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 #202017871024A**

<table>
<thead>
<tr>
<th>Employer Name</th>
<th>Jobsite Inspected</th>
<th>Scope of Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIMON FRASER UNIVERSITY</td>
<td>8888 University Drive</td>
<td>Shrum Science Chemistry Building: Strobic Exhaust</td>
</tr>
<tr>
<td></td>
<td>Burnaby BC  V5A 1S6</td>
<td>Plenum</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date of Initiating Inspection</th>
<th>Date of This Inspection</th>
<th>Delivery Date of This Report</th>
<th>Delivery Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mar 04, 2020</td>
<td>Mar 04, 2020</td>
<td>Mar 09, 2020</td>
<td>Email</td>
</tr>
</tbody>
</table>

**THERE ARE ZERO (0) ORDERS OR OTHER ITEMS OUTSTANDING**

**ACTION MAY STILL BE NECESSARY TO ENSURE COMPLIANCE**

**PLEASE READ FULL REPORT**
INSPECTION NOTES

On March 4, 2020, WorkSafeBC Prevention Officer, Yvonne Nann, conducted a partial inspection at this workplace pertaining to compliance with the Workers Compensation Act (WCA) and the Occupational Health and Safety Regulation (OHSR). The focus of this inspection was related to the maintenance work on the Strobic Fan Air Exhaust System located on the roof of the Shrum Science Chemistry Building.

Background:
A Strobic Air Tri-Stack exhaust system has been installed and connected to the chemistry laboratory fume hoods at the Shrum Science Chemistry Building of this worksite. The Tri-Stack systems operates on the principle of internal and external exhaust stream dilution. They entrain outside air with the primary exhaust stream to produce a substantially diluted exhaust stream. The Strobic Fan Exhaust Plenum space is a rectangular structure which houses filters, dampers and louvres.

At the time of this inspection, I met with the employer representatives and various worker representatives assigned to perform the upcoming planned maintenance work on the Strobic Fan Exhaust Plenum space during off-hours (specifically on the weekends).

Confined Space:
According to section 9.1 of the OHSR, the definition of "confined space" means an area, other than an underground working, that (a) is enclosed or partially enclosed, (b) is not designed or intended for continuous human occupancy, (c) has limited or restricted means for entry or exit that may complicate the provision of first aid, evacuation, rescue or other emergency response service, and (d) is large enough and so configured that a worker could enter to perform assigned work.

To be considered a confined space, a work area must meet all four criteria in the above definition.

Excluded Spaces:
OHS Guideline G9.1-1 (Excluded confined spaces) provides guidance on the type of spaces that are not to be confined spaces and the criteria the employer must assess to exclude them. Enclosed spaces that are not "confined spaces" must be identified as a space described in Column A and must meet all the criteria in Column B of OHS Guideline G9.1-1. HVAC plenums are spaces listed in Column A that may be excluded from Part 9, provided that all the criteria in Column B are met.

The employer has determined that the Strobic Exhaust Fan Plenum space is not a confined space as per OHS Guideline G9.1-1 because it did not meet all four criteria of the confined space definition and met the criteria in Columns A and B. Although an enclosed space might not be considered a "confined space", it may have other hazards that must be controlled.

Planned Maintenance Work:
The Strobic Fan Exhaust Plenum has approximate dimensions of 10 feet in width x 15 feet in length x 7 feet in height (or approximate 1000 cubic feet). It has a total of four (4) entrances, one at each face of this rectangular structure. The entrances are approximately 30 inches in width x 6 feet in height. Stairs with guardrails (6 steps) are also installed at the entrances to provide access.

The employer representatives reported that the scope of the maintenance work planned for the upcoming weekend involved two (2) workers entering into the strobic fan exhaust plenum space to visually inspect the louvres, which had been reported to be malfunctioning. If the louvres can be repaired with hand tools, the repairs will be conducted. If the inspection identifies work activities beyond simple repairs with hand tools, the maintenance work would be scheduled for another date.

Prior to this maintenance work, the employer assessed and determined that the space may contain a harmful substance (e.g., radioactive agents, chemical residuals, etc.) and identified other controls that must be in place before workers enter the Strobic
Exhaust Plenum space. For example, based on fume hood usage in the Chemistry Department, there was a potential for radioactive contamination. During the 2017 shutdown and maintenance work, the employer conducted radiation testing that included the use of a direct reading instrument and collected 40 swipe samples on various surfaces within the exhaust plenum. The May 1, 2017 results indicated that no radioactive contamination was found and that the direct reading instrument indicated readings were at background levels.

Based on the assessment, the employer representatives stated that controls would be implemented and workers would be required to wear appropriate personal protective equipment (PPE) while working in the space.

For this planned maintenance work, the employer provided the following documents for viewing:

- Exclusion Criteria from OHS Guideline G9.1-1,
- Engineer drawings of the Strobic Air Exhaust System,
- Strobic Fan Swipe Tests, dated May 1, 2017,
- Strobic Exhaust System Maintenance Procedure, dated February 28, 2019,
- Worker instruction and training record of the Strobic Exhaust System Maintenance Procedure, conducted on March 3, 2020, and
- Respirator fit test records of full facepiece respirators for the assigned workers, conducted on March 3, 2020.

