



AN ALLETE COMPANY

Attachment K

Sound and Shadow Table



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Longspur updated the sound and shadow flicker table included in the Wind Project Response for Information. The updates do not change the data reported; sound and shadow flicker levels (dba/hour-per-year) remain unchanged. The changes are limited to correcting labeling of receptors.

SOUND AND SHADOW FLICKER RESULTS						
Receptor ID	Participating Status	Sound Level [dBA]	Flicker Duration [hours/year]	Mitigated Flicker Duration [hours/year]	Nearest Turbine ID	Distance to Nearest Turbine ID [ft]
REC-001	Non-Participating	33	0.00	-	T68	6,707
REC-002	Non-Participating	37	0.00	-	T68	4,820
REC-003	Non-Participating	32	0.00	-	T62	11,835
REC-004	Non-Participating	33	0.00	-	T62	11,078
REC-005	Non-Participating	42	31.22	30.00*	T07	2,883
REC-006	Non-Participating	33	0.00	-	T01	6,445
REC-007	Non-Participating	40	0.00	-	T01	2,588
REC-008	Non-Participating	33	0.00	-	T03	7,173
REC-009	Non-Participating	31	0.00	-	T01	8,311
REC-010	Non-Participating	32	0.00	-	T03	7,229
REC-011	Non-Participating	32	0.00	-	T03	7,465
REC-012	Non-Participating	31	0.00	-	T03	8,217
REC-013	Non-Participating	36	0.00	-	T05	6,984
REC-014	Non-Participating	27	0.00	-	T03	11,683
REC-015	Non-Participating	30	0.00	-	T03	9,073
REC-016	Participating	40	12.25	-	T63	4,038
REC-017	Participating	44	3.20	-	T15	2,441
REC-018	Non-Participating	38	0.00	-	T16	5,574
REC-019	Non-Participating	38	0.00	-	T16	5,410
REC-020	Participating	44	35.37	30.00*	T62	2,356
REC-021	Participating	38	0.00	-	T48	5,538
REC-022	Participating	42	0.00	-	T16	2,681
REC-023	Non-Participating	40	13.12	-	T48	4,272
REC-024	Non-Participating	40	3.08	-	T58	4,534
REC-025	Participating	43	56.90	30.00*	T12	2,601
REC-026	Participating	44	14.03	-	T46	1,602
REC-027	Non-Participating	44	24.77	-	T48	2,174
REC-028	Participating	44	23.65	-	T47	1,980
REC-029	Participating	44	19.65	-	T47	1,795
REC-030	Participating	42	2.70	-	T40	3,194
REC-031	Non-Participating	37	0.00	-	T61	8,186
REC-032	Participating	44	6.75	-	T44	2,383
REC-033	Non-Participating	44	6.68	-	T44	2,102
REC-034	Non-Participating	36	0.00	-	T40	7,154
REC-035	Non-Participating	42	0.00	-	T25	3,040
REC-036	Non-Participating	43	0.00	-	T25	2,950
REC-037	Non-Participating	27	0.00	-	T70	17,260
REC-038	Non-Participating	31	0.00	-	T70	8,673
REC-039	Non-Participating	36	0.00	-	T18	5,021
REC-040	Non-Participating	36	0.00	-	T18	4,952
REC-041	Non-Participating	33	0.00	-	T70	8,115
REC-042	Non-Participating	35	0.00	-	T68	6,923
REC-043	Non-Participating	33	0.00	-	T19	11,002
REC-044	Non-Participating	33	0.00	-	T19	10,485
REC-045	Non-Participating	37	0.00	-	T68	6,113
REC-046	Non-Participating	37	0.00	-	T68	5,853
REC-047	Participating	38	0.00	-	T65	5,950
REC-048	Non-Participating	32	0.00	-	T28	10,878

SOUND AND SHADOW FLICKER RESULTS						
REC-049	Non-Participating	44	36.12	30.00*	T24	2,490
REC-050	Participating	41	9.53	-	T29	3,566
REC-051	Participating	40	2.65	-	T29	3,865
REC-052	Participating	38	3.67	-	T20	4,831
REC-053	Participating	42	25.52	-	T22	2,464
REC-054	Participating	42	21.68	-	T22	2,771
REC-055	Non-Participating	40	4.47	-	T22	3,446
REC-056	Participating	43	3.28	-	T22	3,091
REC-057	Non-Participating	30	0.00	-	T03	8,924
REC-058	Non-Participating	32	0.00	-	T03	7,310
REC-059	Non-Participating	32	0.00	-	T01	7,301
REC-060	Non-Participating	24	0.00	-	T70	17,720
REC-061	Non-Participating	29	0.00	-	T70	10,393

Notes:

[1] Coordinates presented in UTM North, NAD 83 Zone 14 (meters)

[2] Participating status provided by Client via "Residence Status_ARL.shp" on April 28, 2026.

[3] All results based on turbine layout coordinates via "Longspur_MNPower_L013_202p5MW_45xV163-4p5_113mHH_20250922_WithAlt"

[4] Mitigation techniques will be utilized to reduce the shadow flicker on residences with more than 30 hours per year, indicated with the asterisk. Common techniques include planting vegetation, awning installation, and/or reduced turbine operation via curtailment. The mitigation strategies ensure the Project would be able to meet the shadow flicker limits. However, mitigation may not be necessary for the final layout based on which turbines are ultimately selected to be built. A final shadow flicker model will be completed to demonstrate compliance for the final layout.