

# Environmental design 'positively tackled'

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By Henry Mangan, ESB spokesman on environmental matters.

THE INTRODUCTION of Moneypoint into the ESB system not only has strategic and economic benefits, it also has environmental benefits. Generation from Moneypoint will give rise

to significantly less sulphur dioxide emissions per unit generated that would be emitted from conventional oil-fired plant.

The environmental design of Moneypoint was very positively tackled using an approach that is well validated, theoretically, experimentally and historically. Both An Foras Forbartha, for ecological impact, and An Foras

Taluntais, for agricultural impact, have thoroughly investigated and reported on the design.

The design and operation of Moneypoint complies with all the relevant EEC, national and local authority standards. For example for air pollution these are — the EEC air quality directives for sulphur dioxide, smoke and nitrogen oxides, the Statutory Regulations for visible black smoke, and the emission limits and air

quality criteria specified as conditions in the planning permission from Clare County Council.

A very considerable investment has been made to ensure that particulate matter is arrested before the exhaust gases are emitted from the stacks.

For gaseous emissions the design ensures that adequate dispersion of all the gases is achieved. For sulphur dioxide the design is based on the achievement of less than 45 ug/Nm<sup>3</sup>, maximum daily average ground level concentration at point of maximum impact, with high sulphur fuel, equivalent to heavy fuel oil. Equivalent coal sulphur content is less than half of this.

Based on long term meteorological characteristics of the area, this converts to an annual average ground level concentration of less than 4 ug/Nm<sup>3</sup> with high sulphur fuel. Thus actual maximum contribution of Moneypoint is very much less than 4 ug/Nm<sup>3</sup>, falling off rapidly as one moves away from the area of maximum impact. Actual typical estimates for the Burren are less than 1 ug/Nm<sup>3</sup>, and for Dublin are less than 0.1 ug/Nm<sup>3</sup>. These figures can be put in context as follows:

EEC air quality standard.....  
250-350 ug/Nm<sup>3</sup> daily  
80-1200 ug/Nm<sup>3</sup> annual  
EEC long term air quality goals 40-60 ug/Nm<sup>3</sup> annual

which should be aimed at for areas of special environmental amenity.

Dublin's monitoring results have been in the range 40-100 ug/Nm<sup>3</sup> for the winter period, with daily averages occasionally going above 400

For nitrogen oxides, the maximum concentrations will be about one tenth of the levels for sulphide dioxide.

The zone of maximum impact on ambient air quality from Moneypoint is in an area outstandingly good existing air quality. With Moneypoint producing electricity at full capacity, the air quality in this zone will still be outstandingly good, with total annual average sulphur dioxide concentrations from all sources, including natural and including Moneypoint, at a level of small fraction of the long term EEC air quality goals.

The UNECE Geneva Con-

period when these emissions were at a maximum, without natural gas in the ESB fuel mix, to the areas in Europe which seem to have "acid rain" associated problems, appears as zero. It is not zero, but it is a very small amount indeed, below the sensitivity levels of the models used.

As far as "acid rain" in an Irish context is concerned, the conditions giving rise to significant acidity will not arise with the Moneypoint emissions.

The ESB's "acid rain" monitoring station in the Slieve Bloom mountains have consistently shown no sign of increased acidity except for a

few isolated incidents when the level of natural electrical activity in the atmosphere was very high during heavy thunderstorms. (This is an entirely natural phenomenon reflecting an important part of the normal nitrogen fixing mechanism, which is essential for biological life).

There is a very comprehensive environmental monitoring network associated with Moneypoint with 14 monitoring stations widely dispersed to ensure that the maximum impact of Moneypoint on the environment can be measured. The operation of this network by the ESB is being assessed and audited independently by An

Foras Forbartha on an on-going basis.

Results of the monitoring are transmitted to Clare County Council and the national air quality data base in An Foras Forbartha. Results to date are consistent with the high environmental quality typical of a background rural area.

Of course air quality is not the only environmental consideration with a station like Moneypoint. Significant investment has also been made to ensure that all the other environmental impacts such as water quality and noise are below acceptable amenity, and well below any possible damage, thresholds.