APPENDIX 12.6 - BACKGROUND NOISE ANALYSES

The following sections present an overview and results of the noise monitoring data obtained from the background noise survey in accordance with the methodology in the IOAGPG. For Locations A, E and F, the potential contribution to measured noise levels from the four operating turbines at Foyle wind farm has been considered.

Location A (H009)

Figure 1 below presents the measured noise levels for Daytime periods at Location A.

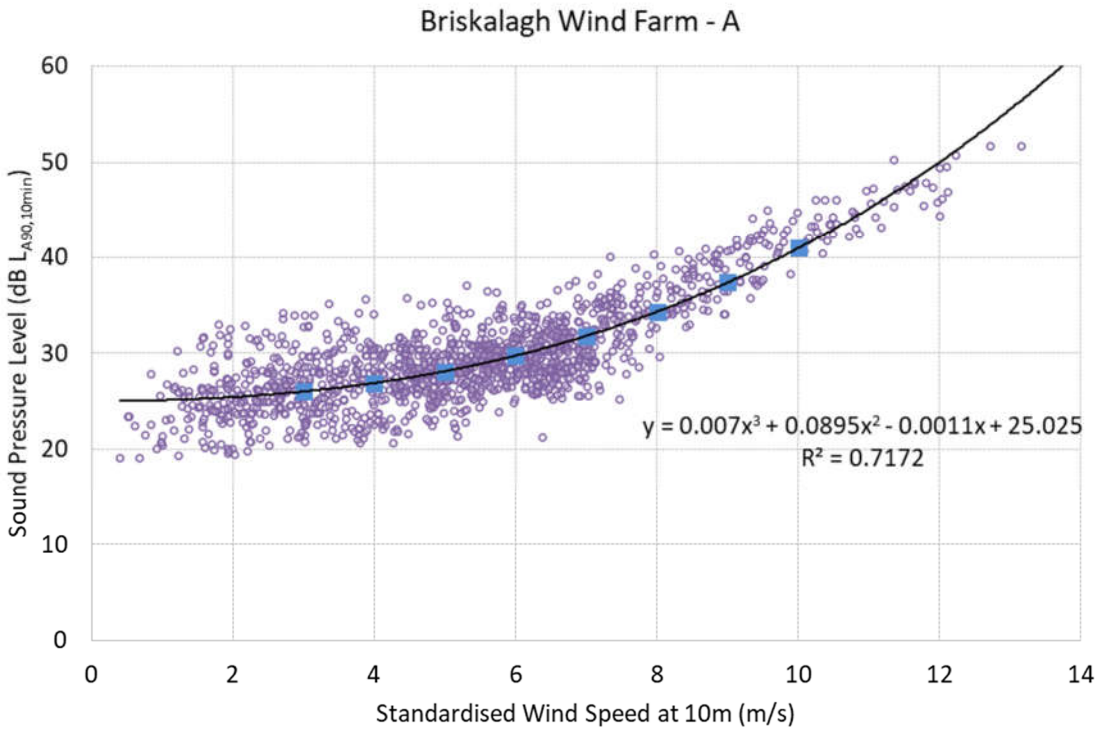

Figure 1: Location A (H009) Background Noise Levels L_{A90}, 10 min dB – Daytime

In Table 1, the potential contribution from the four operating turbines at Foyle wind farm has been considered by subtracting the predicted noise levels from turbines at Foyle from the measured noise levels in order to derive prevailing background noise levels in the absence of influence from any operating wind turbine.

Locations	Noise Levels dB L_{A90} at standardised 10m height wind speed m/s						
	3	4	5	6	7	8	9
Measured Noise Levels	26.0	26.9	28.1	29.8	31.8	34.3	37.4
Predicted Noise Levels from Existing Foyle Turbines	18.9	18.9	18.9	23.3	25.9	26.6	26.6
Derived Background Noise Levels	25.1	26.2	27.5	28.7	30.5	33.5	37.0

Table 1 Derived Background Noise Levels for Daytime Periods at Location A (H009)

