

# EPA Application Form

## 7.5 - Noise Emissions - Attachment

Organisation Name: \*

Amazon Data Services Ireland Limited

Application I.D.: \*

LA007494

For inspection purposes only.  
Consent of copyright owner required for any other use.

## Authorisation Application Form

### Amendments to this Application Form Attachment

Version No.	Date	Amendment since previous version	Reason
V.1.0	July 2017	N/A	Online application form attachment
As above	Mar 2018	Identification of required fields	Assist correct completion of attachment

For inspection purposes only.  
Consent of copyright owner required for any other use.

\* indicates required field



## Authorisation Application Form

### **Noise Emissions** (see **Note i** at the end of this attachment)

**Note:** An assessment of the impacts of noise, where applicable, should be uploaded in Tab 7 – ‘Emissions Overview’ of the application form.

Provide detail of measures to reduce noise emissions (list techniques)  
(See **Note ii** at the end of this attachment)

Selection of plant with due consideration to off-site noise impacts along with the provision of attenuation (e.g. to roof fans etc. where required) have been considered.

The significant noise sources associated with site operations are show in the table below; and reviewed in Attachment-7-1-3-2-Noise Emissions Impact Assessment

For inspection purposes only.  
Consent of copyright owner required for any other use.

## Authorisation Application Form

Source	L <sub>WA</sub> - Octave Band Centre Frequency								dB (A)
	63	125	250	500	1k	2k	4k	8k	
Roof Fan <sup>Note A</sup>	56	59	67	71	69	66	62	62	75
AHU & CRAH Louvres <sup>Note B</sup>	55	61	55	51	46	44	41	32	54
Condensers	55	63	68	72	72	67	61	52	77
Generator Intake <sup>Note C</sup>	88	90	82	83	83	80	78	76	94
Generator Rear <sup>Note C</sup>	88	90	82	83	83	80	78	76	94
Generator Stack <sup>Note D</sup>	84	77	77	73	69	74	71	71	86
Generator Sides & Roof <sup>Note C</sup>	82	93	92	94	94	93	88	75	101

**Table 8** L<sub>WA</sub> levels Utilised in Noise Model

**Note A** Roof exhaust with attenuator – as advised by client.

**Note B** Per m<sup>2</sup>

**Note C** Assuming generator housing dimensions of 17m (L) x 4m (W) x 4m (H). Data based on CAT data supplied in relation to previous sites.

**Note D** Additional attenuation due to 20m stack and additional bends assumed.

**Note E** The following extract from the "EirGrid Evidence Based Environmental Studies Study 8: Noise – Literature review and evidence-based field study on the noise effects of high voltage transmission development (May 2016)" states the following in relation to noise impacts associated with 110kV transformer installations:

*"The survey on the 110kV substation at Dunfirth indicated that measured noise levels (L<sub>Aeq</sub>) were less than 40dB(A) at 5m from each of the boundaries of the substation. This is below the WHO night-time free-field threshold limit of 42dB for preventing effects on sleep and well below the WHO daytime threshold limits for serious and moderate annoyance in outdoor living areas (i.e. 55dB and 50dB respectively). Spectral analysis of the data recorded at this site demonstrated that there were no distinct tonal elements to the recorded noise level. To avoid any noise impacts from 110kV substations at sensitive receptors, it is recommended that a minimum distance of 5m is maintained between 110kV substations and the land boundary of any noise sensitive property."*

Assuming the proposed substation installation has comparable noise emissions to the 110kV unit discussed above and considering the distance between the 110kV substation and the nearest off site i.e. >250m) noise from this installation is not predicted to be an issue off site.

Considering the above, it is concluded that there will be no significant noise emissions from the operation of the cable installations or substation. Consequently, there is no requirement to assess any operational noise emissions.

### Authorisation Application Form

Following the *Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)* (2012 as amended) complete the table below, inputting summary details of noise monitoring points <sup>(see Note iii at the end of this attachment)</sup> and proposed noise limit criteria.

