

## Technical note

# NOISE EMISSION FROM NORWIN-47-ASR-600 / 750 kW

### Summary:

The noise emission at the reference wind speed 8 m/s, 10 m above ground, expressed as the A-weighted sound level in dB re. 1 pW, ( $L_{WA,ref}$ ), is 100.00 dB. The relation between the noise emission and the wind speed is +0.3 dB pr. m/s.

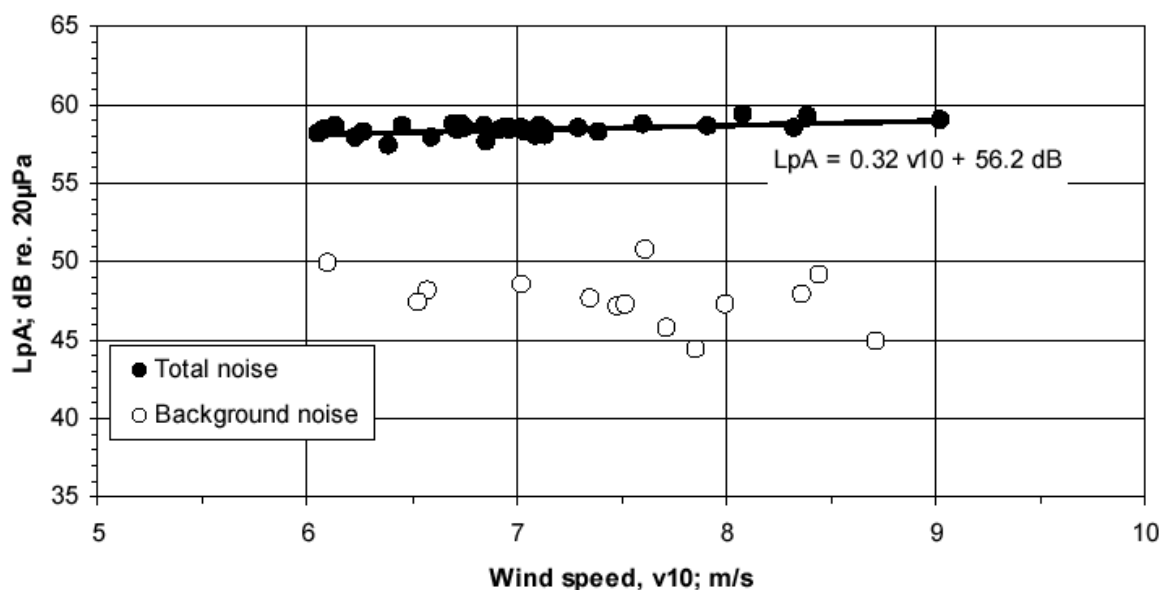
### Measuring setup and method:

The noise emission is measured in compliance to the guidelines given in regulation no. 304/1991, *Bekendtgørelse om støj fra vindmøller*, published by the Danish Environmental Agency. The noise is measured with a microphone placed on the ground (acoustically reflecting plate 1.5 x 2.0 m<sup>2</sup>), 50 m down-wind from the turbine. The noise is measured with and without the wind turbine operating, to establish the signal to noise relation.

The wind speed is measured with a cup-anemometer placed 10 m above ground, 50 m up-wind from the turbine.

### Noise emission curves:

Figure 1.: A-weighted sound pressure level on the ground 50 m down-wind from the turbine.



There are no clearly audible tones present in the noise.

Figure 2.: The A-weighted sound pressure level,  $L_{pA}$  in dB re 20  $\mu\text{Pa}$ , 1.5 m above ground, calculated as function of the distance from the wind turbine, according to DEA regulation no. 304/1991

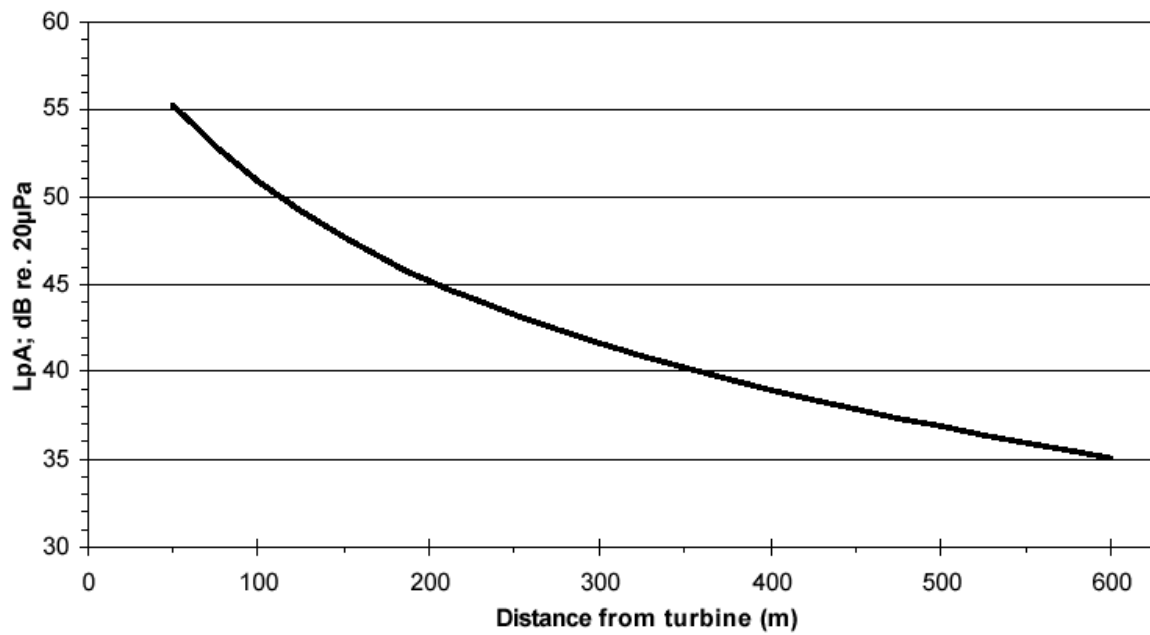


Figure 3.: From calculations the following key values have been extracted:

$L_{pA}$ ; dB re 20 $\mu\text{Pa}$	Distance, m
35	607
40	359
45	206