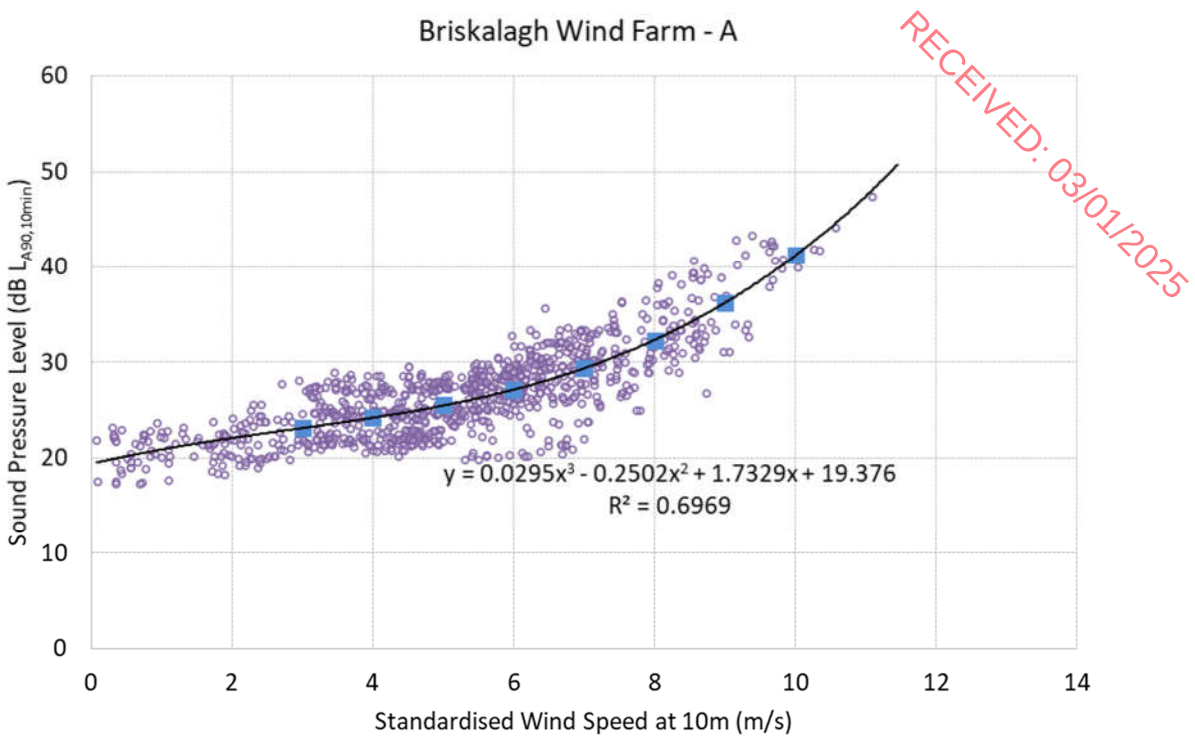

Figure 2: Location A (H009) Background Noise Levels L_{A90}, 10 min dB – Night-time

In Table 2, the potential contribution from the four operating turbines at Foyle wind farm has been considered by subtracting the predicted noise levels from turbines at Foyle from the measured noise levels in order to derive prevailing background noise levels in the absence of influence from any operating wind turbine.

Locations	Noise Levels dB L_{A90} at standardised 10m height wind speed m/s						
	3	4	5	6	7	8	9
Measured Noise Levels	23.1	24.2	25.5	27.1	29.4	32.3	36.2
Predicted Noise Levels from Existing Foyle Turbines	18.9	18.9	18.9	23.3	25.9	26.6	26.6
Derived Background Noise Levels	21.0	22.7	24.4	24.8	26.8	30.9	35.7

Table 2 Derived Background Noise Levels for Night-time Periods at Location A (H009)

Location B (H013)

