Exhibit AA

Electromagnetic Frequencies from Transmission Lines

Wagon Trail Solar Project
January 2022

Prepared for

NEXTera ENERGY RESOURCES

Prepared by

TETRA TECH

Tetra Tech, Inc.

Table of Contents

List of Tables

List of Figures

List of Attachments

Acronyms and Abbreviations

AC	alternating current
Applicant	Wheatridge East Wind, LLC c/o NextEra Energy Resources, LLC
CAFE	Corona and Field Effect Program, Version 3
EFSC, or Council	Oregon Energy Facility Siting Council
ELF	extremely low frequency
EMF	electric and magnetic fields
Facility	Wagon Trail Solar Project
FIELDS	FIELDS EMF Model, Southern California Edison Company
Hz	hertz
ICES	International Committee on Electromagnetic Safety
ICNIRP	International Commission on Non-Ionizing Radiation Protection
kcmil	thousand circular mil
kV	kilovolt
kV/m	kilovolts per meter
mG	milligauss
NIEHS	National Institute of Environmental Health Sciences
OAR	Oregon Administrative Rule

1.0 Introduction

Wheatridge East Wind, LLC c/o NextEra Energy Resources, LLC (Applicant) proposes to construct and operate the Wagon Trail Solar Project (Facility), a solar energy generation facility and related or supporting facilities in Morrow County, Oregon. This Exhibit AA was prepared to meet the submittal requirements in Oregon Administrative Rule (OAR) 345-021-0010(1)(aa).

1.1 Electric and Magnetic Field Background Information

Electric and magnetic fields (EMFs) occur both naturally and as a result of the generation, transmission, and use of electric power. The earth itself generates steady-state magnetic and electric fields. EMFs are present around any conductors or devices that transmit or use electrical energy. As a result, exposure to EMF is common near electrical appliances and equipment, building wiring, and electric distribution and transmission lines. The electrical power system in the United States is an alternating current (AC) system operating at a frequency of 60 hertz (Hz), resulting in "power frequency" or "extremely low frequency (ELF)" EMF. While electric and magnetic fields are often referred to and thought of collectively as EMF, each arises through a different mechanism and can have differing effects.

1.1.1 Electric Fields

Electric fields around transmission lines are produced by the presence of an electric charge, measured as voltage, on the energized conductor. Electric field strength is directly proportional to the line's voltage; that is, increased voltage produces a stronger electric field. The strength of the electric field is inversely proportional to the square of distance from the conductors; the electric field strength declines as the distance from the conductor increases. The strength of the electric field is measured in units of kilovolts per meter (kV/m). Electric fields are readily weakened or blocked by conductive objects such as trees or buildings. The direction of force within the electric field alternates at a frequency of 60 Hz, in direct relation to the charge on each conductor. However, the overall transmission line voltage, and therefore the overall strength and reach of the electric field, remains practically steady and is not affected by the common daily and seasonal fluctuations in usage of electricity by customers.

1.1.2 Magnetic Fields

Magnetic fields around transmission lines are produced by the movement of electrical charge, measured in terms of amperage, through the conductors. Like the electric field, the magnetic field alternates at a frequency of 60 Hz. Magnetic field strength is expressed in units of milligauss (mG). The magnetic field strength is directly proportional to the amperage; that is, increased current flow resulting from increased power flow through the line produces a stronger magnetic field. As with electric fields, the magnetic field is inversely proportional to the square of the distance from the conductors, declining in strength as the distance from the conductor increases. Magnetic fields are not blocked or shielded by most materials. Unlike voltage, the amperage and the resulting magnetic field around a transmission line fluctuate daily and seasonally as the usage of electricity varies and the resulting amount of current flow varies.

Each AC three-phase circuit carries power over three conductors. One phase of the circuit is carried by each of the three conductors. The AC voltage and current in each phase conductor is out of sync with the other two phases by 120 degrees, or one-third of the 360 degree cycle. The fields from each of these conductors tend to cancel each other out because of this phase difference. However, since the conductors are separated from each other, when a person stands under a transmission line, one conductor is somewhat closer than the others and will contribute a net uncanceled field at the person's location.

1.2 EMF Standards

No federal regulations or guidelines apply directly to the EMF levels for transmission lines. The National Institute of Environmental Health Sciences performed an extensive review of field-related issues in the 1990s that resulted in the decision that regulatory actions are unwarranted (NIEHS 1999). Although there are no federal regulations on power-frequency EMF in the United States, international recommendations and guidelines exist. Table AA-1 lists power-frequency EMF guidelines recommended by the European Union, the International Committee on Electromagnetic Safety (ICES), and the International Commission on Non-Ionizing Radiation Protection (ICNIRP), which is an affiliate of the World Health Organization (EU 1999; ICES 2002; ICNIRP 2010).

Table AA-1. International Guidelines for Alternating Current Power-Frequency EMF Levels

Agency	Exposure	Electric Field (kV/m)	Magnetic Field (mG)
European Union	General public	4.2	833
ICES[1]	Occupational	20	27,100
	General public	5	9,040
	General public within right-of-way	10	NA
ICNIRP	Occupational	8.3	10,000
	General public	4.2	2,000

Magnetic fields are measured in gauss (G) and milligauss. 1 G = 1,000 mG

NA = Not Applicable (no requirements)

1. ICES recommendations have been adopted as standards by the Institute of Electrical and Electronics Engineers (IEEE); see Standard C95.6 -2002 (R2007).

Transmission line projects in Oregon must comply with the electric field standard found in OAR 345-024-0090, which requires that the applicant design, construct, and operate the proposed transmission line so that AC electric fields do not exceed 9 kV/m at 1 meter above the ground surface in areas accessible to the public. There is no similar Oregon design standard for magnetic fields.

In the fall of 2009, the Oregon Energy Facility Siting Council (EFSC, or Council) commissioned a review of existing information to prepare for the review of several transmission lines under discussion at that time. That review was conducted by Dr. Kara Warner and presented to the Council on November 20, 2009, during a regular Council meeting. The prevailing conclusions were that there is a need to continue to monitor the science on EMF; that low-cost, prudent avoidance measures of public EMF exposure are appropriate; and that health-based limits are not appropriate given the scientific data available (EFSC 2009).

2.0 Proposed Transmission Lines

OAR 345-021-0010(1)(aa) Exhibit AA. If the proposed energy facility is a transmission line or has, as a related or supporting facility, a transmission line of any size:

(A) Information about the expected electric and magnetic fields, including:

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

The Facility, as proposed, includes the following:

- 34.5-kV underground collector lines, up to approximately 67.9 miles as part of the electrical collection system, carrying power from the solar arrays to a Facility substation.
- One 230-kV overhead transmission line, up to approximately 0.6 mile long, to connect the Facility's southern proposed collector substation to the existing Blue Ridge Substation.

There is no specific right-of-way width defined for the 34.5-kV collector lines and the 230-kV overhead transmission line. Both the collector system and the overhead transmission line will occupy private land pursuant to leases or easements with landowners or road authority; the leases will authorize placement of the cables and restrict inconsistent or competing uses of the property, but will not contain any defined right-of-way with a fixed width. Therefore, no new right-of-way will be required, and no existing right-of-way will be widened.

(ii) 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;

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

There are no known occupied buildings, residences, or other sensitive receptors within 200 feet of either the collector lines or the 230-kV overhead transmission line. The nearest residence is located over 1,000 feet from both underground collector lines and the 230-kV overhead transmission line.

2.1 Assumptions and Methods Used in the Analysis

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

The analysis results of the Bonneville Power Administration Corona and Field Effect Program, Version 3 (CAFE) model for the overhead transmission line configurations are provided in Attachment AA-1. The analysis results of the Southern California Edison FIELDS Model for the underground collector lines are provided in Attachment AA-2. Two different models were used because the Bonneville Power Administration CAFE model is not capable of modeling underground lines.

The modeling assumptions related to the Facility are intentionally conservative, producing worst-case EMF results. EMF levels under normal operating conditions would be lower than indicated by this analysis. The CAFE program default environmental parameters of 1 inch per hour precipitation and 2.0 miles per hour wind speed were used to model wet-weather conditions.

2.1.1 Underground Collector Lines

The entire 34.5-kV underground collector system is rated for a nominal voltage of 34.5-kV measured phase to phase. The peak line loading value assumed for each circuit is 50 megavolt amperes, or approximately 836 amperes per phase cable for each underground collector circuit. The underground 34.5-kV collector lines would consist of an insulated, stranded aluminum or copper conductor in a size range of 1/0 American wire gauge to 1,000 thousand circular mils (kcmils). The total diameter of the collector line cable is less than 3 inches. Figure AA-1 illustrates the typical underground configuration of the 34.5-kV distribution collector line. For an underground 34.5-kV circuit, the electric field is totally contained within the insulation of the cable and the soil over the line. Each cable has a semiconducting insulation shield and a grounded concentric neutral, made up of multiple strands of copper wire that encircle the cable just under the outer jacket. This means that the cable jacket has no measurable voltage to ground, or between other cable jackets. Because the electric field is contained within the buried cables or shielded by the earth, no electric field is measurable at the surface of the ground. Underground cables and the soil in which they are buried do not shield the magnetic fields generated in the conductors. Therefore, the net magnetic field of buried cables is measurable on the surface of the ground above the cables.

