TEYRDAN SOLAR FARM

ENVIRONMENT PROTECTION NOISE ASSESSMENT

KS SPV 40 Ltd 14 High Cross Truro Cornwall TR1 2AJ

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a) Introduction

This assessment focuses on noise emissions from the significant noise sources at the facility. The facility operates during daylight hours, 365 days per year. Engineering calculations were incorporated into the noise model to determine noise impacts at the closest noise sensitive properties.

b) Noise Sources

The main sources of noise from the project will be the inverters. The center station, switchgear, and transformers do not emit any significant noise and consequently have not been considered as sources of noise.

c) Evaluation

We have evaluated all nearby dwellings in relation to the noise level of the inverters to obtain an understanding of the level of noise and assure that it will not cause problems for nearby properties.

Figure 1: Map of noise sensitive properties

Note: The numbers on the map represent either single properties or an area with more than one property

Map Reference of Property	Closest Point of Property to nearest Inverter Unit (metres)
1	285
2	190
3	385
4	230
5	460
6	555
7	830
8	865
9	685
10	925
11	780
12	930

Table 1: Distance of nearest properties to the closest inverters within site

Please see Appendix 3 for a comparison of noise levels in relation to common outdoor and indoor activities

d) Findings and Conclusion

The nearest point of interest is map reference number 2, representing 190 meters distance to the nearest inverter. The inverters sound pressure level stands at 24,4 dB(A) in a distance of 150 meters from the inverter. In addition, at night the inverters will automatically switch to standby mode and the cooling system is switched off. As a result, the sound pressure level during night time is lower when compared to day time noise levels.

In conclusion, the proximity of the inverters to the their nearest properties are all lower than 25 dB(A). This figure is used as a benchmark in other local authorities across the UK, and as such the noise created by the inverters will not be of concern.



Appendix 1 – Sound data for SMA SUNNY CENTRAL 500CP/630CP/720CP/760CP/800CP

Distance to inverter (in meters)	Sound pressure level dB(A)
1	79,4
10	59,3
20	53,3
25	51,4
50	45,4
100	39,4
150	24,4

Appendix 2 – Air Circulation



Common Outdoor Activities	Noise Level (dBA)	Common Outdoor Activities
Jet fly-over at 300 m	110	Rock band
Gas lawn mower at 1 m	100	
Diesel truck at 15 m at 50 mph	90	Food blender at 1 m
Noisy urban area (daytime)	80	Garbage disposal at 3 m
Gas lawn mower at 30 m		Vacuum cleaner at 3 m
Commercial area	70	Normal speech at 1 m
Heavy traffic at 90 m	60	Large business office
Quiet urban area (daytime)	50	Dishwasher at 2 m
Quiet urban (nightime)	40	Theater, large room (background)
Quiet suburban (nightime)		
Quiet rural (nightime)	30 20	Library Bedroom (nightime) Concert hall (background) Broadcast / recording studio
	10	
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Appendix 3 – Noise Levels of Common Outdoor and Indoor Activities