confirming that it is operating properly.

2. Before the execution of the contract, the form and the information to be recorded in each report must be submitted for approval by the Departmental Representative, who reserves the right to have the information amended where applicable.
3. Reports can be delivered by mail, courier, email, fax or in person.
4. Saint-Jean Garrison must have received the required reports and certificates before paying the invoice.

3. INSPECTION LOG

1. The Contractor shall keep logs of all generator maintenance, based on the model provided, for consultation by a competent authority. These logs shall be available for consultation during the time required between two inspections, maintenance operations or tests, but no less than two years (ref.: NFC 6.7.1.4/CAN/CSA-NFPA C282-10.5.3).

4. LIST OF SITES TO COVER

1. Saint-Jean Garrison
2. Farnham Garrison

5. INVENTORY

1. The inventory of equipment to be maintained is set out in Annex C. However, additional equipment may need to be inspected and maintained during the contract period, in the event that equipment is added or replaced.

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**1. INSPECTIONS
BEFORE START-UP**

1. Ensure that all safety measures are followed.
2. Ensure that all safety signs are in place at the entrance to the emergency generator room and that they indicate that the equipment is controlled automatically and could start at any time.

**2. OPERATING
CONDITIONS**

1. Check that the safe operating temperature of the engine is not exceeded.
2. Check that the room temperature does not exceed 38°C nor fall below 10°C.
3. Check that the combustion air required for the engine is available.
4. Check that the operating temperature of the cooling system components does not exceed the level recommended by the manufacturer.
5. Ensure that the independent emergency lighting units provide light of 50 lux for at least two hours in all rooms containing equipment requiring adjustment and maintenance.
6. Inspect the exhaust pipe and muffler for any loss of particles and other pollutants.

**3. OPERATIONS AND
MAINTENANCE**

1. Electrical emergency power supply equipment must be operated and maintained in compliance with the manufacturer's recommendations and instruction manuals, and clauses 11.1.2 to 11.5 of Chapter 11, Operation and Maintenance Program, of Standard CSA-C282, latest edition.

4. INSPECTION LISTS

1. The inspection lists presented in the tables below have been created using the tables setting out inspection, test and maintenance requirements contained in Standard CSA-C282, latest edition, published by the Canadian Standards Association. Should there be any discrepancies between the lists and the tables, the content of the tables in the Standard shall take precedence.
2. The clauses and tables given as a reference in each of the tables are those contained in Standard CSA-C282, latest edition, published by the Canadian Standards Association.

5. WEEKLY
INSPECTIONS

1. Weekly inspections, tests and maintenance shall be performed by Saint-Jean Garrison personnel in compliance with the requirements and with the assistance of Table 2 of Standard CSA-C282, latest edition. The person performing the work described in that table must be trained and qualified to perform such work.

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Table 2

Weekly Inspection, Test, and Maintenance Requirements

(See clauses 6.11.2, 10.7, 11.1.2, 11.5.1 and 11.5.2 and Tables 3 to 5 of CSA Standard C282)

1.	Consumables: a) inspect day tank fuel level (gas pressure) and main tank level, if applicable (gas pressure). Minimum 2 hour supply required (see clause 7.3.1). b) Inspect lubricating oil level. c) Inspect engine coolant level. d) Inspect engine, generator, fuel tank(s), and cooling systems for leakage. Start the engine manually (let it run for a maximum of 3 minutes). e) Inspect for proper operation of fuel transfer pump (if applicable). f) Inspect fuel filter for contamination if filter is equipped with a transparent bowl.
2.	Starter system: a) Inspect electric starter for cleanliness, mounting and terminal security. b) Air starter: (i) Inspect air tanks for pressure. (ii) Inspect valves for leakage. (iii) Test auxiliary engine and compressor for proper operation. (iv) Bleed off any condensation.
3.	Batteries and charging equipment : a) Inspect all battery cells for correct electrolyte fill level. b) Test all battery cells for correct electrolyte specific gravity. c) Inspect electrical connections for tightness and evidence of corrosion. d) Inspect battery for cleanliness and dryness between terminals. e) Inspect charger electrical connections for cleanliness and tightness. f) Test charger for proper operation of both float and equalize modes.
4.	Engine: a) Test lubricant and/or coolant heaters for proper operation. b) Inspect governor control linkages and oil level (if applicable). c) Inspect fuel pump oil sump (if applicable). d) Inspect fan belts for correct tension and wear.
5.	Control panel: a) Inspect control panel covers for security. b) Test annunciator lamps to confirm that they are operational. c) Inspect control panel settings (ensure that the unit is ready for automatic start-up). d) Test remote visual and audible trouble signals at the building fire alarm panel.
6.	Inspect air control louver settings to ensure proper operation.
7.	Test emergency lighting unit(s).
8.	Verify whether room temperature is above 10°C.
9.	Inspect generator room(s) for cleanliness and accessibility to all components of the emergency system.
10.	Correct all defects found during inspections and tests.
11.	Record all inspections, tests, and corrective actions in the log (see clause 11.5.3).

6. MONTHLY INSPECTIONS

1. Monthly inspections, tests and maintenance shall be performed **by the Contractor** in compliance with the requirements and with the assistance of Table 3 of

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Standard CSA-C282, latest edition. The person performing the work described in that table must be trained and qualified to perform such work.

Table 3

Monthly Inspection, Test, and Maintenance Requirements

(See clauses 10.7, 11.1.2, 11.4, 11.5.1 and 11.5.2 and Tables 4 and 5 of CSA Standard C282)

1.	All items specified in Table 2.
2.	Test and verify the entire system as follows : a) Simulate a failure of the normal electrical supply in the building. b) Operate the system under at least 30% of the rated load for 60 minutes. c) Operate all automatic transfer switches under load. d) Inspect brush operation for sparking. e) Inspect for bearing seal leakage. f) Inspect for correct operation of all auxiliary equipment, e.g., radiator shutter control, coolant pumps, fuel transfer pumps, oil coolers, and engine room ventilation system(s). g) Record the readings for all instruments in the log (see clause 11.5.3) and verify that they are normal. h) Drain the exhaust system condensate trap.
3.	Inspect block heater hoses and wires.
4.	Correct all defects found during inspection and tests.
5.	Record all inspections, tests, and corrective actions in the log (see clause 11.5.3), including transfer and cooling times.

