



Electromagnetic Fields

PREPARED FOR



DATE

December 2025

REFERENCE

Oregon Energy Facility Siting Council

CONTENTS

1.	INTRODUCTION	1
2.	TRANSMISSION LINE	1
2.1	ELECTRIC AND MAGNETIC FIELD BACKGROUND INFORMATION	1
2.2	DISTANCE FROM PROPOSED CENTER LINE	2
2.3	OCCUPIED STRUCTURES WITHIN 200 FEET OF PROPOSED CENTER LINE	2
2.4	REPRESENTATIVE FIELD STRENGTH ALONG THE PROPOSED TRANSMISSION LINE	2
2.5	MITIGATION MEASURES TO REDUCE ELECTRIC OR MAGNETIC FIELDS	4
2.6	ELECTROMAGNETIC FREQUENCY MODELING	4
2.6.1	Modeling Methods	5
2.6.2	Modeling Assumptions	5
2.7	PROPOSED MONITORING PROGRAM	7
3.	RADIO AND TV INTERFERENCE	7
4.	CORONA AND OZONE	10
5.	APPROVAL STANDARDS	10
6.	REFERENCES	11

ATTACHMENT 1 FIGURES

ATTACHMENT 2 RESULTS OF THE BONNEVILLE POWER ADMINISTRATION CORONA AND
FIELD EFFECTS PROGRAM FOR 500-KV H-FRAME OVERHEAD GEN-TIE LINE

LIST OF TABLES

TABLE 1	OVERHEAD ELECTRIC FIELD CALCULATIONS	3
TABLE 2	OVERHEAD MAGNETIC FIELD CALCULATIONS	4
TABLE 3	EMF FREQUENCY MODELLING ASSUMPTIONS	5
TABLE 4	CIRCUIT CURRENT INTENSITY FOR DIFFERENT INVERTER TYPES	6
TABLE 5	L50 RADIO INTERFERENCE	8
TABLE 6	L50 AUDIBLE NOISE	8
TABLE 7	L50 TV INTERFERENCE	9
TABLE 8	APPROVAL REQUIREMENTS MATRIX	10

ACRONYMS AND ABBREVIATIONS

Acronym	Description
Applicant	DECH bn, LLC
BESS	Battery Energy Storage System
BPA	Bonneville Power Administration
dBA	decibels A-weighted
dBµV/m	decibels microvolts per meter
Gen-tie	Generation-tie
ICNIRP	International Commission on Non-Ionizing Radiation Protection
IEEE	Institute of Electrical and Electronics Engineers
EMF	Electromagnetic Field
EPRI	Electric Power Research Institute
Facility	Solar photovoltaic power generation facility and related or supporting facilities in Wasco County, Oregon
kV	kilovolt
MHz	megahertz
mG	milligauss
OAR	Oregon Administrative Rules
PPB	parts per billion
USEPA	United States Environmental Protection Agency
WHO	World Health Organization

1. INTRODUCTION

DECH bn, LLC (Applicant) plans to construct a solar photovoltaic power generation facility and related or supporting facilities in Wasco County, Oregon (Facility). The project will include up to 1,000 megawatts of solar capacity and a battery energy storage system (BESS) with up to 4,000 megawatt hours storage capacity. This Electric and Magnetic Fields Exhibit has been prepared to meet the requirements in OAR 345-024-0090.

2. TRANSMISSION LINE

The Facility will interconnect via a short (i.e., approximately a half mile) 500-kilovolt (kV) generation tie (gen-tie) line to a 500-kV switchyard connecting to the existing 500-kV Bonneville Power Administration (BPA) Marion-Buckley transmission line located in the southern portion of the site boundary, as shown in Attachment 1, Figure 2 of the Background Information Exhibit. The Facility's 500 kV gen-tie line is not an "energy facility" within the meaning of ORS 469.300(a)(C).

2.1 ELECTRIC AND MAGNETIC FIELD BACKGROUND INFORMATION

Electric fields are produced by voltage or electric charge and magnetic fields are produced by moving electric charges or currents. Collectively, these forces are referred to as electric and magnetic fields (EMF). The strength of the electric field is defined as the change in voltage per unit distance, expressed in volts per meter (V/m) or kilovolts per meter (kV/m). The intensity of the electric field diminishes inversely with distance from the source; therefore, higher voltage sources generate stronger fields, which weaken as the distance increases. The strength of the magnetic field is directly proportional to the magnitude of the current and, like electric fields, inversely proportional to the distance from the current source. Magnetic field intensity is typically measured in milligauss (mG), where 1 mG equals 0.001 gauss (G).

In the context of electrical transmission lines, the geometry of the conductors and the phase relationships between them significantly influence the resulting EMF. The power distribution system in the United States operates on alternating current (AC) at a frequency of 60 hertz (Hz). The electric field generated by a transmission line remains relatively stable, as the voltage is typically maintained within a narrow range (often +/- 5 percent). Consequently, daily and seasonal variations in electricity consumption have minimal impact on the electric field strength, while the magnetic field fluctuates with load on the transmission line. Therefore, while electric fields from transmission lines are predominantly voltage-dependent and relatively constant, magnetic fields are current-dependent and exhibit fluctuations corresponding to the changing electrical load.

OAR 345-024-0090 requires that electric fields induced from transmission lines do not exceed 9 kV/m at one meter above the ground surface in areas accessible to the public. Guidelines for magnetic fields have been presented by the International Committee on Electromagnetic Safety and subsequently adopted by the Institute of Electrical and Electronics Engineers (9,040 mG for exposure by the general public; IEEE 2002). The International Commission on Non-Ionizing Radiation Protection (ICNIRP 2010) safe level for magnetic field intensity for the general public is 2000 mG. However, there are no Federal or State requirements for magnetic field intensity.



2.2 DISTANCE FROM PROPOSED CENTER LINE

OAR 345-024-0090(3) he proposed energy facility is a transmission line or has, as a related or supporting facility, a transmission line of any size, the applicant must submit the following: (a) Information about the expected electric and magnetic fields, including:

(A) The distance in feet from the proposed center line of each proposed transmission line to the edge of the right-of-way.

The associated 0.5-mile gen-tie line will connect the Facility to the existing 500-kV BPA Marion-Buckley transmission line via the proposed Facility's 500 kV switchyard. The gen-tie is on private property and will not require a new or existing right-of-way.

Within a utility-scale solar photovoltaic (PV) facility, multiple inverter skids or power blocks convert the generated direct current electricity from the solar arrays into AC power at 34.5-kV. The 34.5-kV collector lines form the internal collection network that links these inverters and transmits their combined output to the on-site substation for voltage step-up and grid export. For the proposed layout, there will be six typical MV collector line types that will bring power from the inverters to the Facility substation where the Facility connect to the grid. In total, there may be up to 45 individual MV collection lines coming into the Facility substation from the PV arrays. The medium voltage lines will aggregate all of the inverter power conversion systems within the site boundary and are characterized by relatively low surface electric field gradients due to their voltage class and configuration. The Applicant is planning for all MV collector lines to be underground, however this exhibit conservatively evaluates EMF for aboveground collector lines in case subsurface conditions require that portions of the collector lines be above ground in certain locations.

The gen-tie line and inverter collector lines corridor will be approximately 120 feet in width, or 60 feet on either side of the center line. This range is within the corridor width of 100 feet on either side of the center line, defined in OAR 345-001-0010(14).

2.3 OCCUPIED STRUCTURES WITHIN 200 FEET OF PROPOSED CENTER LINE

(B) The type of each occupied structure, including but not limited to residences, commercial establishments, industrial facilities, schools, daycare centers and hospitals, within 200 feet on each side of the proposed center line of each proposed transmission line.

(C) The approximate distance in feet from the proposed center line to each structure identified in (A).

There are no potential receptors within 200 feet of the 500-kV gen-tie line.

2.4 REPRESENTATIVE FIELD STRENGTH ALONG THE PROPOSED TRANSMISSION LINE

(D) At representative locations along each proposed transmission line, a graph of the predicted electric and magnetic field levels from the proposed center line to 200 feet on each side of the proposed center line.



Table 1 and Table 2 show the modeling results at the edges (i.e., left side and right side) and the highest values within 200 feet on either side of the centerline of the 500-kV gen-tie line and six 34.5-kV inverter collector lines. Results from the modeling software can be found in Attachment 2 (Only F-6 inverter collector line results were included in Attachment 2 since it has highest current field strength among all the six inverter lines). The electric fields in the corridor of the 500-kV gen-tie line and six inverter collector lines do not exceed the 9 kV/m standard (see Attachment 1, Figure 2 for gen-tie line and Figure 5 to Figure 10 for inverter collector lines A-1 to F-6) outlined in OAR 345-024-0090(1). Since the electrical voltage is the same across all the six inverter lines, they all have similar edge (i.e., left side and right side) and maximum electric field values within the right-of-way. However magnetic field strengths vary across the six inverter collector lines as they depend on the electric current intensity.

TABLE 1 OVERHEAD ELECTRIC FIELD CALCULATIONS

Support Structure	Figure	Voltage	Electric Field (kV/m) ¹		
			Left Side (200 Feet)	Maximum (Location)	Right Side (200 Feet)
500-kV gen-tie line	Attachment 1 Figure 2	500 kV	0.196	2.433 (44 feet right or left of the center line)	0.196
34.5-kV double-circuit A-1 inverter line	Attachment 1 Figure 5	35.4 kV	0.009	0.756 (at the center line)	0.009
34.5-kV double-circuit B-2 inverter line	Attachment 1 Figure 7	35.4 kV	0.009	0.756 (at the center line)	0.009
34.5-kV double-circuit C-3 inverter line	Attachment 1 Figure 9	35.4 kV	0.009	0.756 (at the center line)	0.009
34.5-kV double-circuit D-4 inverter line	Attachment 1 Figure 11	35.4 kV	0.009	0.756 (at the center line)	0.009
34.5-kV double-circuit E-5 inverter line	Attachment 1 Figure 13	35.4 kV	0.009	0.756 (at the center line)	0.009
34.5-kV double-circuit F-6 inverter line	Attachment 1 Figure 15	35.4 kV	0.009	0.756 (at the center line)	0.009

¹ Oregon Electric Field Standard is 9.04 kV/m within the right of way.

TABLE 2 OVERHEAD MAGNETIC FIELD CALCULATIONS

Support Structure	Figure	Voltage	Magnetic Field (mG) ¹		
			Left Side (200 Feet)	Maximum (Location)	Right Side (200 Feet)
500-kV gen-tie line	Attachment 1 Figure 3	500 kV	10.53	110.01 (center line)	10.53
34.5-kV double-circuit A-1 inverter line	Attachment 1 Figure 6	35.4 kV	0.21	9.39 (4 feet left of the center line)	0.21
34.5-kV double-circuit B-2 inverter line	Attachment 1 Figure 8	35.4 kV	0.42	18.78 (4 feet left of the center line)	0.42
34.5-kV double-circuit C-3 inverter line	Attachment 1 Figure 10	35.4 kV	0.64	28.17 (4 feet left of the center line)	0.64
34.5-kV double-circuit D-4 inverter line	Attachment 1 Figure 12	35.4 kV	0.85	37.55 (4 feet left of the center line)	0.85
34.5-kV double-circuit E-6 inverter line	Attachment 1 Figure 14	35.4 kV	1.06	46.95 (4 feet left of the center line)	1.06
34.5-kV double-circuit F-6 inverter line	Attachment 1 Figure 16	35.4 kV	1.27	56.34 (4 feet left of the center line)	1.27

¹ ICNIRP(2000) public safe level – 2000 mG; IEEE(2002) public safe level – 9400 mG

2.5 MITIGATION MEASURES TO REDUCE ELECTRIC OR MAGNETIC FIELDS

(E) Any measures the applicant proposes to reduce electric or magnetic field levels.

The highest electric fields within the right of way will be less than 9 kV/m as required by the State of Oregon. Therefore, no mitigation is proposed.

2.6 ELECTROMAGNETIC FREQUENCY MODELING

(F) The assumptions and methods used in the electric and magnetic field analysis, including the current in amperes on each proposed transmission line;



2.6.1 MODELING METHODS

To evaluate potential EMF exposure, the Applicant carried out a series of analyses based on the maximum electrical currents anticipated under peak operating conditions, and considering the point where conductors hang lowest (typically at the midpoint between two support towers) to yield the most conservative estimates of magnetic field intensity.

All simulations were conducted using the Corona and Field Effects Program (Version 3.1), a modeling tool developed by the BPA

2.6.2 MODELING ASSUMPTIONS

Table 3 outlines assumptions made during the development of the models. These assumptions are pulled from the IEEE and other industry publications.

TABLE 3 EMF FREQUENCY MODELLING ASSUMPTIONS

Category	Value
Physical Setting and Climatology	
• Elevation	2267 feet
• Rain rate	2 inches per hour
• Wind speed	2 miles per hour
Detector Information	
• Radio interference antenna height	6.6 feet
• TV interference antenna height	9.8 feet
• Frequency at which radio interference values are to be calculated	1 megahertz (MHz)
• Frequency at which TV interference values are to be calculated	75 MHz
• Magnetic field sensor height	3.3 feet
• Ground conductivity	6.7 millimhos per meter
• Electric field sensor height	3.3 feet
Width of modeling	400 feet ¹
500-kilovolt (kV) H-frame transmission line ²	
• Horizontal location of the three conductors	At the centerline and 32 feet from each side of the centerline
• Height of conductors	58 feet
• Conductor diameters	1.345 inches
• Current	1125.0 amps, or 1.215 kiloamperes ³
• Horizontal location of the two ground wires	20 feet from each side of the centerline

Category	Value
• Height of ground wires	93 feet
• Ground wire diameter	0.642 inches
34.5kV double-circuit line ⁴	
• Horizontal location of the three conductors	4.17 feet (A circuit), 5.15 feet (B circuit), and 4.17 feet (C circuit) mirrored on both sides of the double-circuit centerline
• Height of conductors	45 feet (A circuit), 35 feet (B circuit), and 25 feet (C circuit)
• Conductor diameters	1.345 inches
• Current	See Table 4
• Horizontal location of the two ground wires	0.66 feet from on one side of the double-circuit centerline
• Height of ground wires	54.3 feet
• Ground wire diameter	0.75 inches

Notes:

¹ 200 feet on each side of the transmission line centerline through the entire width of the right of way. Sampled every 4 feet, perpendicular to the centerline.

² Shown in Attachment 1, Figure 1

³ Estimated using proposed energy generation of 1,000 megawatts and a power factor of 0.95.

⁴ Shown in Attachment 1 Figure 4

TABLE 4 CIRCUIT CURRENT INTENSITY FOR DIFFERENT INVERTER TYPES

Circuit Type	Circuit Current (amps)
A-1 Inverters	72.6
B-2 Inverters	147.3
C-3 Inverters	220.9
D-4 Inverters	294.5
E-5 Inverters	368.2
F-6 Inverters	441.8

2.7 PROPOSED MONITORING PROGRAM

(G) The applicant's proposed monitoring program, if any, for actual electric and magnetic field levels.

The highest electric fields within the right of way will be less than the Oregon standard of 9 kV/m as required by the State of Oregon. Therefore, no monitoring program is proposed.

3. RADIO AND TV INTERFERENCE

OAR 345-024-0090(3)(b) An evaluation of alternate methods and costs of reducing radio interference likely to be caused by the transmission line in the primary reception area near interstate, U.S. and state highways.

Modeling results for radio and television (TV) interference, expressed as L50 levels (representing the median level exceeding 50 percent of the time in a given measurement period), are presented in Table 5. During rainy conditions, the radio interference (RI) is estimated at 96 dB μ V/m (decibels microvolts per meter) within the right-of-way and 76 dB μ V/m at the edge of the right-of-way, compared to the recommended guideline of 56 dB μ V/m. This represents exceedances of 40 dB μ V/m and 20 dB μ V/m, respectively. Under fair weather, RI is 79 dB μ V/m within the right-of-way and 59 dB μ V/m at the edge, with the latter exceeding the guideline by just 3 dB μ V/m. While these values represent exceedances—particularly under foul-weather conditions—the Facility context indicates that no mitigation is warranted. The gen-tie is located entirely on remote, wooded, private property with no residences, public roads, or community receptors where radio reception could be impacted. RI guidelines are intended to prevent nuisance interference in publicly accessible or inhabited areas; however, in this case, no such receptors exist near the line.

In addition, the gen-tie interconnects directly into an existing BPA 500-kV transmission line, which already produces corona-related RI typical of high-voltage systems. Any incremental RI contribution from the much shorter, lower-voltage gen-tie will be negligible relative to the existing BPA line's baseline conditions, and therefore unlikely to result in any perceptible change for potential off-site receptors. Taken together—remote land use, lack of public exposure, and consistency with the operating environment of an existing BPA 500-kV facility—these factors demonstrate that no RI-related mitigation measures are necessary.

The TV interference levels modeled under rain reach 53.4 dB μ V/m within the right-of-way and 40.9 dB μ V/m at the edge. While older analog TV systems may have been affected at these levels, modern digital broadcast standards are generally resilient to such interference, except in cases of marginal signal strength.

The audible noise (AN) levels are also provided in L50 terms. During rainy conditions, AN peaks at 77.2 dBA (A-weighted decibel; The "A" in dBA refers to the A-weighting filter, which is a standardized frequency weighting that mimics the human ear's sensitivity to different sound frequencies, especially at moderate sound levels) within the right-of-way and 71 dBA at the edge, exceeding the IEEE recommended level of 55 dBA by 22.2 dBA and 16 dBA, respectively. Under fair weather conditions, AN levels drop to 52.2 dBA within the right-of-way and 46 dBA at the edge, both below the IEEE threshold. While rainy condition AN levels represent an exceedance of

IEEE recommended levels—the Facility context indicates that no mitigation is warranted. The gen-tie is located entirely on remote, wooded, private property with no residences, public roads, or community receptors where noise sensitive receptors could be impacted. AN guidelines are intended to prevent nuisance interference in publicly accessible or inhabited areas; however, in this case, no such receptors exist near the line.

TABLE 5 L50 RADIO INTERFERENCE

Support Structure	RAIN		FAIR		Guidelines
	Maximum within right-of-way (dB μ V/m)	Edge of right-of-way (dB μ V/m)	Maximum within right-of-way (dB μ V/m)	Edge of right-of-way (dB μ V/m)	
500-kV gen-tie line	96	76	79	59	56 (EPA, 1974)
34.5-kV double-circuit inverter lines (A-1 to F-6)	-29.1 ¹	-58.7	-46.1	-75.7	56 (EPA, 1974)

TABLE 6 L50 AUDIBLE NOISE

Support Structure	RAIN		FAIR		Guidelines
	Maximum within right-of-way (dBA)	Edge of right-of-way (dBA)	Maximum within right-of-way (dBA)	Edge of right-of-way (dBA)	
500-kV gen-tie line	77.2	71	52.2	46	55 (IEEE, 2017)
34.5-kV double-circuit inverter lines (A-1 to F-6)	-51.4 ²	-60.9	-76.4	-85.9	55 (IEEE, 2017)

¹ Negative values in this context do not indicate a reversal or error, but rather that the predicted electric field strength is below the 1 μ V/m reference level (0 dB μ V/m). Such values are below the detection threshold of standard instrumentation and represent negligible or imperceptible interference.

² Negative AN values (in dBA) indicate sound pressure levels below 20 μ Pa, which corresponds to the threshold of human hearing. These levels are inaudible under field conditions and have no practical contribution to ambient noise.

TABLE 7 L50 TV INTERFERENCE

Support Structure	Maximum within right-of-way (dB μ V/m)	Edge of right-of-way (dB μ V/m)	Guidelines
			Recommended Level
500-kV gen-tie line	53.4	40.9	NA*
34.5-kV double-circuit inverter lines (A-1 to F-6)	-71.7 ¹	-89.5	NA

* NA – Not Available

Modeling results indicate that radio and TV interference levels and audible noise from the 500-kV gen-tie line attenuate significantly with distance and fall below recommended thresholds well within the right-of-way.

Reservation Road, a county-maintained road in Wasco County, is approximately 1,000 feet from the gen-tie line. A small cluster of barns and residential buildings are situated approximately 1,700 feet and 3,700 feet from the gen-tie line. These structures are not within or near the zone of exceedance, and the interference levels decay below the recommended thresholds at these distances. As such, no physical mitigation measures are required. However, a contingency communication protocol will be maintained to respond to any unanticipated interference complaints, ensuring transparency and community engagement.

The CAFE31 model was also applied to evaluate Radio Interference (RI), TV Interference (TVI), and AN associated with the six 34.5-kV inverter collector lines at the Facility. These lines operate at medium voltage with relatively low surface electric field gradients, and the resulting corona activity is minimal under typical operating and fair-weather conditions. Because these effects are primarily voltage-dependent rather than current-dependent, all inverter lines exhibit essentially identical predicted RI, TVI, and AN levels for the same applied voltage.

Model results were evaluated at the L50 statistical level. Several output values for RI and TVI were negative when expressed in dB (μ V/m). Negative values in this context do not indicate a reversal or error, but rather that the predicted electric field strength is below the 1 μ V/m reference level (0 dB μ V/m). Such values are below the detection threshold of standard instrumentation and represent negligible or imperceptible interference.

Similarly, negative AN values (in dBA) indicate sound pressure levels below 20 μ Pa, which corresponds to the threshold of human hearing. These levels are inaudible under field conditions and have no practical contribution to ambient noise.

In summary, the predicted RI, TVI, and AN values for the 34.5-kV inverter lines are well below levels of concern and indicate no measurable corona effects. The inverter lines are located entirely within the Facility boundary, and the modeled emissions are insufficient to cause interference with nearby FM radio reception, digital satellite, or cable television systems in surrounding communities. Therefore, the overall off-site impact of corona-related electrical or acoustic emissions is considered negligible.

4. CORONA AND OZONE

The maximum corona gradient computed for the 500-kV gen-tie line is 27.2 kV/cm, exceeding the estimated corona onset gradient of 11.76 kV/cm. This corona activity leads to the ionization of the air surrounding the conductor, resulting in ozone generation. Although the calculated corona gradient of 27.2 kV/cm exceeds the theoretical corona-onset gradient, this is expected and typical for high-voltage transmission lines—especially 500-kV conductors, where corona activity is an inherent and well-understood physical process. Corona onset simply indicates the point at which ionization begins; it does not imply a hazard, failure condition, or regulatory exceedance. What matters from a health and environmental perspective are the resulting by-products, chiefly ozone and audible noise, and in this case, the modeled ozone levels remain far below the USEPA (70 ppb) and WHO (60 ppb) 8-hour standards.

The maximum estimated ozone concentration is 13.36 ppb at 100 feet from the center of the gen-tie line, gradually decreasing with increasing distance. For the six inverter collector lines, the ozone concentration is less than 1 ppb.

The estimated ozone concentration for the 500-kV gen-tie line and the six inverter collector lines is well below the air quality standards set by the USEPA (EPA 2020) and the World Health Organization (WHO 2021), which specify 8-hour average ozone limits of 70 ppb and 60 ppb, respectively. At this low level, no adverse health effects are anticipated for the general population, including sensitive groups such as children, the elderly, and individuals with respiratory conditions. Therefore, the estimated ozone concentration poses minimal risk and is consistent with current regulatory requirements.

5. APPROVAL STANDARDS

The Applicant has satisfied the Approval Standards of OAR 345-024-0090(3), summarized in Table 8.

TABLE 8 APPROVAL REQUIREMENTS MATRIX

Requirement	Location
OAR 345-024-0090(3) If the proposed energy facility is a transmission line or has, as a related or supporting facility, a transmission line of any size, the applicant must submit the following:	–
(a) Information about the expected electric and magnetic fields, including:	Section 2.1
(A) The distance in feet from the proposed center line of each proposed transmission line to the edge of the right-of-way;	Section 2.2
(B) The type of each occupied structure, including but not limited to residences, commercial establishments, industrial facilities, schools, daycare centers, and hospitals, within 200 feet on each side of the proposed center line of each proposed transmission line;	Section 2.3
(C) The approximate distance in feet from the proposed center line to each structure identified in (A);	Section 2.3

Requirement	Location
(D) At representative locations along each proposed transmission line, a graph of the predicted electric and magnetic fields levels from the proposed center line to 200 feet on each side of the proposed center line;	Section 2.4
(E) Any measures the applicant proposes to reduce electric or magnetic field levels;	Section 2.5
(F) The assumptions and methods used in the electric and magnetic field analysis, including the current in amperes on each proposed transmission line; and	Section 2.6
(G) The applicant's proposed monitoring program, if any, for actual electric and magnetic field levels; and	Section 2.7
(B) An evaluation of alternate methods and costs of reducing radio interference likely to be caused by the transmission line in the primary reception area near interstate, U.S., and state highways.	Section 3.0

6. REFERENCES

EPA. 1974. *Information on levels of environmental noise requisite to protect public health and welfare with an adequate margin of safety* (EPA Report No. 550/9-74-004). U.S. Government Printing Office. 1974.

EPA 2020. *Ozone National Ambient Air Quality Standards (NAAQS)*. Washington, DC: U.S. EPA.

EPRI 1985. *Transmission Line Reference Book, Published by the Electric Power Research Institute, Third Edition*. 1985.

ICNIRP 2010. *Guidelines for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (Up To 300 GHz)*. International Commission on Non-Ionizing Radiation Protection. *Health Physics* 99 6: 818-836. December 2010.

IEEE 2002. *IEEE Standard for Safety Levels with Respect to Human Exposure to Electromagnetic Fields, 0 – 3 kHz*. Institute of Electrical and Electronics Engineers, IEEE Std C95.6-2002. 2002.

IEEE 2017. *IEEE Standard Procedures for the Measurement of Radio Noise from Overhead Power Lines and Substations*. Institute of Electrical and Electronics Engineers, IEEE 430-2017, doi:10.1109/IEEESTD.2017.7882595. 2017.

WHO 2021. *WHO global air quality guidelines: Particulate matter (PM_{2.5} and PM₁₀), ozone, nitrogen dioxide, sulfur dioxide, and carbon monoxide*. Geneva: World Health Organization. 2021.



