

The Future of Ice Arena Refrigeration B-Certificate Chief's & Operators

The Ontario Recreation Facilities Association Inc. (ORFA) regularly researches and writes about issues that could affect our members. These documents provide an opinion on key risk management issues but are not meant to provide any form of legal opinion or official interpretation. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation. All rights reserved.

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December 2014

Preamble

This document was first released in 2011. Since that time the ORFA has noted an increased inspection role by TSSA of all 3000+ registered refrigeration plants in Ontario. Most recently, TSSA released a Plant Safety Series directive. This directive issued under TSSA Chief Officer, John W.B. Coulter helps to clarify specific requirements and obligations under the Operating Engineer Regulation. The ORFA reminds all members of their specific duty to read and apply all legislation specific to their operation and that the following information is offered as general guidance to compliance. Clarification on any point should be directed to TSSA.

Introduction

The requirement for owners of ice arena facilities to employ competent refrigeration plant operators has always been in place ever since legislation was first introduced addressing this operating requirement. Provincial government and most recently the Technical Standards and Safety Authority (TSSA) have over the years determined what level of operating certificate is required based on the power rating of equipment used, but overall, there is no question that competency of the refrigerator operator is required whether by regulation or by the owner. In the mid 1990's the most recent change to legislation was enacted and the **Operating Engineer Regulation (OER)** was created. The requirement for Refrigeration B-Certificate operators was implemented for refrigeration plants over 200 horse power, compared to the previous 100 horse power (as long as other safety and annual maintenance requirements were implemented).

This change significantly reduced the legislated requirement for ice arena B-Class operators in the

province. One might believe that such a reduction would diminish operational pressures but it would seem from ORFA member feedback that there is a rising level of concern with senior ice rink managers on how they will replace the aging workforce who hold such accreditation and whose buildings still have this requirement as a level of competency. Of the known 755 ice arenas in Ontario it is estimated that 10% actually require Refrigeration B-Certificate operational staff under the Operating Engineer Regulation. Many of these facilities have no succession plans in place and are experiencing frustration in the replacement and recruitment process as there is a depleting workforce of individuals who hold these qualifications. This paper will discuss some of the challenges that are surfacing with securing and retaining qualified ice arena Refrigeration B-Certificate operators.



History

As the arena industry began to flourish in the 70's and early 80's with new construction, many building owners were required by the Operating Engineers Act to secure qualified Refrigeration B-Certificate staff in the operation of refrigeration equipment. When compared to today's process of obtaining a Refrigeration B-Certificate, the early days were fairly simple – as were the refrigeration

systems. A competent person who understood the refrigeration cycle and who grasped a firm knowledge of the refrigeration equipment operation could often write the Refrigeration B-Certificate examination with success. Once they obtained a pass on the written portion of an examination delivered under the authority of the Ministry of Consumer and Commercial Relations they were then required to have a “Chief Engineer or Chief Operator” sign-off that they had completed the set required operational practical time of 12-months.

Note: The practical application portion is often spoken in “hours” when in fact the requirement is based on months of tutoring under a Chief Engineer or Chief Operator.

Often these individuals viewed the Refrigeration B-Certificate as a form of job security. Many individuals and corporations/commissions also failed to understand the accountability that was attached to this accreditation.

Note: To help ensure plant operator competency some ice rink operations have chosen to put their staff through the set Refrigeration B Certificate examination process even when they did not have sufficient plant horsepower to actually gain the Refrigeration B Certificate.

TSSA (Technical Standards & Safety Authority)



In Ontario, the **Technical Standards and Safety Authority (TSSA)** replaced a previous government ministry role and was appointed the governing agency for refrigeration plant safety and operations. The OER is the primary legislation that guides owners and operators of ice arena plant operations but understanding the CSA - B-52 Refrigeration Mechanical Code is also required. **The first clarification is that the OER is not “ice arena” specific.** The OER deals with “refrigeration

plant operations” which may be in industrial refrigeration settings or basic heating and cooling of a building. In our industry the refrigeration system most often freezes an ice surface used for skating. The point being - that the Refrigeration B-Certificate qualification is transferable into other sectors and so is the individual who holds this certificate. As such, the person must be adequately prepared through a consistent set knowledge based learning process to work in either environment. With this in mind, TSSA has taken a greater role in ensuring the qualifications of individuals who apply for and obtain the Refrigeration B-Certificate operator certificate. As indicated, the primary focus of early refrigeration B-Certificate operator accreditation was on refrigeration systems, while the new focus is on the changing building environmental systems that can include any combination of heating, ventilation, air conditioning and refrigeration equipment. Attracting qualified Refrigeration B-Certificate operators from other sectors holds some challenges to our industry as most facilities require a competent refrigeration professional that can multi-task with other duties besides the refrigeration plant room. Often when such individuals are hired they soon find the fast variable pace and stress of working in an ice arena to be too demanding and often drift back to a refrigeration plant room in another industry. It is recommended that all job postings for Refrigeration B-Certificate operator positions be designed to clearly indicate what duties are involved with the job.



