

**APPENDIX 7.10**  
**ENERGY CENTRE MODEL**  
**SET-UP**



## APPENDIX 7.10 ENERGY CENTRE MODEL SET-UP

### Buildings

The buildings set out in Table 7.10.1 were included within the ADMS 5 model for the energy centre emissions. The ADMS 5 model requires buildings to be input in a rectangular format with a constant height, with a recommendation to simplify the buildings input into the model where-ever possible. The buildings input into the model therefore do not correspond exactly to the buildings in the vicinity of the emission point.

**Table 7.10.1: Building Dimensions**

Name	X*	Y*	Height (m)	Length (m)	Width (m)	Angle (°)
Block B <u>(D1)</u>	510006.7	179288.3	<u>32.6</u>	136	90	118.5
Block C <u>(C4)</u>	509968.3	179192	<u>25.4</u>	76	55	115
Block D <u>(D1)</u>	509906.5	179233	<u>31.6</u>	14.5	37	118.5
Committed Development	509869	179322.7	33	90	140	119

\*Coordinates of the centre points of each building

Block D was regarded as the main building affecting emissions from the energy centre. Dispersion Parameters.

The surface roughness in the model was set at 1.5 m, the default ADMS value for Large Urban Areas. The minimum Monin-Obukhov length was set as 100 m, the default ADMS value for large conurbations. The surface albedo and Priestley-Taylor parameters were set as the ADMS default values of 0.23 and 1 respectively.

### Meteorological Data

Hourly sequential meteorological data from London Heathrow airport has been used in the modelling for the year 2015.

### Concentrations

Nitrogen dioxide concentrations were assumed to be 70% of the oxides of nitrogen concentration for the annual average concentrations and 35% of the oxides of nitrogen concentration for the hourly average. This is in accordance with Environment Agency guidance for worst case assessments.

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Short-term baseline concentrations are assumed to be twice the annual average background concentration for averaging periods of 8 hours or less.

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