

EXHIBIT 13 - CONSOLIDATED TECHNICAL STATEMENT

prepared May 2021 for

Rhode Island Public Radio

WPVD(AM) Providence, Rhode Island

1290 kHz 0.4 kW - Day 0.016 kW – Night ND

Introduction

Rhode Island Public Radio. (“*RIPR*”) is the licensee of Station WPVD(AM), Providence, Rhode Island (FCC Facility ID 48308). *RIPR* is presently authorized under FCC File No. BL-20030401CKB to operate WPVD(AM) as a Class B AM radio station on 1290 kHz, with 10 kW of power both day and night, into a two pattern directional antenna system. *RIPR* herein seeks authorization for a modification of license specifying non-directional operation at a lower power during both daytime and nighttime hours (specifically 0.4 kW day and 0.016 kW night). No other changes are being requested. No physical construction will be necessary to make this change.

Proposed Facility

RIPR proposes the use of one of its *existing towers* from the present directional antenna array for the proposed new non-directional operation. (The remaining unused towers may be removed; one of these towers may be retained for use as an STL antenna support structure). An overhead image of the long-established WPVD(AM) site is shown below. A slight revision to the station’s coordinates will be required as shown below:

In NAD-27 Datum

41° 51’ 22.5” North Latitude
71° 26’ 44.0” West Longitude

In NAD-83 Datum

41° 51’ 22.8” North Latitude
71° 26’ 42.2” West Longitude



CONSOLIDATED TECHNICAL STATEMENT (Continued)

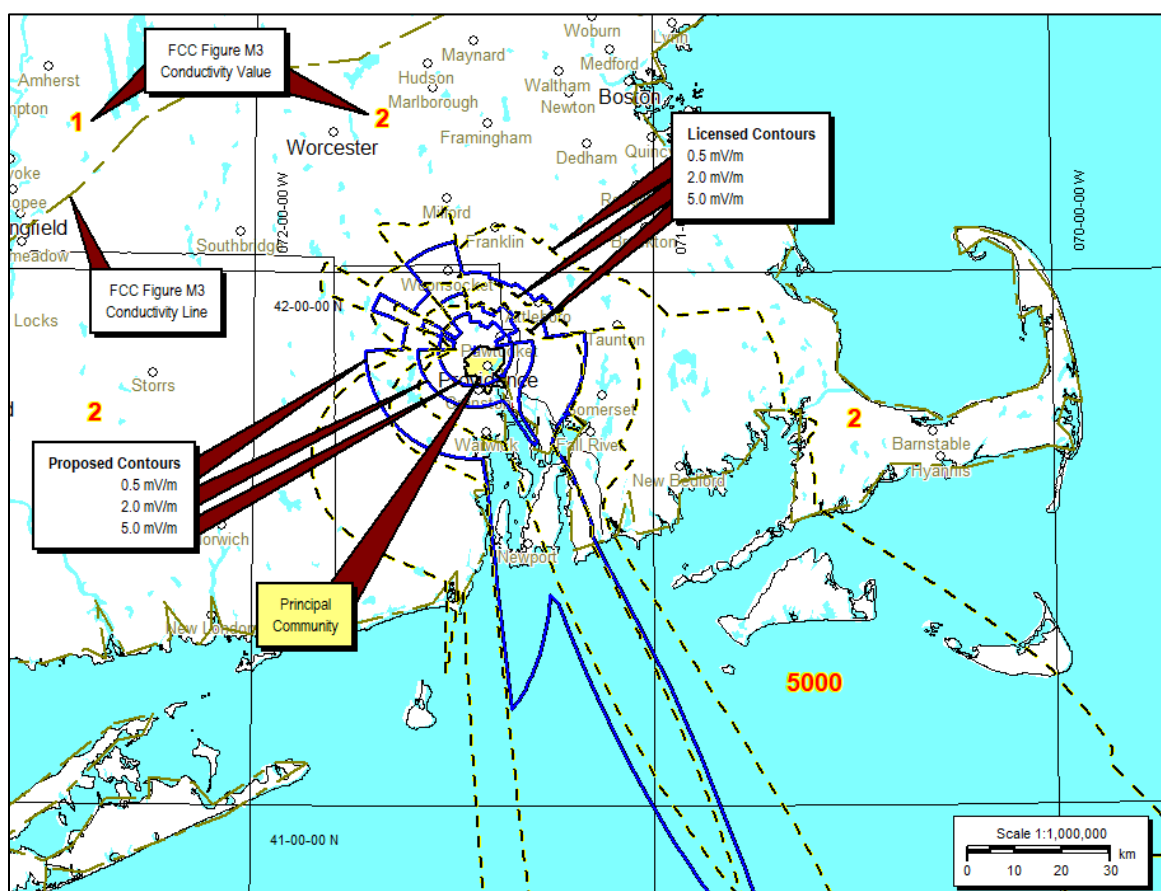
Rhode Island Public Radio WPVD(AM) Providence, Rhode Island

Antenna and Ground System Description

As discussed on the prior page, the proposed non-directional antenna will be one of the existing towers used in the authorized WPVD(AM) directional antenna array¹. This tower is a uniform cross-section, base insulated, guyed tower having an overall height of 195 feet (59.4 meters) above ground. The antenna radiator will be 190 feet (57.91 m) above the base insulator, for an electrical height of 89.7 degrees at 1290 kHz. The ground system will remain unchanged. It consists of 120 evenly spaced, buried copper wire radials, each extending to a length of 58.1 meters (or 90 electrical degrees) except where shortened by property boundaries or where overlapping radials from the adjoining towers are bonded to 4 inch copper strap. Using the FCC's Figure 8 from Rule Section 73.190, the non-directional antenna efficiency will be 305.6 mV/m/km/kW.

Daytime Coverage

The predicted locations of the existing and proposed daytime 0.5 mV/m, 2 mV/m, 5 mV/m and 25 mV/m contours are shown on the map provided below.



¹ The existing WPVD(AM) antenna array utilized four unlighted towers; there are no painting and marking requirements shown on the station's license. FCC Antenna Structure Registration has historically not been required for any of these structures. The towers pass the FCC's TOWAIR slope test. The nearest airport runway is more than 7 km distant.