2.1.2 230-kV Overhead Transmission Line

The 230-kV overhead transmission line will be supported either by H-frame structures with two galvanized steel or wood poles, or by galvanized steel or wood monopole structures. The structures will rise to a height of approximately 70 to 180 feet above grade depending on design and terrain, and the conductors will have a minimum height above ground of 30 feet at midspan between the structures. Each phase will consist of two bundled conductors spaced horizontally. The transmission line will be within the site boundary but outside the solar array fence line. Figure AA-2 illustrates the typical configuration of the 230-kV overhead transmission line.

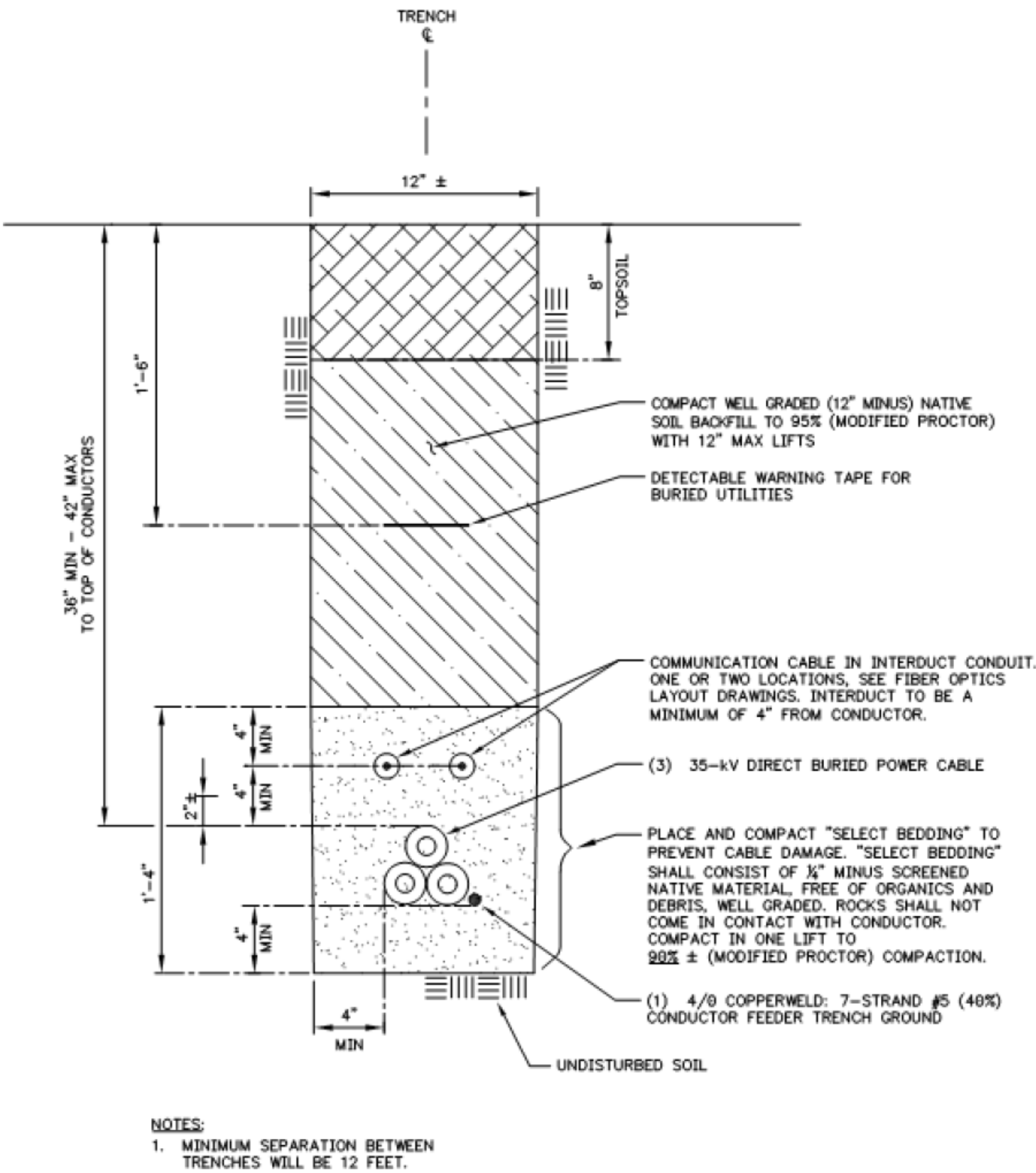

Figure AA-1. Typical Single-Circuit Underground 34.5-kV Collector Line Trench

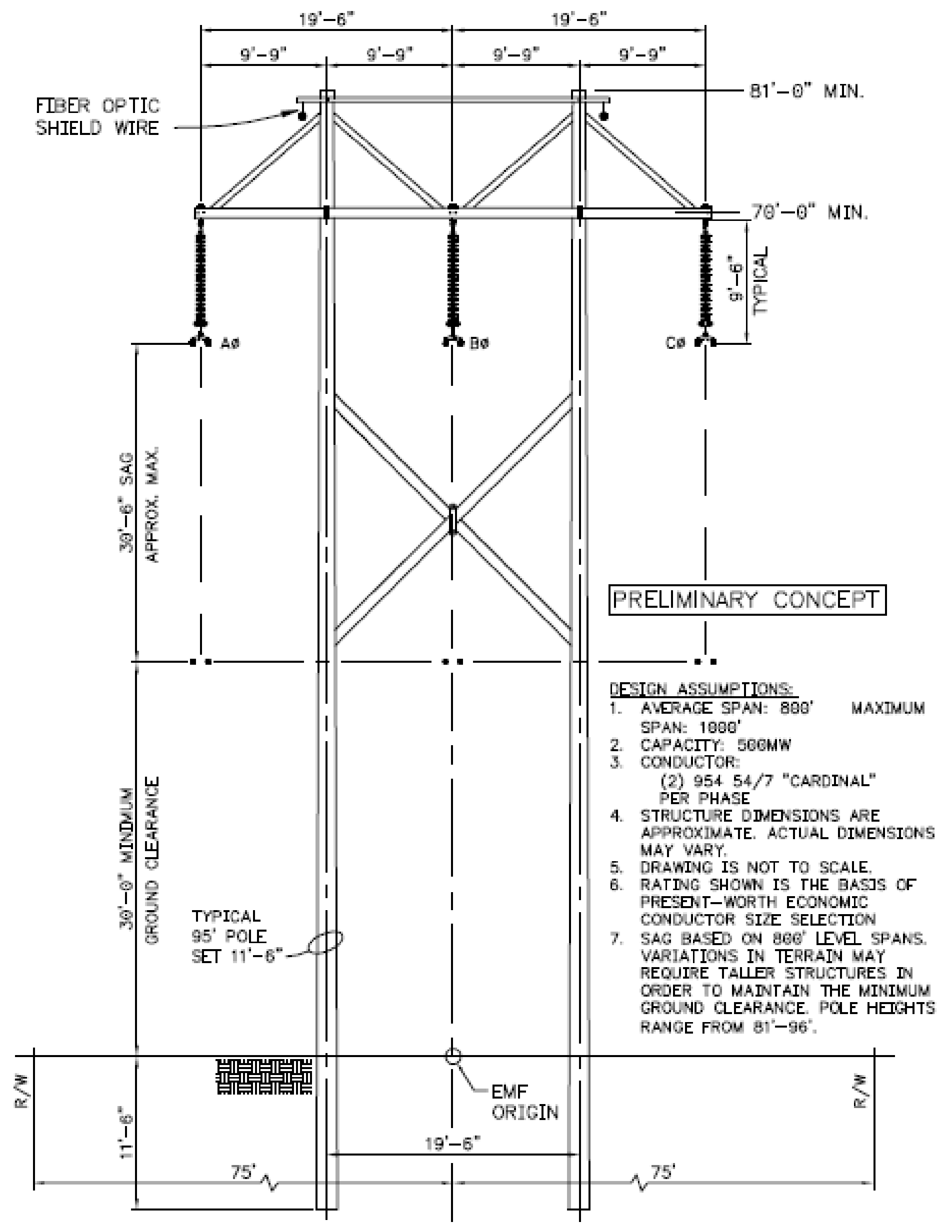

Figure AA-2. Typical 230-kV Overhead H-Frame Single-Circuit Wood, H-Frame Structure

2.1.3 Modeling Assumptions

Assumptions for modeling are shown in Table AA-2.

Table AA-2. Modeling Assumptions

Electrical Line	Feature Assumptions
Both	Height for magnetic and electric field measurements: 3.28 feet (1 meter)
34.5-kV Underground Collector Line	Amperage: 836 amps Soil resistivity: 100 ohm-meter Conductor diameter: 1 inch Ground wire diameter: 0.46 inch
230-kV Overhead Transmission Line	Conductor diameter and layout: 1.196 inch (954 thousand circular mill steel reinforced Cardinal conductors), two bundled conductors per phase separated by 12 inches. Height above ground: 30 feet (minimum clearance as shown in Figure AA-2)

2.2 Distance from Proposed Center Line

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

Both the underground collector lines and the 230-kV overhead transmission line are modeled to 200 feet from centerline in each direction.