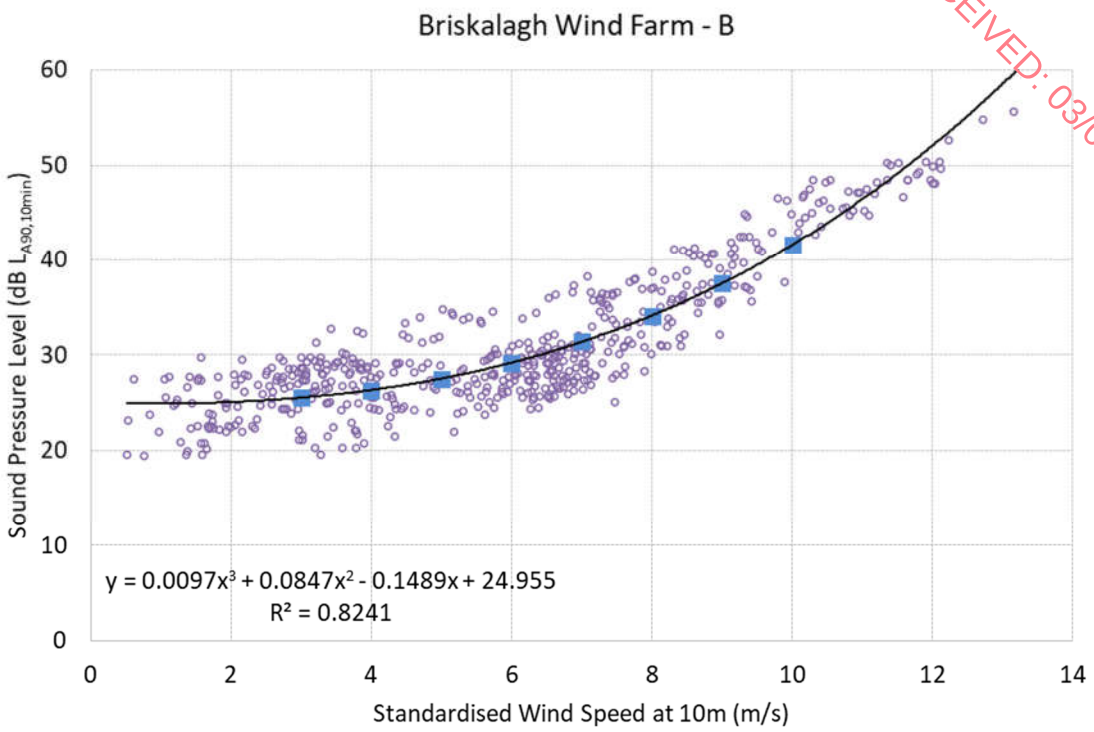

Figure 3: Location B (H013) Background Noise Levels L_{A90}, 10 min dB – Daytime

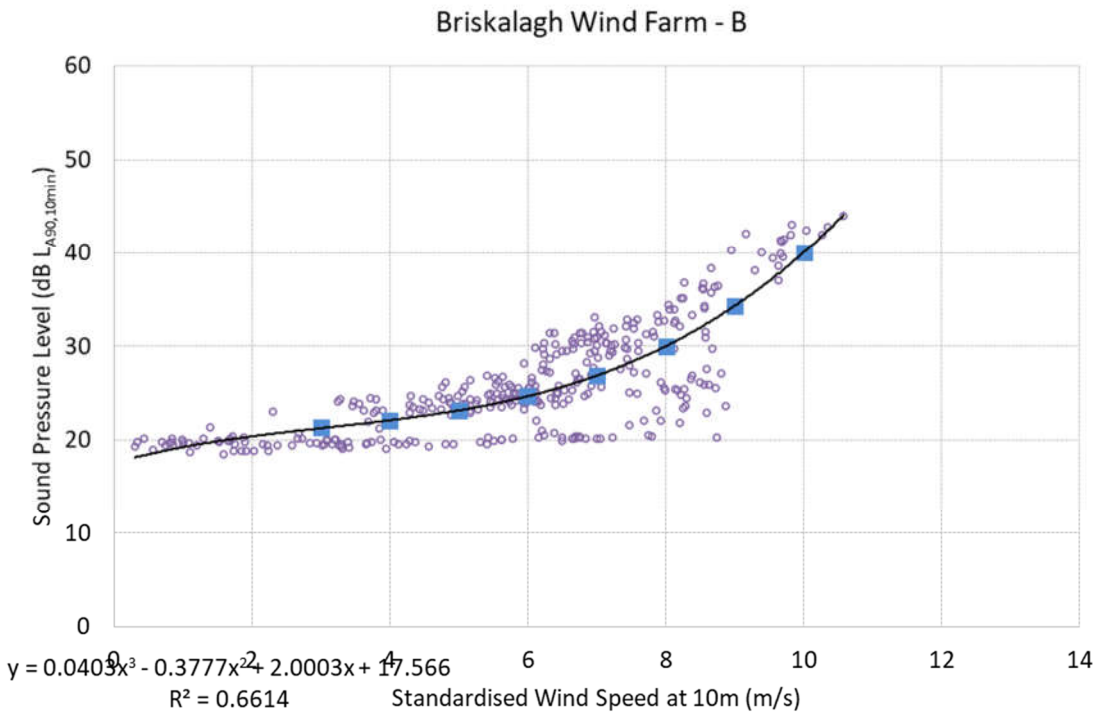

Figure 4: Location B (H013) Background Noise Levels L_{A90}, 10 min dB – Night-time

Location C (H001)