**7. SEMI-ANNUAL
INSPECTIONS**

1. Semi-annual inspections, tests and maintenance shall be performed **by the Contractor** in compliance with the requirements and with the assistance of Table 4 of Standard CSA-C282, latest edition.
2. The work described in points 2 to 9 of Table 4 of Standard CSA-C282, latest edition, requires special skills. This work shall be carried out by a qualified contractor, the system manufacturer, or individuals trained and certified by the system manufacturer.

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Table 4

Semi-annual Inspection, Test, and Maintenance Requirements

(See clauses 10.7, 11.1.2, 11.5.1 and 11.5.2, and Table 5 of CSA Standard C282)

1.	All items specified in Tables 2 and 3.
2.	Inspect and clean engine crankcase breathers.
3.	Inspect and clean all engine linkages.
4.	Lubricate the engine governor and ventilation system.
5.	Test protective devices for proper operation.
6.	Before start-up, perform two full cranking cycles (as specified in sections 10.4.1 and 10.4.2). Immediately after the end of each cycle (while still cranking), measure and record the lowest indicated battery cell voltage. If the voltage measured is less than 80% of the battery cell's nominal voltage, replace the cell. Alternatively, perform a battery cell load test using a suitable load tester.
7.	Inspect the ventilation system belt(s).
8.	Correct all defects found during inspection and tests.
9.	Record all inspections, tests and corrective actions in the maintenance log (see clause 11.5.3).

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8. ANNUAL INSPECTIONS

1. Annual inspections, tests and maintenance shall be performed **by the Contractor** in compliance with the requirements and with the assistance of Table 5 of Standard CSA-C282, latest edition.
2. The work described in points 2 to 11 of Table 5 of Standard CSA-C282, latest edition, require special skill. This work shall be carried out by a qualified contractor, the system manufacturer, or individuals trained and certified by the system manufacturer.

Table 5

Note: The work described in items 2 to 11 require special skills. All such work must be done by a licensed contractor, the system manufacturer or individuals trained and certified by the system manufacturer.

Annual inspection, test, and maintenance requirements
(See clauses 1.1, 1. 2, 1 1.3, 1 1.5.1, 1 1.5.2 and 11.5.5.1of CSA Standard C282)

1.	All items specified in Tables 2 to 4.
2.	Control panel: a) Open all inspection covers and inspect all electrical connections. b) Test breakers for proper operation. c) Clean insulators and bushings. d) Test voltage regulator for proper operation. e) Operate all moving parts to ensure that they move freely. f) Clean and dress contacts as required. g) Remove all dust. h) Check gauge calibration. i) With the generator set operating at full load (see clause 11.3), conduct an infrared survey of all electrical connections to identify any high-resistance connections. j) For fuel generators off site, place the gas valve indicator in the off position to ensure that the valve turns properly and that the sound alarm on the generator's control panel is activated.
3.	Engine: a) Change engine lubrication oil and filters. b) Test strength of coolant and chemical protection level of coolant inhibitors. c) Change fuel filters, clean strainer(s), and verify that the fuel supply valve is open. d) Inspect the exhaust system. Check and record the back pressure of the exhaust system to ensure that it complies with the engine manufacturer's requirements, and compare with previous readings. e) Clean and lubricate linkages. f) Inspect air filters. g) Inspect all mechanical connections. h) Inspect all electrical connections. i) For spark ignition engines, inspect all components of ignition system(s) and service or replace as appropriate.

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GENERATOR SETS INSPECTION AND MAINTENANCE**

	<ul style="list-style-type: none"> j) Inspect all external surfaces of heat exchanger(s) and clean as necessary. k) Inspect all belts and hoses and replace as necessary. l) Test and inspect ignition system(s). Replace any defective components. m) Inspect coolant pump(s) for leaks and external wear (if belt driven, remove the belt(s) first).
4.	<p>Diesel fuel storage tank(s): The fuel oil in any storage tanks (and day tank, if used) shall be tested in accordance with clause 11.5.5, and if the fuel oil fails the test, it shall be:</p> <ul style="list-style-type: none"> a) drained and refilled with fresh fuel in accordance with section 6.5.1.5 of the <i>National Fire Code of Canada</i>; or b) fuel filtered to remove water, scale, bacteria, and oxidized gums/resins to minimize filter clogging and ensure diesel start-up (see clause B.22 for commentary). When the fuel is filtered, it shall be treated with a suitable conditioner and stabilizer to minimize degradation while in storage. <p>Note: The bottom(s) of the tank(s) shall also be tested chemically for water.</p>
5.	<p>Generator:</p> <ul style="list-style-type: none"> a) Test surge suppressor and rotating rectifier on brushless machines. b) Grease bearings (replace old grease with new) (if applicable). c) Clean commutator and slip rings (if applicable). d) Clean rotor and stator windings using clean compressed air. e) Inspect coupling bolts and alignment. f) Inspect conduits for tightness. g) Inspect windings at rotor and stator slots. h) Inspect all electrical connections. i) With the generator set operating at full load (see clause 11.3), conduct an infrared survey of all electrical connections to identify any high-resistance connections.
6.	<p>Transfer switches:</p> <ul style="list-style-type: none"> a) Isolate transfer switch, open all inspection covers, and tighten all electrical connections. b) Operate all moving parts to ensure they move freely. c) Clean and file all contacts. d) Remove all dust. e) Clean and lubricate linkages. f) Inspect under infrared light, with the power on, all electrical connections, contacts and components under load conditions—for both the normal and the emergency power supply.
7.	Lubricate door locks and hinges (if necessary), especially those of outer enclosures.
8.	Conduct a 2-hour full-load test (see clause 11.3).
9.	Review and provide instruction on the technical requirements specified in Tables 2 to 4 with the person(s) responsible for carrying out the work.
10.	Correct all defects found during inspections and tests.
11.	Record all inspections, tests, and corrective actions in the log (see clause 11.5.3).

