

## Refrigeration Plant Safety Policy

Approved By:  
Approval Date:  
Effective Date:  
Revision Date:

### Policy Statement

This Policy shall establish a safe operating environment and standards for the Township's refrigeration plants which adheres to and complies with the Operating Engineers Regulation (O.Reg.219/01) under the Technical Standards and Safety Act (TSSA), 2000.

### Definitions:

**"Chief Operator"**- means an operator who at all times has charge of and responsibility for the safe management, operation and maintenance of a compressor plant or a refrigeration plant, this role is filled by the Manager of Recreation Facilities;

**"Competent Person"**- an individual who

- a) is qualified because of knowledge, training and experience to organize the work and its performance;
- b) is familiar with this Act and the regulations that apply to the work;
- c) has knowledge of any potential or actual danger to health and safety in the workplace;

**"Guarded"**- in relation to a fail-safe device, means the controls and safety devices that safely limit the operation of the equipment that is being guarded to preset parameters, and that will cause an audible or visual alarm, or both, to the operator of the equipment, as the case requires;

**"Maintenance"**- means the inspection, testing, service or repair of a unit, equipment, plant or installation to ensure that it is safe and that it meets the requirements of its design and this Regulation, and "maintain" has a corresponding meaning;

**"Operator"**- means a holder of a subsisting certificate of qualification as an operator;

**“Qualifying Experience”**- means the training and practical operating experience obtained during regular work periods in Canada or training and may include the time spent in performing mechanical maintenance work on registered plant equipment, as long as such maintenance time does not exceed one third of the required practical qualifying time;

**“Refrigeration Plant”**- means an installation comprised of one or more refrigeration compressors, prime movers, equipment, pressure vessels and any associated piping;

**“Supervisor”**- means a person who has charge of a workplace or authority over a worker;

**“Training”**- means a formal and consistent process that is recorded and that includes technical guidance given to plant employees engaged in the operation, maintenance and service of a plant;

**“Unattended”**- in relation to a guarded plant or guarded installation, means that the plant or installation may be operated,

- a) without the appointment of a chief operator, and
- b) without an operator on shift duty providing supervision;

**“User”**- includes the corporation in control of a plant as owner, lessee or otherwise, but does not include the operators who operate, control or maintain the plant;

### **Purpose:**

To establish standards and procedures for:

- Maintaining the safety and maintenance of the Township’s refrigeration plants within the Warsaw Community Centre and the Douro Community Centre.
- Ensuring compliance with any regulations or laws relating to the operations of refrigeration plants within the Township.
- Formalizing operator training so that operators can become competent individuals responsible for the operations of the refrigeration plant.
- Creating and Maintaining Logbooks that document day to day operations within the refrigeration plant.
- Establishing standards for equipment inspections when facilities are open to the public and when closed to the public.

**Application:**

This policy applies to all Township employees who are responsible for managing, operating, or maintaining any unattended refrigeration plant within the Township.

**Refrigeration Plant Administration:**

TSSA Certification for unattended refrigeration plants owned by the Township must be placed outside the entrance of the plant room. In addition to this, refrigeration plant operators must provide the Township with current training certificates. Secondary copies of certificates for the plant and operators must be kept in a secure location outside of the refrigeration plant room as well. In addition to being physically kept outside of the refrigeration plant these certificates will be retained by the Township digitally and will be updated when the employee or refrigeration plant undergoes recertification.

All emergency plans and personal protective equipment are to be stored outside of the refrigeration plant in case of an emergency event that would render the refrigeration plant unsafe to enter.

**Operator Training:**

Operators employed by the Township must have certain qualifications that will ensure the safety of themselves and the public during daily operations. This will include qualifying experience and professional qualifications obtained through the ORFA Basic Refrigeration Course. Experience and qualification are critical to personal and public safety, operators currently employed by the Township will be offered time for refresher training when necessary and be reimbursed for their training to ensure safety for themselves and the public.

