FRAMEWORK PROGRAM FOR HOT WORK

Prepared by:	Port Services Department, Security
Approved by:	Vice-President, Operations
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Revision:	Version 2

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1 SCOPE

This framework program for hot work is meant to prevent injury, as well as loss of life and property, should a fire or explosion occur due to hot work. This program specifies the baseline requirements for all persons who manage, request, authorize, carry out, or supervise hot work.

2 OBJECTIVES

This program aims to provide a framework for safely doing any work that produces flames, sparks, smoke, or heat during maintenance, servicing, repair, construction, assembly/disassembly, installation, or adjustment on Québec Port Authority (QPA) property. It specifies preventive measures for controlling or eliminating hazards during hot work, as well as the requirements for issuing hot-work permits.

The QPA recognizes that a framework program is essential to keeping its employees, tenants, operators, contractors, and subcontractors safe while hot work is being done. Effective management of this type of work protects occupants and minimizes the possibility of fire. For this reason, all hot work should be considered high-risk, and should only be done as a last resort. This is why supervisors must encourage the use of alternative methods and techniques where possible. However if hot work cannot be avoided, workers must fully comply with this program and follow all applicable standards, requirements, and regulations.

This program applies to all hot work (including welding, grinding, cutting, brazing, and any other work that produces flames, sparks, smoke, or heat) done outside of hot-work areas by qualified QPA employees, tenants, operators, or contractors on QPA property, including their subcontractors, as part of operations or work on QPA property. It does not apply to work done on ships that are subject to the *Maritime Occupational Health and Safety Regulations*.

However, even in sectors that are not covered by this program, all hot work on QPA property must comply with its requirements. Tenants, operators, and contractors of these sectors must have hot-work procedures specific to their operations that include the requirements and preventive measures of this program at a minimum.

3 LEGISLATION AND STANDARDS

This framework program is based on the laws, regulations, and standards applicable to hot work, including:

Canada Labour Code **(RSC, 1985, c. L-2)**

Canada Occupational Health and Safety Regulations **(SOR/86-304)**

Safety in welding, cutting, and allied processes (CAN/CSA W117.2:19)

National Fire Code of Canada 2015

Standard for the Design and Installation of Oxygen-Fuel Gas Systems for Welding, Cutting, and Allied Processes (NFPA 51-2018)

Standard for Fire Prevention During Welding, Cutting, and Other Hot Work (NFPA 51B-2019)

Maritime Occupational Health and Safety Regulations **(SOR/2010-120)**

Act respecting occupational health and safety (RSQ, c. S-2.1) for certain tenants, operators, and contractors

Regulation respecting occupational health and safety (RSQ, c. S-2.1 - r. 13) for certain tenants, operators, and contractors

4 DEFINITIONS

PERMIT ISSUER	The designated person who authorizes hot work. This person has been trained according to the relevant guidelines in section 7. They are responsible for analyzing work situations and the risks inherent in hot work, as well as for approving and issuing hot-work permits.
HOT-WORK PERFORMER	A person who, by virtue of training, instruction, and experience, is familiar with the work to be done and is competent to assess the related hazards.
COMBUSTIBLE MATERIALS	Materials that can burn or be consumed by flame.
FLAMMABLE MATERIALS	Materials, gases, liquids, or vapours that ignite easily.
HOT-WORK PERMIT	Document authorizing hot work on QPA property. The permit may be that of the QPA or that of the operator or hot-work performer, provided that the latter meets the same standards.

FIRE WATCH	The person responsible for monitoring the hot work in the controlled area, ensuring that fire safety conditions are met in all exposed areas during hot work and for a certain amount of time after the work ends. The fire watch is trained according to the guidelines in section 7 and is also responsible for fire response.
HOT WORK	Any cutting, welding, brazing, grinding, or burning work that may produce flames, sparks, smoke, or heat that could cause fires or explosions due to the work's proximity to flammable or combustible materials.
HOT-WORK AREA	A specific work area that meets the framework program's requirements for doing hot work without a permit. This area is designed to prevent the risk of fires and explosions. It is constructed or protected in a way that prevents it from being destroyed by fire (for example: a maintenance workshop or outdoor area made of fireproof or fire-resistant materials), largely free of flammable and combustible materials, and suitably distanced from adjacent areas.
AREA REQUIRING A PERMIT	Any area other than a hot-work area.