9. FIVE-YEAR INSPECTIONS

Five-year inspections, tests and maintenance shall be performed **by the Contractor** in compliance with the requirements and with the assistance of Table 6 of Standard CSA-C282, latest edition.

The work described in points 1 to 4 of Table 5 of Standard CSA-C282, latest edition, requires special skills. This work shall be carried out by a qualified contractor, the system manufacturer, or individuals trained and certified by the system manufacturer.

**W3380-13-S231 – ANNEX A – GENERATOR SETS MODULE
GENERATOR SETS INSPECTION AND MAINTENANCE**

Table 6

Five-year Inspection, Test, and Maintenance Requirements

(See clauses 11.1.2, 11.5.1 and 11.5.2 of CSA Standard C282)

1.	<p>Generator:</p> <p>Inspect insulation of generator windings. Use an insulation tester (Megger). The resistance in megohms should be not less than:</p> <p><u>Rated voltage + 1000</u></p> <p align="center">1000</p> <p>If the resistance is less, dry out the insulation using the auxiliary heat process.</p>
2.	<p>Engine:</p> <p>a) Drain and flush the cooling system. Refill the system with new coolant. b) Clean radiator tubes and cooling fins. c) Replace thermostats. d) <u>Inspect valve clearance and adjust as appropriate.</u></p>
3.	Correct all defects found during inspections and tests.
4.	Record all inspections, tests, and corrective actions in the maintenance log (see clause 11.5.3).

10. LIST OF EQUIPMENT

See Annex C.

11. ROUTINE INSPECTION RECORDS

EMERGENCY ELECTRICAL POWER SUPPLY					
WEEK	DATE	SIGNATURE	WEEK	DATE	SIGNATURE
14			40		
15			41		
16			42		
17			43		
18			44		
19			45		
20			46		

**W3380-13-S231 – ANNEX A – GENERATOR SETS MODULE
GENERATOR SETS INSPECTION AND MAINTENANCE**

21			47		
22			48		
23			49		
24			50		
25			51		
26			52		
27			1		
28			2		
29			3		
30			4		
31			5		
32			6		
33			7		
34			8		
35			9		
36			10		
37			11		
38			12		
39			13		
MONTH	DATE	SIGNATURE			
APRIL					
MAY					
JUNE					
JULY					
AUGUST					
SEPTEMBER					
OCTOBER					
NOVEMBER					
DECEMBER					
JANUARY					

W3380-13-S231 – ANNEX A – GENERATOR SETS MODULE
GENERATOR SETS INSPECTION AND MAINTENANCE
 Page 10 of 10

FEBRUARY		
MARCH		
EMERGENCY ELECTRICAL POWER SUPPLY		
	DATE	SIGNATURE
SEMI-ANNUAL		
ANNUAL		
EVERY FIVE YEARS		

**W3380-13-S231 – ANNEX B - PRICING
GENERATOR SETS INSPECTION AND MAINTENANCE**

PRICING

PART A - MAINTENANCE SERVICE (FIXED)

Unit prices based on section 2 GS of the specifications.

Unit prices shall include:

- all labour costs related to the work done by employees and supervision, including benefits;
- transport (including vehicle use cost, wear, fuel and all costs associated with vehicle and material movement); and
- everything needed for the complete and compliant performance of the work, including the Contractor's administration costs and profit and excluding the hourly-rate work on demand described in paragraph 3.3 of section 1 GS and priced in part B.

<u>For the period from 1 April 2014 to 31 March 2017</u>	<u>For the period from 1 April 2017 to 30 April 2019</u>
<u>(Type, price, quantity), first 3-year fixed term</u>	<u>(Type, price, quantity), 2-year optional term</u>
Monthly: \$ _____ (36)	Monthly: \$ _____ (24)
Semi-annual: \$ _____ (3)	Semi-annual: \$ _____ (2)
Annual: \$ _____ (3)	Annual: \$ _____ (2)
Five-year: \$ _____ * (1)	Five-year: N/A * (0)

* Five-year maintenance shall be carried out in the third year of the initial fixed term, on a date determined in collaboration with the Departmental Representative.

**W3380-13-S231 – ANNEX B - PRICING
GENERATOR SETS INSPECTION AND MAINTENANCE**

PART B - ON-DEMAND SERVICES (REPAIRS) (VARIABLE)

1- HOURLY RATES

Use the space provided below to quote the hourly rates for on-demand services.

The rates submitted shall include the provision of the tools and equipment required to perform the work.

- (1) For the period from 1 April 2014 to 31 March 2017 (term 1)
- (2) For the period from 1 April 2017 to 30 April 2019 (term 2)

A: Rates for work performed during regular hours (between 7:30 a.m. and 4:00 p.m., Monday through Friday)

B: Rates for work performed outside of regular hours (Monday through Saturday)

C: Rates for work performed Sundays and holidays.

Planned on-demand work (see Annex A, Section 1 GS (page 2 of 23), paragraph 3):

Hourly rate	QTY	A	QTY	B	QTY	C
Journeyman Electrical Generation Systems Technician	150	(1): \$ _____ / hr.	20	(1): \$ _____ / hr.	20	(1): \$ _____ / hr.
	100	(2): \$ _____ / hr.	15	(2): \$ _____ / hr.	15	(2): \$ _____ / hr.

