

REF: AS8175.190211.L1

24 April 2019

Mr P Segal
Bouygues UK
Elizabeth House
39 York Road
London SE1 7NQ

Dear Paul

AS8175 UCLH PROTON BEAM THERAPY UNIT**Condition 30 Generator Submission**

Noise emissions from the standby generator proposed for installation on the UCLH Proton Beam Therapy unit are subject to the following Condition 30:

Prior to the installation of the stand by generator, an acoustic report shall be submitted to and approved by the Local Planning Authority detailing how the required noise criteria as outlined within condition 24 will be met. Any attenuation measures detailed within the acoustic report approved by the Local Planning Authority shall be installed and remain in place for the lifetime of the development.

On commissioning the machinery and prior to the building being occupied a noise survey shall be carried out to ascertain the above noise levels criteria from the machinery are being met. An acoustic report shall be submitted for the approval of the Local Planning Authority. The Acoustic Report shall clearly contain map/plan showing all measurements locations, tabulated and graphically raw data, calculations /façade corrections /assumptions made, time date, etc. (ii) All plant and machinery shall be installed so as to prevent the transmission of noise and vibration within or at the boundary of any noise sensitive premises either attached to or in the vicinity of the premises to which this application refers.

The referenced Condition 24 states;

Noise levels at a point 1 metre external to sensitive facades shall be at least 5dB(A) less than the existing background measurement (LA90), expressed in dB(A) when all plant/equipment (or any part of it) is in operation unless the plant/equipment hereby permitted will have a noise that has a distinguishable, discrete continuous note (whine, hiss, screech, hum) and/or if there are distinct impulses (bangs, clicks, clatters, thumps), then the noise levels from that piece of plant/equipment at any sensitive façade shall be at least 10dB(A) below the LA90, expressed in dB(A).

Clarke Saunders Associates has undertaken a desktop assessment of noise emissions from the proposed generator as required prior to its installation.

The generator is to be located within an acoustic enclosure at Level 6 roof at the southern end of the Huntley Street building, orientated as shown in the attached figure AS8175/SP30.1.

The allocated generator area will be provided with screens on all sides, extending to a height of approximately 3m above roof level. Owing to the relative levels of the development and receptor buildings, no receptor will have a view of the generator.

Details of the generator installation have been provided by the supplier and Bouygues (UK) Ltd.

The generator installation is subject to a general acoustic specification of 70dB(A), or lower, at 1m from any point. The generator is to be isolated from its enclosure and building structure by means of internally-positioned high deflection spring mounts.

Noise emissions have been confirmed by the supplier as follows.

Frequency (Hz)	63	125	250	500	1k	2k	4k	8k	dB(A)
L _{pA} @ 1m from air intake/outlet attenuator	59	60	52	59	44	43	39	53	66
L _p @ 1m from exhaust outlet, 90 degrees	Not available								70
L _p @ 1m from enclosure	Not available								70

Generator Sound Pressure Levels

dB re. 20 µPa

Generator noise emissions have been modelled using CadnaA specialist software employing algorithms developed from ISO 9613-2:1996 *Acoustics - Attenuation of sound during propagation outdoors -- Part 2: General method of calculation*.

A-weighted generator sound pressure level 'contours' have been calculated on a grid set at a height equal to the top floor of Paramount Court, as presented in the attached figure AS8175/NM30.1..

Noise levels have also been calculated to whole number precision at the windows of the nearest affected receptors, identified as;

- seventh floor windows in the eastern end wall of Paramount Court;
- third floor windows of the Jeremy Bentham pub on Huntley Street.

These show that generator noise levels are not expected to exceed 43dB(A) at the upper floors of Paramount Court and 31dB(A) at the Jeremy Bentham windows. Noise is not expected to contain discrete tonal characteristics or be impulsive in nature.

Background noise levels measured close to the north façade of Paramount Court's University Street wing prior to the development did not fall below 48dB(A) L_{90,15min}. The assessed windows, overlooking University Street and Huntley Street, have greater exposure to surrounding environmental noise sources. From subsequent surveying exercises, background noise levels at these windows are expected to be 4dB to 5dB higher.

This assessment, therefore, shows that generator noise at the most affected receptors is expected to be at least 5dB below the background noise level. As such, predicted levels of generator noise comply with the requirements of Condition 24 and, subsequently, satisfy Condition 30.

Yours sincerely
for CLARKE SAUNDERS ASSOCIATES
Matt Sugden

Matt Sugden

email: msugden@clarkesaunders.com

Encl.