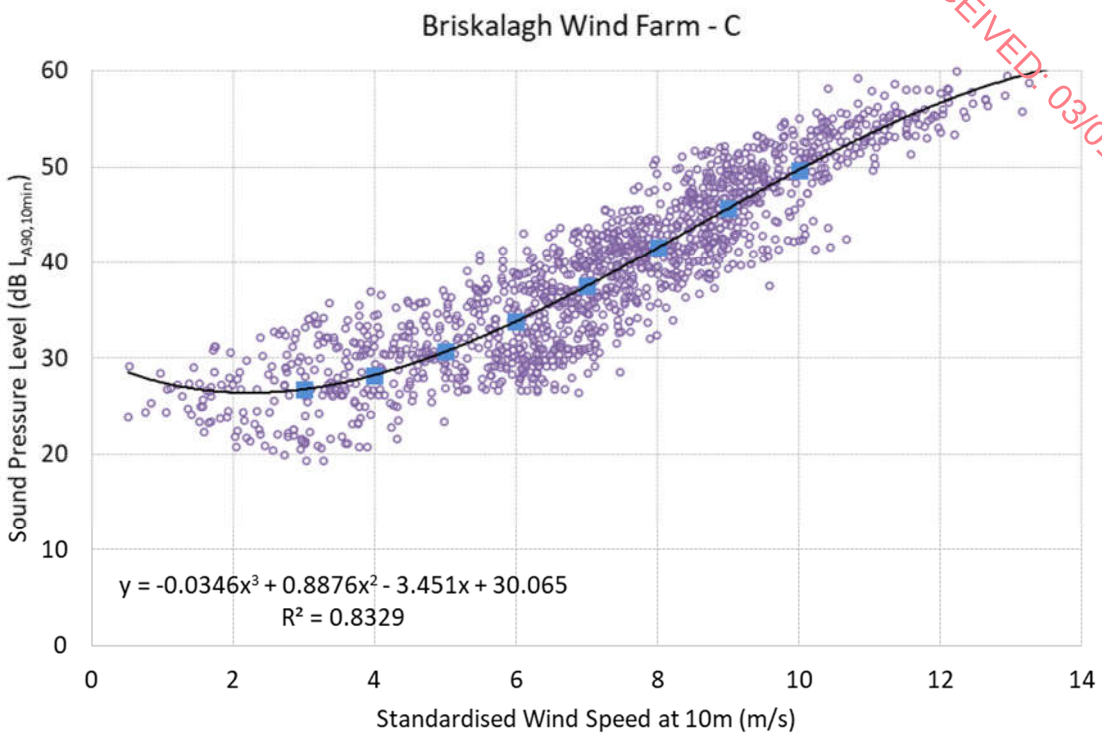

Figure 5: Location C (H001) Background Noise Levels L_{A90}, 10 min dB – Daytime

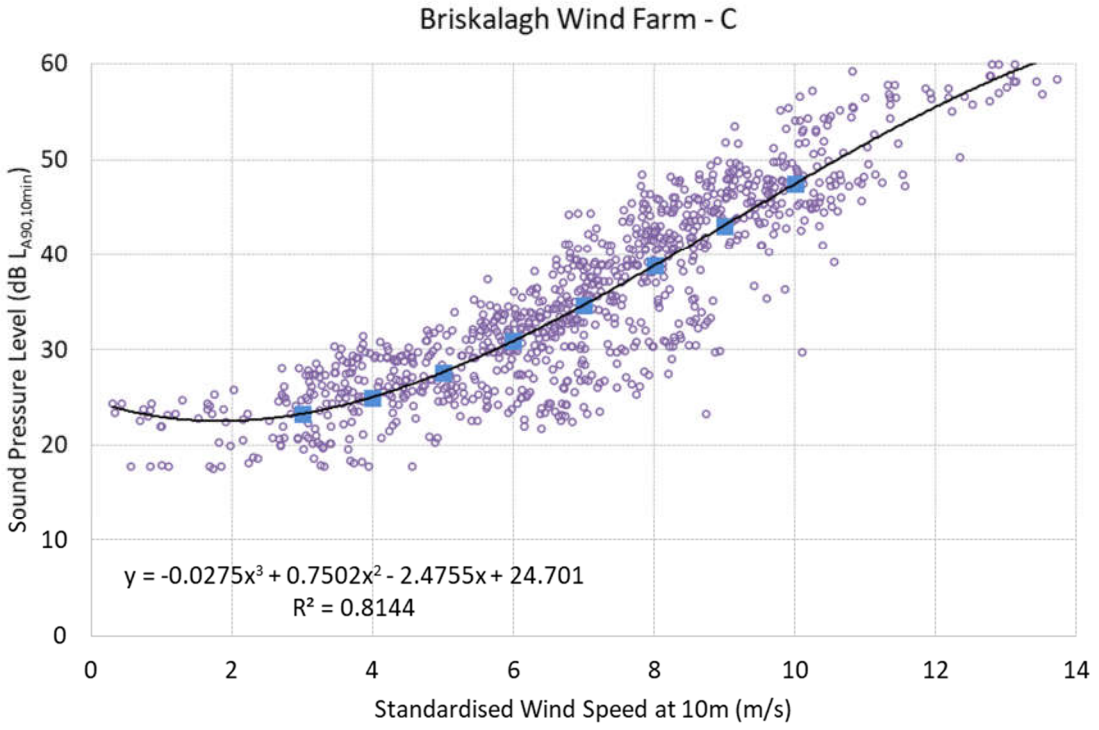

Figure 6: Location C (H001) Background Noise Levels L_{A90}, 10 min dB – Night-time

Location D (H029)

