

Maintenance and operation of aging refrigeration plants requires that plant owners continue to be diligent in their obligations under the **Operating Engineer Regulation (OER)**. A healthy working relationship between plant owners and a recognized refrigeration plant maintenance contractor in an unattended plant room is a legal obligation as set out in the OER; however, it should not be one of blind faith. **Plant owners must develop and oversee a maintenance plan that meets the set obligations of the OER – this is NOT the responsibility of the refrigeration contractor.**

SUGGESTED GUIDELINES FOR REFRIGERATION PLANT MAINTENANCE

In 2003, the ORFA released a document entitled “**Suggested Guidelines for Refrigeration Plant Maintenance**”. The document was designed to help facility owners and those who represent them develop a general maintenance program for registered unattended refrigeration plants. The introduction states that “any registered refrigeration plant is required by legislation to operate under the Technical Standards and Safety Act – Operating Engineers Regulation, Boilers and Pressure Vessels Regulation, CSA-B51-97 Boiler, Pressure Vessel and Pressure Piping Code and the CSA Mechanical Refrigeration Code”. This statement is the first test of your basic compliance – “do you have recent copies of these documents available?”

The **Occupiers Liability Act** requires that building owners ensure the safety of the public. This requires that owners/users of refrigeration plants clearly and comply with the requirements as prescribed by the Operating Engineers Regulation 219/01 and the CSA Mechanical Refrigeration Code. The second test would be “have you read them”?

The **Operating Engineers Regulation** requires that **owners/operators** for any registered unattended refrigeration plant develop and implement a maintenance program. The program should include the manufacturer maintenance and service recommendations and a process that ensures that these recommendations are performed. **Owners/operators must be aware that it is a legal obligation that the maintenance shall be performed by one of:**

- **Certified Operating Engineer or Refrigeration Operator**
- **Individual acceptably trained in the maintenance specifics of the equipment**
- **Contracted person or company that is acceptably trained, experience and equipped to perform the maintenance.**

As much as we might rely on the expertise and support of a refrigeration contractor, the reality is that these professionals have no legal responsibility to inform an owner on the Regulations or Codes that govern refrigeration plant installations. The design of a new or retrofitted refrigeration system that complies with the various codes and regulations is the sole responsibility of the plant design engineer and the building owner.

Consider the energy that practitioners consume in generating procurement documents for contracted services that best use the limited financial resources that are available to them. As much as this may seem to be a healthy way to conduct business it may only be effective if changing refrigeration service providers also includes a clear set of expectations and obligations for safe operation and maintenance. Are you merely looking at the bottom line of a service proposal or is the proposed financial relationship meeting the obligations of the Operating Engineers Regulation for continuous maintenance and operation?

The ORFA **Suggested Guidelines for Refrigeration Plant Maintenance** document remains a positive tool that should be reviewed and implemented by all refrigeration plant room owners and/or their representatives. The document sets out suggested measures for a refrigeration plant maintenance program. If you have not already done so or if the task was completed some time ago, it is recommended that you revisit and complete a **Refrigeration Safety Inspection Checklist** (see the ORFA resource **Safe Activities for Effective Refrigeration S.A.F.E.R.**). Make sure your document is complete with accurate information. If you do not have the required details, request that your refrigeration mechanic provide technical support. Some of the highlights of these recommendations include:

