

August 26, 2021

Joshua Chavez  
Midwest Solar DevCo CEI, LLC  
8800 N. Gainey Center Dr., Suite 250  
Scottsdale, AZ 85258, USA

**Re: Posey Solar Project: Tracker Noise  
Posey County, IN  
Project No. R0027286.00**

This memorandum serves as an addendum to the Posey Solar Noise evaluation report submitted June 21, 2021 to address the potential noise contribution from solar tracker motors.

Tracker noise was initially not included in the initial analysis, as the trackers are expected to operate less than 10% of every hour, thus it was expected to have no impact on the overall noise levels at residences near the project. At the request of the Planning Commission, this addendum was prepared to include the modelling results for project noise contribution including tracker noise.

Tracker noise source data was provided by NEXTracker (Attachment A). The trackers were modelled with an overall sound power level of 49.3 dBA (LW). While the trackers are only expected to operate a few seconds at a time, the motors were modelled running continuously. Tracker motor locations were assigned based on the Site Plan drawings, with one point source modelled at the center of each tracker for a total of 9,980 tracker motors. An excerpt of the noise model showing the added noise sources for a typical array location is attached (Attachment B)

With the trackers added to the model, expected cumulative sound levels inclusive of the tracker motors, solar inverters, and project substation, were calculated at all residences within 1,000 feet of the project area. The maximum predicted noise level at a residence increased from 39.2 dBA to 39.3 dBA. This is still well below the impact threshold of 45 dBA and the area ambient noise level of 46 dBA. The average increase in modelled noise was 0.1 dBA, with the maximum increase at any residence being 0.4 dBA. A change of noise level of 3 dBA is just barely perceptible to the human ear, so a change of 0.1 dBA will be indistinguishable. Detailed comparison of modelled levels is available in Attachment B.

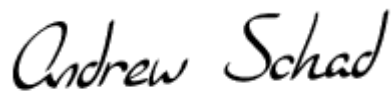
Section 153.126.02 (F) of the Development Standards require that the sound level at any non-participating landowner residential lot, public school, public library, or recreational area within one-quarter mile of the project boundary for a period of more than 10% out of every hour, shall not exceed the greater of 45 dBA, or 5 decibels above the Ambient Baseline Sound Pressure Level of the Project. The ambient noise level measured by the Project was 46 dBA. The highest predicted level contributed by the Posey Solar project is 39.3 dBA, thus the project is well in compliance with the development standards.

In performing its services, Westwood Professional Services used that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession currently practicing in the same locality. No warranty, express or implied, is made.

If you have any questions or wish to discuss any aspect of the project, please feel free to call Andrew Schad at (720)-387-3814. We look forward to being of continued service to you.

Sincerely,

WESTWOOD PROFESSIONAL SERVICES, INC.

A handwritten signature in black ink that reads "Andrew Schad". The signature is written in a cursive, flowing style.

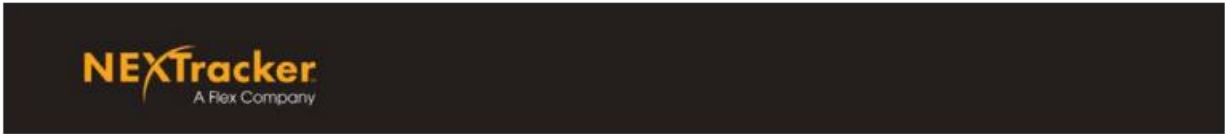
Andrew Schad  
Sound/Noise Specialist

Attachment A: NEXTracker Noise Emissions Test Report

Attachment B: Noise Model Layout Excerpt

Attachment C: Comparison of Sound Levels at Residences within 1000 feet of Infrastructure

# Attachment A: NEXTracker Noise Emissions Test Report



## NEXTracker Motor Sound Test Summary

Each NEXTracker row uses a small 24V DC motor powered by a NEXTracker controller. To track the row, the motor runs for five to ten seconds every few minutes. The noise level of the motors is tested by the manufacturer. Test reports from the manufacturer show that the sound power level is ~50dB. The sound level produced is very low and essentially inaudible to surrounding site noises such as wind or generators.