2.3 Representative Field Strength along the Proposed Transmission Line

(iv) 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.

Table AA-3 shows calculated electric field values for the 230-kV overhead transmission line. Table AA-4 shows calculated magnetic field values for both the 34.5-kV underground collector line and the 230-kV overhead transmission line.

Table AA-3. Calculated Electric Field Values

Line Description[1, 2]	Figure	Electric Field (kV/m)		
		200 feet Left	Peak Value	200 feet Right
230-kV Overhead Transmission Line	AA-2 AA-3	0.046	3.434 (24 feet left and right of centerline)	0.049

1. 230-kV overhead transmission line is located within the boundaries of the Facility.
2. Underground cable configuration such that all electric fields are shielded within the cable and by the surrounding soil and therefore are not externally detectable.

Table AA-4. Calculated Magnetic Field Values

Line Description	Figure	Magnetic Field (mG)		
		200 feet Left	Peak Value	200 feet Right
34.5-kV Underground Collector Line	AA-1 AA-4	0.01	9.542 (on centerline)	0.01
230-kV Overhead Transmission Line	AA-2 AA-5	6.90	254.19 (on centerline)	7.19
Note: 34.5-kV underground collector lines and 230-kV overhead transmission line are located within the boundaries of the Facility.				

The results of the CAFE model presented above in Table AA-3 demonstrate that the proposed 230-kV overhead transmission line can be constructed and operated such that the AC electric field would not exceed 9 kV/m at 1 meter above the ground surface, as required by OAR 345-024-0090(1). See Figure AA-3 for the electric field graph for the 230-kV overhead transmission line, and Figures AA-4 and AA-5 for the magnetic field graphs for the 34.5-kV underground collector line and the 230-kV overhead transmission line, respectively.

