Appendix F

Noise Anslysis

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Predicted L50 Audible Noise Level (dBA) at Maximum Operating Voltage
Where Not Paralleling Existing Transmission Lines

Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
500 kV Guyed-Delta	550 kV	43.3	45.2	47.9	49.7	50.3	50.5	50.3	49.7	47.9	45.2	43.3
500 kV Guyed-V	550 kV	42.2	44.1	47.2	49.1	49.8	50.1	49.8	49.1	47.2	44.1	42.2
500 kV Self-Supporting	550 kV	42.2	44.1	47.2	49.1	49.8	50.1	49.8	49.1	47.2	44.1	42.2

Predicted L50 Audible Noise Level (dBA) at Maximum Operating Voltage
Where Parallel to Existing 500 kV Transmission Line (Self-Supporting Tower)

Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-200	-100	-50	-25	0	25	50	100	200	300	400
Project: 500 kV Guyed-Delta Existing: 500 kV Self-Supporting	550 kV 550 kV	47.4	49.7	51.2	51.8	52.1	52.2	52.0	52.0	53.4	50.5	47.9
Project: 500 kV Guyed-V Existing: 500 kV Self-Supporting	550 kV 550 kV	46.9	49.2	50.8	51.4	51.8	51.9	51.7	51.7	53.4	50.4	47.7
Project: 500 kV Self-Supporting Existing: 500 kV Self-Supporting	550 kV 550 kV	46.9	49.2	50.8	51.4	51.8	51.9	51.7	51.7	53.4	50.4	47.7

Predicted L50 Audible Noise Level (dBA) at Maximum Operating Voltage
Where Parallel to Existing 500 kV Transmission Line (Guyed-Delta Tower)

Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-200	-100	-50	-25	0	25	50	100	200	300	400
Project: 500 kV Guyed-Delta Existing: 500 kV Guyed-Delta	550 kV 550 kV	47.3	49.6	51.1	51.7	52.0	52.0	51.9	51.7	52.8	50.2	47.8
Project: 500 kV Guyed-V Existing: 500 kV Guyed-Delta	550 kV 550 kV	46.8	49.1	50.7	51.4	51.7	51.8	51.6	51.5	52.7	50.1	47.6
Project: 500 kV Self-Supporting Existing: 500 kV Guyed-Delta	550 kV 550 kV	46.8	49.1	50.7	51.4	51.7	51.8	51.6	51.5	52.7	50.1	47.6

Predicted L50 Audible Noise Level (dBA) at Maximum Operating Voltage
Where Parallel to Existing 230 kV Transmission Line (H-Frame Tower)

Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
Project: 500 kV Guyed-Delta Existing: 230 kV H-Frame	550 kV 253 kV	44.2	45.9	48.5	50.2	50.8	51.1	51.0	50.6	50.0	50.3	46.3
Project: 500 kV Guyed-V Existing: 230 kV H-Frame	550 kV 253 kV	43.4	45.1	47.9	49.7	50.4	50.7	50.6	50.2	49.6	50.1	45.9
Project: 500 kV Self-Supporting Existing: 230 kV H-Frame	550 kV 253 kV	43.4	45.1	47.9	49.7	50.4	50.7	50.6	50.2	49.6	50.1	45.9

Predicted L50 Audible Noise Level (dBA) at Maximum Operating Voltage
Where Parallel to Existing 115 kV Transmission Line (H-Frame Tower)

Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
Project: 500 kV Guyed-Delta Existing: 115 kV H-Frame	550 kV 127 kV	43.3	45.2	47.9	49.7	50.3	50.5	50.3	49.7	47.9	45.2	43.3
Project: 500 kV Guyed-V Existing: 115 kV H-Frame	550 kV 127 kV	42.2	44.1	47.2	49.1	49.8	50.1	49.8	49.1	47.2	44.2	42.2
Project: 500 kV Self-Supporting Existing: 115 kV H-Frame	550 kV 127 kV	42.2	44.1	47.2	49.1	49.8	50.1	49.8	49.1	47.2	44.2	42.2

Predicted L50 Audible Noise Level (dBA) at Maximum Operating Voltage
Where Parallel to Two Existing 115 kV Transmission Lines (H-Frame Towers)

Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
Project: 500 kV Guyed-Delta Existing: 115 kV H-Frame Existing: 115 kV H-Frame	550 kV 127 kV 127 kV	43.3	45.2	47.9	49.7	50.3	50.5	50.3	49.7	47.9	45.2	43.3
Project: 500 kV Guyed-V Existing: 115 kV H-Frame Existing: 115 kV H-Frame	550 kV 127 kV 127 kV	42.2	44.1	47.2	49.1	49.8	50.1	49.8	49.1	47.2	44.2	42.2
Project: 500 kV Self-Supporting Existing: 115 kV H-Frame Existing: 115 kV H-Frame	550 kV 127 kV 127 kV	42.2	44.1	47.2	49.1	49.8	50.1	49.8	49.1	47.2	44.2	42.2

