

5.2.3 Acidification

Predicted acidification rates are expressed as a percentage of the critical load function (CLF) in **Table 5.22**. At the two LWS, the predicted acid deposition rates due to emissions from the installation (PC) are less than 100% of the relevant critical load. Therefore, the impact would be assessed as not significant.

Table 5.22: Predicted Acidification Rates (keq/ha/a)

Habitat Site	PC (keq/ha/a)	PEC (keq/ha/a)	PC (as a %age of the CLF)
H1 Pasture Opposite Gypsum Works LWS	0.016	1.08	0.3%
H2 Ash Tree Dike and Ponds LWS	0.012	1.06	0.2%

5.3 Emissions at Half-hourly ELVs

The dispersion modelling results presented **Section 5.1** have been predicted assuming that the installation is operating for all hours in the year with the pollutant concentrations exactly at the daily emission limit value prescribed by the BREF BAT-AELs. This is an extreme assumption, especially for the annual average concentrations, since the facility could never operate with release rates as high as this in practice and remain compliant with legislation.

Short term peak concentrations may arise if the facility emits pollutants at levels approaching the half hourly limit values prescribed in the IED. These pollutants are particulate matter, nitrogen dioxide, sulphur dioxide, hydrogen chloride, hydrogen fluoride and carbon monoxide and have the following half-hourly emission limit values:

- total dust – 30 mg/Nm³ (10 mg/Nm³ 97% compliance) (1.5 g/s);
- hydrogen chloride – 60 mg/Nm³ (10 mg/Nm³ 97% compliance) (3.1 g/s);
- hydrogen fluoride – 4 mg/Nm³ (2 mg/Nm³ 97% compliance) (0.20 g/s);
- sulphur dioxide – 200 mg/Nm³ (50 mg/Nm³ 97% compliance) (10.2 g/s);
- oxides of nitrogen – 400 mg/Nm³ (200 mg/Nm³ 97% compliance) (20.4 g/s); and
- carbon monoxide – 100 mg/m³ (5.1 g/s).

Such excursions above daily limit values are permitted for only 3% of a year. The probability of such occasions occurring at the same time as the meteorological conditions that produce the highest one hour mean ground level concentrations is unlikely. On the basis of these worst-case assumptions, maximum predicted short-term concentrations for emissions at the half hourly limit values are provided in **Table 5.23**. It should be noted that these results represent a very worst-case and for some of the pollutants (NO₂, SO₂ and PM₁₀) there are a number of occasions when the AQAL can be exceeded.

Table 5.23: Maximum Predicted Short-term Concentrations at the Half-hourly ELVs

Pollutant	PC (µg/m ³)	PC (%)	PEC (%)
NO ₂ (maximum 1-hour)	66.4	33.2%	43.1%