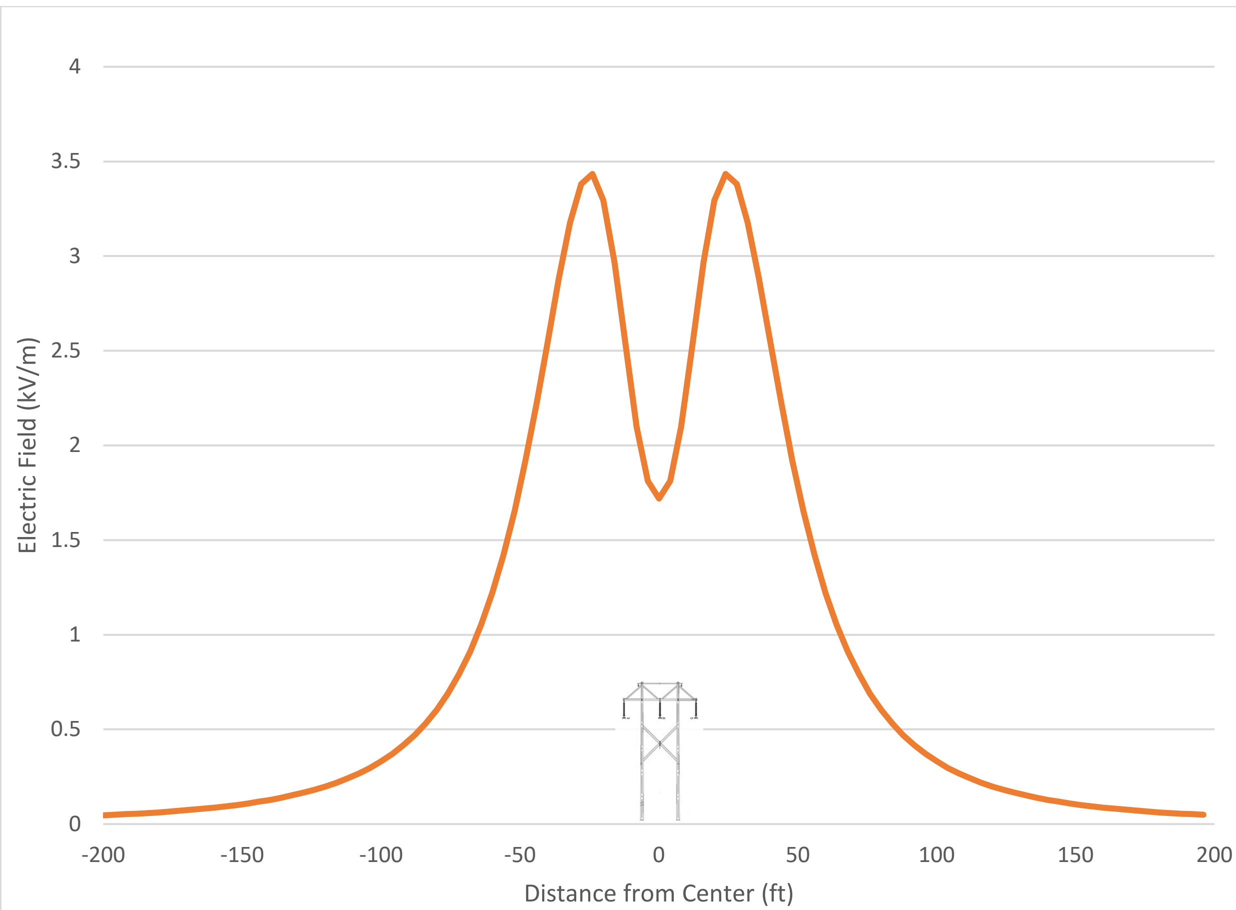

Figure AA-3. Electric Field Profile for 230-kV Overhead Interconnection Line

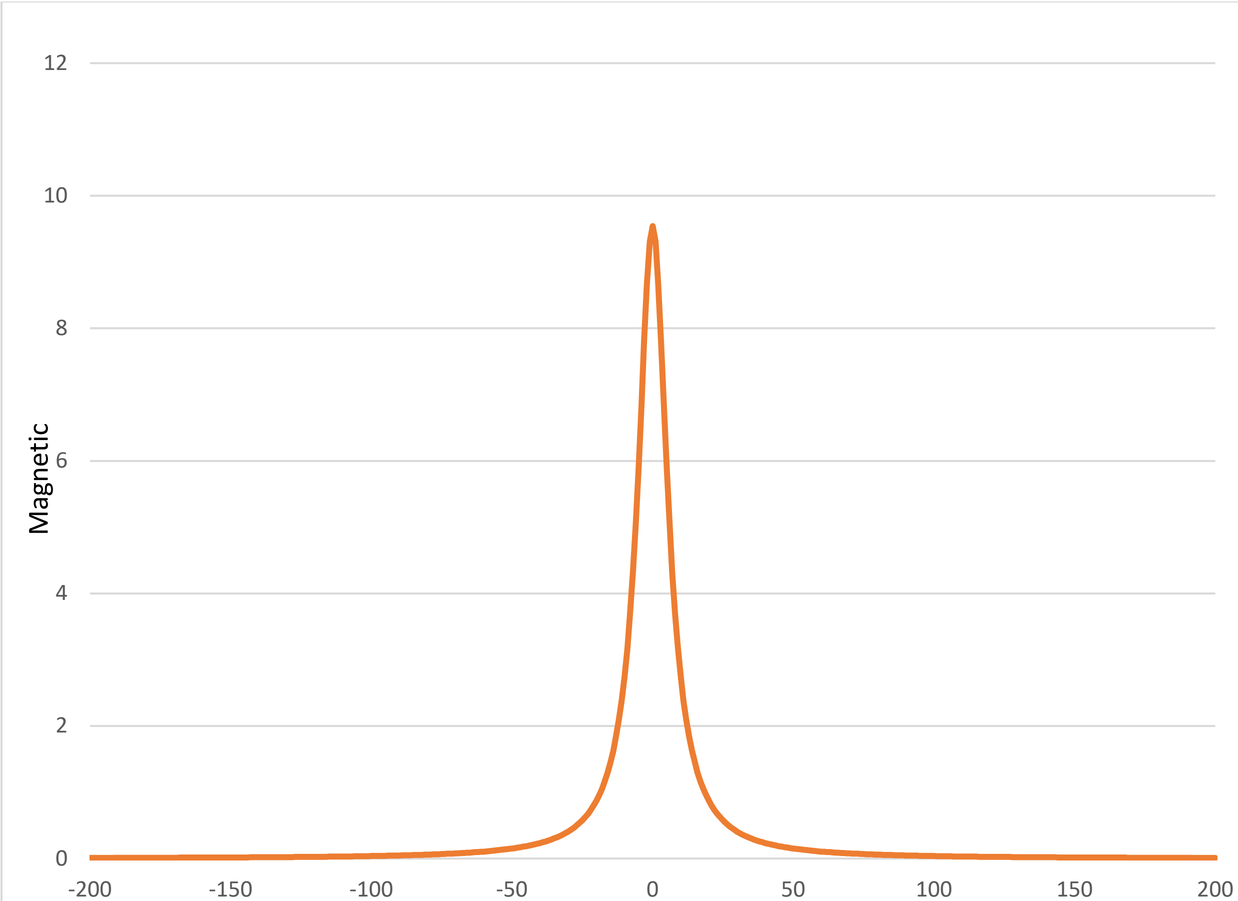

Figure AA-4. Magnetic Field Profile for 34.5-kV Underground Collector Line

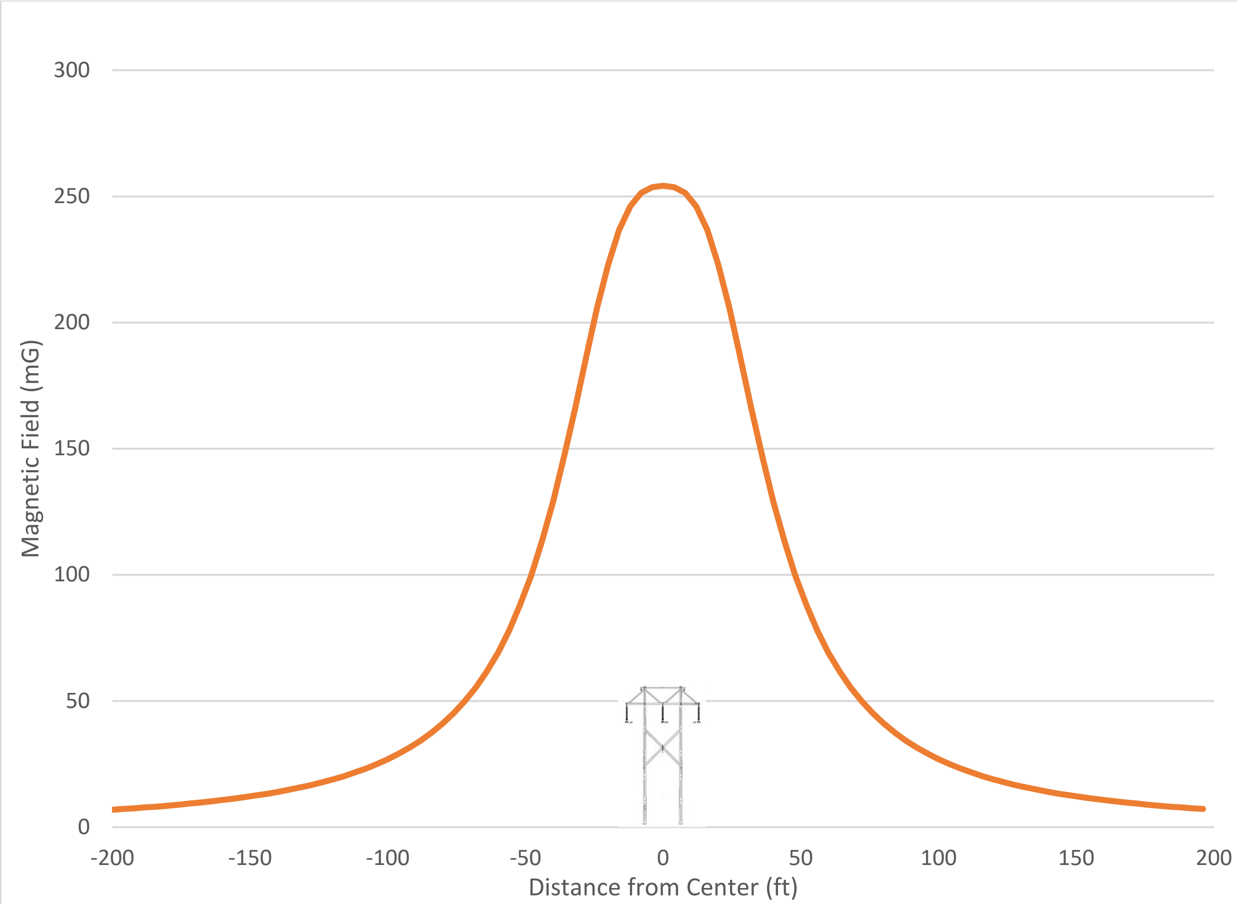

Figure AA-5. Magnetic Field Profile for 230-kV Overhead Interconnection Line

2.4 Mitigation Measures to Reduce Electric or Magnetic Fields

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

As the maximum electrical field modeled in Section 2.3 is lower than the 9-kV/m standard set forth in OAR 345-024-0090(1), no mitigation measures are proposed by the Applicant.

2.5 Proposed Monitoring Program

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

No program for monitoring actual EMF levels before or after construction is proposed at this time.

3.0 Radio and TV Interference

OAR 345-021-0010(1)(aa)(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.

There are no occupied buildings or residences within 200 feet on either side of the proposed centerline of the 230-kV overhead transmission line, which is not expected to generate any radio or TV interference at any occupied building. The 34.5-kV underground collector lines are located under the soil surface and will not generate radio or television interference.

4.0 Submittal Requirements and Approval Standards

4.1 Submittal Requirements

Table AA-5. Submittal Requirements Matrix

Requirement	Location
OAR 345-021-0010(1)(aa) Exhibit AA. If the proposed energy facility is a transmission line or has, as a related or supporting facility, a transmission line of any size:	–
(A) Information about the expected electric and magnetic fields, including:	Section 2.0
(i) 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
(ii) 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 2.0
(iii) The approximate distance in feet from the proposed center line to each structure identified in (A);	Section 2.0
(iv) 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 2.3
(v) Any measures the applicant proposes to reduce electric or magnetic field levels;	Section 2.4
(vi) The assumptions and methods used in the electric and magnetic field analysis, including the current in amperes on each proposed transmission line; and	Section 2.1
(vii) The applicant's proposed monitoring program, if any, for actual electric and magnetic field levels; and	Section 2.5
(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

4.2 Approval Standards

OAR 345 Division 21 does not provide an approval standard specific to Exhibit AA. However, compliance with OAR 345-024-0090 is demonstrated by the analysis above, as described in Exhibit DD.

5.0 References

EFSC (Oregon Energy Facility Siting Council), 2009. EMF Report: A Review of the Current Scientific Literature on Health Effects of Electric and Magnetic Fields. Oregon Department of Energy, Salem, OR.

EU (Council of the European Union). 1999. Council Recommendation of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields. Official Journal of the European Communities. 1999/199/59. Available online at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1999:199:0059:0070:EN:PDF

ICES (International Committee on Electromagnetic Safety). 2002. IEEE Standard for Safety Levels with Respect to Human Exposure to Electromagnetic Fields 0 to 3 kHz C95. 6-2002. Piscataway, New Jersey.

ICNIRP (International Commission on Non-Ionizing Radiation Protection). 2010. Guidelines for limiting exposure to time-varying electric and magnetic fields (1 Hz to 100 kHz). Health Physics, 2010.

NIEHS (National Institute of Environmental Health Sciences). 1999. Health effects from exposure to powerline frequency electric and magnetic fields. NIH; National Institute of Health; NIH No. 99-4493; Research Triangle Park, North Carolina.

Attachment AA-1. Results of the Bonneville Power Administration Corona and Field Effects Program for 230-kV H-Frame Overhead Transmission Lines

```
ÛßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßßÛ
Û       C O R O N A   A N D   F I E L D       Û
Û E F F E C T S   P R O G R A M   V E R. 3   Û
Û   Source: Bonneville Power Administration   Û
ÛÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÜÛ
```

INPUT DATA LIST

```
               11/19/2021          07:40:29
 WAGON TRAIL 230 KV H FRAME
 RUN 11/18/21
1,0, 3, 3,0.0,   2.00,   1.00,    .00

(ENGLISH UNITS OPTION)

(GRADIENTS ARE COMPUTED BY PROGRAM)

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

OPTIONS:  MF,EF
  4.921,  6.562,  9.842,   .000,  1.000, 75.000,  3.280,  6.700,  3.280
'230A    ','A',  -19.50,   30.00, 2,   1.196,  12.000, 132.800,    .000,   1.255,    .000
'230B    ','A',     .00,   30.00, 2,   1.196,  12.000, 132.800,-120.000,   1.255,    .000
'230C    ','A',   19.50,   30.00, 2,   1.196,  12.000, 132.800, 120.000,   1.255,    .000
100 -200.0    4.0
1ELECTRIC FIELD CALCULATIONS
```

WAGON TRAIL 230 KV H FRAME
RUN 11/18/21

	DIST. FROM REFERENCE FEET	HEIGHT FEET	MAXIMUM GRADIENT (KV/CM)	SUBCON. DIAM. (IN)	NO. OF SUBCON.	PHASE ANGLE (DEGREES)
230A	-19.50	30.00	10.27	1.20	2	.0
230B	.00	30.00	11.10	1.20	2	-120.0
230C	19.50	30.00	10.27	1.20	2	120.0