Predicted L50 Audible Noise Level (dBA) at Maximum Operating Voltage
Where Parallel to Existing 115 kV & 230 kV Transmission Lines (H-Frame Towers)

Structure Type	Line Voltage	Distance from Project ROW Centerline										
		-300	-200	-100	-50	-25	0	25	50	100	200	300
Project: 500 kV Guyed-Delta Existing: 115 kV H-Frame Existing: 230 kV H-Frame	550 kV 127 kV 253 kV	43.7	45.5	48.2	49.9	50.5	50.7	50.5	50.0	48.6	47.5	45.0
Project: 500 kV Guyed-V Existing: 115 kV H-Frame Existing: 230 kV H-Frame	550 kV 127 kV 253 kV	42.6	44.5	47.4	49.3	50.0	50.3	50.1	49.5	47.9	47.0	44.3
Project: 500 kV Self-Supporting Existing: 115 kV H-Frame Existing: 230 kV H-Frame	550 kV 127 kV 253 kV	42.6	44.5	47.4	49.3	50.0	50.3	50.1	49.5	47.9	47.0	44.3

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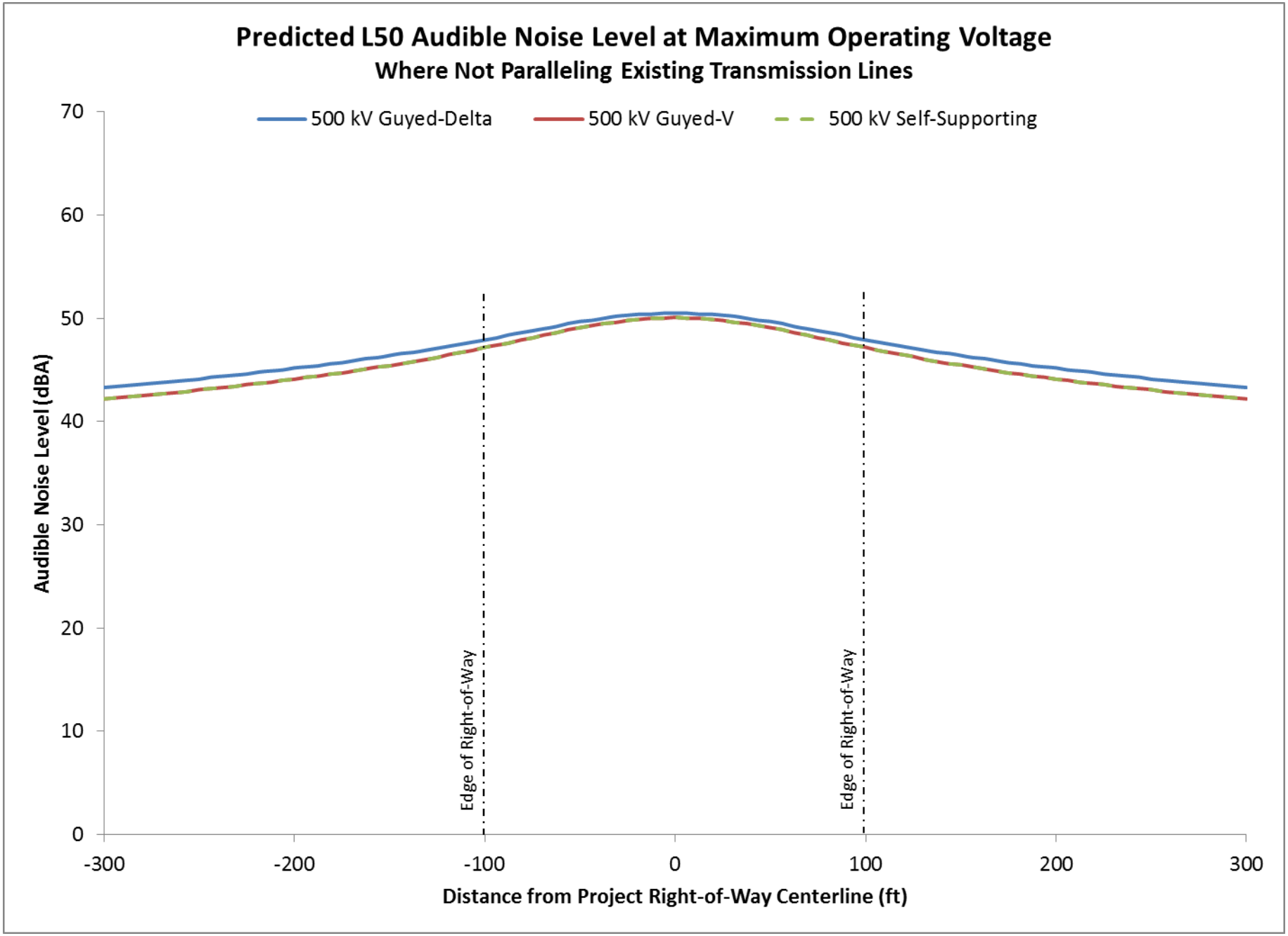
