WILTECH ACOUSTICS

700 2373-Q4 APPENDIX A: NOISE DATA SUBMISSION

FAO:	**Mr. Richard Dean**	**DATE:**	**24th September 2025**
Company:	**WBPS LTD.**	**Customer Ref:**	**023880 The Astley**

We are pleased to submit preliminary Noise Data as requested:

NOISE DATA SUBMISSION
For the installation of a relkho KD165 (KD 59LOT06) Life Safety Diesel Generator set in a Plantroom
Target Noise level 50dB(A)@1m for Attenuators & 44dB(A)@5m for the exhaust gas Silencers

FREQUENCY (Hz)	Octave band Centres (dB).Lin.								OVERALL dB(A)
	63	125	250	500	1000	2000	4000	8000	
UNSILENCED ENGINE NOISE L_W	104.0	107.0	109.0	111.0	111.0	108.0	105.0	105.0	119.1
UNSILENCED Radiator fan L_W	97.5	102.5	106.5	104.5	99.5	95.5	94.5	91.5	104.5
Plantroom REVERBERENT L_P	97.8	98.3	92.2	91.3	92.0	92.2	90.9	88.7	98.1
INLET ATTN PREDICTED L_P @1m	69.0	63.6	48.1	27.6	27.2	26.2	25.3	22.4	49.3
INLET ATTN PREDICTED Lw	51.2	55.9	47.9	32.8	35.7	35.9	34.7	29.7	49.3
DISCHARGE PREDICTED L_P @1m	69.8	63.7	45.8	35.8	33.9	32.7	31.3	28.4	49.7
DISCHARGE PREDICTED Lw	52.0	56.0	45,7	41.1	42.4	42.4	40.8	35.7	58.2
UNSILENCED EXHAUST NOISE Lp @1m	116	112	105	101	94	89	89	90	103
EXHAUST Silencer Lp @ 5m	67	46	31	27	20	14	11	11	42

NOTES:

- **Grey areas above denote source data stated in L_W Sound Power levels.**
- **White areas above denote calculated data, stated in L_P Sound Pressure levels at specified distance.**
- **Calculations for noise within the unit is carried out using both the engine and radiator fan as noise sources to ensure "Beaming" from fan Pure Tones is prevented in the discharge attenuator.**
- **The Above Data is based on a Plantroom 6400mmLX x3065mmW and assumed height of 3500mm**
- Due to the limitation of the room size it is NOT practical to achieve the required noise levels with a plantroom that is plain concrete / block, the high levels of reverberant noise generated make attenuation length increase to the extent that Plantroom access is compromised and make egress from the room in an emergency unsafe.
- **Therefore, we have carried out our calculations on the assumption that the plantroom is acoustically lined with 100mmT Mineral Wool Sound absorption materials on stick pins.**
  Supplied by others during the room build phase.
- We also have concerns that the client will be able to source a Plantroom access door of sufficiently hight performance to satisfy the **50dB(A)@1m** criteria the Acoustic doors, thus use of inner and outer doors may be required.
- Regarding Exhaust gas silencers and acoustic performance, I have reviewed this with our specialist suppliers and the best solution they can offer is **50dB(A)@5m**, that fits in the room, but this solution doesn't take into account, the further attenuation benefits of any exhaust flue systems you may be proposing.