ATTACHMENT 1 FIGURES

FIGURE 1 500-KV H-FRAME GEN-TIE LINE STRUCTURE

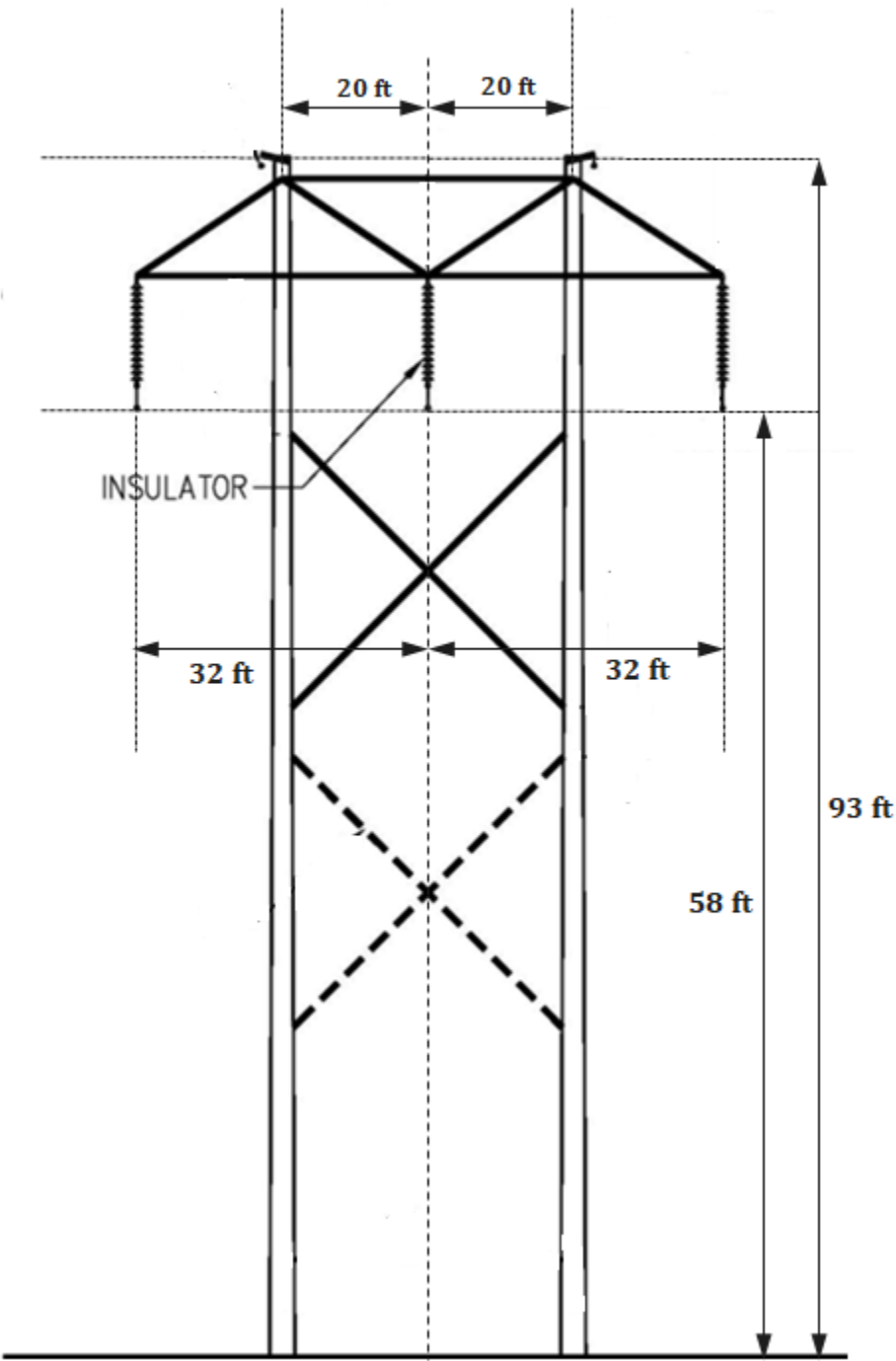


FIGURE 2 ELECTRIC FIELD VARIATION WITHIN THE ROW FOR 500-KV GEN-TIE LINE

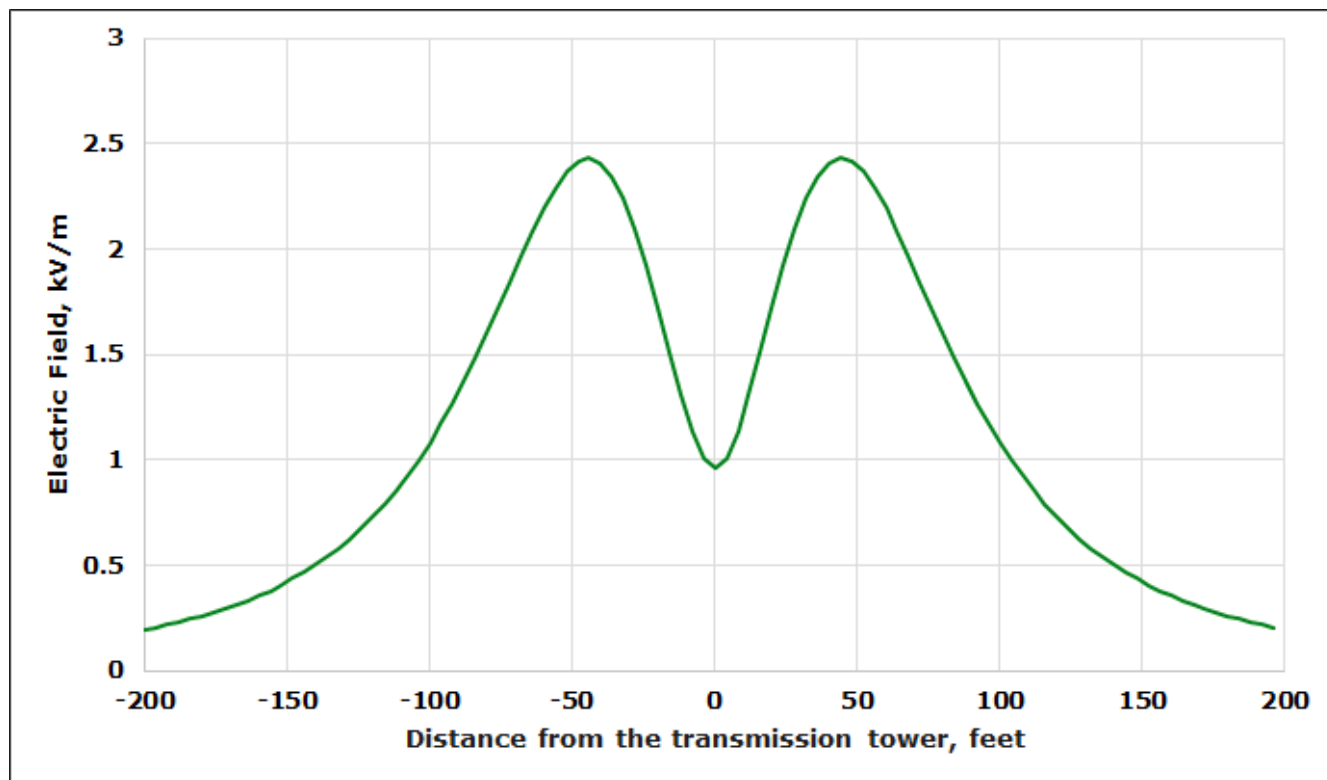


FIGURE 3 MAGNETIC FIELD VARIATION WITHIN THE ROW FOR THE 500-KV GEN-TIE LINE

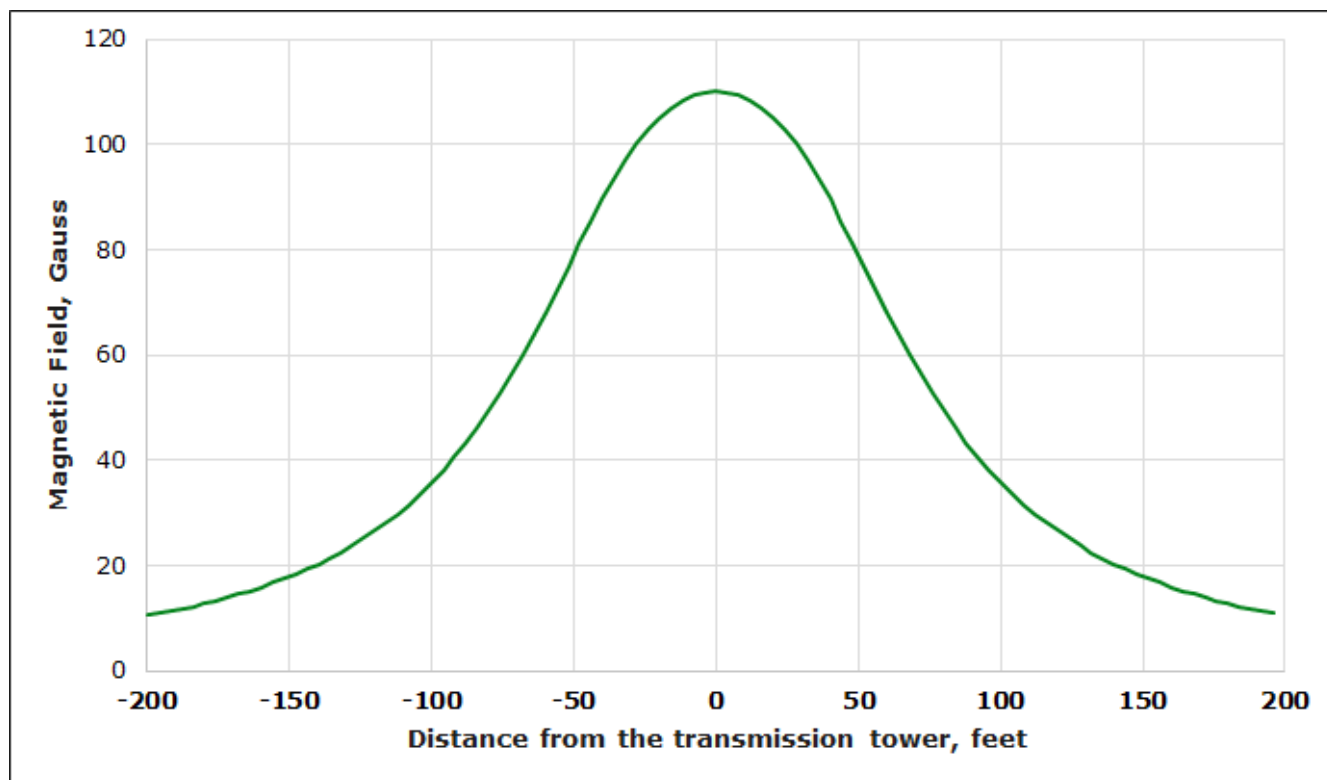


FIGURE 4 34.5-KV DOUBLE-CIRCUIT OVERHEAD COLLECTOR

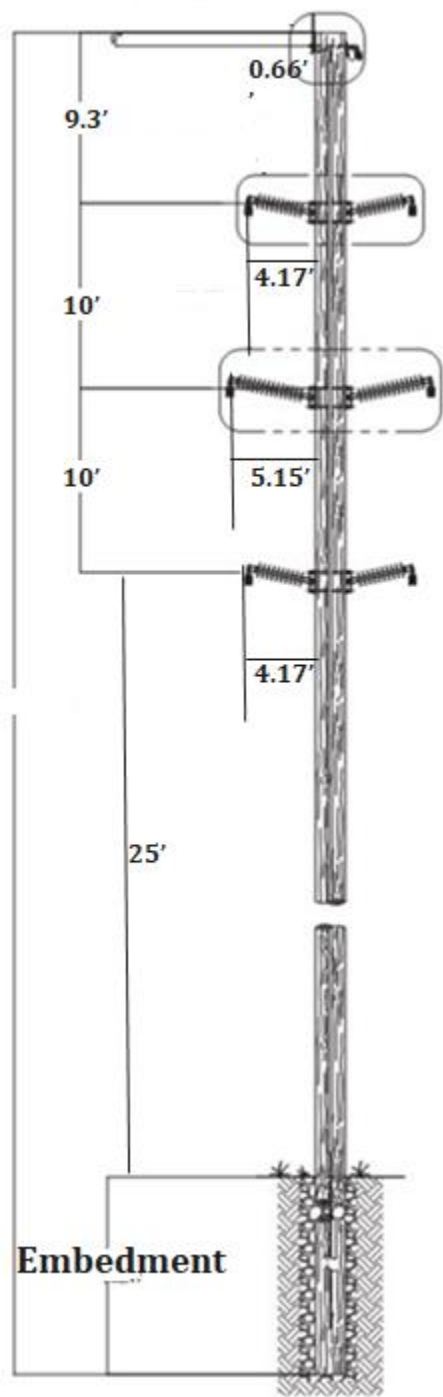


FIGURE 5 ELECTRIC FIELD VARIATION WITHIN THE ROW FOR THE 35.4-KV A-1 INVERTER

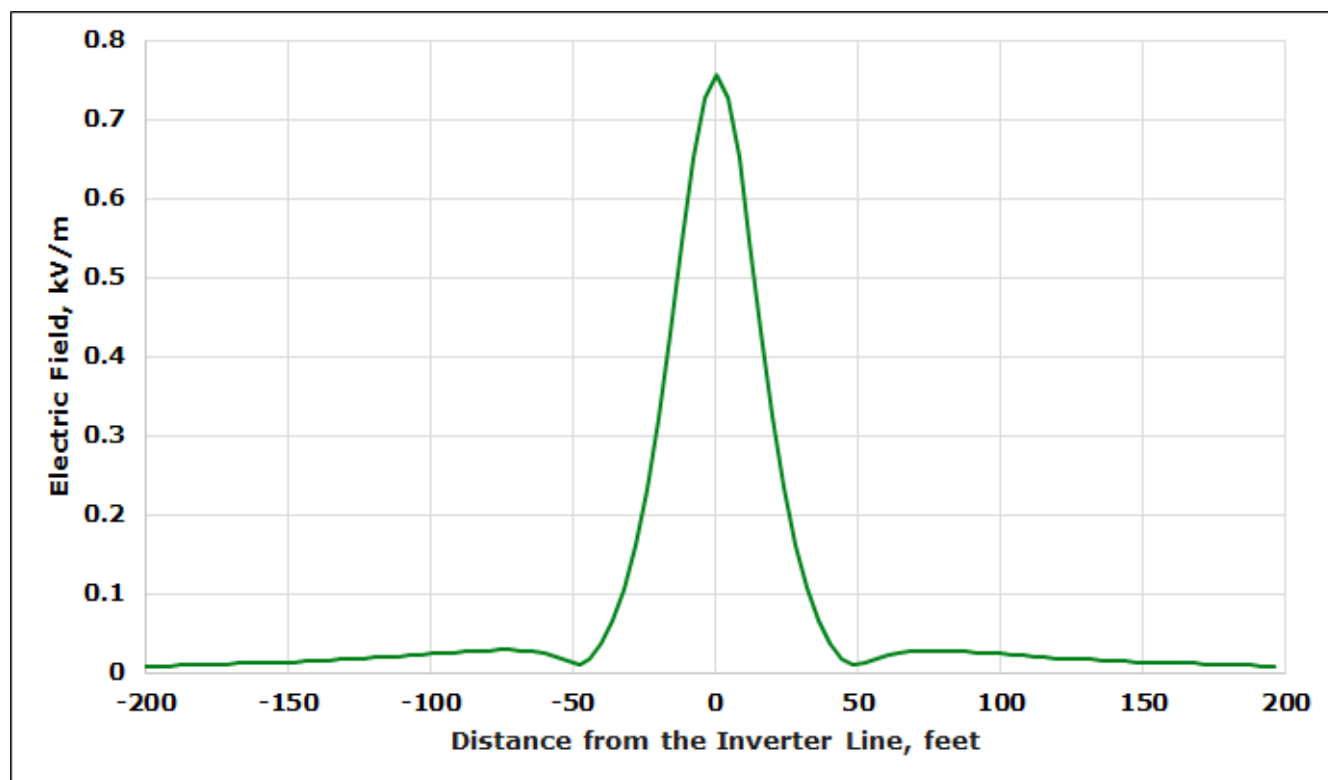


FIGURE 6 MAGNETIC FIELD VARIATION WITHIN THE ROW FOR THE 35.4-KV A-1 INVERTER

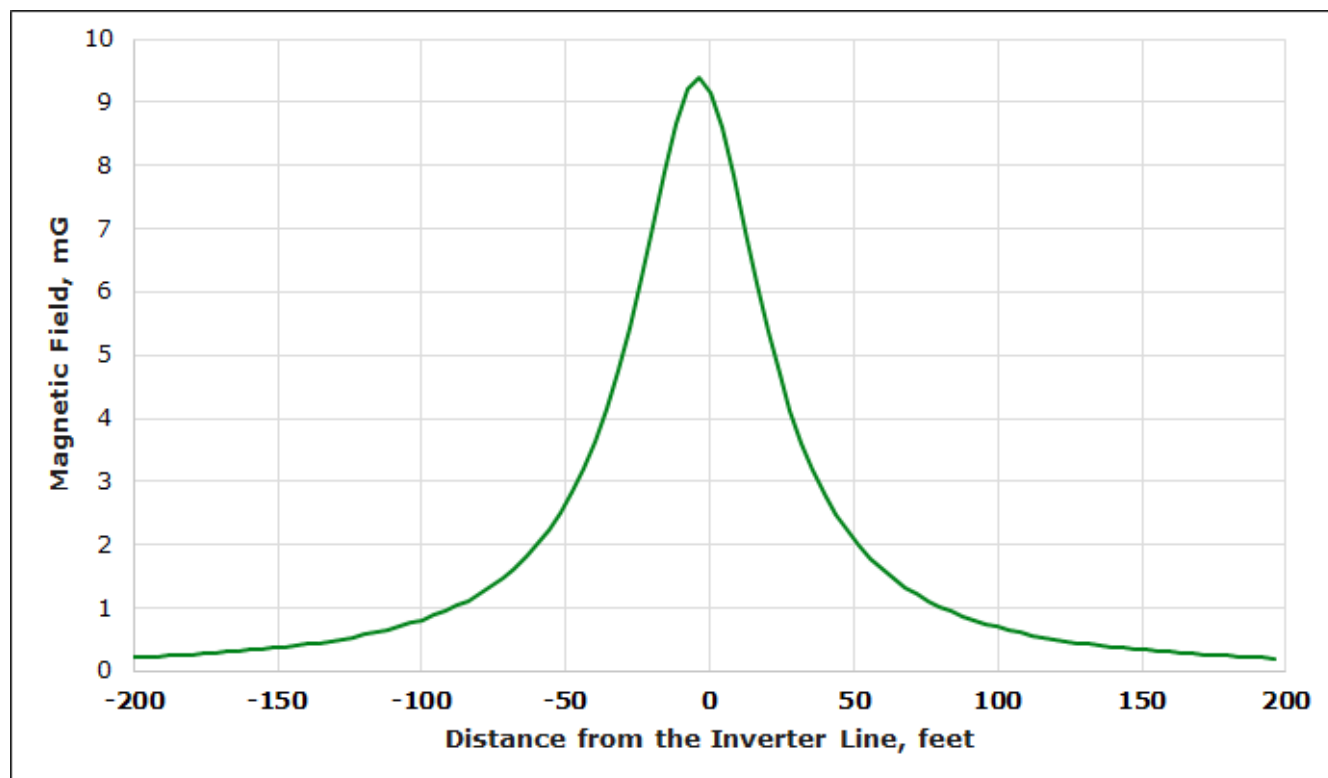


FIGURE 7 ELECTRIC FIELD VARIATION WITHIN THE ROW FOR THE 35.4-KV B-2 INVERTER

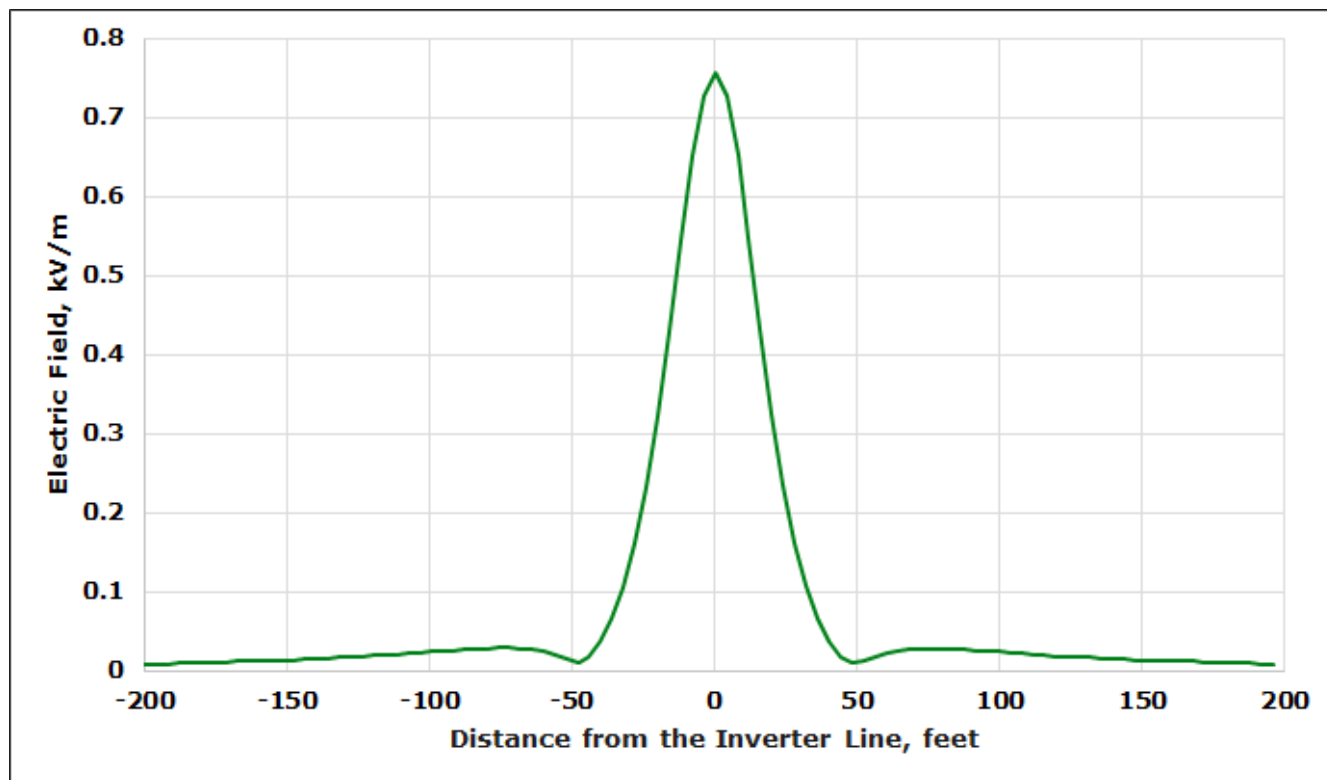


FIGURE 8 MAGNETIC FIELD VARIATION WITHIN THE ROW FOR THE 35.4-KV B-2 INVERTER

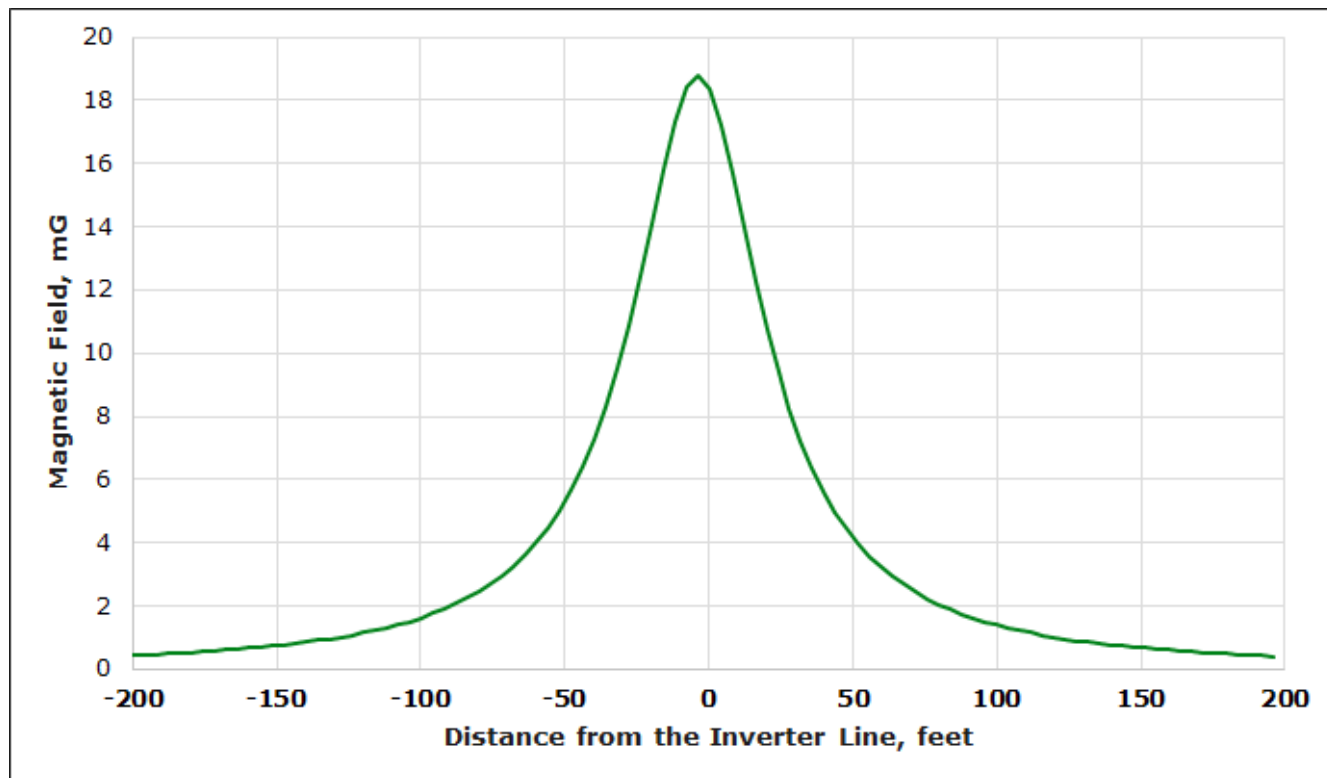


FIGURE 9 ELECTRIC FIELD VARIATION WITHIN THE ROW FOR THE 35.4-KV C-3 INVERTER

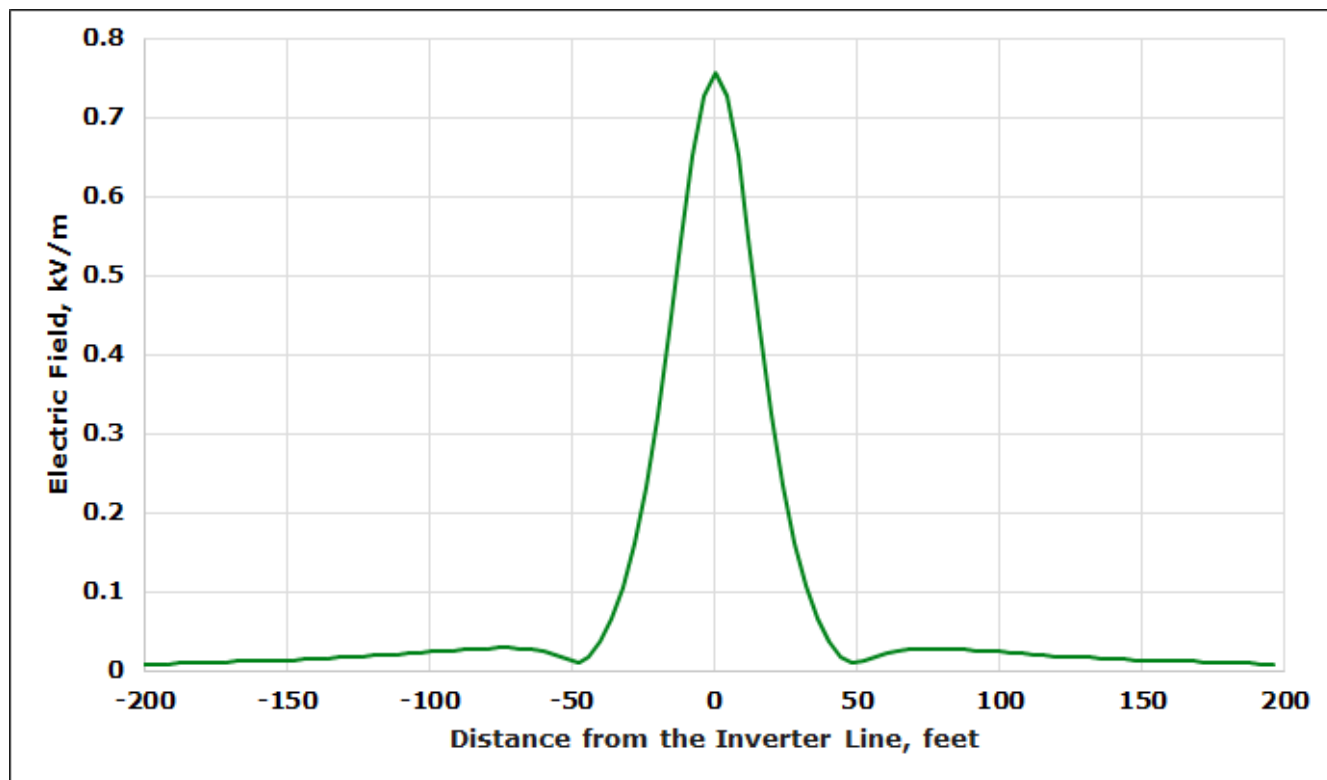


FIGURE 10 MAGNETIC FIELD VARIATION WITHIN THE ROW FOR THE 35.4-KV C-3 INVERTER

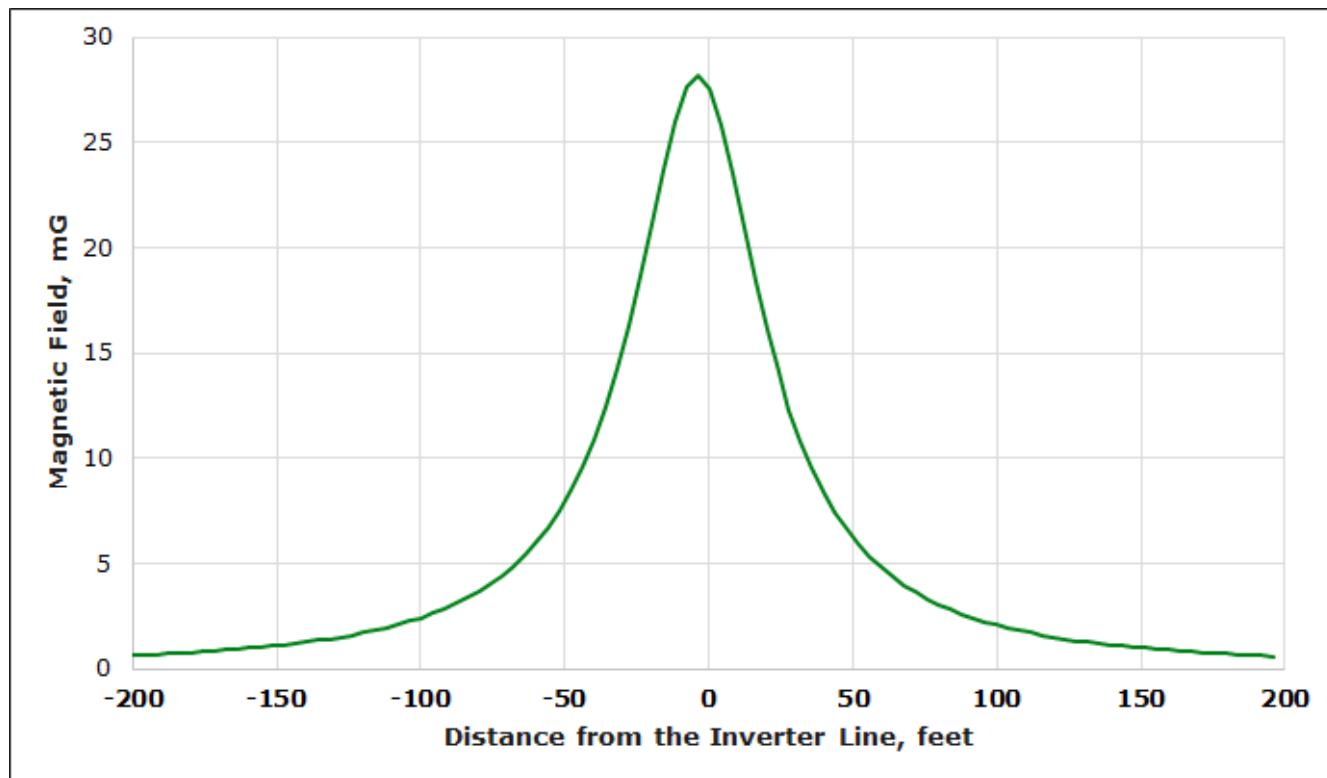


FIGURE 11 ELECTRIC FIELD VARIATION WITHIN THE ROW FOR THE 35.4-KV D-4 INVERTER

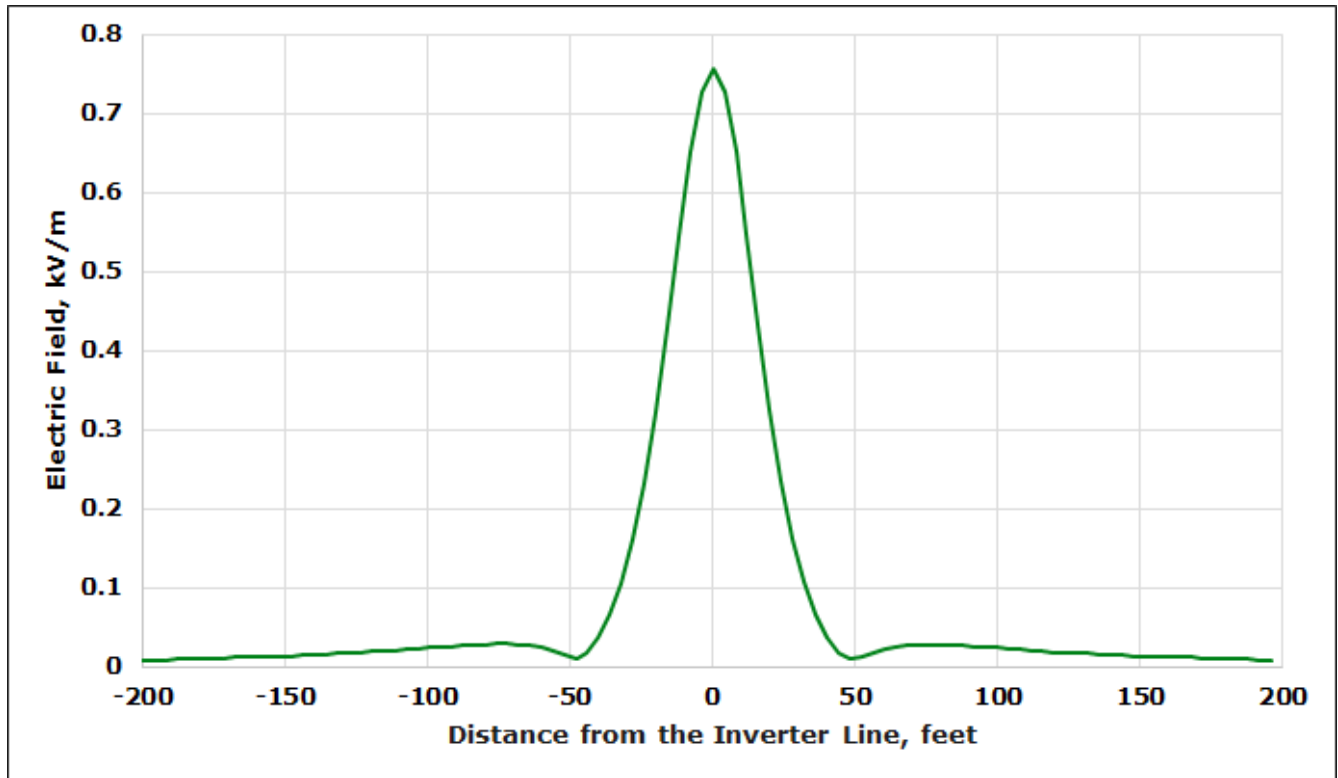


FIGURE 12 MAGNETIC FIELD VARIATION WITHIN THE ROW FOR THE 35.4-KV D-4 INVERTER

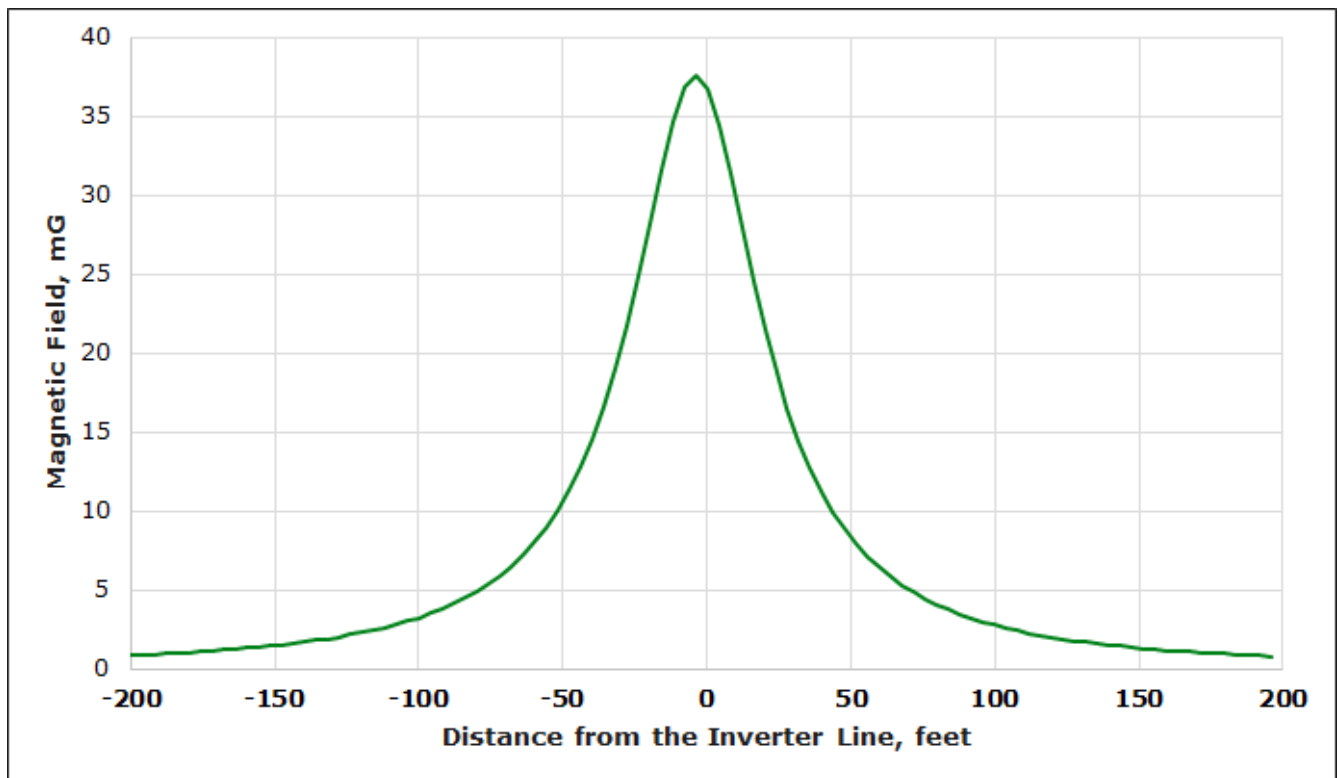


FIGURE 13 ELECTRIC FIELD VARIATION WITHIN THE ROW FOR THE 35.4-KV E-5 INVERTER

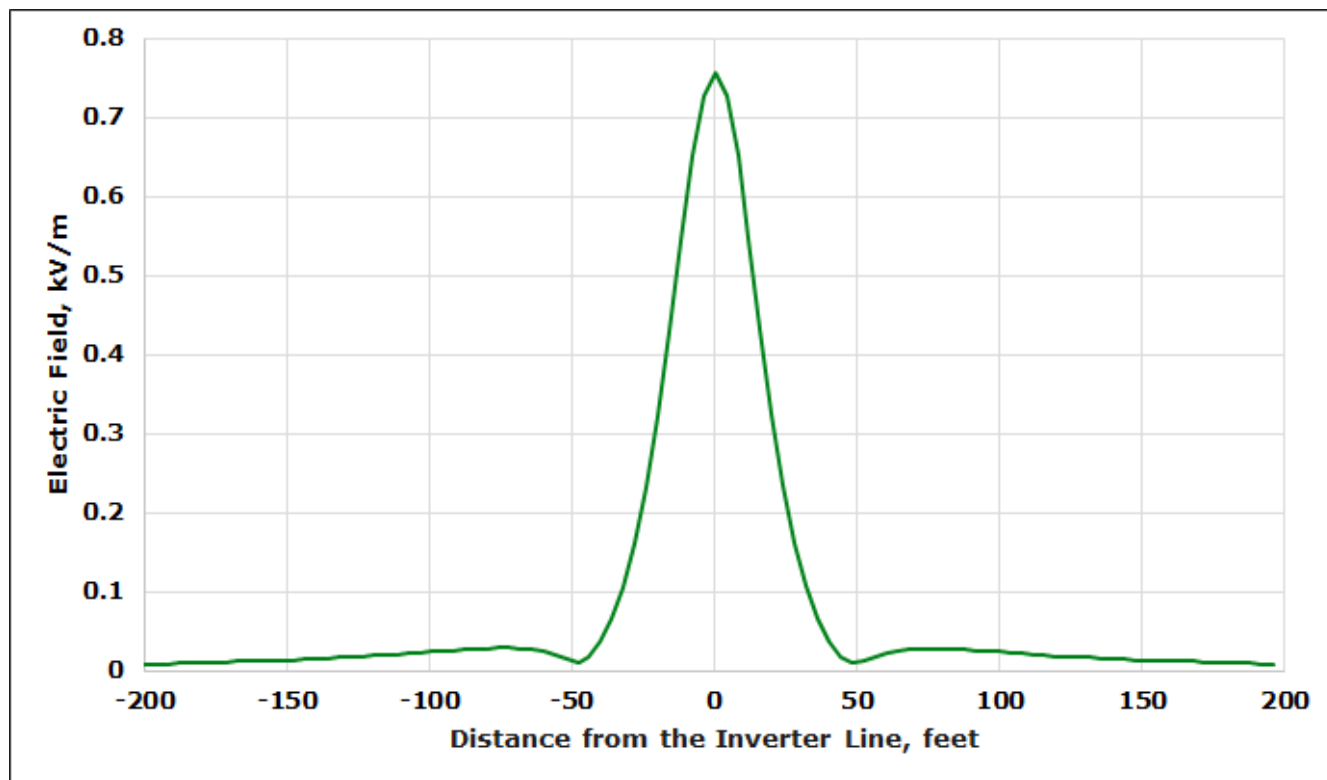


FIGURE 14 MAGNETIC FIELD VARIATION WITHIN THE ROW FOR THE 35.4-KV E-5 INVERTER

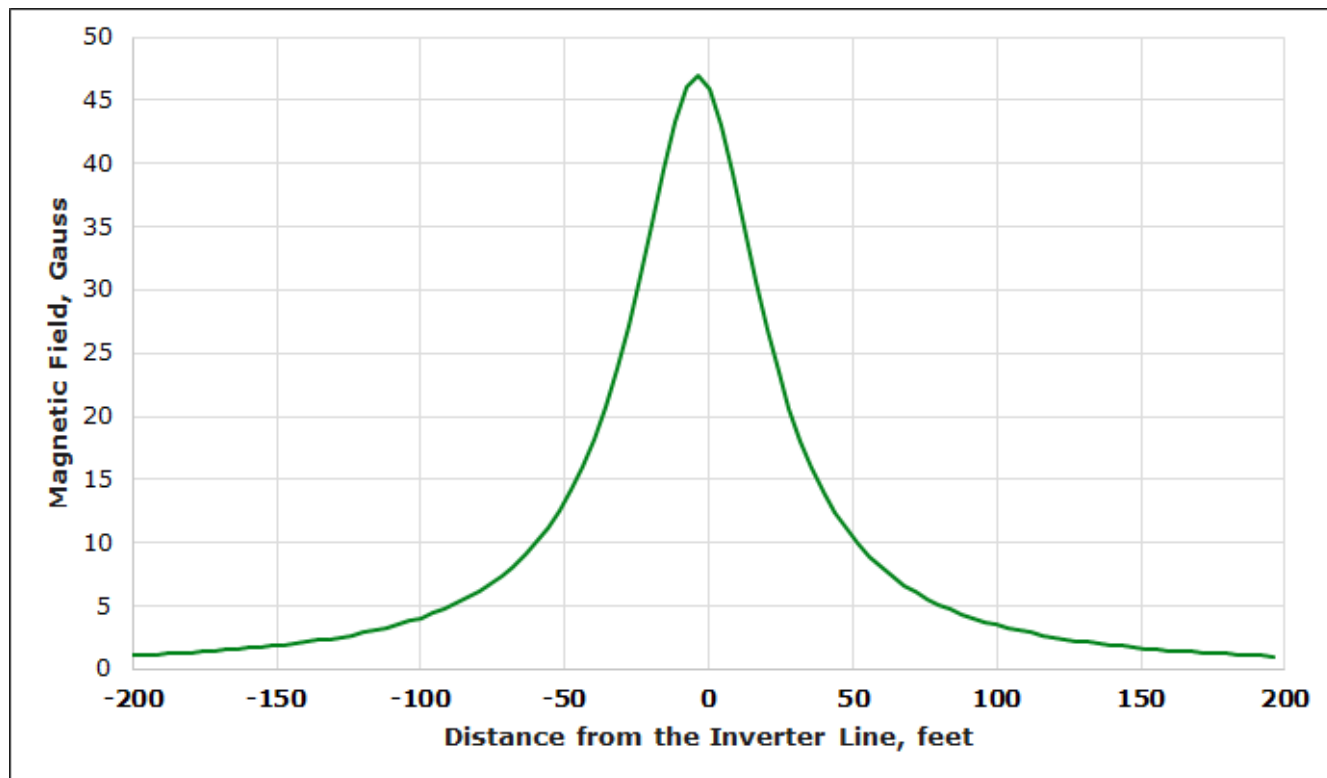


FIGURE 15 ELECTRIC FIELD VARIATION WITHIN THE ROW FOR THE 35.4-KV F-6 INVERTER

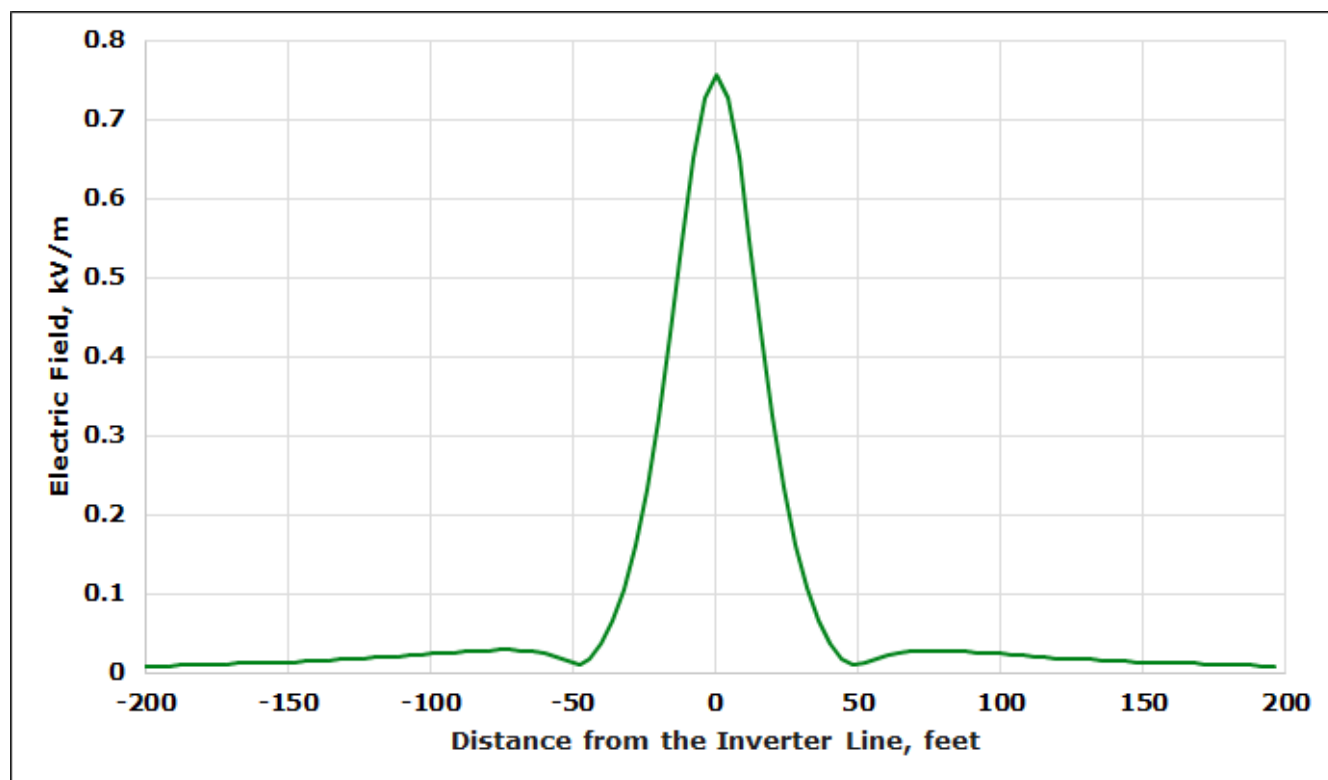
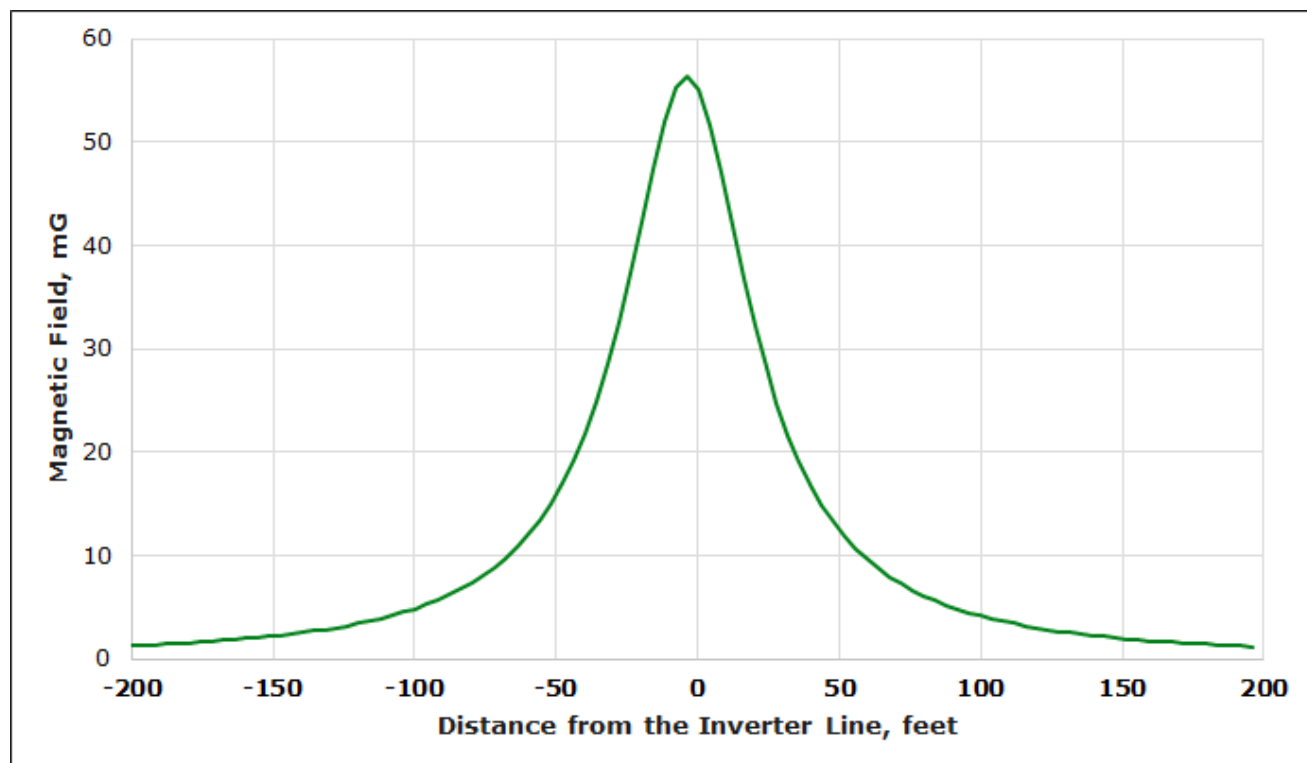


FIGURE 16 MAGNETIC FIELD VARIATION WITHIN THE ROW FOR THE 35.4-KV F-6 INVERTER





ATTACHMENT 2 RESULTS OF THE BONNEVILLE POWER ADMINISTRATION CORONA AND FIELD EFFECTS PROGRAM FOR 500-KV H-FRAME OVERHEAD GEN-TIE LINE

-192.0	74.6	71.1	64.3	68.1	65.9
-188.0	74.7	71.2	64.4	68.2	66.0
-184.0	74.8	71.3	64.5	68.3	66.1
-180.0	74.9	71.4	64.6	68.4	66.2
-176.0	75.0	71.5	64.7	68.5	66.3
-172.0	75.1	71.6	64.8	68.6	66.5
-168.0	75.3	71.8	64.9	68.7	66.6
-164.0	75.4	71.9	64.9	68.8	66.7
-160.0	75.5	72.0	65.0	68.9	66.8
-156.0	75.6	72.1	65.1	69.0	67.0
-152.0	75.7	72.2	65.2	69.1	67.1
-148.0	75.8	72.3	65.3	69.2	67.3
-144.0	76.0	72.5	65.4	69.4	67.4
-140.0	76.1	72.6	65.5	69.5	67.5
-136.0	76.2	72.7	65.7	69.6	67.7
-132.0	76.3	72.8	65.8	69.7	67.8
-128.0	76.5	73.0	65.9	69.9	68.0
-124.0	76.6	73.1	66.0	70.0	68.2
-120.0	76.8	73.3	66.1	70.1	68.3
-116.0	76.9	73.4	66.2	70.3	68.5
-112.0	77.0	73.5	66.3	70.4	68.7
-108.0	77.2	73.7	66.5	70.6	68.8
-104.0	77.4	73.9	66.6	70.7	69.0
-100.0	77.5	74.0	66.7	70.9	69.2
-96.0	77.7	74.2	66.8	71.0	69.4
-92.0	77.8	74.3	67.0	71.2	69.6
-88.0	78.0	74.5	67.1	71.3	69.7
-84.0	78.2	74.7	67.3	71.5	69.9
-80.0	78.3	74.8	67.4	71.7	70.1
-76.0	78.5	75.0	67.5	71.8	70.3



-72.0	78.7	75.2	67.7	72.0	70.5
-68.0	78.9	75.4	67.8	72.2	70.7
-64.0	79.0	75.5	68.0	72.4	70.8
-60.0	79.2	75.7	68.2	72.6	71.0
-56.0	79.4	75.9	68.3	72.8	71.1
-52.0	79.5	76.0	68.5	72.9	71.3
-48.0	79.7	76.2	68.7	73.1	71.4
-44.0	79.8	76.3	68.8	73.3	71.5
-40.0	80.0	76.5	69.0	73.5	71.5
-36.0	80.1	76.6	69.2	73.7	71.6
-32.0	80.2	76.7	69.4	73.8	71.6
-28.0	80.4	76.9	69.6	74.0	71.6
-24.0	80.5	77.0	69.7	74.1	71.5
-20.0	80.5	77.0	69.9	74.3	71.5
-16.0	80.6	77.1	70.1	74.4	71.4
-12.0	80.7	77.2	70.3	74.5	71.3
-8.0	80.7	77.2	70.5	74.6	71.1
-4.0	80.7	77.2	70.7	74.6	71.0
0.0	80.7	77.2	70.8	74.6	70.8
4.0	80.7	77.2	71.0	74.6	70.7
8.0	80.7	77.2	71.1	74.6	70.5
12.0	80.7	77.2	71.3	74.5	70.3
16.0	80.6	77.1	71.4	74.4	70.1
20.0	80.5	77.0	71.5	74.3	69.9
24.0	80.5	77.0	71.5	74.1	69.7
28.0	80.4	76.9	71.6	74.0	69.6
32.0	80.2	76.7	71.6	73.8	69.4
36.0	80.1	76.6	71.6	73.7	69.2
40.0	80.0	76.5	71.5	73.5	69.0
44.0	79.8	76.3	71.5	73.3	68.8



48.0	79.7	76.2	71.4	73.1	68.7
52.0	79.5	76.0	71.3	72.9	68.5
56.0	79.4	75.9	71.1	72.8	68.3
60.0	79.2	75.7	71.0	72.6	68.2
64.0	79.0	75.5	70.8	72.4	68.0
68.0	78.9	75.4	70.7	72.2	67.8
72.0	78.7	75.2	70.5	72.0	67.7
76.0	78.5	75.0	70.3	71.8	67.5
80.0	78.3	74.8	70.1	71.7	67.4
84.0	78.2	74.7	69.9	71.5	67.3
88.0	78.0	74.5	69.7	71.3	67.1
92.0	77.8	74.3	69.6	71.2	67.0
96.0	77.7	74.2	69.4	71.0	66.8
100.0	77.5	74.0	69.2	70.9	66.7
104.0	77.4	73.9	69.0	70.7	66.6
108.0	77.2	73.7	68.8	70.6	66.5
112.0	77.0	73.5	68.7	70.4	66.3
116.0	76.9	73.4	68.5	70.3	66.2
120.0	76.8	73.3	68.3	70.1	66.1
124.0	76.6	73.1	68.2	70.0	66.0
128.0	76.5	73.0	68.0	69.9	65.9
132.0	76.3	72.8	67.8	69.7	65.8
136.0	76.2	72.7	67.7	69.6	65.7
140.0	76.1	72.6	67.5	69.5	65.5
144.0	76.0	72.5	67.4	69.4	65.4
148.0	75.8	72.3	67.3	69.2	65.3
152.0	75.7	72.2	67.1	69.1	65.2
156.0	75.6	72.1	67.0	69.0	65.1
160.0	75.5	72.0	66.8	68.9	65.0
164.0	75.4	71.9	66.7	68.8	64.9



168.0	75.3	71.8	66.6	68.7	64.9
172.0	75.1	71.6	66.5	68.6	64.8
176.0	75.0	71.5	66.3	68.5	64.7
180.0	74.9	71.4	66.2	68.4	64.6
184.0	74.8	71.3	66.1	68.3	64.5
188.0	74.7	71.2	66.0	68.2	64.4
192.0	74.6	71.1	65.9	68.1	64.3
196.0	74.5	71.0	65.8	68.0	64.2

1AUDIBLE NOISE CALCULATION - FAIR

DIST FROM REFERENCE (FEET)	TOTALS				
	L5	L50	A1	B	C
	(DBA)	(DBA)			
-200.0	49.4	45.9	39.2	42.9	40.7
-196.0	49.5	46.0	39.2	43.0	40.8
-192.0	49.6	46.1	39.3	43.1	40.9
-188.0	49.7	46.2	39.4	43.2	41.0
-184.0	49.8	46.3	39.5	43.3	41.1
-180.0	49.9	46.4	39.6	43.4	41.2