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	.046	87.3	.046	170.0	.002	167.1	45.8
-196.0	.049	87.2	.049	169.9	.002	167.1	48.6
-192.0	.052	87.2	.052	169.7	.003	167.0	51.6
-188.0	.055	87.1	.055	169.6	.003	167.0	54.8
-184.0	.058	87.0	.058	169.4	.003	167.0	58.3
-180.0	.062	87.0	.062	169.3	.003	166.9	62.2
-176.0	.066	86.9	.066	169.1	.004	166.9	66.3
-172.0	.071	86.8	.071	169.0	.004	166.9	70.9
-168.0	.076	86.8	.076	168.8	.004	166.9	75.9
-164.0	.081	86.7	.081	168.7	.005	166.9	81.3
-160.0	.087	86.6	.087	168.6	.005	166.9	87.3
-156.0	.094	86.5	.094	168.4	.006	166.9	93.9
-152.0	.101	86.4	.101	168.3	.006	166.9	101.2
-148.0	.109	86.4	.109	168.2	.007	166.9	109.3
-144.0	.118	86.3	.118	168.1	.008	166.9	118.2
-140.0	.128	86.2	.128	168.0	.009	167.0	128.2
-136.0	.139	86.0	.139	167.9	.010	167.0	139.3
-132.0	.152	85.9	.151	167.9	.011	167.1	151.7
-128.0	.166	85.8	.165	167.8	.012	167.1	165.6
-124.0	.181	85.7	.181	167.8	.014	167.2	181.2
-120.0	.199	85.6	.198	167.7	.015	167.3	198.9
-116.0	.219	85.4	.218	167.7	.017	167.4	218.8
-112.0	.242	85.3	.241	167.7	.020	167.5	241.5
-108.0	.268	85.1	.267	167.6	.023	167.6	267.4
-104.0	.297	85.0	.296	167.7	.026	167.8	297.0
-100.0	.331	84.8	.330	167.7	.030	167.9	331.1

-96.0	.371	84.6	.369	167.7	.035	168.1	370.3
-92.0	.416	84.5	.414	167.8	.040	168.2	415.8
-88.0	.469	84.3	.467	167.8	.047	168.4	468.8
-84.0	.531	84.1	.528	167.9	.055	168.6	530.6
-80.0	.604	83.9	.600	168.0	.064	168.7	603.2
-76.0	.689	83.7	.685	168.1	.076	168.9	688.6
-72.0	.791	83.5	.785	168.2	.090	169.0	789.4
-68.0	.910	83.3	.904	168.3	.107	169.1	908.8
-64.0	1.052	83.1	1.045	168.4	.126	169.2	1050.4
-60.0	1.221	83.0	1.212	168.5	.149	169.1	1218.1
-56.0	1.420	82.9	1.409	168.6	.176	168.9	1416.0
-52.0	1.653	82.9	1.640	168.6	.205	168.5	1647.6
-48.0	1.922	83.0	1.908	168.6	.233	167.7	1914.7
-44.0	2.225	83.3	2.210	168.4	.258	166.3	2214.9
-40.0	2.553	83.9	2.538	168.0	.270	163.6	2538.1
-36.0	2.883	84.9	2.871	167.3	.260	158.4	2862.1
-32.0	3.177	86.3	3.171	166.2	.218	146.6	3148.5
-28.0	3.381	88.2	3.380	164.2	.162	114.2	3342.8
-24.0	3.434	90.7	3.434	161.0	.203	58.9	3385.3
-20.0	3.294	93.6	3.288	155.8	.364	31.3	3235.3
-16.0	2.967	96.6	2.948	147.5	.541	19.1	2901.2
-12.0	2.526	99.0	2.497	134.4	.670	10.3	2458.9
-8.0	2.098	99.1	2.074	114.7	.725	.4	2035.9
-4.0	1.812	95.6	1.805	88.9	.724	-13.0	1753.1
.0	1.720	90.0	1.720	60.0	.713	-30.0	1659.2
4.0	1.812	84.4	1.805	31.1	.724	-47.0	1753.1
8.0	2.098	80.9	2.074	5.3	.725	-60.4	2035.9
12.0	2.526	81.0	2.497	-14.4	.670	-70.3	2458.9
16.0	2.967	83.4	2.948	-27.5	.541	-79.1	2901.2
20.0	3.294	86.4	3.288	-35.8	.364	-91.3	3235.3
24.0	3.434	89.3	3.434	-41.0	.203	-118.9	3385.3
28.0	3.381	91.8	3.380	-44.2	.162	-174.2	3342.8
32.0	3.177	93.7	3.171	-46.2	.218	153.4	3148.5
36.0	2.883	95.1	2.871	-47.3	.260	141.6	2862.1
40.0	2.553	96.1	2.538	-48.0	.270	136.4	2538.1
44.0	2.225	96.7	2.210	-48.4	.258	133.7	2214.9
48.0	1.922	97.0	1.908	-48.6	.233	132.3	1914.7
52.0	1.653	97.1	1.640	-48.6	.205	131.5	1647.6
56.0	1.420	97.1	1.409	-48.6	.176	131.1	1416.0
60.0	1.221	97.0	1.212	-48.5	.149	130.9	1218.1
64.0	1.052	96.9	1.045	-48.4	.126	130.8	1050.4
68.0	.910	96.7	.904	-48.3	.107	130.9	908.8
72.0	.791	96.5	.785	-48.2	.090	131.0	789.4
76.0	.689	96.3	.685	-48.1	.076	131.1	688.6
80.0	.604	96.1	.600	-48.0	.064	131.3	603.2
84.0	.531	95.9	.528	-47.9	.055	131.4	530.6
88.0	.469	95.7	.467	-47.8	.047	131.6	468.8
92.0	.416	95.5	.414	-47.8	.040	131.8	415.8
96.0	.371	95.4	.369	-47.7	.035	131.9	370.3
100.0	.331	95.2	.330	-47.7	.030	132.1	331.1
104.0	.297	95.0	.296	-47.7	.026	132.2	297.0
108.0	.268	94.9	.267	-47.6	.023	132.4	267.4
112.0	.242	94.7	.241	-47.7	.020	132.5	241.5
116.0	.219	94.6	.218	-47.7	.017	132.6	218.8
120.0	.199	94.4	.198	-47.7	.015	132.7	198.9
124.0	.181	94.3	.181	-47.8	.014	132.8	181.2
128.0	.166	94.2	.165	-47.8	.012	132.9	165.6
132.0	.152	94.1	.151	-47.9	.011	132.9	151.7
136.0	.139	94.0	.139	-47.9	.010	133.0	139.3
140.0	.128	93.8	.128	-48.0	.009	133.0	128.2
144.0	.118	93.7	.118	-48.1	.008	133.1	118.2
148.0	.109	93.6	.109	-48.2	.007	133.1	109.3
152.0	.101	93.6	.101	-48.3	.006	133.1	101.2
156.0	.094	93.5	.094	-48.4	.006	133.1	93.9
160.0	.087	93.4	.087	-48.6	.005	133.1	87.3
164.0	.081	93.3	.081	-48.7	.005	133.1	81.3
168.0	.076	93.2	.076	-48.8	.004	133.1	75.9
172.0	.071	93.2	.071	-49.0	.004	133.1	70.9
176.0	.066	93.1	.066	-49.1	.004	133.1	66.3
180.0	.062	93.0	.062	-49.3	.003	133.1	62.2
184.0	.058	93.0	.058	-49.4	.003	133.0	58.3
188.0	.055	92.9	.055	-49.6	.003	133.0	54.8

192.0	.052	92.8	.052	-49.7	.003	133.0	51.6
196.0	.049	92.8	.049	-49.9	.002	132.9	48.6

