

Lesson 22: Your Lawyer Needs to be Up to Speed

Your lawyer needs to be up to speed, and if they don't make it their business to get up to speed – then find another lawyer.

Here's a summary of what they need to know.

Often it will only take one incorrect input parameter to bring a Wind Farm down.

The uncertainty of input parameters must be considered – and can expose a wind farm at judgment time.

- Not allowing for the uncertainty of the actual power outputs of the up-sized built turbines.
- Incorrect modelling of noise contour lines.
- Incorrect matching of wind speeds at background testing heights and predicted hub heights.
- No acknowledgment or allowance for noise meter floor effects on background noise levels.
- Incorrect analysis of the Ground Absorption Factor.
- Incorrect assessment of background noise levels.
- Incorrect use of paddock loggers for background testing and post-construction noise assessments.
- Incorrect removal of extraneous noise when assessing background noise levels.
- Incorrect assessment of High Acoustic Amenity.
- No consideration of Special Audible Characteristics.
- No consideration of Cumulative Impacts
- Incorrect noise reduction from outside to inside the room – The NZS is based on road traffic noise.
- No allowance for uncertainty.
- No guarantee of effective control methods such as feathering of the blades.

Noise Meter Floor Level and Background Regression Line Analysis

The floor level of the Noise Meter does not record the actual noise levels below the equipment's floor.

If a noise monitor has a floor level of 20dB(A), then background levels of 8, 12, or 15 dB(A) will be reported as 20 dB(A).

Also, noise levels from 20 to 28dB(A) are pushed upward and recorded higher than the actual noise level.

If a Class 1 noise meter has a floor level of 20 dB(A), then the following happens:

- All low background levels, typically as low as 8-19 dB(A) are compressed up and registered as 20dB(A). This causes the graph to show higher background levels than the true levels.
- Levels from 20dB(A) to 28dB(A) are also compressed upward so that the recorded dB(A) is higher than the actual background level.

This means the average level is too high, i.e. for some wind speeds the true average background at a sensitive receiver (someone's home), is in fact lower than what the wind farm's graph shows.

High Amenity Analysis

High Amenity applies when the average difference between the measured background levels and the predicted post-construction levels are greater than 8dB.

The NZS clearly outlines how to assess High Acoustic Amenity.

High Acoustic amenity is assessed incorrectly if low background levels are always represented higher than they actually are. Wind farms falsify high acoustic amenity by:

- Not considering the limitations of the equipment floor level.
- The incorrect use of a background regression line analysis for high amenity.
- Incorrect removal of extraneous sounds using flawed methods.
- Blindly using 6m/s as the fixed wind speed threshold without proper analysis.

Averaging All-Time and Night-Time data points.

Most complaints from wind farms are due to sleep disturbance.

Data collection and analysis should focus on Night Time periods, between 10.00 pm and 7.00 am, and more specifically on individual nights.

Wind farm acousticians will throw-in in All-Time (Day and Night) data and then average all the data to disguise the truth.

But Judges are a wake-up to the requirement for the separate analysis of night time noise.

- The Bald Hills Boys won because the Wind Farm's acousticians did not provide separate night time analyses, and their diaries and history of complaints demonstrated sleep disturbance.
- The WHO requires a good night's sleep for health.
- The ABC has now admitted to the physiological stresses placed on the vital organs from sleep disturbance.
<https://www.abc.net.au/radionational/programs/drive/1615/102475092>
- The Waubra Foundation lists the symptoms of turbine sickness.

[Waubra Foundation - Health Effects](#)

Ignoring Special Audible Characteristics at the Planning Stage

Special Audible Characteristics (SACs) are the most common cause of noise complaints by neighbours near wind farms.

SACs include amplitude modulation, impulsivity (bangs, whump/thump, brake noise), tonality, and low-frequency noise.

SACs can be present under particular meteorological conditions, intermittently or continuously.

Before a Permit is granted.

It is common for wind farms to be granted permits on the "promise" of no SACs.

Wind farms never allow for SACs in their initial modelling because it would blow out their predictions and eliminate turbines.

Wind farms always come up with some piss-poor excuse for not considering SACs at the planning panel stage.