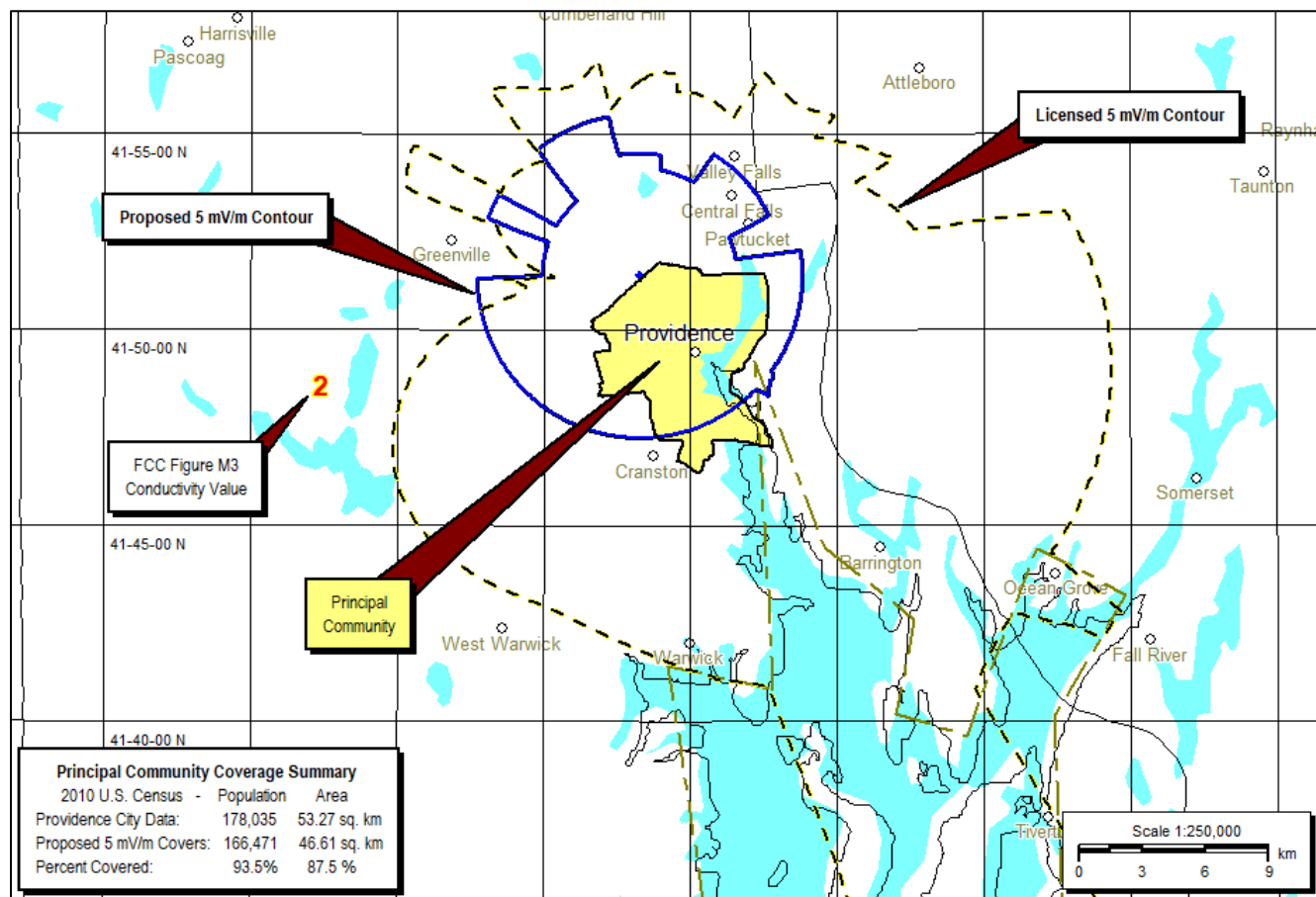
CONSOLIDATED TECHNICAL STATEMENT (Continued)

Rhode Island Public Radio WPVD(AM) Providence, Rhode Island

All contours used in this application were predicted in accordance with the methods specified in the FCC's Rules using FCC Figure M-3 conductivity data and on-file measured soil conductivity data (contained in BP-20010717AAD, which is available on-line in CDBS). **Appendix I**, included herewith, summarizes this conductivity data for WPVD(AM) and other pertinent stations surrounding this facility.

Daytime Principal Community Coverage

The proposed daytime 5 mV/m principal community coverage contour encompasses 87.5 percent of the area and 93.5 percent of the population of the WPVD(AM) community of license, Providence, Rhode Island, as shown in the coverage map provided below. Thus, this proposal satisfies the daytime principal community coverage requirements of FCC Rule Section 73.24(i) for modifications of existing licensed stations.



Nighttime Coverage – Nighttime Principal Community Coverage

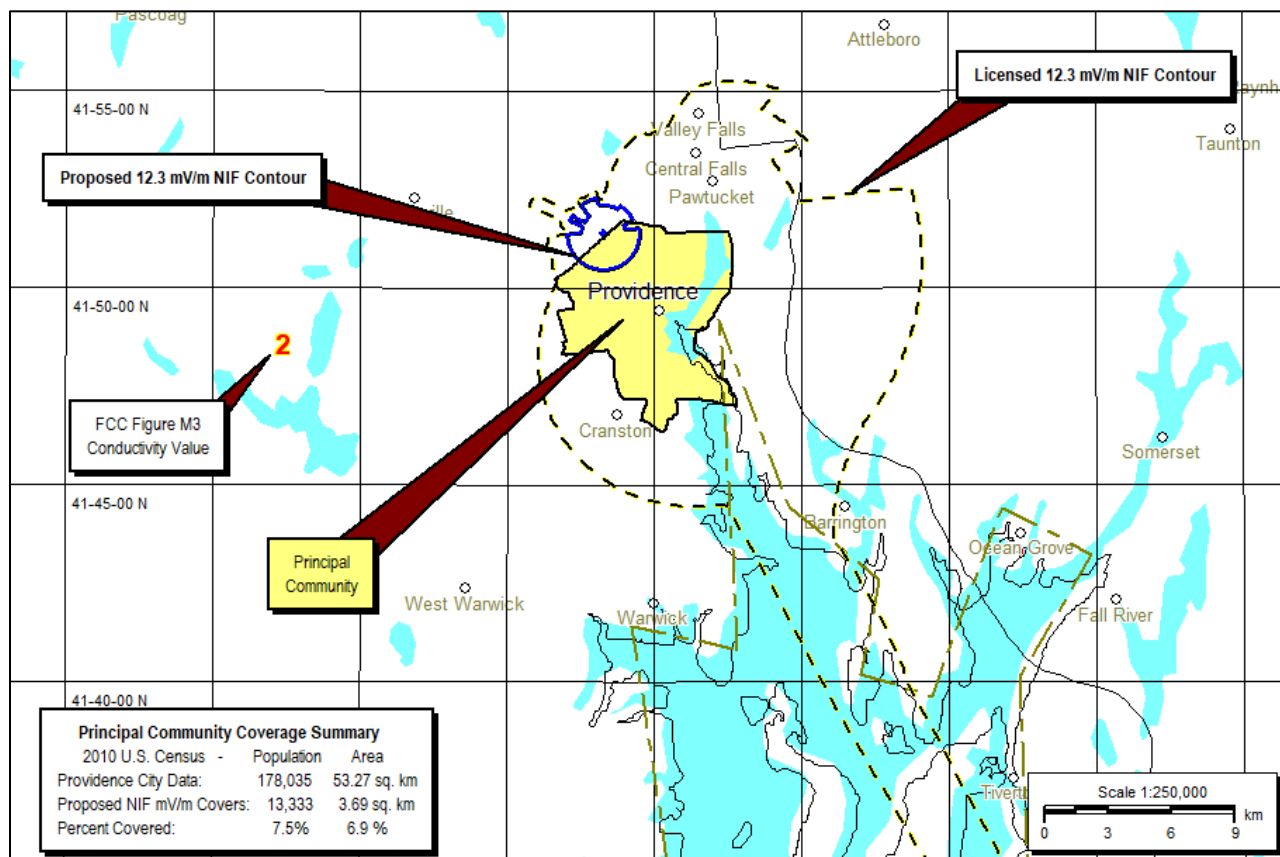
The map shown on the next page displays the locations of the existing and proposed nighttime interference free (“NIF”) contours for WPVD(AM). The NIF values and contours were predicted in accordance with the methods specified in the FCC's Rules. The NIF prediction calculation results for the proposed operation are shown in the

CONSOLIDATED TECHNICAL STATEMENT (Continued)

Rhode Island Public Radio WPVD(AM) Providence, Rhode Island

tabulation placed below the nighttime coverage map. The proposed nighttime interference free coverage contour encompasses 7.5 percent of the population and 6.9 percent of the area of the WPVD(AM) principal community, however, nighttime coverage over a specified portion of the principal community is no longer required by the FCC for modifications of existing stations. As such, the proposed nighttime operation is compliant with the FCC's principal community coverage requirements of FCC Rule Section 73.24(i).