In addition to these personal qualifications, the Township will develop workplace specific training plans for the Douro Community Centre and the Warsaw Community Centre. These training plans will make trainees aware of all-important information and shall include the following:

- Making the Trainee aware of the associated hazards in the plant room which may include but not limited to, emergency exits, electrical shock hazards, equipment starting without warning, slip hazards, levels of noxious gasses, excessive noise levels, required and limits of personal protective equipment, MSDS, ventilation and air quality issues, and fire or explosive dangers within the plant.
- Actively monitoring and reviewing all acts, regulations and general legislation that control ice facility plant room operations.
- Able to identify all primary parts of the refrigeration systems and what basic function they serve; able to start, stop and test all refrigeration equipment.

- Able to accurately complete logbook entries.
- Able to recognize worker and public safety hazards and be prepared to initiate a general facility evacuation and worker emergency rescue plan.
- Able to recognize that untrained staff shall not be permitted to enter refrigeration plant rooms without proper supervision.

Upon completion, the trainee should be competent to safely enter the refrigeration plant room and conduct an inspection of the equipment and make entries in the logbook documenting their observations from the inspection. This workplace specific training does not grant authority to the trainee to carry out adjustments, repairs, or conduct maintenance without other qualifications necessary to conduct this type of work.

Emergency plans and procedures should be reviewed by Township operators and be practiced at least once annually. This includes fire and bomb threat procedures, the ammonia leak procedure, and the loss of power for over 20 minutes procedure. Conducting these procedures in training exercises will allow operators to become familiar with procedures on a practical level and ensure that operators are competent to carry out these procedures in an emergency situation.

**Logbook:**

Under Ontario Regulation 219/01 there is a requirement for a logbook in either physical or electronic form kept within the refrigeration plant for the user of the plant. This log is required to be bound where pages cannot be removed, have consecutive numbering of pages, and be large enough to fit all entries which are required. Logbooks are critical in documenting all happenings during operator shifts and prove that internal standards are being followed in case of investigation or legal proceedings resulting from accidents or incidents relating to the refrigeration plant.

Required entries in the logbook include:

- The date, shift start time and end time, the names of all plant operating personnel on shift during their periods of duty.
- Instructions for the shift operation or for individual staff, with the name of the individual who gave the instruction.
- Any changes to normal operating procedure, and the time of the change.
- Any abnormal conditions overserved in the plant and the time they were observed.
- The starting and stopping times of primary equipment not being recorded in any other log.

- Documentation of any repairs or maintenance, including any fail-safe systems, protective device, or any other part within the plant. Documentation must also include the times the repair or maintenance took place, if they were completed, and who attended the repair or maintenance.
- Any work performed by plant operating personnel outside the plant, the time spent doing the work, and who attended the work.
- The entry of any unauthorized person to the plant, together with the purpose of the entry, and the time of entry and leaving.
- Primary shift functions, including the times of at least the following functions:
  - Boiler blow down
  - Water column blow down
  - Controls tests
  - Safety valve tests
  - Sootblower operation
  - Water sampling and chemical treatment

All entries made within the logbook shall be done with a pen. The operator will read and sign the log at least once each business day. Corrections to the logbook shall not be erased, instead mistakes will be crossed out, circled, and initialed followed by the correction. No person is to damage, deface, destroy or, without permission from the Manger of Recreation Facilities or the CAO, remove the logbook from the plant. Logbooks shall be stored in a safe place within the refrigeration plant and shall be kept for 5 years after the last entry in the log.

If necessary a supplementary logbook can be used if notes/observations to be filled out do not fit within the parameters of the primary logbook. This supplementary logbook can be used to provide a more detailed record if there were any incidents, repairs, or maintenance operations that occurred on shift. Operators must make note of the supplementary log entry within the primary logbook entry. Entries in the supplementary log must also have their date and time of occurrence noted so entries between logbooks can be matched. Supplementary logbooks shall also be kept for 5 years after last entry.