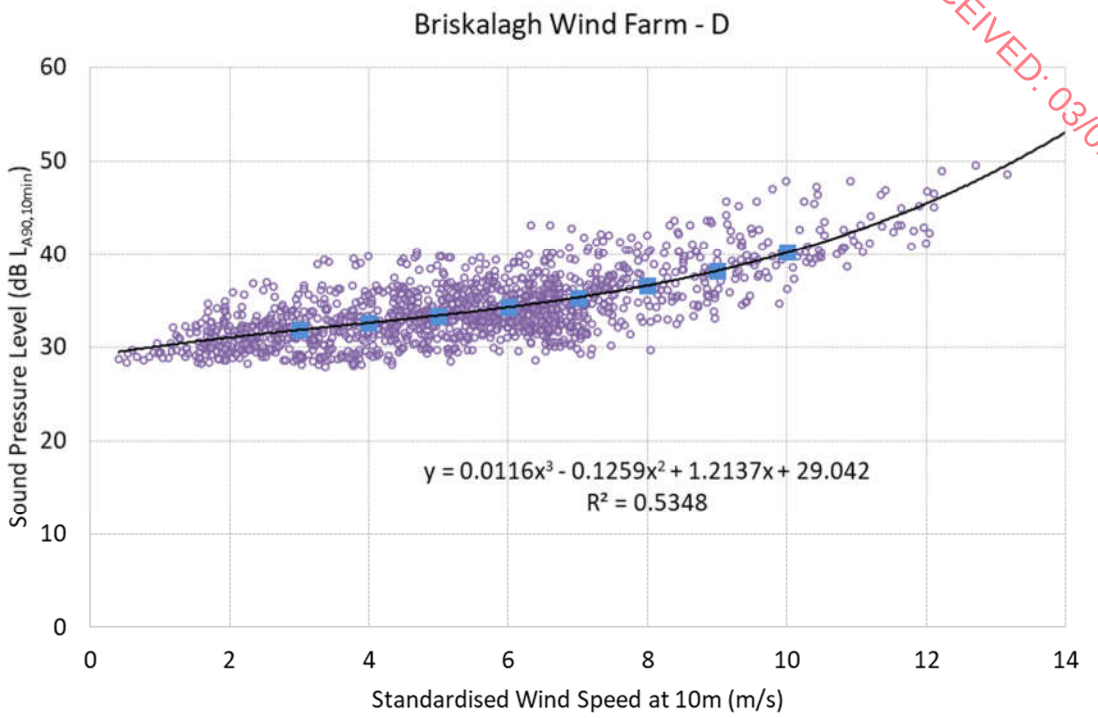

Figure 7: Location D (H029) Background Noise Levels L_{A90}, 10 min dB – Daytime

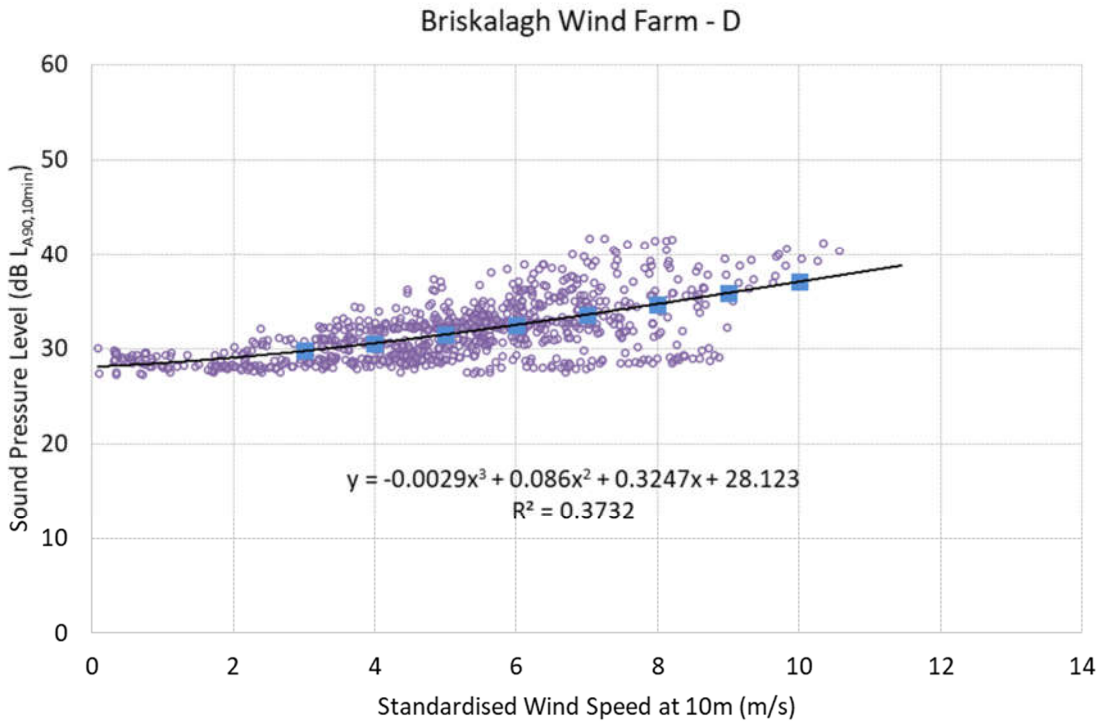

Figure 8: Location D (H029) Background Noise Levels L_{A90}, 10 min dB –Night-time

Location E (H049)