-176.0	50.0	46.5	39.7	43.5	41.3
-172.0	50.1	46.6	39.8	43.6	41.5
-168.0	50.3	46.8	39.9	43.7	41.6
-164.0	50.4	46.9	39.9	43.8	41.7
-160.0	50.5	47.0	40.0	43.9	41.8
-156.0	50.6	47.1	40.1	44.0	42.0
-152.0	50.7	47.2	40.2	44.1	42.1
-148.0	50.8	47.3	40.3	44.2	42.3
-144.0	51.0	47.5	40.4	44.4	42.4



CLIENT: BrightNight

PROJECT NO: Oregon Energy Facility Siting Council

DATE: December 2025

VERSION: 01

-140.0	51.1	47.6	40.5	44.5	42.5
-136.0	51.2	47.7	40.7	44.6	42.7
-132.0	51.3	47.8	40.8	44.7	42.8
-128.0	51.5	48.0	40.9	44.9	43.0
-124.0	51.6	48.1	41.0	45.0	43.2
-120.0	51.8	48.3	41.1	45.1	43.3
-116.0	51.9	48.4	41.2	45.3	43.5
-112.0	52.0	48.5	41.3	45.4	43.7
-108.0	52.2	48.7	41.5	45.6	43.8
-104.0	52.4	48.9	41.6	45.7	44.0
-100.0	52.5	49.0	41.7	45.9	44.2
-96.0	52.7	49.2	41.8	46.0	44.4
-92.0	52.8	49.3	42.0	46.2	44.6
-88.0	53.0	49.5	42.1	46.3	44.7
-84.0	53.2	49.7	42.3	46.5	44.9
-80.0	53.3	49.8	42.4	46.7	45.1
-76.0	53.5	50.0	42.5	46.8	45.3
-72.0	53.7	50.2	42.7	47.0	45.5
-68.0	53.9	50.4	42.8	47.2	45.7
-64.0	54.0	50.5	43.0	47.4	45.8
-60.0	54.2	50.7	43.2	47.6	46.0
-56.0	54.4	50.9	43.3	47.8	46.1
-52.0	54.5	51.0	43.5	47.9	46.3
-48.0	54.7	51.2	43.7	48.1	46.4
-44.0	54.8	51.3	43.8	48.3	46.5
-40.0	55.0	51.5	44.0	48.5	46.5
-36.0	55.1	51.6	44.2	48.7	46.6
-32.0	55.2	51.7	44.4	48.8	46.6
-28.0	55.4	51.9	44.6	49.0	46.6
-24.0	55.5	52.0	44.7	49.1	46.5



-20.0	55.5	52.0	44.9	49.3	46.5
-16.0	55.6	52.1	45.1	49.4	46.4
-12.0	55.7	52.2	45.3	49.5	46.3
-8.0	55.7	52.2	45.5	49.6	46.1
-4.0	55.7	52.2	45.7	49.6	46.0
0.0	55.7	52.2	45.8	49.6	45.8
4.0	55.7	52.2	46.0	49.6	45.7
8.0	55.7	52.2	46.1	49.6	45.5
12.0	55.7	52.2	46.3	49.5	45.3
16.0	55.6	52.1	46.4	49.4	45.1
20.0	55.5	52.0	46.5	49.3	44.9
24.0	55.5	52.0	46.5	49.1	44.7
28.0	55.4	51.9	46.6	49.0	44.6
32.0	55.2	51.7	46.6	48.8	44.4
36.0	55.1	51.6	46.6	48.7	44.2
40.0	55.0	51.5	46.5	48.5	44.0
44.0	54.8	51.3	46.5	48.3	43.8
48.0	54.7	51.2	46.4	48.1	43.7
52.0	54.5	51.0	46.3	47.9	43.5
56.0	54.4	50.9	46.1	47.8	43.3
60.0	54.2	50.7	46.0	47.6	43.2
64.0	54.0	50.5	45.8	47.4	43.0
68.0	53.9	50.4	45.7	47.2	42.8
72.0	53.7	50.2	45.5	47.0	42.7
76.0	53.5	50.0	45.3	46.8	42.5
80.0	53.3	49.8	45.1	46.7	42.4
84.0	53.2	49.7	44.9	46.5	42.3
88.0	53.0	49.5	44.7	46.3	42.1
92.0	52.8	49.3	44.6	46.2	42.0
96.0	52.7	49.2	44.4	46.0	41.8



100.0	52.5	49.0	44.2	45.9	41.7
104.0	52.4	48.9	44.0	45.7	41.6
108.0	52.2	48.7	43.8	45.6	41.5
112.0	52.0	48.5	43.7	45.4	41.3
116.0	51.9	48.4	43.5	45.3	41.2
120.0	51.8	48.3	43.3	45.1	41.1
124.0	51.6	48.1	43.2	45.0	41.0
128.0	51.5	48.0	43.0	44.9	40.9
132.0	51.3	47.8	42.8	44.7	40.8
136.0	51.2	47.7	42.7	44.6	40.7
140.0	51.1	47.6	42.5	44.5	40.5
144.0	51.0	47.5	42.4	44.4	40.4
148.0	50.8	47.3	42.3	44.2	40.3
152.0	50.7	47.2	42.1	44.1	40.2
156.0	50.6	47.1	42.0	44.0	40.1
160.0	50.5	47.0	41.8	43.9	40.0
164.0	50.4	46.9	41.7	43.8	39.9
168.0	50.3	46.8	41.6	43.7	39.9
172.0	50.1	46.6	41.5	43.6	39.8
176.0	50.0	46.5	41.3	43.5	39.7
180.0	49.9	46.4	41.2	43.4	39.6
184.0	49.8	46.3	41.1	43.3	39.5
188.0	49.7	46.2	41.0	43.2	39.4
192.0	49.6	46.1	40.9	43.1	39.3
196.0	49.5	46.0	40.8	43.0	39.2

1RADIO NOISE CALCULATION - 5KHZ BAND WIDTH - RAIN

* * * * * L50 * * * * *

DIST FROM

* * * * * FREQUENCY, MHZ * * * * *

REFERENCE

0.100 0.200 0.300 0.500 0.834 1.000 1.250 1.500 2.000 3.000 5.000 10.000 20.000



CLIENT: BrightNight

PROJECT NO: Oregon Energy Facility Siting Council

DATE: December 2025

VERSION: 01

(FEET)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)
-200.0	82.9	82.1	81.0	79.1	76.7	75.8	74.4	73.1	70.8	66.6	59.8	47.9	33.3
-196.0	83.2	82.4	81.3	79.4	77.0	76.0	74.6	73.3	71.0	66.8	60.0	48.1	33.6
-192.0	83.5	82.8	81.6	79.7	77.2	76.2	74.8	73.5	71.2	66.9	60.2	48.4	33.9
-188.0	83.9	83.1	82.0	79.9	77.5	76.4	75.1	73.8	71.3	67.1	60.4	48.6	34.3
-184.0	84.2	83.4	82.3	80.2	77.7	76.7	75.3	74.0	71.5	67.3	60.6	48.8	34.6
-180.0	84.6	83.8	82.6	80.6	78.0	76.9	75.5	74.2	71.8	67.5	60.8	49.0	34.9
-176.0	85.0	84.2	83.0	80.9	78.3	77.2	75.7	74.4	72.0	67.7	61.0	49.3	35.3
-172.0	85.5	84.6	83.4	81.2	78.5	77.5	76.0	74.6	72.2	67.9	61.2	49.5	35.7
-168.0	85.9	85.1	83.8	81.5	78.8	77.7	76.2	74.9	72.4	68.1	61.4	49.8	36.2
-164.0	86.4	85.5	84.2	81.9	79.1	78.0	76.5	75.1	72.6	68.3	61.6	50.0	36.6
-160.0	86.8	86.0	84.7	82.3	79.4	78.3	76.8	75.4	72.9	68.5	61.8	50.3	37.0
-156.0	87.3	86.4	85.1	82.7	79.7	78.6	77.0	75.6	73.1	68.8	62.0	50.5	37.5
-152.0	87.8	86.9	85.6	83.2	80.0	78.9	77.3	75.9	73.3	69.0	62.2	50.8	37.9
-148.0	88.3	87.4	86.1	83.6	80.4	79.2	77.6	76.2	73.6	69.2	62.5	51.1	38.4
-144.0	88.8	87.9	86.6	84.1	80.8	79.5	77.9	76.4	73.8	69.5	62.7	51.3	38.9
-140.0	89.3	88.4	87.1	84.6	81.2	79.8	78.2	76.7	74.1	69.7	62.9	51.6	39.4
-136.0	89.8	88.9	87.6	85.1	81.7	80.3	78.5	77.0	74.4	69.9	63.2	51.9	39.9
-132.0	90.4	89.5	88.1	85.6	82.2	80.7	78.8	77.3	74.7	70.2	63.4	52.2	40.4
-128.0	90.9	90.0	88.7	86.1	82.6	81.2	79.3	77.6	74.9	70.5	63.7	52.5	40.9
-124.0	91.5	90.6	89.2	86.7	83.1	81.7	79.7	78.0	75.2	70.7	64.0	52.8	41.4
-120.0	92.1	91.2	89.8	87.2	83.7	82.2	80.2	78.4	75.5	71.0	64.2	53.1	42.0
-116.0	92.7	91.7	90.4	87.8	84.2	82.7	80.7	78.9	75.9	71.3	64.5	53.5	42.5
-112.0	93.3	92.4	91.0	88.4	84.7	83.2	81.2	79.3	76.2	71.6	64.8	53.8	43.1
-108.0	93.9	93.0	91.6	89.0	85.3	83.7	81.7	79.8	76.7	71.9	65.1	54.1	43.6
-104.0	94.5	93.6	92.2	89.6	85.9	84.3	82.2	80.3	77.1	72.2	65.4	54.6	44.0
-100.0	95.2	94.2	92.9	90.2	86.5	84.9	82.7	80.8	77.6	72.6	65.7	55.0	44.3
-96.0	95.8	94.9	93.5	90.8	87.1	85.4	83.3	81.4	78.1	73.0	66.0	55.4	44.7
-92.0	96.5	95.6	94.2	91.5	87.7	86.0	83.8	81.9	78.6	73.4	66.3	55.9	45.1