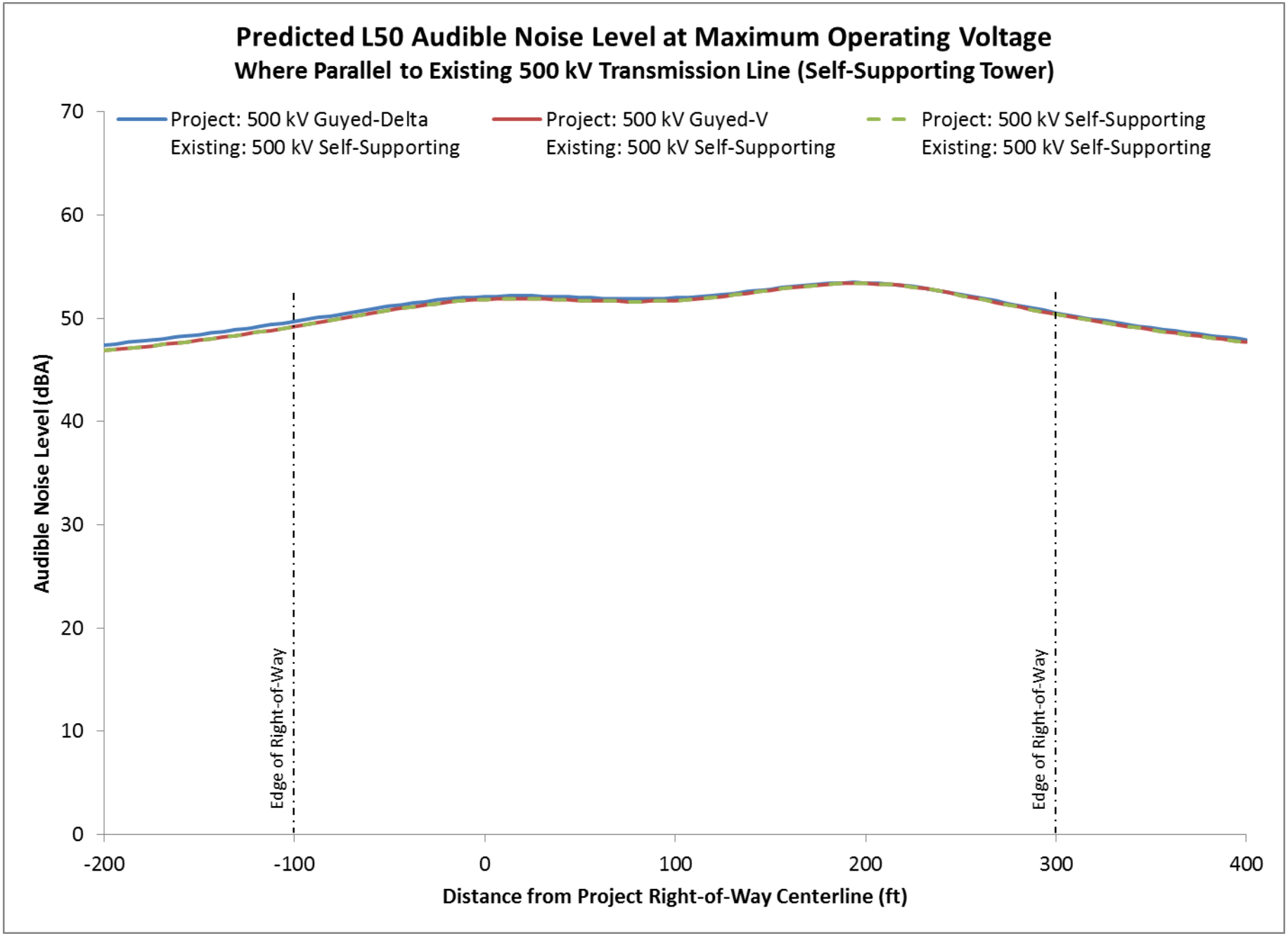
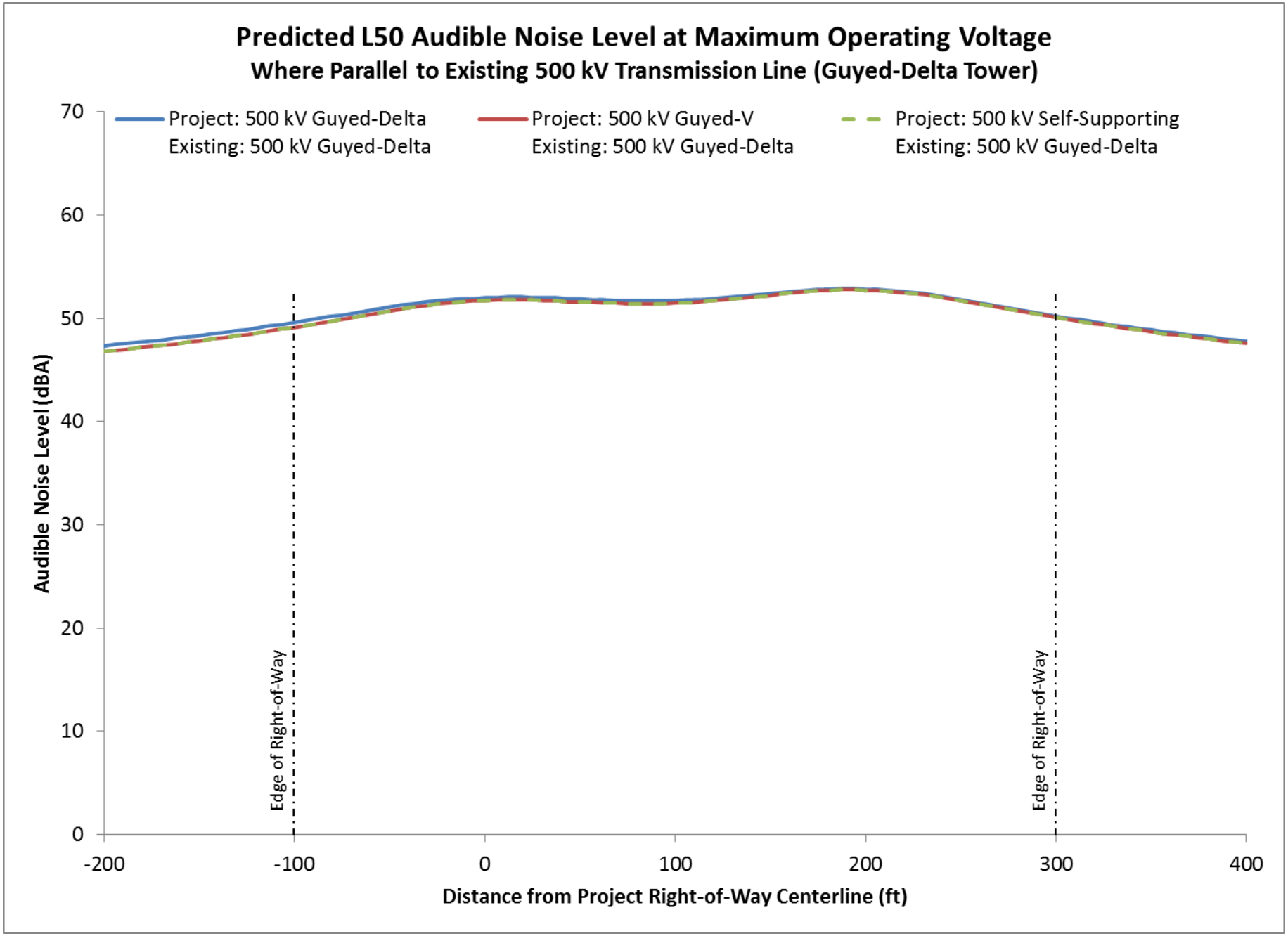
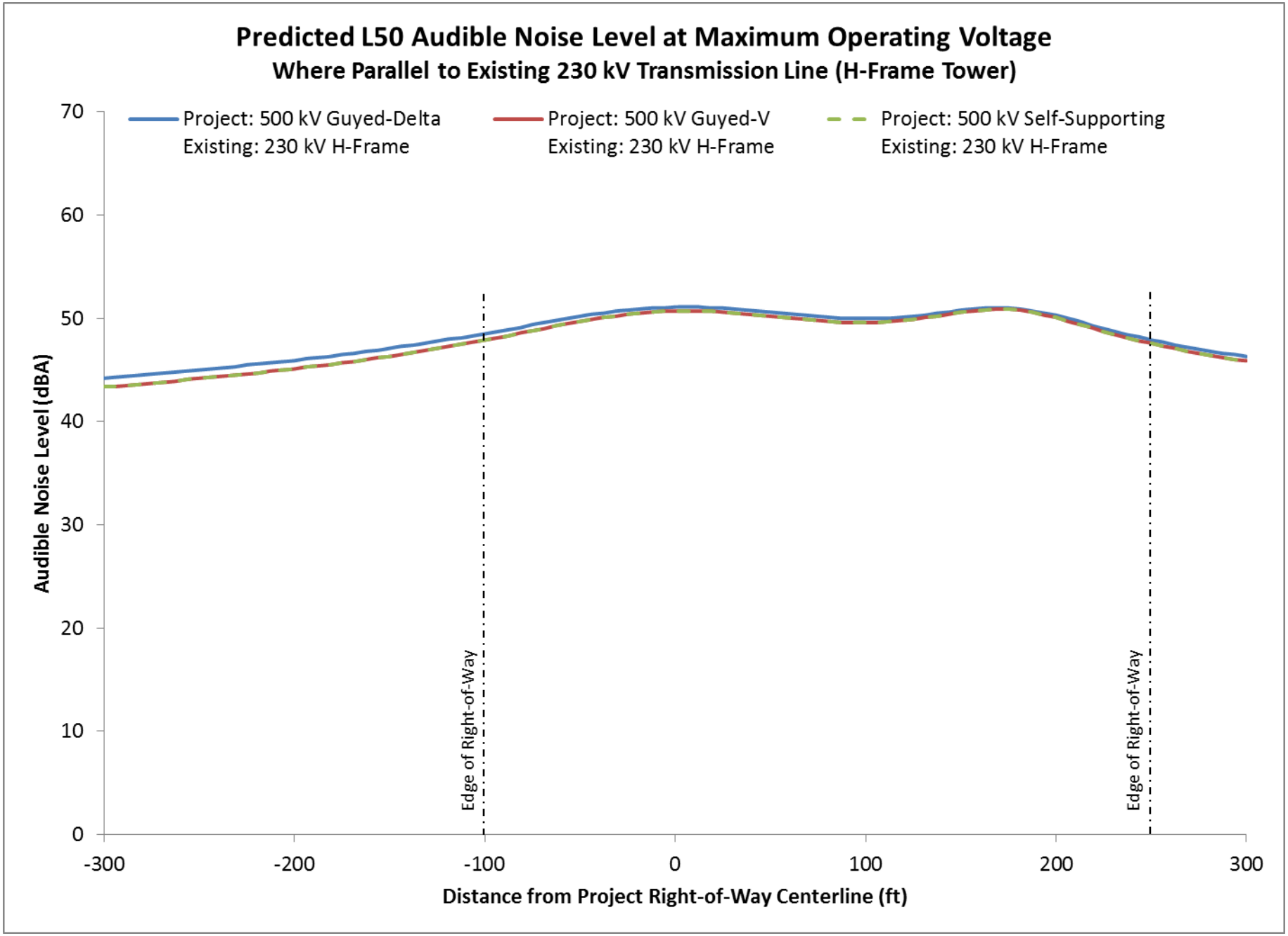
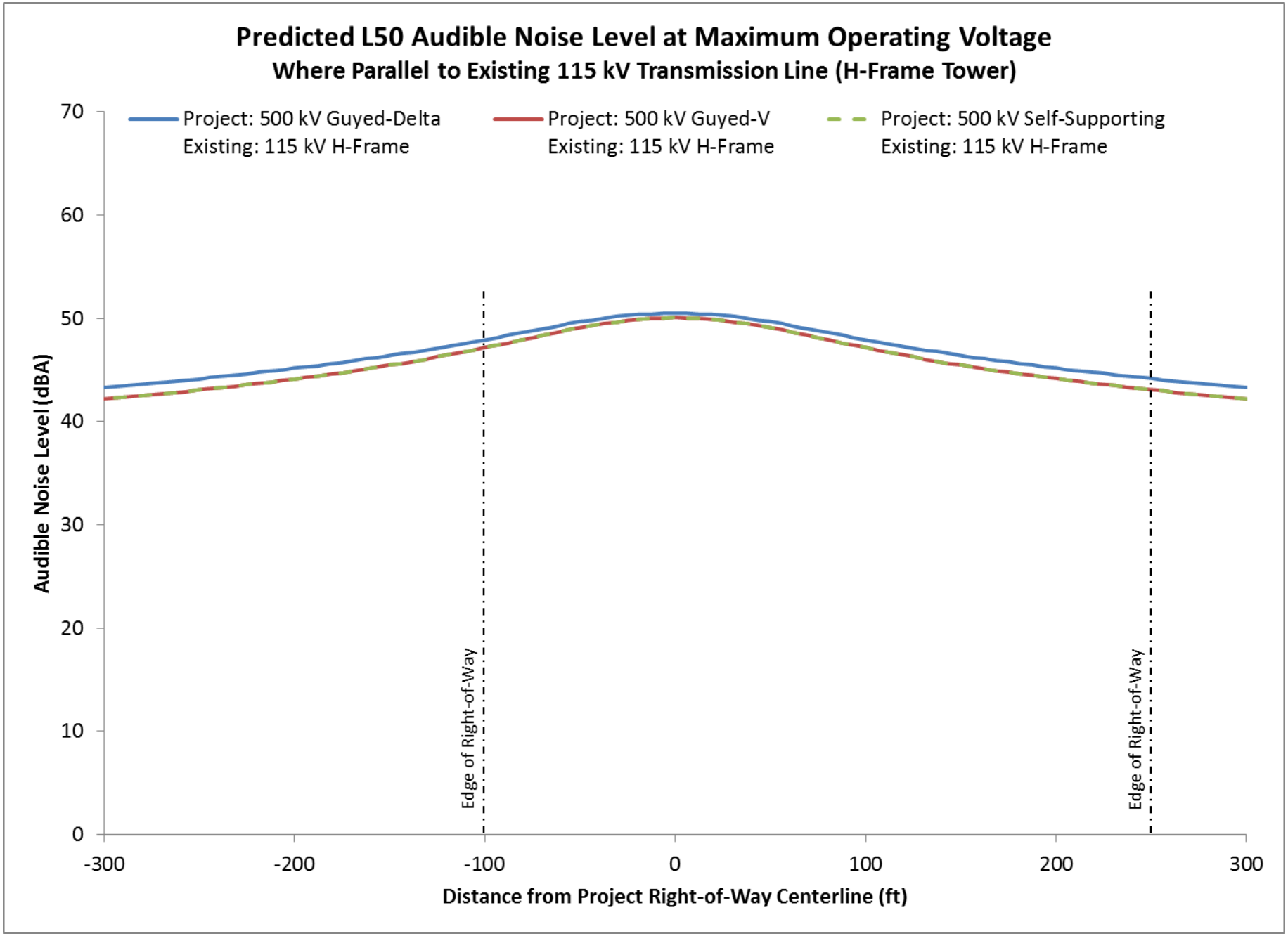
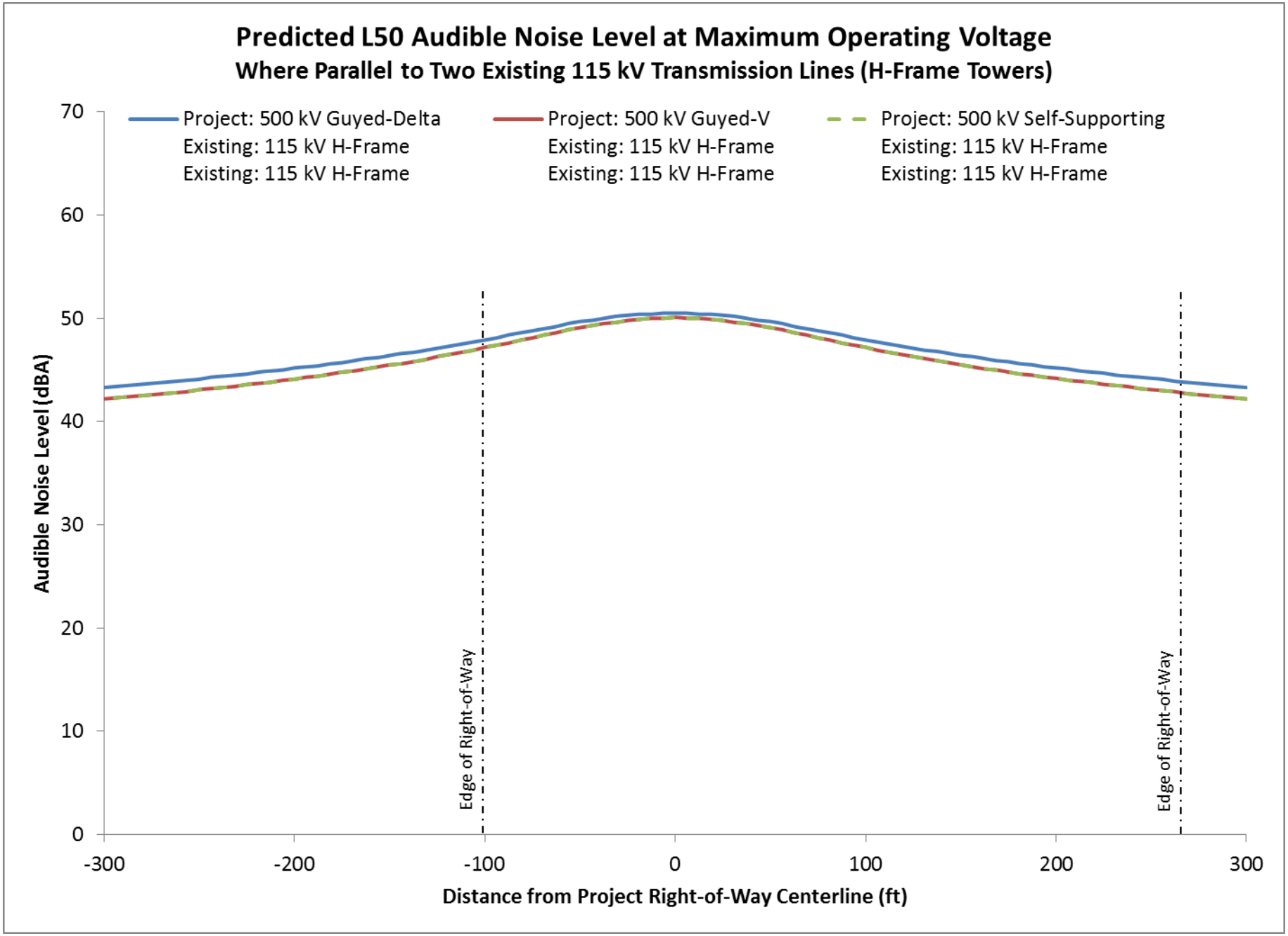