Predicted Existing and Proposed Nighttime Interference Free ("NIF") Contours



Incoming Nighttime Limit (NIF) Calculation for Proposed WPVD

<u>Call - Location</u>	<u>Dist</u> <u>(km)</u>	<u>Azi</u> <u>(°T)</u>	<u>Vert.</u> <u>Angle</u> <u>(Theta)</u>	<u>Maximum</u> <u>Radiation</u>	<u>Skywave</u> <u>Factor</u>	<u>Night</u> <u>Limit</u>	<u>RSS</u> <u>Limit</u>
WKBK Keene, NH	140.4	149.4°	45.4° - 59.2°	158.47 mV/m	347.31 µV/m	11.01 mV/m	11.01 mV/m
WNBF Binghamton, NY	373.4	91.9°	20.2° - 31.8°	179.85 mV/m	153.17 µV/m	5.51 mV/m	12.31 mV/m
----- 50% Exclusion -----							
WJNO West Palm Beach, FL	1858.3	23.2°	0.2° - 3.1°	674.11 mV/m	14.94 µV/m	2.01 mV/m	12.47 mV/m

Notes: 1 - Calculation summary for Licensed WPVD NIF not included herewith but can be supplied upon request.

2 - All stations in above tabulation are on 1290 kHz, except for WADO, which is on 1280 kHz.

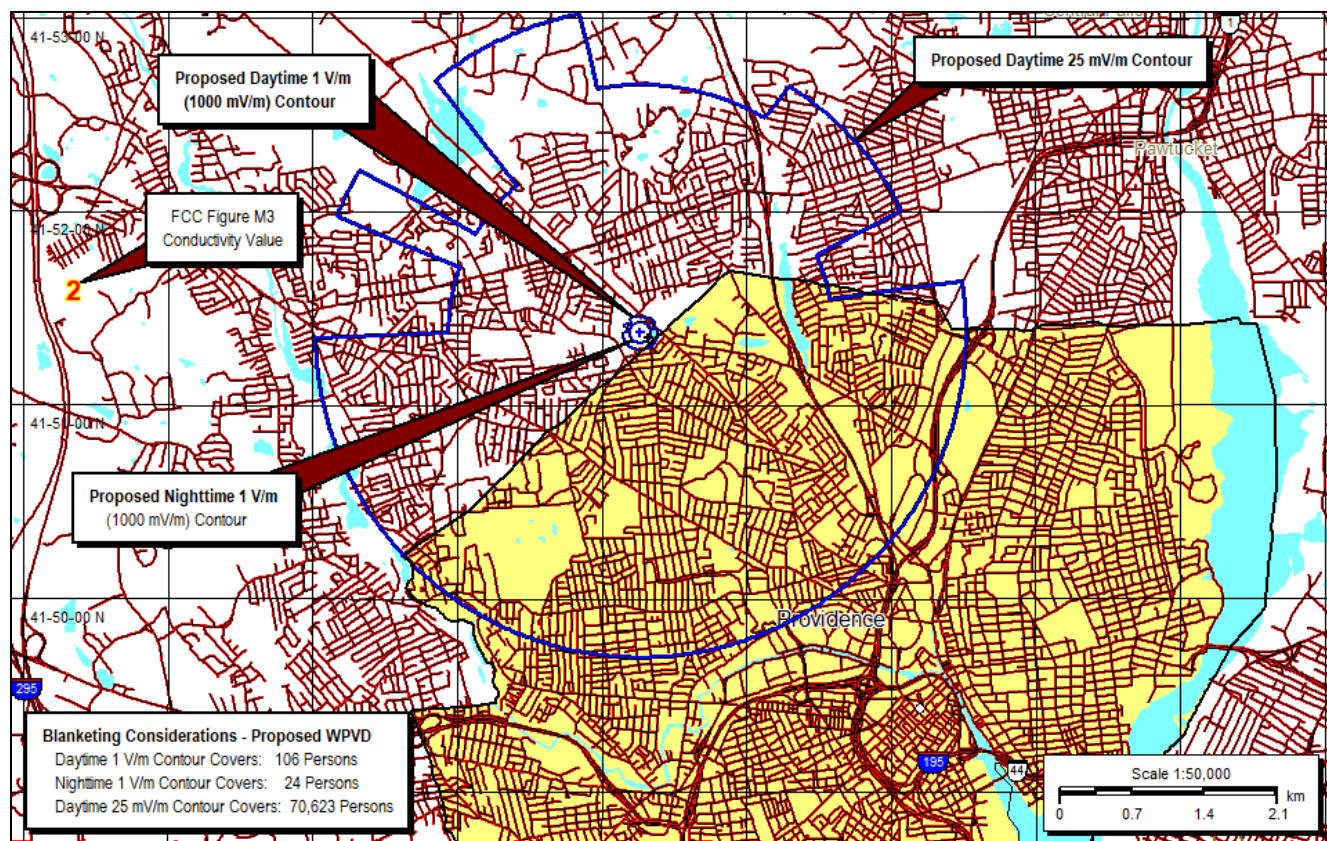
CONSOLIDATED TECHNICAL STATEMENT (Continued)

Rhode Island Public Radio WPVD(AM) Providence, Rhode Island

Blanketing Contour

The location of the proposed daytime and nighttime 1000 mV/m (1 V/m) “blanketing” contour was predicted in accordance with the FCC’s Rules and is shown in the map provided below. (Also shown is the location of the proposed daytime 25 mV/m contour.) Using U.S. 2010 Census data, it is estimated that there are 106 persons residing within the proposed 1000 mV/m (1 V/m) daytime blanketing contour, and 24 persons residing within the proposed 1000 mV/m (1 V/m) nighttime blanketing contour. Since the number of persons within the predicted 1 V/m contours is fewer than 300, the provisions of FCC Rule Section 73.24(g) are not applicable; the proposed modified WPVD(AM) daytime and nighttime operation thus meets the requirements of the FCC’s Rules regarding blanketing.

Proposed 1000 mV/m (1 V/m) Blanketing Contours



Daytime Allocation Considerations

WPVD(AM) is a “Class B” station operating with a daytime and nighttime power of 10 kW, on a frequency of 1290 kHz. *RIPR* is herein seeking to simplify the WPVD(AM) antenna system from a directional facility to a non-directional operation, both day and night. The proposed non-directional daytime operating power is 0.4 kW (400 Watts). (Nighttime allocations considerations are discussed in a following section of this Statement.) The requested modification would constitute a “minor change” under present FCC’s Rules.

CONSOLIDATED TECHNICAL STATEMENT (Continued)