-88.0	97.1	96.2	94.8	92.1	88.3	86.6	84.4	82.5	79.1	73.8	66.7	56.4	45.5
-84.0	97.8	96.9	95.5	92.8	88.9	87.3	85.0	83.0	79.6	74.3	67.1	56.8	45.8
-80.0	98.5	97.6	96.2	93.4	89.5	87.9	85.6	83.6	80.1	74.8	67.5	57.3	46.2
-76.0	99.2	98.2	96.8	94.1	90.2	88.5	86.2	84.1	80.6	75.2	67.9	57.8	46.6
-72.0	99.8	98.9	97.5	94.7	90.8	89.1	86.8	84.7	81.2	75.7	68.4	58.3	47.0
-68.0	100.5	99.5	98.1	95.4	91.4	89.7	87.4	85.3	81.7	76.1	68.8	58.7	47.3
-64.0	101.1	100.2	98.7	96.0	92.0	90.3	87.9	85.8	82.2	76.6	69.2	59.2	47.7
-60.0	101.7	100.7	99.3	96.5	92.6	90.8	88.5	86.3	82.7	77.0	69.6	59.6	48.1
-56.0	102.2	101.3	99.9	97.1	93.1	91.3	89.0	86.8	83.1	77.4	69.9	60.0	48.5
-52.0	102.7	101.8	100.3	97.6	93.6	91.8	89.4	87.2	83.5	77.8	70.3	60.4	48.9
-48.0	103.1	102.2	100.8	98.0	94.0	92.2	89.8	87.6	83.9	78.1	70.5	60.7	49.2
-44.0	103.5	102.5	101.1	98.3	94.3	92.5	90.1	87.9	84.2	78.4	71.0	61.0	49.6
-40.0	103.7	102.8	101.4	98.6	94.5	92.8	90.3	88.2	84.4	78.7	71.4	61.3	50.0
-36.0	103.9	102.9	101.5	98.7	94.7	92.9	90.5	88.3	84.7	79.2	71.8	61.7	50.4
-32.0	104.1	103.2	101.7	99.0	95.0	93.3	90.9	88.8	85.2	79.6	72.2	62.2	50.7
-28.0	104.7	103.8	102.3	99.6	95.6	93.9	91.5	89.3	85.7	80.0	72.6	62.6	51.0
-24.0	105.2	104.3	102.9	100.1	96.1	94.4	92.0	89.8	86.1	80.4	72.9	63.0	51.3
-20.0	105.7	104.8	103.4	100.6	96.6	94.8	92.4	90.3	86.5	80.8	73.3	63.4	51.6
-16.0	106.1	105.2	103.8	101.0	97.0	95.2	92.8	90.6	86.9	81.1	73.6	63.7	51.9
-12.0	106.5	105.5	104.1	101.3	97.3	95.5	93.1	90.9	87.2	81.4	73.8	64.0	52.0
-8.0	106.7	105.8	104.4	101.6	97.6	95.8	93.4	91.2	87.4	81.6	74.0	64.2	52.2
-4.0	106.9	106.0	104.5	101.7	97.7	95.9	93.5	91.3	87.5	81.7	74.1	64.3	52.3
0.0	106.9	106.0	104.6	101.8	97.8	96.0	93.6	91.4	87.6	81.7	74.1	64.3	52.3
4.0	106.9	106.0	104.5	101.7	97.7	95.9	93.5	91.3	87.5	81.7	74.1	64.3	52.3
8.0	106.7	105.8	104.4	101.6	97.6	95.8	93.4	91.2	87.4	81.6	74.0	64.2	52.2
12.0	106.5	105.5	104.1	101.3	97.3	95.5	93.1	90.9	87.2	81.4	73.8	64.0	52.0
16.0	106.1	105.2	103.8	101.0	97.0	95.2	92.8	90.6	86.9	81.1	73.6	63.7	51.9
20.0	105.7	104.8	103.4	100.6	96.6	94.8	92.4	90.3	86.5	80.8	73.3	63.4	51.6
24.0	105.2	104.3	102.9	100.1	96.1	94.4	92.0	89.8	86.1	80.4	72.9	63.0	51.3
28.0	104.7	103.8	102.3	99.6	95.6	93.9	91.5	89.3	85.7	80.0	72.6	62.6	51.0



32.0	104.1	103.2	101.7	99.0	95.0	93.3	90.9	88.8	85.2	79.6	72.2	62.2	50.7
36.0	103.9	102.9	101.5	98.7	94.7	92.9	90.5	88.3	84.7	79.2	71.8	61.7	50.4
40.0	103.7	102.8	101.4	98.6	94.5	92.8	90.3	88.2	84.4	78.7	71.4	61.3	50.0
44.0	103.5	102.5	101.1	98.3	94.3	92.5	90.1	87.9	84.2	78.4	71.0	61.0	49.6
48.0	103.1	102.2	100.8	98.0	94.0	92.2	89.8	87.6	83.9	78.1	70.5	60.7	49.2
52.0	102.7	101.8	100.3	97.6	93.6	91.8	89.4	87.2	83.5	77.8	70.3	60.4	48.9
56.0	102.2	101.3	99.9	97.1	93.1	91.3	89.0	86.8	83.1	77.4	69.9	60.0	48.5
60.0	101.7	100.7	99.3	96.5	92.6	90.8	88.5	86.3	82.7	77.0	69.6	59.6	48.1
64.0	101.1	100.2	98.7	96.0	92.0	90.3	87.9	85.8	82.2	76.6	69.2	59.2	47.7
68.0	100.5	99.5	98.1	95.4	91.4	89.7	87.4	85.3	81.7	76.1	68.8	58.7	47.3
72.0	99.8	98.9	97.5	94.7	90.8	89.1	86.8	84.7	81.2	75.7	68.4	58.3	47.0
76.0	99.2	98.2	96.8	94.1	90.2	88.5	86.2	84.1	80.6	75.2	67.9	57.8	46.6
80.0	98.5	97.6	96.2	93.4	89.5	87.9	85.6	83.6	80.1	74.8	67.5	57.3	46.2
84.0	97.8	96.9	95.5	92.8	88.9	87.3	85.0	83.0	79.6	74.3	67.1	56.8	45.8
88.0	97.1	96.2	94.8	92.1	88.3	86.6	84.4	82.5	79.1	73.8	66.7	56.4	45.5
92.0	96.5	95.6	94.2	91.5	87.7	86.0	83.8	81.9	78.6	73.4	66.3	55.9	45.1
96.0	95.8	94.9	93.5	90.8	87.1	85.4	83.3	81.4	78.1	73.0	66.0	55.4	44.7
100.0	95.2	94.2	92.9	90.2	86.5	84.9	82.7	80.8	77.6	72.6	65.7	55.0	44.3
104.0	94.5	93.6	92.2	89.6	85.9	84.3	82.2	80.3	77.1	72.2	65.4	54.6	44.0
108.0	93.9	93.0	91.6	89.0	85.3	83.7	81.7	79.8	76.7	71.9	65.1	54.1	43.6
112.0	93.3	92.4	91.0	88.4	84.7	83.2	81.2	79.3	76.2	71.6	64.8	53.8	43.1
116.0	92.7	91.7	90.4	87.8	84.2	82.7	80.7	78.9	75.9	71.3	64.5	53.5	42.5
120.0	92.1	91.2	89.8	87.2	83.7	82.2	80.2	78.4	75.5	71.0	64.2	53.1	42.0
124.0	91.5	90.6	89.2	86.7	83.1	81.7	79.7	78.0	75.2	70.7	64.0	52.8	41.4
128.0	90.9	90.0	88.7	86.1	82.6	81.2	79.3	77.6	74.9	70.5	63.7	52.5	40.9
132.0	90.4	89.5	88.1	85.6	82.2	80.7	78.8	77.3	74.7	70.2	63.4	52.2	40.4
136.0	89.8	88.9	87.6	85.1	81.7	80.3	78.5	77.0	74.4	69.9	63.2	51.9	39.9
140.0	89.3	88.4	87.1	84.6	81.2	79.8	78.2	76.7	74.1	69.7	62.9	51.6	39.4
144.0	88.8	87.9	86.6	84.1	80.8	79.5	77.9	76.4	73.8	69.5	62.7	51.3	38.9
148.0	88.3	87.4	86.1	83.6	80.4	79.2	77.6	76.2	73.6	69.2	62.5	51.1	38.4



152.0	87.8	86.9	85.6	83.2	80.0	78.9	77.3	75.9	73.3	69.0	62.2	50.8	37.9
156.0	87.3	86.4	85.1	82.7	79.7	78.6	77.0	75.6	73.1	68.8	62.0	50.5	37.5
160.0	86.8	86.0	84.7	82.3	79.4	78.3	76.8	75.4	72.9	68.5	61.8	50.3	37.0
164.0	86.4	85.5	84.2	81.9	79.1	78.0	76.5	75.1	72.6	68.3	61.6	50.0	36.6
168.0	85.9	85.1	83.8	81.5	78.8	77.7	76.2	74.9	72.4	68.1	61.4	49.8	36.2
172.0	85.5	84.6	83.4	81.2	78.5	77.5	76.0	74.6	72.2	67.9	61.2	49.5	35.7
176.0	85.0	84.2	83.0	80.9	78.3	77.2	75.7	74.4	72.0	67.7	61.0	49.3	35.3
180.0	84.6	83.8	82.6	80.6	78.0	76.9	75.5	74.2	71.8	67.5	60.8	49.0	34.9
184.0	84.2	83.4	82.3	80.2	77.7	76.7	75.3	74.0	71.5	67.3	60.6	48.8	34.6
188.0	83.9	83.1	82.0	79.9	77.5	76.4	75.1	73.8	71.3	67.1	60.4	48.6	34.3
192.0	83.5	82.8	81.6	79.7	77.2	76.2	74.8	73.5	71.2	66.9	60.2	48.4	33.9
196.0	83.2	82.4	81.3	79.4	77.0	76.0	74.6	73.3	71.0	66.8	60.0	48.1	33.6

1RADIO NOISE CALCULATION - 5KHZ BAND WIDTH - FAIR

* * * * * L50 * * * * *													
DIST FROM	* * * * * FREQUENCY, MHZ * * * * *												
REFERENCE	0.100	0.200	0.300	0.500	0.834	1.000	1.250	1.500	2.000	3.000	5.000	10.000	20.000
(FEET)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)
-200.0	65.9	65.1	64.0	62.1	59.7	58.8	57.4	56.1	53.8	49.6	42.8	30.9	16.3
-196.0	66.2	65.4	64.3	62.4	60.0	59.0	57.6	56.3	54.0	49.8	43.0	31.1	16.6
-192.0	66.5	65.8	64.6	62.7	60.2	59.2	57.8	56.5	54.2	49.9	43.2	31.4	16.9
-188.0	66.9	66.1	65.0	62.9	60.5	59.4	58.1	56.8	54.3	50.1	43.4	31.6	17.3
-184.0	67.2	66.4	65.3	63.2	60.7	59.7	58.3	57.0	54.5	50.3	43.6	31.8	17.6
-180.0	67.6	66.8	65.6	63.6	61.0	59.9	58.5	57.2	54.8	50.5	43.8	32.0	17.9
-176.0	68.0	67.2	66.0	63.9	61.3	60.2	58.7	57.4	55.0	50.7	44.0	32.3	18.3
-172.0	68.5	67.6	66.4	64.2	61.5	60.5	59.0	57.6	55.2	50.9	44.2	32.5	18.7
-168.0	68.9	68.1	66.8	64.5	61.8	60.7	59.2	57.9	55.4	51.1	44.4	32.8	19.2



CLIENT: BrightNight

PROJECT NO: Oregon Energy Facility Siting Council

DATE: December 2025

VERSION: 01

-164.0	69.4	68.5	67.2	64.9	62.1	61.0	59.5	58.1	55.6	51.3	44.6	33.0	19.6
-160.0	69.8	69.0	67.7	65.3	62.4	61.3	59.8	58.4	55.9	51.5	44.8	33.3	20.0
-156.0	70.3	69.4	68.1	65.7	62.7	61.6	60.0	58.6	56.1	51.8	45.0	33.5	20.5
-152.0	70.8	69.9	68.6	66.2	63.0	61.9	60.3	58.9	56.3	52.0	45.2	33.8	20.9
-148.0	71.3	70.4	69.1	66.6	63.4	62.2	60.6	59.2	56.6	52.2	45.5	34.1	21.4
-144.0	71.8	70.9	69.6	67.1	63.8	62.5	60.9	59.4	56.8	52.5	45.7	34.3	21.9
-140.0	72.3	71.4	70.1	67.6	64.2	62.8	61.2	59.7	57.1	52.7	45.9	34.6	22.4
-136.0	72.8	71.9	70.6	68.1	64.7	63.3	61.5	60.0	57.4	52.9	46.2	34.9	22.9
-132.0	73.4	72.5	71.1	68.6	65.2	63.7	61.8	60.3	57.7	53.2	46.4	35.2	23.4
-128.0	73.9	73.0	71.7	69.1	65.6	64.2	62.3	60.6	57.9	53.5	46.7	35.5	23.9
-124.0	74.5	73.6	72.2	69.7	66.1	64.7	62.7	61.0	58.2	53.7	47.0	35.8	24.4
-120.0	75.1	74.2	72.8	70.2	66.7	65.2	63.2	61.4	58.5	54.0	47.2	36.1	25.0
-116.0	75.7	74.7	73.4	70.8	67.2	65.7	63.7	61.9	58.9	54.3	47.5	36.5	25.5
-112.0	76.3	75.4	74.0	71.4	67.7	66.2	64.2	62.3	59.2	54.6	47.8	36.8	26.1
-108.0	76.9	76.0	74.6	72.0	68.3	66.7	64.7	62.8	59.7	54.9	48.1	37.1	26.6
-104.0	77.5	76.6	75.2	72.6	68.9	67.3	65.2	63.3	60.1	55.2	48.4	37.6	27.0
-100.0	78.2	77.2	75.9	73.2	69.5	67.9	65.7	63.8	60.6	55.6	48.7	38.0	27.3
-96.0	78.8	77.9	76.5	73.8	70.1	68.4	66.3	64.4	61.1	56.0	49.0	38.4	27.7
-92.0	79.5	78.6	77.2	74.5	70.7	69.0	66.8	64.9	61.6	56.4	49.3	38.9	28.1
-88.0	80.1	79.2	77.8	75.1	71.3	69.6	67.4	65.5	62.1	56.8	49.7	39.4	28.5
-84.0	80.8	79.9	78.5	75.8	71.9	70.3	68.0	66.0	62.6	57.3	50.1	39.8	28.8
-80.0	81.5	80.6	79.2	76.4	72.5	70.9	68.6	66.6	63.1	57.8	50.5	40.3	29.2
-76.0	82.2	81.2	79.8	77.1	73.2	71.5	69.2	67.1	63.6	58.2	50.9	40.8	29.6
-72.0	82.8	81.9	80.5	77.7	73.8	72.1	69.8	67.7	64.2	58.7	51.4	41.3	30.0
-68.0	83.5	82.5	81.1	78.4	74.4	72.7	70.4	68.3	64.7	59.1	51.8	41.7	30.3
-64.0	84.1	83.2	81.7	79.0	75.0	73.3	70.9	68.8	65.2	59.6	52.2	42.2	30.7
-60.0	84.7	83.7	82.3	79.5	75.6	73.8	71.5	69.3	65.7	60.0	52.6	42.6	31.1
-56.0	85.2	84.3	82.9	80.1	76.1	74.3	72.0	69.8	66.1	60.4	52.9	43.0	31.5
-52.0	85.7	84.8	83.3	80.6	76.6	74.8	72.4	70.2	66.5	60.8	53.3	43.4	31.9
-48.0	86.1	85.2	83.8	81.0	77.0	75.2	72.8	70.6	66.9	61.1	53.5	43.7	32.2



-44.0	86.5	85.5	84.1	81.3	77.3	75.5	73.1	70.9	67.2	61.4	54.0	44.0	32.6
-40.0	86.7	85.8	84.4	81.6	77.5	75.8	73.3	71.2	67.4	61.7	54.4	44.3	33.0
-36.0	86.9	85.9	84.5	81.7	77.7	75.9	73.5	71.3	67.7	62.2	54.8	44.7	33.4
-32.0	87.1	86.2	84.7	82.0	78.0	76.3	73.9	71.8	68.2	62.6	55.2	45.2	33.7
-28.0	87.7	86.8	85.3	82.6	78.6	76.9	74.5	72.3	68.7	63.0	55.6	45.6	34.0
-24.0	88.2	87.3	85.9	83.1	79.1	77.4	75.0	72.8	69.1	63.4	55.9	46.0	34.3
-20.0	88.7	87.8	86.4	83.6	79.6	77.8	75.4	73.3	69.5	63.8	56.3	46.4	34.6
-16.0	89.1	88.2	86.8	84.0	80.0	78.2	75.8	73.6	69.9	64.1	56.6	46.7	34.9
-12.0	89.5	88.5	87.1	84.3	80.3	78.5	76.1	73.9	70.2	64.4	56.8	47.0	35.0
-8.0	89.7	88.8	87.4	84.6	80.6	78.8	76.4	74.2	70.4	64.6	57.0	47.2	35.2
-4.0	89.9	89.0	87.5	84.7	80.7	78.9	76.5	74.3	70.5	64.7	57.1	47.3	35.3
0.0	89.9	89.0	87.6	84.8	80.8	79.0	76.6	74.4	70.6	64.7	57.1	47.3	35.3
4.0	89.9	89.0	87.5	84.7	80.7	78.9	76.5	74.3	70.5	64.7	57.1	47.3	35.3
8.0	89.7	88.8	87.4	84.6	80.6	78.8	76.4	74.2	70.4	64.6	57.0	47.2	35.2
12.0	89.5	88.5	87.1	84.3	80.3	78.5	76.1	73.9	70.2	64.4	56.8	47.0	35.0
16.0	89.1	88.2	86.8	84.0	80.0	78.2	75.8	73.6	69.9	64.1	56.6	46.7	34.9
20.0	88.7	87.8	86.4	83.6	79.6	77.8	75.4	73.3	69.5	63.8	56.3	46.4	34.6
24.0	88.2	87.3	85.9	83.1	79.1	77.4	75.0	72.8	69.1	63.4	55.9	46.0	34.3
28.0	87.7	86.8	85.3	82.6	78.6	76.9	74.5	72.3	68.7	63.0	55.6	45.6	34.0
32.0	87.1	86.2	84.7	82.0	78.0	76.3	73.9	71.8	68.2	62.6	55.2	45.2	33.7
36.0	86.9	85.9	84.5	81.7	77.7	75.9	73.5	71.3	67.7	62.2	54.8	44.7	33.4
40.0	86.7	85.8	84.4	81.6	77.5	75.8	73.3	71.2	67.4	61.7	54.4	44.3	33.0
44.0	86.5	85.5	84.1	81.3	77.3	75.5	73.1	70.9	67.2	61.4	54.0	44.0	32.6
48.0	86.1	85.2	83.8	81.0	77.0	75.2	72.8	70.6	66.9	61.1	53.5	43.7	32.2
52.0	85.7	84.8	83.3	80.6	76.6	74.8	72.4	70.2	66.5	60.8	53.3	43.4	31.9
56.0	85.2	84.3	82.9	80.1	76.1	74.3	72.0	69.8	66.1	60.4	52.9	43.0	31.5
60.0	84.7	83.7	82.3	79.5	75.6	73.8	71.5	69.3	65.7	60.0	52.6	42.6	31.1
64.0	84.1	83.2	81.7	79.0	75.0	73.3	70.9	68.8	65.2	59.6	52.2	42.2	30.7
68.0	83.5	82.5	81.1	78.4	74.4	72.7	70.4	68.3	64.7	59.1	51.8	41.7	30.3
72.0	82.8	81.9	80.5	77.7	73.8	72.1	69.8	67.7	64.2	58.7	51.4	41.3	30.0



76.0	82.2	81.2	79.8	77.1	73.2	71.5	69.2	67.1	63.6	58.2	50.9	40.8	29.6
80.0	81.5	80.6	79.2	76.4	72.5	70.9	68.6	66.6	63.1	57.8	50.5	40.3	29.2
84.0	80.8	79.9	78.5	75.8	71.9	70.3	68.0	66.0	62.6	57.3	50.1	39.8	28.8
88.0	80.1	79.2	77.8	75.1	71.3	69.6	67.4	65.5	62.1	56.8	49.7	39.4	28.5
92.0	79.5	78.6	77.2	74.5	70.7	69.0	66.8	64.9	61.6	56.4	49.3	38.9	28.1
96.0	78.8	77.9	76.5	73.8	70.1	68.4	66.3	64.4	61.1	56.0	49.0	38.4	27.7
100.0	78.2	77.2	75.9	73.2	69.5	67.9	65.7	63.8	60.6	55.6	48.7	38.0	27.3
104.0	77.5	76.6	75.2	72.6	68.9	67.3	65.2	63.3	60.1	55.2	48.4	37.6	27.0
108.0	76.9	76.0	74.6	72.0	68.3	66.7	64.7	62.8	59.7	54.9	48.1	37.1	26.6
112.0	76.3	75.4	74.0	71.4	67.7	66.2	64.2	62.3	59.2	54.6	47.8	36.8	26.1
116.0	75.7	74.7	73.4	70.8	67.2	65.7	63.7	61.9	58.9	54.3	47.5	36.5	25.5
120.0	75.1	74.2	72.8	70.2	66.7	65.2	63.2	61.4	58.5	54.0	47.2	36.1	25.0
124.0	74.5	73.6	72.2	69.7	66.1	64.7	62.7	61.0	58.2	53.7	47.0	35.8	24.4
128.0	73.9	73.0	71.7	69.1	65.6	64.2	62.3	60.6	57.9	53.5	46.7	35.5	23.9
132.0	73.4	72.5	71.1	68.6	65.2	63.7	61.8	60.3	57.7	53.2	46.4	35.2	23.4
136.0	72.8	71.9	70.6	68.1	64.7	63.3	61.5	60.0	57.4	52.9	46.2	34.9	22.9
140.0	72.3	71.4	70.1	67.6	64.2	62.8	61.2	59.7	57.1	52.7	45.9	34.6	22.4
144.0	71.8	70.9	69.6	67.1	63.8	62.5	60.9	59.4	56.8	52.5	45.7	34.3	21.9
148.0	71.3	70.4	69.1	66.6	63.4	62.2	60.6	59.2	56.6	52.2	45.5	34.1	21.4
152.0	70.8	69.9	68.6	66.2	63.0	61.9	60.3	58.9	56.3	52.0	45.2	33.8	20.9
156.0	70.3	69.4	68.1	65.7	62.7	61.6	60.0	58.6	56.1	51.8	45.0	33.5	20.5
160.0	69.8	69.0	67.7	65.3	62.4	61.3	59.8	58.4	55.9	51.5	44.8	33.3	20.0
164.0	69.4	68.5	67.2	64.9	62.1	61.0	59.5	58.1	55.6	51.3	44.6	33.0	19.6
168.0	68.9	68.1	66.8	64.5	61.8	60.7	59.2	57.9	55.4	51.1	44.4	32.8	19.2
172.0	68.5	67.6	66.4	64.2	61.5	60.5	59.0	57.6	55.2	50.9	44.2	32.5	18.7
176.0	68.0	67.2	66.0	63.9	61.3	60.2	58.7	57.4	55.0	50.7	44.0	32.3	18.3
180.0	67.6	66.8	65.6	63.6	61.0	59.9	58.5	57.2	54.8	50.5	43.8	32.0	17.9
184.0	67.2	66.4	65.3	63.2	60.7	59.7	58.3	57.0	54.5	50.3	43.6	31.8	17.6
188.0	66.9	66.1	65.0	62.9	60.5	59.4	58.1	56.8	54.3	50.1	43.4	31.6	17.3
192.0	66.5	65.8	64.6	62.7	60.2	59.2	57.8	56.5	54.2	49.9	43.2	31.4	16.9



196.0	66.2	65.4	64.3	62.4	60.0	59.0	57.6	56.3	54.0	49.8	43.0	31.1	16.6
-------	------	------	------	------	------	------	------	------	------	------	------	------	------

1TVI CALCULATIONS, QP DETECTOR, STODDART NM30A METER

NOTE: A -999.9 APPEARS FOR DC BUNDLES.



CLIENT: BrightNight

PROJECT NO: Oregon Energy Facility Siting Council

DATE: December 2025

VERSION: 01

* * * * * L50 * * * * *

DIST FROM

* * * * * FREQUENCY, MHZ * * * * *

REFERENCE

30.000 60.000 75.000 125.000 250.000 500.000 750.000 1000.000
(FEET)DBUV/M

-200.0	48.7	42.7	40.8	36.3	30.3	24.3	20.8	18.3
-196.0	48.9	42.9	40.9	36.5	30.5	24.5	20.9	18.4
-192.0	49.1	43.0	41.1	36.7	30.6	24.6	21.1	18.6
-188.0	49.2	43.2	41.3	36.8	30.8	24.8	21.3	18.8
-184.0	49.4	43.4	41.5	37.0	31.0	25.0	21.5	19.0
-180.0	49.6	43.6	41.6	37.2	31.2	25.2	21.6	19.1
-176.0	49.8	43.8	41.8	37.4	31.4	25.3	21.8	19.3
-172.0	50.0	43.9	42.0	37.6	31.5	25.5	22.0	19.5
-168.0	50.1	44.1	42.2	37.8	31.7	25.7	22.2	19.7
-164.0	50.3	44.3	42.4	37.9	31.9	25.9	22.4	19.9
-160.0	50.5	44.5	42.6	38.1	32.1	26.1	22.6	20.1
-156.0	50.7	44.7	42.8	38.3	32.3	26.3	22.8	20.3
-152.0	50.9	44.9	43.0	38.5	32.5	26.5	23.0	20.5
-148.0	51.2	45.1	43.2	38.8	32.7	26.7	23.2	20.7
-144.0	51.4	45.3	43.4	39.0	33.0	26.9	23.4	20.9
-140.0	51.6	45.6	43.6	39.2	33.2	27.2	23.6	21.1
-136.0	51.8	45.8	43.9	39.4	33.4	27.4	23.9	21.4
-132.0	52.0	46.0	44.1	39.6	33.6	27.6	24.1	21.6
-128.0	52.3	46.3	44.3	39.9	33.9	27.8	24.3	21.8
-124.0	52.5	46.5	44.6	40.1	34.1	28.1	24.6	22.1
-120.0	52.8	46.7	44.8	40.4	34.3	28.3	24.8	22.3
-116.0	53.0	47.0	45.1	40.6	34.6	28.6	25.1	22.6
-112.0	53.3	47.3	45.3	40.9	34.9	28.8	25.3	22.8
-108.0	53.5	47.5	45.6	41.1	35.1	29.1	25.6	23.1
-104.0	53.8	47.8	45.9	41.4	35.4	29.4	25.9	23.4
-100.0	54.1	48.1	46.1	41.7	35.7	29.7	26.1	23.6
-96.0	54.4	48.4	46.4	42.0	36.0	29.9	26.4	23.9
-92.0	54.7	48.6	46.7	42.3	36.3	30.2	26.7	24.2
-88.0	55.0	48.9	47.0	42.6	36.6	30.5	27.0	24.5
-84.0	55.3	49.3	47.3	42.9	36.9	30.8	27.3	24.8
-80.0	55.6	49.6	47.6	43.2	37.2	31.2	27.6	25.1
-76.0	55.9	49.9	48.0	43.5	37.5	31.5	28.0	25.5
-72.0	56.2	50.2	48.3	43.8	37.8	31.8	28.3	25.8
-68.0	56.6	50.6	48.6	44.2	38.2	32.1	28.6	26.1
-64.0	56.9	50.9	49.0	44.5	38.5	32.5	29.0	26.5



CLIENT: BrightNight

PROJECT NO: Oregon Energy Facility Siting Council

DATE: December 2025

VERSION: 01

-60.0	57.3	51.3	49.3	44.9	38.9	32.8	29.3	26.8
-56.0	57.6	51.6	49.7	45.2	39.2	33.2	29.7	27.2
-52.0	58.0	52.0	50.0	45.6	39.6	33.5	30.0	27.5
-48.0	58.3	52.3	50.4	46.0	39.9	33.9	30.4	27.9
-44.0	58.7	52.7	50.7	46.3	40.3	34.3	30.7	28.2
-40.0	59.1	53.0	51.1	46.7	40.6	34.6	31.1	28.6
-36.0	59.4	53.4	51.5	47.0	41.0	35.0	31.5	29.0
-32.0	59.8	53.7	51.8	47.4	41.3	35.3	31.8	29.3
-28.0	60.1	54.1	52.1	47.7	41.7	35.6	32.1	29.6
-24.0	60.4	54.4	52.4	48.0	42.0	35.9	32.4	29.9
-20.0	60.7	54.6	52.7	48.3	42.2	36.2	32.7	30.2
-16.0	60.9	54.9	52.9	48.5	42.5	36.5	32.9	30.4
-12.0	61.1	55.1	53.1	48.7	42.7	36.6	33.1	30.6
-8.0	61.2	55.2	53.3	48.8	42.8	36.8	33.3	30.8
-4.0	61.3	55.3	53.4	48.9	42.9	36.9	33.4	30.9
0.0	61.3	55.3	53.4	48.9	42.9	36.9	33.4	30.9
4.0	61.3	55.3	53.4	48.9	42.9	36.9	33.4	30.9
8.0	61.2	55.2	53.3	48.8	42.8	36.8	33.3	30.8
12.0	61.1	55.1	53.1	48.7	42.7	36.6	33.1	30.6
16.0	60.9	54.9	52.9	48.5	42.5	36.5	32.9	30.4
20.0	60.7	54.6	52.7	48.3	42.2	36.2	32.7	30.2
24.0	60.4	54.4	52.4	48.0	42.0	35.9	32.4	29.9
28.0	60.1	54.1	52.1	47.7	41.7	35.6	32.1	29.6
32.0	59.8	53.7	51.8	47.4	41.3	35.3	31.8	29.3
36.0	59.4	53.4	51.5	47.0	41.0	35.0	31.5	29.0
40.0	59.1	53.0	51.1	46.7	40.6	34.6	31.1	28.6
44.0	58.7	52.7	50.7	46.3	40.3	34.3	30.7	28.2
48.0	58.3	52.3	50.4	46.0	39.9	33.9	30.4	27.9
52.0	58.0	52.0	50.0	45.6	39.6	33.5	30.0	27.5
56.0	57.6	51.6	49.7	45.2	39.2	33.2	29.7	27.2
60.0	57.3	51.3	49.3	44.9	38.9	32.8	29.3	26.8
64.0	56.9	50.9	49.0	44.5	38.5	32.5	29.0	26.5
68.0	56.6	50.6	48.6	44.2	38.2	32.1	28.6	26.1
72.0	56.2	50.2	48.3	43.8	37.8	31.8	28.3	25.8
76.0	55.9	49.9	48.0	43.5	37.5	31.5	28.0	25.5
80.0	55.6	49.6	47.6	43.2	37.2	31.2	27.6	25.1
84.0	55.3	49.3	47.3	42.9	36.9	30.8	27.3	24.8
88.0	55.0	48.9	47.0	42.6	36.6	30.5	27.0	24.5
92.0	54.7	48.6	46.7	42.3	36.3	30.2	26.7	24.2
96.0	54.4	48.4	46.4	42.0	36.0	29.9	26.4	23.9
100.0	54.1	48.1	46.1	41.7	35.7	29.7	26.1	23.6
104.0	53.8	47.8	45.9	41.4	35.4	29.4	25.9	23.4

108.0	53.5	47.5	45.6	41.1	35.1	29.1	25.6	23.1
112.0	53.3	47.3	45.3	40.9	34.9	28.8	25.3	22.8
116.0	53.0	47.0	45.1	40.6	34.6	28.6	25.1	22.6
120.0	52.8	46.7	44.8	40.4	34.3	28.3	24.8	22.3
124.0	52.5	46.5	44.6	40.1	34.1	28.1	24.6	22.1
128.0	52.3	46.3	44.3	39.9	33.9	27.8	24.3	21.8
132.0	52.0	46.0	44.1	39.6	33.6	27.6	24.1	21.6
136.0	51.8	45.8	43.9	39.4	33.4	27.4	23.9	21.4
140.0	51.6	45.6	43.6	39.2	33.2	27.2	23.6	21.1
144.0	51.4	45.3	43.4	39.0	33.0	26.9	23.4	20.9
148.0	51.2	45.1	43.2	38.8	32.7	26.7	23.2	20.7
152.0	50.9	44.9	43.0	38.5	32.5	26.5	23.0	20.5
156.0	50.7	44.7	42.8	38.3	32.3	26.3	22.8	20.3
160.0	50.5	44.5	42.6	38.1	32.1	26.1	22.6	20.1
164.0	50.3	44.3	42.4	37.9	31.9	25.9	22.4	19.9
168.0	50.1	44.1	42.2	37.8	31.7	25.7	22.2	19.7
172.0	50.0	43.9	42.0	37.6	31.5	25.5	22.0	19.5
176.0	49.8	43.8	41.8	37.4	31.4	25.3	21.8	19.3
180.0	49.6	43.6	41.6	37.2	31.2	25.2	21.6	19.1
184.0	49.4	43.4	41.5	37.0	31.0	25.0	21.5	19.0
188.0	49.2	43.2	41.3	36.8	30.8	24.8	21.3	18.8
192.0	49.1	43.0	41.1	36.7	30.6	24.6	21.1	18.6
196.0	48.9	42.9	40.9	36.5	30.5	24.5	20.9	18.4