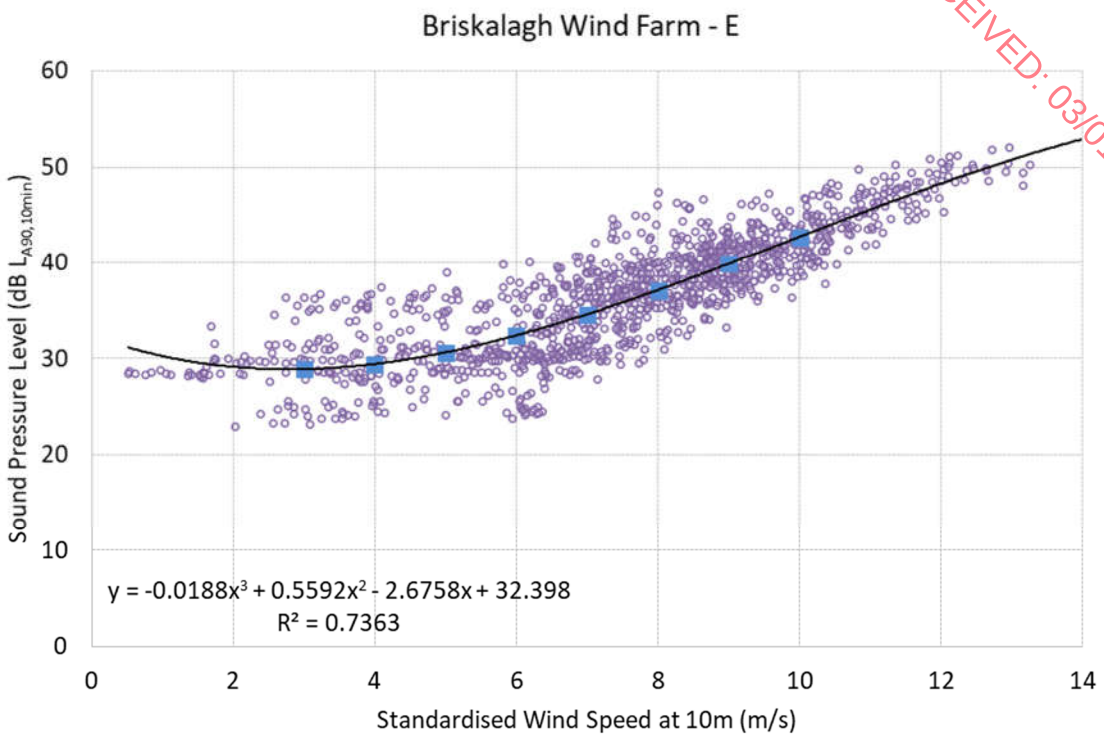

Figure 9: Location E (H049) Background Noise Levels L_{A90}, 10 min dB – Daytime

In Table 3, the potential contribution from the four operating turbines at Foyle wind farm has been considered by subtracting the predicted noise levels from turbines at Foyle from the measured noise levels in order to derive prevailing background noise levels in the absence of influence from any operating wind turbine.

Locations	Noise Levels dB L_{A90} at standardised 10m height wind speed m/s						
	3	4	5	6	7	8	9
Measured Noise Levels	28.9	29.4	30.6	32.4	34.6	37.1	39.9
Predicted Noise Levels from Existing Foyle Turbines	21.9	21.9	21.9	26.3	28.9	29.6	29.6
Derived Background Noise Levels	27.9	28.5	30.0	31.2	33.2	36.2	39.5

Table 3 Derived Background Noise Levels for Daytime Periods at Location E (H049)