Marshall Day Acoustic's excuse for not considering SACs at the Mt Fyans Wind Farm Permit Panel Hearing:

"An indication of the potential for tonality to be a characteristic of the noise emission from the assessed wind turbine model is sometimes available from tonality audibility assessments conducted as part of manufacturer wind turbine noise emission testing. However, this data is frequently not available at the planning stage of an assessment".

If SACs are anticipated when applying for development approval then penalties of up to 6 dB are to be added to predicted sound levels and High Amenity analysis is to be adjusted accordingly.

After a permit is granted.

After Approval is granted the assessment of SACs is analysed using an LA90 statistical calculation and does not identify the intermittent SACs in any 10-minute period.

The SACs that wake you up at night are not picked up in an LA90.

Salt Creek Wind Farm

Noise assessments prepared in planning applications for the Salt Creek wind farm did not anticipate or account for any tonal penalties in noise predictions.

But then, the V126 wind turbines recently installed at the Salt Creek Wind Farm have demonstrated the requirement for tonal penalties in compliance assessment tests that were completed by Sonus Pty Ltd and submitted to the Responsible Authority (Moyne Shire).

Bald Hills Wind Farm

The Bald Hills Wind Farm predicted no SACs prior to construction but SACs were present.

The Bald Hills' boys' diaries and complaints confirmed SACs were present.

The turbine manufacturer that guaranteed no SACs went into voluntary administration.

The Baseline Limit set by Wind Farms is too High.

People living in a rural environment experience low nighttime noise levels, as low as 8 and 10 dBA.

The noise target level should be 35dB (High Amenity), not 40dB.

40dB LA90 is too high and allows for sleep disturbance.

Wind farms hang off the outdated Cherry Tree decision to justify their case for no allowance for high amenity – but lawyers have plenty to counter this finding.

- The NZS 6808:2010 provides an objective assessment for high amenity.
- It is not mandatory to apply C53.1 of the Standard.
- The Victorian Environmental Reference Standard in the Farming Zone is 35dB LAeq(10pm-6am).
- The Sisters Wind Farm contradicts Cherry Tree.
- Narroghid VCAT response contradicts Cherry Tree.
- Bald Hills Wind Farm Supreme Court Case contradicts Cherry Tree.
- EPA – Environment Reference Standard (No. S245 Wednesday 26 May 2021)

Candidate Turbines, Power Output and Environmental Noise Assessments

Any environmental noise assessment must consider SACs and cumulative impacts, with appropriate penalties applied.

Wind farms don't do this, they get away with claiming ignorance.

It is usual for wind farms to model the environmental noise effect on a certain candidate turbine, and use an up-sized model once the permit is issued.

Mortlake South Wind Farm was modelled on Nordex N131/3000 wind turbines, then installed Nordex N149/4.0-4.5 wind turbines that have a higher sound power level than the modelled turbine in the Permit.

Acciona has had a number of dodgy blades replaced, with some still off with blade rot.

At this date 25/06/2023, Mortlake South is not fully commissioned and only a few turbines are working at reduced power output.

Acciona is already receiving multiple noise complaints from the neighbours.

MDA did the modelling for the Mortlake South wf permit – Acciona no longer use MDA, however, one could assume their wind farm is stuffed.

The NZS6808:2010 requires predictions to be made unconstrained.

Dundonnell Wind Farm used a low noise mode sound power level in their modelling compared to the standard unconstrained higher sound power level.

Uncertainty of Noise Predictions

Under the NZS6808:2010, Environmental Noise Assessments are to provide uncertainty analysis.

(NZS 5.7, Appendix C – Uncertainty).

Wind farms claim no uncertainty, and permits are issued on pie-in-the-sky promises.

Ground Absorption Factor

Wind farms often use a Ground Absorption Factor of G-1, but this is prohibited by the NZS.

The NZS states a G=0.0 for a receiver height of 1.5m, or G=0.5 for a receiver height of 4m is deemed acceptable.

If your lawyer says MDA's work is ok, then get another Lawyer.

The Bald Hills Judge [Uren 2022](#) determined MDA's work as:

- “patently absurd” (384)
- “plainly flawed” (13(4)), (221)
- “plainly not tenable” (181)
- “plainly not correct” (198)
- “obviously unsound” (183)