5 ROLES AND RESPONSIBILITIES

5.1 Québec Port Authority

- Conducts triennial audits to ensure that its tenants, operators, and contractors and their personnel are complying with this program.
- For its internal work, ensures that its procedures are followed by personnel who are trained and qualified in accordance with the standards in section 7.

5.2 Tenants, operators, and subcontractors working on QPA property

- Ensure that their managers and their personnel enforce this program.
- Ensure that the contractors managed by their team members are trained and comply with this program.

- Support contractors in obtaining hot-work permits and in implementing the safety measures those permits require.
- Ensure that their personnel are properly trained to carry out hot work, and that permits are issued in compliance with this program.
- Conduct or commission audits every three (3) years and submit the reports to the QPA.
- Ensure that issues with applying this program are addressed, and that corrective and preventive measures are identified and implemented.

5.3 Tenants, operators, and subcontractors working on ships

- Ensure that hot work complies with the *Maritime Occupational Health and Safety Regulations*.

5.4 Permit issuers

- Take employer-provided training that meets the standards in section 7.
- Check that hot-work operations are safe.
- Ensure that personal protective equipment is available and used by the employees involved in the hot work.
- Identify flammable and combustible materials, as well as potential fire hazards, that are or may be present in the workplace.
- Ensure that the risks related to the presence of both flammable/combustible materials and ignition sources are minimized by:
    1. Considering alternatives to the hot work
    2. Moving the hot work to an area where there are no flammable/combustible materials
    3. If the hot work cannot be moved, moving the flammable/combustible materials at least 15 m away or sufficiently protecting them against ignition with suitable equipment
    4. Planning the hot work so that activities that could expose flammable and combustible materials do not begin while hot work is being done
    5. Not issuing the hot-work permit if none of the methods in points 2, 3, or 4 can be used
- Ensure that appropriate fire protection and extinguishing equipment is sufficiently close to the hot-work site.

- Ensure that the fire watch is present when required.
- Assess the hot-work site.
- Identify the preventive measures required to issue a hot-work permit and add requirements where necessary.
- Visually inspect all hot-work equipment before each use and report any defects.
- Remove defective equipment from service, identify it as such, and report it to their supervisors.
- Fill out and approve hot-work permits and give copies to the hot-work performers.
- Keep copies of the permits on file.
- Perform inspections while work is being done to ensure that the prevention measures are being followed and that no new hazards have been introduced.

5.5 Hot-work performers

- Take employer-provided training that meets the standards in section 7.
- Ensure that they are monitored by a trained fire watch when necessary.
- Prepare the location for hot work, secure the area, and bring in the equipment needed for the job.
- Ask the permit issuer to verify that the work area is safe, add preventive measures if necessary, and obtain the permit.
- Comply with permit conditions and immediately contact the permit issuer if a problem arises in the course of the work.
- Ensure that they understand and fully comply with the program and that they only use the necessary hot-work equipment for which they are trained, competent, and authorized.
- Ensure that they understand and follow all conditions on the hot-work permit.
- Ensure that they can sound the alarm if a fire starts.
- Visually inspect all hot-work equipment before each use and report any defects.
- Remove defective equipment from service, label it, and report it to their supervisors.
- Use equipment safely so as not to endanger people or property.
- Start hot work only after obtaining approval from a permit issuer.
- Stop hot work if unsafe conditions arise, and immediately notify their supervisors or the permit issuer so that the situation can be reassessed.

5.6 Contractors

- Understand the requirements of the hot-work program and ensure that all its steps, as well as those for issuing hot-work permits, are followed.
- Review the details of the project, including its scope and the dangers it involves, before starting hot work.
- Fill out or obtain hot-work permits for the location where the work will be done.
- Provide workers with the information they need to do hot work safely.
- Ensure that workers strictly follow this program and the conditions of the permit.
- Ensure that their employees are qualified for hot work, receive training that aligns with the standards in section 7, and comply with this program.
- Stop hot work if unsafe conditions arise, and immediately notify their supervisors or the permit issuer so that the situation can be reassessed.
- Report any problems arising from the application of this program to the project supervisor or permit issuer.

5.7 Fire watches

- Follow training that aligns with the standards in section 7 so that they can detect any risks of flammable/combustible materials igniting and extinguish the start of a fire.
- Only try to extinguish fires that are within the capacity of the available fire-extinguishing equipment.
- Continuously ensure that the safety conditions on the hot-work permit are being followed, without performing other tasks.
- Stop hot work if dangerous conditions arise.
- Perform their duties vigilantly and ensure that they can initiate emergency measures when necessary.
- Ensure that they have a means of communication in case of emergency.
- Have fire extinguishers suitable for the identified hazards within reach, know how to operate them, and check that they are in good condition before authorizing work to begin. When the hot work poses a sufficient risk level, a fire hose must be deployed and ready to use.
- Take all necessary steps to inform the appropriate responders if a fire begins, including triggering the emergency chain of communication by calling the QPA Harbour Master's Office at 418-648-3556.