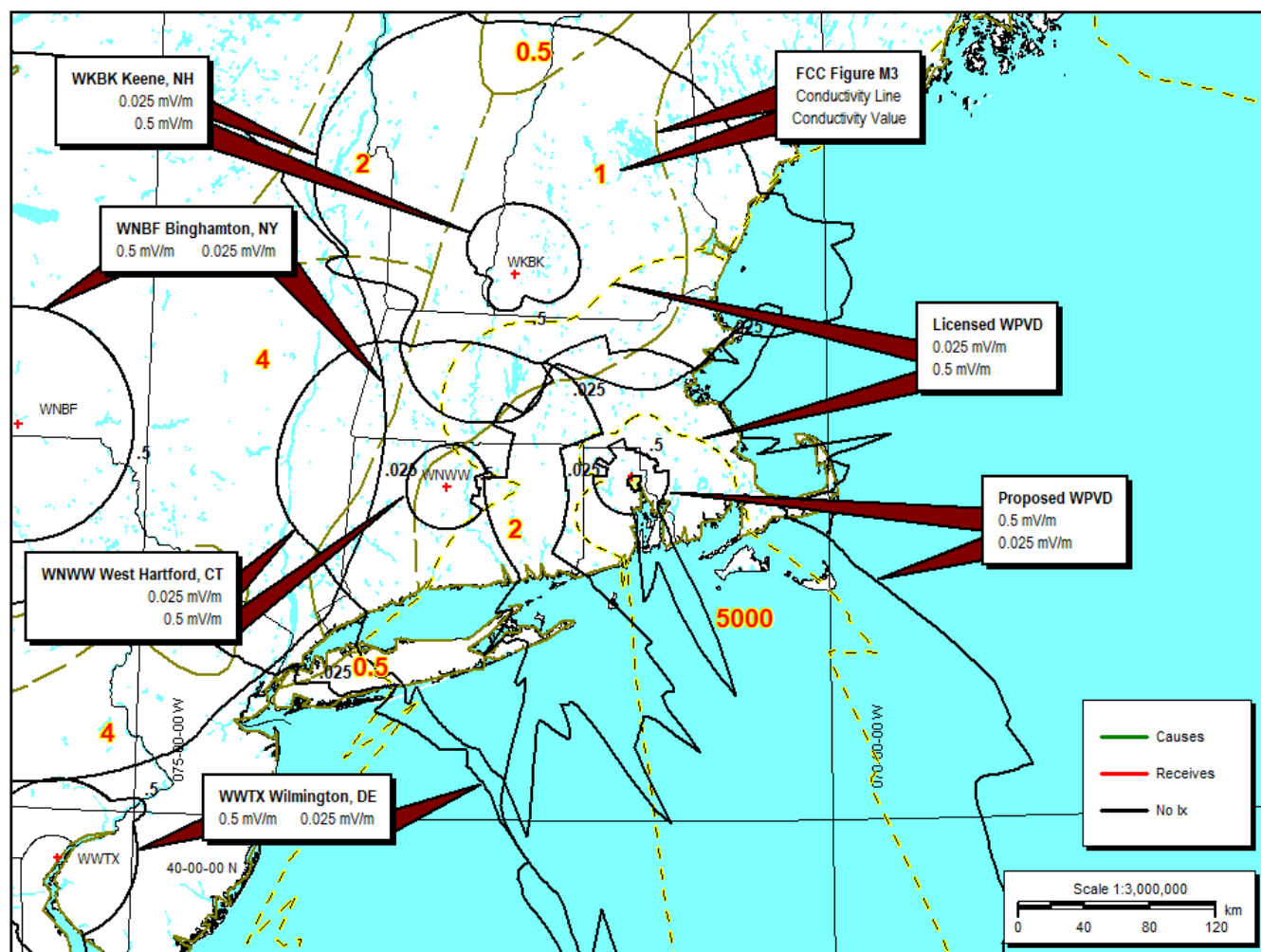
Rhode Island Public Radio WPVD(AM) Providence, Rhode Island

The proposed modified daytime operation was evaluated for FCC allocation rules compliance using contour predictions made at one degree radial increments. The ground conductivity assumptions used were from FCC Figure M3, except where measured conductivity data were available. Information on the measured data employed herein is presented in the included Appendix I.

All instances of *overlaps over sea water were electronically filtered out* of the analysis in keeping with FCC Rule Section 73.37(f), Note 2: (1), thus the reported comparative overlap numbers are land area only and do not include Atlantic Ocean overlap, or overlaps over large bays or sounds.

As will be demonstrated in the following, *no new instances* of contour overlap would be created upon the grant of this facility modification proposal. Further, *instances of existing contour overlap are reduced*.

Co-Channel Allocation Study Overview Map (0.5 mV/m vs 0.025 mV/m Contours)



Note – presently licensed contours shown as dashed, highlighted contour lines.

CONSOLIDATED TECHNICAL STATEMENT (Continued)

Rhode Island Public Radio
WPVD(AM) Providence, Rhode Island

“Before” vs “After” Overlap Analysis

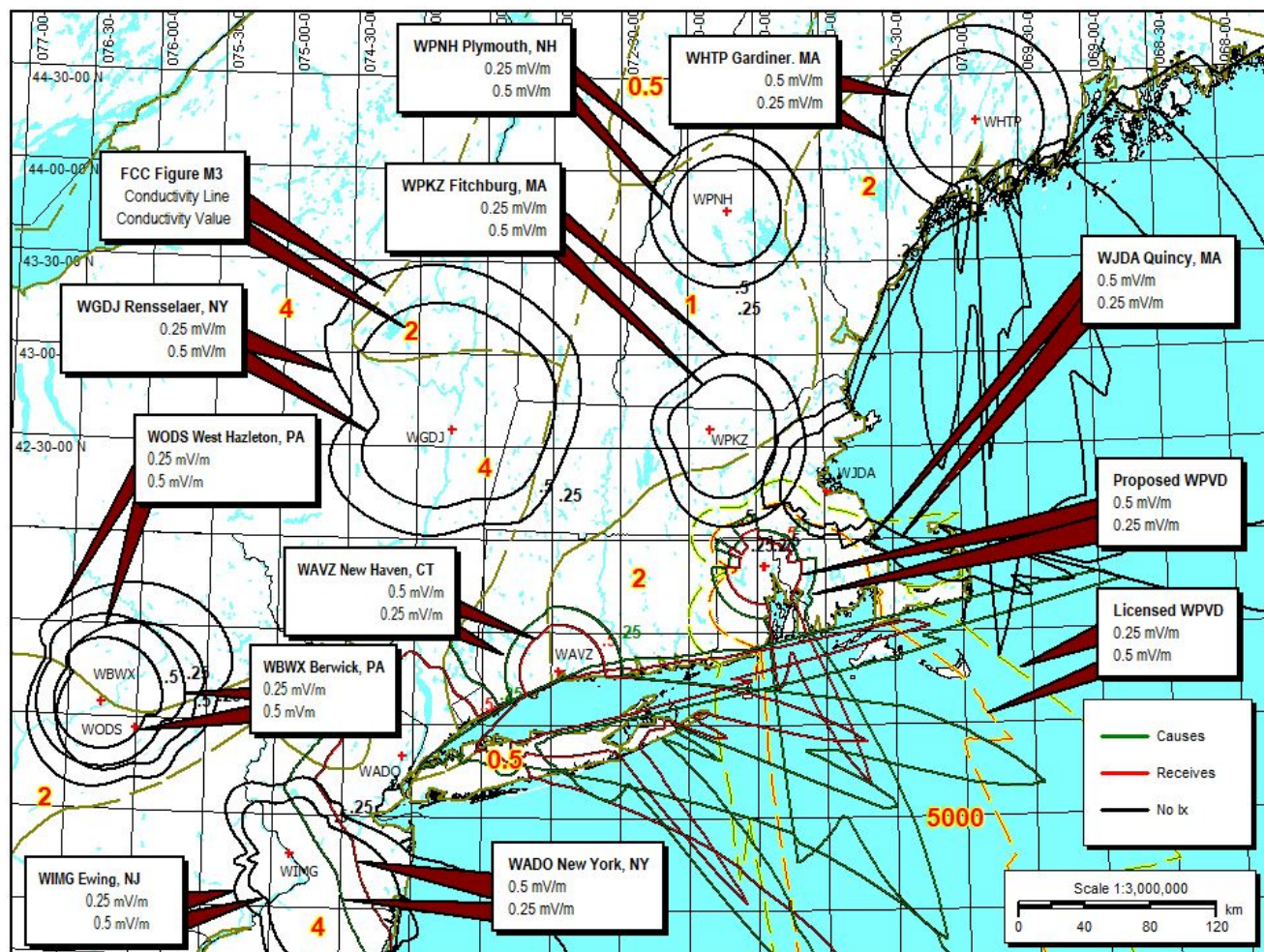
<u>Call</u>	<u>Freq.</u>	<u>City</u>	<u>Licensed Overlap (km²)</u>		<u>Proposed Overlap (km²)</u>		<u>Overlap Analysis</u>	
			<u>Incoming</u>	<u>Outgoing</u>	<u>Incoming</u>	<u>Outgoing</u>	<u>Incoming</u>	<u>Outgoing</u>
WNWW	1290 kHz	West Hartford, CT	-793.50	-8.75	17.02	4.64	Decreases	Decreases

“Outgoing” means overlap caused to others - “Incoming” means overlap received by proposal

When comparing the proposed operation to the licensed operation, it was found that the amount of existing prohibited overlap *decreases* to a “no overlap” situation with regard to WNWW, as shown above.

