

## Q3.2 - APPENDIX 9 - AIRE VALLEY OVERVIEW

Provide disaggregated data from the Aire Valley Monitoring stations, together with a map of the stations used. Provide comparisons for this data with Department for Environment, Food and Rural Affairs (DEFRA) background data for NO<sub>x</sub>, NO<sub>2</sub> and SO<sub>2</sub>.

**Applicant response:**

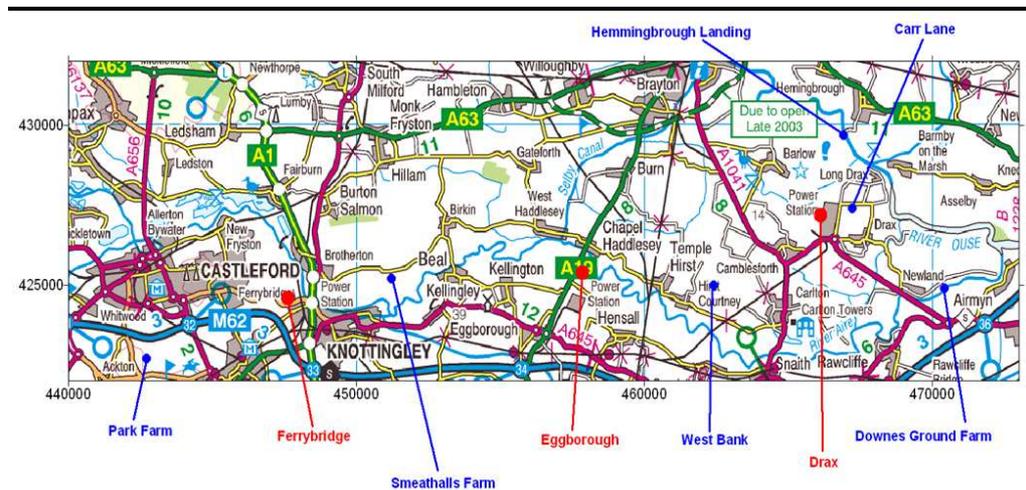
The air quality impact assessment performed as part of the environmental impact assessment for the White Rose Carbon Capture and Storage (CCS) project utilised two sources of baseline information. These sources include information collected from the Aire Valley monitoring stations located in the vicinity of the plant; and from Defra baseline mapping available online.

The Aire Valley monitoring data includes information collected for Sulphur Dioxide (SO<sub>2</sub>), Nitrogen Dioxide (NO<sub>2</sub>) and Oxides of Nitrogen (NO<sub>x</sub>) between 2007 and 2013 at specific monitoring stations including:

- Carr Lane;
- Downes Ground Farm;
- Hemmingbrough Landing;
- West Bank;
- Smeathhalls Farm; and
- Park Farm.

The locations of these sites are presented below in *Figure 1*. The stations are located in nearby farms and in rural areas away from town centres and busy roads and are therefore considered representative of general baseline conditions. Of the six stations identified, Hemmingbrough Landing, Carr Lane, West Bank and Downes Ground Farm are all within 1 km of the Drax site and fall within the Selby District Council district.

**Q3.2 – Figure 1 Aire Valley Monitoring Stations**



In the UK, a national modelling exercise has been undertaken to identify baseline concentrations of several pollutants. The most up to date mapping for 2011, which has been validated against monitoring results, is made available via the Defra website.

Table 1 provides a comparison of the two data sets. Defra mapping showing 2011 annual averages have been directly compared to the 2011 annual averages found at the Aire Valley monitoring sites. The locations of the Aire Valley monitoring stations have been used to identify the closest Defra grid square for comparison.

**Q3.2 - Table 1**

Location	Defra Mapping values (2011 annual average) (ug/m <sup>3</sup> )			Actual measured data (2011 annual average) (ug/m <sup>3</sup> )		
	NO <sub>2</sub>	NO <sub>x</sub>	SO <sub>2</sub>	NO <sub>2</sub>	NO <sub>x</sub>	SO <sub>2</sub>
Carr Lane	11.1	14.7	5.90	n/a	n/a	4.53
Downes Ground Farm	10.8	14.4	4.84	16.6	26.2	3.72
Hemmingbrough Landing	10.3	13.6	6.22	15.6	18.1	3.76
West Bank	12.6	16.9	5.25	17.9	25.1	5.05
Smeathall's Farm	n/a	n/a	n/a	20.1	27.1	4.8
Park Farm	n/a	n/a	n/a	n/a	n/a	4.34

Results indicate that when considering concentrations of NO<sub>2</sub> and NO<sub>x</sub>, data from the Aire Valley is found to be higher and therefore a more conservative data set. When considering SO<sub>2</sub> however, data from the Defra mapping indicates that annual average concentrations are higher.

Baseline concentrations of NO<sub>x</sub>, NO<sub>2</sub> and SO<sub>2</sub> from the Aire Valley monitoring sites were used to form the final conclusions presented within the air quality impact assessment. When considering NO<sub>2</sub>, this means that a more stringent data set was used. The difference in the baseline results for SO<sub>2</sub> presented here are not large enough to change the significance of impacts as a result of the development of the proposed plant.