Emergency on-demand work (see Annex A, Section 1 GS (page 2 of 23), paragraph 3):

Hourly rate	QTY	A	QTY	B	QTY	C
Journeyman Electrical Generation Systems Technician	70	(1): \$ _____ / hr.	10	(1): \$ _____ / hr.	10	(1): \$ _____ / hr.
	45	(2): \$ _____ / hr.	6	(2): \$ _____ / hr.	6	(2): \$ _____ / hr.

NOTES

1. The total amount of the bid is used for evaluation **only**, and only the amount shown in Part A1 is covered by this contract. The Department undertakes to pay the Part A1 amount only, subject to approval of the work and other conditions in the Specifications.
2. The Department is not committed to paying the Contractor the amounts for materials and labour indicated in Part B. However, the Department will pay the Contractor the amounts negotiated for each repair authorized by the Departmental Representative. The Contractor will be paid for work at an hourly rate and materials based on the general provisions of section 1 GS and will not be entitled to any other compensation for any difference between the hours negotiated for each repair and the hours actually worked. The Contractor will be paid only for materials authorized and used in performing the work and shall obtain prior approval from the Department's authorized representative before starting any work under parts B and C.

**W3380-13-S231 – ANNEX B - PRICING
GENERATOR SETS INSPECTION AND MAINTENANCE**

2- TRANSPORTATION PRICE

Transportation price – fixed price

Submit a price for return transportation.

The transportation price shall include fixed prices* to travel to the site and to return to the workshop. Costs shall represent return transportation.

FIXED PRICE	QTY	Term 1 (3 years)	QTY	Term 2 (2 option years)
Saint-Jean transportation (return)	15	\$_____ / transportation*	10	\$_____ / transportation*
Farnham transportation (return)	6	\$_____ / transportation*	4	\$_____ / transportation*

**** The fixed transportation cost shall include (but not be limited to) vehicle use cost, mileage, wear, fuel and all costs associated with vehicle and material movement.***

Transportation price – cost per employee

The transportation price – cost per employee represents the time required to travel to the DND site (return), to cover employee cost during transportation. Fuel, mileage and fixed cost are excluded.

The number indicated shall be applicable to each worker and multiplied by the hourly rate submitted in the hourly rate table in part B, paragraph 1.

Work site	Time requested
Saint-Jean Garrison	_____ hour(s)
CTSE Farnham	_____ hour(s)

**W3380-13-S231 – ANNEX B - PRICING
GENERATOR SETS INSPECTION AND MAINTENANCE**

3- MATERIALS AND PRODUCTS

Terms

Submit a markup percentage (%) to be applied to the purchase price paid by the Contractor to its supplier for the provision of materials and products (materials and products required in the fixed part (maintenance) are excluded) required for on-demand work.

The rate submitted shall cover the Contractor's administration costs and profit.

The Contractor shall take all necessary steps to purchase materials and products at the best possible price.

Upon request by the DND representative, the Contractor shall submit a copy of the bill showing the price paid by the Contractor to the supplier.

Markup percentage

_____ %

ANNEX C

GENERATORS INVENTORY

ST-JEAN GARRISON

Building / Room	Generator / Equipments
J.V. Allard (for green sector) /	
B-MS2-W348 *	1 Detroit Diesel diesel engine, 12V71, 2cycles
*	1 BBC alternator, 400KW, 347/600VAC
*	1 control panel Saticraft EGT 1000
*	1 diesel oil tank (150 gal. Imp)
*	2 acid batteries for engine start-up
*	2 transfer pumps
*	1 transfer box

J.V. Allard (for orange sector) /	
B-MS2-W348 *	1 Detroit Diesel diesel motor, 12V71, 2cycles
*	1 BBC alternator, 400KW, 347/600VAC
*	1 control panel Staticraft EGT 1000
*	1 diesel oil tank (150 gal. Imp)
*	2 acid batteries for engine start-up
*	2 transfer pumps
*	1 transfer box

J.V. Allard (for Bleu sector) /	
B-MS1-W3148 *	1 Detroit Diesel diesel engine, 12V71, 2cycles
*	1 BBC alternator, 400KW, 347/600VAC
*	1 control panel Saticraft EGT 1000
*	1 control panel for the diesel engine
*	1 diesel oil tank (150 gal. Imp)
*	2 acid batteries for engine start-up
*	1 transfer box

B150 (for hospital) / B-B-150 *	
*	1 Detroit Diesel diesel engine, 471, 2cycles
*	1 BBC alternator, 100KW, 347/600VAC
*	1 control panel for the diesel engine
*	1 diesel oil tank (250 gal. Imp)
*	2 acid batteries for engine start up
*	1 transfer box

Building / Room	Generator / Equipments
B149 / B-B-149 *	1 diesel engine, John Deere.
*	1 Kohler, 60KW, 120/240VAC alternator
*	1 (Asco Électrique) transfer panels
*	1 diesel fuel tank (4 000 litres)
*	1 acid battery for engine startup

ANNEX C

GENERATORS INVENTORY

St-Jean Garrison (suite)

Building / Room	Fire pump / Equipments
B168 (Pump House) / B-B-168	
** Annual maintenance only *	1 Cummins V-504-F1 engine
*	1 Tornatech control panel
*	1 200 litres diesel tank
*	1 transfer pump
*	4 acid batteries

Building / Room	Generator / Equipments
B-124 (Mobile Generator)	
** Annual maintenance only *	1 diesel engine (John Deere)
*	1 Kohler, 100Kw, 120/208VAC alternator
*	1 diesel fuel tank (2 000 litres)
*	1 acid battery for engine startup

Building / Room	Generator / Equipments
B-124 (Mobile Generator)	
** Annual maintenance only *	Manufacturer : Kohler 600 volts 3 phases
*	1 John Deere RMP 1800 diesel engine
*	1 Kohler, rotary 4 poles 60HZ 120/240VAC alternator
*	Décision Maker 3000 control panel
*	1 diesel fuel tank (449 litres)
*	1 acid battery for 12 volts (DC) engine startup