1MAGNETIC 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	.00690405	-74.6	.00665668	153.0	.00183226	-25.3
-196.0	.00718651	-74.3	.00691836	153.1	.00194556	-25.2
-192.0	.00748660	-74.0	.00719546	153.2	.00206837	-25.1
-188.0	.00780582	-73.6	.00748917	153.2	.00220169	-25.0
-184.0	.00814583	-73.3	.00780081	153.3	.00234668	-24.9
-180.0	.00850845	-72.9	.00813181	153.3	.00250463	-24.8
-176.0	.00889573	-72.5	.00848379	153.4	.00267702	-24.7
-172.0	.00930995	-72.1	.00885846	153.5	.00286552	-24.6
-168.0	.00975365	-71.7	.00925778	153.5	.00307206	-24.5
-164.0	.01022968	-71.2	.00968383	153.6	.00329882	-24.3
-160.0	.01074123	-70.7	.01013895	153.7	.00354833	-24.2
-156.0	.01129192	-70.2	.01062575	153.8	.00382349	-24.1
-152.0	.01188579	-69.7	.01114704	153.8	.00412767	-23.9
-148.0	.01252746	-69.1	.01170600	153.9	.00446476	-23.8
-144.0	.01322214	-68.5	.01230611	154.0	.00483929	-23.6
-140.0	.01397580	-67.9	.01295121	154.1	.00525656	-23.5
-136.0	.01479522	-67.3	.01364557	154.2	.00572277	-23.3
-132.0	.01568822	-66.6	.01439389	154.3	.00624524	-23.1
-128.0	.01666374	-65.8	.01520134	154.4	.00683259	-23.0
-124.0	.01773215	-65.0	.01607362	154.5	.00749509	-22.8
-120.0	.01890545	-64.2	.01701694	154.6	.00824494	-22.6
-116.0	.02019759	-63.3	.01803807	154.7	.00909679	-22.3
-112.0	.02162491	-62.3	.01914429	154.8	.01006823	-22.1
-108.0	.02320652	-61.2	.02034330	154.9	.01118055	-21.9
-104.0	.02496497	-60.1	.02164311	155.0	.01245959	-21.6
-100.0	.02692694	-58.9	.02305174	155.0	.01393688	-21.4
-96.0	.02912414	-57.5	.02457679	155.1	.01565110	-21.1
-92.0	.03159438	-56.1	.02622463	155.2	.01764991	-20.8
-88.0	.03438305	-54.5	.02799927	155.3	.01999225	-20.5
-84.0	.03754469	-52.8	.02990039	155.3	.02275131	-20.2
-80.0	.04114522	-50.8	.03192040	155.3	.02601825	-19.8
-76.0	.04526435	-48.7	.03403977	155.2	.02990665	-19.5
-72.0	.04999867	-46.4	.03621991	155.1	.03455791	-19.2
-68.0	.05546510	-43.7	.03839220	154.9	.04014717	-18.8
-64.0	.06180442	-40.7	.04044144	154.5	.04688887	-18.4
-60.0	.06918447	-37.4	.04218147	153.9	.05503984	-18.1
-56.0	.07780148	-33.6	.04332096	152.8	.06489534	-17.8
-52.0	.08787687	-29.2	.04342047	151.1	.07676874	-17.5
-48.0	.09964414	-24.2	.04185516	148.2	.09093767	-17.3
-44.0	.11331810	-18.5	.03785258	142.6	.10752920	-17.2
-40.0	.12903330	-11.9	.03093585	130.5	.12630710	-17.3
-36.0	.14674060	-4.3	.02372153	99.2	.14633760	-17.7
-32.0	.16606260	4.4	.03023062	47.3	.16559160	-18.7
-28.0	.18615310	14.1	.05712319	19.7	.18074040	-20.4
-24.0	.20566670	24.8	.09583561	8.2	.18765840	-23.4
-20.0	.22297760	36.2	.13973680	1.7	.18308400	-28.5
-16.0	.23666170	47.9	.18195690	-3.3	.16703410	-36.7
-12.0	.24601690	59.5	.21616360	-8.5	.14434800	-49.9
-8.0	.25131150	70.4	.23894130	-14.6	.12336120	-69.2
-4.0	.25361340	80.5	.25074260	-21.8	.11078000	266.4
.0	.25418740	90.0	.25418740	-30.0	.10710050	240.0
4.0	.25361340	99.5	.25074260	-38.2	.11078000	213.6
8.0	.25131150	109.6	.23894130	-45.4	.12336130	189.2
12.0	.24601690	120.5	.21616360	-51.5	.14434800	169.9
16.0	.23666170	132.1	.18195690	-56.7	.16703410	156.7
20.0	.22297760	143.8	.13973680	-61.7	.18308400	148.5
24.0	.20566670	155.2	.09583559	-68.2	.18765840	143.4
28.0	.18615320	165.9	.05712317	-79.7	.18074040	140.4
32.0	.16606270	175.6	.03023061	252.7	.16559170	138.7
36.0	.14674060	-175.7	.02372155	200.8	.14633760	137.7

40.0	.12903330	-168.1	.03093588	169.5	.12630710	137.3
44.0	.11331810	-161.5	.03785260	157.4	.10752920	137.2
48.0	.09964417	-155.8	.04185519	151.8	.09093769	137.3
52.0	.08787689	-150.8	.04342049	148.9	.07676875	137.5
56.0	.07780151	-146.4	.04332099	147.2	.06489535	137.8
60.0	.06918449	-142.6	.04218148	146.1	.05503985	138.1
64.0	.06180444	-139.3	.04044146	145.5	.04688888	138.4
68.0	.05546511	-136.3	.03839221	145.1	.04014718	138.8
72.0	.04999869	-133.6	.03621993	144.9	.03455791	139.2
76.0	.04526437	-131.3	.03403979	144.8	.02990665	139.5
80.0	.04114524	-129.2	.03192042	144.7	.02601826	139.8
84.0	.03754472	-127.2	.02990041	144.7	.02275132	140.2
88.0	.03438307	-125.5	.02799929	144.7	.01999226	140.5
92.0	.03159440	-123.9	.02622465	144.8	.01764992	140.8
96.0	.02912415	-122.5	.02457680	144.9	.01565111	141.1
100.0	.02692696	-121.1	.02305176	145.0	.01393688	141.4
104.0	.02496499	-119.9	.02164313	145.0	.01245959	141.6
108.0	.02320653	-118.8	.02034331	145.1	.01118055	141.9
112.0	.02162493	-117.7	.01914431	145.2	.01006824	142.1
116.0	.02019761	-116.7	.01803809	145.3	.00909679	142.3
120.0	.01890546	-115.8	.01701696	145.4	.00824494	142.6
124.0	.01773216	-115.0	.01607363	145.5	.00749509	142.8
128.0	.01666376	-114.2	.01520136	145.6	.00683259	143.0
132.0	.01568823	-113.4	.01439390	145.7	.00624524	143.1
136.0	.01479524	-112.7	.01364558	145.8	.00572277	143.3
140.0	.01397581	-112.1	.01295122	145.9	.00525656	143.5
144.0	.01322216	-111.5	.01230612	146.0	.00483929	143.6
148.0	.01252747	-110.9	.01170602	146.1	.00446476	143.8
152.0	.01188580	-110.3	.01114705	146.2	.00412768	143.9
156.0	.01129193	-109.8	.01062576	146.2	.00382350	144.1
160.0	.01074124	-109.3	.01013896	146.3	.00354833	144.2
164.0	.01022969	-108.8	.00968384	146.4	.00329882	144.3
168.0	.00975366	-108.3	.00925779	146.5	.00307206	144.5
172.0	.00930996	-107.9	.00885848	146.5	.00286552	144.6
176.0	.00889574	-107.5	.00848380	146.6	.00267702	144.7
180.0	.00850846	-107.1	.00813183	146.7	.00250463	144.8
184.0	.00814584	-106.7	.00780081	146.7	.00234668	144.9
188.0	.00780583	-106.4	.00748918	146.8	.00220169	145.0
192.0	.00748661	-106.0	.00719547	146.8	.00206837	145.1
196.0	.00718651	-105.7	.00691837	146.9	.00194556	145.2

1

Attachment AA-2. Results of the Southern California Edison FIELDS Model for 34.5-kV Underground Collector Line

WAGON TRAIL SOLAR
34.5 KV UNDERGROUND
WT345D.FLD

Electric Field cannot be computed for underground circuit

DIST (Ft)	B Horz (mG)	B Vert (mG)	B PROD (mG)	B MAX (mG)
-200.00	0.010	0.009	0.013	0.010
-199.00	0.010	0.010	0.014	0.010
-198.00	0.010	0.010	0.014	0.010
-197.00	0.010	0.010	0.014	0.010
-196.00	0.010	0.010	0.014	0.010
-195.00	0.010	0.010	0.014	0.010
-194.00	0.010	0.010	0.014	0.010
-193.00	0.010	0.010	0.014	0.010
-192.00	0.010	0.010	0.015	0.010
-191.00	0.011	0.010	0.015	0.011
-190.00	0.011	0.011	0.015	0.011
-189.00	0.011	0.011	0.015	0.011
-188.00	0.011	0.011	0.015	0.011
-187.00	0.011	0.011	0.015	0.011
-186.00	0.011	0.011	0.016	0.011
-185.00	0.011	0.011	0.016	0.011
-184.00	0.011	0.011	0.016	0.011
-183.00	0.011	0.011	0.016	0.011
-182.00	0.012	0.011	0.016	0.012
-181.00	0.012	0.012	0.016	0.012
-180.00	0.012	0.012	0.017	0.012
-179.00	0.012	0.012	0.017	0.012
-178.00	0.012	0.012	0.017	0.012
-177.00	0.012	0.012	0.017	0.012
-176.00	0.012	0.012	0.017	0.012
-175.00	0.013	0.012	0.018	0.013
-174.00	0.013	0.013	0.018	0.013
-173.00	0.013	0.013	0.018	0.013
-172.00	0.013	0.013	0.018	0.013
-171.00	0.013	0.013	0.018	0.013
-170.00	0.013	0.013	0.019	0.013
-169.00	0.013	0.013	0.019	0.013
-168.00	0.014	0.013	0.019	0.014
-167.00	0.014	0.014	0.019	0.014
-166.00	0.014	0.014	0.020	0.014
-165.00	0.014	0.014	0.020	0.014
-164.00	0.014	0.014	0.020	0.014
-163.00	0.014	0.014	0.020	0.014
-162.00	0.015	0.014	0.021	0.015
-161.00	0.015	0.015	0.021	0.015
-160.00	0.015	0.015	0.021	0.015