IOZONE CONCENTRATION CALCULATIONS

Deschutes BN Solar EMF Study

Using BPA CAFE31 Program

PHASE	DIST. FROM REFERENCE (FEET)	HEIGHT (FEET)	L-N VOLTAGE (KV)	MAXIMUM GRADIENT (KV/CM)	SUBCON. DIAM. (IN)	NO. OF SUBCON.	PRODUCTION RATE (KG/M/SEC)	CORONA LOSSES (KW/MI)
A1	32.00	58.00	288.70	25.67	1.35	1	0.269E-06	435.082
B	0.00	58.00	288.70	27.20	1.35	1	0.440E-06	633.892
C	-32.00	58.00	288.70	25.67	1.35	1	0.269E-06	435.082

RAIN = 2.00 IN/HR, WIND VELOCITY = 2.000 MILES/HOUR, S(MEAN) = 0.326E-06 KG/M/SEC, ALTITUDE=2267.0 FEET

OZONE CONCENTRATION IN PPB

HEIGHT	LATERAL DISTANCE FROM REFERENCE (FEET)										
	0.	15.	30.	45.	60.	75.	150.	225.	300.	375.	450.
0.	0.863650	2.485502	4.495704	7.555322	9.782678	12.018098	11.988110	9.388530	7.613949	6.401525	5.530416
15.	1.651402	3.014202	5.934970	8.440696	10.830157	12.641433	11.895632	9.337365	7.586255	6.385028	5.519776
30.	3.903338	6.076388	10.221569	11.249643	14.015997	14.125086	11.619704	9.185476	7.503775	6.335790	5.487979
45.	6.583342	19.171770	15.541718	20.946016	18.043697	15.460876	11.164399	8.936954	7.367942	6.254360	5.435256
60.	7.574359	29.026651	17.491894	29.307995	19.355331	15.541421	10.542670	8.600545	7.182258	6.142340	5.362442



CLIENT: BrightNight

PROJECT NO: Oregon Energy Facility Siting Council

DATE: December 2025

VERSION: 01

75.	5.940610	14.439268	13.992431	16.771662	16.163883	13.928231	9.772438	8.186000	6.950405	6.001289	5.270274
90.	3.175789	4.439166	8.219223	8.982971	11.049140	11.123718	8.881358	7.705584	6.677184	5.833316	5.159791
105.	1.157190	2.089729	3.958949	5.638680	6.960357	8.083267	7.905392	7.173054	6.368109	5.640887	5.032223
120.	0.286407	1.004963	1.840982	3.238392	4.356728	5.508644	6.883958	6.601766	6.028459	5.426278	4.888635
135.	0.048444	0.401412	0.896906	1.730417	2.683232	3.621628	5.864892	6.009094	5.666110	5.193426	4.731197
150.	0.005585	0.131563	0.429613	0.894730	1.583346	2.321234	4.886321	5.408270	5.286871	4.945044	4.561263

1ELECTRIC FIELD CALCULATIONS

Deschutes BN Solar EMF Study
Using BPA CAFE31 Program

	DIST. FROM REFERENCE FEET	HEIGHT FEET	MAXIMUM GRADIENT (KV/CM)	SUBCON. DIAM. (IN)	NO. OF SUBCON.	PHASE ANGLE (DEGREES)
A1	32.00	58.00	25.67	1.35	1	0.0
B	0.00	58.00	27.20	1.35	1	-120.0
C	-32.00	58.00	25.67	1.35	1	120.0
G1	20.00	93.00	2.95	0.64	1	0.0
G2	-20.00	93.00	2.95	0.64	1	0.0

SENSOR HT. = 3.3 FEET

DIST FROM



REFERENCE FEET	E-FIELD (KV/METER)	THETA (DEGREES)	EY-FIELD (KV/METER)	THETAY (DEGREES)	EX-FIELD (KV/METER)	THETAX (DEGREES)	SPACE POTENTIAL (VOLTS)
-200.0	0.196	87.4	0.196	-48.2	0.009	-47.0	195.9
-196.0	0.207	87.4	0.207	-48.1	0.010	-47.0	207.0
-192.0	0.219	87.3	0.219	-48.1	0.010	-47.0	219.1
-188.0	0.232	87.3	0.232	-48.0	0.011	-47.0	232.1
-184.0	0.246	87.2	0.246	-47.9	0.012	-47.1	246.0
-180.0	0.261	87.2	0.261	-47.9	0.013	-47.1	261.1
-176.0	0.278	87.1	0.277	-47.8	0.014	-47.1	277.4
-172.0	0.295	87.1	0.295	-47.8	0.015	-47.1	295.1
-168.0	0.314	87.0	0.314	-47.8	0.016	-47.1	314.2
-164.0	0.335	87.0	0.335	-47.7	0.018	-47.2	334.9
-160.0	0.358	86.9	0.357	-47.7	0.019	-47.2	357.4
-156.0	0.382	86.9	0.381	-47.7	0.021	-47.2	381.8
-152.0	0.409	86.8	0.408	-47.6	0.023	-47.2	408.4
-148.0	0.438	86.8	0.437	-47.6	0.025	-47.2	437.3
-144.0	0.469	86.7	0.468	-47.6	0.027	-47.3	468.9
-140.0	0.504	86.6	0.503	-47.6	0.029	-47.3	503.3
-136.0	0.541	86.6	0.540	-47.5	0.032	-47.3	540.8
-132.0	0.582	86.5	0.581	-47.5	0.035	-47.3	581.9
-128.0	0.627	86.5	0.626	-47.5	0.038	-47.2	626.7
-124.0	0.676	86.4	0.675	-47.5	0.042	-47.2	675.8
-120.0	0.730	86.4	0.729	-47.5	0.046	-47.1	729.4
-116.0	0.789	86.3	0.787	-47.4	0.050	-47.1	788.1
-112.0	0.853	86.3	0.851	-47.4	0.055	-47.0	852.1
-108.0	0.923	86.3	0.921	-47.4	0.060	-46.8	922.0
-104.0	0.999	86.3	0.997	-47.3	0.065	-46.6	998.1
-100.0	1.082	86.3	1.080	-47.3	0.071	-46.4	1080.9
-96.0	1.172	86.3	1.169	-47.2	0.076	-46.0	1170.4



CLIENT: BrightNight

PROJECT NO: Oregon Energy Facility Siting Council

DATE: December 2025

VERSION: 01

-92.0	1.268	86.3	1.266	-47.1	0.082	-45.6	1267.0
-88.0	1.372	86.3	1.369	-46.9	0.088	-45.0	1370.5
-84.0	1.482	86.4	1.480	-46.8	0.093	-44.3	1480.5
-80.0	1.599	86.5	1.596	-46.6	0.097	-43.3	1596.2
-76.0	1.719	86.7	1.716	-46.3	0.100	-42.0	1716.4
-72.0	1.842	86.9	1.840	-46.0	0.101	-40.2	1839.0
-68.0	1.965	87.1	1.963	-45.6	0.100	-37.7	1961.4
-64.0	2.084	87.4	2.082	-45.0	0.096	-34.1	2079.8
-60.0	2.195	87.8	2.193	-44.3	0.088	-28.6	2189.5
-56.0	2.291	88.2	2.290	-43.5	0.077	-19.6	2285.1
-52.0	2.368	88.8	2.367	-42.4	0.065	-4.1	2360.1
-48.0	2.417	89.4	2.417	-41.1	0.058	21.9	2408.1
-44.0	2.433	90.1	2.433	-39.4	0.066	53.4	2422.8
-40.0	2.410	90.9	2.410	-37.3	0.089	76.8	2399.1
-36.0	2.346	91.7	2.345	-34.6	0.122	90.9	2333.8
-32.0	2.241	92.7	2.238	-31.3	0.159	99.9	2226.7
-28.0	2.096	93.7	2.092	-27.0	0.195	106.5	2080.7
-24.0	1.919	94.7	1.913	-21.6	0.228	112.0	1902.5
-20.0	1.720	95.7	1.712	-14.7	0.254	117.3	1702.3
-16.0	1.512	96.6	1.502	-5.8	0.274	122.7	1493.4
-12.0	1.311	97.1	1.301	5.7	0.286	128.7	1292.3
-8.0	1.136	96.6	1.129	20.4	0.294	135.3	1119.2
-4.0	1.012	94.3	1.009	38.9	0.297	142.5	998.7
0.0	0.966	90.0	0.966	60.0	0.298	150.0	954.8
4.0	1.012	85.7	1.009	81.1	0.297	157.5	998.6
8.0	1.136	83.4	1.129	99.6	0.294	164.7	1119.2
12.0	1.311	82.9	1.301	114.3	0.286	171.3	1292.3
16.0	1.512	83.4	1.502	125.8	0.274	177.3	1493.4
20.0	1.720	84.3	1.712	134.7	0.254	-177.3	1702.3
24.0	1.919	85.3	1.913	141.6	0.228	-172.0	1902.5



CLIENT: BrightNight

PROJECT NO: Oregon Energy Facility Siting Council

DATE: December 2025

VERSION: 01

28.0	2.096	86.3	2.092	147.0	0.195	-166.5	2080.7
32.0	2.241	87.3	2.238	151.3	0.159	-159.9	2226.7
36.0	2.346	88.3	2.345	154.6	0.122	-150.9	2333.8
40.0	2.410	89.1	2.410	157.3	0.089	-136.8	2399.1
44.0	2.433	89.9	2.433	159.4	0.066	-113.4	2422.9
48.0	2.417	90.6	2.417	161.1	0.058	-81.9	2408.1
52.0	2.368	91.2	2.367	162.4	0.065	-55.9	2360.1
56.0	2.291	91.8	2.290	163.5	0.077	-40.4	2285.1
60.0	2.195	92.2	2.193	164.3	0.088	-31.4	2189.5
64.0	2.084	92.6	2.082	165.0	0.096	-25.9	2079.8
68.0	1.965	92.9	1.963	165.6	0.100	-22.3	1961.4
72.0	1.842	93.1	1.840	166.0	0.101	-19.8	1839.0
76.0	1.719	93.3	1.716	166.3	0.100	-18.0	1716.4
80.0	1.599	93.5	1.596	166.6	0.097	-16.7	1596.2
84.0	1.482	93.6	1.480	166.8	0.093	-15.7	1480.5
88.0	1.372	93.7	1.369	166.9	0.088	-15.0	1370.5
92.0	1.268	93.7	1.266	167.1	0.082	-14.4	1267.0
96.0	1.172	93.7	1.169	167.2	0.076	-14.0	1170.4
100.0	1.082	93.7	1.080	167.3	0.071	-13.6	1080.9
104.0	0.999	93.7	0.997	167.3	0.065	-13.4	998.1
108.0	0.923	93.7	0.921	167.4	0.060	-13.2	922.0
112.0	0.853	93.7	0.851	167.4	0.055	-13.0	852.1
116.0	0.789	93.7	0.787	167.4	0.050	-12.9	788.1
120.0	0.730	93.6	0.729	167.5	0.046	-12.9	729.4
124.0	0.676	93.6	0.675	167.5	0.042	-12.8	675.8
128.0	0.627	93.5	0.626	167.5	0.038	-12.8	626.7
132.0	0.582	93.5	0.581	167.5	0.035	-12.7	581.9
136.0	0.541	93.4	0.540	167.5	0.032	-12.7	540.8
140.0	0.504	93.4	0.503	167.6	0.029	-12.7	503.3
144.0	0.469	93.3	0.468	167.6	0.027	-12.7	468.9



148.0	0.438	93.2	0.437	167.6	0.025	-12.8	437.3
152.0	0.409	93.2	0.408	167.6	0.023	-12.8	408.4
156.0	0.382	93.1	0.381	167.7	0.021	-12.8	381.8
160.0	0.358	93.1	0.357	167.7	0.019	-12.8	357.4
164.0	0.335	93.0	0.335	167.7	0.018	-12.8	334.9
168.0	0.314	93.0	0.314	167.8	0.016	-12.9	314.2
172.0	0.295	92.9	0.295	167.8	0.015	-12.9	295.1
176.0	0.278	92.9	0.277	167.8	0.014	-12.9	277.4
180.0	0.261	92.8	0.261	167.9	0.013	-12.9	261.1
184.0	0.246	92.8	0.246	167.9	0.012	-12.9	246.0
188.0	0.232	92.7	0.232	168.0	0.011	-13.0	232.1
192.0	0.219	92.7	0.219	168.1	0.010	-13.0	219.1
196.0	0.207	92.6	0.207	168.1	0.010	-13.0	207.1

IMAGNETIC FIELD CALCULATIONS

SENSOR HT. = 3.3 FEET

DIST FROM

REFERENCE FEET	B-FIELD (GAUSS)	THETA	BY-FIELD (GAUSS)	THETAY	BX-FIELD (GAUSS)	THETAX
-200.0	0.01053470	121.4	0.00899018	-34.1	0.00549700	142.9
-196.0	0.01094627	122.1	0.00927705	-34.1	0.00581614	142.8
-192.0	0.01138182	122.7	0.00957523	-34.2	0.00615978	142.7
-188.0	0.01184319	123.4	0.00988501	-34.2	0.00653021	142.6
-184.0	0.01233237	124.2	0.01020661	-34.2	0.00693001	142.4
-180.0	0.01285156	124.9	0.01054020	-34.2	0.00736201	142.3
-176.0	0.01340318	125.7	0.01088587	-34.3	0.00782938	142.2



CLIENT: BrightNight

PROJECT NO: Oregon Energy Facility Siting Council

DATE: December 2025

VERSION: 01

-172.0	0.01398985	126.5	0.01124357	-34.3	0.00833564	142.0
-168.0	0.01461448	127.4	0.01161313	-34.3	0.00888470	141.9
-164.0	0.01528025	128.3	0.01199416	-34.3	0.00948092	141.8
-160.0	0.01599064	129.3	0.01238603	-34.3	0.01012916	141.6
-156.0	0.01674951	130.3	0.01278781	-34.3	0.01083483	141.5
-152.0	0.01756108	131.3	0.01319817	-34.2	0.01160398	141.4
-148.0	0.01843002	132.4	0.01361531	-34.2	0.01244331	141.2
-144.0	0.01936144	133.6	0.01403680	-34.1	0.01336029	141.1
-140.0	0.02036099	134.8	0.01445945	-34.0	0.01436323	140.9
-136.0	0.02143485	136.1	0.01487917	-33.9	0.01546133	140.8
-132.0	0.02258986	137.5	0.01529064	-33.8	0.01666476	140.6
-128.0	0.02383350	138.9	0.01568717	-33.6	0.01798469	140.5
-124.0	0.02517392	140.5	0.01606027	-33.4	0.01943335	140.3
-120.0	0.02662006	142.1	0.01639929	-33.1	0.02102400	140.2
-116.0	0.02818162	143.8	0.01669103	-32.7	0.02277089	140.0
-112.0	0.02986905	145.7	0.01691910	-32.3	0.02468906	139.9
-108.0	0.03169356	147.6	0.01706346	-31.7	0.02679411	139.8
-104.0	0.03366701	149.7	0.01709978	-30.9	0.02910171	139.6
-100.0	0.03580183	152.0	0.01699894	-30.0	0.03162687	139.5
-96.0	0.03811067	154.4	0.01672677	-28.7	0.03438292	139.5
-92.0	0.04060619	156.9	0.01624447	-27.1	0.03738001	139.4
-88.0	0.04330042	159.7	0.01551044	-24.7	0.04062301	139.4
-84.0	0.04620408	162.6	0.01448552	-21.5	0.04410877	139.4
-80.0	0.04932557	165.7	0.01314664	-16.6	0.04782254	139.4
-76.0	0.05266974	169.1	0.01152214	-8.9	0.05173355	139.5
-72.0	0.05623623	172.7	0.00978936	3.9	0.05578991	139.7
-68.0	0.06001768	176.6	0.00852117	25.7	0.05991307	140.0
-64.0	0.06399760	-179.3	0.00890855	55.5	0.06399270	140.4
-60.0	0.06814834	-174.9	0.01179726	81.2	0.06788319	141.0
-56.0	0.07242941	-170.2	0.01680033	97.3	0.07140340	141.7



-52.0	0.07678638	-165.3	0.02333657	106.9	0.07434190	142.7
-48.0	0.08115143	-160.1	0.03105367	113.1	0.07646993	144.0
-44.0	0.08544534	-154.7	0.03968903	117.4	0.07756270	145.6
-40.0	0.08958180	-149.0	0.04896888	120.8	0.07742900	147.7
-36.0	0.09347346	-143.2	0.05857502	123.6	0.07594510	150.4
-32.0	0.09703925	-137.3	0.06814907	126.2	0.07308754	153.9
-28.0	0.10021178	-131.2	0.07731839	128.7	0.06895736	158.3
-24.0	0.10294345	-125.2	0.08573300	131.2	0.06378988	163.9
-20.0	0.10520976	-119.2	0.09310242	133.9	0.05794792	171.0
-16.0	0.10700925	-113.2	0.09922210	136.7	0.05190171	180.0
-12.0	0.10835951	-107.3	0.10398132	139.8	0.04620292	191.3
-8.0	0.10928994	-101.5	0.10735010	143.1	0.04145642	205.3
-4.0	0.10983206	-95.7	0.10934861	146.5	0.03827104	221.8
0.0	0.11000980	-90.0	0.11000980	150.0	0.03714282	240.0
4.0	0.10983206	-84.3	0.10934861	153.5	0.03827103	258.2
8.0	0.10928994	-78.5	0.10735010	156.9	0.04145640	-85.3
12.0	0.10835950	-72.7	0.10398132	160.2	0.04620289	-71.3
16.0	0.10700925	-66.8	0.09922211	163.3	0.05190169	-60.0
20.0	0.10520975	-60.8	0.09310243	166.1	0.05794790	-51.0
24.0	0.10294345	-54.8	0.08573301	168.8	0.06378986	-43.9
28.0	0.10021178	-48.8	0.07731841	171.3	0.06895734	-38.3
32.0	0.09703925	-42.7	0.06814909	173.8	0.07308752	-33.9
36.0	0.09347346	-36.8	0.05857504	176.4	0.07594509	-30.4
40.0	0.08958180	-31.0	0.04896889	179.2	0.07742899	-27.7
44.0	0.08544533	-25.3	0.03968904	182.6	0.07756269	-25.6
48.0	0.08115141	-19.9	0.03105368	186.9	0.07646991	-24.0
52.0	0.07678638	-14.7	0.02333659	193.1	0.07434189	-22.7
56.0	0.07242940	-9.8	0.01680033	202.7	0.07140338	-21.7
60.0	0.06814834	-5.1	0.01179726	218.8	0.06788319	-21.0
64.0	0.06399759	-0.7	0.00890855	244.5	0.06399269	-20.4



68.0	0.06001768	3.4	0.00852116	-85.7	0.05991306	-20.0
72.0	0.05623622	7.3	0.00978935	-63.9	0.05578990	-19.7
76.0	0.05266973	10.9	0.01152213	-51.1	0.05173355	-19.5
80.0	0.04932556	14.3	0.01314662	-43.4	0.04782253	-19.4
84.0	0.04620407	17.4	0.01448551	-38.5	0.04410877	-19.4
88.0	0.04330041	20.3	0.01551042	-35.3	0.04062300	-19.4
92.0	0.04060618	23.1	0.01624446	-32.9	0.03738000	-19.4
96.0	0.03811066	25.6	0.01672676	-31.3	0.03438291	-19.5
100.0	0.03580181	28.0	0.01699893	-30.0	0.03162686	-19.5
104.0	0.03366699	30.3	0.01709977	-29.1	0.02910170	-19.6
108.0	0.03169354	32.4	0.01706345	-28.3	0.02679411	-19.8
112.0	0.02986903	34.3	0.01691909	-27.7	0.02468905	-19.9
116.0	0.02818161	36.2	0.01669102	-27.3	0.02277088	-20.0
120.0	0.02662005	37.9	0.01639928	-26.9	0.02102399	-20.2
124.0	0.02517391	39.5	0.01606026	-26.6	0.01943334	-20.3
128.0	0.02383349	41.1	0.01568716	-26.4	0.01798468	-20.5
132.0	0.02258985	42.5	0.01529063	-26.2	0.01666475	-20.6
136.0	0.02143484	43.9	0.01487916	-26.1	0.01546133	-20.8
140.0	0.02036098	45.2	0.01445945	-26.0	0.01436323	-20.9
144.0	0.01936143	46.4	0.01403679	-25.9	0.01336029	-21.1
148.0	0.01843002	47.6	0.01361530	-25.8	0.01244330	-21.2
152.0	0.01756107	48.7	0.01319816	-25.8	0.01160397	-21.4
156.0	0.01674950	49.7	0.01278780	-25.7	0.01083483	-21.5
160.0	0.01599063	50.7	0.01238602	-25.7	0.01012915	-21.6
164.0	0.01528024	51.7	0.01199415	-25.7	0.00948091	-21.8
168.0	0.01461447	52.6	0.01161312	-25.7	0.00888470	-21.9
172.0	0.01398984	53.5	0.01124356	-25.7	0.00833564	-22.0
176.0	0.01340317	54.3	0.01088586	-25.7	0.00782938	-22.2
180.0	0.01285155	55.1	0.01054019	-25.8	0.00736201	-22.3
184.0	0.01233236	55.8	0.01020660	-25.8	0.00693001	-22.4



188.0	0.01184318	56.6	0.00988500	-25.8	0.00653021	-22.6
192.0	0.01138182	57.3	0.00957523	-25.8	0.00615978	-22.7
196.0	0.01094627	57.9	0.00927704	-25.9	0.00581614	-22.8

1COMBINED OUTPUT OF AUDIBLE NOISE, RADIO NOISE, TVI, OZONE CONCENTRATION, GROUND GRADIENT AND MAGNETIC FIELD

Deschutes BN Solar EMF Study

Using BPA CAFE31 Program

	DIST. FROM CENTER OF TOWER (FEET)	HEIGHT (FEET)	MAXIMUM GRADIENT (KV/CM)	SUBCON DIAM. (IN)	NO. OF SUBCON	SUBCON SPACING (IN)	VOLTAGE L-N (KV)	PHASE ANGLE (DEGREES)	CURRENT (kAmps)	CORONA LOSSES (KW/MI)
A1	32.00	58.00	25.67	1.35	1	0.00	288.70	0.00	1.22	435.082
B	0.00	58.00	27.20	1.35	1	0.00	288.70	-120.00	1.22	633.892
C	-32.00	58.00	25.67	1.35	1	0.00	288.70	120.00	1.22	435.082
G1	20.00	93.00	2.95	0.64	1	0.00	0.00	0.00	0.00	0.000
G2	-20.00	93.00	2.95	0.64	1	0.00	0.00	0.00	0.00	0.000

AN MICROPHONE HT.= 4.9 FT, RI ANT. HT.= 6.6 FT, TV ANT. HT.= 9.8 FT, ALTITUDE= 2267.0 FT

RI FREQ= 1.000 MHZ, TV FREQ= 75.000 MHZ, WIND VEL.(OZ)= 2.000 MPH, GROUND CONDUCTIVITY = 6.3 MMHOS/M

E-FIELD TRANSDUCER HT.= 3.3FT, B-FIELD TRANSDUCER HT.= 3.3FT

LATERAL DIST FROM REFERENCE (FEET)	AUDIBLE NOISE (RAIN) (FAIR) L50 L50 DBA DBA		RADIO INTERFERENCE (RAIN) (FAIR) L50 L50 DBUV/M DBUV/M		TVI TOTAL RAIN DBUV/M	OZONE FOR RAIN RATE OF 2.00 IN/HR AT 0. FT LEVEL PPB	ELECTRIC FIELD KV/M	MAGNETIC FIELD GAUSS
-200.0	70.9	45.9	75.8	58.8	40.8	0.000000	0.196	0.01053
-196.0	71.0	46.0	76.0	59.0	40.9	0.000000	0.207	0.01095
-192.0	71.1	46.1	76.2	59.2	41.1	0.000000	0.219	0.01138
-188.0	71.2	46.2	76.4	59.4	41.3	0.000000	0.232	0.01184



-184.0	71.3	46.3	76.7	59.7	41.5	0.000000	0.246	0.01233
-180.0	71.4	46.4	76.9	59.9	41.6	0.000000	0.261	0.01285
-176.0	71.5	46.5	77.2	60.2	41.8	0.000000	0.278	0.01340
-172.0	71.6	46.6	77.5	60.5	42.0	0.000000	0.295	0.01399
-168.0	71.8	46.8	77.7	60.7	42.2	0.000000	0.314	0.01461
-164.0	71.9	46.9	78.0	61.0	42.4	0.000000	0.335	0.01528
-160.0	72.0	47.0	78.3	61.3	42.6	0.000000	0.358	0.01599
-156.0	72.1	47.1	78.6	61.6	42.8	0.000000	0.382	0.01675
-152.0	72.2	47.2	78.9	61.9	43.0	0.000000	0.409	0.01756
-148.0	72.3	47.3	79.2	62.2	43.2	0.000000	0.438	0.01843
-144.0	72.5	47.5	79.5	62.5	43.4	0.000000	0.469	0.01936
-140.0	72.6	47.6	79.8	62.8	43.6	0.000000	0.504	0.02036
-136.0	72.7	47.7	80.3	63.3	43.9	0.000000	0.541	0.02143
-132.0	72.8	47.8	80.7	63.7	44.1	0.000000	0.582	0.02259
-128.0	73.0	48.0	81.2	64.2	44.3	0.000000	0.627	0.02383
-124.0	73.1	48.1	81.7	64.7	44.6	0.000000	0.676	0.02517
-120.0	73.3	48.3	82.2	65.2	44.8	0.000000	0.730	0.02662
-116.0	73.4	48.4	82.7	65.7	45.1	0.000000	0.789	0.02818
-112.0	73.5	48.5	83.2	66.2	45.3	0.000000	0.853	0.02987
-108.0	73.7	48.7	83.7	66.7	45.6	0.000000	0.923	0.03169
-104.0	73.9	48.9	84.3	67.3	45.9	0.000000	0.999	0.03367
-100.0	74.0	49.0	84.9	67.9	46.1	0.000000	1.082	0.03580
-96.0	74.2	49.2	85.4	68.4	46.4	0.000000	1.172	0.03811
-92.0	74.3	49.3	86.0	69.0	46.7	0.000000	1.268	0.04061
-88.0	74.5	49.5	86.6	69.6	47.0	0.000000	1.372	0.04330
-84.0	74.7	49.7	87.3	70.3	47.3	0.000000	1.482	0.04620
-80.0	74.8	49.8	87.9	70.9	47.6	0.000000	1.599	0.04933
-76.0	75.0	50.0	88.5	71.5	48.0	0.000000	1.719	0.05267
-72.0	75.2	50.2	89.1	72.1	48.3	0.000000	1.842	0.05624
-68.0	75.4	50.4	89.7	72.7	48.6	0.000000	1.965	0.06002



-64.0	75.5	50.5	90.3	73.3	49.0	0.000000	2.084	0.06400
-60.0	75.7	50.7	90.8	73.8	49.3	0.000000	2.195	0.06815
-56.0	75.9	50.9	91.3	74.3	49.7	0.000000	2.291	0.07243
-52.0	76.0	51.0	91.8	74.8	50.0	0.000000	2.368	0.07679
-48.0	76.2	51.2	92.2	75.2	50.4	0.000000	2.417	0.08115
-44.0	76.3	51.3	92.5	75.5	50.7	0.000000	2.433	0.08545
-40.0	76.5	51.5	92.8	75.8	51.1	0.000000	2.410	0.08958
-36.0	76.6	51.6	92.9	75.9	51.5	0.000000	2.346	0.09347
-32.0	76.7	51.7	93.3	76.3	51.8	0.000000	2.241	0.09704
-28.0	76.9	51.9	93.9	76.9	52.1	0.000000	2.096	0.10021
-24.0	77.0	52.0	94.4	77.4	52.4	0.000000	1.919	0.10294
-20.0	77.0	52.0	94.8	77.8	52.7	0.000007	1.720	0.10521
-16.0	77.1	52.1	95.2	78.2	52.9	0.002175	1.512	0.10701
-12.0	77.2	52.2	95.5	78.5	53.1	0.036479	1.311	0.10836
-8.0	77.2	52.2	95.8	78.8	53.3	0.176364	1.136	0.10929
-4.0	77.2	52.2	95.9	78.9	53.4	0.461986	1.012	0.10983
0.0	77.2	52.2	96.0	79.0	53.4	0.863650	0.966	0.11001
4.0	77.2	52.2	95.9	78.9	53.4	1.320555	1.012	0.10983
8.0	77.2	52.2	95.8	78.8	53.3	1.778240	1.136	0.10929
12.0	77.2	52.2	95.5	78.5	53.1	2.201374	1.311	0.10836
16.0	77.1	52.1	95.2	78.2	52.9	2.575760	1.512	0.10701
20.0	77.0	52.0	94.8	77.8	52.7	2.944816	1.720	0.10521
24.0	77.0	52.0	94.4	77.4	52.4	3.430144	1.919	0.10294
28.0	76.9	51.9	93.9	76.9	52.1	4.102430	2.096	0.10021
32.0	76.7	51.7	93.3	76.3	51.8	4.919482	2.241	0.09704
36.0	76.6	51.6	92.9	75.9	51.5	5.788416	2.346	0.09347
40.0	76.5	51.5	92.8	75.8	51.1	6.626297	2.410	0.08958
44.0	76.3	51.3	92.5	75.5	50.7	7.380803	2.433	0.08545
48.0	76.2	51.2	92.2	75.2	50.4	8.029832	2.417	0.08115
52.0	76.0	51.0	91.8	74.8	50.0	8.598194	2.368	0.07679



56.0	75.9	50.9	91.3	74.3	49.7	9.165083	2.291	0.07243
60.0	75.7	50.7	90.8	73.8	49.3	9.781628	2.195	0.06815
64.0	75.5	50.5	90.3	73.3	49.0	10.430895	2.084	0.06400
68.0	75.4	50.4	89.7	72.7	48.6	11.064744	1.965	0.06002
72.0	75.2	50.2	89.1	72.1	48.3	11.640355	1.842	0.05624
76.0	75.0	50.0	88.5	71.5	48.0	12.132646	1.719	0.05267
80.0	74.8	49.8	87.9	70.9	47.6	12.532699	1.599	0.04933
84.0	74.7	49.7	87.3	70.3	47.3	12.842343	1.482	0.04620
88.0	74.5	49.5	86.6	69.6	47.0	13.069255	1.372	0.04330
92.0	74.3	49.3	86.0	69.0	46.7	13.223597	1.268	0.04061
96.0	74.2	49.2	85.4	68.4	46.4	13.316018	1.172	0.03811
100.0	74.0	49.0	84.9	67.9	46.1	13.356609	1.082	0.03580
104.0	73.9	48.9	84.3	67.3	45.9	13.354419	0.999	0.03367
108.0	73.7	48.7	83.7	66.7	45.6	13.317298	0.923	0.03169
112.0	73.5	48.5	83.2	66.2	45.3	13.251939	0.853	0.02987
116.0	73.4	48.4	82.7	65.7	45.1	13.163947	0.789	0.02818
120.0	73.3	48.3	82.2	65.2	44.8	13.057998	0.730	0.02662
124.0	73.1	48.1	81.7	64.7	44.6	12.937960	0.676	0.02517
128.0	73.0	48.0	81.2	64.2	44.3	12.807020	0.627	0.02383
132.0	72.8	47.8	80.7	63.7	44.1	12.667800	0.582	0.02259
136.0	72.7	47.7	80.3	63.3	43.9	12.522450	0.541	0.02143
140.0	72.6	47.6	79.8	62.8	43.6	12.372731	0.504	0.02036
144.0	72.5	47.5	79.5	62.5	43.4	12.220079	0.469	0.01936
148.0	72.3	47.3	79.2	62.2	43.2	12.065667	0.438	0.01843
152.0	72.2	47.2	78.9	61.9	43.0	11.910455	0.409	0.01756
156.0	72.1	47.1	78.6	61.6	42.8	11.755214	0.382	0.01675
160.0	72.0	47.0	78.3	61.3	42.6	11.600569	0.358	0.01599
164.0	71.9	46.9	78.0	61.0	42.4	11.447026	0.335	0.01528
168.0	71.8	46.8	77.7	60.7	42.2	11.294989	0.314	0.01461
172.0	71.6	46.6	77.5	60.5	42.0	11.144775	0.295	0.01399