Predicted L50 Audible Noise Level at Maximum Operating Voltage
Where Not Paralleling Existing Transmission Lines
500 kV Guyed-Delta
500 kV Guyed-V
500 kV Self-Supporting
Audible Noise Level (dBA)
70
60
50
40
30
20
10
0
-300
-200
-100
0
100
200
300
Distance from Project Right-of-Way Centerline (ft)
Edge of Right-of-Way
Edge of Right-of-Way

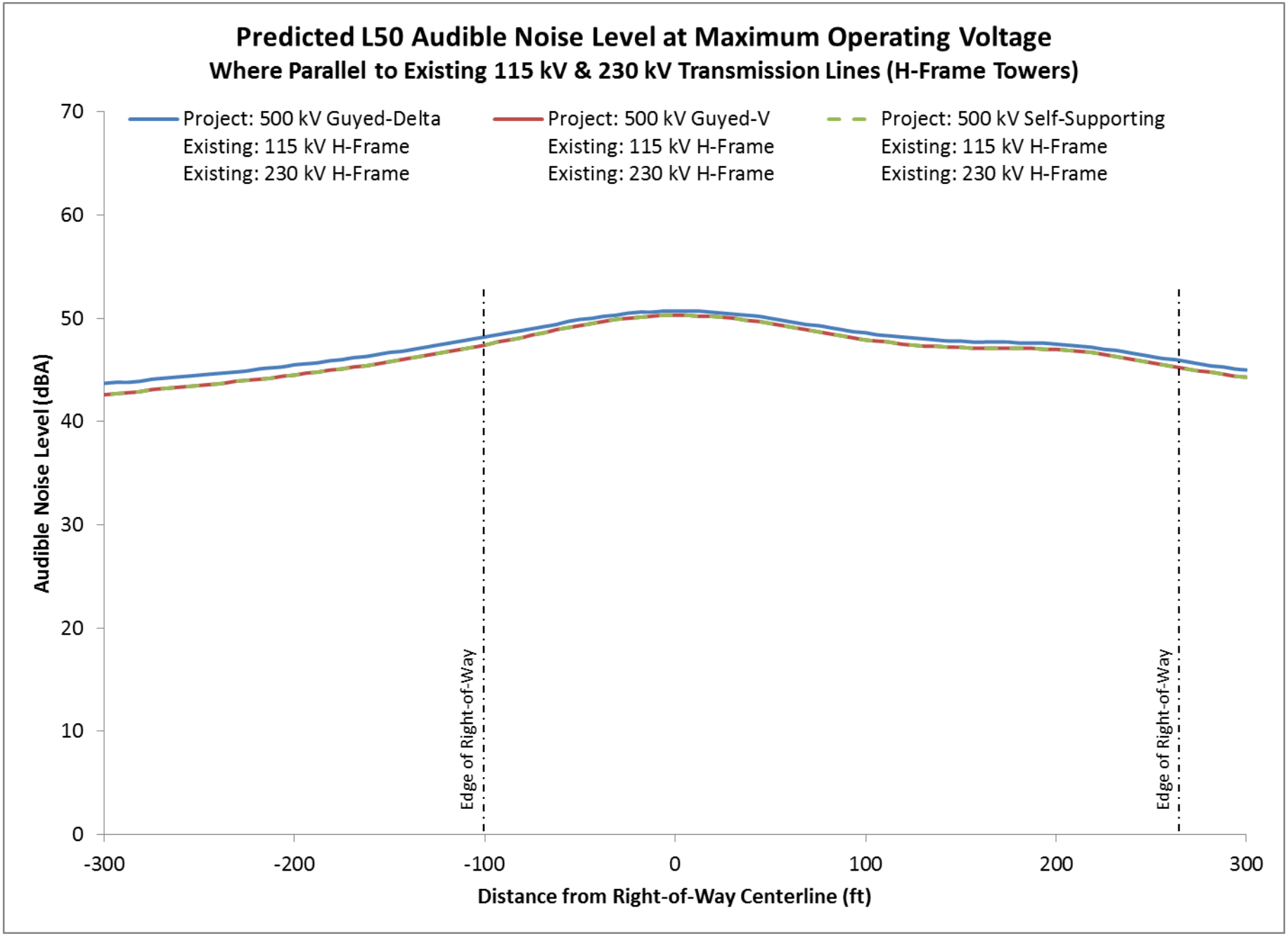

Predicted L50 Audible Noise Level at Maximum Operating Voltage
Where Parallel to Existing 500 kV Transmission Line (Self-Supporting Tower)
Project: 500 kV Guyed-Delta
Existing: 500 kV Self-Supporting
Project: 500 kV Guyed-V
Existing: 500 kV Self-Supporting
Project: 500 kV Self-Supporting
Existing: 500 kV Self-Supporting
Audible Noise Level (dBA)
70
60
50
40
30
20
10
0
Edge of Right-of-Way
Edge of Right-of-Way
-200
-100
0
100
200
300
400
Distance from Project Right-of-Way Centerline (ft)


Predicted L50 Audible Noise Level at Maximum Operating Voltage
Where Parallel to Existing 500 kV Transmission Line (Guyed-Delta Tower)
Project: 500 kV Guyed-Delta
Existing: 500 kV Guyed-Delta
Project: 500 kV Guyed-V
Existing: 500 kV Guyed-Delta
Project: 500 kV Self-Supporting
Existing: 500 kV Guyed-Delta
Audible Noise Level (dBA)
70
60
50
40
30
20
10
0
Edge of Right-of-Way
Edge of Right-of-Way
-200
-100
0
100
200
300
400
Distance from Project Right-of-Way Centerline (ft)


Predicted L50 Audible Noise Level at Maximum Operating Voltage
Where Parallel to Existing 230 kV Transmission Line (H-Frame Tower)
Project: 500 kV Guyed-Delta
Existing: 230 kV H-Frame
Project: 500 kV Guyed-V
Existing: 230 kV H-Frame
Project: 500 kV Self-Supporting
Existing: 230 kV H-Frame
Audible Noise Level (dBA)
70
60
50
40
30
20
10
0
Edge of Right-of-Way