The written "Strobic Exhaust System Maintenance Procedure" applies to routine maintenance or repair (e.g., to change the Strobic exhaust-air filters and visual inspections). At the time of this inspection, I also spoke to the workers assigned to perform the planned upcoming maintenance work. This routine or regular maintenance work involves a team of four (4) workers who were provided with education and training on the written work procedures on March 3, 2020. The worker representatives also indicated that they were provided with a copy of the written work procedures for reference. The team consists of a foreman, a standby or outside person to provide assistance where required including emergency procedures, and two workers to enter the exhaust plenum space. Some of the workers have performed the required maintenance work on this system at least four times in the past. It was reported that significant repairs were conducted in 2017 where the motor was replaced.

The employer representatives and worker representatives also stated that the following controls were implemented in the past maintenance work and will also be implemented for this upcoming work:

- Building occupants are notified that no work or laboratory work is to be conducted during this shutdown period.
- Appropriate warning signs posted at designated areas (e.g., fume hoods, laboratory entrances, area entrances, etc.).
- Security guards would patrol designated sections of the building to prevent occupant access to these laboratories and/or fume hoods.
- Lockout and isolation points are identified and lockout and isolation procedures are followed. The worker representatives stated that they are provided with personal locks for lockout of the system prior to performing their work.
- The interior of the Strobic Exhaust Plenum is cleaned with water to remove any residual contaminants.
- Workers are provided with PPE that included current fit tested full face piece respirators equipped with multi-gas/P100 combination cartridges, nitrile disposable gloves, Tyvek disposable coveralls, and rubber safety footwear.
- The worker representatives stated that the doors to the four (4) entrances are opened for at least 20 minutes to allow ventilation of the exhaust plenum space before any worker is permitted to enter. The doors are kept open during the entire entry to allow for cross ventilation and exhaust of the space.
- A wash station equipped with water, soap, and towels is also provided for worker decontamination.

In discussions with the worker representatives, the workers demonstrated knowledge of the written work procedures and the controls required.
Reporting Unsafe Conditions:

I discussed the requirements of section 3.10 of the OHSR related to reporting of unsafe conditions. It states that whenever a person observes what appears to be an unsafe or harmful condition or act, the person must report it as soon as possible to a supervisor or the employer, and the person receiving the report must investigate the reported unsafe condition or act and must ensure that any necessary corrective action is taken without delay.

The employer representatives stated that the following processes and structures are in place for reporting unsafe conditions:

1. report to the supervisor or foreman,
2. report to the worker health and safety representative of the local joint health and safety committee,
3. report to the Safety and Risk Services (SRS) Department of SFU, or
4. report to the union representative.

Regulations Referenced:

Please refer to the REFERENCES section of this Inspection Report (IR) for additional health and safety items discussed.

Contact Information:

If you have any questions regarding this report, please contact me.

Yvonne Nann
Occupational Hygiene Officer
Prevention Field Services
e-mail: yvonne.nann@worksafebc.com

Mailing address: PO Box 5350 Stn Terminal, Vancouver BC V6B 5L5
worksafebc.com | T 604.232.5985 | 1.888.621.7233 | F 604.232.5950

More information about health and safety, including the Workers Compensation Act and the Occupational Health and Safety Regulation may be found at the WorkSafeBC website (www.worksafebc.com).

To report a serious accident/incident or major chemical release, call: 604.276.3100 in the Lower Mainland; 888.621.7233 toll-free within B.C. To report after hour health and safety emergencies, call 866.922.4357.
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.

<table>
<thead>
<tr>
<th>Reference</th>
<th>Details Discussed</th>
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</thead>
<tbody>
<tr>
<td>OHS3.3(c)</td>
<td>The employer has developed Strobic Exhaust System Maintenance Procedure, dated February 28, 2019. Copies of these written work procedures were provided to the assigned workers for reference. Instruction and training of these procedures were provided to the workers on March 3, 2020.</td>
</tr>
<tr>
<td>OHS8.40(1)</td>
<td>Respirator fit testing of full facepiece respirators were conducted on March 3, 2020.</td>
</tr>
<tr>
<td>OHS3.10</td>
<td>See Inspection Notes. As discussed with all participants during this inspection.</td>
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### Employer Information

<table>
<thead>
<tr>
<th>Employer #</th>
<th>Mailing Address</th>
<th>Classification Unit #</th>
<th>Operating Location</th>
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<tbody>
<tr>
<td>112786</td>
<td>8888 UNIVERSITY DR BURNABY BC V5A 1S6</td>
<td>765010</td>
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### Laboratory Samples and Direct Readings

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<thead>
<tr>
<th>Lab Samples Taken</th>
<th>Direct Readings</th>
<th>Results Presented</th>
<th>Sampling Inspection(s)</th>
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<tr>
<td>N</td>
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### Workers on Site and Notice of Project Number

<table>
<thead>
<tr>
<th>Workers onsite during Inspection</th>
<th>Notice of Project Number</th>
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</thead>
<tbody>
<tr>
<td>10</td>
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</tbody>
</table>

### Inspection Report Details

- **Inspection Report Delivered To**: Adil Jessa
- **Employer Representative Present During Inspection**: Adil Jessa
- **Worker Representative Present During Inspection**: Spoke to various Workers
- **Labour Organization & Local**: CUPE 3338

### WorkSafeBC Officer Conducting Inspection

- **Yvonne Nann**

### Inspection Time and Travel Time

<table>
<thead>
<tr>
<th><em>Inspection Time</em></th>
<th><em>Travel Time</em></th>
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</thead>
<tbody>
<tr>
<td>2.50 hrs</td>
<td>0.75 hrs</td>
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</tbody>
</table>

*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.