The Current Refrigeration B-Certificate Operator Accreditation Process

The ORFA is often contacted by members seeking to obtain a Refrigeration B-Certificate on “what formal training is required” to be able to write the TSSA RB-1 and RB-2 examinations. The quick answer is that there is no required professional development to be obtained prior to being able to write the TSSA examinations. We are aware of some members who have reviewed the recommended training manuals (the TSSA/SAIT study material and the CSA B52 code) and adequately prepared themselves to challenge the examinations – this is the exception and not the norm. Most ORFA members struggle to gain the required 65% pass mark on each exam and many write the examinations numerous times before being successful.

Note: Each writing requires the individual to register for the exam and pay the corresponding fee.

ORFA has partnered with CIMCO Refrigeration over the last ten years in a refrigeration training program that helps to prepare an individual for what may be required in the TSSA examination process. This training path serves both the needs of individuals who aspire to obtain a Refrigeration B-Certificate operators certificate, as well as those who wish to increase their operator competency. The ORFA recommend that a practitioner attend the following training courses in the set order – and if the participant gains a mark of 75%+ in each course that they continue on their quest.

1. Basic Refrigeration – 4 days
2. Advanced Refrigeration – 5 days
3. HVAC/R – 5 days
4. B-Prep course – 10 days

ORFA members that successfully complete 1, 2 & 3 of the above process and who have obtained 2-years of practical experience may apply to obtain the ORFA Certified Arena Refrigeration Plant Operator (CARPT) professional designation. Visit: <http://www.orfa.com/designations/categories>

Does a member have to take each course to apply for the professional designation thru ORFA? Yes, to obtain the CARPT designation, but no, if the member is only seeking to be successful in obtaining the TSSA B-Certificate accreditation. There are members that easily grasp the principles of refrigeration or who may have attended other refrigeration training courses not sponsored by the ORFA. A member should feel free to begin their professional development at a level where they feel comfortable in their knowledge base and confident that they will not slow other course attendees learning experience.



Once complete you should be adequately prepared to challenge the TSSA RB-1 and RB-2 examinations.

Note: It is important to understand that this process has been designed to meet the needs of our membership and that it is not mandatory. There are other organizations that provide professional development to assist in your goals; while other members have hired in-house tutors to help ensure staff success.

Required Practical Time of Mentoring Under a Chief Engineer or Chief Operator

Once the practitioner has passed the TSSA RB-1 and RB-2 examinations they must now begin a process of mentorship under a “Chief Engineer or Chief Operator”. The qualifications of the Chief Engineer and Chief Operator are outlined in the OER. The ORFA contacted TSSA for clarification on what would be considered acceptable for the collection of necessary hours under the guidance

of a Chief Engineer or Chief Operator in an arena environment – TSSA stated that due to the variable nature of duties and tasks in an arena environment that it is important to understand that only the hours under the direct tutorship of a Chief Engineer or Chief Operator should be logged. This time should be in a track-able manner that indicates what was learned during the logged time (i.e. *On August 9th, 2010 Chief Engineer Bob Jones and I discussed compressor oil – we reviewed the MSDS on the oil; proper storage, handling, disposal of the oil; what PPE is to be used. We then removed some oil from compressor #1 and added fresh oil to the unit. Time: 9am to noon.*)



Changes to the OER that saw an increase in horsepower ratings from 100 to 200 before Refrigeration B-Certificate operators were required in the plant, it also realized a reduction of the originally required 12-months of practical learning to 9-months. It is calculated that an arena practitioner working under these guidelines may require 3-5 years to complete the process to gain their actual Refrigeration B-Certificate. TSSA has accepted co-op/part time/volunteer hours towards qualifying hours providing the proper documentation is in place.

Note: It is strongly recommended that you contact TSSA directly with any questions that you may have on this requirement.