**Sound testing report**

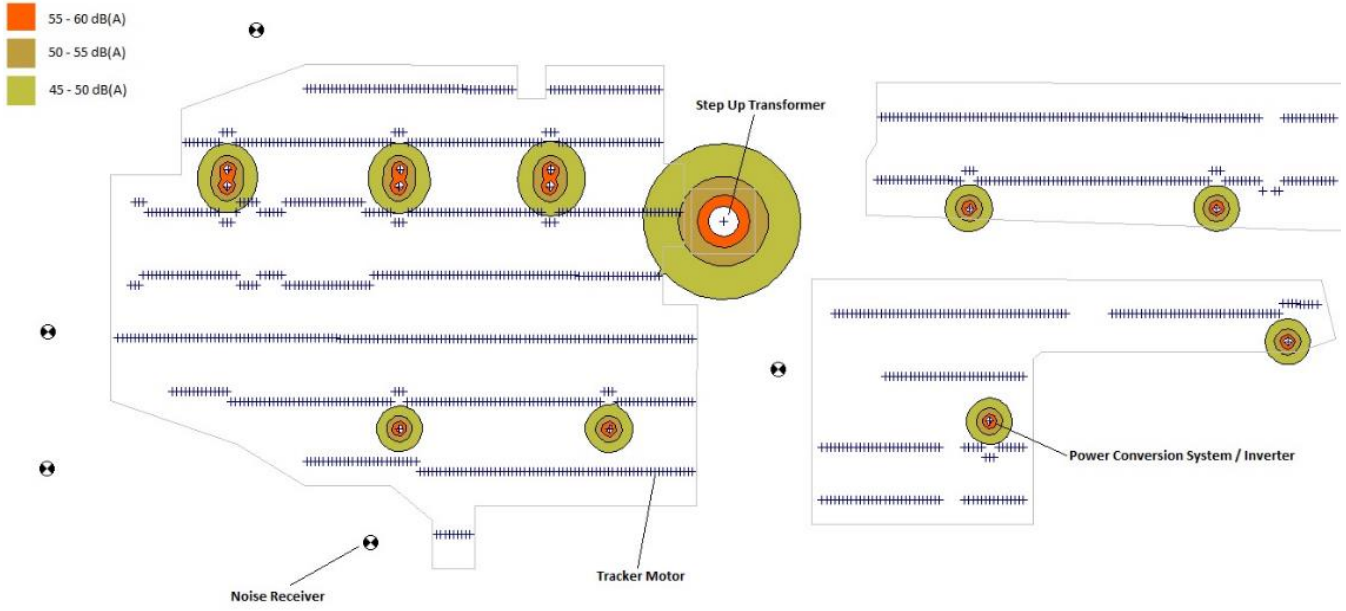
applying date: Sep, 10 <sup>th</sup> , 2024		report NO.: 2024092001	
Sample from	Reducer department	P/N	BL-65150-710/S
Sample	Motor reducer	NO.	02 (CW)
purpose	check the sound of motor reducer in no-load condition		
Testing environment	1. anechoic chamber inner size: 2850x2750x2300mm; 2. anechoic chamber LF cut-off frequency about 100Hz; 3. inside background noise during work: about 26dB(A)以下; 4. outside vibration transmission less than 5%; 5. motor reduce was under no-load condition when testing.		
level	Conform to standard GB/T3767-1996, ISO3744-1994		
oscilloscope			
spectrograph			
Testing result	away from sound source by 1 meter	Sound power level	
unit: dB(A)		49.30	

*Manufacturer sound test report*

Inverse distance law for acoustics shows sound decrease with distance:

Distance	Sound Level	Equivalent sound
3 m (9.8 ft)	~ 40 dB	Library
30 (98 ft)	~20 dB	Rustling leaves
300 m (980 ft)	~0 dB	Inaudible

