

6951 Westminster Highway, Richmond, BC
Mailing Address: PO Box 5350, Vancouver BC, V6B 5L5
Telephone 604 276-3100 Toll Free 1-888-621-7233 Fax 604 276-3247

The *Workers Compensation Act* requires that the employer must post a copy of this report in a conspicuous place at or near the workplace inspected for at least seven days, or until compliance has been achieved, whichever is the longer period. A copy of this report must also be given to the joint committee or worker health and safety representative, as applicable.

Inspection Report #201817538059A

Employer Name	Jobsite Inspected	Scope of Inspection
THE UNIVERSITY OF BRITISH COLUMBIA	THUNDERBIRD WINTER SPORTS 6066 THUNDERBIRD BLVD Vancouver BC V6T 2E5	Ammonia Initiative - Ice Arenas (Phase 1b)

Date of Initiating Inspection	Date of This Inspection	Delivery Date of This Report	Delivery Method
Oct 22, 2018	Oct 22, 2018	Oct 25, 2018	Email

THERE ARE ZERO (0) ORDERS OR OTHER ITEMS OUTSTANDING

<p>ACTION MAY STILL BE NECESSARY TO ENSURE COMPLIANCE PLEASE READ FULL REPORT</p>
--

INSPECTION NOTES

This worksite inspection was conducted by WorkSafeBC as part of the 'Ammonia in arenas initiative - Phase 1B'. It is noted that there are no outstanding orders on this employer pertaining to the WorkSafeBC inspection of this site during the Phase 1 portion of this initiative.

Prior to this inspection, the employer was contacted and a meeting was requested with key site representatives of the employer as well as workers with knowledge of the arena ammonia plant.

The following persons were in attendance:

- Senior Director, Facilities, Recreation and Sport Partnerships
- Associate Director, Facilities
- Chief Building Engineer
- Director, Occupational & Research Health and Safety
- Manager, Occupational Health and Safety
- A member of the Joint Occupational Health and Safety Committee

Scope of Meeting

During this meeting WorkSafeBC provided an overview of the Fernie Arena investigation, and the WorkSafeBC animation of the incident was viewed and discussed including accident causation. Specific key findings of the Fernie investigation that were discussed during the meeting, (and how these findings could relate to this employer) included:

1. This employer's emergency response plan, and the associated safe work procedures for upset conditions, include the actions and interactions of any agencies or groups that are expected to respond to the site. These agencies may include fire departments, emergency services, and maintenance personnel. The employer is aware of their responsibility, to ensure that persons involved with working on the ammonia systems have appropriate training, personal protection equipment (PPE) and monitoring equipment for the tasks they are responsible for.
2. The requirement for the provision and correct use of respiratory protection in the ammonia room was reviewed and is in place for this facility.
3. The requirement for the employer to conduct an incident investigation for ammonia unplanned releases as per Workers' Compensation Act (WCA) 173(1)(b & c) was discussed and this system is in place for this employer.
4. The requirement for an employer to ensure that a special inspection is conducted after an unplanned ammonia releases as per Occupational Health and Safety Regulation (OHSR) 3.7 was reviewed.
5. The role(s) of the Joint Occupational Health and Safety Committee as they relate to the ammonia program requirements were discussed, including:
 - Review of incident investigations as per WCA 175(2)(d)(i) and WCA 176(2)(c)(i)
 - Participation in special inspection and investigations (as required) as per OHSR 3.28(a to c)
 - Input and discussions around any changes to the site safety systems as per WCA 130(g),
6. The role of Prime Contractor / Owner when refrigeration (or any other) maintenance contractors attend this site as per WCA 118(2)(a & b) were discussed. The presence of external contractor's on site will create a multi employer worksite in which the facility owner has key responsibilities to ensure that there are effective systems in place to coordinate activities of all parties and to ensure that there is an effective system to ensure that the contractors are complying with the OSHR and WCA.
7. It was discussed that the employers arena's refrigeration system must be operated and maintained in accordance with manufacturers recommendations, and in accordance with qualified persons assessing / maintaining the ammonia systems as per OHSR 4.3(1) to (4) and all subsections. This employer has contracted a certified refrigeration consultant to oversee and advise

them of their ammonia ice plant issues. Servicing of the equipment is also conducted by qualified refrigeration mechanics.