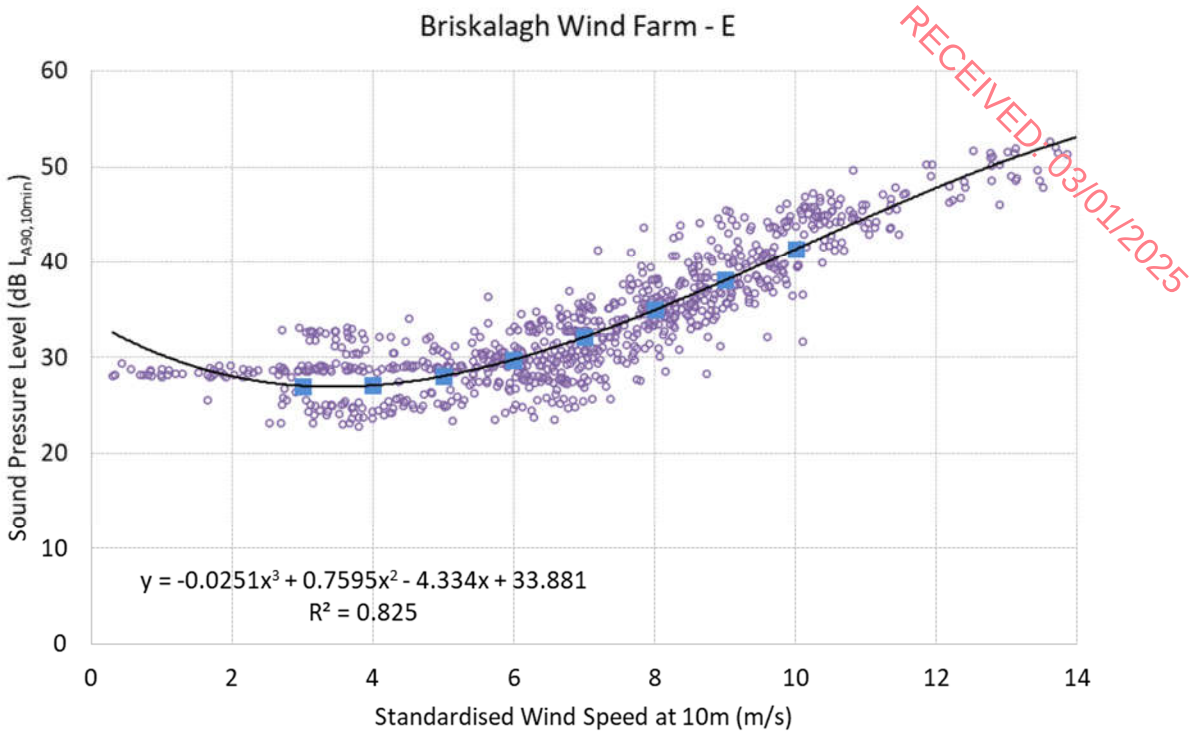

Figure 10: Location E (H049) Background Noise Levels L_{A90}, 10 min dB – Night-time

In Table 4, the potential contribution from the four operating turbines at Foyle wind farm has been considered by subtracting the predicted noise levels from turbines at Foyle from the measured noise levels in order to derive prevailing background noise levels in the absence of influence from any operating wind turbine.

Locations	Noise Levels dB L_{A90} at standardised 10m height wind speed m/s						
	3	4	5	6	7	8	9
Measured Noise Levels	27.0	27.1	28.1	29.8	32.1	35.0	38.1
Predicted Noise Levels from Existing Foyle Turbines	21.9	21.9	21.9	26.3	28.9	29.6	29.6
Derived Background Noise Levels	25.4	25.5	26.9	27.2	29.3	33.5	37.4

Table 4 Derived Background Noise Levels for Night-time Periods at Location E (H049)

Location F (H060)

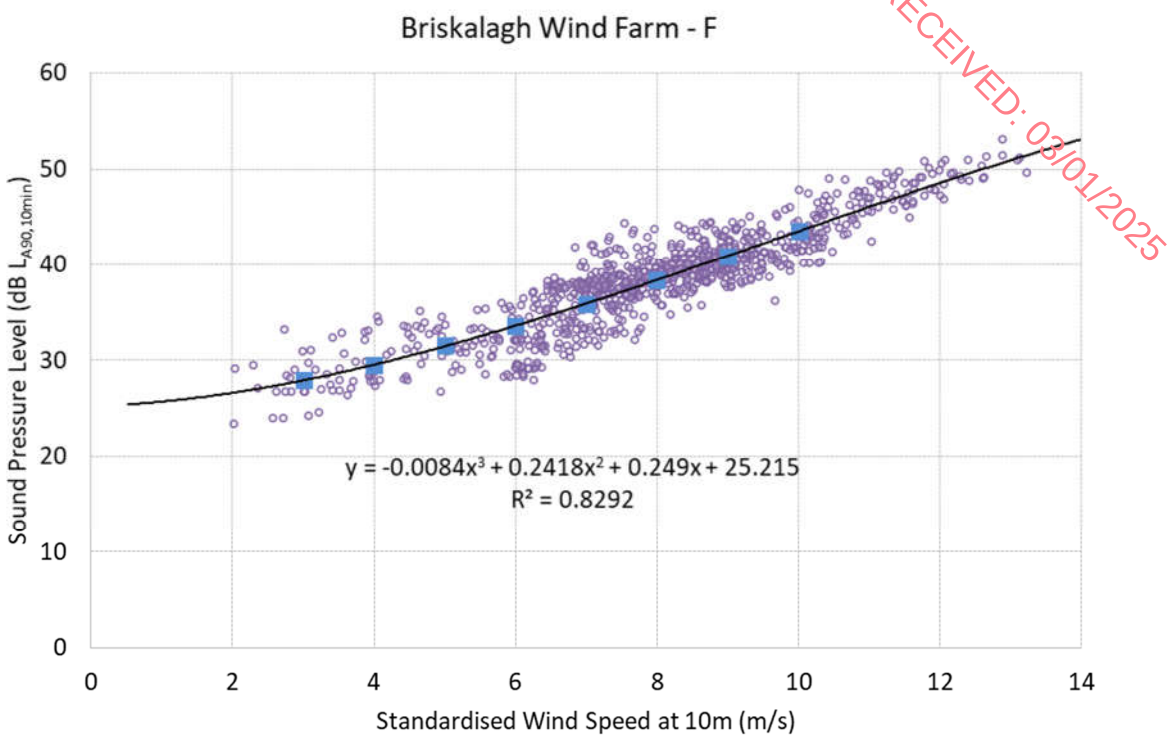

Figure 11: Location F (H060) Background Noise Levels L_{A90}, 10 min dB – Daytime

In Table 5, the potential contribution from the four operating turbines at Foyle wind farm has been considered by subtracting the predicted noise levels from turbines at Foyle from the measured noise levels in order to derive prevailing background noise levels in the absence of influence from any operating wind turbine.