- Immediately pull the fire alarm (if available) if a fire cannot be controlled and extinguished.
- Continuously monitor the hot-work location for one hour after the work has been completed, unless the permit holder has changed the length of the fire watch.
- Multiple fire watches may be required if not all flammable and combustible materials near the hot work can be monitored by a single person.
- Record the start and end times of their watch and sign their names on the permit.

6 FIRE SAFETY AND PREVENTION

6.1 Personal protective equipment (PPE)

- Employees doing hot work must wear the appropriate PPE and clothing, as required by the applicable laws, regulations, and standards and determined by a risk analysis.

6.2 Portable fire extinguishers

- Portable fire extinguishers must be chosen, installed, used, and maintained according to NFPA 10 – Standard for Portable Fire Extinguishers.

6.3 Hot-work areas

- Hot-work areas are specific, approved locations where hot work can be done without a permit.
- Hot-work areas must be fireproofed and designed to allow regular hot work. They must be safe for hot work; have no flammable, combustible, or hazardous materials in the vicinity; comply with current regulations; and meet the insurers' requirements.
- Hot-work areas must be marked so that workers can be informed.
- Before beginning work in a hot-work area, hot-work performers must make sure that:
    1. The area is fire-resistant
    2. Flammable and combustible materials have been relocated at least 15 m away from the hot-work area or a mitigation measure has been taken to isolate the materials from the hot-work area
    3. Portable fire extinguishers are available, easily accessible, and in good working order
    4. The ventilation system is working properly
    5. The equipment is in good working order

6.4 Areas requiring permits

Hot-work permits must be filled out and approved for all work in areas that require the permits specified in section 6.7.

6.5 Unauthorized areas

Hot work is prohibited:

- In buildings with compromised fire protection systems, unless additional precautions are taken by the permit issuer
- In the presence of flammable or explosive gases

6.6 Hot-work equipment

All equipment used for hot work must be in good condition and comply with applicable standards.

6.7 Hot-work permits

All hot work must undergo a risk analysis and receive a hot-work permit issued by a qualified issuer.

All hot work must comply with CAN/CSA W117.2:19 Safety in Welding, Cutting, and Allied Processes.

6.7.1 Alternatives to hot work

Before starting any hot work, it is necessary to consider all options for avoiding it, such as using cutting tools that do not generate sparks, using nuts or bolts instead of welding, or moving the work to a hot-work area.

6.7.2 Issuing hot-work permits

- Each hot-work permit must be for a specific task that will be done at a single location, and must be filled out systematically before any hot work is done anywhere but in a hot-work area.
- The hot-work permit must be issued and signed by a qualified hot-work permit issuer and completed on site. A sample permit is provided in Appendix 1.
- A model hot-work management process is provided in Appendix 2.
- A fire watch is required if hot work is to be done when:
    1. A combustible material, whether or not it is protected, is less than 15 m away from the room where the hot work is being done

2. A combustible material is more than 15 m away from the room where the work is being done, but is easily ignited by sparks or molten metal splash
3. There is combustible material on the floor, wall, or ceiling within 15 m of the room where the work is being done
4. There is combustible material on the other side of a partition, wall, floor, or ceiling in the area where the work is being done, and that material may burn, ignite, or catch fire due to conduction or radiant heat
5. Sparks may fall to lower levels that contain combustible materials

- Hot-work permits are dated and remain valid for the duration of the shift. If an extension is necessary, a new permit must be issued or an authorization to extend the duration of the hot work must be added directly to the permit and signed by the issuer.
- Permits are valid only when all precautions have been taken and when they bear all the required signatures. When a new permit is issued for the same work, the safety measures must be rechecked before work can begin.
- If working conditions change from those initially recorded when the permit was granted, the hot work must be halted until the initial conditions are re-established.
- Copies of the hot-work permit should be distributed as follows:
    1. Part 1 of the hot-work permit must be kept by the permit issuer.
    2. Part 2 must be kept at the place where the hot work is being done.
- **It is strictly forbidden to do hot work in a non-hot-work area without a hot-work permit.**

6.7.3 Compliance with checklist

Hot-work permit issuers must ensure that the checklist has been completed for the area where the hot work is being done, and that the area is compliant. Otherwise, no work can be done until the issues have been corrected.