8. It was discussed that for ammonia systems operating outside of the manufacturer's suggested lifetime of components, the employer must be able to demonstrate that there are interim operating measures in place that will ensure the continued safe operation of ammonia based systems while system upgrades are planned and implemented.

This employer built the ammonia system in 2007 and upgraded one of the two of the chillers (from shell & tube to plate and frame) in 2015. Currently, the employer is planning on replacing the second chiller to a plate and frame in 2 to 3 years. This will reduce the amount of ammonia in the system to approximately 400 lbs.

9. It was discussed that the systems implemented by this employer continue to ensure the viability of maintaining sustained compliance with the OHSR Regulation and WCA as it relates to the safe operation of the ammonia systems on site.

For more information on the Fernie incident, please refer to the following links:

WorkSafeBC Fernie Memorial Arena Incident Investigation Report

<https://www.worksafebc.com/en/resources/health-safety/incident-investigation-report-summaries/unexpected-ammonia-release-fernie-memorial-arena?lang=en>

WorkSafeBC Fernie Memorial Arena Incident Animation

<https://www.youtube.com/watch?v=BBxzXKRSjsc>

Technical Safety BC Fernie Investigation Report

<https://www.technicalsaftybc.ca/fernieincident>

If any person at this workplace has any questions or requires further information regarding this inspection report, please contact:

Yat Chow
Occupational Hygiene Officer
Email: yat.chow@worksafebc.com
Fax: 604-231-8662
Phone: 604-276-3100 Ext. 6407
Address: PO Box 5350 Stn. Terminal, Vancouver, BC, V6B 5L5

REFERENCES

In addition to any orders, or other items, and the information provided in the Inspection Notes section in this Inspection Report, the officer may discuss other health and safety issues with the employer arising out of the inspection. The information below sets out the health and safety requirements discussed with the employer, and unless otherwise noted, violations of these requirements were not observed.

Reference	Details Discussed
WCA115(1) Every employer must ensure the health and safety of: (i) all workers working for that employer, and (ii) any other workers present at a workplace at which that employer's work is being carried out, and (b) comply with this Part, the regulations and any applicable orders.	This inspection was conducted as per the WorkSafeBC Ammonia Phase 1B Initiative. Employers responsibilities were discussed during this meeting.

Employer #	Mailing Address	Classification Unit #	Operating Location
11284	C/O WCB CLAIMS ADMINISTRATOR HUMAN RESOURCES 6TH FLOOR 6190 AGRONOMY RD VANCOUVER BC V6T 1Z3	765010	020

Lab Samples Taken	Direct Readings	Results Presented	Sampling Inspection(s)
N	N	N	

Workers onsite during Inspection	Notice of Project Number
17	

Inspection Report Delivered To	Employer Representative Present During Inspection	Worker Representative Present During Inspection	Labour Organizations & Local
Kavie Toor	Kavie Toor	Jeff Harley	CUPE 116 CUPE 2950

WorkSafeBC Officer Conducting Inspection
Yat Chow

*Inspection Time	*Travel Time
3.00 hrs	1.50 hrs

*The time recorded above reflects the inspection time and travel time associated with this inspection report and includes time spent on pre and post-inspection activities. Additional time may be added for subsequent activity.

Right to Review

Any employer, worker, owner, supplier, union, or a member of a deceased worker's family directly affected may, within 45 calendar days of the delivery date of this report, in writing, request the Review Division of WorkSafeBC to conduct a review of an order, or the non-issuance of an order, by contacting the Review Division. Employers requiring assistance may contact the Employers' Advisers at 1-800-925-2233.

WorkSafeBC values your feedback. To obtain that feedback, an external market research provider may be contacting you to complete a survey.