Edge of Right-of-Way
-300
-200
-100
0
100
200
300
Distance from Project Right-of-Way Centerline (ft)


Predicted L50 Audible Noise Level at Maximum Operating Voltage
Where Parallel to Existing 115 kV Transmission Line (H-Frame Tower)
Project: 500 kV Guyed-Delta
Existing: 115 kV H-Frame
Project: 500 kV Guyed-V
Existing: 115 kV H-Frame
Project: 500 kV Self-Supporting
Existing: 115 kV H-Frame
Audible Noise Level (dBA)
70
60
50
40
30
20
10
0
-300
-200
-100
0
100
200
300
Distance from Project Right-of-Way Centerline (ft)
Edge of Right-of-Way
Edge of Right-of-Way


Predicted L50 Audible Noise Level at Maximum Operating Voltage
Where Parallel to Two Existing 115 kV Transmission Lines (H-Frame Towers)
Project: 500 kV Guyed-Delta
Existing: 115 kV H-Frame
Existing: 115 kV H-Frame
Project: 500 kV Guyed-V
Existing: 115 kV H-Frame
Existing: 115 kV H-Frame
Project: 500 kV Self-Supporting
Existing: 115 kV H-Frame
Existing: 115 kV H-Frame
Audible Noise Level (dBA)
70
60
50
40
30
20
10
0
Edge of Right-of-Way
Edge of Right-of-Way
-300
-200
-100
0
100
200
300
Distance from Project Right-of-Way Centerline (ft)


Predicted L50 Audible Noise Level at Maximum Operating Voltage
Where Parallel to Existing 115 kV & 230 kV Transmission Lines (H-Frame Towers)
Project: 500 kV Guyed-Delta
Existing: 115 kV H-Frame
Existing: 230 kV H-Frame
Project: 500 kV Guyed-V
Existing: 115 kV H-Frame
Existing: 230 kV H-Frame
Project: 500 kV Self-Supporting
Existing: 115 kV H-Frame
Existing: 230 kV H-Frame
Audible Noise Level (dBA)
70
60
50
40
30
20
10
0
Edge of Right-of-Way
Edge of Right-of-Way
-300
-200
-100
0
100
200
300
Distance from Right-of-Way Centerline (ft)

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