-159.00	0.015	0.015	0.021	0.015
-158.00	0.015	0.015	0.022	0.015
-157.00	0.016	0.015	0.022	0.016
-156.00	0.016	0.016	0.022	0.016
-155.00	0.016	0.016	0.022	0.016
-154.00	0.016	0.016	0.023	0.016
-153.00	0.016	0.016	0.023	0.016
-152.00	0.017	0.016	0.023	0.017
-151.00	0.017	0.017	0.024	0.017
-150.00	0.017	0.017	0.024	0.017
-149.00	0.017	0.017	0.024	0.017
-148.00	0.017	0.017	0.025	0.017
-147.00	0.018	0.018	0.025	0.018
-146.00	0.018	0.018	0.025	0.018
-145.00	0.018	0.018	0.026	0.018
-144.00	0.018	0.018	0.026	0.018
-143.00	0.019	0.019	0.026	0.019
-142.00	0.019	0.019	0.027	0.019
-141.00	0.019	0.019	0.027	0.019
-140.00	0.020	0.019	0.028	0.020
-139.00	0.020	0.020	0.028	0.020
-138.00	0.020	0.020	0.028	0.020
-137.00	0.020	0.020	0.029	0.020
-136.00	0.021	0.021	0.029	0.021
-135.00	0.021	0.021	0.030	0.021
-134.00	0.021	0.021	0.030	0.021
-133.00	0.022	0.021	0.030	0.022
-132.00	0.022	0.022	0.031	0.022
-131.00	0.022	0.022	0.031	0.022
-130.00	0.023	0.022	0.032	0.023
-129.00	0.023	0.023	0.032	0.023
-128.00	0.023	0.023	0.033	0.023
-127.00	0.024	0.024	0.033	0.024
-126.00	0.024	0.024	0.034	0.024
-125.00	0.025	0.024	0.034	0.025
-124.00	0.025	0.025	0.035	0.025
-123.00	0.025	0.025	0.036	0.025
-122.00	0.026	0.025	0.036	0.026
-121.00	0.026	0.026	0.037	0.026
-120.00	0.027	0.026	0.037	0.027
-119.00	0.027	0.027	0.038	0.027
-118.00	0.027	0.027	0.039	0.027
-117.00	0.028	0.028	0.039	0.028
-116.00	0.028	0.028	0.040	0.028
-115.00	0.029	0.029	0.041	0.029
-114.00	0.029	0.029	0.041	0.029
-113.00	0.030	0.030	0.042	0.030
-112.00	0.031	0.030	0.043	0.031
-111.00	0.031	0.031	0.044	0.031
-110.00	0.032	0.031	0.045	0.032

-109.00	0.032	0.032	0.045	0.032
-108.00	0.033	0.032	0.046	0.033
-107.00	0.033	0.033	0.047	0.033
-106.00	0.034	0.034	0.048	0.034
-105.00	0.035	0.034	0.049	0.035
-104.00	0.035	0.035	0.050	0.035
-103.00	0.036	0.036	0.051	0.036
-102.00	0.037	0.036	0.052	0.037
-101.00	0.037	0.037	0.053	0.037
-100.00	0.038	0.038	0.054	0.038
-99.00	0.039	0.039	0.055	0.039
-98.00	0.040	0.039	0.056	0.040
-97.00	0.041	0.040	0.057	0.041
-96.00	0.041	0.041	0.058	0.041
-95.00	0.042	0.042	0.060	0.042
-94.00	0.043	0.043	0.061	0.043
-93.00	0.044	0.044	0.062	0.044
-92.00	0.045	0.045	0.064	0.045
-91.00	0.046	0.046	0.065	0.046
-90.00	0.047	0.047	0.066	0.047
-89.00	0.048	0.048	0.068	0.048
-88.00	0.049	0.049	0.069	0.049
-87.00	0.050	0.050	0.071	0.050
-86.00	0.052	0.051	0.073	0.052
-85.00	0.053	0.052	0.074	0.053
-84.00	0.054	0.054	0.076	0.054
-83.00	0.055	0.055	0.078	0.055
-82.00	0.057	0.056	0.080	0.057
-81.00	0.058	0.058	0.082	0.058
-80.00	0.060	0.059	0.084	0.060
-79.00	0.061	0.061	0.086	0.061
-78.00	0.063	0.062	0.088	0.063
-77.00	0.064	0.064	0.091	0.064
-76.00	0.066	0.065	0.093	0.066
-75.00	0.068	0.067	0.095	0.068
-74.00	0.070	0.069	0.098	0.070
-73.00	0.072	0.071	0.101	0.072
-72.00	0.073	0.073	0.103	0.074
-71.00	0.076	0.075	0.106	0.076
-70.00	0.078	0.077	0.109	0.078
-69.00	0.080	0.079	0.113	0.080
-68.00	0.082	0.081	0.116	0.082
-67.00	0.085	0.084	0.119	0.085
-66.00	0.087	0.086	0.123	0.087
-65.00	0.090	0.089	0.127	0.090
-64.00	0.093	0.092	0.131	0.093
-63.00	0.096	0.095	0.135	0.096
-62.00	0.099	0.098	0.139	0.099
-61.00	0.102	0.101	0.144	0.102
-60.00	0.105	0.104	0.148	0.105

-59.00	0.109	0.108	0.153	0.109
-58.00	0.113	0.112	0.159	0.113
-57.00	0.117	0.116	0.164	0.117
-56.00	0.121	0.120	0.170	0.121
-55.00	0.125	0.124	0.176	0.125
-54.00	0.130	0.129	0.183	0.130
-53.00	0.135	0.133	0.190	0.135
-52.00	0.140	0.138	0.197	0.140
-51.00	0.145	0.144	0.205	0.145
-50.00	0.151	0.150	0.213	0.151
-49.00	0.157	0.156	0.221	0.157
-48.00	0.164	0.162	0.230	0.164
-47.00	0.171	0.169	0.240	0.171
-46.00	0.178	0.176	0.251	0.178
-45.00	0.186	0.184	0.262	0.186
-44.00	0.194	0.192	0.273	0.194
-43.00	0.203	0.201	0.286	0.203
-42.00	0.213	0.211	0.299	0.213
-41.00	0.223	0.221	0.314	0.223
-40.00	0.234	0.232	0.329	0.234
-39.00	0.246	0.243	0.346	0.246
-38.00	0.259	0.256	0.364	0.259
-37.00	0.272	0.270	0.383	0.273
-36.00	0.287	0.284	0.404	0.287
-35.00	0.303	0.300	0.427	0.304
-34.00	0.321	0.318	0.452	0.321
-33.00	0.340	0.337	0.478	0.340
-32.00	0.361	0.357	0.507	0.361
-31.00	0.383	0.380	0.539	0.384
-30.00	0.408	0.404	0.574	0.408
-29.00	0.435	0.431	0.613	0.436
-28.00	0.465	0.461	0.655	0.466
-27.00	0.499	0.494	0.702	0.499
-26.00	0.536	0.531	0.754	0.536
-25.00	0.577	0.571	0.812	0.577
-24.00	0.622	0.617	0.876	0.623
-23.00	0.674	0.668	0.949	0.675
-22.00	0.731	0.725	1.030	0.733
-21.00	0.797	0.790	1.122	0.798
-20.00	0.871	0.864	1.226	0.873
-19.00	0.955	0.948	1.346	0.957
-18.00	1.052	1.044	1.482	1.055
-17.00	1.163	1.156	1.640	1.167
-16.00	1.292	1.285	1.822	1.297
-15.00	1.442	1.435	2.035	1.448
-14.00	1.618	1.612	2.284	1.626
-13.00	1.825	1.821	2.578	1.836
-12.00	2.071	2.070	2.928	2.085
-11.00	2.363	2.367	3.345	2.383
-10.00	2.713	2.724	3.844	2.740

-9.00	3.132	3.155	4.445	3.170
-8.00	3.634	3.675	5.168	3.686
-7.00	4.234	4.299	6.034	4.306
-6.00	4.945	5.038	7.059	5.040
-5.00	5.770	5.889	8.244	5.889
-4.00	6.696	6.819	9.557	6.831
-3.00	7.675	7.750	10.907	7.801
-2.00	8.597	8.560	12.132	8.681
-1.00	9.284	9.112	13.008	9.311
0.00	9.542	9.307	13.329	9.542
1.00	9.284	9.112	13.008	9.311
2.00	8.597	8.560	12.132	8.681
3.00	7.675	7.750	10.907	7.801
4.00	6.696	6.819	9.557	6.831
5.00	5.770	5.889	8.244	5.889
6.00	4.945	5.038	7.059	5.040
7.00	4.234	4.299	6.034	4.306
8.00	3.634	3.675	5.168	3.686
9.00	3.132	3.155	4.445	3.170
10.00	2.713	2.724	3.844	2.740
11.00	2.363	2.367	3.345	2.383
12.00	2.071	2.070	2.928	2.085
13.00	1.825	1.821	2.578	1.836
14.00	1.618	1.612	2.284	1.626
15.00	1.442	1.435	2.035	1.448
16.00	1.292	1.285	1.822	1.297
17.00	1.163	1.156	1.640	1.167
18.00	1.052	1.044	1.482	1.055
19.00	0.955	0.948	1.346	0.957
20.00	0.871	0.864	1.226	0.873
21.00	0.797	0.790	1.122	0.798
22.00	0.731	0.725	1.030	0.733
23.00	0.674	0.668	0.949	0.675
24.00	0.622	0.617	0.876	0.623
25.00	0.577	0.571	0.812	0.577
26.00	0.536	0.531	0.754	0.536
27.00	0.499	0.494	0.702	0.499
28.00	0.465	0.461	0.655	0.466
29.00	0.435	0.431	0.613	0.436
30.00	0.408	0.404	0.574	0.408
31.00	0.383	0.380	0.539	0.384
32.00	0.361	0.357	0.507	0.361
33.00	0.340	0.337	0.478	0.340
34.00	0.321	0.318	0.452	0.321
35.00	0.303	0.300	0.427	0.304
36.00	0.287	0.284	0.404	0.287
37.00	0.272	0.270	0.383	0.273
38.00	0.259	0.256	0.364	0.259
39.00	0.246	0.243	0.346	0.246
40.00	0.234	0.232	0.329	0.234