Based upon the foregoing analysis, no new instances of prohibited co-channel contour overlap would be caused and existing co-channel overlap situations are reduced. It is therefore believed that this proposal meets the FCC’s allocation requirements for co-channel stations.

First-Adjacent Allocation Study - Overview Map (0.5 mV/m vs 0.25 mV/m Contours)



CONSOLIDATED TECHNICAL STATEMENT (Continued)

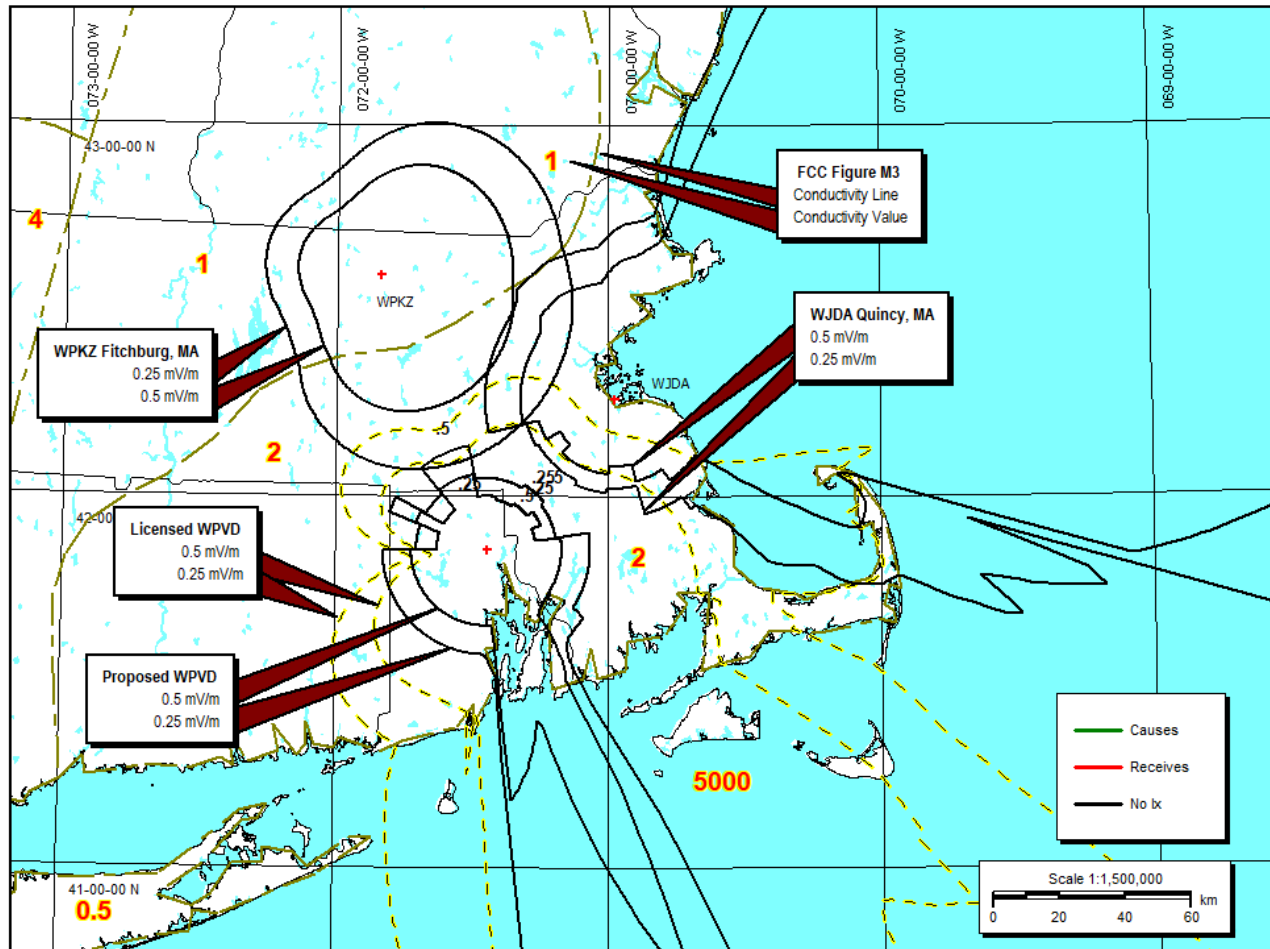
Rhode Island Public Radio WPVD(AM) Providence, Rhode Island

As shown on the previous page, the first adjacent allocations picture is congested; however, the only contour overlap (over land area) that merits a closer scrutiny is that with respect to:

- WADO, 1280 kHz, New York, NY,
- WAVZ, 1300 kHz, New Haven, CT,
- WJDA, 1300 kHz, Quincy, MA and
- WPKZ, 1280 kHz, Fitchburg, MA.

Three maps follow that provide more detailed views of the above allocation concerns.

First-Adjacent Allocation Study – Detailed View Number One WPKZ 1280 kHz Fitchburg, MA and WJDA 1300 kHz Quincy, MA

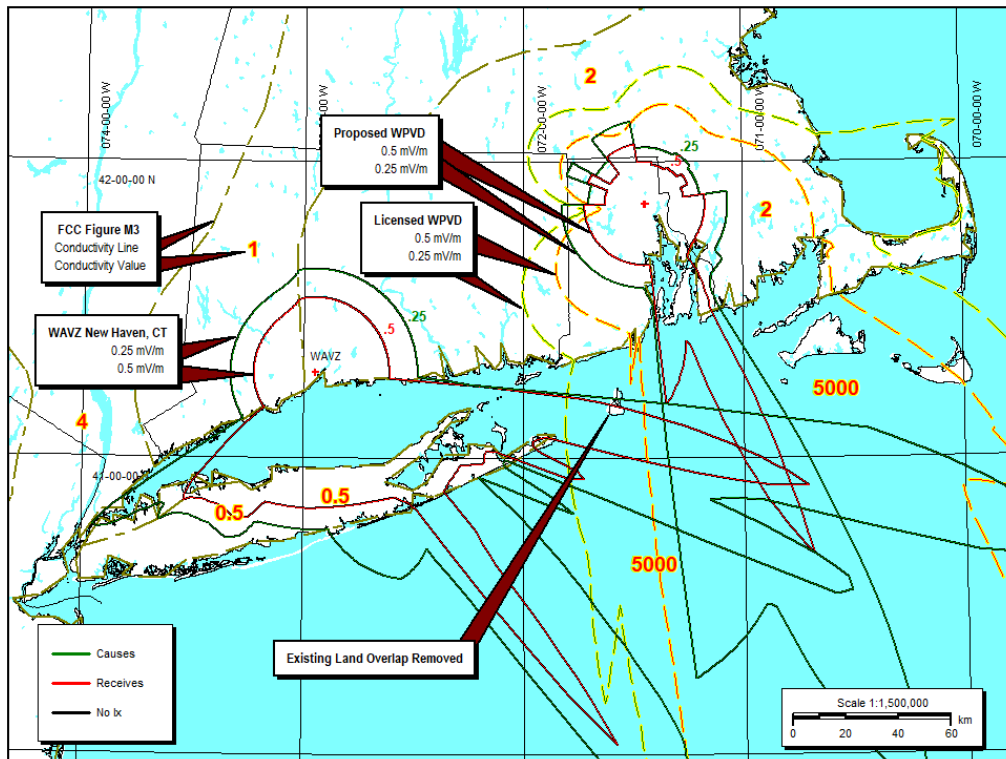


As shown above, existing prohibited overlap with respect to WJDA and WPKZ is eliminated under this proposal.

