

**EXPERT ASSESSMENT OF “REPORT OF AN INVESTIGATION INTO CLAIMS  
OF ILL HEALTH IN TELFORD AND WREKIN RELATED TO A POWER  
STATION IN IRONBRIDGE GORGE”  
BY DR CATHERINE WOODWARD – JANUARY 2006**

**GENERAL ASSESSMENT**

Dr Woodward’s report first outlines the background into claims that emissions from Ironbridge power station are having a number of adverse health consequences for people living in the locality. The report goes on to provide some information concerning the geography of the area in relation to the power station and the socio-economic characteristics.

Dr Woodward then outlines the method of investigation, seeking to establish whether there are significant differences in a number of important health indicators between south Telford as a whole (defined as Ironbridge Gorge, Woodside, Madeley and Dawley Magna wards) or individual wards and the average for Telford and Wrekin or England and Wales as a whole, as well as looking at the statistics for individual wards downwind of the power station and comparing the mortality rates in Telford and Wrekin with those in Shrewsbury and Atcham. In all cases the mortality and hospital admission rates are age standardised which is appropriate for this kind of study. The majority of the comparisons show no significant difference between the ward downwind of the power station or Telford and Wrekin as a whole with the comparator areas. In some cases, when looking at individual wards, mortality and morbidity rates are shown to be significantly higher or lower than the comparators, but given the relatively small populations of these wards, these results should not be taken as implying that any external factor is leading to better or worse health.

Overall, the results are very reassuring in demonstrating that there is nothing abnormal about the rates of mortality and morbidity in either Telford and Wrekin as a whole or in the four wards downwind of the power station.

**SPECIFIC QUESTIONS**

The reviewer was asked to address three specific questions as follows:

*1. Were the approaches adopted in investigating the specific claims reasonable?*

In the opinion of the reviewer the methods used were entirely appropriate and a very thorough study has been carried out.

*2. In the context of what is already known about the impact of power station emissions on health, are the conclusions and recommendations reasonable?*

Even looking at the international literature, there have been very few studies of the impact of power station emissions on health. Those that have been conducted have generally been in situations where the emissions lead to far higher ground-level concentrations than from a British power station operated to the standards currently enforced by the Environment Agency. Through numerical modelling of pollutant dispersion followed by the application of exposure-response functions, it is possible to estimate the public health impact of a typical power station in terms of additional mortality and hospital admissions. Such calculations have been conducted in my research group and indicate local impacts of a very small magnitude, which would not be identifiable through any analysis of routine health data, or indeed through any current design of epidemiological study. In this context the conclusions of the report are very much as would be expected. The recommendations of the report appear admirably sensible and should be implemented.

3. *Is there a case for any further work to be undertaken, and if so, what should this be?*

The trend in recent years has been for a substantial strengthening of the pollution control requirements for power stations. I see little prospect that this trend will be reversed and it is anticipated that currently operating fossil fuel power stations will in the future either become cleaner or will close. In this context, there would appear to be little prospect of the situation in south Telford with respect to power station emissions and the health of the local community changing for the worse. The implication is that there would be little to be gained from extending the current study in terms of either duration or depth and my recommendation would be against conducting further work.

#### **FURTHER POINTS FOR CONSIDERATION**

Whilst in no way influencing the conclusions drawn by the reviewer, it should be pointed out that there are minor enhancements to this report which would make it more useful to the reader. These are as follows:

- (a) The report refers to both social deprivation and smoking prevalence, both of which are important influences on morbidity and mortality rates. It would be valuable to include either a tabulation or a graphical presentation of the smoking prevalence and deprivation indices applying to the studied areas.
- (b) Whilst the criteria for determining the significance of differences in morbidity and mortality rates between different geographic areas are described, the statistical test used to establish those differences is not identified. It would be useful to do so and to give generally rather more detail about statistical methods including those used for trend analysis.

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February 2006