



The NSC Campus, Mahon, Cork.

Tel: +353 (0)21 242 8704

info@clvconsulting.ie

www.clvconsulting.ie

20_0537VL02A

25 May 2020

**William O' Connor,
Inchee Energy Supply Ltd,
Lissarda Business Park,
Lissarda,
Co Cork.**

Dear William,

**RE: CLEANRATH WIND FARM - PLANNING COMPLIANCE SUBMISSION: CONDITIONS NO. 8 & 9
BLASTING**

Herewith the assessment of the blast monitoring events carried out as part of the enabling works for Cleanrath Windfarm, Co. Cork.

1.0 BACKGROUND

Inchee Energy Supply Limited commissioned CLV Consulting to review the air over pressure and vibration data which took place as part of the enabling works for the Cleanrath Windfarm. The data was reviewed and compared against Conditions 8 and 9 which form part of the planning conditions the development is obliged to comply with, as issued by Cork County Council (Pl. Ref. 15/6966 ABP Ref: PL04.246742).

2.0 PLANNING CRITERIA

Conditions 8 and 9 of the planning conditions state as follows:

Condition 8a:

"Blasting operations at the borrow pits shall take place only between 10:00 hours and 17:00 hours, Monday to Friday, and shall not take place on Saturdays, Sundays or Public Holidays. Monitoring of the noise and vibration arising from blasting and the frequency of such blasting shall be carried out at the developer's expense by an independent contractor who shall be agreed in writing with the planning authority."

Condition 8b:

“Prior to the firing of any blast, the developer shall give notice of the intention to the occupiers of all dwellings within 500 metres of the borrow pit concerned. An audible alarm for a minimum period of one minute shall be sounded. This alarm shall be of sufficient power to be heard at all such dwellings.”

Condition 9:

“Vibration levels from blasting shall not exceed a peak particle velocity of 12 mm/second, when measured in any three mutually orthogonal directions at any sensitive location. The peak particle velocity relates to low frequency vibration of less than 40 hertz where blasting occurs no more than once in seven continuous days. Where blasting operations are more frequent, the peak particle velocity limit is reduced to 8 millimetres per second. Blasting shall not give rise to air overpressure values at sensitive locations which are in excess of 125 dB(Lin)max peak with a 95% confidence limit. No individual air overpressure value shall exceed the limit value by more than 5 dB (Lin).

A monitoring programme, which shall include reviews of the impact of any blasts. Details of this programme shall be submitted to, and agreed in writing with, the planning authority prior to commencement of any quarrying works on the site. This programme shall be undertaken by a suitably qualified person acceptable to the planning authority. The results of the reviews shall be submitted to the planning authority within two weeks of completion. The developer shall carry out any amendments to the programme required by the planning authority following this annual review.”

In summary the vibration associated with this development should not exceed PPVs of 12mm/s in any of the three axes at frequencies lower than 40Hz and air overpressure values in excess of 125dBL at any sensitive location.

3.0 SURVEY PERIOD

The monitoring during the four blasting events was carried between 1000hrs and 1700hrs, Monday to Friday by Irish Industrial Explosives on the following dates:

- 25th March 2019;
- 19th April 2019;
- 17th May 2019;
- 19th June 2019.

4.0 MONITORING LOCATIONS

The vibration monitoring for the four blasting events was carried out at or in the vicinity of various private dwellings. These locations are referenced as Locations 1, 2 and 3 and their locations are presented in Appendix A of this document.

5.0 RESULTS

The maximum vibration and air overpressure results at the various monitoring locations from the four different blasting events are presented below in Table 1.

Date - 2019	Location	PPV - mm/s	Air Overpressure - dB	Planning Criteria		Compliant - Y / N
				PPV - mm/s	Air Overpressure - dBL	
25 March	Location 1	1	98	≤ 12	< 125	Y
	Location 2	0.6	101			
	Location 3	0.7	104			
19 April	Location 2	0.6	88	≤ 12	< 125	Y
	Location 3	1	95			
17 May	Location 1	0.6	98	≤ 12	< 125	Y
	Location 2	< 0.5	120			
	Location 3	0.6	105			
19 June	Location 1	< 0.5	< 120	≤ 12	< 125	Y
	Location 2	< 0.5	< 120			
	Location 3	< 0.5	< 120			

Table 1 Results from Cleanrath Windfarm Blasting Events

4.0 CONCLUSION

Based on the values in Table 1 above it is evident that the measured vibration and air overpressure levels are compliant with the planning conditions the Cleanrath Windfarm development is subject to.

William, if you have any comments in relation to the content of this document please contact this office.

Yours sincerely,

Niall Vaughan

NIAL VAUGHAN BSc MIOA
Acoustic Consultant

FIGURE 1

OS MAP INDICATING VIBRATION MONITORING LOCATIONS

