Presentation to the Public Hearing on Regulation Review
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Representing the University of Victoria
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- Background
  - Recognize that UVic currently has nearly 350 fume hoods in its laboratories, and will have 100 more when our two new buildings come on stream in 2008, and if you take into consideration similar numbers at SFU and many times that number at UBC, there are several thousand fume hoods in operation at BC's universities - the vast majority of fume hoods in use are in public institutions
  - Recognize the problems associated with variances, as UVic alone currently has 2 variances currently in the process and I know that UBC and SFU have both had numerous variances recently
  - Recognize that when regulations become prescriptive, it is more likely that variance will be the outcome
  - Laboratory fumehoods are the only class of industrial containment control systems that have attracted such detailed prescriptive requirements, for example, Part 6.124 Ventilation as it relates to toxic process gases is performance based and comprehensive
  - **6.124 Ventilation**

    The employer must

    ensure that ventilation systems are designed to exhaust toxic process gases directly to the outdoors in a safe manner,

    (b) ensure that grilles providing makeup air from adjacent occupied areas are equipped with gas-rated, back-draft dampers,

    (c) monitor critical parts of the ventilation systems, such as fan, motor and air flow, to ensure that workers are alerted to a malfunction of the system,

    (d) ensure that ventilation ducting is vapour proof, dedicated and resistant to corrosion by the gas it carries, and

    (e) where practicable, locate the fans on the outside of the building or structure to maintain the duct work within occupied work areas under a negative pressure differential.

  - Even the sections in Part 30 for Biosafety Cabinets, both current and proposed, simply reference the NSF (National Sanitation

Foundation) Standard 49-2002 as well as the Health Canada Laboratory Biosafety Guidelines, rather than developing a series of prescriptive regulations.

- Not aware of any instances where the fumehoods failed to protect workers when they were in operating condition
- Some additional key points:
  - The accountability for the ventilation design should be with the professional engineer.
  - The accountability for fumehood design should be with the manufacturer
  - Institution can monitor the operation via face velocity but more importantly through smoke testing plus insure ongoing maintenance
  - New fumehood installations in older buildings may not use low flow/high performance hoods – there may be a combination of low flow/high performance and conventional hoods
  - Set-up in research labs changes frequently therefore verification of containment for one-set-up does not guarantee the same containment for another.
  - Smoke tests and flow tests to ensure no deterioration of performance over time are the best indicators of performance and should continue to be done at least annually and whenever changes are made to the systems.

- The Problem
  - Prescriptive regulations have resulted in the proliferation of variances
  - Technology and best practices are constantly improving, which compound the problem of a prescriptive regulation
  - Fumehoods in particular have been singled out for comprehensive prescriptive regulation
  - Incident history does not support the need for prescriptive regulation
  - Need to emphasize accountability of manufacturer and design engineer as well as employer
  - Existing standards and existing regulations in Part 5 already cover ventilation for chemical and biological substances

- Recommendations

  - Encourage WorkSafeBC to take the approach of referencing appropriate standards (such as the ANSI/AIHA standard Z9.5 –2003 *Laboratory Ventilation*) which will support institutions to continue undertaking best practices, and drop the prescriptive details in the regulation. This approach has already been done in Part 6 as previously mentioned but is most evident in Part 5, Ventilation (as it relates to Chemical and Biological Substances)

  - **Ventilation**

    5.60 Application

    Sections 5.61 to 5.71 apply to ventilation used for the control of air contaminants in the workplace, except for heating, ventilation and air conditioning (HVAC) systems in buildings, which are subject to requirements on indoor air quality in Part 4 (General Conditions).

    5.61 Engineering principles

    A ventilation system for controlling airborne contaminants in the workplace must be designed, installed and maintained using established engineering principles.

    Note: A useful guide is *Industrial Ventilation -- A Manual of Recommended Practice* published by the American Conference of Governmental Industrial Hygienists.

  - Regulatory reform with respect to laboratory fumehoods is best served through a performance-based regulation with reference to established engineering standards and practices.