FARNHAM

Building / Room	Generator / Equipments
E-201 *	Manufacturer Kohler 190-600 volts 3 phases
*	1 John Deere RMP 1800 diesel engine
*	1 Kohler alternator, 4S13-type 4 poles rotatifs-347/600 volts 60Hz 192 amp
*	control panel: Décision Maker 3+ 16 light
*	Rating range 60Hz:100-160kW
*	1 diesel fuel tank (1 272 litres)
*	1 acid battery for 12 volts (DC) engine startup



**REQUEST FOR ELECTRICAL ISOLATION AND RE-ENERGIZATION
DEMANDE DE COUPURE À LA SOURCE ET RÉ-ALIMENTATION**

A. Building Name and Address - Nom et adresse de l'immeuble		Isolation/Re-Energization Request No. N° de la demande de coupure à la source et ré-alimentation	
Specific Location of Installation or Equipment to be Isolated/Re-Energization (indicate floor, wing, room no., cabinet no., etc.) Endroit précis de l'installation ou de l'appareillage devant être coupé à la source et ré-alimenté. (Indiquer l'étage, l'aile, le n° de la pièce, le n° du panneau, etc.)		Date and Time of Request - Date et heure de la demande Date Y-A M D-J Hour Heure HH:MM	
Description of Installation or Equipment to be Isolated/Re-Energization Description de l'installation ou de l'appareillage devant être coupé à la source et ré-alimenté.		Isolation to Start On Coupure à la source devant débuter le Date Y-A M D-J Hour Heure HH:MM	
		Isolation to End On Coupure à la source se termine le Date Y-A M D-J Hour Heure HH:MM	

Procedures for Isolation/Re-Energization - Procédures de coupure à la source et de ré-alimentation
(NOTE: When procedures involve more than one operation a Procedures for Isolation and Re-Energizing form must be completed and attached.)
(NOTA : Lorsqu'un procédé comporte plus d'une opération, vous devez remplir les formulaires « Procédures de coupure à la source » (PWGSC-TPGSC 12) et « Procédures de ré-alimentation » (PWGSC-TPSGC 12-1) et les annexer au présent formulaire.)

Voltage Tension ▶ When high voltage equipment is to be Isolated a Procedures for Isolation/Re-Energizing form must be completed and attached.
Pour la coupure à la source d'appareillages haute tension, les formulaires « Procédures de coupure à la source » (PWGSC-TPSGC 12) « et Procédures de ré-alimentation » (PWGSC-TPSGC 12-1) doivent être rempli et joint.

Update of Line Drawings Required Upon Completion
Nécessité de mettre à jour les schémas électriques une fois les travaux terminés ▶ Yes Oui No Non

Requested by - Demandé par Name of Person in Charge - Nom de la personne responsable	Signature	Date Y-A M D-J	Hour - Heure HH:MM
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B. Request Approved - Demande autorisée

Name of Guarantor - Nom du garant	Signature	Date Y-A M D-J	Hour - Heure HH:MM
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**C. Isolation Confirmed - TO BE COMPLETED PRIOR TO COMMENCEMENT OF WORK
Coupure à la source confirmée - À REMPLIR AVANT DE COMMENCER LES TRAVAUX**

Isolation has been tested for potential and its determined safe for workers to perform the work.
Le procédé de coupure à la source a été vérifié pour potentiel et les travaux peuvent être exécutés en sécurité.

Name of Person in Charge - Nom de la personne responsable	Signature	Date Y-A M D-J	Hour - Heure HH:MM
---	-----------	-------------------	-----------------------

**D. Completion of Requested Isolation Time and Completion of Work Confirmed
Achèvement de la période demandée pour la coupure à la source et confirmation de l'exécution des travaux**

Line Drawings Updated as Required
Les schémas électriques ont été mis à jour tel que demandé ▶ Yes Oui No Non

Name of Person in Charge - Nom de la personne responsable	Signature	Date Y-A M D-J	Hour - Heure HH:MM
---	-----------	-------------------	-----------------------

**E. Approval of Completion of Work and Confirmation that Equipment or Installation has been Re-energized
Approbation d'achèvement des travaux et confirmation de la remise sous tension de l'appareil ou de l'installation**

Name of Manager in Charge of Worksite or Supervisor Nom du gestionnaire responsable du lieu de travail ou du superviseur	Signature	Date Y-A M D-J	Hour - Heure HH:MM
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Valid for eight (8) hours only.
Ce permis est valable pendant huit (8) heures seulement.

CONFINED SPACE ENTRY PERMIT PERMIS D'ACCÈS AUX ESPACES CLOS

Permit no.
N° du permis

Issue date and time Date et heure d'émission	_: _	Expiry date and time Date et heure d'expiration	_: _
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<input type="checkbox"/> Contractor Entrepreneur	<input type="checkbox"/> PWGSC Personnel Personnel de TPSGC
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Location - Lieu	Dept. - Min.	Confined space no. N° de l'espace clos	Confined space class Catégorie d'espace clos
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Description of work to be completed - Description du travail à effectuer

Yes Oui	N/A S.O.	HAZARDS OF THE CONFINED SPACE RISQUES PRÉSENTÉS PAR L'ESPACE CLOS
<input type="checkbox"/>	<input type="checkbox"/>	Oxygen Hazard: < 19.5% or > 23.0% Manque d'oxygène : < 19.5% ou > 23.0%
<input type="checkbox"/>	<input type="checkbox"/>	Flammables: > 10% of LEL - Specify Produits inflammables : 10% de la limite explosive inférieure - Précisez
<input type="checkbox"/>	<input type="checkbox"/>	Toxic Chemicals: > TLV-TWA - Specify Produits chimiques toxiques : > valeur TLV-TWA - Précisez
<input type="checkbox"/>	<input type="checkbox"/>	Mechanical Hazards: - Specify Risques mécaniques : - Précisez
<input type="checkbox"/>	<input type="checkbox"/>	Electrical Hazards: - Specify Chocs électriques : - Précisez
<input type="checkbox"/>	<input type="checkbox"/>	Physical Hazards: noise; vibration, light, laser; x-ray; heat; cold; surfaces; engulfment - Specify Risques physiques : bruits; vibrations; lumière; laser; rayons X; chaleur; froid; surfaces; engouffrement - Précisez
<input type="checkbox"/>	<input type="checkbox"/>	Others: - Specify Autres : - Précisez