PHYSICAL SYSTEM CONSISTS OF 7 CONDUCTORS, OF WHICH 3 ARE ENERGIZED PHASES

OPTIONS: COMB,AN,RI,TV,OZ,CL,EF,MF,, ,

4.921, 6.562, 9.842, 0.000, 1.000, 75.000, 3.280, 6.270, 3.280

'A1	','A',	-4.17,	45.00,	1,	1.345,	0.000,	20.000,	0.000,	0.442,	0.000
'B1	','A',	-5.15,	35.00,	1,	1.345,	0.000,	20.000,-120.000,		0.442,	0.000
'C1	','A',	-4.17,	25.00,	1,	1.345,	0.000,	20.000, 120.000,		0.442,	0.000
'A2	','A',	4.17,	45.00,	1,	1.345,	0.000,	20.000,	0.000,	0.442,	0.000
'B2	','A',	5.15,	35.00,	1,	1.345,	0.000,	20.000,-120.000,		0.442,	0.000
'C2	','A',	4.17,	25.00,	1,	1.345,	0.000,	20.000, 120.000,		0.442,	0.000
'G	','A',	0.66,	54.30,	1,	0.750,	0.000,	0.000,	0.000,	0.000,	0.000

100 -200.0 4.0

1AUDIBLE NOISE CALCULATION - RAIN

DIST FROM	TOTALS				
REFERENCE	L5	L50	A1	B1	C1
(FEET)	(DBA)	(DBA)			
-200.0	-57.4	-60.9	-69.1	-62.6	-68.8
-196.0	-57.3	-60.8	-69.0	-62.5	-68.7
-192.0	-57.2	-60.7	-68.9	-62.3	-68.6
-188.0	-57.1	-60.6	-68.8	-62.2	-68.5
-184.0	-57.0	-60.5	-68.7	-62.1	-68.4
-180.0	-56.9	-60.4	-68.6	-62.0	-68.3
-176.0	-56.8	-60.3	-68.5	-61.9	-68.2
-172.0	-56.7	-60.2	-68.4	-61.8	-68.0
-168.0	-56.5	-60.0	-68.2	-61.7	-67.9



CLIENT: BrightNight

PROJECT NO: Oregon Energy Facility Siting Council

DATE: December 2025

VERSION: 01

-164.0	-56.4	-59.9	-68.1	-61.6	-67.8
-160.0	-56.3	-59.8	-68.0	-61.4	-67.7
-156.0	-56.2	-59.7	-67.9	-61.3	-67.6
-152.0	-56.1	-59.6	-67.8	-61.2	-67.4
-148.0	-55.9	-59.4	-67.6	-61.1	-67.3
-144.0	-55.8	-59.3	-67.5	-60.9	-67.2
-140.0	-55.7	-59.2	-67.4	-60.8	-67.0
-136.0	-55.5	-59.0	-67.2	-60.7	-66.9
-132.0	-55.4	-58.9	-67.1	-60.5	-66.7
-128.0	-55.2	-58.7	-67.0	-60.4	-66.6
-124.0	-55.1	-58.6	-66.8	-60.2	-66.4
-120.0	-54.9	-58.4	-66.7	-60.0	-66.3
-116.0	-54.7	-58.2	-66.5	-59.9	-66.1
-112.0	-54.6	-58.1	-66.3	-59.7	-65.9
-108.0	-54.4	-57.9	-66.2	-59.5	-65.7
-104.0	-54.2	-57.7	-66.0	-59.4	-65.5
-100.0	-54.0	-57.5	-65.8	-59.2	-65.3
-96.0	-53.8	-57.3	-65.7	-59.0	-65.1
-92.0	-53.6	-57.1	-65.5	-58.8	-64.9
-88.0	-53.4	-56.9	-65.3	-58.6	-64.7
-84.0	-53.2	-56.7	-65.1	-58.4	-64.5
-80.0	-53.0	-56.5	-64.9	-58.1	-64.2
-76.0	-52.8	-56.3	-64.7	-57.9	-64.0
-72.0	-52.5	-56.0	-64.5	-57.7	-63.7
-68.0	-52.3	-55.8	-64.3	-57.4	-63.5
-64.0	-52.0	-55.5	-64.0	-57.1	-63.2
-60.0	-51.7	-55.2	-63.8	-56.9	-62.9
-56.0	-51.5	-55.0	-63.6	-56.6	-62.5
-52.0	-51.2	-54.7	-63.3	-56.3	-62.2
-48.0	-50.9	-54.4	-63.1	-56.0	-61.8



-44.0	-50.5	-54.0	-62.8	-55.7	-61.5
-40.0	-50.2	-53.7	-62.6	-55.4	-61.0
-36.0	-49.9	-53.4	-62.3	-55.0	-60.6
-32.0	-49.5	-53.0	-62.1	-54.7	-60.2
-28.0	-49.2	-52.7	-61.9	-54.4	-59.7
-24.0	-48.9	-52.4	-61.7	-54.1	-59.2
-20.0	-48.5	-52.0	-61.5	-53.8	-58.7
-16.0	-48.3	-51.8	-61.3	-53.5	-58.2
-12.0	-48.1	-51.6	-61.2	-53.4	-57.9
-8.0	-47.9	-51.4	-61.2	-53.3	-57.6
-4.0	-47.9	-51.4	-61.1	-53.2	-57.5
0.0	-47.9	-51.4	-61.2	-53.3	-57.6
4.0	-48.1	-51.6	-61.2	-53.5	-57.9
8.0	-48.4	-51.9	-61.3	-53.7	-58.3
12.0	-48.7	-52.2	-61.5	-53.9	-58.7
16.0	-49.0	-52.5	-61.7	-54.2	-59.2
20.0	-49.3	-52.8	-61.9	-54.6	-59.7
24.0	-49.7	-53.2	-62.1	-54.9	-60.2
28.0	-50.0	-53.5	-62.4	-55.2	-60.7
32.0	-50.3	-53.8	-62.6	-55.5	-61.1
36.0	-50.7	-54.2	-62.9	-55.9	-61.5
40.0	-51.0	-54.5	-63.1	-56.2	-61.9
44.0	-51.3	-54.8	-63.3	-56.5	-62.2
48.0	-51.6	-55.1	-63.6	-56.8	-62.6
52.0	-51.9	-55.4	-63.8	-57.0	-62.9
56.0	-52.1	-55.6	-64.0	-57.3	-63.2
60.0	-52.4	-55.9	-64.3	-57.5	-63.5
64.0	-52.6	-56.1	-64.5	-57.8	-63.8
68.0	-52.9	-56.4	-64.7	-58.0	-64.0
72.0	-53.1	-56.6	-64.9	-58.3	-64.3



76.0	-53.3	-56.8	-65.1	-58.5	-64.5
80.0	-53.5	-57.0	-65.3	-58.7	-64.7
84.0	-53.7	-57.2	-65.5	-58.9	-65.0
88.0	-53.9	-57.4	-65.7	-59.1	-65.2
92.0	-54.1	-57.6	-65.9	-59.3	-65.4
96.0	-54.3	-57.8	-66.0	-59.5	-65.6
100.0	-54.5	-58.0	-66.2	-59.6	-65.7
104.0	-54.6	-58.1	-66.4	-59.8	-65.9
108.0	-54.8	-58.3	-66.5	-60.0	-66.1
112.0	-55.0	-58.5	-66.7	-60.1	-66.3
116.0	-55.1	-58.6	-66.8	-60.3	-66.4
120.0	-55.3	-58.8	-67.0	-60.4	-66.6
124.0	-55.4	-58.9	-67.1	-60.6	-66.7
128.0	-55.6	-59.1	-67.3	-60.7	-66.9
132.0	-55.7	-59.2	-67.4	-60.9	-67.0
136.0	-55.8	-59.3	-67.5	-61.0	-67.2
140.0	-56.0	-59.5	-67.7	-61.1	-67.3
144.0	-56.1	-59.6	-67.8	-61.3	-67.4
148.0	-56.2	-59.7	-67.9	-61.4	-67.6
152.0	-56.4	-59.9	-68.0	-61.5	-67.7
156.0	-56.5	-60.0	-68.1	-61.6	-67.8
160.0	-56.6	-60.1	-68.3	-61.8	-67.9
164.0	-56.7	-60.2	-68.4	-61.9	-68.1
168.0	-56.8	-60.3	-68.5	-62.0	-68.2
172.0	-56.9	-60.4	-68.6	-62.1	-68.3
176.0	-57.0	-60.5	-68.7	-62.2	-68.4
180.0	-57.1	-60.6	-68.8	-62.3	-68.5
184.0	-57.3	-60.8	-68.9	-62.4	-68.6
188.0	-57.4	-60.9	-69.0	-62.5	-68.7
192.0	-57.5	-61.0	-69.1	-62.6	-68.8



196.0 -57.5 -61.0 -69.2 -62.7 -68.9

1AUDIBLE NOISE CALCULATION - FAIR

DIST FROM	TOTALS				
REFERENCE	L5	L50	A1	B1	C1
(FEET)	(DBA)	(DBA)			
-200.0	-82.4	-85.9	-94.1	-87.6	-93.8
-196.0	-82.3	-85.8	-94.0	-87.5	-93.7
-192.0	-82.2	-85.7	-93.9	-87.3	-93.6
-188.0	-82.1	-85.6	-93.8	-87.2	-93.5
-184.0	-82.0	-85.5	-93.7	-87.1	-93.4
-180.0	-81.9	-85.4	-93.6	-87.0	-93.3
-176.0	-81.8	-85.3	-93.5	-86.9	-93.2
-172.0	-81.7	-85.2	-93.4	-86.8	-93.0
-168.0	-81.5	-85.0	-93.2	-86.7	-92.9
-164.0	-81.4	-84.9	-93.1	-86.6	-92.8
-160.0	-81.3	-84.8	-93.0	-86.4	-92.7
-156.0	-81.2	-84.7	-92.9	-86.3	-92.6
-152.0	-81.1	-84.6	-92.8	-86.2	-92.4
-148.0	-80.9	-84.4	-92.6	-86.1	-92.3
-144.0	-80.8	-84.3	-92.5	-85.9	-92.2
-140.0	-80.7	-84.2	-92.4	-85.8	-92.0
-136.0	-80.5	-84.0	-92.2	-85.7	-91.9
-132.0	-80.4	-83.9	-92.1	-85.5	-91.7
-128.0	-80.2	-83.7	-92.0	-85.4	-91.6
-124.0	-80.1	-83.6	-91.8	-85.2	-91.4
-120.0	-79.9	-83.4	-91.7	-85.0	-91.3



CLIENT: BrightNight

PROJECT NO: Oregon Energy Facility Siting Council

DATE: December 2025

VERSION: 01

-116.0	-79.7	-83.2	-91.5	-84.9	-91.1
-112.0	-79.6	-83.1	-91.3	-84.7	-90.9
-108.0	-79.4	-82.9	-91.2	-84.5	-90.7
-104.0	-79.2	-82.7	-91.0	-84.4	-90.5
-100.0	-79.0	-82.5	-90.8	-84.2	-90.3
-96.0	-78.8	-82.3	-90.7	-84.0	-90.1
-92.0	-78.6	-82.1	-90.5	-83.8	-89.9
-88.0	-78.4	-81.9	-90.3	-83.6	-89.7
-84.0	-78.2	-81.7	-90.1	-83.4	-89.5
-80.0	-78.0	-81.5	-89.9	-83.1	-89.2
-76.0	-77.8	-81.3	-89.7	-82.9	-89.0
-72.0	-77.5	-81.0	-89.5	-82.7	-88.7
-68.0	-77.3	-80.8	-89.3	-82.4	-88.5
-64.0	-77.0	-80.5	-89.0	-82.1	-88.2
-60.0	-76.7	-80.2	-88.8	-81.9	-87.9
-56.0	-76.5	-80.0	-88.6	-81.6	-87.5
-52.0	-76.2	-79.7	-88.3	-81.3	-87.2
-48.0	-75.9	-79.4	-88.1	-81.0	-86.8
-44.0	-75.5	-79.0	-87.8	-80.7	-86.5
-40.0	-75.2	-78.7	-87.6	-80.4	-86.0
-36.0	-74.9	-78.4	-87.3	-80.0	-85.6
-32.0	-74.5	-78.0	-87.1	-79.7	-85.2
-28.0	-74.2	-77.7	-86.9	-79.4	-84.7
-24.0	-73.9	-77.4	-86.7	-79.1	-84.2
-20.0	-73.5	-77.0	-86.5	-78.8	-83.7
-16.0	-73.3	-76.8	-86.3	-78.5	-83.2
-12.0	-73.1	-76.6	-86.2	-78.4	-82.9
-8.0	-72.9	-76.4	-86.2	-78.3	-82.6
-4.0	-72.9	-76.4	-86.1	-78.2	-82.5
0.0	-72.9	-76.4	-86.2	-78.3	-82.6



4.0	-73.1	-76.6	-86.2	-78.5	-82.9
8.0	-73.4	-76.9	-86.3	-78.7	-83.3
12.0	-73.7	-77.2	-86.5	-78.9	-83.7
16.0	-74.0	-77.5	-86.7	-79.2	-84.2
20.0	-74.3	-77.8	-86.9	-79.6	-84.7
24.0	-74.7	-78.2	-87.1	-79.9	-85.2
28.0	-75.0	-78.5	-87.4	-80.2	-85.7
32.0	-75.3	-78.8	-87.6	-80.5	-86.1
36.0	-75.7	-79.2	-87.9	-80.9	-86.5
40.0	-76.0	-79.5	-88.1	-81.2	-86.9
44.0	-76.3	-79.8	-88.3	-81.5	-87.2
48.0	-76.6	-80.1	-88.6	-81.8	-87.6
52.0	-76.9	-80.4	-88.8	-82.0	-87.9
56.0	-77.1	-80.6	-89.0	-82.3	-88.2
60.0	-77.4	-80.9	-89.3	-82.5	-88.5
64.0	-77.6	-81.1	-89.5	-82.8	-88.8
68.0	-77.9	-81.4	-89.7	-83.0	-89.0
72.0	-78.1	-81.6	-89.9	-83.3	-89.3
76.0	-78.3	-81.8	-90.1	-83.5	-89.5
80.0	-78.5	-82.0	-90.3	-83.7	-89.7
84.0	-78.7	-82.2	-90.5	-83.9	-90.0
88.0	-78.9	-82.4	-90.7	-84.1	-90.2
92.0	-79.1	-82.6	-90.9	-84.3	-90.4
96.0	-79.3	-82.8	-91.0	-84.5	-90.6
100.0	-79.5	-83.0	-91.2	-84.6	-90.7
104.0	-79.6	-83.1	-91.4	-84.8	-90.9
108.0	-79.8	-83.3	-91.5	-85.0	-91.1
112.0	-80.0	-83.5	-91.7	-85.1	-91.3
116.0	-80.1	-83.6	-91.8	-85.3	-91.4
120.0	-80.3	-83.8	-92.0	-85.4	-91.6



124.0	-80.4	-83.9	-92.1	-85.6	-91.7
128.0	-80.6	-84.1	-92.3	-85.7	-91.9
132.0	-80.7	-84.2	-92.4	-85.9	-92.0
136.0	-80.8	-84.3	-92.5	-86.0	-92.2
140.0	-81.0	-84.5	-92.7	-86.1	-92.3
144.0	-81.1	-84.6	-92.8	-86.3	-92.4
148.0	-81.2	-84.7	-92.9	-86.4	-92.6
152.0	-81.4	-84.9	-93.0	-86.5	-92.7
156.0	-81.5	-85.0	-93.1	-86.6	-92.8
160.0	-81.6	-85.1	-93.3	-86.8	-92.9
164.0	-81.7	-85.2	-93.4	-86.9	-93.1
168.0	-81.8	-85.3	-93.5	-87.0	-93.2
172.0	-81.9	-85.4	-93.6	-87.1	-93.3
176.0	-82.0	-85.5	-93.7	-87.2	-93.4
180.0	-82.1	-85.6	-93.8	-87.3	-93.5
184.0	-82.3	-85.8	-93.9	-87.4	-93.6
188.0	-82.4	-85.9	-94.0	-87.5	-93.7
192.0	-82.5	-86.0	-94.1	-87.6	-93.8
196.0	-82.5	-86.0	-94.2	-87.7	-93.9

1RADIO NOISE CALCULATION - 5KHZ BAND WIDTH - RAIN

DIST FROM REFERENCE	* * * * * L50 * * * * *												
	* * * * * FREQUENCY, MHZ * * * * *												
	0.100	0.200	0.300	0.500	0.834	1.000	1.250	1.500	2.000	3.000	5.000	10.000	20.000
(FEET)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)
-200.0	-51.4	-52.1	-53.3	-55.3	-57.7	-58.7	-60.1	-61.4	-63.8	-68.0	-74.8	-86.8	-103.1
-196.0	-51.0	-51.8	-52.9	-55.0	-57.5	-58.5	-59.9	-61.2	-63.6	-67.9	-74.6	-86.6	-102.8



CLIENT: BrightNight

PROJECT NO: Oregon Energy Facility Siting Council

DATE: December 2025

VERSION: 01

-192.0	-50.7	-51.4	-52.6	-54.6	-57.2	-58.2	-59.7	-61.0	-63.4	-67.7	-74.4	-86.4	-102.4
-188.0	-50.3	-51.1	-52.2	-54.3	-56.9	-58.0	-59.4	-60.7	-63.2	-67.5	-74.2	-86.1	-102.1
-184.0	-49.9	-50.7	-51.9	-54.0	-56.6	-57.7	-59.2	-60.5	-63.0	-67.2	-74.0	-85.9	-101.7
-180.0	-49.5	-50.3	-51.5	-53.7	-56.3	-57.4	-58.9	-60.3	-62.7	-67.0	-73.8	-85.6	-101.4
-176.0	-49.1	-50.0	-51.2	-53.3	-56.0	-57.1	-58.6	-60.0	-62.5	-66.8	-73.6	-85.4	-101.0
-172.0	-48.8	-49.6	-50.8	-53.0	-55.7	-56.9	-58.4	-59.8	-62.3	-66.6	-73.4	-85.1	-100.6
-168.0	-48.3	-49.2	-50.4	-52.6	-55.4	-56.6	-58.1	-59.5	-62.0	-66.4	-73.2	-84.9	-100.2
-164.0	-47.9	-48.7	-50.0	-52.2	-55.1	-56.2	-57.8	-59.2	-61.8	-66.1	-72.9	-84.6	-99.8
-160.0	-47.5	-48.3	-49.6	-51.8	-54.7	-55.9	-57.5	-59.0	-61.5	-65.9	-72.7	-84.4	-99.4
-156.0	-47.1	-47.9	-49.2	-51.4	-54.4	-55.6	-57.2	-58.7	-61.3	-65.7	-72.5	-84.1	-99.0
-152.0	-46.6	-47.5	-48.7	-51.0	-54.0	-55.3	-56.9	-58.4	-61.0	-65.4	-72.2	-83.8	-98.6
-148.0	-46.2	-47.0	-48.3	-50.6	-53.7	-54.9	-56.6	-58.1	-60.7	-65.1	-72.0	-83.5	-98.2
-144.0	-45.7	-46.5	-47.8	-50.2	-53.3	-54.5	-56.2	-57.7	-60.4	-64.9	-71.7	-83.2	-97.8
-140.0	-45.2	-46.1	-47.3	-49.7	-52.9	-54.2	-55.9	-57.4	-60.1	-64.6	-71.4	-82.9	-97.3
-136.0	-44.7	-45.6	-46.9	-49.3	-52.5	-53.8	-55.5	-57.1	-59.8	-64.3	-71.2	-82.6	-96.9
-132.0	-44.2	-45.1	-46.4	-48.8	-52.0	-53.4	-55.1	-56.7	-59.5	-64.0	-70.9	-82.3	-96.4
-128.0	-43.7	-44.5	-45.9	-48.3	-51.6	-52.9	-54.7	-56.3	-59.1	-63.7	-70.6	-82.0	-95.9
-124.0	-43.1	-44.0	-45.3	-47.8	-51.1	-52.5	-54.3	-55.9	-58.8	-63.4	-70.3	-81.6	-95.4
-120.0	-42.6	-43.4	-44.8	-47.3	-50.6	-52.0	-53.9	-55.5	-58.4	-63.1	-70.0	-81.3	-94.9
-116.0	-42.0	-42.9	-44.2	-46.7	-50.1	-51.6	-53.4	-55.1	-58.0	-62.7	-69.6	-80.9	-94.4
-112.0	-41.4	-42.3	-43.6	-46.2	-49.6	-51.1	-53.0	-54.7	-57.6	-62.4	-69.3	-80.6	-93.9
-108.0	-40.8	-41.7	-43.0	-45.6	-49.1	-50.5	-52.5	-54.2	-57.2	-62.0	-69.0	-80.2	-93.3
-104.0	-40.1	-41.0	-42.4	-45.0	-48.5	-50.0	-52.0	-53.7	-56.8	-61.6	-68.6	-79.8	-92.8
-100.0	-39.5	-40.4	-41.7	-44.3	-47.9	-49.4	-51.5	-53.2	-56.3	-61.2	-68.2	-79.4	-92.2
-96.0	-38.8	-39.7	-41.1	-43.7	-47.3	-48.8	-50.9	-52.7	-55.8	-60.8	-67.8	-79.0	-91.6
-92.0	-38.1	-39.0	-40.4	-43.0	-46.7	-48.2	-50.3	-52.2	-55.3	-60.3	-67.4	-78.5	-91.0
-88.0	-37.3	-38.3	-39.6	-42.3	-46.0	-47.6	-49.7	-51.6	-54.8	-59.9	-67.0	-78.1	-90.3
-84.0	-36.6	-37.5	-38.9	-41.6	-45.3	-46.9	-49.1	-51.0	-54.3	-59.4	-66.6	-77.6	-89.7
-80.0	-35.8	-36.7	-38.1	-40.8	-44.6	-46.2	-48.4	-50.3	-53.7	-58.9	-66.1	-77.1	-89.0
-76.0	-35.0	-35.9	-37.3	-40.0	-43.8	-45.5	-47.7	-49.6	-53.0	-58.3	-65.6	-76.6	-88.2



-72.0	-34.1	-35.0	-36.4	-39.2	-43.0	-44.7	-46.9	-48.9	-52.4	-57.7	-65.1	-76.1	-87.5
-68.0	-33.2	-34.1	-35.5	-38.3	-42.2	-43.8	-46.1	-48.2	-51.7	-57.1	-64.6	-75.5	-86.7
-64.0	-32.3	-33.2	-34.6	-37.4	-41.3	-43.0	-45.3	-47.4	-50.9	-56.5	-64.0	-74.9	-85.9
-60.0	-31.3	-32.2	-33.6	-36.4	-40.4	-42.1	-44.4	-46.5	-50.2	-55.8	-63.4	-74.3	-85.1
-56.0	-30.3	-31.2	-32.6	-35.4	-39.4	-41.1	-43.5	-45.6	-49.3	-55.0	-62.7	-73.6	-84.2
-52.0	-29.2	-30.1	-31.6	-34.4	-38.4	-40.1	-42.5	-44.7	-48.4	-54.3	-62.0	-72.9	-83.4
-48.0	-28.1	-29.0	-30.5	-33.3	-37.3	-39.1	-41.5	-43.7	-47.5	-53.4	-61.3	-72.2	-82.7
-44.0	-27.0	-27.9	-29.3	-32.1	-36.2	-38.0	-40.4	-42.7	-46.5	-52.5	-60.6	-71.4	-82.1
-40.0	-25.8	-26.7	-28.2	-31.0	-35.0	-36.8	-39.3	-41.6	-45.5	-51.6	-59.7	-70.6	-81.4
-36.0	-24.6	-25.5	-27.0	-29.8	-33.9	-35.7	-38.2	-40.5	-44.4	-50.7	-58.9	-69.8	-80.8
-32.0	-23.3	-24.3	-25.7	-28.6	-32.7	-34.5	-37.0	-39.3	-43.3	-49.7	-58.0	-68.9	-80.1
-28.0	-22.1	-23.1	-24.5	-27.4	-31.5	-33.3	-35.9	-38.2	-42.2	-48.6	-57.1	-68.0	-79.4
-24.0	-21.0	-21.9	-23.4	-26.2	-30.3	-32.2	-34.7	-37.1	-41.2	-47.7	-56.3	-67.1	-78.8
-20.0	-19.9	-20.9	-22.3	-25.1	-29.3	-31.1	-33.7	-36.1	-40.2	-46.7	-55.5	-66.3	-78.2
-16.0	-19.0	-19.9	-21.4	-24.2	-28.4	-30.2	-32.8	-35.2	-39.3	-45.9	-54.8	-65.6	-77.7
-12.0	-18.3	-19.3	-20.7	-23.5	-27.7	-29.6	-32.1	-34.5	-38.7	-45.3	-54.2	-65.1	-77.3
-8.0	-17.9	-18.9	-20.3	-23.1	-27.3	-29.2	-31.8	-34.1	-38.3	-45.0	-53.9	-64.8	-77.1
-4.0	-17.8	-18.8	-20.2	-23.1	-27.2	-29.1	-31.7	-34.1	-38.2	-44.9	-53.8	-64.7	-77.1
0.0	-18.1	-19.0	-20.5	-23.3	-27.5	-29.4	-31.9	-34.3	-38.5	-45.2	-54.0	-64.9	-77.2
4.0	-18.7	-19.6	-21.1	-23.9	-28.1	-29.9	-32.5	-34.9	-39.0	-45.7	-54.5	-65.4	-77.5
8.0	-19.5	-20.4	-21.9	-24.7	-28.9	-30.7	-33.3	-35.7	-39.8	-46.4	-55.1	-66.0	-78.0
12.0	-20.5	-21.5	-22.9	-25.7	-29.9	-31.7	-34.3	-36.6	-40.7	-47.3	-55.9	-66.8	-78.5
16.0	-21.6	-22.6	-24.0	-26.9	-31.0	-32.8	-35.4	-37.7	-41.8	-48.2	-56.8	-67.6	-79.2
20.0	-22.8	-23.8	-25.2	-28.0	-32.2	-34.0	-36.5	-38.8	-42.9	-49.2	-57.7	-68.5	-79.8
24.0	-24.1	-25.0	-26.4	-29.3	-33.4	-35.2	-37.7	-40.0	-44.0	-50.2	-58.5	-69.4	-80.5
28.0	-25.3	-26.2	-27.6	-30.5	-34.5	-36.4	-38.8	-41.1	-45.1	-51.2	-59.4	-70.2	-81.2
32.0	-26.5	-27.4	-28.8	-31.6	-35.7	-37.5	-40.0	-42.2	-46.1	-52.2	-60.2	-71.1	-81.8
36.0	-27.6	-28.6	-30.0	-32.8	-36.8	-38.6	-41.1	-43.3	-47.1	-53.1	-61.0	-71.9	-82.5
40.0	-28.7	-29.7	-31.1	-33.9	-37.9	-39.7	-42.1	-44.3	-48.1	-53.9	-61.7	-72.6	-83.1
44.0	-29.8	-30.8	-32.2	-35.0	-39.0	-40.7	-43.1	-45.2	-49.0	-54.7	-62.4	-73.3	-83.8



48.0	-30.9	-31.8	-33.2	-36.0	-39.9	-41.7	-44.0	-46.2	-49.8	-55.5	-63.1	-74.0	-84.7
52.0	-31.9	-32.8	-34.2	-37.0	-40.9	-42.6	-44.9	-47.0	-50.6	-56.2	-63.7	-74.7	-85.6
56.0	-32.8	-33.7	-35.2	-37.9	-41.8	-43.5	-45.8	-47.8	-51.4	-56.8	-64.3	-75.3	-86.4
60.0	-33.7	-34.7	-36.1	-38.8	-42.7	-44.3	-46.6	-48.6	-52.1	-57.5	-64.9	-75.8	-87.2
64.0	-34.6	-35.5	-36.9	-39.6	-43.5	-45.1	-47.4	-49.3	-52.8	-58.1	-65.4	-76.4	-87.9
68.0	-35.4	-36.4	-37.8	-40.5	-44.3	-45.9	-48.1	-50.0	-53.4	-58.6	-65.9	-76.9	-88.7
72.0	-36.2	-37.2	-38.6	-41.2	-45.0	-46.6	-48.8	-50.7	-54.0	-59.2	-66.4	-77.4	-89.4
76.0	-37.0	-37.9	-39.3	-42.0	-45.7	-47.3	-49.4	-51.3	-54.6	-59.7	-66.8	-77.9	-90.0
80.0	-37.8	-38.7	-40.1	-42.7	-46.4	-48.0	-50.1	-51.9	-55.1	-60.1	-67.3	-78.4	-90.7
84.0	-38.5	-39.4	-40.8	-43.4	-47.1	-48.6	-50.7	-52.5	-55.6	-60.6	-67.7	-78.8	-91.3
88.0	-39.2	-40.1	-41.5	-44.1	-47.7	-49.2	-51.2	-53.0	-56.1	-61.0	-68.1	-79.2	-91.9
92.0	-39.9	-40.8	-42.1	-44.7	-48.3	-49.8	-51.8	-53.5	-56.6	-61.4	-68.5	-79.6	-92.5
96.0	-40.5	-41.4	-42.8	-45.3	-48.8	-50.3	-52.3	-54.0	-57.0	-61.8	-68.8	-80.0	-93.1
100.0	-41.1	-42.0	-43.4	-45.9	-49.4	-50.8	-52.8	-54.5	-57.5	-62.2	-69.2	-80.4	-93.6
104.0	-41.7	-42.6	-44.0	-46.5	-49.9	-51.3	-53.3	-54.9	-57.9	-62.6	-69.5	-80.8	-94.2
108.0	-42.3	-43.2	-44.5	-47.0	-50.4	-51.8	-53.7	-55.4	-58.3	-62.9	-69.8	-81.1	-94.7
112.0	-42.9	-43.8	-45.1	-47.6	-50.9	-52.3	-54.1	-55.8	-58.6	-63.3	-70.2	-81.5	-95.2
116.0	-43.4	-44.3	-45.6	-48.1	-51.4	-52.7	-54.6	-56.2	-59.0	-63.6	-70.5	-81.8	-95.7
120.0	-44.0	-44.8	-46.1	-48.6	-51.8	-53.2	-55.0	-56.5	-59.3	-63.9	-70.8	-82.2	-96.2
124.0	-44.5	-45.3	-46.7	-49.1	-52.3	-53.6	-55.3	-56.9	-59.7	-64.2	-71.0	-82.5	-96.7
128.0	-45.0	-45.8	-47.1	-49.5	-52.7	-54.0	-55.7	-57.3	-60.0	-64.5	-71.3	-82.8	-97.1
132.0	-45.5	-46.3	-47.6	-50.0	-53.1	-54.4	-56.1	-57.6	-60.3	-64.8	-71.6	-83.1	-97.6
136.0	-46.0	-46.8	-48.1	-50.4	-53.5	-54.7	-56.4	-57.9	-60.6	-65.0	-71.9	-83.4	-98.0
140.0	-46.4	-47.3	-48.5	-50.9	-53.9	-55.1	-56.8	-58.2	-60.9	-65.3	-72.1	-83.7	-98.4
144.0	-46.9	-47.7	-49.0	-51.3	-54.2	-55.5	-57.1	-58.5	-61.1	-65.6	-72.4	-84.0	-98.9
148.0	-47.3	-48.1	-49.4	-51.7	-54.6	-55.8	-57.4	-58.8	-61.4	-65.8	-72.6	-84.2	-99.3
152.0	-47.7	-48.6	-49.8	-52.1	-54.9	-56.1	-57.7	-59.1	-61.7	-66.0	-72.8	-84.5	-99.7
156.0	-48.2	-49.0	-50.2	-52.4	-55.3	-56.4	-58.0	-59.4	-61.9	-66.3	-73.1	-84.8	-100.1
160.0	-48.6	-49.4	-50.6	-52.8	-55.6	-56.7	-58.3	-59.7	-62.2	-66.5	-73.3	-85.0	-100.5
164.0	-49.0	-49.8	-51.0	-53.2	-55.9	-57.0	-58.5	-59.9	-62.4	-66.7	-73.5	-85.3	-100.8