6.7.4 Corrective measures

Any checklist points found to be non-compliant must immediately be corrected. It is strictly forbidden to issue a hot-work permit and/or do hot work in a non-compliant situation.

6.7.5 Continuous fire watch

- Hot work cannot begin until all the requirements of the hot-work permit have been met and the fire watch is on duty (when required according to the criteria in section 6.7.2).

- The fire watch must avoid borrowing the building's portable extinguishers, as they are only to be used as a last resort.
- If necessary, fireproof tarpaulins should be used when flammable and combustible materials cannot be moved.
- The fire watch must keep a continuous watch for one hour after the hot work ends to detect and extinguish smouldering fires.
- The issuer of the hot-work permit must decide whether an intermittent fire watch is required (see section 6.7.9).

6.7.6 Fire procedure

- If a fire breaks out while hot work is being done, the fire watch must take all necessary steps to inform the appropriate responders, including triggering the emergency chain of communication. They must do so without ever endangering themselves or others.
- **It is imperative that emergency services (911) and/or the QPA Harbour Master's Office (418-648-3556) be notified of the situation as quickly as possible.**
- Once the fire is under control, the supervisor in charge of the work must be notified as soon as possible. They will contact the issuer of the hot-work permit.

6.7.7 Stopping work and investigations

Every time an incident occurs while hot work is being done, the work must be stopped and the incident investigated. Subsequently, an investigation report must be prepared and a copy sent to the QPA. After reading the investigation report, the QPA may decide to re-audit the company to reconfirm compliance with the framework program. If a major incident occurs, the QPA is responsible for investigating the incident in collaboration with the tenant, operator, or contractor.

6.7.8 End of work – Continuous fire watch

A continuous fire watch may be required for one hour after the hot work ends, though the permit issuer may change the length of the watch based on the criticality of the work. The fire watch is responsible for this watch. The issuer of the hot-work permit must decide whether an intermittent fire watch is required after the continuous watch is over (see section 6.7.9).

6.7.9 Intermittent fire watch

If necessary, an intermittent fire watch must be held for four (4) hours after the continuous fire watch ends. The permit issuer may change the length of this watch if the nature or location of the work permits.

6.7.10 Flammable/combustible materials, flammable/explosive atmospheres

- All flammable/combustible materials within 15 m of the hot work must be removed.
- Where flammable/combustible materials cannot be removed, they must be covered with fireproof tarpaulins or protected by another suitable means. All openings and gaps in walls, floors, or ducts through which sparks, heat, and flames could travel must be protected with fire-retardant or non-combustible materials. All areas where sparks could fall to lower floors must be inspected for flammable and combustible materials. The hazardous area must be clearly marked and access must be restricted while the hot work is in progress. If flammable or combustible materials are present, they must be protected or removed from the area.
- The hot-work performer and/or the supervisor in charge of the work must ensure that no gas is being purged and no activities involving flammable gases or chemicals are being done in the hot-work area before the work begins.
- Any equipment that has contained hydrocarbons must be drained, cleaned as thoroughly as possible, and steam purged. The minimum steam purge time is determined by the removal of all traces of hydrocarbons. In other words, the steam purge is complete when an explosimeter reading inside the equipment shows a lower explosive limit (LEL) of 0%.
- If the line cannot be steam purged, cold cut it if necessary, drain and dry the equipment as much as possible to remove all traces of hydrocarbon, then purge with nitrogen or maintain nitrogen pressure and proceed with the work.
- It is prohibited to do hot work above a line connected to equipment that is pressurized, reacting, or full of flammable material.
- Hot work is prohibited in areas where flammable materials are being transferred or handled, and where flammable vapours may be present. The same applies to areas containing equipment or containers that have held flammable materials and could create an explosive atmosphere.
- The LEL for approval of a hot-work permit is zero percent (0%) at the time of testing. If the concentration exceeds zero percent (0%), the area must be cleaned, ventilated, and steam-treated again.
- Steam purging and ventilation must be stopped for five (5) minutes before an explosimeter reading is taken. If the reading shows explosive vapours, a new reading cannot be requested for another fifteen (15) minutes. A reading must also be taken outside of the equipment to ensure that no gas pockets are present.

- The explosimeter reading should be taken just before the work begins and should cover a radius of 11 m around the work area. It should also include manholes, low points, ruts, and drain inlets.
- Anyone doing hot work must continuously wear an explosimeter.
- The permit issuer must inspect the area and take explosimeter readings every four (4) hours to ensure that the work conditions remain safe.

