

4<sup>th</sup> Annual Risk Symposium

GeoEnviroLogic Professional Development Ltd.

**CSAP Risk Assessment Practice**

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# Performance Assessment – Risk Submissions

- At least four has been selected for PA so far (the ones I was the delegated member for)
- Three have been completed,: one passed at Stage 1, two passed at Stage 2
- One is underway

# Issue – Exposure Amortization

- Construction worker: Two week period for soil amortizes over an entire year. This type of amortization is considered to be inappropriate without additional rationale. Exposure assessments should match the toxicity assessment as much as possible.
- Amortization for short term exposure to non-carcinogens for construction workers. The guidance of the Health Canada's draft Site SSRACChem document (Final Draft, June 28, 2007) and a companion document prepared by Wilson Scientific and Meridian (2007) should be followed when determining the appropriate exposure term for utility and construction workers, consider sub-chronic effects and length of the amortization period (Section 4.6 and 5.5.4 of SSRACChem).
- These two documents suggest that subchronic exposures should not be average over a longer period than the duration of exposure. For example, the exposure to a construction worker spending 42 days at a site should only be average over 8hr/day and 5days/week.

## Issue – Particulate Emmission

- The value used in the human health risk assessment (i.e., 0.76  $\mu\text{g}/\text{m}^3$ ) was recommended by Health Canada for sites due to windborne erosion; however, it was not recommended for construction activities. Some data cited by Health Canada would suggest that a value of 250  $\mu\text{g}/\text{m}^3$  would be more consistent with construction type activities.

# Issue – Absorption Factors

- RAIS dermal absorption factors are absolute, whereas HC use relative factors (relative to oral). The DAF for zinc should be 0.02 and not 0.1. HC has DAF for F2 and F3 of 0.2. This factor should be used instead of the RAIS DAF of 0.1. Also, I don't believe RAIS has a DAF for tin. A typical default DAF for metals is 0.1 (HC).
- Health Canada's dermal AFs are relative to oral AFs, and not absolute AFs for some of the contaminants on the list are not included in Health Canada's document (antimony, tin, ?).  
Where do these AFs come from?

# Issue – Calculation Errors

- RFD and SF calculated from RFC and UR appear to be correct for some, but incorrect for others. For vapour inhalation, it would be simpler to use RFC and UR, and compare these directly with the measured or predicted air concentrations.

# Issue – Risk Management Works

- *Risk-based COC cannot be issued until the vapour control system “has been installed and a P.Eng. has certified that the system is performing as designed”, and “an AP (numerical or risk) has certified that, at the time of occupancy, the ACC or risk levels in the breathing zone will be met”.*
- *Considering that the construction at the site is well underway and the cap and landscaping is scheduled to be completed in June 2009, I believe it is appropriate to apply for a COC, as long as a condition is included on the COC that an “as-built” report will be prepared by a P.Eng., and provided to MOE.*

# Issue – New Standards and Lab Methods

- Sodium and Barium were detected above the new CSR CL standard (January 1, 2009). The HHRA and ERA did not include barium and sodium as COPC.