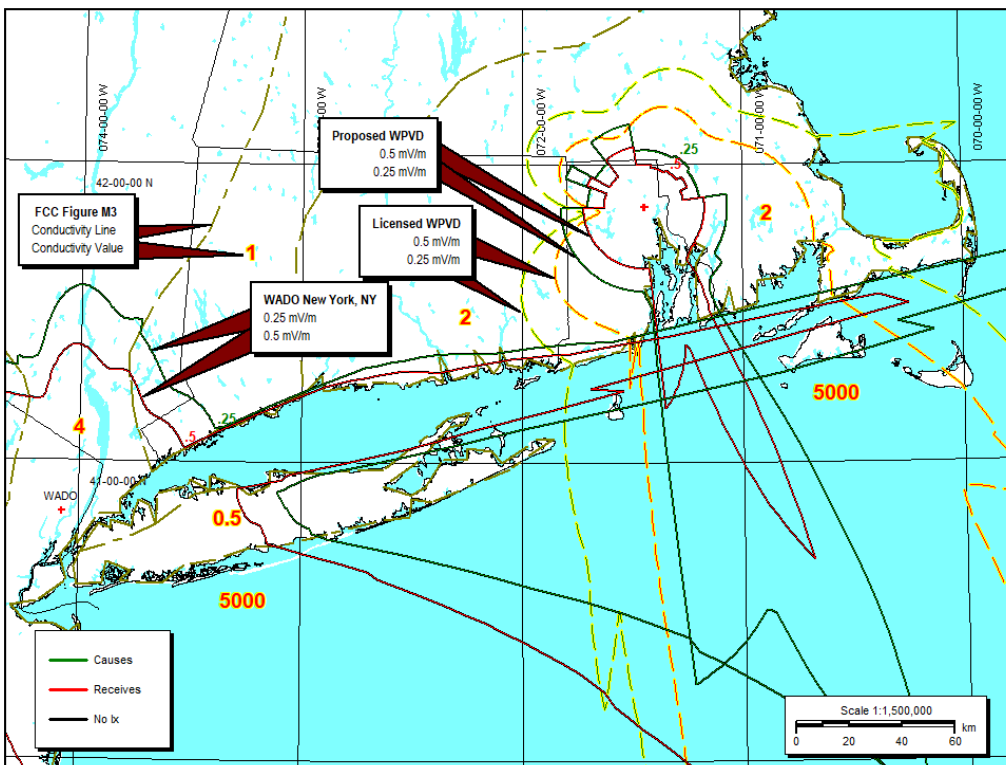
CONSOLIDATED TECHNICAL STATEMENT (Continued)

Rhode Island Public Radio WPVD(AM) Providence, Rhode Island

First-Adjacent Allocation Study – Detailed View Number Two - WAVZ 1300 kHz New Haven, CT



First-Adjacent Allocation Study – Detailed View Number Three - WADO 1280 kHz New York, NY



CONSOLIDATED TECHNICAL STATEMENT (Continued)

Rhode Island Public Radio WPVD(AM) Providence, Rhode Island

As shown in the preceding two maps, land area prohibited contour overlap with respect to WAVZ and WADO is reduced. The following tabulation provides a companion analysis supporting the conclusion that first-adjacent prohibited contour overlap (over land areas) would be reduced or eliminated by a grant of this proposal.

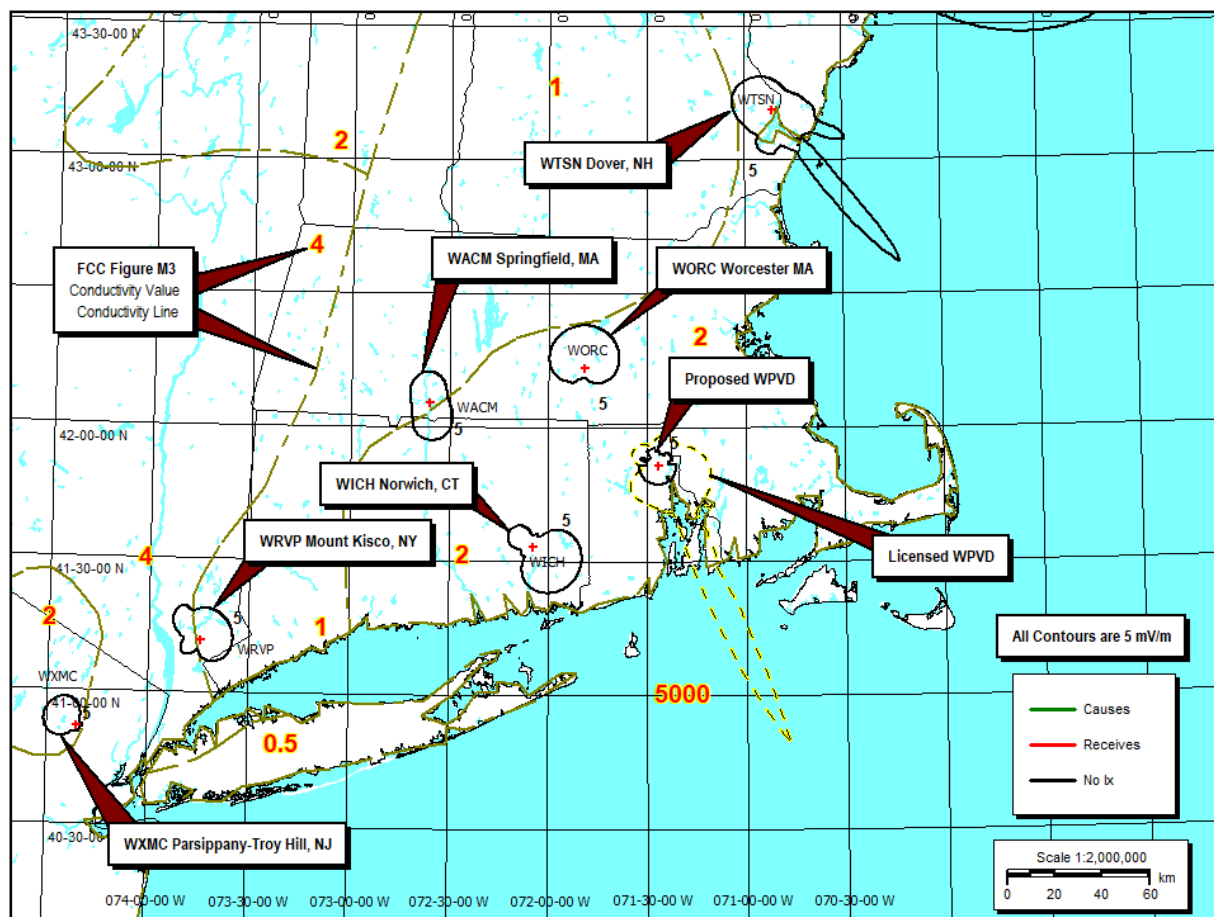
1st Adjacent Channel “Before” vs “After” Contour (Land) Overlap Summary

Call	Freq.	City	Licensed Overlap (km ²)		Proposed Overlap (km ²)		Overlap Analysis	
			Incoming	Outgoing	Incoming	Outgoing	Incoming	Outgoing
WJDA	1300 kHz	Quincy, MA	-244.25	-189.25	16.68	14.45	Decreases	Decreases
WADO	1280 kHz	New York, NY	-308.50	-131.50	-7.75	0.00	Decreases	Decreases
WAVZ	1300 kHz	New Haven, CT	0.00	-18.25	0.00	0.00	N/A	Decreases
WPKZ	1280 kHz	Fitchburg, MA	-22.00	6.74	4.70	14.05	Decreases	N/A

“Outgoing” means overlap caused to others - “Incoming” means overlap received by proposal

It is thus believed that this proposal meets the FCC’s allocation requirements for 1st-adjacent channel stations.