Equipment required for CS Entry - Équipement requis pour entrer dans l'espace clos

<input type="checkbox"/> Respiratory/Air purifying protection Dispositif de protection des voies respiratoires et de purification de l'air	<input type="checkbox"/> Lifelines and Safety harnesses Câble de sauvetage et harnais de sécurité	<input type="checkbox"/> Lockouts Mécanismes de verrouillage	<input type="checkbox"/> Hearing protection Protecteurs auditifs
<input type="checkbox"/> _____	<input type="checkbox"/> Tripod Trépied	<input type="checkbox"/> Lighting units Dispositifs d'éclairage	<input type="checkbox"/> Head protection Casque protecteur
<input type="checkbox"/> _____	<input type="checkbox"/> Personal lift Dispositif de levage personnel	<input type="checkbox"/> Ventilation Équipement d'aération	<input type="checkbox"/> Hand protection Gants
<input type="checkbox"/> _____	<input type="checkbox"/> Tool box Coffre à outils	<input type="checkbox"/> Secure area (post and flag) Zone protégée (affichage et signalisation)	<input type="checkbox"/> Eye protection Protecteurs oculaires
<input type="checkbox"/> _____	<input type="checkbox"/> Rescue equipment Équipement de secours	<input type="checkbox"/> Fire extinguishers Extincteurs d'incendie	<input type="checkbox"/> Face protection Visière
<input type="checkbox"/> _____	<input type="checkbox"/> Ground force circuit interrupters Disjoncteur de fuite à la terre et interrupteur de circuit de fuite	<input type="checkbox"/> _____	

Person in charge - Personne responsable Signature

Safety Watcher - Gardien Signature

Entrants - Personnes qui entrent dans l'espace clos

Local emergency/medical response teams - Équipes locales d'intervention médicale et d'urgence Telephone nos. - N°s de

() -

Authorization - Autorisation
The above information is complete and accurate. Information pertaining to hazards and equipment requirements has been extracted from the latest Hazard Assessment, dated _____

Tous les renseignements fournis ci-dessus sont complets et exacts. L'information relative aux risques et à l'équipement requis est fondée sur la dernière évaluation des risques e date du _____

Manager in Charge of Worksite or Supervisor Signature
Gestionnaire responsable du lieu de travail ou le superviseur



CONFINED SPACE ENTRY PERMIT PERMIS D'ACCÈS AUX ESPACES CLOS

Permit no.
N° du permis

Valid for eight (8) hours only.
Ce permis est valable pendant huit (8) heures seulement.

Issue date Date	Time - Heure _____:	Expiry date Date	Time - Heure _____:
Entry date Date d'entrée	▶	Time Heure	▶
Anticipated exit - Sortie de prévue Date	▶	Time Heure	▶

Location - Lieu	Dept. - Min.	Confined space no. N° de l'espace clos	Confined space class Catégorie d'espace clos
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Description of work to be completed - Description du travail à effectuer

Yes Oui	N/A S.O.	HAZARDS OF THE CONFINED SPACE RISQUES PRÉSENTÉS PAR L'ESPACE CLOS
<input type="checkbox"/>	<input type="checkbox"/>	Oxygen Hazard: < 19.5% or > 23.0% Manque d'oxygène : < 19.5% ou > 23.0%
<input type="checkbox"/>	<input type="checkbox"/>	Flammables: > 10% of LEL - Specify Produits inflammables : 10% de la limite explosive inférieure - Précisez
<input type="checkbox"/>	<input type="checkbox"/>	Toxic Chemicals: > TLV-TWA - Specify Produits chimiques toxiques : > valeur TLV-TWA - Précisez
<input type="checkbox"/>	<input type="checkbox"/>	Mechanical Hazards: - Specify Risques mécaniques : - Précisez
<input type="checkbox"/>	<input type="checkbox"/>	Electrical Hazards: - Specify Chocs électriques : - Précisez
<input type="checkbox"/>	<input type="checkbox"/>	Physical Hazards: noise; vibration, light, lazer; x-ray; heat; cold; surfaces; engulfment - Specify Risques physiques : bruits; vibrations; lumière; laser; rayons X; chaleur; froid; surfaces; engouffrement - Précisez
<input type="checkbox"/>	<input type="checkbox"/>	Others: - Specify Autres : - Précisez

Equipment required for CS Entry - Équipement requis pour entrer dans l'espace clos

<input type="checkbox"/> Respiratory/Air purifying protection Dispositif de protection des voies respiratoires et de purification de l'air	<input type="checkbox"/> Lifelines and Safety harnesses Câble de sauvetage et harnais de sécurité	<input type="checkbox"/> Lockouts Mécanismes de verrouillage
<input type="checkbox"/>	<input type="checkbox"/> Tripod Trépied	<input type="checkbox"/> Lighting units Dispositifs d'éclairage
<input type="checkbox"/>	<input type="checkbox"/> Personal lift Dispositif de levage personnel	<input type="checkbox"/> Ventilation Équipement d'aération
<input type="checkbox"/>	<input type="checkbox"/> Tool box Coffre à outils	<input type="checkbox"/> Secure area (post and flag) Zone protégée (affichage et signalisation)
<input type="checkbox"/>	<input type="checkbox"/> Rescue equipment Équipement de secours	<input type="checkbox"/> Fire extinguishers Extincteurs d'incendie
<input type="checkbox"/>	<input type="checkbox"/> Ground force circuit interrupters Disjoncteur de fuite à la terre et interrupteur de circuit de fuite	<input type="checkbox"/>
		<input type="checkbox"/> Hearing protection Protecteurs auditifs
		<input type="checkbox"/> Head protection Casque protecteur
		<input type="checkbox"/> Hand protection Gants
		<input type="checkbox"/> Eye protection Protecteurs oculaires
		<input type="checkbox"/> Face protection Visière

