


From: bc_06_09/LEGCO 

To:

Date: Tuesday, July 20, 2010 11:42AM

Subject: Engine Idling laws Heat Stress Index

----- Forwarded by PI/LEGCO on 2010/07/09 PM 03:44 -----

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To <pi@legco.gov.hk>

cc

2010/07/09 PM 12:25

Subject Engine Idling laws Heat Stress Index

Legco

Attention the members of the Bills Committee on Engine Idling Legislation

Dear Sir,

The Government has decided to temper the engine idling laws with further exemptions. A random number of 33 degrees C /91.4 deg F has been put forward as the level at which drivers may keep their engines running. When the Observatory states the temperature is 33 degrees C it is actually measured IN THE SHADE. Also the temperature at different places in Hong Kong is often different. Last week when the Observatory warned it was 33 degrees , in Yuen Long it was 37 degrees indoors and 45 degrees in open sunlight (we measured it) – how does that in real life correlate to 33 degrees measured in the shade ? At the link herewith is the US Weather Service Heat Stress Index (apparent heat ‘feels like’ effect on the human body) calculator.

http://www.srh.noaa.gov/epz/?n=wxcalc_heatindex . It is a scientific fact that wet bulb temperature measurement is affected by humidity and wind flow. If we take that 45 degrees C open sun temperature and 20% humidity it equates to a ‘feel like’ temperature of 47.2 Deg C.

However with 90% humidity like we get here the 45 degrees becomes a ‘feel like’ to your body of 133.2 Deg C. Hence the Observatory warning of 33 deg C compounded with high humidity in the open sun in the NT was effectively far higher and potentially life threatening to outdoor workers with no comment from the Labour department. Neither do we have a wind chill index where ‘feels like’ on your body temperature is affected by the wind speed.

Using the proposed 33 Deg C (in the shade) level with 90% humidity that equates to 53.5 deg C which your body feels - if you are in the shade – in the open sun that will be 5-10 degrees C higher depending how clear the air and UV level are . The US Weather Service states that with a heat index of 54.4 deg C/ 130F or higher, heatstroke is highly likely, with 40.5 -54.4 deg C heat cramps ,and heat stroke possible with prolonged exposure and / or physical activity. Therein lies the reasoning why we do not publish heat index and wind chill index – what would the tycoons say about their construction site workers being outdoors in these heat stress temperatures ?

Rather than taking a random 33 degrees C without heat index qualification the Government must adopt a Heat Index system incorporating humidity levels which is readily available and do away with this daft ‘hot weather / cold weather warning’ . The Heat Index should be the guideline for engine idling and published over radio, tunnel announcements, at taxi and PLB and franchised bus stands and on LCD displays that can be placed above major intersection traffic lights. Otherwise the traffic wardens will have to carry cesium clocks and wetbulb heat index sensors to be able to do their jobs.

Yours faithfully,

James Middleton
Chairman Energy Committee
www.cleartheair.org.hk

http://www.osha.gov/dts/osta/otm/otm_iii/otm_iii_4.html#iii:4_3 US Department of Labor Heat Stress - Wet Bulb Globe temperature