Second-Adjacent Allocation Study - Overview Map (5 mV/m vs 5 mV/m Contours)

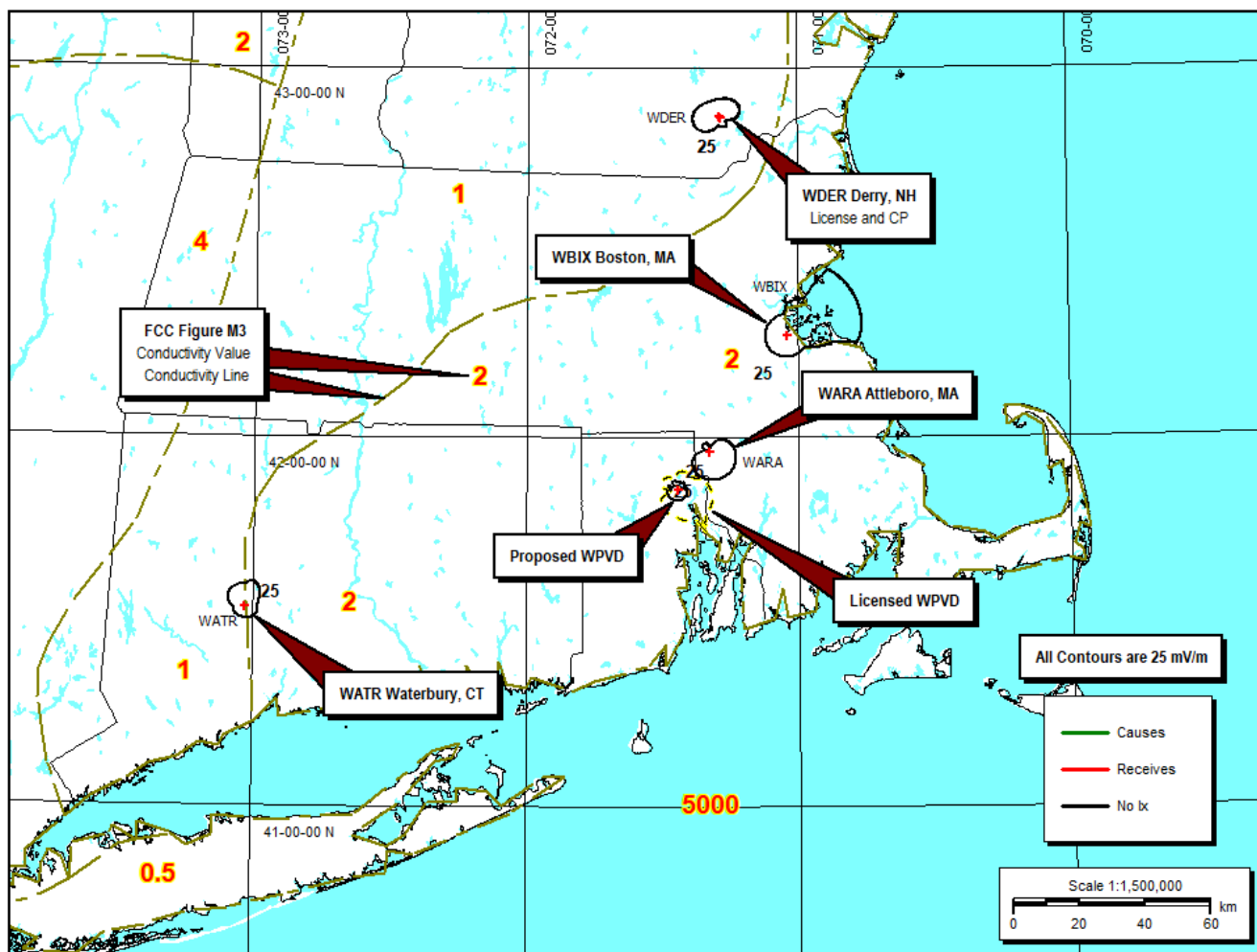


As shown above, there are no second-adjacent channel stations located in close proximity to WPVD(AM).

CONSOLIDATED TECHNICAL STATEMENT (Continued)

Rhode Island Public Radio
WPVD(AM) Providence, Rhode Island

Third-Adjacent Allocation Study - Overview Map (25 mV/m vs 25 mV/m Contours)



As shown above, there are no third-adjacent channel stations located in close proximity to WPVD(AM).

Based upon the above allocation studies, it is believed that no new instances of prohibited contour overlap will be created; existing areas of contour overlap over land area are reduced or eliminated. It is therefore believed that this proposal meets the FCC's daytime allocations requirements.

Nighttime Allocations Considerations

A nighttime allocation study was run to determine if any stations would be impacted by this facility modification application. The pertinent results of an "as proposed" study are included in summary form on the following page.

CONSOLIDATED TECHNICAL STATEMENT (Continued)

Rhode Island Public Radio
WPVD(AM) Providence, Rhode Island

Nighttime “Outgoing” Allocations Study

Call	City - State	Azi	Angle		SWFF (100uV/m)	Req Prot (mV/m)	Permis (mV/m)	Cur Rad (mV/m)	Margin (mV/m)
			Low	High					
WKBK	Keene, NH	329.96°	45.39°	59.24°	347.31	1.717	24.72	24.08	0.64
WNBF	Binghamton, NY	274.95°	20.24°	31.77°	153.17	1.636	53.41	35.28	18.13
WHIO	Dayton, OH	261.43°	5.03°	9.85°	30.49	0.953	156.32	38.44	117.88
WFBG	Altoona, PA	257.33°	12.08°	20.28°	81.39	2.759	169.48	37.41	132.07
WHKY	Hickory, NC	234.59°	5.05°	9.89°	33.43	1.804	269.73	38.43	231.30
WTKS	Savannah, GA	221.46°	2.82°	6.67°	23.42	1.517	323.75	38.58	285.17
WPKZ	Fitchburg, MA	338.71°	58.31°	69.55°	408.36	2.806	343.56	17.10	326.45
WADO	New York, NY	243.33°	29.61°	43.42°	240.16	1.769	368.31	31.74	336.57
WIRL	Peoria, IL	270.89°	1.98°	5.50°	15.71	1.403	446.6	38.62	407.98
WVOW	Logan, WV	247.11°	5.92°	11.16°	37.23	3.742	502.48	38.35	464.13
WJZ	Baltimore, MD	239.79°	14.01°	23.08°	99.93	1.030	515.23	37.00	478.23

Notes on the above table:

- 1) Stations with Margins above 500 mV/m omitted for brevity.
- 2) "Margin" indicates the difference between the permissible radiation toward the station and the actual radiation of the proposed station.
If this number is negative, it indicates a violation of the rules.
- 3) *No negative numbers shown above.*

Based upon the above tabulation, there is no increase in radiation above the permissible level. Therefore, it is believed that this proposal satisfies all pertinent FCC nighttime allocation requirements.

Monitoring Stations, Quiet Zones, Borders

The nearest FCC monitoring station is at Belfast, Maine at a distance of over 340 km from the WPVD(AM) site. This exceeds by a significant margin the minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. This site is located over 650 km from the National Radio Astronomy Observatory (“NRAO”) “quiet zone” located at Green Bank, West Virginia. Advance coordination is not required since the proposed operation does not fall under the quiet zone bounds contained in Section 73.1030(a)(1) of the FCC’s Rules. The proposed site is located over 350 km from the Canadian border and over 2900 km from the Mexican border. As such, international coordination is not believed to be required.

