Noise Report – Further Clarification

28 April 2022

We have sought clarification from Steve Brady at Reverb Acoustics in relation to the modelling assumptions and he has provided the following response regarding the fan modelling.

> ***Attached is a spreadsheet of the worst-case measured noise emissions from ventilation fans, taken in 2016 at Halls Creek Breeder Farm (Manilla). I measured noise levels on 3 farms which all had different fans. You will note that measurements were taken at a distance of 20 metres from the bank of fans on each farm with 8-12 fans operating at each location. The attached data was adopted for the assessment at Grenfell.***
>
> ***I also measured fans operating at 4 farms in Tabbita in 2021. Fans at Tabbita were also in blocks at the end of the sheds with 4-10 fans at the end of each shed. Noise emissions from the Tabbita fans were much quieter than at Halls Creek (Manilla), i.e. 48-52dB(A) at 20 metres or an Lw of 82-86dB(A).Leq.***
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> ***To provide a measure of conservatism the louder noise levels at Manilla were used for assessment purposes.***
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> ***In my Grenfell assessment I have adopted an Lw of 92dB(A),Leq for a block of 10 fans (see attached spreadsheet). So the 10 in the "No. Events" column in the spreadsheet represents 10 x a block of 10 fans and is correct. Note that it is not possible to isolate 1 fan on a shed and to measure it alone. In saying this, I can understand DPIE asking the question as many models will base their data on manufacturer's data for a single item.***
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> ***I hope this clears up the modelling methodology. In reality, I would expect the fans at Grenfell to be in line with industry standards and be much quieter than the noise levels I have adopted.***
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> ***Note that the acoustic report has recommended an acoustic mound could be erected in the event of valid complaint. The mound would be on Farm 2 to shield noise from multiple noise sources.***
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> ***The acoustic report also recommends the following, that be can be conditioned in the Consent. "A noise monitoring program, during commissioning, or in the early life of the site is recommended. This program will verify our predictions and in the unlikely event that complaints may arise, enable noise control strategies to be implemented, where required".***

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HALLS CREEK FARM FANS:

	Octave Band Centre Frequency, Hz								
Fan SPL's at 20 metres	**dB(A)**	**31.5**	**63**	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**
Hired Hen Fans x10 @ 20m	**58.4**	20.9	27.9	43.1	49.3	53.1	53.8	50.9	42.8	37.8
Big Dutchman Fans x12 @ 20m	**57.8**	19	29.4	44.5	46.6	53.7	52.5	49.1	44.8	34.8
Titan Fan x8 @ 20m	**51.0**	17.3	32.8	37.9	42.4	44.5	45	44.1	40.2	36.5

NOTES:

1. There are 8-12 fans at end of sheds
2. There are 3 types of fans (see above) although all have same capacity.
3. Fans run at only one speed.
4. Total of 12 sheds on each Farm.

Fan Lw's	**dB(A)**	**31.5**	**63**	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**
Hired Hen Fans x10 @ 20m	**92.4**	54.9	61.9	77.1	83.3	87.1	87.8	84.9	76.8	71.8
Big Dutchman Fans x12 @ 20m	**91.8**	53.0	63.4	78.5	80.6	87.7	86.5	83.1	78.8	68.8
Titan Fan x8 @ 20m	**85.0**	51.3	66.8	71.9	76.4	78.5	79.0	78.1	74.2	70.5