168.0	-49.4	-50.2	-51.4	-53.5	-56.2	-57.3	-58.8	-60.2	-62.7	-66.9	-73.7	-85.5	-101.2
172.0	-49.8	-50.5	-51.7	-53.9	-56.5	-57.6	-59.1	-60.4	-62.9	-67.2	-73.9	-85.8	-101.6
176.0	-50.1	-50.9	-52.1	-54.2	-56.8	-57.9	-59.3	-60.6	-63.1	-67.4	-74.1	-86.0	-101.9
180.0	-50.5	-51.3	-52.4	-54.5	-57.1	-58.1	-59.6	-60.9	-63.3	-67.6	-74.3	-86.3	-102.3
184.0	-50.9	-51.6	-52.8	-54.8	-57.3	-58.4	-59.8	-61.1	-63.5	-67.8	-74.5	-86.5	-102.6
188.0	-51.2	-52.0	-53.1	-55.1	-57.6	-58.6	-60.0	-61.3	-63.7	-68.0	-74.7	-86.7	-103.0
192.0	-51.6	-52.3	-53.4	-55.4	-57.9	-58.9	-60.2	-61.5	-63.9	-68.2	-74.9	-86.9	-103.3
196.0	-51.9	-52.6	-53.8	-55.7	-58.1	-59.1	-60.5	-61.7	-64.1	-68.3	-75.1	-87.2	-103.7

1RADIO NOISE CALCULATION - 5KHZ BAND WIDTH - FAIR

DIST FROM REFERENCE	* * * * * L50 * * * * *												
	* * * * * FREQUENCY, MHZ * * * * *												
	0.100	0.200	0.300	0.500	0.834	1.000	1.250	1.500	2.000	3.000	5.000	10.000	20.000
(FEET)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)	(DB)
-200.0	-68.4	-69.1	-70.3	-72.3	-74.7	-75.7	-77.1	-78.4	-80.8	-85.0	-91.8	-103.8	-120.1
-196.0	-68.0	-68.8	-69.9	-72.0	-74.5	-75.5	-76.9	-78.2	-80.6	-84.9	-91.6	-103.6	-119.8
-192.0	-67.7	-68.4	-69.6	-71.6	-74.2	-75.2	-76.7	-78.0	-80.4	-84.7	-91.4	-103.4	-119.4
-188.0	-67.3	-68.1	-69.2	-71.3	-73.9	-75.0	-76.4	-77.7	-80.2	-84.5	-91.2	-103.1	-119.1
-184.0	-66.9	-67.7	-68.9	-71.0	-73.6	-74.7	-76.2	-77.5	-80.0	-84.2	-91.0	-102.9	-118.7
-180.0	-66.5	-67.3	-68.5	-70.7	-73.3	-74.4	-75.9	-77.3	-79.7	-84.0	-90.8	-102.6	-118.4
-176.0	-66.1	-67.0	-68.2	-70.3	-73.0	-74.1	-75.6	-77.0	-79.5	-83.8	-90.6	-102.4	-118.0
-172.0	-65.8	-66.6	-67.8	-70.0	-72.7	-73.9	-75.4	-76.8	-79.3	-83.6	-90.4	-102.1	-117.6
-168.0	-65.3	-66.2	-67.4	-69.6	-72.4	-73.6	-75.1	-76.5	-79.0	-83.4	-90.2	-101.9	-117.2
-164.0	-64.9	-65.7	-67.0	-69.2	-72.1	-73.2	-74.8	-76.2	-78.8	-83.1	-89.9	-101.6	-116.8
-160.0	-64.5	-65.3	-66.6	-68.8	-71.7	-72.9	-74.5	-76.0	-78.5	-82.9	-89.7	-101.4	-116.4
-156.0	-64.1	-64.9	-66.2	-68.4	-71.4	-72.6	-74.2	-75.7	-78.3	-82.7	-89.5	-101.1	-116.0
-152.0	-63.6	-64.5	-65.7	-68.0	-71.0	-72.3	-73.9	-75.4	-78.0	-82.4	-89.2	-100.8	-115.6



CLIENT: BrightNight

PROJECT NO: Oregon Energy Facility Siting Council

DATE: December 2025

VERSION: 01

-148.0	-63.2	-64.0	-65.3	-67.6	-70.7	-71.9	-73.6	-75.1	-77.7	-82.1	-89.0	-100.5	-115.2
-144.0	-62.7	-63.5	-64.8	-67.2	-70.3	-71.5	-73.2	-74.7	-77.4	-81.9	-88.7	-100.2	-114.8
-140.0	-62.2	-63.1	-64.3	-66.7	-69.9	-71.2	-72.9	-74.4	-77.1	-81.6	-88.4	-99.9	-114.3
-136.0	-61.7	-62.6	-63.9	-66.3	-69.5	-70.8	-72.5	-74.1	-76.8	-81.3	-88.2	-99.6	-113.9
-132.0	-61.2	-62.1	-63.4	-65.8	-69.0	-70.4	-72.1	-73.7	-76.5	-81.0	-87.9	-99.3	-113.4
-128.0	-60.7	-61.5	-62.9	-65.3	-68.6	-69.9	-71.7	-73.3	-76.1	-80.7	-87.6	-99.0	-112.9
-124.0	-60.1	-61.0	-62.3	-64.8	-68.1	-69.5	-71.3	-72.9	-75.8	-80.4	-87.3	-98.6	-112.4
-120.0	-59.6	-60.4	-61.8	-64.3	-67.6	-69.0	-70.9	-72.5	-75.4	-80.1	-87.0	-98.3	-111.9
-116.0	-59.0	-59.9	-61.2	-63.7	-67.1	-68.6	-70.4	-72.1	-75.0	-79.7	-86.6	-97.9	-111.4
-112.0	-58.4	-59.3	-60.6	-63.2	-66.6	-68.1	-70.0	-71.7	-74.6	-79.4	-86.3	-97.6	-110.9
-108.0	-57.8	-58.7	-60.0	-62.6	-66.1	-67.5	-69.5	-71.2	-74.2	-79.0	-86.0	-97.2	-110.3
-104.0	-57.1	-58.0	-59.4	-62.0	-65.5	-67.0	-69.0	-70.7	-73.8	-78.6	-85.6	-96.8	-109.8
-100.0	-56.5	-57.4	-58.7	-61.3	-64.9	-66.4	-68.5	-70.2	-73.3	-78.2	-85.2	-96.4	-109.2
-96.0	-55.8	-56.7	-58.1	-60.7	-64.3	-65.8	-67.9	-69.7	-72.8	-77.8	-84.8	-96.0	-108.6
-92.0	-55.1	-56.0	-57.4	-60.0	-63.7	-65.2	-67.3	-69.2	-72.3	-77.3	-84.4	-95.5	-108.0
-88.0	-54.3	-55.3	-56.6	-59.3	-63.0	-64.6	-66.7	-68.6	-71.8	-76.9	-84.0	-95.1	-107.3
-84.0	-53.6	-54.5	-55.9	-58.6	-62.3	-63.9	-66.1	-68.0	-71.3	-76.4	-83.6	-94.6	-106.7
-80.0	-52.8	-53.7	-55.1	-57.8	-61.6	-63.2	-65.4	-67.3	-70.7	-75.9	-83.1	-94.1	-106.0
-76.0	-52.0	-52.9	-54.3	-57.0	-60.8	-62.5	-64.7	-66.6	-70.0	-75.3	-82.6	-93.6	-105.2
-72.0	-51.1	-52.0	-53.4	-56.2	-60.0	-61.7	-63.9	-65.9	-69.4	-74.7	-82.1	-93.1	-104.5
-68.0	-50.2	-51.1	-52.5	-55.3	-59.2	-60.8	-63.1	-65.2	-68.7	-74.1	-81.6	-92.5	-103.7
-64.0	-49.3	-50.2	-51.6	-54.4	-58.3	-60.0	-62.3	-64.4	-67.9	-73.5	-81.0	-91.9	-102.9
-60.0	-48.3	-49.2	-50.6	-53.4	-57.4	-59.1	-61.4	-63.5	-67.2	-72.8	-80.4	-91.3	-102.1
-56.0	-47.3	-48.2	-49.6	-52.4	-56.4	-58.1	-60.5	-62.6	-66.3	-72.0	-79.7	-90.6	-101.2
-52.0	-46.2	-47.1	-48.6	-51.4	-55.4	-57.1	-59.5	-61.7	-65.4	-71.3	-79.0	-89.9	-100.4
-48.0	-45.1	-46.0	-47.5	-50.3	-54.3	-56.1	-58.5	-60.7	-64.5	-70.4	-78.3	-89.2	-99.7
-44.0	-44.0	-44.9	-46.3	-49.1	-53.2	-55.0	-57.4	-59.7	-63.5	-69.5	-77.6	-88.4	-99.1
-40.0	-42.8	-43.7	-45.2	-48.0	-52.0	-53.8	-56.3	-58.6	-62.5	-68.6	-76.7	-87.6	-98.4
-36.0	-41.6	-42.5	-44.0	-46.8	-50.9	-52.7	-55.2	-57.5	-61.4	-67.7	-75.9	-86.8	-97.8
-32.0	-40.3	-41.3	-42.7	-45.6	-49.7	-51.5	-54.0	-56.3	-60.3	-66.7	-75.0	-85.9	-97.1



-28.0	-39.1	-40.1	-41.5	-44.4	-48.5	-50.3	-52.9	-55.2	-59.2	-65.6	-74.1	-85.0	-96.4
-24.0	-38.0	-38.9	-40.4	-43.2	-47.3	-49.2	-51.7	-54.1	-58.2	-64.7	-73.3	-84.1	-95.8
-20.0	-36.9	-37.9	-39.3	-42.1	-46.3	-48.1	-50.7	-53.1	-57.2	-63.7	-72.5	-83.3	-95.2
-16.0	-36.0	-36.9	-38.4	-41.2	-45.4	-47.2	-49.8	-52.2	-56.3	-62.9	-71.8	-82.6	-94.7
-12.0	-35.3	-36.3	-37.7	-40.5	-44.7	-46.6	-49.1	-51.5	-55.7	-62.3	-71.2	-82.1	-94.3
-8.0	-34.9	-35.9	-37.3	-40.1	-44.3	-46.2	-48.8	-51.1	-55.3	-62.0	-70.9	-81.8	-94.1
-4.0	-34.8	-35.8	-37.2	-40.1	-44.2	-46.1	-48.7	-51.1	-55.2	-61.9	-70.8	-81.7	-94.1
0.0	-35.1	-36.0	-37.5	-40.3	-44.5	-46.4	-48.9	-51.3	-55.5	-62.2	-71.0	-81.9	-94.2
4.0	-35.7	-36.6	-38.1	-40.9	-45.1	-46.9	-49.5	-51.9	-56.0	-62.7	-71.5	-82.4	-94.5
8.0	-36.5	-37.4	-38.9	-41.7	-45.9	-47.7	-50.3	-52.7	-56.8	-63.4	-72.1	-83.0	-95.0
12.0	-37.5	-38.5	-39.9	-42.7	-46.9	-48.7	-51.3	-53.6	-57.7	-64.3	-72.9	-83.8	-95.5
16.0	-38.6	-39.6	-41.0	-43.9	-48.0	-49.8	-52.4	-54.7	-58.8	-65.2	-73.8	-84.6	-96.2
20.0	-39.8	-40.8	-42.2	-45.0	-49.2	-51.0	-53.5	-55.8	-59.9	-66.2	-74.7	-85.5	-96.8
24.0	-41.1	-42.0	-43.4	-46.3	-50.4	-52.2	-54.7	-57.0	-61.0	-67.2	-75.5	-86.4	-97.5
28.0	-42.3	-43.2	-44.6	-47.5	-51.5	-53.4	-55.8	-58.1	-62.1	-68.2	-76.4	-87.2	-98.2
32.0	-43.5	-44.4	-45.8	-48.6	-52.7	-54.5	-57.0	-59.2	-63.1	-69.2	-77.2	-88.1	-98.8
36.0	-44.6	-45.6	-47.0	-49.8	-53.8	-55.6	-58.1	-60.3	-64.1	-70.1	-78.0	-88.9	-99.5
40.0	-45.7	-46.7	-48.1	-50.9	-54.9	-56.7	-59.1	-61.3	-65.1	-70.9	-78.7	-89.6	-100.1
44.0	-46.8	-47.8	-49.2	-52.0	-56.0	-57.7	-60.1	-62.2	-66.0	-71.7	-79.4	-90.3	-100.8
48.0	-47.9	-48.8	-50.2	-53.0	-56.9	-58.7	-61.0	-63.2	-66.8	-72.5	-80.1	-91.0	-101.7
52.0	-48.9	-49.8	-51.2	-54.0	-57.9	-59.6	-61.9	-64.0	-67.6	-73.2	-80.7	-91.7	-102.6
56.0	-49.8	-50.7	-52.2	-54.9	-58.8	-60.5	-62.8	-64.8	-68.4	-73.8	-81.3	-92.3	-103.4
60.0	-50.7	-51.7	-53.1	-55.8	-59.7	-61.3	-63.6	-65.6	-69.1	-74.5	-81.9	-92.8	-104.2
64.0	-51.6	-52.5	-53.9	-56.6	-60.5	-62.1	-64.4	-66.3	-69.8	-75.1	-82.4	-93.4	-104.9
68.0	-52.4	-53.4	-54.8	-57.5	-61.3	-62.9	-65.1	-67.0	-70.4	-75.6	-82.9	-93.9	-105.7
72.0	-53.2	-54.2	-55.6	-58.2	-62.0	-63.6	-65.8	-67.7	-71.0	-76.2	-83.4	-94.4	-106.4
76.0	-54.0	-54.9	-56.3	-59.0	-62.7	-64.3	-66.4	-68.3	-71.6	-76.7	-83.8	-94.9	-107.0
80.0	-54.8	-55.7	-57.1	-59.7	-63.4	-65.0	-67.1	-68.9	-72.1	-77.1	-84.3	-95.4	-107.7
84.0	-55.5	-56.4	-57.8	-60.4	-64.1	-65.6	-67.7	-69.5	-72.6	-77.6	-84.7	-95.8	-108.3
88.0	-56.2	-57.1	-58.5	-61.1	-64.7	-66.2	-68.2	-70.0	-73.1	-78.0	-85.1	-96.2	-108.9



92.0	-56.9	-57.8	-59.1	-61.7	-65.3	-66.8	-68.8	-70.5	-73.6	-78.4	-85.5	-96.6	-109.5
96.0	-57.5	-58.4	-59.8	-62.3	-65.8	-67.3	-69.3	-71.0	-74.0	-78.8	-85.8	-97.0	-110.1
100.0	-58.1	-59.0	-60.4	-62.9	-66.4	-67.8	-69.8	-71.5	-74.5	-79.2	-86.2	-97.4	-110.6
104.0	-58.7	-59.6	-61.0	-63.5	-66.9	-68.3	-70.3	-71.9	-74.9	-79.6	-86.5	-97.8	-111.2
108.0	-59.3	-60.2	-61.5	-64.0	-67.4	-68.8	-70.7	-72.4	-75.3	-79.9	-86.8	-98.1	-111.7
112.0	-59.9	-60.8	-62.1	-64.6	-67.9	-69.3	-71.1	-72.8	-75.6	-80.3	-87.2	-98.5	-112.2
116.0	-60.4	-61.3	-62.6	-65.1	-68.4	-69.7	-71.6	-73.2	-76.0	-80.6	-87.5	-98.8	-112.7
120.0	-61.0	-61.8	-63.1	-65.6	-68.8	-70.2	-72.0	-73.5	-76.3	-80.9	-87.8	-99.2	-113.2
124.0	-61.5	-62.3	-63.7	-66.1	-69.3	-70.6	-72.3	-73.9	-76.7	-81.2	-88.0	-99.5	-113.7
128.0	-62.0	-62.8	-64.1	-66.5	-69.7	-71.0	-72.7	-74.3	-77.0	-81.5	-88.3	-99.8	-114.1
132.0	-62.5	-63.3	-64.6	-67.0	-70.1	-71.4	-73.1	-74.6	-77.3	-81.8	-88.6	-100.1	-114.6
136.0	-63.0	-63.8	-65.1	-67.4	-70.5	-71.7	-73.4	-74.9	-77.6	-82.0	-88.9	-100.4	-115.0
140.0	-63.4	-64.3	-65.5	-67.9	-70.9	-72.1	-73.8	-75.2	-77.9	-82.3	-89.1	-100.7	-115.4
144.0	-63.9	-64.7	-66.0	-68.3	-71.2	-72.5	-74.1	-75.5	-78.1	-82.6	-89.4	-101.0	-115.9
148.0	-64.3	-65.1	-66.4	-68.7	-71.6	-72.8	-74.4	-75.8	-78.4	-82.8	-89.6	-101.2	-116.3
152.0	-64.7	-65.6	-66.8	-69.1	-71.9	-73.1	-74.7	-76.1	-78.7	-83.0	-89.8	-101.5	-116.7
156.0	-65.2	-66.0	-67.2	-69.4	-72.3	-73.4	-75.0	-76.4	-78.9	-83.3	-90.1	-101.8	-117.1
160.0	-65.6	-66.4	-67.6	-69.8	-72.6	-73.7	-75.3	-76.7	-79.2	-83.5	-90.3	-102.0	-117.5
164.0	-66.0	-66.8	-68.0	-70.2	-72.9	-74.0	-75.5	-76.9	-79.4	-83.7	-90.5	-102.3	-117.8
168.0	-66.4	-67.2	-68.4	-70.5	-73.2	-74.3	-75.8	-77.2	-79.7	-83.9	-90.7	-102.5	-118.2
172.0	-66.8	-67.5	-68.7	-70.9	-73.5	-74.6	-76.1	-77.4	-79.9	-84.2	-90.9	-102.8	-118.6
176.0	-67.1	-67.9	-69.1	-71.2	-73.8	-74.9	-76.3	-77.6	-80.1	-84.4	-91.1	-103.0	-118.9
180.0	-67.5	-68.3	-69.4	-71.5	-74.1	-75.1	-76.6	-77.9	-80.3	-84.6	-91.3	-103.3	-119.3
184.0	-67.9	-68.6	-69.8	-71.8	-74.3	-75.4	-76.8	-78.1	-80.5	-84.8	-91.5	-103.5	-119.6
188.0	-68.2	-69.0	-70.1	-72.1	-74.6	-75.6	-77.0	-78.3	-80.7	-85.0	-91.7	-103.7	-120.0
192.0	-68.6	-69.3	-70.4	-72.4	-74.9	-75.9	-77.2	-78.5	-80.9	-85.2	-91.9	-103.9	-120.3
196.0	-68.9	-69.6	-70.8	-72.7	-75.1	-76.1	-77.5	-78.7	-81.1	-85.3	-92.1	-104.2	-120.7

1TVI CALCULATIONS, QP DETECTOR, STODDART NM30A METER

NOTE: A -999.9 APPEARS FOR DC BUNDLES.



CLIENT: BrightNight

PROJECT NO: Oregon Energy Facility Siting Council

DATE: December 2025

VERSION: 01

* * * * * L50 * * * * *

DIST FROM

* * * * * FREQUENCY, MHZ * * * * *

REFERENCE

	30.000	60.000	75.000	125.000	250.000	500.000	750.000	1000.000
(FEET)DBUV/M								
-200.0	-81.4	-87.6	-89.5	-93.9	-100.0	-106.0	-109.5	-112.0
-196.0	-81.0	-87.4	-89.3	-93.8	-99.8	-105.8	-109.3	-111.8
-192.0	-80.7	-87.2	-89.1	-93.6	-99.6	-105.6	-109.1	-111.6
-188.0	-80.3	-87.0	-89.0	-93.4	-99.4	-105.4	-109.0	-111.5
-184.0	-79.9	-86.8	-88.8	-93.2	-99.2	-105.2	-108.8	-111.3
-180.0	-79.5	-86.6	-88.6	-93.0	-99.0	-105.0	-108.6	-111.1
-176.0	-79.1	-86.4	-88.4	-92.8	-98.8	-104.9	-108.4	-110.9
-172.0	-78.7	-86.2	-88.2	-92.6	-98.6	-104.7	-108.2	-110.7
-168.0	-78.3	-86.0	-88.0	-92.4	-98.4	-104.4	-108.0	-110.5
-164.0	-77.9	-85.8	-87.8	-92.2	-98.2	-104.2	-107.8	-110.3
-160.0	-77.5	-85.6	-87.5	-92.0	-98.0	-104.0	-107.5	-110.0
-156.0	-77.0	-85.4	-87.3	-91.8	-97.8	-103.8	-107.3	-109.8
-152.0	-76.6	-85.2	-87.1	-91.5	-97.5	-103.6	-107.1	-109.6
-148.0	-76.1	-84.9	-86.9	-91.3	-97.3	-103.3	-106.9	-109.4
-144.0	-75.6	-84.7	-86.6	-91.1	-97.1	-103.1	-106.6	-109.1
-140.0	-75.1	-84.4	-86.4	-90.8	-96.8	-102.9	-106.4	-108.9
-136.0	-74.6	-84.2	-86.1	-90.6	-96.6	-102.6	-106.1	-108.6
-132.0	-74.1	-83.9	-85.9	-90.3	-96.3	-102.3	-105.9	-108.4
-128.0	-73.6	-83.7	-85.6	-90.0	-96.1	-102.1	-105.6	-108.1
-124.0	-73.3	-83.4	-85.3	-89.8	-95.8	-101.8	-105.3	-107.8
-120.0	-73.1	-83.1	-85.0	-89.5	-95.5	-101.5	-105.0	-107.5
-116.0	-72.8	-82.8	-84.7	-89.2	-95.2	-101.2	-104.7	-107.2
-112.0	-72.5	-82.5	-84.4	-88.9	-94.9	-100.9	-104.4	-106.9
-108.0	-72.1	-82.2	-84.1	-88.6	-94.6	-100.6	-104.1	-106.6



CLIENT: BrightNight

PROJECT NO: Oregon Energy Facility Siting Council

DATE: December 2025

VERSION: 01

-104.0	-71.8	-81.9	-83.8	-88.2	-94.3	-100.3	-103.8	-106.3
-100.0	-71.5	-81.5	-83.5	-87.9	-93.9	-99.9	-103.5	-106.0
-96.0	-71.1	-81.2	-83.1	-87.6	-93.6	-99.6	-103.1	-105.6
-92.0	-70.8	-80.8	-82.8	-87.2	-93.2	-99.2	-102.8	-105.3
-88.0	-70.4	-80.4	-82.4	-86.8	-92.8	-98.9	-102.4	-104.9
-84.0	-70.0	-80.0	-82.0	-86.4	-92.4	-98.5	-102.0	-104.5
-80.0	-69.6	-79.6	-81.6	-86.0	-92.0	-98.1	-101.6	-104.1
-76.0	-69.2	-79.2	-81.2	-85.6	-91.6	-97.6	-101.2	-103.6
-72.0	-68.7	-78.8	-80.7	-85.1	-91.2	-97.2	-100.7	-103.2
-68.0	-68.3	-78.3	-80.2	-84.7	-90.7	-96.7	-100.2	-102.7
-64.0	-67.8	-77.8	-79.8	-84.2	-90.2	-96.2	-99.8	-102.3
-60.0	-67.3	-77.3	-79.2	-83.7	-89.7	-95.7	-99.2	-101.7
-56.0	-66.7	-76.8	-78.7	-83.1	-89.2	-95.2	-98.7	-101.2
-52.0	-66.2	-76.2	-78.1	-82.6	-88.6	-94.6	-98.1	-100.6
-48.0	-65.6	-75.6	-77.6	-82.0	-88.0	-94.0	-97.6	-100.1
-44.0	-65.0	-75.0	-76.9	-81.4	-87.4	-93.4	-96.9	-99.4
-40.0	-64.3	-74.4	-76.3	-80.7	-86.8	-92.8	-96.3	-98.8
-36.0	-63.6	-73.7	-75.6	-80.1	-86.1	-92.1	-95.6	-98.1
-32.0	-63.0	-73.0	-74.9	-79.4	-85.4	-91.4	-94.9	-97.4
-28.0	-62.3	-72.3	-74.3	-78.7	-84.7	-90.7	-94.3	-96.8
-24.0	-61.6	-71.6	-73.6	-78.0	-84.0	-90.1	-93.6	-96.1
-20.0	-61.0	-71.0	-72.9	-77.4	-83.4	-89.4	-92.9	-95.4
-16.0	-60.4	-70.4	-72.4	-76.8	-82.8	-88.9	-92.4	-94.9
-12.0	-59.6	-70.0	-72.0	-76.4	-82.4	-88.4	-92.0	-94.5
-8.0	-58.9	-69.8	-71.7	-76.1	-82.2	-88.2	-91.7	-94.2
-4.0	-58.6	-69.7	-71.7	-76.1	-82.1	-88.1	-91.7	-94.1
0.0	-58.9	-69.9	-71.8	-76.3	-82.3	-88.3	-91.8	-94.3
4.0	-59.7	-70.2	-72.2	-76.6	-82.6	-88.7	-92.2	-94.7
8.0	-60.7	-70.8	-72.7	-77.1	-83.1	-89.2	-92.7	-95.2
12.0	-61.3	-71.4	-73.3	-77.7	-83.8	-89.8	-93.3	-95.8



16.0	-62.0	-72.0	-74.0	-78.4	-84.4	-90.4	-94.0	-96.5
20.0	-62.7	-72.7	-74.7	-79.1	-85.1	-91.1	-94.7	-97.1
24.0	-63.4	-73.4	-75.3	-79.8	-85.8	-91.8	-95.3	-97.8
28.0	-64.0	-74.1	-76.0	-80.5	-86.5	-92.5	-96.0	-98.5
32.0	-64.7	-74.7	-76.7	-81.1	-87.1	-93.1	-96.7	-99.2
36.0	-65.3	-75.4	-77.3	-81.7	-87.8	-93.8	-97.3	-99.8
40.0	-65.9	-76.0	-77.9	-82.3	-88.4	-94.4	-97.9	-100.4
44.0	-66.5	-76.5	-78.5	-82.9	-88.9	-94.9	-98.5	-101.0
48.0	-67.0	-77.1	-79.0	-83.5	-89.5	-95.5	-99.0	-101.5
52.0	-67.6	-77.6	-79.5	-84.0	-90.0	-96.0	-99.5	-102.0
56.0	-68.1	-78.1	-80.0	-84.5	-90.5	-96.5	-100.0	-102.5
60.0	-68.5	-78.6	-80.5	-84.9	-91.0	-97.0	-100.5	-103.0
64.0	-69.0	-79.0	-81.0	-85.4	-91.4	-97.4	-101.0	-103.5
68.0	-69.4	-79.5	-81.4	-85.8	-91.9	-97.9	-101.4	-103.9
72.0	-69.8	-79.9	-81.8	-86.3	-92.3	-98.3	-101.8	-104.3
76.0	-70.2	-80.3	-82.2	-86.6	-92.7	-98.7	-102.2	-104.7
80.0	-70.6	-80.7	-82.6	-87.0	-93.1	-99.1	-102.6	-105.1
84.0	-71.0	-81.0	-83.0	-87.4	-93.4	-99.4	-103.0	-105.5
88.0	-71.3	-81.4	-83.3	-87.8	-93.8	-99.8	-103.3	-105.8
92.0	-71.7	-81.7	-83.7	-88.1	-94.1	-100.1	-103.7	-106.2
96.0	-72.0	-82.1	-84.0	-88.4	-94.4	-100.5	-104.0	-106.5
100.0	-72.3	-82.4	-84.3	-88.7	-94.8	-100.8	-104.3	-106.8
104.0	-72.6	-82.7	-84.6	-89.1	-95.1	-101.1	-104.6	-107.1
108.0	-72.9	-83.0	-84.9	-89.3	-95.4	-101.4	-104.9	-107.4
112.0	-73.2	-83.3	-85.2	-89.6	-95.7	-101.7	-105.2	-107.7
116.0	-73.5	-83.5	-85.5	-89.9	-95.9	-102.0	-105.5	-108.0
120.0	-73.9	-83.8	-85.7	-90.2	-96.2	-102.2	-105.7	-108.2
124.0	-74.4	-84.1	-86.0	-90.4	-96.5	-102.5	-106.0	-108.5
128.0	-74.9	-84.3	-86.3	-90.7	-96.7	-102.7	-106.3	-108.8
132.0	-75.4	-84.6	-86.5	-91.0	-97.0	-103.0	-106.5	-109.0



136.0	-75.9	-84.8	-86.8	-91.2	-97.2	-103.2	-106.8	-109.3
140.0	-76.4	-85.1	-87.0	-91.4	-97.5	-103.5	-107.0	-109.5
144.0	-76.8	-85.3	-87.2	-91.7	-97.7	-103.7	-107.2	-109.7
148.0	-77.3	-85.5	-87.4	-91.9	-97.9	-103.9	-107.4	-109.9
152.0	-77.7	-85.7	-87.7	-92.1	-98.1	-104.1	-107.7	-110.2
156.0	-78.1	-85.9	-87.9	-92.3	-98.3	-104.4	-107.9	-110.4
160.0	-78.6	-86.1	-88.1	-92.5	-98.5	-104.6	-108.1	-110.6
164.0	-79.0	-86.4	-88.3	-92.7	-98.7	-104.8	-108.3	-110.8
168.0	-79.4	-86.5	-88.5	-92.9	-98.9	-105.0	-108.5	-111.0
172.0	-79.8	-86.7	-88.7	-93.1	-99.1	-105.2	-108.7	-111.2
176.0	-80.1	-86.9	-88.9	-93.3	-99.3	-105.4	-108.9	-111.4
180.0	-80.5	-87.1	-89.1	-93.5	-99.5	-105.5	-109.1	-111.6
184.0	-80.9	-87.3	-89.2	-93.7	-99.7	-105.7	-109.2	-111.7
188.0	-81.2	-87.5	-89.4	-93.9	-99.9	-105.9	-109.4	-111.9
192.0	-81.6	-87.7	-89.6	-94.0	-100.1	-106.1	-109.6	-112.1
196.0	-81.9	-87.8	-89.8	-94.2	-100.2	-106.2	-109.8	-112.3

10ZONE CONCENTRATION CALCULATIONS

Deschutes EMF Study

Using BPA CAFE31 Program

PHASE	DIST. FROM REFERENCE (FEET)	HEIGHT (FEET)	L-N VOLTAGE (KV)	MAXIMUM GRADIENT (KV/CM)	SUBCON. DIAM. (IN)	NO. OF SUBCON.	PRODUCTION RATE (KG/M/SEC)	CORONA LOSSES (KW/MI)
A1	-4.17	45.00	20.00	1.96	1.35	1	0.178E-13	0.000
B1	-5.15	35.00	20.00	2.22	1.35	1	0.510E-13	0.000
C1	-4.17	25.00	20.00	1.97	1.35	1	0.184E-13	0.000



