

FOR MEMBERS' USE ONLY

COMMITTEE ON THE MEDICAL EFFECTS OF AIR POLLUTANTS

STATEMENT ON THE USE OF SUBSTITUTE FUELS IN CEMENT KILNS

1. The Committee on the Medical Effects of Air Pollutants (COMEAP) was asked to consider data collated by the Health Protection Agency (HPA) and the Environment Agency (EA) on the effects on emissions of air pollutants of substituting Substitute Liquid Fuel (SLF) and used tyres for a proportion of coke used in specific cement kilns. It was noted that the Committee had considered the effects of such fuel substitution with regard to the cement works at Clitheroe and had published a statement of their views in October 1997 which was subsequently updated in November 1998.^{1,2} The new data related to cement kilns at Westbury and Ketton. The Committee was also asked whether, if its view of the new data was in accordance with its published opinion regarding the earlier data, its advice could be made generic, and extended to all cement works proposing such a fuel substitution. Should this not prove possible, the Committee was asked to specify what further data would be needed to make it so.

2. Members considered the data provided. This included information on emissions of pollutants from kilns using coke and from those in which the substituted fuels had been used in accordance with a defined protocol. The results of modelling of local concentrations of air pollutants were also considered. All the data provided are either available on the COMEAP website or from the Environment Agency.

3. The data focused on emissions of particles, carbon monoxide, nitrogen dioxide and sulphur dioxide. Members were reassured by the data. It was noted that only in the case of sulphur dioxide were emissions increased and in this case local concentrations did not exceed (or were not predicted to exceed) Ambient Air Quality Objectives.

4. Members reached the following conclusions.

- (a) The data presented confirmed the Committee's earlier view that substitution of Substitute Liquid Fuel and used tyres, in accordance with a defined protocol, had led to no increases in emissions of carbon monoxide, nitrogen dioxide and particles. In some cases the emissions were reduced. An increase in emissions of sulphur dioxide occurred but this was unlikely to cause local concentrations of sulphur dioxide to exceed established Air Quality Objectives.
- (b) It was agreed that the substitution of Substitute Liquid Fuel and used tyres in the way defined in the protocol followed in the work that generated the data presented was, in comparison with the use of coke as a fuel, unlikely to cause an increased risk to health.
- (c) It was agreed that this conclusion could be extended to other cement works using Substitute Liquid Fuel and used tyres in the same way

(adhering to the same protocol) as the cement works at Westbury and at Ketton.

5. Members further agreed the following conclusions.
 - (a) The conclusions stated above could not be extended to cement works failing to adhere to the protocol for use of Substitute Liquid Fuel and used tyres employed at the Westbury and at the Ketton cement works.
 - (b) The conclusions should not be taken as extending to the use of other fuel substitutes, for example, sewage sludge. Relevant data would need to be considered before any such reassurance could be given. Concerns about increased emissions of heavy metals were raised in this context.
 - (c) Concerns remained about possible malfunctioning of the cement making process that could lead to an increase in emissions. Members were, in part, reassured by descriptions of safety procedures but stressed that these should be rigorously implemented.
 - (d) Members advised against the use of comparisons of emissions from cement works with those from motor vehicles, pointing out that the nature of the particulate matter emitted by the former was likely to differ significantly from that produced by the latter.

References

- 1 Department of Health. COMEAP Statement on the Possible Health Effects of Air Pollutants in the Clitheroe Area. October 1997. Available at:
<http://www.advisorybodies.doh.gov.uk/comeap/statementsreports/airpol8.htm>
2. Department of Health. COMEAP Statement on the Possible Effects of Air Pollutants in the Clitheroe Area. November 1998. Available at:
<http://www.advisorybodies.doh.gov.uk/comeap/statementsreports/clithstat.htm>

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