Person in charge - Personne responsable Signature

Safety Watcher - Gardien Signature

Entrants - Personnes qui entrent dans l'espace clos

Local emergency/medical response teams - Équipes locales d'intervention médicale et d'urgence Telephone nos. - N°s de téléphone

() - _____

Authorization - Autorisation

I certify that all of the above information is complete and accurate and that all participants have been briefed on the work to be completed.
Je certifie que tous les renseignements susmentionnés sont complets et exacts et que tous les participants ont reçu les instructions relatives au travail à effectuer.

Person in Charge - Personne responsable Signature

Contractor
Entrepreneur

PWGSC Personnel
Personnel de TPSGC

CONFINED SPACE ENTRY PERMIT - PERMIS D'ACCÈS À UN ESPACE CLOS

Yes Oui	N/A S.O.	CONFINED SPACE ENTRY CHECKLIST LISTE DE CONTRÔLE POUR EN ESPACE CLOS
<input type="checkbox"/>	<input type="checkbox"/>	All participants have valid certification for this Confined Space Entry. Participants formés pour entrer dans un espace clos.
<input type="checkbox"/>	<input type="checkbox"/>	All participants have been briefed on all potential hazards. Participants au courant des risques potentiels.
<input type="checkbox"/>	<input type="checkbox"/>	All departments have been informed of potential service interruption. Tous les ministères ont été informés de la possibilité d'une interruption de service.
<input type="checkbox"/>	<input type="checkbox"/>	All hazard sources have been isolated, blanked or blocked with locks and tags. Sources de danger isolées, obturées ou verrouillées et étiquetées.
<input type="checkbox"/>	<input type="checkbox"/>	All energy sources have been locked out and tagged. Sources d'alimentation verrouillées et étiquetées.
<input type="checkbox"/>	<input type="checkbox"/>	All potential ignition sources have been eliminated. Sources d'inflammation potentielles éliminées.
<input type="checkbox"/>	<input type="checkbox"/>	All tools and equipment have been checked and found to be in good repair. Outils et équipement vérifiés et jugés en bon état.
<input type="checkbox"/>	<input type="checkbox"/>	The opening for entry into and exit from the Confined Space is sufficient to allow safe passage of a person using protection equipment. L'ouverture prévue pour entrer dans l'espace clos ou pour en sortir est assez grande pour laisser passer une personne munie d'un équipement de protection.
<input type="checkbox"/>	<input type="checkbox"/>	Confined Space has been drained, washed and purged of all potential hazards. Espace clos vidé, lavé et ne présentant plus aucun danger potentiel.
<input type="checkbox"/>	<input type="checkbox"/>	Ventilation provides for a good fresh air supply. L'aération permet un bon approvisionnement en air frais.
<input type="checkbox"/>	<input type="checkbox"/>	All appropriate emergency equipment is readily available. (First Aid Kit, Extinguisher, etc.) Équipement d'urgence facilement accessible (trous de premiers soins, extincteurs, etc.)
<input type="checkbox"/>	<input type="checkbox"/>	All required atmospheric testing has been completed and recorded. Qualité de l'air évaluée et résultats enregistrés.
<input type="checkbox"/>	<input type="checkbox"/>	All additional permits have been acquired. (Hot Work, etc.) Permis additionnels (pour travail à chaud, par ex.) délivrés.
<input type="checkbox"/>	<input type="checkbox"/>	Area has been secured for entrants and public. Secteur surveillé et isolé.
<input type="checkbox"/>	<input type="checkbox"/>	The Emergency Response Team have been alerted to the CS Entry. Équipe des mesures d'urgence avisée d'une entrée dans un espace clos.
<input type="checkbox"/>	<input type="checkbox"/>	Safety Watcher has been briefed. Gardien mis au courant et posté.

Person in Charge - Personne responsable

Signature



CONFINED SPACE ENTRY PERMIT PERMIS D'ACCÈS AUX ESPACES CLOS

Permit no.
N° du permis

Valid for eight (8) hours only.
Ce permis est valable pendant huit (8) heures seulement.

Issue date Date	Time - Heure _____:	Expiry date Date	Time - Heure _____:
Entry date Date d'entrée	▶	Time Heure	▶
Anticipated exit - Sortie de prévue Date	▶	Time Heure	▶
Location - Lieu		Dept. - Min.	Confined space no. N° de l'espace clos
Confined space class Catégorie d'espace clo			
Description of work to be completed - Description du travail à effectuer			

Yes Oui	N/A S.O.	HAZARDS OF THE CONFINED SPACE RISQUES PRÉSENTÉS PAR L'ESPACE CLOS
<input type="checkbox"/>	<input type="checkbox"/>	Oxygen Hazard: < 19.5% or > 23.0% Manque d'oxygène : < 19.5% ou > 23.0%
<input type="checkbox"/>	<input type="checkbox"/>	Flammables: > 10% of LEL - Specify Produits inflammables : 10% de la limite explosive inférieure - Précisez
<input type="checkbox"/>	<input type="checkbox"/>	Toxic Chemicals: > TLV-TWA - Specify Produits chimiques toxiques : > valeur TLV-TWA - Précisez
<input type="checkbox"/>	<input type="checkbox"/>	Mechanical Hazards: - Specify Risques mécaniques : - Précisez
<input type="checkbox"/>	<input type="checkbox"/>	Electrical Hazards: - Specify Chocs électriques : - Précisez
<input type="checkbox"/>	<input type="checkbox"/>	Physical Hazards: noise; vibration, light, lazer; x-ray; heat; cold; surfaces; engulfment - Specify Risques physiques : bruits; vibrations; lumière; laser; rayons X; chaleur; froid; surfaces; engouffrement - Précisez
<input type="checkbox"/>	<input type="checkbox"/>	Others: - Specify Autres : - Précisez

