

Submission to Public Hearing
WorkSafeBC Revised Regulation
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University of British Columbia
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Introduction:

I am a Certified Industrial Hygienist with many years of experience with the subjects I intend to address. I was a member of the WCB Regulation Review committees and sat on the Hygiene sub-committee. So I am familiar with the challenges of developing effective regulations. I have the following comments to offer:

Part 4 Lighting - PART 26

The consequential amendment derived from the Forestry Part 26 should use a "soft" metric conversion from 2 footcandles to 20 lux rather than 22 lux. A soft conversion means the new value is provided to the nearest significant value. There is no perceived difference in visibility between 22 and 20 lux. In the same manner the 54 lux value in the next section should be changed to 50 lux. This would be in agreement with the illumination table included in the section.

Part 5 General Requirements

Regulation 5.2

In regulation 5.2 (c) retain the words "by any route that could cause adverse health effect".

Removing this phrase has the effect of eliminating the relevance of the existing TLV list since the new wording will require that all exposure risks must be prevented by written procedures. The TLV list recognizes that some exposures are permitted since they do not have a health impact. Surely this is not the intent of the proposed regulatory language. Retaining the phrase will not weaken the protection the regulation provides in the case of biological agents.

Part 30 Laboratory fumehoods

General discussion

Regulatory reform with respect to laboratory fumehoods is best served by promulgating a performance-based regulation with reference to established engineering standards and practices. Laboratory fumehoods are the only class of industrial containment control systems that have attracted such detailed prescriptive requirements. I am not aware of any instances where the fumehoods failed to protect workers when they were in operating condition.

Our first suggestion is to refer to the ANSI/AIHA standard Z9.5 –2003 *Laboratory Ventilation* and the Industrial Ventilation Manual as noted in Regulation 5.61 and to drop the prescriptive details in the regulation. The problems of administering the current regulation and the plethora of variance requests are due to the prescriptive nature of the existing regulation. The present proposal does not address this fundamental issue. The vast majority of fumehoods are used in public institutions and designed by competent engineers to the above mentioned standards. Prescriptive regulations should only be used where there is a lack of knowledge. This is not the case with laboratories where virtually all workers are technically trained and experienced with fumehood operation as part of the technical education.

If our suggestions to simplify these requirements are not accepted, we offer the following detailed comments on the current proposal:

Definitions: 30.7.1 (b)

Add the phrase "by inserting arms and hands into the workspace"

The current wording seems to imply that the worker could be inside the fumehood when conducting manipulations. This is clearly not proper use of a fumehood. This wording is similar the wording in the OSHA (USA) and California fumehood regulation.

Regulation 30.8 (2.3)

This regulation requires that all new fumehoods be tested in accordance with the ASHRE tracer gas test #110. This test is conducted with the sash in the wide open position with a manikin placed in front of the hood to represent the presence of a worker. Regulation 30.8 (2.1) requires that the sash be lowered to protect the worker and ensure that contaminants do not enter the breathing zone. We support this requirement. The ASHRE test requires the hood to be operated in a way which the

regulation has declared to be illegal. This test does not reflect the way fumehoods are used in the workplace. This test is a needless expense that will not add to worker safety.

In discussion with Worksafe staff, I have been told that the intent of requiring the test is to control "low flow" hoods. These low flow hoods are not recognized in the proposed regulations and so would require a variance in any case. If Worksafe staff felt a test would be appropriate, they can make it part of the variance process and publish it in a guideline. Our contention is that the test should only be required in exceptional circumstances. Where a new fumehood design enjoys professional design, meets the airflow requirements, smoke tests and placement rules to prevent cross drafts, the hood will more than adequately protect workers. No other jurisdiction requires this test be conducted. It follows that Regulation 30.8 (2.4) should also be removed from the regulation.

Regulation 30.08 (5), 30.10(2), 30.12

There are three references to "radioactive material" in the proposed regulation. The term must be defined in terms of amounts of radioactivity greater than the scheduled quantities of the Canadian Nuclear Safety Commission. Otherwise we would have a situation where it would be legal to use small quantities on the open bench but illegal to use the same amount in a fumehood. These amounts already recognized in regulation 30.12(4).

Thank you for the opportunity to present our comments. With the above exceptions, the regulations are an improvement over the previous requirements and as such we support the changes.