6.7.11 Confined spaces

- Hot work in confined spaces is strictly forbidden without prior risk analysis.
- During hot work in confined spaces, the concentration of oxygen, gases, and flammable vapours must comply with the applicable legislation. If any flammable atmospheric hazards are identified during the initial analysis, the confined space must be cleaned or purged, ventilated, and reanalyzed before confined space entry can be authorized. As the gases used for purging are extremely hazardous, confined space entry must not be authorized until the results of the air quality analysis fall within the acceptable limits. Additionally, a confined-space entry permit must be issued.

7 TRAINING

Applying this procedure requires a certain amount of knowledge about fire protection, fire chemistry, reading chemical safety data sheets, and protection and safety methods to prevent fires.

Hot-work permit issuers, hot-work performers, welding team leaders, and welding supervisors must have received training that is appropriate to their responsibilities and compliant with CAN/CSA W117.2:19 Safety in Welding, Cutting, and Allied Processes. They must also be able to identify situations that could lead to fires. Personnel doing hot work in confined spaces must also be trained in accordance with CSA Z1006:16 Management of Work in Confined Spaces.

Course outlines and/or training content must be standardized so that each participant receives the same information, and a record of each training session must be kept.

8 TRIENNIAL AUDIT OF HOT WORK

Tenants, operators, and contractors must audit their hot-work procedures and facilities every three (3) years to do hot work on QPA property. The report of this triennial audit must be sent to the QPA as proof of compliance with the applicable laws and regulations.

9 PROGRAM EVALUATION

The framework program for hot work must be reviewed annually as part of a continuous improvement process.

10 FILES AND ARCHIVING

- All hot-work permits must be kept for three (3) years.
- Incident investigation reports must be kept for ten (10) years.
- Certificates and proof of training must be kept in the employees' files and a renewal procedure must be established.

11 APPROVAL DATE:

Name and title of approver: Pascal Raby, Vice-President, Operations

Effective date: May 15, 2022

Revision date: February 28, 2022

› Appendix 1

MODEL HOT-WORK PERMIT

FRAMEWORK PROGRAM FOR HOT WORK

PORT QUÉBEC	Système de gestion Santé et Sécurité	Cote du document: 621-4403-FORM-APQ
31-01-2020	PERMIS DE TRAVAIL À CHAUD	Bon de travail : _____

ARRÊT !

ÉVITER LE TRAVAIL À CHAUD EN AYANT RECOURS À UNE AUTRE SOLUTION ALTERNATIVE SI POSSIBLE

Le permis doit être délivré avant d'entreprendre tout travail mettant en jeu des flammes nues ou générant de la chaleur et des étincelles. Ce travail comprend entre autres le découpage, le meulage, le brasage tendre et le soudage. Pour information consulter la procédure 621-4401-PROC-APQ.

INSTRUCTIONS

Le responsable de l'émission du permis :

A. Vérifier la conformité des précautions énumérées à droite

B. Remplir le permis et l'afficher sur le lieu de travail

C. À la fin des travaux, remettre le permis au Chef des opérations, Entretien ou au responsable des opérations (chargé de projet aux infrastructures)

Travail à chaud exécuté par :

☐ APQ ☐ Entrepreneur

Date : _____ Heure : _____

Lieu des travaux : _____

Nature du travail : _____

Nom de l'exécutant 1 Nom de l'exécutant 2

_____ _____

Nom du surveillant : _____

Travaux terminés : _____

TRAVAUX RISQUES ÉLEVÉS

☐ Zones à risque (notamment) :
- Quai 50/51, 30 mètres d'un navire, d'entreposage/manipulation de grains, d'engrais et d'explosifs
- Sur un bateau et en espace clos

☐ Supervision des gaz en continu par un surveillant 5 min avant jusqu'à la fin des travaux

☐ Autorisation du responsable de l'installation (opérateur)

Travail en espace clos

☐ Obtenir l'autorisation du directeur SST

☐ Suivre les indications spécifiques aux équipements fermés dans la fiche type des travaux à chaud en espace clos

LEL 10%	O2	CO 35 ppm	H2S 10 ppm

PRÉCAUTIONS À PRENDRE

☐ Les lances et les extincteurs portatifs sont en service et en état de marche

☐ Le matériel de travail à chaud est en bon état (inspection visuelle)

Précaution dans un rayon de 15 mètres (50 pieds)

☐ Les liquides inflammables, la poussière et les dépôts huileux sont enlevés

☐ La zone de travail est exempte de substances explosives ou de vapeur inflammable.