## Attachment B: Noise Model Layout Excerpt



**Attachment C: Comparison of Sound Levels at Residences within 1000 feet of Infrastructure**

NAD 1983 UTM Zone 16N						
Receptor ID	Northing (m)	Easting (m)	Elevation (m)	Project Noise Contribution [dBA] No Trackers	Project Noise Contribution [dBA] With Trackers	Delta Noise [dBA]
1	428175.4	4205110.1	133.7	24.3	24.4	0.1
2	428448.1	4205092.9	136.5	24.7	24.8	0.1
3	428160.4	4205051.5	133.7	25.7	25.8	0.1
4	430615.1	4204570.3	122.0	24.5	24.5	0.0
5	430742.6	4204566.0	121.9	20.7	20.7	0.0
6	429991.8	4204408.8	134.0	23.5	23.6	0.1
7	430038.2	4204010.7	130.6	23.5	23.6	0.1
8	430209.2	4203844.6	136.4	26.0	26.0	0.0
9	430094.5	4203788.9	130.1	28.1	28.2	0.1
10	428104.5	4203286.2	145.9	24.9	25.0	0.1
11	430066.2	4203150.4	139.7	32.0	32.1	0.1
12	430020.3	4202391.8	130.7	21.3	21.4	0.1
13	429081.3	4202267.3	118.4	28.7	28.8	0.1
14	429786.8	4202161.3	124.8	21.1	21.3	0.2
15	430394.7	4201447.9	138.5	18.5	18.6	0.1
16	429840.7	4201425.9	140.4	21.1	21.1	0.0
17	429767.6	4201346.2	139.4	22.5	22.6	0.1
18	430496.5	4201283.1	148.9	22.0	22.2	0.2
19	430650.9	4201258.9	143.1	18.6	18.6	0.0
20	430446.8	4200981.7	149.0	29.5	29.5	0.0
21	430432.7	4200736.5	134.7	24.5	24.5	0.0
22	432192.5	4200725.2	146.2	24.6	24.7	0.1
23	430376.6	4200693.7	136.9	26.2	26.3	0.1
24	430429.2	4200683.4	134.4	26.5	26.5	0.0
25	430928.3	4200603.1	126.5	25.6	25.6	0.0
26	430505.4	4200514.8	127.9	28.4	28.4	0.0
27	430441.3	4200430.3	124.6	27.1	27.2	0.1
28	430472.0	4200363.9	123.6	30.7	30.7	0.0
29	431355.5	4200102.5	121.4	30.9	30.9	0.0
30	432061.8	4199754.5	121.0	28.1	28.2	0.1
31	428794.8	4199618.4	117.8	29.5	29.6	0.1
32	431335.9	4199606.9	117.2	27.7	27.7	0.0
33	428998.2	4199586.1	117.8	30.1	30.2	0.1
34	428792.9	4199562.2	117.8	30.4	30.5	0.1
35	428995.5	4199559.7	117.8	30.6	30.7	0.1