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**To: WorkSafeBC
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June 29, 2007

**From:
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Professional Member, Canadian Avalanche Association
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**Re: Comments on proposed regulatory amendments: Part 4
Representing: Training Qualified Registered Professionals in relation to snow avalanche
hazard assessments**

Comments: Part 4

**I generally agree with the proposed regulations. However, I do not agree with everything
proposed as I explain below.**

Part I of my comments: Risk assessments for facilities, work sites, and safety plans:

**Snow avalanche hazards are one of a suite of mountain slope hazards in British Columbia
which include: snow avalanches, debris torrents, landslides, rockfall and rock avalanches.
As I understand the *Engineers and Geoscientists Act*, any assessment, including any of the
mountain slope hazards, which requires application of geoscience or engineering principles
must be done by Qualified Registered Professionals (QRP). For snow avalanche hazards (and
the other mountain slope hazards) assessment of worksites or places where there are**

fixed facilities (including access roads) this generally means determination of magnitude and frequency of events and recommendation of mitigation strategies. Usually the assessment comes from a combination of application of models, experience with the hazard, evidence from the site and judgemental assessment with appreciation for the uncertainty involved. WorkSafeBC is correct, that such assessments must be done by QRPs. Otherwise, there is conflict with the *Engineers and Geoscientists Act*.

At the University of British Columbia, we train future QRP's with respect to the mountain slope hazards in general, including, of course, snow avalanche hazards. Two of our courses, Snow and Ice Processes (Geography 408) and Natural Hazards Analysis (Geography 404) are directly applicable to the assessments described above and they are taken by approximately 25 students per year: about half engineering and half geoscience students (about one third being graduate students). Both courses are electives for Professional Geoscience Registration (P.Geo.) in B.C. The general training that we provide means that most people trained in the mountain slope hazards are not members of the Canadian Avalanche Association (CAA) due to the narrow scope of the CAA. The CAA has about 300 professional members of which about 2% or so are P.Geo. or P.Eng. whereas there are many more people trained in the mountain slope hazards outside the CAA. Therefore, I feel that it would be much too limiting to suggest that people doing risk and safety assessments of workplaces or facilities for snow avalanche hazards must have some designation such as Professional Member of the CAA. During its 25 year history, the CAA has offered one two week Advanced Hazard Mapping Course (2002) with about 12 students which would be relevant to avalanche risk and safety assessments whereas here at UBC over the past 15 years the combined total of people taking the P.Geo. Elective courses described above would total about 375 students. Thus, for this portion of the proposed amendments, I am in general agreement with WorkSafeBC.

Part II of my comments: Avalanche risk watch or avalanche forecasting and backcountry assessments

It has been heavily debated in BC, since Professional Geoscience Registration was introduced in 1992, whether avalanche forecasting (or avalanche risk watch) and backcountry avalanche forecasting falls within the realm of application of geoscience or engineering principles. After much debate, it is generally agreed that such activities do not fall within the scope for which a QRP is needed. In this realm, the CAA provides the appropriate training and has done so to thousands of individuals through their Level I and Level II courses. There are some QRP's within the CAA capable of doing such work but most do not undertake such work which is done instead by ski area personnel, highways avalanche technicians, mountain guides and others.

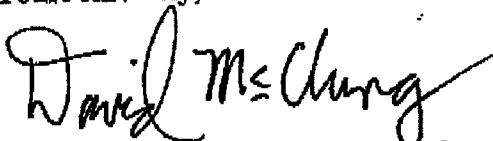
Thus, it is this portion of the proposed amendments that I feel is inappropriate. The training and experience for this work is entirely different than for a QRP and nearly all of

the competent forecasters are not QRP's. I feel that safety would actually be decreased in most cases if QRP's were required to be involved in such work. In this regard, it has to be recognized that there are many competent people outside of the CAA with the appropriate training and experience who are not members or Professional Members of the CAA. Thus, when qualifications are discussed, it is the level of training and experience that matters not whether one is a Professional Member of the CAA. Thus, I feel it is important to specify that equivalent training and experience are most important whether such training and experience comes for the CAA or elsewhere. For example, there are numerous senior mountain guides from Europe who work in the backcountry in BC every winter who are competent forecasters. I do not feel that any title such as "qualified avalanche expert" will have much meaning unless there is right to title and right to practice under the law in BC.

In general, I do not feel that the vast areas of backcountry in British Columbia, with temporary occupancy by skiers or other travellers, qualify as workplaces in the sense that facilities, camps, ski areas and access roads do. Backcountry operations in British Columbia involve tens of thousands of potential avalanche sites for which avalanche hazards come and go quickly. Safety in such applications depends on the type of training provided by the CAA (or equivalent) in combination with experience, not the type of training received by QRP's. A QRP, might recommend avalanche forecasting as one of several mitigation strategies for fixed facilities or roads, for example. However, for the backcountry, avalanche forecasting (and possible control) is the only appropriate strategy and these applications are generally outside the experience and training capabilities of QRP's. Simply stated, the old saying applies: "Don't fix what ain't broken!"

Respectfully submitted,

Yours sincerely,



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