1. Owners have three options on how to carry out the maintenance program: (1) by a qualified licensed refrigeration mechanic; (2) by a certified Operating Engineer or Refrigeration Operator; (3) by a trained and competent individual(s) (Note: the responsibility and onus is on the owner to ensure and prove the competency of these individuals).
2. Once the owner has decided upon a maintenance option, the written program must clearly define who will be responsible for the repairs and which items require maintenance. For example, the municipality or owner must clearly define in writing daily, weekly, bi-annual and annual duties; repairs and maintenance will be performed by their refrigeration "B" operators and/or competent facility operators. Clearly define in writing what duties; repairs and maintenance activities will be performed by a qualified refrigeration mechanic/mechanical company.
3. It is the owner's responsibility to ensure that any maintenance activity that is performed is at least to the maintenance and service recommendations of the manufacturer. Further, all work performed must be done by an accepted process.
4. It is the owner's responsibility to ensure that all maintenance carried out on the refrigeration plant is logged in the Log Book; that all work orders are kept in the logbook.
5. It is the owner's responsibility to ensure that both audible and visual alarms are properly installed, in working order and are activated by the safety-guarded controls. Alarms should notify the appropriate personnel whether they are on or off the premises (24/7 basis).
6. It is the owner's responsibility to ensure that the refrigeration room has a gas detection unit installed with proper connection to the ventilation system. Although the minimum for testing is once per year it is recommended that the detection unit be tested twice per year. Tag devices according to code.
7. It is the owner's responsibility to ensure that all external plant shut down devices are properly installed, labelled and tested at least once per year. Tag devices according to code.
8. Ensure that your ventilation exhaust system meets the code, is properly installed and tested on a regular basis.
9. Ensure that you have an approved written procedures manual for your operation.
10. It is the owner's responsibility to ensure that fail-safe devices are tested and serviced. Tag according to code.
11. The OER requires the replacement or service and/or reseal of all safety/relief valves at least once every (5) five years or when there is an operational issue with the device. It is the owner's responsibility to ensure that these safety devices are properly selected to meet and not exceed the manufacturer's recommendation

The ORFA reminds owners of their obligation to contact the Technical Standards & Safety Authority (TSSA) anytime changes have been made to the original refrigeration plant room design; that is when it involves the increasing or decreasing of any equipment size or function capability. As indicated in the ORFA resource ***Operating Engineer Regulation: How it applies to Ontario's Arenas:***

"Any time there are upgrades or changes made to the plant, an "owner" should contact the TSSA offices to determine if B.P.V. design approval is required or inspection and re-registration might be required"

Conclusion

The Operating Engineers Regulation (OER) along with other related legislative obligations have not changed over recent years – they are merely being better defined to help workplace partners in determining responsibility. The ORFA is often contacted by its membership to identify the specific legislation that guides "arena operations"; unfortunately there is no governing or guidance document that exists. However, various statutes such as the Occupational Health and Safety Act and its regulations as well as the Operating Engineer Regulation apply significant operational obligations to which many owners and operators in our industry are unaware.

Budgetary limits can pose a challenge to any operation, but attempting to apply legislative responsibilities under these constraints is unacceptable – it did not work in the waterworks industry and it will not work in ours. Those

responsible for the safe operation of an unattended refrigeration plant in the province of Ontario must take control of these environments.

Designing a maintenance plan that meets all of the operational requirements of the Operating Engineers Regulation (OER) is an important first step. Such a plan sets out the required legislative obligation that will need financial support to implement. Working with your refrigeration contractor in designing such a plan is an essential part of the process but first you must clearly understand what it is you are responsible for and what you can expect from your contractor.

Breaches to set legislative obligations may be expensive but failures that result in the loss of human life are unacceptable. Think about it – if you merely pick-up the phone and call for service you are in fact placing blind trust in your refrigeration contractor. In the end, it is your responsibility to ensure the refrigeration plant is safe. We strongly recommend that you take control of your refrigeration plant.

RESOURCES

Operating Engineer Regulation and TSSA web-site:
<http://www.operatingengineer.ca/main/links.asp>

Occupiers Liability Act
http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90o02_e.htm

ORFA document Operating Engineer Regulation: How it Applies to Ontario's Arenas
<http://orfa.com/orfaoldweb/Resources/TSSA%20Interview%20on%20the%20OER%20FINAL.pdf>

ORFA document: Suggested Guidelines for Refrigeration Plant Maintenance
<http://orfa.com/orfaoldweb/Refrigeration%20Plant%20Maintenance%202004.pdf>

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