Visit the TSSA website (www.tssa.org), select Operating Engineers section and look under certification or examination information for

further certification information; or address questions regarding qualification to write the exam to:

TSSA, OE Examiner
Technical Standard and Safety Authority
3300 Bloor Street West
Toronto, Ontario, M8X 2X4



Is There a TSSA Refrigeration B-Certificate Re-Certification Requirement?

There is currently no set TSSA Refrigeration B-Certificate re-certification process, but there is an annual license renewal requirement for maintaining the certification. That is not to say there is no ongoing personal educational requirement. TSSA is in a relationship of trust with persons who hold a certified refrigeration competency. It is expected that these professionals are undertaking some sort of self-directed path of ongoing professional development that will help ensure that the practitioner is staying in tune and up to date on changes in refrigeration operations, while refreshing their original knowledge base. Such personal training objectives may be called into question should an incident ever occur under the watch of a TSSA accredited professional. As industry leaders, the ORFA has recommended that all B-Certificate holders of more than 5-years should obtain and maintain the ORFA CARPT professional designation as proof of ongoing competency specific to the ice arena industry.

Conclusion

As our workforce ages, it is predicted that we are heading toward a “Refrigeration B-Certificate

hiring crisis". The "grass looks greener on the other side of the fence" syndrome may spawn a shift in Refrigeration B-Certificate operators from one employer to another which will merely move the problem around – it will not fix it. It is further predicted that flaming this issue will be an increase in wages and benefits to attract Refrigeration B-Certificate operators so that employers/owners can meet the requirements for Refrigeration B-Certificate coverage of their refrigeration plants as set out in the OER.

The ORFA recommends a commitment to training courses offered under a partnership with CIMCO Refrigeration as one way of meeting professional development needs that will aid in TSSA RB-1 and RB-2 examination success. The ORFA also continues to have ongoing communications with TSSA on issues that may impact our industry and respects the current process that TSSA has put in place to ensure Refrigeration B-Certificate operator competency.

The ORFA has no current plans to appeal to TSSA to reduce the current set requirements for refrigeration plant operations in our industry, but will continue to communicate concerns and invite feedback from our membership on this or any other refrigeration operational topic so that we might help better meet your needs.

In the end we must appeal to our membership to begin planning for the replacement of Refrigeration B-Certificate operators through an internal strategic training plan. The simple math is this – determine how much longer you will have your current Refrigeration B-Certificate operators until their possible retirement date and then figure on a 3-5 year training period if you want to plan on internally promoting such competency and succession planning.



ORFA encourages you to raise this issue at senior management meetings so that all are continually aware of this looming operational concern that may result in the necessity of shutting down a public recreation facility due to a lack of qualified certified operators.

Additional Notes:

- As of Jan.1, 2003, Examination RB-1, is to be written and passed prior to attempting the RB-2 examination.
- RB-1 can be written at any time once a candidate has made arrangements with TSSA and filled in the appropriate forms and paid the prescribed fee.
- Currently, the RB-2 exam can only be written upon successful completion of RB-1, and after the candidate has made arrangements with TSSA and filled in the appropriate forms and fee. The normal timeline for a candidate to have returned results from RB-1 is 2 to 6 weeks.
- The first exam (RB-1) is scheduled for 2.5 hours consisting of 150 multiple choice questions, each having 5 possible answers, and tests a candidate's knowledge on the fundamentals of refrigeration. This exam can be written at any time and is to be written first; it is suggested that this exam be written upon completion of academic studies or course completion.
- The second exam (RB-2) is scheduled for 2.5 hours and consists of 5 essay-styled questions and tests the knowledge a candidate obtains after completing most,

if not all, of their practical plant experience.

- Once the RB-2 has been successfully completed the candidate must now obtain qualifying time & experience of 9 months under the direct supervision of a Chief Engineer or Chief Operator – this “qualifying time” may be reduced if a candidate successfully attends a TSSA approved training program; or has acceptable experience in the installation and or service of compressors or refrigeration plants that are registered and operator attended
- Once the qualifying time experience and RB-1 and RB-2 have been successfully completed; a final application and fee to TSSA will have the operator receive their Certification of Qualification for Refrigeration B
- It is important to note that a candidate has 60-months from the successful completion of the RB-2 examination to complete the process and claim their accreditation. Failing to meet this requirement will require the candidate to rewrite the TSSA RB-1 and RB-2 examinations.

Link to the OER - http://www.e-laws.gov.on.ca/html/repealedstatutes/english/elaws_rep_statutes_90o42_e.htm

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

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