Equipment required for CS Entry - Équipement requis pour entrer dans l'espace clos

<input type="checkbox"/> Respiratory/Air purifying protection Dispositif de protection des voies respiratoires et de purification de l'air	<input type="checkbox"/> Lifelines and Safety harnesses Câble de sauvetage et harnais de sécurité	<input type="checkbox"/> Lockouts Mécanismes de verrouillage	<input type="checkbox"/> Hearing protection Protecteurs auditifs
<input type="checkbox"/> _____	<input type="checkbox"/> Tripod Trépied	<input type="checkbox"/> Lighting units Dispositifs d'éclairage	<input type="checkbox"/> Head protection Casque protecteur
<input type="checkbox"/> _____	<input type="checkbox"/> Personal lift Dispositif de levage personnel	<input type="checkbox"/> Ventilation Équipement d'aération	<input type="checkbox"/> Hand protection Gants
<input type="checkbox"/> _____	<input type="checkbox"/> Tool box Coffre à outils	<input type="checkbox"/> Secure area (post and flag) Zone protégée (affichage et signalisation)	<input type="checkbox"/> Eye protection Protecteurs oculaires
<input type="checkbox"/> _____	<input type="checkbox"/> Rescue equipment Équipement de secours	<input type="checkbox"/> Fire extinguishers Extincteurs d'incendie	<input type="checkbox"/> Face protection Visière
<input type="checkbox"/> _____	<input type="checkbox"/> Ground force circuit interrupters Disjoncteur de fuite à la terre et interrupteur de circuit de fuite	<input type="checkbox"/> _____	

Person in charge - Personne responsable	Signature
Safety Watcher - Gardien	Signature
Entrants - Personnes qui entrent dans l'espace clos	

Local emergency/medical response teams - Équipes locales d'intervention médicale et d'urgence	Telephone nos. - N°s de () - []

Authorization - Autorisation

I certify that all of the above information is complete and accurate and that all participants have been briefed on the work to be completed.
Je certifie que tous les renseignements susmentionnés sont complets et exacts et que tous les participants ont reçu les instructions relatives au travail à effectuer.

Person in Charge - Personne responsable	Signature
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Contractor
Entrepreneur

PWGSC Personnel
Personnel de TPSGC

ATMOSPHERIC MONITORING - ÉVALUATION DE L'AIR

Test	Allowable limits Limites permises	Initial results Résultats préliminaires	Results - Résultats		Results - Résultats		Final results Résultats définitif
			AM PM	Matin Après-midi	AM PM	Matin Après-midi	
Oxygen Oxygène	> 19.5% < 23%						
Flammability Inflammation	10% LEL						
H ₂ S	10 ppm						
CO	25 ppm						
Temperature Température	°C						

Entry date Date d'entrée	▶	Time Heure	▶	__ : __
Exit date Date de sortie	▶	Time Heure	▶	__ : __
Area secured - Secteur surveillé Date	▶	Time Heure	▶	__ : __
Person in Charge - Personne responsable	Signature			

Atmospheric Monitoring conducted by - Évaluation de l'air menée par

Device - Appareil	Calibration date - Date d'étalonnage	Calibrated by - Étalonner par
Name - Nom	Title - Titre	
Signature	Telephone number - Numéro de téléphone () - -	

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NOTE: A hard copy, or machine readable version, of this permit must be maintained for a period of two (2) years after the date initializing the permit or for ten (10) years if any portion of the verification procedures were not complied with.

NOTA : Une copie à lire, ou une version lisible par machine, de ce permis doit être conservée pendant deux (2) ans après la date d'émission ou pendant dix (10) ans si les procédures de vérification n'ont pas été suivies.



**HOT WORK PERMIT
WORKSHIFT-DAILY PERMIT**

**PERMIS DE TRAVAIL À CHAUD
PERMIS QUOTIDIEN DE QUART DE TRAVAIL**

Date permit issued - Date d'établissement du permis	Time issued - Heure d'établissement
Date permit expires - Date d'expiration du permis	Time expired - Heure d'expiration

This permit is not to be transferred from one site to another or from one operation to another.

Ce permis ne doit pas être transféré à d'autres établissements ou opérations.

This permit does not extend beyond the working day on which it is issued, or beyond the work shift.

Ce permis est limité à la journée de travail ou au quart de travail pour lesquels il est établi.

Location of hot work - Lieu des travaux à chaud

I have received the supervisor briefing regarding hot work. I understand and agree to comply with all requirements. The supervisor shall be notified immediately of any changes affecting the operation authorized by this permit.

Le superviseur m'a donné l'information sur le travail à chaud. J'accepte de respecter toutes les exigences. Je m'engage à signaler aussitôt au superviseur tous les changements touchant le travail autorisé par ce permis.

Fire extinguisher
Extincteur d'incendie

▶ Yes
Oui No
Non

Ventilation equipment
Équipement d'aération

▶ Yes
Oui No
Non

Welding procedure required
Procédure de soudage requise

▶ Yes
Oui No
Non

Welding procedure attached
Procédure de soudage ci-jointes

▶ Yes
Oui No
Non

Person in charge - Responsable
Name

Signature

Date

NOTE:

All fire incidents are to be reported immediately by using one of the following methods:

1. Activating the nearest fire alarm station.
2. Calling the fire department (or 911 where applicable).
3. Notifying the immediate supervisor.

REMARQUE :

Il faut signaler sans tarder tous les incendies selon les modalités suivantes :

1. Déclencher le poste avertisseur d'incendie le plus proche.
2. Appeler le service de lutte contre les incendies (ou le 911 s'il y a lieu).
3. Prévenir le supérieur hiérarchique.

