TETRA TECH

MEMO

To:	Linnea Fossum
From:	Tricia Pellerin
Date:	January 27, 2023
Subject:	Wautoma Solar Project – EFSEC Draft Data Responses (Noise)

Please see the draft responses to EFSEC data requests pertaining to the Acoustic Assessment conducted in support of permitting the Wautoma Solar Project.

Noise-1: **In Attachment O, it is unclear how the 500-kV transmission line was incorporated into the model or the final noise impact results from Project operations. Please clarify noise source inputs into the model or the calculated impacts from the transmission line are included along with the location of the line in the attachment's figures.**

Response:

The 500-kV transmission line was incorporated into the CadnaA model as an elevated line source aligned with the proposed route. The sound source level information representing the transmission line in CadnaA is shown in revised Table 8 from Appendix O (Acoustic Assessment). For the purposes of the acoustic modeling analysis, foul weather conditions were conservatively assumed, which is when transmission lines generate the most corona noise.

Table 8. Modeled Octave Band Sound Power Level for Major Pieces of Project Equipment (Revised)

Sound Source	Sound Power Level (L_W) by Octave Band Frequency dBL									Broadband Level
	31.5	63	125	250	500	1k	2k	4k	8k	dBA
Step-up Transformer	77	77	73	73	73	67	62	56	49	73
BESS	85	93	100	101	100	97	92	85	78	106
Substation Transformer	100	104	99	100	99	93	89	83	75	100
Transmission Line	45	53	69	68	74	80	81	82	79	87
Tracking Motor	40	40	44	48	52	52	48	44	40	57

Figures 2 and 3 of Appendix O have been revised to display the transmission line.

Noise-2: **Noise impacts from the tracking system motors during operations were omitted from the ASC as a possible source of noise. Please include this possible source of noise in the analysis of noise impacts**

Response:

The Project acoustic modeling analysis has been revised to include the 14,570 tracking motors expected as part of the site layout design. The octave band sound power level associated with the tracking motors was added to the revised version of Table 8 from Appendix O, shown above. Table 9 of Appendix O has also been revised, providing the acoustic modeling results that have been updated to incorporate the sound contribution of the tracking motors.

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For the most part, the inclusion of the tracking motors results in no changes to received sound levels at NSRs. There are only slight increases in received sound levels (i.e. 1 dBA) observed at NSR-11 for the BESS Distributed Layout modeling scenario and NSR-3 for the BESS Consolidated Layout modeling scenario. Figures 2 and 3 have been revised to include the sound contribution from the tracking motors.

Table 9. Acoustic Modeling Results Summary (Revised)

NSR ID	Participation Status	UTM Coordinates (meters) NAD83 UTM Zone 10		Operational Sound Levels (dBA)	
		Easting	Northing	BESS Distributed Layout	BESS Consolidated Layout
NSR-1	Non-participant	279573	5157308	39	38
NSR-2	Non-participant	279379	5156902	41	40
NSR-3	Non-participant	279290	5156752	43	43
NSR-4	Non-participant	279923	5156372	45	44
NSR-5	Non-participant	279500	5155848	45	44
NSR-6	Non-participant	278867	5155410	44	43
NSR-7	Non-participant	278962	5155211	45	44
NSR-8	Non-participant	278861	5154935	45	43
NSR-9	Non-participant	278825	5154780	45	43
NSR-10	Non-participant	279055	5154729	45	44
NSR-11	Participant	279528	5154582	50	48
NSR-12	Participant	279536	5154343	47	45
NSR-13	Participant	281051	5154282	53	50
NSR-14	Non-participant	279522	5154109	47	45
NSR-15	Participant	281283	5151280	50	46

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Figure 2
Operational Received Sound Levels – BESS Distributed Layout

BENTON AND YAKIMA COUNTIES, WA

- Project Lease Boundary
- Project Area
- Overhead Transmission Line
- County Boundary
- Parcels

Noise Sensitive Receptor
- Participating
- Non-Participating

- BESS Unit
- Deactivated BESS Unit

Received Sound Levels (dBA)
- 50 - 55
- 55 - 60
- 60 - 65
- 65 - 70
- 70 - 75
- > 75

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Reference Map

Yakima County

Benton County

1:25,000

NAD 1983 StatePlane Washington South FIPS 4602 Feet

0 0.25 0.5 1 Miles

NOT FOR CONSTRUCTION

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Figure 3
Operational Received Sound Levels –
BESS Consolidated Layout

BENTON AND YAKIMA COUNTIES, WA

- Project Lease Boundary
- Project Area
- Overhead Transmission Line
- County Boundary
- Parcels

Noise Sensitive Receptor
- Participating
- Non-Participating

- BESS Unit

Received Sound Levels (dBA)
- 50 - 55
- 55 - 60
- 60 - 65
- 65 - 70
- 70 - 75
- > 75

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Reference Map

Yakima County
Benton County

1:25,000 NAD 1983 StatePlane Washington South FIPS 4602 Feet 0 0.25 0.5 1 Miles NOT FOR CONSTRUCTION

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