Locations	Noise Levels dB L_{A90} at standardised 10m height wind speed m/s						
	3	4	5	6	7	8	9
Measured Noise Levels	27.9	29.5	31.5	33.6	35.9	38.4	40.9
Predicted Noise Levels from Existing Foyle Turbines	19.3	19.3	19.3	23.7	26.3	27.0	27.0
Derived Background Noise Levels	27.3	29.1	31.2	33.1	35.4	38.1	40.7

Table 5 Derived Background Noise Levels for Daytime Periods at Location F (H060)

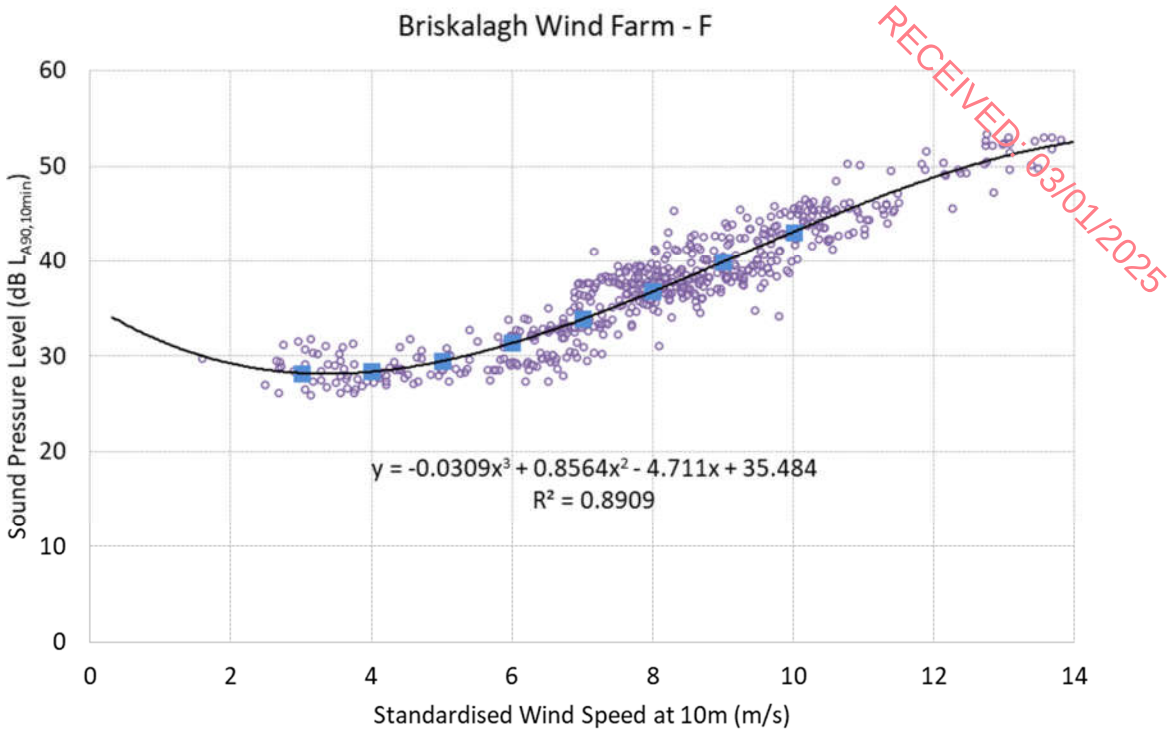

Figure 12: Location F (H060) Background Noise Levels L_{A90}, 10 min dB – Night-time

In Table 6, the potential contribution from the four operating turbines at Foyle wind farm has been considered by subtracting the predicted noise levels from turbines at Foyle from the measured noise levels in order to derive prevailing background noise levels in the absence of influence from any operating wind turbine.

Locations	Noise Levels dB L_{A90} at standardised 10m height wind speed m/s						
	3	4	5	6	7	8	9
Measured Noise Levels	28.2	28.4	29.5	31.4	33.9	36.8	39.9
Predicted Noise Levels from Existing Foyle Turbines	19.3	19.3	19.3	23.7	26.3	27.0	27.0
Derived Background Noise Levels	27.6	27.8	29.1	30.6	33.1	36.3	39.7

Table 6 Derived Background Noise Levels for Night-time Periods at Location F (H060)