☐ Les planchers combustibles sont balayés, mouillés, couverts de sable humide ou de plaques résistantes au feu

☐ Toutes ouvertures dans les planchers ou les murs sont bouchées

☐ Toute autre matière combustible est enlevée dans la mesure du possible. Sinon, des bâches résistantes au feu ou des écrans de protection métalliques sont installés

☐ Les équipements qui peuvent transporter les étincelles jusqu'à des articles combustibles éloignés, sont protégés ou arrêtés

Travail sur les murs, les plafonds ou les toits

☐ La construction est incombustible et ne présente ni revêtement, ni isolant combustibles

☐ Les matières combustibles de l'autre côté des murs, sur les plafonds et sur les toits sont éloignées

Surveillance incendie – Contrôle de la zone

☐ Au besoin, un surveillant formé sera présent pendant le travail et 1 heure par la suite y compris durant les pauses

☐ Le surveillant dispose d'extincteurs portatifs appropriés

☐ La présence d'un surveillant incendie peut être nécessaire dans l'aire supérieure et l'aire inférieure avoisinantes

☐ Après 1 heure de surveillance continue, la zone de travail sera contrôlée périodiquement durant encore

- ☐1 heure -- Signature lorsque fait : _____
- ☐2 heures -- Signature lorsque fait : _____
- ☐3 heures -- Signature lorsque fait : _____
- ☐4 heures -- Signature lorsque fait : _____

☐ Autres précautions :

FRAMEWORK PROGRAM FOR HOT WORK

ATTENTION !

TRAVAIL À CHAUD EN COURS

EN CAS D'URGENCE
APPELEZ : CAPITAINERIE AU : 418 648-3556

Contact opérateur

Émetteur de permis :

J'atteste que les lieux de travail ont été examinés et que les précautions cochées sur la liste de contrôle sont prises pour prévenir les incendies.

Nom de l'émetteur du permis : _____

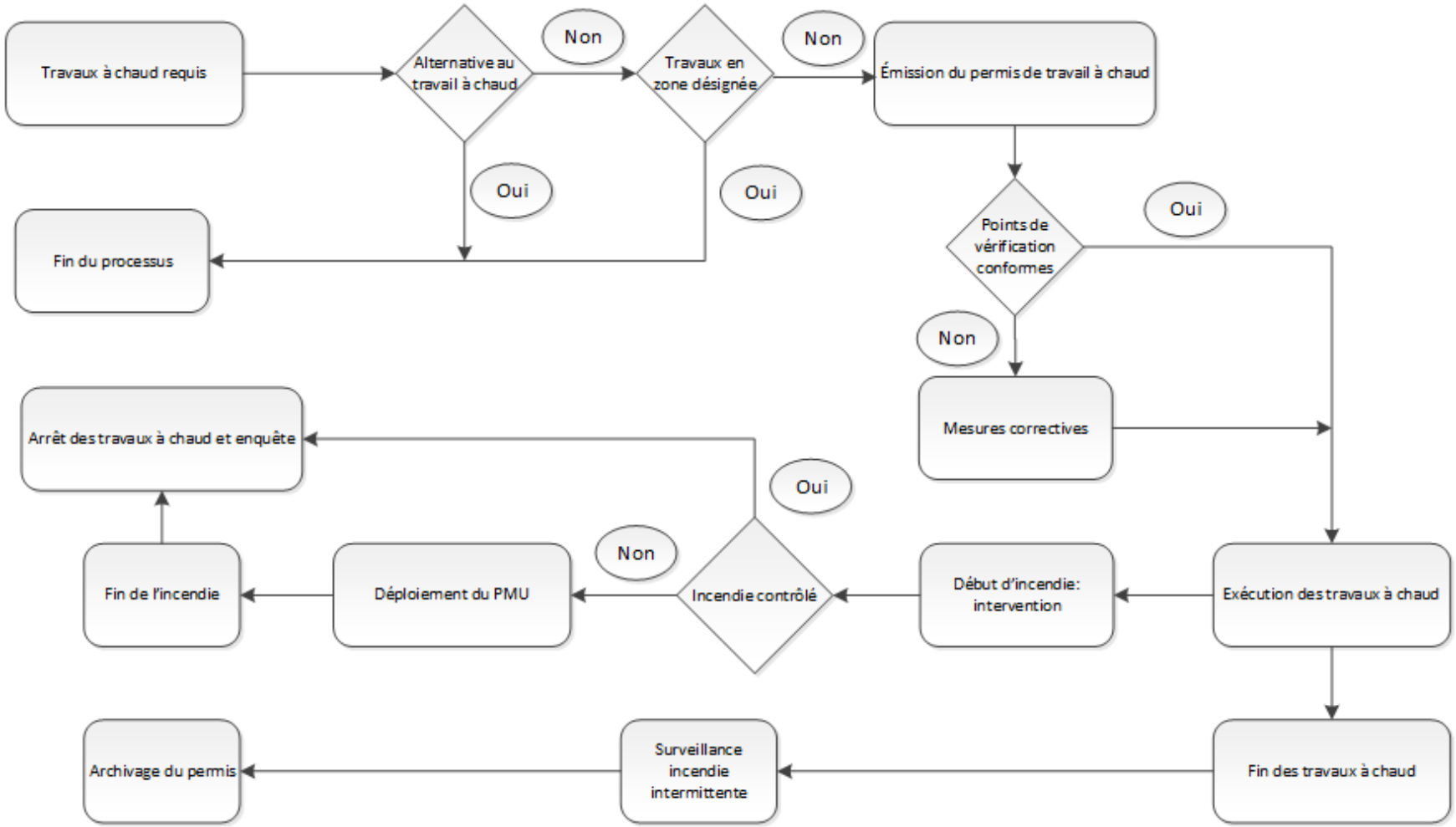
Signature de l'émetteur de permis : _____

