

**Environment Agency Guidance:****Noise impact assessments involving calculations or modelling**

Details of information to be submit to the Environment Agency in a noise impact assessment that uses computer modelling or spreadsheet calculations.  
Published 23 October 2018 and Updated 6 November 2019. <https://www.gov.uk/guidance/noise-impact-assessments-involving-calculations-or-modelling>

Overview	Comment/Information Location/File name
assumptions used in the computer model or spreadsheet	Noise Model developed in IMMI 2016 noise mapping software. Calculation Assumptions are shown in also "Calc Assumptions" Sheet of EMERGE NOISE MODEL BASIS.xls
noise modelling files or spreadsheet calculations	See accompanying spreadsheet EMERGE NOISE MODEL BASIS.xls and EMERGE NOISE MODEL.QSI
noise model input data in QSI data exchange format files where you have used noise modelling	See accompanying QSI format files EMERGE NOISE MODEL.QSI
numerical noise data concise spreadsheet	See accompanying spreadsheet EMERGE NOISE MODEL BASIS.xls
General information	
the site location and layout	See Figure 7.1 within Appendix C of the Environmental Permit Application
proposed activities and sources of any noise	See Appendix 7-6 within Appendix C of the Environmental Permit Application
local receptors and reasons for selection	See Section 7.3 Baseline within Appendix C of the Environmental Permit Application
noise remediation approach	See Appendix 7-6 within Appendix C of the Environmental Permit Application
map showing the site and surrounding area including receptors	See Figure 7.1 within Appendix C of the Environmental Permit Application
site plan including the site boundary	See details in 'Proposed Site Layout' within Appendix A of the Environmental Permit Application, plus details of the site representation within the "Model Layout" sheet of EMERGE NOISE MODEL BASIS.xls
full noise survey report if you have carried out a BS4142 assessment	See details in Section 7 within Appendix C of the Environmental Permit Application
description of the noise mitigation measures	See Appendix 7-6 within Appendix C of the Environmental Permit Application
Noise data Provision	
Fixed and mobile plant	
grid references	See QSI data exchange, plus also "Fixed Point Source" and "Reference Spectra" sheets of EMERGE NOISE MODEL BASIS.xls
referenced or derived sound power levels	
heights	
directivities	
operating times	Plant will operate continuously, but waste deliveries will typically be limited to day time hours
Noise emitting buildings	

corner grid references	See QSI data exchange, plus also "Building Details" Sheet of EMERGE NOISE MODEL BASIS.xls. Note: for the purpose of the noise model, the upper architectural building features have been simplified to rectilinear boxes - this is considered to have no impact on the validity of the noise prediction
heights	
octave band reverberant sound pressure calculations or measurements	See internal sound pressure level assumptions in Appendix 7-6 within Appendix C of the Environmental Permit Application
referenced octave band transmission coefficients	See transmission assumptions in Appendix 7-6 within Appendix C of the Environmental Permit Application and "Reference Spectra" sheet of EMERGE NOISE MODEL BASIS.xls
façade and roof emissions	See QSI data exchange, plus also "Building Details" Sheet of EMERGE NOISE MODEL BASIS.xls
<b>Aperture emissions</b>	
grid references	See QSI data exchange, plus also "Area Sources" Sheet of EMERGE NOISE MODEL BASIS.xls. Apertures are shown as 'OPENINGS' within wall area sources
dimensions	
sound power levels	
opening times	
<b>Site traffic</b>	
grid references for site roads	See QSI data exchange, plus also "Line Source" Sheet of EMERGE NOISE MODEL BASIS.xls, During plant operation 155 HGV movements will occur between 06:00 and 18:00, which equates to an average of approximately 13 HGVs per hour. For the purpose of quantifying their contribution to the operational noise emission from the site, it is assumed that there are 2 HGVs moving around the site at any one time. Each HGV is represented in the noise model as series of line segments along the HGV route with an overall sound power level of 103 dB LWA
vehicle sound power levels	
traffic numbers	
traffic speed	
<b>Site buildings</b>	
corner grid references	There are limited number of non-operational site buildings. See QSI data transfer and vertices/heights in "Building Details" Sheet of EMERGE NOISE MODEL BASIS.xls
heights	
<b>Off-site buildings</b>	
corner grid references	No account of buildings away from the overall Ratcliffe-on-Soar Power Station site are included within the noise model. Representations of the existing main plant builds that are considered to potentially act as barrier to noise propagation have been incorporated into the noise model. See QSI data elements. (Note: Some buildings will be retained and some will be demolished as part of the planned decommissioning of the Ratcliffe-on-Soar Coal Fired Power Station
heights	
<b>Site acoustic barriers</b>	
grid references at ends	Not applicable, Site layout screening only
construction details	
thicknesses	
heights	
<b>Terrain data</b>	

sources	Only screening provided by terrain that extends in an east-west direction to the north of the site has been considered. Data taken from GOV.UK lidar ground height scans and interpolated into 2m interval contours using QGIS. Terrain elements supplied within QSI data transfer files
barriers or buildings	
receptors	
Use high resolution spot heights or contours.	
<b>Receptors</b>	
grid references	See QSI data exchange, plus also "Receptors" Sheet of EMERGE NOISE MODEL BASIS.xls
addresses or other identification	See descriptions of residential receptors in Section 7.3 Baseline within Appendix C of the Environmental Permit Application
number of storeys (estimate sound pressure levels for each storey)	Noise prediction not sensitive to storey height due to source-receptor separation
sensitivity	
BS4142 background LA <sub>90</sub>	Baseline LA90 details provided in Appendix 7-3 within Appendix C of the Environmental Permit Application
specific and rating levels for site activities	Noise mapping contours for Daytime and Night-time scenarios are shown in Appendix 7-7 within Appendix C of the Environmental Permit Application
rationale for applying or not applying acoustic penalties	See Sections 7.4.16-7.4.20 within Appendix C of the Environmental Permit Application. As process will be continuous and largely contained within buildings and automatic closure access doors will be employed for vehicle access into the tipping-hall, any external noise emission will be controlled by design. Noise characteristics at receptor locations do not include a penalty
numerical impacts	See Sections 7.4.22-7.4.37 and Table 7.15-7.18 within Appendix C of the Environmental Permit Application