Addendum

Air Quality Review and Assessment

Stage 4 - Domestic Fuel Combustion Scenarios

A report for Ballymena Borough Council

21/09/05

netcen

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1.1 SCENARIOS

Due to the model results for Ballykeel (exceedence of PM10 daily objective and exceedence of the 2010 annual objective of 20 ugm-3), two separate scenarios have been modelled. The two scenarios are as follows:

- NIHE Oil conversion (All current solid fuel combustion users to turn into oil)
- NIHE Gas conversion (All NIHE to be converted into gas)

1.2 MODEL RESULTS

The model results form **netcen**'s DISP model is presented below.

Due to the high percentage of NIHE houses in Ballykeel, the impact of both scenarios is considerable.





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*Correction applied for monitoring data using Carrickfergus modelling

2 Discussion

It should be noted that all the model plots have been bias adjusted using a bias correction factor from Carrickfergus Borough Council. Therefore all the following results are subject to local verification when data becomes available from the Ballymena continuous monitor, located in an area relevant to domestic fuel combustion.

PM₁₀ Daily Objective

Figures 5.15 show the 90.4 percentile of daily mean PM_{10} concentrations for 2010. The particles objective for 2010 is not yet in place and is not included in regulation for the purposes of LAQM. Therefore local councils are only required to assess against the 2004 objectives. These plots are directly comparable with the provisional 2010 daily PM_{10} objective of 50 µg m³. The daily PM_{10} objective of 50 µg m³ in 2010 is not predicted to be exceeded in Ballykeel if either scenarios are implemented.

PM₁₀ Annual Objective

Figures 5.16 annual concentrations for 2010. These plots are directly comparable with the provisional 2010 Annual Mean objective of 20 μ g m³. The annual PM₁₀ objective of 20 μ g m³ in 2010 is not predicted to be exceeded in Ballykeel if either scenarios are implemented.

SO₂ 15 Minute Mean Objective

The 15 minute mean is the most stringent of the SO₂ short term objectives. Figures 5.17 show the 99.9 percentile of 15 minute means for SO₂ in 2010. The SO₂ 15 minute mean objective of 266 μ g m³ is not predicted to be exceeded in Ballykeel if either scenarios are implemented. Modelled predictions without the implementation of the scenarios also showed no exceedence.

3 Conclusions

The scenario modelling has not predicted an exceedance of the regulated objectives. This is subject to verification of the modelling using local monitoring data. Continuous monitoring of SO_2 and PM_{10} is already in place to capture these data for the purpose of verification.

The scenario modelling has not predicted an exceedance of the provisional PM_{10} annual objective in 2010 in Ballykeel.

Until model verification can be undertaken these model results are not finalised. This Stage 4 study represents a more accurate modelling exercise using more up to date information than the previous stage 3 modelling. The modelling remains subject to verification with local monitoring data.

It is recommended that the existing monitoring be continued in order to provide data to substantiate these conclusions. The next formal Review and assessment requirement is the production of a progress report in April 2005.

IT IS IMPORTANT THAT THE NIHE CONVERSION TO EITHER GAS OR OIL IS IMPLEMENTED IN ORDER TO NOT HAVING PM10 EXCEEDENCES.