Numéro de téléphone de l'émetteur de permis : _____

› Appendix 2

MODEL HOT-WORK MANAGEMENT PROCESS

Processus de gestion des travaux à chaud



› Appendix 3

MODEL AUDIT GRID

PORT QUÉBEC

Grille d'audit pour la certification des travaux à chaud exécutés par les locataires, opérateurs et entrepreneurs

Nom opérateur -entrepreneur: _____

Adresse: _____

Personne participant à l'audit: _____

Date: _____

C = conforme
N-C = non-conforme
S.O. = sans objet (N/A)
N-É = non-évalue

N°	Élément à vérifier	Référence	Extrait de la norme / procédure / règlement	C	N-C	S.O.	N-É	Commentaires
1	**Procédure de travail à chaud**	Programme-cadre travaux à chaud	Personnel formé pour le travail à chaud					
			Programme de formation conforme aux normes					
			Surveillant d'incendie planifié					
			Équipements de protection individuelle disponibles					
			Extincteurs portatifs					
			Zones de travail : analyse de risques CAN/CSA Z1002)					
			Permis de travail à chaud : procédure d'émission					
			Permis de travail à chaud : conformité					
			Entretien des appareils : programme et qualifications					
			Détenteur d'un certificat de l'APQ					
2	**Soudage et coupage à l'arc**	CAN/CSA W117.2-F19 (2019) Règles de sécurité en soudage, coupage et procédés connexes	Dispositifs de commande à distance					
			Câbles de soudage bonne condition					
			Mise à la terre					
			Branchement de plusieurs appareils de soudage					
			Fuites eau, gaz combustible					
			Entretien des appareils de soudage					

PORT QUÉBEC

Grille d'audit pour la certification des travaux à chaud exécutés par les locataires, opérateurs et entrepreneurs

Nom opérateur -entrepreneur: _____

Adresse: _____

Personne participant à l'audit: _____

Date: _____

C = conforme
N-C = non-conforme
S.O. = sans objet (N/A)
N-É = non-évalue

N°	Élément à vérifier	Référence	Extrait de la norme / procédure / règlement	C	N-C	S.O.	N-É	Commentaires
3	**Soudage par résistance**	CAN/CSA W117.2-F19 (2019) Règles de sécurité en soudage, coupage et procédés connexes	Bijoux, verre de contact					
			Dispositifs de verrouillage					
			Protection contre les étincelles					
			Boutons d'arrêt d'urgence					
			Mise à la terre de l'appareil de soudage, anti-statique					
			Ventilation					
4	**Soudage et coupage au gaz et autres procédés connexes**	CAN/CSA W117.2-F19 (2019) Règles de sécurité en soudage, coupage et procédés connexes	Étiquetage des bouteilles d'oxygène et de gaz combustibles					
			Étanchéité des raccords, robinets et joints					
			Purge des tuyaux de gaz (1 fois/jour, remplacement de bouteille)					
			Fermeture des robinets (pas en utilisation)					
			Tuyaux oxygène: vert, combustibles: rouge					
			Dispositifs de sécurité (antiretour de flamme et de gaz)					
			Bouteilles: sans corrosion et dommages					
			Bouteilles: munies de robinet et détendeur					

