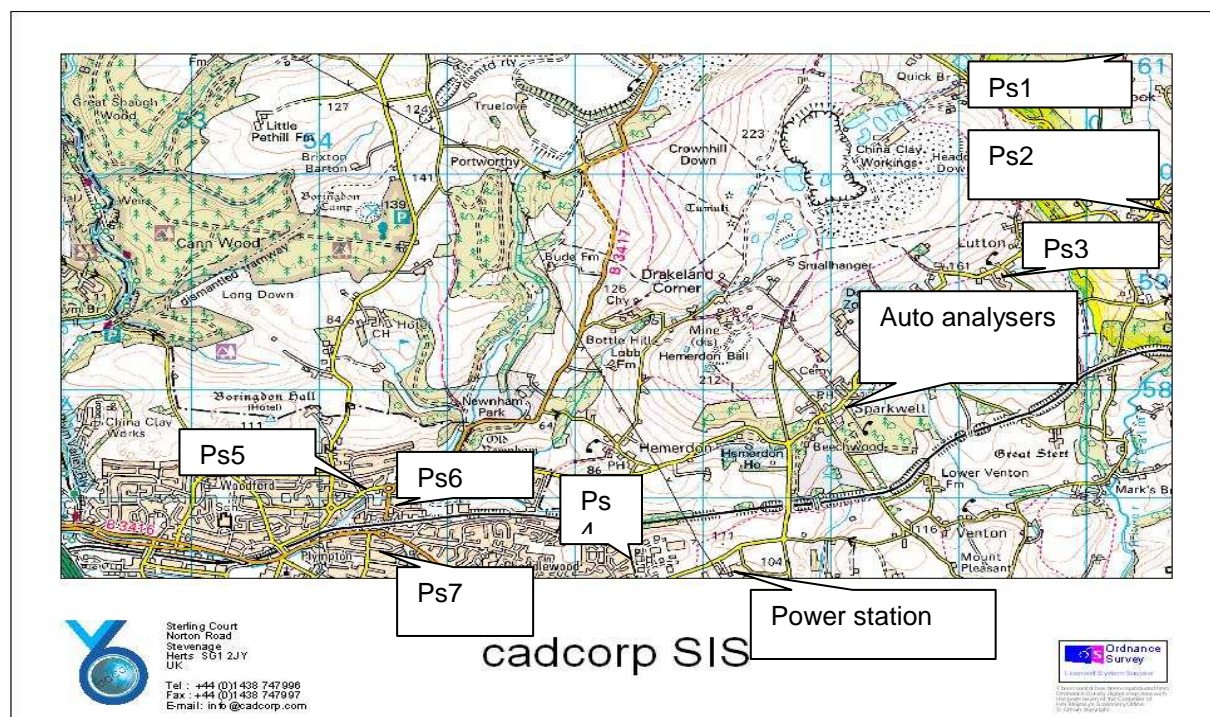


AIR QUALITY MONITORING; LANGAGE POWER STATION

Air Quality Monitoring undertaken by South Hams District Council around Langage Power Station takes place at the locations shown in Figure 1.

Figure 1



Automatic analysers which monitor Nitrogen Dioxide, Sulphur Dioxide and Particulate Matter have been set up at Sparkwell village hall car park to check air quality in the vicinity of Langage power station. It should be noted that air quality problems are not expected to arise as a result of the power station, but the monitors are in place as an extra check.

Langage power station did not begin operating until late in 2009, so the majority of the monitoring undertaken throughout 2009 (and described here) will show background levels only. This page will be updated every year to show the preceding year's monitoring results.

The monitoring equipment is downwind of the prevailing south westerly winds in the area (see Figure 1). The Nitrogen Dioxide and Sulphur Dioxide analysers are of a type approved by the Department of the Environment, Food and Rural Affairs (defra) for the Air Quality Review and Assessment process as required by the Environment Act, 1995. The particulate matter analyser is not approved for this purpose, but it is calibrated as per its manufacturers' instructions and it provides a useful indicator of levels of PM₁₀ (the fraction of particulate matter which is less than 10 microns in diameter and therefore poses a potentially more serious problem to human health than bigger (dust) particles).

In addition to the automatic monitoring, a number of passive diffusion tubes which monitor Nitrogen and Sulphur Dioxide have been set up in the vicinity of the power station (see Figure 1). Passive diffusion tubes monitor pollution by absorbing it onto a prepared medium which is analysed in a laboratory after the tubes have been exposed. The performance of the laboratory is checked regularly, both by internal quality control measures, and externally by consultants on behalf of defra,

Further technical details about the automatic analysers and the diffusion tubes are available in the South Hams 2009 Air Quality Progress Report, also available on our website. Alternatively contact Sarah Harcombe at the Council on 01803 861164.

Results of monitoring for Nitrogen Dioxide (NO₂)

The limit values for Nitrogen Dioxide set down under the Air Quality Standards Regulations 2010 are an annual mean of 40 µg/m³ and a one hour mean of 200 µg/m³; the latter not to be exceeded more than 18 times per year.

In 2009, the automatic equipment at Sparkwell village hall measured an annual mean of 15.2 µg/m³, and there were no one hour means of 200 µg/m³ or more.

The results of the diffusion tubes are recorded every month and averaged over a year, and these are given in column 2 of Table 1. The results are bias adjusted according to a value provided by the national air quality help desk at <http://lagm1.defra.gov.uk/review/tools/no2/baf.php>. The results of modelled background data for these sites are available at www.airquality.co.uk and are given in column 3 for comparison.

Table 1

Location	Measured NO ₂ annual average in µg/m ³ ,	NO ₂ annual average in µg/m ³ from www.airquality.co.uk
	Measured data	Modelled data
Ps1 - Moor	4.0	7.8
Ps2 - Cornwood	7.7	7.5
Ps 3 - Lutton	5.9	8.5
Ps4 - Langage	16.6	16.7
Ps5 - Gilbert Close	12.2	14.2
Ps6 - West Park Drive	12.7	16.7
Ps7 - Bellingham Crescent	17.0	n/a

Results of monitoring for Sulphur Dioxide (SO₂)

The limit values for Sulphur Dioxide set down under the Air Quality Standards Regulations 2010 are a one hour mean of 350 µg/m³ not to be exceeded more than 24 times per year, a 24 hour mean of 125 µg/m³ not to be exceeded more than 3 times per year and a 15 minute mean of 266 µg/m³ not to be exceeded more than 35 times per year.

There were no exceedences of any of these objectives at the Sparkwell monitoring station and the annual average level recorded there was just 0.4 µg/m³.

Sulphur Dioxide was also measured using diffusion tubes at the locations given as Ps1 (moor) and Ps6 (West Park Drive) on Figure 1.

The results are given in table 2. These results are not bias adjusted as there are no available bias adjustment factors for Sulphur Dioxide.

Table 2

	Measured SO₂ annual average in µg/m³
Ps1 - Moor	1.5
Ps6 - West Park Drive	1.1

Results of monitoring for Particulate Matter (PM₁₀)

The limit values for PM₁₀ set down under the Air Quality Standards Regulations 2010 are a 24 hour mean of 50 µg/m³ not to be exceeded more than 35 times per year and an annual mean of 40 µg/m³.

There were 3 exceedences of the 24 hour mean at the Sparkwell monitoring station and the annual average level recorded there was 18.7 µg/m³.