Wind Farm Living EDUCATING THE LAWYERS Series

Lesson 9: Filtering the Data Lowers the Line

Data is never disclosed

The thing about the wind industry there is no requirement for companies to explain or verify their technical data to any Planning Minister, Responsible Authority, neighbour, or complainant.

Wind companies hold all the data. Data is never disclosed, it is never validated or scrutinised.

A wind company's acoustician can draw up any graph they like. Without access to the data no one has the means to check if their graphs are correct.

Authorities do not require reporting of the raw data – they accept all graphs without question.

Wind companies have arrogantly assumed they are untouchable. Then Bald Hills happened – and the game suddenly changed.

The Bald Hills Judge particularly slammed the acoustician's method of ***filtering the data*.**

Filtering the Data

It is up to the acoustician to decide on what data points are filtered out and not included in the calculations.

There is no regulatory authority criteria on data filtering. *No one checks the data.*

Wind farm acousticians can delete as many high (loud) data points as they wish to make the graphs look compliant.

Bald Hills has exposed the cover ups.

Wind companies had free reign to fabricate the graphs as they pleased. No authority questioned their accuracy.

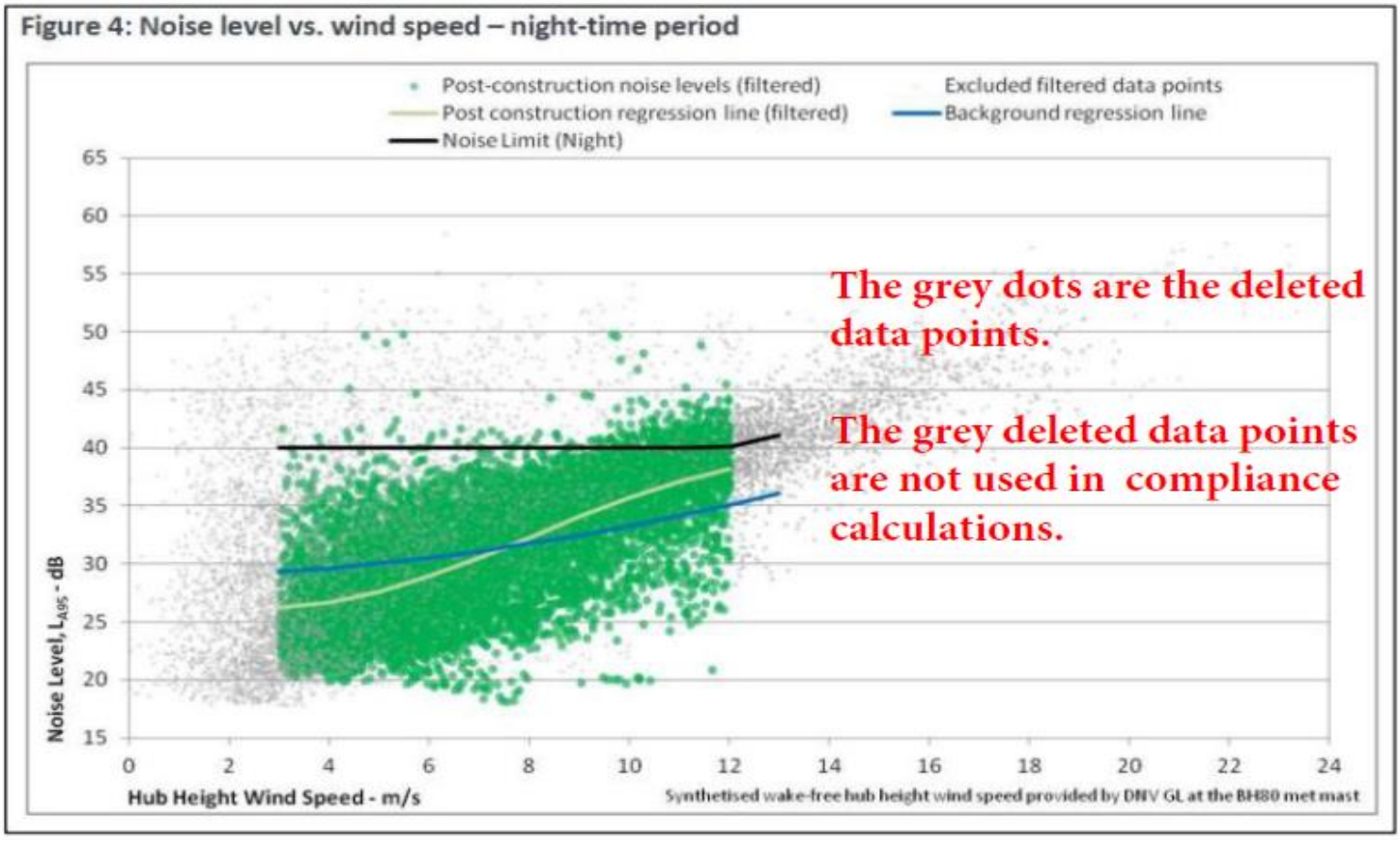
The diaries of the plaintiffs outlined obvious noise nuisance, yet the wind farm's graphs showed the wind farm was quiet – and on some occasions even quieter than before it was built.