36	428865.5	4199557.4	117.8	30.5	30.6	0.1
37	428837.0	4199555.9	117.8	30.5	30.6	0.1
38	428921.4	4199555.7	117.8	30.6	30.7	0.1
39	430418.1	4199541.9	117.8	27.6	27.7	0.1
40	428996.1	4199532.1	117.8	31.2	31.2	0.0
41	428893.7	4199516.2	117.8	31.3	31.4	0.1
42	428866.2	4199513.2	117.8	31.3	31.4	0.1
43	428834.8	4199512.8	117.8	31.3	31.4	0.1
44	428919.3	4199510.4	117.8	31.5	31.5	0.0
45	428953.6	4199508.9	117.8	31.6	31.6	0.0
46	428791.8	4199508.2	117.8	31.4	31.5	0.1
47	428996.4	4199501.2	117.8	31.8	31.9	0.1
48	433618.6	4199490.6	123.2	24.3	24.3	0.0
49	428789.4	4199454.1	117.8	32.5	32.6	0.1
50	428890.9	4199452.3	117.8	32.7	32.7	0.0
51	428919.4	4199451.1	117.8	32.8	32.8	0.0
52	428992.5	4199448.1	117.8	33.1	33.2	0.1
53	428875.2	4199410.2	117.8	33.6	33.7	0.1
54	428769.0	4199410.1	117.8	33.5	33.6	0.1
55	428822.2	4199409.4	117.8	33.5	33.6	0.1
56	428848.8	4199409.4	117.8	33.6	33.7	0.1
57	428984.9	4199409.1	117.8	34.2	34.3	0.1
58	428931.7	4199408.1	117.8	33.9	34.0	0.1
59	433617.8	4199332.0	121.6	25.4	25.5	0.1
60	432041.7	4199155.2	118.1	32.6	32.7	0.1
61	431078.9	4198929.8	117.8	32.9	33.0	0.1
62	433599.8	4198895.5	120.3	28.0	28.1	0.1
63	430416.1	4198732.8	117.8	30.4	30.5	0.1
64	435089.4	4198459.1	127.0	22.0	22.1	0.1
65	430417.4	4198454.9	118.1	30.0	30.0	0.0
66	430730.7	4198426.0	118.1	26.7	26.8	0.1
67	435206.0	4198411.8	127.5	19.8	19.9	0.1
68	431949.0	4198363.2	117.8	39.2	39.3	0.1
69	435256.9	4198290.5	127.1	21.3	21.5	0.2
70	435807.8	4198251.7	126.1	20.1	20.2	0.1
71	434046.6	4198234.2	118.4	26.7	26.8	0.1
72	435279.6	4198233.2	124.2	22.0	22.3	0.3
73	429921.4	4198203.3	117.8	25.8	25.9	0.1
74	430729.5	4198198.1	117.8	26.0	26.1	0.1
75	434010.8	4198130.7	118.0	28.6	28.6	0.0
76	433970.4	4198130.0	118.1	28.5	28.5	0.0
77	429843.8	4198092.7	118.1	23.2	23.2	0.0
78	431269.8	4198074.5	117.9	29.9	30.0	0.1

79	436103.3	4197849.8	124.1	17.9	18.0	0.1
80	436567.3	4197818.0	139.7	15.0	15.1	0.1
81	436114.9	4197817.4	125.2	17.8	18.0	0.2
82	433633.2	4197775.2	118.1	28.7	28.8	0.1
83	436280.9	4197744.0	133.7	14.9	15.3	0.4
84	436227.9	4197741.7	132.6	16.6	16.9	0.3
85	433655.4	4197726.7	117.8	27.4	27.5	0.1
86	433756.9	4197717.4	117.8	29.5	29.5	0.0
87	433721.3	4197716.1	117.8	28.6	28.7	0.1
88	436643.7	4197710.1	131.0	10.1	10.2	0.1
89	435737.4	4197579.8	125.1	23.1	23.4	0.3
90	435250.2	4197328.4	121.5	27.8	27.9	0.1
91	431528.4	4196558.6	115.9	23.3	23.4	0.1
92	431387.4	4196552.2	114.8	23.8	24.0	0.2
93	431178.6	4196526.4	114.8	23.9	24.0	0.1
94	433558.9	4196514.8	115.0	20.9	21.0	0.1
95	433597.7	4196512.7	115.1	21.4	21.6	0.2
96	433625.1	4196464.6	115.1	20.3	20.5	0.2
97	430977.0	4196436.2	114.8	23.5	23.6	0.1
98	431084.5	4196436.1	114.8	24.9	25.0	0.1
99	433540.0	4196393.6	115.1	19.9	20.0	0.1
100	431102.5	4196377.2	114.8	26.4	26.5	0.1
101	433395.1	4196377.2	114.8	19.8	19.8	0.0
102	434030.0	4196296.7	115.1	31.4	31.5	0.1
103	433615.3	4196186.5	114.8	18.6	18.7	0.1
104	432012.7	4196018.5	116.9	23.7	23.8	0.1
105	432400.7	4195663.8	115.0	30.1	30.2	0.1
106	432698.7	4195580.4	115.5	22.2	22.2	0.0