



Authorisation Application Form

EPA Application Form

7.5 - Noise Emissions - Attachment

Organisation Name: *

Runway Information Services

Application I.D.: *

LA010592

* indicates required field



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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



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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)

CLN1, CLN2 & CLN3

The significant noise sources associated with site operations are reviewed in Table A and were selected with a view to achieving the relevant noise criteria. The primary noise source from the project in normal operating conditions will be the 380 no. external roof-mounted indirect air cooling IAC units, consisting of 124 no. units on the roof of each of the three data centre building and 8 no. units on the roof of the administration building.

The majority of the IAC units on the roof of the data centre buildings are be surrounded by a roofed screen wall which has a height of 15.9 m. The screen wall will serve to mitigate noise emissions from the units. Noise will pass under this screen wall which does not extend all the way down to the data centre roof. This has been catered for in the modelled scenarios.

In the emergency power outage scenario, the main noise sources will be 3MW diesel back-up emergency generators. There will be a total of 18 generators on the ground along the wall of each of the three data centre buildings, giving a total of 54 units.

Noise Source	No.	Height Above Ground (m)	Sound Power Level dB L _w	Operating Scenario
IAC Roof Fans (Outlet)	380	13.8	90	24hrs all scenarios
IAC Roof Fans (Inlet)	380	11	80	
3MW Generator Body	54	6	93	1 generator in testing scenario, 54 generator in emergency power outage scenario
3MW Generator Exhaust	54	12.1	93	
Transformers	--	4	86	24hrs all scenarios

Table A Review of Significant Noise Sources on Site

Commented [BR1]: This should be changed in line with the comments in the document this is taken from.

* indicates required field

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CLN5 & CLN6

The primary noise source from the CLN5 and CLN6 aspects of the development in normal operating conditions are the roof mounted SPLC cooling plant on the roof of each of the two data centre buildings and minor mechanical plant on the roof of the administration building.

The majority of the units on the roof of the data centre buildings are surrounded by a screen wall which has a height of 15.9m. The screen wall will serve to mitigate noise emissions from the roof plant.

In the emergency power outage scenario, the main noise sources will be 3.12MW emergency backup generators. There are a total of 18 3.12 MW generators on the ground along the wall of each of the two data centre buildings, giving a total of 36 units plus one 1.25 MW unit at the administration building.

The primary noise source input data used in the model as described in Table 12 are:

- Sound Power Level (SWL) data for the SPLC units and other mechanical roof plant equipment, provided by the manufacturer.
- SWL data for the emergency back-up generator unit's mechanical noise, to design specification requirements.
- SWL data for the emergency back-up generator units exhaust noise, to design specification requirements.
- SWL data for the two substation transformers to design specification requirements.

Noise Source	No.	Sound Power Level dB L _w	Operating Scenario
SPLC Outlet Day	--	104.2	Day and evening periods
SPLC Outlet Night	--	100.2	Night time
SPLC Inlet Day	--	93	Day and evening periods
SPLC Inlet Night	--	93	Night time
Datahall MUA	--	82.1	24 hours
MPOE AHU	--	86.2	24 hours
MPOE MUA	--	91.8	24 hours

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BDF AHU	--	81.2	24 hours
Core Elec Dec	--	78.4	24 hours
ER B Deck	--	75.9	24 hours
3MW generator body	37	99	Note A
3MW generator exhaust	37	93	Note A
Transformers	--	86	24 hours

Table B Review of Significant Noise Sources on Site (CN1, CN2 & CN3)

- Note A** Two generators per data centre building in daytime standard operating scenario, 90 generators (for both the data centre campus) in emergency power outage scenario.
- Note B** The height of the noise sources was modelled as per the scheme drawings.
- Note C** All point sources modelled as emanating in 360° direction.
- Note D** The emergency back-up generators are not considered part of the normal operation and would only be required to power the Development in the instance of a power interruption. They will, however, be tested regularly during daytime hours in the operational phase, and this scenario has also been modelled with two generators per data centre building running at any one time, on both the existing adjacent data centre campus and the expansion. Testing will occur during day time hours of 07:00 to 19:00 only.



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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 ^{(see [Note iii](#) at the end of this attachment)} and proposed noise limit criteria.

Monitoring point code ¹	Easting ²	Northing ³	Monitoring point type ⁴	Proposed Noise Limit Criteria				Proposed monitoring frequency
				Max. noise level daytime dB L _{Ar,T} (30 mins)	Max. noise level evening dB L _{Ar,T} (30 mins)	Max. noise level night dB L _{Eq,T} (15-30 mins)	How was the noise limit derived? ⁵	
N1	704,559	742,601	Noise Sensitive Location	55	50	45	BAT/Existing Licence See Section 4.3 of supporting Attachment-7-1-3-2-Noise Emissions Impact Assessment	To be agreed with Agency
N2	703,970	742,243	Noise Sensitive Location	55	50	45		
N3	703,634	742,035	Noise Sensitive Location	55	50	45		
N4	702,833	742,000	Noise Sensitive Location	55	50	45		
N5	703,051	741,678	Noise Sensitive Location	55	50	45		

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

Was an assessment for tonal and impulsive noise carried out? ⁶ (Yes/No)	Yes
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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'

⁶ 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).

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If 'Yes' was tonal or impulsive noise identified to be present? (Yes/No)	No
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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), 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.



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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.