Monitoring point code <sup>1</sup>	Easting <sup>2</sup>	Northing <sup>3</sup>	Monitoring point type <sup>4</sup>	Proposed Noise Limit Criteria				Proposed monitoring frequency
				Max. noise level daytime dB L <sub>Ar,T</sub> (30 mins)	Max. noise level evening dB L <sub>Ar,T</sub> (30 mins)	Max. noise level night dB L <sub>eq,T</sub> (15-30 mins)	How was the noise limit derived? <sup>5</sup>	
N1	To Be Agreed with Agency		Noise Sensitive Location	55	50	45	Section 4.4 NG4 (2016)	Annual; Daytime, Evening Time, Night Time
N2	To Be Agreed with Agency		Noise Sensitive Location	55	50	45	Section 4.4 NG4 (2016)	Annual; Daytime, Evening Time, Night Time
N3	To Be Agreed with Agency		Noise Sensitive Location	55	50	45	Section 4.4 NG4 (2016)	Annual; Daytime, Evening Time, Night Time
N4	To Be Agreed with Agency		Noise Sensitive Location	55	50	45	Section 4.4 NG4 (2016)	Annual; Daytime, Evening Time, Night Time

For inspection purposes only. Consent of copyright owner required for any other use.

**Note:** Map(s)/drawing(s) uploaded under ‘Site Plans’ in Tab 3 of the application form should identify the emission and monitoring points.

- 1 The following convention should be observed when labelling noise monitoring points:  
N1, N2,.....The monitoring locations should be identified on an accompanying site plan drawing(s) uploaded in Tab 3 – ‘Site’ of the application form.
- 2 Six Digit GPS Irish National Grid Reference of Monitoring Point
- 3 Six Digit GPS Irish National Grid Reference of Monitoring Point
- 4 Monitoring point type options: ‘Boundary’, ‘Noise Sensitive Location’ or ‘Permanent Noise Monitoring’
- 5 Derived noise limit options: ‘BAT’, ‘EQS’, or ‘Derogation’

\* indicates required field

### Authorisation Application Form

Was an assessment for tonal and impulsive noise carried out? <sup>6</sup> (Yes/No)	Yes
If 'Yes' was tonal or impulsive noise identified to be present? (Yes/No)	No

For emissions outside the EPA Noise Guidance Note limit, see the Agency's *Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)* (2012) (available on [www.epa.ie](http://www.epa.ie)), a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards is required to be uploaded with this document. This programme should highlight specific goals and a time scale, together with options for modification, upgrading or replacement, as required, to bring the emissions within the limits as set out in the Guidance Note.

For inspection purposes only.  
Consent of copyright owner required for any other use.

<sup>6</sup> Refer to section 5 of the Agency's *Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)* (2012 as amended).

\* indicates required field

## Authorisation Application Form

- Note i** This part of the application form collects data on noise emissions namely measures used to reduce noise and noise levels at a reference distance under normal operation. As noise emissions can arise from different sources on a site, the EPA usually considers the total emission from the site. Please note that emission limit values and monitoring requirements in any proposed licence shall be based on the information supplied hereunder.
- Note ii** Measures are usually required to reduce, minimise or prevent emissions from occurring. They may involve the application of a single technique or a combination of techniques including housing, insulation and appropriate location of equipment. List all techniques proposed/employed. Technique(s) employed must comply with BAT. Highlight additional measures required for the purposes of protecting the environment. The measures or techniques to be taken must be capable of complying with the proposed/known emission level(s).  
The measures required shall be informed by the following:
1. BAT techniques
  2. Stricter measures/techniques than BAT
  3. BAT determined by competent authority in consultation with the applicant
  4. Other measures
- Note iii** An individual record (i.e. row) is required for each monitoring point. A National Grid Reference (12 digit, 6E, 6N) must be given for each monitoring point. Noise emissions differ from other emissions in that they are generally limited at a reference distance from the source(s). This reference distance should be, where possible, the boundary of the installation but in certain circumstances it is a noise sensitive location outside the boundary of the installation. Noise levels along a boundary will vary due to the location and positioning of noise sources and the 'worst case' should always be selected. Sufficient points should be identified to fully describe the noise levels from the installation. For waste activities, traffic noise emissions should be taken into account especially if it. The Agency's Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4) (2012) and Guidance Note on Noise assessment of Wind Turbine Operations at EPA licensed Sites (NG3)(as appropriate) should be consulted when setting proposed sound limits.