41.00	0.223	0.221	0.314	0.223
42.00	0.213	0.211	0.299	0.213
43.00	0.203	0.201	0.286	0.203
44.00	0.194	0.192	0.273	0.194
45.00	0.186	0.184	0.262	0.186
46.00	0.178	0.176	0.251	0.178
47.00	0.171	0.169	0.240	0.171
48.00	0.164	0.162	0.230	0.164
49.00	0.157	0.156	0.221	0.157
50.00	0.151	0.150	0.213	0.151
51.00	0.145	0.144	0.205	0.145
52.00	0.140	0.138	0.197	0.140
53.00	0.135	0.133	0.190	0.135
54.00	0.130	0.129	0.183	0.130
55.00	0.125	0.124	0.176	0.125
56.00	0.121	0.120	0.170	0.121
57.00	0.117	0.116	0.164	0.117
58.00	0.113	0.112	0.159	0.113
59.00	0.109	0.108	0.153	0.109
60.00	0.105	0.104	0.148	0.105
61.00	0.102	0.101	0.144	0.102
62.00	0.099	0.098	0.139	0.099
63.00	0.096	0.095	0.135	0.096
64.00	0.093	0.092	0.131	0.093
65.00	0.090	0.089	0.127	0.090
66.00	0.087	0.086	0.123	0.087
67.00	0.085	0.084	0.119	0.085
68.00	0.082	0.081	0.116	0.082
69.00	0.080	0.079	0.113	0.080
70.00	0.078	0.077	0.109	0.078
71.00	0.076	0.075	0.106	0.076
72.00	0.073	0.073	0.103	0.074
73.00	0.072	0.071	0.101	0.072
74.00	0.070	0.069	0.098	0.070
75.00	0.068	0.067	0.095	0.068
76.00	0.066	0.065	0.093	0.066
77.00	0.064	0.064	0.091	0.064
78.00	0.063	0.062	0.088	0.063
79.00	0.061	0.061	0.086	0.061
80.00	0.060	0.059	0.084	0.060
81.00	0.058	0.058	0.082	0.058
82.00	0.057	0.056	0.080	0.057
83.00	0.055	0.055	0.078	0.055
84.00	0.054	0.054	0.076	0.054
85.00	0.053	0.052	0.074	0.053
86.00	0.052	0.051	0.073	0.052
87.00	0.050	0.050	0.071	0.050
88.00	0.049	0.049	0.069	0.049
89.00	0.048	0.048	0.068	0.048
90.00	0.047	0.047	0.066	0.047

91.00	0.046	0.046	0.065	0.046
92.00	0.045	0.045	0.064	0.045
93.00	0.044	0.044	0.062	0.044
94.00	0.043	0.043	0.061	0.043
95.00	0.042	0.042	0.060	0.042
96.00	0.041	0.041	0.058	0.041
97.00	0.041	0.040	0.057	0.041
98.00	0.040	0.039	0.056	0.040
99.00	0.039	0.039	0.055	0.039
100.00	0.038	0.038	0.054	0.038
101.00	0.037	0.037	0.053	0.037
102.00	0.037	0.036	0.052	0.037
103.00	0.036	0.036	0.051	0.036
104.00	0.035	0.035	0.050	0.035
105.00	0.035	0.034	0.049	0.035
106.00	0.034	0.034	0.048	0.034
107.00	0.033	0.033	0.047	0.033
108.00	0.033	0.032	0.046	0.033
109.00	0.032	0.032	0.045	0.032
110.00	0.032	0.031	0.045	0.032
111.00	0.031	0.031	0.044	0.031
112.00	0.031	0.030	0.043	0.031
113.00	0.030	0.030	0.042	0.030
114.00	0.029	0.029	0.041	0.029
115.00	0.029	0.029	0.041	0.029
116.00	0.028	0.028	0.040	0.028
117.00	0.028	0.028	0.039	0.028
118.00	0.027	0.027	0.039	0.027
119.00	0.027	0.027	0.038	0.027
120.00	0.027	0.026	0.037	0.027
121.00	0.026	0.026	0.037	0.026
122.00	0.026	0.025	0.036	0.026
123.00	0.025	0.025	0.036	0.025
124.00	0.025	0.025	0.035	0.025
125.00	0.025	0.024	0.034	0.025
126.00	0.024	0.024	0.034	0.024
127.00	0.024	0.024	0.033	0.024
128.00	0.023	0.023	0.033	0.023
129.00	0.023	0.023	0.032	0.023
130.00	0.023	0.022	0.032	0.023
131.00	0.022	0.022	0.031	0.022
132.00	0.022	0.022	0.031	0.022
133.00	0.022	0.021	0.030	0.022
134.00	0.021	0.021	0.030	0.021
135.00	0.021	0.021	0.030	0.021
136.00	0.021	0.021	0.029	0.021
137.00	0.020	0.020	0.029	0.020
138.00	0.020	0.020	0.028	0.020
139.00	0.020	0.020	0.028	0.020
140.00	0.020	0.019	0.028	0.020

141.00	0.019	0.019	0.027	0.019
142.00	0.019	0.019	0.027	0.019
143.00	0.019	0.019	0.026	0.019
144.00	0.018	0.018	0.026	0.018
145.00	0.018	0.018	0.026	0.018
146.00	0.018	0.018	0.025	0.018
147.00	0.018	0.018	0.025	0.018
148.00	0.017	0.017	0.025	0.017
149.00	0.017	0.017	0.024	0.017
150.00	0.017	0.017	0.024	0.017
151.00	0.017	0.017	0.024	0.017
152.00	0.017	0.016	0.023	0.017
153.00	0.016	0.016	0.023	0.016
154.00	0.016	0.016	0.023	0.016
155.00	0.016	0.016	0.022	0.016
156.00	0.016	0.016	0.022	0.016
157.00	0.016	0.015	0.022	0.016
158.00	0.015	0.015	0.022	0.015
159.00	0.015	0.015	0.021	0.015
160.00	0.015	0.015	0.021	0.015
161.00	0.015	0.015	0.021	0.015
162.00	0.015	0.014	0.021	0.015
163.00	0.014	0.014	0.020	0.014
164.00	0.014	0.014	0.020	0.014
165.00	0.014	0.014	0.020	0.014
166.00	0.014	0.014	0.020	0.014
167.00	0.014	0.014	0.019	0.014
168.00	0.014	0.013	0.019	0.014
169.00	0.013	0.013	0.019	0.013
170.00	0.013	0.013	0.019	0.013
171.00	0.013	0.013	0.018	0.013
172.00	0.013	0.013	0.018	0.013
173.00	0.013	0.013	0.018	0.013
174.00	0.013	0.013	0.018	0.013
175.00	0.013	0.012	0.018	0.013
176.00	0.012	0.012	0.017	0.012
177.00	0.012	0.012	0.017	0.012
178.00	0.012	0.012	0.017	0.012
179.00	0.012	0.012	0.017	0.012
180.00	0.012	0.012	0.017	0.012
181.00	0.012	0.012	0.016	0.012
182.00	0.012	0.011	0.016	0.012
183.00	0.011	0.011	0.016	0.011
184.00	0.011	0.011	0.016	0.011
185.00	0.011	0.011	0.016	0.011
186.00	0.011	0.011	0.016	0.011
187.00	0.011	0.011	0.015	0.011
188.00	0.011	0.011	0.015	0.011
189.00	0.011	0.011	0.015	0.011
190.00	0.011	0.011	0.015	0.011

191.00	0.011	0.010	0.015	0.011
192.00	0.010	0.010	0.015	0.010
193.00	0.010	0.010	0.014	0.010
194.00	0.010	0.010	0.014	0.010
195.00	0.010	0.010	0.014	0.010
196.00	0.010	0.010	0.014	0.010
197.00	0.010	0.010	0.014	0.010
198.00	0.010	0.010	0.014	0.010
199.00	0.010	0.010	0.014	0.010
200.00	0.010	0.009	0.013	0.010