

Gladstone Health Risk Assessment - Step 2

In November 2009 Queensland Health will release an interim Health Risk Assessment (HRA) which will broadly assess the risks

INDUSTRY UPDATE

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posed to the Gladstone community by emissions from industrial and other sources.

The HRA process has four steps:

1. Identification of the contaminants of concern.
2. **Identification of safe exposure levels for these contaminants.**
3. Calculation of contaminant exposures.
4. Assessment of health risks.

This second step, which I will address today, is critical as it is only with these safe exposure levels that measured contaminant exposures are meaningful. Information about the first HRA step, identification of contaminants of concern, is available at www.gilg.com.au.

There are several organisations which issue air quality standards but no one organisation covers all of Gladstone's identified contaminants of concern. The Gladstone HRA has therefore used a combination of standards.

In order of preference, where available, the standards used are from Australia's National Environment Protection Measures (NEPM), World Health Organisation (WHO), USA Environment Protection Agency, Ontario's Ministry of the Environment, Californian Environment Protection Agency and finally the Texas Commission on Environmental Quality.

These air quality standards are based upon very conservative scientific judgments and are thus universally seen as "safe". For example, WHO air quality standards are "concentration(s) of chemical compounds in the air that would not pose adverse effects of health".

Air quality standards are based on population studies such as:

- Epidemiological studies of the past diseases caused by industrial exposures suffered before common use of modern protective equipment and procedures.
- Human exposure as a result of industrial accidents.
- Comparison of the life expectancies of people in different cities against the air pollution levels in those cities.
- Animal trials. The usability of this data is limited due to the uncertainty of extrapolating findings of high dosage animal studies to humans.

To allow for variations in human sensitivity, a factor of about one 10th of the safe level for a population is usually used for an air quality standard. However, even at this level there may still be some sensitive people such as the young, elderly or unwell, who may occasionally experience minor discomfort.

If you would like to see the air quality standards used in Gladstone's HRA or comment about the HRA approach, please go to our forum topic at www.gilg.com.au

I look forward to hearing from you soon, cheers, Kurt.



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