**Equipment Inspection:**

Regulations regarding unattended plants require that multiple visual inspections must take place to ensure that the plant is functioning safely. All visual inspections of the plant shall be noted in the plant's logbook with the operator filling out all applicable sections in the log. If there are no significant changes to standard operating procedures during the shift, the operator should inspect the plant at least 3 times for every 8 hours. If there are any incidents, accidents, adjustments, repairs or maintenance to plant equipment then these must be

noted in the logbook and inspections should then take place once every hour until the operator deems the plant to be safe.

Along with making log entries operators should be inspecting equipment and the plant room environment. Inspections should include but are not limited to:

- A review of air quality and temperature in the plant room;
- All equipment gauges for temperature and pressure fluctuations;
- All equipment for fluid and noxious gas leaks;
- All equipment for excessive noise or an increase in noise levels;
- A dedicated approach to housekeeping, fire protection, and overall safety of the plant room.

In the case of any equipment not meeting inspection standards, the faulty equipment must be replaced or repaired within a safe amount of time as determined by a competent operator. If a replacement piece of equipment can not be found and installed within a safe amount of time as determined by the competent operator, the refrigeration plant must be shut down and deemed safe from further failure. If any parts, equipment, or refrigerant are replaced, substituted, or added to the refrigeration plant they must comply with CSA B52:18 standards that govern the machinery standards of mechanical refrigeration plants.

Any variation from normal operating procedures should be reported to the Manager of Recreation Facilities. In the case of accidents or a catastrophic equipment failure resulting in a chemical leak contact the necessary emergency services immediately before contacting the manager for recreation facilities.

**Role of the Refrigeration Contractor:**

The Refrigeration Contractor have no responsibility to the Township to inform of regulations and legislation governing the safe use of refrigeration plants. All equipment within the refrigeration plant fall under the Township's responsibility to maintain them in a safe condition. Contractors are expected however to provide guidance and advice to the owner in regards to safe and maintained refrigeration plant operations. Township/service contractor relations should have common goals of plant safety, and maximizing the life-cycle of refrigeration equipment.

The Township will develop clear documentation outlining what work is expected of the contractor when service visits are required. Documentation like this will allow the Township to keep track of what work has been conducted in the refrigeration plant previously and ensures that there are no gaps in equipment maintenance which can lead to failure of equipment.

**References & Related Policies:**

[Occupational Health and Safety Act, R.S.O. 1990, c. O.1](#)

Canadian Standards Association: B52:18, Mechanical Refrigeration Code.

[Technical Standards and Safety Act, 2000, S.O. 2000, c. 16](#)

[O.Reg.219/01: Operating Engineers](#)

[2.4: Continuing Education and Training Policy, Within the Human Resources Policy Manual](#)

[R-12: Douro Arena Emergency Plan](#)

[R-13: Warsaw Arena Emergency Plan](#)

[R-18: Ammonia Leak Policy](#)

[R-22: Emergency Procedure for dealing with a power failure greater than 20 minutes in duration or inclement weather for the Douro Community Centre](#)

[R-23: Emergency Procedure for dealing with a power failure greater than 20 minutes in duration or inclement weather for the Warsaw Community Centre](#)

[R-26: Adding Oil to Ammonia Compressors Policy](#)

[R-27: Draining/Purging Oil from the Ammonia Chiller Policy](#)

**Appendices:**

- a) Refrigeration plant logbook example page
- b) Douro Community Centre workplace specific training plan
- c) Warsaw Community Centre workplace specific training plan

**Consequences of Non-Compliance:**

It is important that all employees comply with the appropriate procedures and standards as set out by the Township. Failure to comply with this policy may result in disciplinary actions as per the Corrective Action Policy in the Human Resources Policy Manual.

Additionally, The Township and individuals employed by the Township may be issued fines if the relevant legislation is knowingly contravened under the Technical Standards and Safety Act and the Occupational Health and Safety Act.

**Review Cycle:** This policy will be reviewed on a quadrennial basis or when relevant legislation or regulations are changed.