### AIR QUALITY AND ITS ASSOCIATION WITH HUMAN HEALTH EFFECTS – AN UPDATE

Report of a meeting held on October 19th 2000

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## **FOREWORD**

By Dr L Wright

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The effects of air quality on human health have been much discussed. The evidence of ill health arising from the choking smogs of the early to mid 20<sup>th</sup> Century is clear and the studies are relatively uncomplicated to interpret. However, the much more recent studies into identifying and understanding the effects of the much lower levels of current air pollution has proved to be more difficult. This has resulted in a divergence of views on this important issue that are only now beginning to be reconciled.

This workshop is the third in a series that were commissioned by the Institute of Petroleum Occupational and Environmental Medical Subcommittee. It represents a summary of the views of several experts in this field. The objective of these workshops has been to:

- provide a clear discussion of the issues related to air quality;
- promote understanding of the issues associated with air quality and human health, and,
- provide clarity about the difficulties and advantages associated with the use of environmental epidemiology used to investigate the issues.

The issue of air quality and its association with human health effects is complex. However the papers presented during this workshop demonstrate an increasing consensus and clarity about the questions to be addressed in the future. This information helps to lead us to a greater understanding of this important and ever expanding topic and a better awareness of the strengths and limitations of our techniques of analysis.

#### References:

Air Particulates Workshop 1995. Environmental Health Series No. 4. Institute of Petroleum. ISBN 085293 161 1.

Environmental Epidemiology: Strengths and Weaknesses - Institute of Petroleum Workshop 24<sup>th</sup> October 1996. Environmental Health Series No. 5. Institute of Petroleum. ISBN 085293 199 9.