CLIENT: BrightNight

PROJECT NO: Oregon Energy Facility Siting Council

DATE: December 2025

VERSION: 01

RAIN = 2.00 IN/HR, WIND VELOCITY = 2.000 MILES/HOUR, S(MEAN) = 0.290E-13 KG/M/SEC, ALTITUDE=2267.0 FEET

OZONE CONCENTRATION IN PPB

HEIGHT	LATERAL DISTANCE FROM REFERENCE (FEET)										
	0.	15.	30.	45.	60.	75.	150.	225.	300.	375.	450.
0.	0.000000	0.000001	0.000002	0.000002	0.000002	0.000002	0.000001	0.000001	0.000001	0.000001	0.000000
15.	0.000000	0.000002	0.000002	0.000002	0.000002	0.000002	0.000001	0.000001	0.000001	0.000001	0.000000
30.	0.000006	0.000003	0.000002	0.000002	0.000002	0.000002	0.000001	0.000001	0.000001	0.000001	0.000000
45.	0.000004	0.000003	0.000002	0.000002	0.000002	0.000001	0.000001	0.000001	0.000001	0.000001	0.000000
60.	0.000000	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000000
75.	0.000000	0.000000	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000000
90.	0.000000	0.000000	0.000000	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000000
105.	0.000000	0.000000	0.000000	0.000000	0.000000	0.000001	0.000001	0.000001	0.000001	0.000000	0.000000
120.	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000001	0.000001	0.000001	0.000000	0.000000
135.	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000001	0.000001	0.000000	0.000000
150.	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000



CLIENT: BrightNight

PROJECT NO: Oregon Energy Facility Siting Council

DATE: December 2025

VERSION: 01

1ELECTRIC FIELD CALCULATIONS

Deschutes EMF Study

Using BPA CAFE31 Program

	DIST. FROM REFERENCE FEET	HEIGHT FEET	MAXIMUM GRADIENT (KV/CM)	SUBCON. DIAM. (IN)	NO. OF SUBCON.	PHASE ANGLE (DEGREES)
A1	-4.17	45.00	1.96	1.35	1	0.0
B1	-5.15	35.00	2.22	1.35	1	-120.0
C1	-4.17	25.00	1.97	1.35	1	120.0
A2	4.17	45.00	1.96	1.35	1	0.0
B2	5.15	35.00	2.22	1.35	1	-120.0
C2	4.17	25.00	1.97	1.35	1	120.0
G	0.66	54.30	0.90	0.75	1	0.0

SENSOR HT. = 3.3 FEET

DIST FROM

REFERENCE FEET	E-FIELD (KV/METER)	THETA (DEGREES)	EY-FIELD (KV/METER)	THETAY (DEGREES)	EX-FIELD (KV/METER)	THETAX (DEGREES)	SPACE POTENTIAL (VOLTS)
-200.0	0.009	88.3	0.009	158.4	0.000	157.4	8.7
-196.0	0.009	88.3	0.009	158.3	0.000	157.3	9.0
-192.0	0.009	88.3	0.009	158.3	0.000	157.2	9.3
-188.0	0.010	88.3	0.010	158.2	0.000	157.1	9.7
-184.0	0.010	88.2	0.010	158.2	0.000	157.0	10.0
-180.0	0.010	88.2	0.010	158.2	0.000	156.9	10.4
-176.0	0.011	88.2	0.011	158.1	0.000	156.8	10.8



CLIENT: BrightNight

PROJECT NO: Oregon Energy Facility Siting Council

DATE: December 2025

VERSION: 01

-172.0	0.011	88.2	0.011	158.1	0.000	156.7	11.3
-168.0	0.012	88.1	0.012	158.0	0.000	156.6	11.7
-164.0	0.012	88.1	0.012	157.9	0.000	156.4	12.2
-160.0	0.013	88.1	0.013	157.9	0.000	156.3	12.7
-156.0	0.013	88.0	0.013	157.8	0.000	156.1	13.2
-152.0	0.014	88.0	0.014	157.7	0.000	156.0	13.8
-148.0	0.014	88.0	0.014	157.7	0.001	155.8	14.4
-144.0	0.015	88.0	0.015	157.6	0.001	155.5	15.0
-140.0	0.016	88.0	0.016	157.5	0.001	155.3	15.7
-136.0	0.016	87.9	0.016	157.4	0.001	155.1	16.4
-132.0	0.017	87.9	0.017	157.3	0.001	154.8	17.1
-128.0	0.018	87.9	0.018	157.2	0.001	154.4	17.9
-124.0	0.019	87.9	0.019	157.0	0.001	154.1	18.7
-120.0	0.020	87.9	0.020	156.9	0.001	153.6	19.6
-116.0	0.020	87.9	0.020	156.8	0.001	153.2	20.5
-112.0	0.021	87.9	0.021	156.6	0.001	152.6	21.4
-108.0	0.022	88.0	0.022	156.4	0.001	151.9	22.3
-104.0	0.023	88.0	0.023	156.2	0.001	151.1	23.3
-100.0	0.024	88.1	0.024	156.0	0.001	150.1	24.3
-96.0	0.025	88.2	0.025	155.7	0.001	148.9	25.3
-92.0	0.026	88.4	0.026	155.5	0.001	147.1	26.2
-88.0	0.027	88.6	0.027	155.1	0.001	144.5	27.1
-84.0	0.028	88.9	0.028	154.8	0.001	139.9	27.9
-80.0	0.028	89.3	0.028	154.4	0.000	129.7	28.4
-76.0	0.029	89.8	0.029	154.0	0.000	88.9	28.7
-72.0	0.029	90.6	0.029	153.4	0.000	8.6	28.6
-68.0	0.028	91.8	0.028	152.9	0.001	-11.6	27.9
-64.0	0.027	93.7	0.027	152.2	0.002	-18.8	26.3
-60.0	0.024	96.9	0.024	151.4	0.003	-22.8	23.5
-56.0	0.020	102.9	0.020	150.3	0.005	-25.7	19.1



-52.0	0.015	117.4	0.013	148.8	0.007	-28.2	12.3
-48.0	0.010	161.8	0.003	142.5	0.010	-30.6	2.3
-44.0	0.018	37.6	0.011	-29.6	0.014	-32.9	12.3
-40.0	0.037	57.2	0.031	-32.3	0.020	-35.3	33.0
-36.0	0.066	64.9	0.060	-34.2	0.028	-37.8	62.1
-32.0	0.106	68.9	0.099	-36.0	0.038	-40.4	102.1
-28.0	0.161	71.5	0.152	-37.9	0.051	-43.1	156.1
-24.0	0.233	73.6	0.223	-39.9	0.066	-45.7	227.1
-20.0	0.323	75.5	0.313	-41.9	0.081	-48.2	316.5
-16.0	0.430	77.7	0.421	-43.8	0.092	-50.5	422.1
-12.0	0.545	80.3	0.538	-45.5	0.093	-52.3	535.5
-8.0	0.652	83.2	0.647	-46.8	0.077	-53.6	640.4
-4.0	0.728	86.5	0.727	-47.6	0.044	-54.3	715.8
0.0	0.756	90.0	0.756	-47.9	0.000	-12.5	743.3
4.0	0.728	93.5	0.727	-47.6	0.044	125.5	716.0
8.0	0.652	96.8	0.648	-46.8	0.077	126.3	640.9
12.0	0.546	99.7	0.538	-45.5	0.093	127.6	536.2
16.0	0.431	102.2	0.421	-43.8	0.092	129.5	423.0
20.0	0.324	104.4	0.314	-41.8	0.081	131.7	317.5
24.0	0.234	106.3	0.224	-39.7	0.066	134.2	228.3
28.0	0.162	108.3	0.154	-37.7	0.051	136.9	157.4
32.0	0.107	110.8	0.100	-35.7	0.038	139.6	103.4
36.0	0.067	114.6	0.061	-33.7	0.028	142.2	63.4
40.0	0.038	121.7	0.032	-31.5	0.020	144.7	34.3
44.0	0.019	139.4	0.012	-27.8	0.014	147.2	13.6
48.0	0.010	11.7	0.002	128.7	0.010	149.5	1.2
52.0	0.014	60.2	0.012	147.0	0.007	151.9	11.2
56.0	0.019	76.2	0.019	149.3	0.005	154.5	18.1
60.0	0.023	82.7	0.023	150.7	0.003	157.4	22.6
64.0	0.026	86.0	0.026	151.6	0.002	161.5	25.4



68.0	0.027	88.0	0.027	152.4	0.001	168.3	27.0
72.0	0.028	89.2	0.028	153.1	0.000	-174.0	27.8
76.0	0.028	90.1	0.028	153.6	0.000	-104.8	28.0
80.0	0.028	90.7	0.028	154.1	0.000	-54.8	27.8
84.0	0.027	91.1	0.027	154.5	0.001	-42.2	27.2
88.0	0.027	91.4	0.027	154.9	0.001	-36.9	26.5
92.0	0.026	91.6	0.026	155.2	0.001	-33.9	25.7
96.0	0.025	91.8	0.025	155.5	0.001	-31.9	24.8
100.0	0.024	91.9	0.024	155.8	0.001	-30.5	23.9
104.0	0.023	91.9	0.023	156.0	0.001	-29.4	22.9
108.0	0.022	92.0	0.022	156.2	0.001	-28.5	22.0
112.0	0.021	92.0	0.021	156.4	0.001	-27.8	21.0
116.0	0.020	92.1	0.020	156.6	0.001	-27.2	20.1
120.0	0.019	92.1	0.019	156.7	0.001	-26.7	19.3
124.0	0.018	92.1	0.018	156.9	0.001	-26.3	18.4
128.0	0.018	92.1	0.018	157.0	0.001	-25.9	17.7
132.0	0.017	92.1	0.017	157.1	0.001	-25.5	16.9
136.0	0.016	92.0	0.016	157.3	0.001	-25.2	16.2
140.0	0.015	92.0	0.015	157.4	0.001	-24.9	15.5
144.0	0.015	92.0	0.015	157.5	0.001	-24.7	14.8
148.0	0.014	92.0	0.014	157.5	0.000	-24.5	14.2
152.0	0.014	92.0	0.014	157.6	0.000	-24.3	13.6
156.0	0.013	91.9	0.013	157.7	0.000	-24.1	13.1
160.0	0.013	91.9	0.013	157.8	0.000	-23.9	12.6
164.0	0.012	91.9	0.012	157.8	0.000	-23.8	12.1
168.0	0.012	91.9	0.012	157.9	0.000	-23.6	11.6
172.0	0.011	91.8	0.011	158.0	0.000	-23.5	11.1
176.0	0.011	91.8	0.011	158.0	0.000	-23.3	10.7
180.0	0.010	91.8	0.010	158.1	0.000	-23.2	10.3
184.0	0.010	91.8	0.010	158.1	0.000	-23.1	9.9



188.0	0.010	91.7	0.010	158.2	0.000	-23.0	9.6
192.0	0.009	91.7	0.009	158.2	0.000	-22.9	9.2
196.0	0.009	91.7	0.009	158.2	0.000	-22.8	8.9

IMAGNETIC FIELD CALCULATIONS

SENSOR HT. = 3.3 FEET

DIST FROM

REFERENCE FEET	B-FIELD (GAUSS)	THETA	BY-FIELD (GAUSS)	THETAY	BX-FIELD (GAUSS)	THETAX
-200.0	0.00127278	18.3	0.00041350	-15.8	0.00120868	-31.9
-196.0	0.00132487	18.7	0.00043847	-16.0	0.00125543	-32.0
-192.0	0.00138018	19.1	0.00046548	-16.2	0.00130484	-32.0
-188.0	0.00143899	19.5	0.00049475	-16.4	0.00135712	-32.1
-184.0	0.00150160	19.9	0.00052653	-16.6	0.00141248	-32.2
-180.0	0.00156834	20.4	0.00056108	-16.9	0.00147116	-32.2
-176.0	0.00163958	20.8	0.00059870	-17.1	0.00153340	-32.3
-172.0	0.00171571	21.3	0.00063975	-17.3	0.00159950	-32.4
-168.0	0.00179720	21.8	0.00068461	-17.6	0.00166974	-32.5
-164.0	0.00188456	22.3	0.00073373	-17.8	0.00174447	-32.6
-160.0	0.00197834	22.9	0.00078763	-18.0	0.00182403	-32.7
-156.0	0.00207919	23.5	0.00084689	-18.3	0.00190884	-32.8
-152.0	0.00218783	24.1	0.00091218	-18.5	0.00199931	-32.9
-148.0	0.00230505	24.7	0.00098428	-18.8	0.00209592	-33.0
-144.0	0.00243178	25.4	0.00106407	-19.0	0.00219917	-33.1
-140.0	0.00256904	26.1	0.00115260	-19.3	0.00230961	-33.3
-136.0	0.00271803	26.9	0.00125106	-19.6	0.00242784	-33.4



CLIENT: BrightNight

PROJECT NO: Oregon Energy Facility Siting Council

DATE: December 2025

VERSION: 01

-132.0	0.00288006	27.7	0.00136085	-19.8	0.00255450	-33.6
-128.0	0.00305669	28.5	0.00148361	-20.1	0.00269029	-33.8
-124.0	0.00324967	29.4	0.00162125	-20.4	0.00283593	-34.0
-120.0	0.00346102	30.4	0.00177604	-20.7	0.00299220	-34.2
-116.0	0.00369310	31.4	0.00195064	-21.0	0.00315988	-34.5
-112.0	0.00394860	32.4	0.00214820	-21.3	0.00333978	-34.7
-108.0	0.00423069	33.6	0.00237248	-21.7	0.00353271	-35.0
-104.0	0.00454304	34.8	0.00262796	-22.0	0.00373937	-35.4
-100.0	0.00488998	36.2	0.00291999	-22.4	0.00396037	-35.7
-96.0	0.00527659	37.6	0.00325501	-22.8	0.00419611	-36.2
-92.0	0.00570885	39.2	0.00364078	-23.2	0.00444661	-36.6
-88.0	0.00619389	40.8	0.00408663	-23.6	0.00471135	-37.2
-84.0	0.00674017	42.6	0.00460389	-24.1	0.00498896	-37.8
-80.0	0.00735780	44.6	0.00520625	-24.5	0.00527681	-38.5
-76.0	0.00805891	46.7	0.00591030	-25.1	0.00557038	-39.4
-72.0	0.00885809	49.1	0.00673610	-25.7	0.00586245	-40.3
-68.0	0.00977292	51.7	0.00770780	-26.3	0.00614179	-41.5
-64.0	0.01082465	54.5	0.00885425	-27.0	0.00639149	-43.0
-60.0	0.01203899	57.7	0.01020944	-27.8	0.00658654	-44.8
-56.0	0.01344695	61.2	0.01181250	-28.6	0.00669067	-47.1
-52.0	0.01508578	65.0	0.01370666	-29.6	0.00665274	-50.3
-48.0	0.01699985	69.4	0.01593616	-30.7	0.00640411	-54.7
-44.0	0.01924106	74.3	0.01853917	-31.9	0.00586408	-61.7
-40.0	0.02186818	79.9	0.02153343	-33.4	0.00498645	-74.3
-36.0	0.02494386	86.2	0.02488889	-34.9	0.00402493	259.1
-32.0	0.02852657	93.4	0.02847878	-36.7	0.00446662	211.8
-28.0	0.03265313	101.6	0.03199844	-38.7	0.00798187	177.5
-24.0	0.03730469	111.1	0.03484733	-40.9	0.01423280	161.4
-20.0	0.04234794	122.0	0.03600358	-43.2	0.02290824	152.5
-16.0	0.04745291	134.5	0.03401655	-45.6	0.03349362	146.9



-12.0	0.05202338	148.6	0.02739601	-48.6	0.04448170	143.2
-8.0	0.05524087	164.0	0.01566937	-54.2	0.05311530	140.8
-4.0	0.05633660	-179.8	0.00272614	226.0	0.05633634	139.6
0.0	0.05500920	-163.7	0.01550523	145.0	0.05279915	139.4
4.0	0.05162395	-148.4	0.02706876	141.1	0.04395977	140.1
8.0	0.04697317	-134.4	0.03356139	140.6	0.03286732	141.6
12.0	0.04185966	-122.0	0.03550735	141.2	0.02218453	143.7
16.0	0.03685041	-111.1	0.03437836	142.1	0.01330901	146.9
20.0	0.03225094	-101.6	0.03158743	143.2	0.00659195	152.5
24.0	0.02817982	-93.4	0.02813005	144.2	0.00193768	174.5
28.0	0.02464879	-86.2	0.02459507	145.1	0.00184046	-62.9
32.0	0.02161837	-79.9	0.02128437	145.9	0.00385598	-45.2
36.0	0.01902969	-74.4	0.01832570	146.6	0.00516444	-40.5
40.0	0.01682067	-69.4	0.01575103	147.2	0.00592370	-38.0
44.0	0.01493336	-65.1	0.01354439	147.6	0.00630223	-36.4
48.0	0.01331674	-61.2	0.01166897	148.0	0.00642455	-35.3
52.0	0.01192725	-57.7	0.01008153	148.3	0.00637863	-34.4
56.0	0.01072830	-54.5	0.00873955	148.5	0.00622544	-33.7
60.0	0.00968943	-51.7	0.00760439	148.7	0.00600678	-33.2
64.0	0.00878541	-49.1	0.00664245	148.8	0.00575103	-32.7
68.0	0.00799535	-46.8	0.00582514	148.9	0.00547726	-32.3
72.0	0.00730197	-44.6	0.00512853	148.9	0.00519811	-32.0
76.0	0.00669091	-42.6	0.00453271	149.0	0.00492182	-31.7
80.0	0.00615026	-40.8	0.00402125	149.0	0.00465357	-31.5
84.0	0.00567005	-39.2	0.00358054	148.9	0.00439651	-31.3
88.0	0.00524195	-37.6	0.00319937	148.9	0.00415236	-31.1
92.0	0.00485896	-36.2	0.00286845	148.8	0.00392194	-30.9
96.0	0.00451516	-34.8	0.00258010	148.7	0.00370541	-30.8
100.0	0.00420555	-33.6	0.00232795	148.6	0.00350255	-30.7
104.0	0.00392586	-32.5	0.00210667	148.5	0.00331288	-30.6



108.0	0.00367247	-31.4	0.00191182	148.4	0.00313577	-30.5
112.0	0.00344227	-30.4	0.00173969	148.3	0.00297051	-30.4
116.0	0.00323257	-29.4	0.00158715	148.1	0.00281635	-30.3
120.0	0.00304105	-28.5	0.00145156	148.0	0.00267255	-30.2
124.0	0.00286573	-27.7	0.00133068	147.9	0.00253837	-30.2
128.0	0.00270487	-26.9	0.00122261	147.7	0.00241313	-30.1
132.0	0.00255693	-26.1	0.00112573	147.6	0.00229616	-30.1
136.0	0.00242061	-25.4	0.00103867	147.4	0.00218684	-30.0
140.0	0.00229473	-24.7	0.00096022	147.2	0.00208459	-30.0
144.0	0.00217827	-24.1	0.00088936	147.1	0.00198887	-30.0
148.0	0.00207032	-23.5	0.00082522	146.9	0.00189920	-29.9
152.0	0.00197010	-22.9	0.00076703	146.7	0.00181512	-29.9
156.0	0.00187689	-22.3	0.00071413	146.6	0.00173620	-29.9
160.0	0.00179005	-21.8	0.00066593	146.4	0.00166206	-29.9
164.0	0.00170904	-21.3	0.00062193	146.2	0.00159235	-29.8
168.0	0.00163334	-20.8	0.00058169	146.0	0.00152675	-29.8
172.0	0.00156250	-20.4	0.00054482	145.9	0.00146495	-29.8
176.0	0.00149613	-19.9	0.00051098	145.7	0.00140667	-29.8
180.0	0.00143385	-19.5	0.00047986	145.5	0.00135168	-29.8
184.0	0.00137535	-19.1	0.00045121	145.3	0.00129974	-29.8
188.0	0.00132032	-18.7	0.00042478	145.1	0.00125063	-29.7
192.0	0.00126850	-18.3	0.00040037	144.9	0.00120417	-29.7
196.0	0.00121964	-18.0	0.00037778	144.8	0.00116017	-29.7



1COMBINED OUTPUT OF AUDIBLE NOISE, RADIO NOISE, TVI, OZONE CONCENTRATION, GROUND GRADIENT AND MAGNETIC FIELD
 Deschutes EMF Study
 Using BPA CAFE31 Program

	DIST. FROM CENTER OF TOWER (FEET)	HEIGHT (FEET)	MAXIMUM GRADIENT (KV/CM)	SUBCON DIAM. (IN)	NO. OF SUBCON	SUBCON SPACING (IN)	VOLTAGE L-N (KV)	PHASE ANGLE (DEGREES)	CURRENT (kAmps)	CORONA LOSSES (KW/MI)
A1	-4.17	45.00	1.96	1.35	1	0.00	20.00	0.00	0.44	0.000
B1	-5.15	35.00	2.22	1.35	1	0.00	20.00	-120.00	0.44	0.000
C1	-4.17	25.00	1.97	1.35	1	0.00	20.00	120.00	0.44	0.000
A2	4.17	45.00	1.96	1.35	1	0.00	20.00	0.00	0.44	0.000
B2	5.15	35.00	2.22	1.35	1	0.00	20.00	-120.00	0.44	0.000
C2	4.17	25.00	1.97	1.35	1	0.00	20.00	120.00	0.44	0.000
G	0.66	54.30	0.90	0.75	1	0.00	0.00	0.00	0.00	0.000

AN MICROPHONE HT.= 4.9 FT, RI ANT. HT.= 6.6 FT, TV ANT. HT.= 9.8 FT, ALTITUDE= 2267.0 FT

RI FREQ= 1.000 MHZ, TV FREQ= 75.000 MHZ, WIND VEL.(OZ)= 2.000 MPH, GROUND CONDUCTIVITY = 6.3 MMHOS/M

E-FIELD TRANSDUCER HT.= 3.3FT, B-FIELD TRANSDUCER HT.= 3.3FT

LATERAL DIST FROM REFERENCE (FEET)	AUDIBLE NOISE (RAIN) (FAIR) L50 L50 DBA DBA		RADIO INTERFERENCE (RAIN) (FAIR) L50 L50 DBUV/M DBUV/M		TVI TOTAL RAIN DBUV/M	OZONE FOR RAIN RATE OF 2.00 IN/HR AT 0. FT LEVEL PPB	ELECTRIC FIELD KV/M	MAGNETIC FIELD GAUSS
-200.0	-60.9	-85.9	-58.7	-75.7	-89.5	0.000000	0.009	0.00127
-196.0	-60.8	-85.8	-58.5	-75.5	-89.3	0.000000	0.009	0.00132
-192.0	-60.7	-85.7	-58.2	-75.2	-89.1	0.000000	0.009	0.00138
-188.0	-60.6	-85.6	-58.0	-75.0	-89.0	0.000000	0.010	0.00144



-184.0	-60.5	-85.5	-57.7	-74.7	-88.8	0.000000	0.010	0.00150
-180.0	-60.4	-85.4	-57.4	-74.4	-88.6	0.000000	0.010	0.00157
-176.0	-60.3	-85.3	-57.1	-74.1	-88.4	0.000000	0.011	0.00164
-172.0	-60.2	-85.2	-56.9	-73.9	-88.2	0.000000	0.011	0.00172
-168.0	-60.0	-85.0	-56.6	-73.6	-88.0	0.000000	0.012	0.00180
-164.0	-59.9	-84.9	-56.2	-73.2	-87.8	0.000000	0.012	0.00188
-160.0	-59.8	-84.8	-55.9	-72.9	-87.5	0.000000	0.013	0.00198
-156.0	-59.7	-84.7	-55.6	-72.6	-87.3	0.000000	0.013	0.00208
-152.0	-59.6	-84.6	-55.3	-72.3	-87.1	0.000000	0.014	0.00219
-148.0	-59.4	-84.4	-54.9	-71.9	-86.9	0.000000	0.014	0.00231
-144.0	-59.3	-84.3	-54.5	-71.5	-86.6	0.000000	0.015	0.00243
-140.0	-59.2	-84.2	-54.2	-71.2	-86.4	0.000000	0.016	0.00257
-136.0	-59.0	-84.0	-53.8	-70.8	-86.1	0.000000	0.016	0.00272
-132.0	-58.9	-83.9	-53.4	-70.4	-85.9	0.000000	0.017	0.00288
-128.0	-58.7	-83.7	-52.9	-69.9	-85.6	0.000000	0.018	0.00306
-124.0	-58.6	-83.6	-52.5	-69.5	-85.3	0.000000	0.019	0.00325
-120.0	-58.4	-83.4	-52.0	-69.0	-85.0	0.000000	0.020	0.00346
-116.0	-58.2	-83.2	-51.6	-68.6	-84.7	0.000000	0.020	0.00369
-112.0	-58.1	-83.1	-51.1	-68.1	-84.4	0.000000	0.021	0.00395
-108.0	-57.9	-82.9	-50.5	-67.5	-84.1	0.000000	0.022	0.00423
-104.0	-57.7	-82.7	-50.0	-67.0	-83.8	0.000000	0.023	0.00454
-100.0	-57.5	-82.5	-49.4	-66.4	-83.5	0.000000	0.024	0.00489
-96.0	-57.3	-82.3	-48.8	-65.8	-83.1	0.000000	0.025	0.00528
-92.0	-57.1	-82.1	-48.2	-65.2	-82.8	0.000000	0.026	0.00571
-88.0	-56.9	-81.9	-47.6	-64.6	-82.4	0.000000	0.027	0.00619
-84.0	-56.7	-81.7	-46.9	-63.9	-82.0	0.000000	0.028	0.00674
-80.0	-56.5	-81.5	-46.2	-63.2	-81.6	0.000000	0.028	0.00736
-76.0	-56.3	-81.3	-45.5	-62.5	-81.2	0.000000	0.029	0.00806
-72.0	-56.0	-81.0	-44.7	-61.7	-80.7	0.000000	0.029	0.00886
-68.0	-55.8	-80.8	-43.8	-60.8	-80.2	0.000000	0.028	0.00977



-64.0	-55.5	-80.5	-43.0	-60.0	-79.8	0.000000	0.027	0.01082
-60.0	-55.2	-80.2	-42.1	-59.1	-79.2	0.000000	0.024	0.01204
-56.0	-55.0	-80.0	-41.1	-58.1	-78.7	0.000000	0.020	0.01345
-52.0	-54.7	-79.7	-40.1	-57.1	-78.1	0.000000	0.015	0.01509
-48.0	-54.4	-79.4	-39.1	-56.1	-77.6	0.000000	0.010	0.01700
-44.0	-54.0	-79.0	-38.0	-55.0	-76.9	0.000000	0.018	0.01924
-40.0	-53.7	-78.7	-36.8	-53.8	-76.3	0.000000	0.037	0.02187
-36.0	-53.4	-78.4	-35.7	-52.7	-75.6	0.000000	0.066	0.02494
-32.0	-53.0	-78.0	-34.5	-51.5	-74.9	0.000000	0.106	0.02853
-28.0	-52.7	-77.7	-33.3	-50.3	-74.3	0.000000	0.161	0.03265
-24.0	-52.4	-77.4	-32.2	-49.2	-73.6	0.000000	0.233	0.03730
-20.0	-52.0	-77.0	-31.1	-48.1	-72.9	0.000000	0.323	0.04235
-16.0	-51.8	-76.8	-30.2	-47.2	-72.4	0.000000	0.430	0.04745
-12.0	-51.6	-76.6	-29.6	-46.6	-72.0	0.000000	0.545	0.05202
-8.0	-51.4	-76.4	-29.2	-46.2	-71.7	0.000000	0.652	0.05524
-4.0	-51.4	-76.4	-29.1	-46.1	-71.7	0.000000	0.728	0.05634
0.0	-51.4	-76.4	-29.4	-46.4	-71.8	0.000000	0.756	0.05501
4.0	-51.6	-76.6	-29.9	-46.9	-72.2	0.000000	0.728	0.05162
8.0	-51.9	-76.9	-30.7	-47.7	-72.7	0.000000	0.652	0.04697
12.0	-52.2	-77.2	-31.7	-48.7	-73.3	0.000001	0.546	0.04186
16.0	-52.5	-77.5	-32.8	-49.8	-74.0	0.000001	0.431	0.03685
20.0	-52.8	-77.8	-34.0	-51.0	-74.7	0.000001	0.324	0.03225
24.0	-53.2	-78.2	-35.2	-52.2	-75.3	0.000002	0.234	0.02818
28.0	-53.5	-78.5	-36.4	-53.4	-76.0	0.000002	0.162	0.02465
32.0	-53.8	-78.8	-37.5	-54.5	-76.7	0.000002	0.107	0.02162
36.0	-54.2	-79.2	-38.6	-55.6	-77.3	0.000002	0.067	0.01903
40.0	-54.5	-79.5	-39.7	-56.7	-77.9	0.000002	0.038	0.01682
44.0	-54.8	-79.8	-40.7	-57.7	-78.5	0.000002	0.019	0.01493
48.0	-55.1	-80.1	-41.7	-58.7	-79.0	0.000002	0.010	0.01332
52.0	-55.4	-80.4	-42.6	-59.6	-79.5	0.000002	0.014	0.01193



56.0	-55.6	-80.6	-43.5	-60.5	-80.0	0.000002	0.019	0.01073
60.0	-55.9	-80.9	-44.3	-61.3	-80.5	0.000002	0.023	0.00969
64.0	-56.1	-81.1	-45.1	-62.1	-81.0	0.000002	0.026	0.00879
68.0	-56.4	-81.4	-45.9	-62.9	-81.4	0.000002	0.027	0.00800
72.0	-56.6	-81.6	-46.6	-63.6	-81.8	0.000002	0.028	0.00730
76.0	-56.8	-81.8	-47.3	-64.3	-82.2	0.000002	0.028	0.00669
80.0	-57.0	-82.0	-48.0	-65.0	-82.6	0.000002	0.028	0.00615
84.0	-57.2	-82.2	-48.6	-65.6	-83.0	0.000002	0.027	0.00567
88.0	-57.4	-82.4	-49.2	-66.2	-83.3	0.000002	0.027	0.00524
92.0	-57.6	-82.6	-49.8	-66.8	-83.7	0.000002	0.026	0.00486
96.0	-57.8	-82.8	-50.3	-67.3	-84.0	0.000002	0.025	0.00452
100.0	-58.0	-83.0	-50.8	-67.8	-84.3	0.000002	0.024	0.00421
104.0	-58.1	-83.1	-51.3	-68.3	-84.6	0.000001	0.023	0.00393
108.0	-58.3	-83.3	-51.8	-68.8	-84.9	0.000001	0.022	0.00367
112.0	-58.5	-83.5	-52.3	-69.3	-85.2	0.000001	0.021	0.00344
116.0	-58.6	-83.6	-52.7	-69.7	-85.5	0.000001	0.020	0.00323
120.0	-58.8	-83.8	-53.2	-70.2	-85.7	0.000001	0.019	0.00304
124.0	-58.9	-83.9	-53.6	-70.6	-86.0	0.000001	0.018	0.00287
128.0	-59.1	-84.1	-54.0	-71.0	-86.3	0.000001	0.018	0.00270
132.0	-59.2	-84.2	-54.4	-71.4	-86.5	0.000001	0.017	0.00256
136.0	-59.3	-84.3	-54.7	-71.7	-86.8	0.000001	0.016	0.00242
140.0	-59.5	-84.5	-55.1	-72.1	-87.0	0.000001	0.015	0.00229
144.0	-59.6	-84.6	-55.5	-72.5	-87.2	0.000001	0.015	0.00218
148.0	-59.7	-84.7	-55.8	-72.8	-87.4	0.000001	0.014	0.00207
152.0	-59.9	-84.9	-56.1	-73.1	-87.7	0.000001	0.014	0.00197
156.0	-60.0	-85.0	-56.4	-73.4	-87.9	0.000001	0.013	0.00188
160.0	-60.1	-85.1	-56.7	-73.7	-88.1	0.000001	0.013	0.00179
164.0	-60.2	-85.2	-57.0	-74.0	-88.3	0.000001	0.012	0.00171
168.0	-60.3	-85.3	-57.3	-74.3	-88.5	0.000001	0.012	0.00163
172.0	-60.4	-85.4	-57.6	-74.6	-88.7	0.000001	0.011	0.00156



176.0	-60.5	-85.5	-57.9	-74.9	-88.9	0.000001	0.011	0.00150
180.0	-60.6	-85.6	-58.1	-75.1	-89.1	0.000001	0.010	0.00143
184.0	-60.8	-85.8	-58.4	-75.4	-89.2	0.000001	0.010	0.00138
188.0	-60.9	-85.9	-58.6	-75.6	-89.4	0.000001	0.010	0.00132
192.0	-61.0	-86.0	-58.9	-75.9	-89.6	0.000001	0.009	0.00127
196.0	-61.0	-86.0	-59.1	-76.1	-89.8	0.000001	0.009	0.00122

1