PORT QUÉBEC

Grille d'audit pour la certification des travaux à chaud exécutés par les locataires, opérateurs et entrepreneurs

Nom opérateur -entrepreneur: _____

Adresse: _____

Personne participant à l'audit: _____

Date: _____

C = conforme
N-C = non-conforme
S.O. = sans objet (N/A)
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N°	Élément à vérifier	Référence	Extrait de la norme / procédure / règlement	C	N-C	S.O.	N-É	Commentaires
4	**Soudage et coupage au gaz et autres procédés connexes**	CAN/CSA W117.2-F19 (2019) Règles de sécurité en soudage, coupage et procédés connexes	Bouteilles: entreposage: arrimer en position debout, ne pas entreposer dans un lieu fermé non ventilé					
			Bouteilles de gaz ou oxygène: séparées de tout liquide inflammable ou combustible					
			Panneaux INTERDICTION DE FUMER dans les aires et locaux où des gaz inflammables et gaz oxydants sont entreposés					
			Manipulation des bouteilles (robinet fermé, chapeau, utilisation d'un chariot approprié, arrimé en position debout)					
			Aucun objet posé sur le dessus de la bouteille en service					
			Bouteilles de gaz placées loin des endroits de travaux à chaud, étincelles, flammes. Sinon, écrans résistants au feu					
			Procédure en cas d'urgence (ex.: incendie) concernant les bouteilles de gaz (fuite autour de la tige du robinet): évacuation, intervention					

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5	**Protection du personnel**	CAN/CSA W117.2-F19 (2019) Règles de sécurité en soudage, coupage et procédés connexes	Lieux de travail en ordre et bien entretenus					
			Affichage des équipements de protection requis					
			EPI oculaire et faciale conforme à la CSA Z94,3					
			Port d'un masque propre à serre-tête ou tenir un masque doté d'un verre filtrant approprié					
			Ne pas porter de lentilles cornéennes					
			Rideau filtrant situé à au moins 1 mètre					
			Vêtements contre les rayonnements, l'inflammation, chocs électriques, étincelles					
			Gants à manchettes ignifuges ou ignifugés (cuir ou matière fibreuse)					
			Tablier, jambière					
			Manches en cuir et cape pour travaux de soudage au plafond, bouchons d'oreilles résistants au feu					
			Marquage des pièces soudées avec la mention CHAUD ou mettre les pièces hors d'atteinte					
			Protection respiratoire					
			Protection de l'ouïe si bruit supérieur à 85 dBA					
			Protection des pieds (écusson vert et Ω)					

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N°	Élément à vérifier	Référence	Extrait de la norme / procédure / règlement	C	N-C	S.O.	N-É	Commentaires
6	**Zones désignées**	CAN/CSA W117.2-F19 (2019) Règles de sécurité en soudage, coupage et procédés connexes	Extincteurs portatifs de type approprié présents dans la zone (cote: 40-B au 30 pi, 80-B au 50 pi) et accessibles					
			Système de gicleurs incendie fonctionnel					
			Présence de hotte de ventilation fonctionnelle					
			Air aspiré évacué à l'extérieur ou recyclé après passage dans un épurateur d'air					
			Lignes directrices de ventilation conformes (tableau 5)					
			LIE inférieures à 10 %					
			Entretien et calibration des détecteurs de vapeurs inflammables selon les recommandations du fabricant					
			Les travailleurs sont formés quant à la manipulation d'extincteurs portatifs.					
			Affiche indiquant la présence d'extincteur					

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N°	Élément à vérifier	Référence	Extrait de la norme / procédure / règlement	C	N-C	S.O.	N-É	Commentaires
6	**Zones désignées**	CAN/CSA W117.2-F19 (2019) Règles de sécurité en soudage, coupage et procédés connexes	Entretien annuel et inspection mensuelle des extincteurs					
			Zone résistant au feu					
			Inspection annuelle de la zone désignée					
			Affiche indiquant ZONE DE TRAVAUX À CHAUD					
			Équipements en bonne condition					
			Un plan de sécurité incendie et un plan d'évacuation ont été établis.					
			Matières inflammables entreposées selon NFPA 30					
			Poste de soudage à l'arc électrique					
			Poste d'oxycoupage					