But the Bald Hills Judge saw through the absurdity of the graphs. The Judge did not accept Marshall Day Acoustic's (MDA) or Chris Turnbull of Sonus' graphs and reports.

The Judge instead preferred the plaintiffs' diaries that outlined the lived experience of the noise nuisance.

The Bald Hills judgement can be found here

Figure 4: Graph showing noise level vs wind speed measured over the night time period at Mr Zakula's property, from the MDA Zakula noise report, page 21.



The Raw Data

Wind farm noise is assessed as a noise level at various wind speeds.

The noise is analysed in batches of 10 minute periods of continuous noise monitoring.

The noise level is assigned to an average wind speed from a wake free location referenced to the hub height.

The computer program then finds the noise level that sits at the lowest 10% level in that 10min period. This is the LA90(10min) level.

It is plotted on a graph as a data point (dot).

The LA90(10min) level in a sense is already a filtered batch of noise (90% of the high noise is hidden)
– but then the acoustician decides which LA90(10min) levels stay, and which are deleted.

i.e. the acoustician decides what dots stay and what dots are filtered out.

Relevance of Wind

The relevance of the results in relation to wind direction plays a critical part in determining a compliant graph.

John Zakula lived to the north east of the wind farm.
So a southerly, easterly, north easterly and northly wind would not be relevant.

Listening to the Noise Recordings

A good acoustician will attend the site at night to experience the actual noise.

A good acoustician who acknowledges not attending the site will review the data to identify anomalies and then listen to the recordings and decipher such things as an early morning insect / bird chorus, high rainfall, lawn mowers etc as legitimate data points to be removed.

Bad acousticians are lazy and let a computer decide on the filtering.

A computer can be easily programmed to remove all high noises regardless of whether it is wind turbine noise or not.

The Graphs

- By deleting all high noise data points the background regression line on the graph is lowered, making a noisy wind farm look compliant on paper.
- The grey points below 3m/s (the cut in speed of the turbine) and above 12 m/s (the suggested cut-out speed of the turbine) can affect the background regression line.
- The above graph states *"Synthesised wake-free hub height speed provided by …."*. This is not actual hub height wind speed.
- Use of wake-free hub height wind speed data (not actual average hub height wind speed) moves the noise data to the right making the wind farm look more compliant on paper.

The Acousticians

- MDA deleted all greyed Data Points from the calculations.
- In total 67% of noise data points were deleted from John Zakula's property.
- In total 65% of noise data points were deleted from Noel Uren's property.
- Chris Turnbull of Sonus argued in court that this was good methodology.
- Chris Turnbull of Sonus argued that using proxy locations is a method of filtering extraneous noise data.
- The MDA reports failed to conduct testing in accordance with the permit conditions.
- The Victorian Planning Minister rubber stamped MDA's reports without question or without verification of the data.

The Judge

- Slammed MDA's methodology as absurd.
- Noted the absurdity of the post construction noise levels being lower than the background noise levels.
- **Set Precedent** - Proxy Loggers in a paddock cannot be used to determine noise nuisance at a home.
- **Set Precedent** - Objective data evidence must be provided to show that the methodology used for post-construction data filtering is the same methodology used in the background testing data filtering. If objective data evidence cannot be provided – the wind farm's compliance graphs are to be excluded as evidence.
- **Set Precedent** – All data including background testing and post construction testing noise and wind data is to be made available to the court in sufficient time and in a verifiable format for validation and verification by the plaintiff.
- **Set Precedent** - Only a Judge or adjudicator can determine compliance – not the Planning Minister or wind farm's acousticians.
- Threw out MDA and Chris Turnbull's reports as untenable evidence.
- Accepted the plaintiffs' *lived experience* diaries as evidence in court.