

Ninth International Conference on Wind Turbine Noise
18th – 21st May 2021

Notes

Source Noise Analysis and Prediction

Technical discussion on calculations

Large Blades – Do They Pose Special Acoustic Problems

- different turbine size
- different sounds- different problems
- why improvement on predictive model, higher accuracy?
- larger wind turbines- changes to turbulent flow
- smart wind turbines- more receptive to wind

Propagation and Modelling

- improved prediction-passively reacting
- better more precision measurement
- one turbine manufacture dominating market
- difficulty in buying bespoke product
- upwind studies
- relationship between wind direction and sound level
- weather effects

Impact Studies and Regulations

- WHO guidance, does it require updating
- distance measurements – possible updates
- no perfect metric to characterise noise impact- lots of factors to include- if attractive stimuli
- noise is something which regulatory powers can control in a development?
- regulatory powers for noise discussed- local councils more powers?
- noise compliance- testing for compliance- standard approach
- manufacture and developer and authority more discussion required re regulations
- regulators have to decide on methodology
- quieter turbines

Noise Measurement and Assessment

- Airport sounds more predictable
- Cumulative noise assessment- developers opt for simple calculation
- Separate cumulative noise assessment
- Is visual impact is the main driver in turbine placement- discussion
- visual dominate

- local community consider visual impact or noise impact?
- Netherlands, turbines on flat ground- more noise impact?
- Italy- open window/closed window assessed
- Background noise varies with wind vegetation
- Noise loudest when windy
- Regulatory level- including seasonal variation?

Tonality

methods of assessment discussed

Amplitude Modulation

Increasing height- amplitude assessment in infancy

Infrasound

No direct impact/perception of noise discussion

Perception and Health

- Canadian sleep trials
- looking at primary effects on noise on sleep
- comparison to road traffic noise- nuisance level
- impact on sleep- turbines noise looking at different sleep times cycles
- impact on psychological effects
- findings to be published within 6 months