

Can emissions add up to have an affect?

As you know, Queensland Health has released an Interim Health Risk Assessment (HRA). While

INDUSTRY UPDATE

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conclusive findings cannot be drawn from this preliminary report, it was still reassuring.

However, one question I have been asked is: "Can several different chemicals which are individually below their air quality standard act together to cause a disease?"

The Queensland Health process is to identify any disease that occurs at a higher rate in Gladstone and then identify the air contaminants that could cause this disease. Queensland Health then calculates the percentage that each of these contaminants is of their individual air quality standard and adds these percentages together. This number is called a Hazard Index.

The Hazard Index is further explained on page 82 of the Interim HRA, available at www.gilg.com.au.

As this approach tends to over estimate the hazard, if the Hazard Index is less than 100 then this combination of contaminants is regarded as safe. If the Hazard Index is greater than 100, then a more in-depth assessment is required.

For example, a Queensland Health survey of self reported sickness found that in Gladstone asthma occurs at a rate of about 12 per cent compared to 10 per cent in Australia. While environmental and lifestyle factors such as natural pollens and smoking may be involved, asthma triggers also include five industry emissions: particulates (dust), oxides of nitrogen and sulphur, ozone and chromium.

Only the final HRA will have the detail needed to calculate a precise asthma Hazard Index. However, after making a number of broad assumptions, this is how an approximate Hazard Index could be calculated for Boat Creek, which has Gladstone's highest average contaminant readings.

The five contaminants were these percentages of their respective air quality standards; particulates - 31%, nitrogen oxides - 20%, sulphur dioxide - 15%, ozone - 28% and chromium - 0.04%. This gives an estimated asthma Hazard Index of 94.

In comparison, using similar assumptions, Brisbane city has an asthma Hazard Index of about 130. Regardless the Gladstone asthma Hazard Index is still high, so the final HRA will include a comprehensive investigation of asthma triggers.

If you have any questions, 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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