Nearby Broadcast Stations – Interference Considerations

Based on data extracted from the FCC’s CDBS database, it was determined that there are no AM broadcast stations located within the notification/study distances set forth in FCC Rule Sections 1.30002(a) and (b). The closest FM station is located 1.55 km distant; all other FM stations are located 4 km or more from the WPVD

CONSOLIDATED TECHNICAL STATEMENT (Continued)

Rhode Island Public Radio WPVD(AM) Providence, Rhode Island

location. There are no TV broadcast stations located within 11 km of the site. Undesired interaction and the generation of intermodulation products is not expected to occur due to the distances involved and the great separation in frequencies.

Environmental Considerations - Human Exposure to Radiofrequency Radiation

This application for minor modification specifies the use of an existing tower at an existing transmitter site with no physical changes being required to implement the changes proposed herein. According to the notes contained in FCC Rules Section 1.1306, the use of existing towers and sites is deemed to be an environmentally desirable alternative to the construction of new tower facilities. Accordingly, it is believed that this proposal may be excluded from the provisions of Section 1.1306 of the FCC's Rules and is not subject to environmental processing.

The operation being proposed herein was evaluated for human exposure to radiofrequency energy using the procedures outlined in the FCC's **OET Bulletin No. 65** ("OET-65"). Based upon that methodology, and as will be shown in the following pages, it is believed the proposed modified WPVD operation will comply with those guidelines when the proposed tower is enclosed by a fence located at an appropriate distance from the radiator.

This application specifies a single tower for daytime and nighttime non-directional operation. The nominal daytime power is specified at 400 Watts (0.4 kW). The nighttime power level will be 16 Watts (0.016 kW). The electrical height of the involved radiator is 89.7° at the WPVD operating frequency of 1290 kHz. A fence is in place around the antenna structure which limits access to distances no closer than 3 meters (10 feet) from any antenna conductor.

For the purposes of this analysis, a distance of 3 meters was assumed to be the "closest point of approach" to the radiating element. The maximum "worst case" power level of 0.4 kW was also assumed.

As shown below, the OET-65 calculated total *electrical field* at the presumed 3 meter closest point of approach would be 0.06% of the uncontrolled/general population limit. The calculated magnetic field would be 1.04% of this limit.

Exposure Summary Uncontrolled / General Population			
	<u>MPE</u>	<u>Calculated Value</u>	<u>Percent</u>
E (V/m):	614	15.523	0.06
H (A/m):	1.63	0.166	1.04

Note: "MPE" denotes the maximum permissible exposure limit guidelines.

CONSOLIDATED TECHNICAL STATEMENT (Continued)

Rhode Island Public Radio

WPVD(AM) Providence, Rhode Island

As such, it is believed that excessive levels of RF energy will not be present at accessible areas near the antenna base outside the restricted access base enclosure area. RF exposure and warning signs will continue to be posted on all fence faces and enclosure entry points. As a result, members of the general public are not expected to be exposed to RF energy (“RFR”) in excess of the FCC’s published Uncontrolled/General Population guidelines.

With respect to worker safety, a site exposure policy will continue to be employed to protect authorized workers from excessive RF exposure when work must be performed in the vicinity of or on the tower. Such protective measures include, but are not limited to, restriction of access to areas where levels in excess of the guidelines may be expected, power reduction, occupancy time limits, or the complete shutdown of facilities when work or inspections must be performed in areas where the exposure guidelines will be exceeded. Further, no tower worker is permitted to climb an energized tower.

Based on the preceding, it is believed that this proposal would meet the FCC’s RF exposure requirements.

Appendix I
Ground Conductivity Measurement Data
Rhode Island Public Radio
 WPVD(AM) Providence, Rhode Island

Summary of Measurement Data Used in this Proposal

WPVD (Formerly WRNI) - Measured Conductivity (Data from BP-20010717AAD)

<u>Radial</u>	<u>Span</u>	<u>Span Basis</u>	<u>Conductivity (mS/m) - Distance</u>
0.0°	350° - 010°	+10°, -10°	1 - 9.7 km, 0.5 - 18.4 km, 0.1 - 28.97 km
20.0°	010° - 030°	+10°, -10°	1 - 5.1 km, 0.5 - 14.4 km, 0.1 - 31.38 km
40.0°	030° - 050°	+10°, -10°	1.5 - 14 km, 0.5 - 30 km, 0.1 - 36.21 km
60.0°	050° - 065°	+05°, -10°	1.5 - 9.4 km, 1 - 20 km, 0.1 - 50.86 km
70.0°	065° - 080°	+10°, -05°	0.1 - 45.22 km
280.0°	270° - 290°	+10°, -10°	0.1 - 31.7 km
310.5°	300.5° - 320.5°	+10°, -10°	0.1 - 31.38 km

WJDA - Measured Conductivity (Data from BP-20010717AAD)

<u>Radial</u>	<u>Span</u>	<u>Span Basis</u>	<u>Conductivity (mS/m) - Distance</u>
155.0°	145° - 165°	+10°, -10°	3 - 12.2 km, 1.5 - 30.58 km
175.0°	165° - 185°	+10°, -10°	1 - 5.1 km, 0.5 - 14.4 km, 0.1 - 31.38 km
195.0°	185° - 205°	+10°, -10°	1.5 - 14 km, 0.5 - 30 km, 0.1 - 36.21 km
215.0°	205° - 225°	+10°, -10°	1.5 - 9.4 km, 1 - 20 km, 0.1 - 50.86 km
235.0°	225° - 240°	+05°, -10°	0.1 - 45.22 km
245.0°	240° - 255°	+10°, -05°	0.1 - 31.7 km

WNWW (Formerly WCCC) - Measured Conductivity (Data from BP-20010717AAD)

<u>Radial</u>	<u>Span</u>	<u>Span Basis</u>	<u>Conductivity (mS/m) - Distance</u>
81.0°	71° - 91°	+10°, -10°	1 - 8.9 km, 0.5 - 27.6 km, 0.1 - 86.1 km
101.0°	91° - 106°	+05°, -10°	1 - 30.6 km, 0.1 - 65.98 km
111.0°	106° - 121°	+10°, -05°	0.1 - 62.76 km

Copies of the reference data from BP-20070717AAD are provided in the following pages.

TECHNICAL EXHIBIT
APPLICATION FOR CONSTRUCTION PERMIT
RADIO STATION WRNI
PROVIDENCE, RHODE ISLAND

1290 KHZ 10 KW U DA-2

Field Strength Measurements

Radio Station: WRNI

0 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/19/01	
1	3.38	1802	32.0
2	4.18	1759	21.0
3	5.31	1755	10.1
4	6.76	1750	5.50
5	8.37	1745	5.20
6	8.85	1740	6.30
7	10.46	1732	2.80
8	11.75	1729	2.60
9	12.71	1724	1.60
10	13.68	1716	2.20
11	15.29	1706	1.40
12	17.54	1659	1.00
13	19.31	1654	0.710
14	20.60	1644	0.430
15	22.05	1639	0.540
16	23.17	1636	0.650
17	24.30	1623	0.360
18	25.75	1608	0.500
19	27.36	1600	0.560
20	28.97	1554	0.370

Radio Station: WRNI

20 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/19/01	
1	3.38	1257	31.0
2	4.51	1305	21.5
3	5.63	1314	9.40
4	6.76	1320	7.80
5	7.89	1329	5.60
6	9.98	1343	2.70
7	11.59	1351	2.70
8	13.20	1356	1.95
9	13.84	1403	1.75
10	14.97	1407	1.10
11	16.74	1413	1.05
12	18.83	1424	0.800
13	20.92	1431	0.510
14	22.53	1435	0.600
15	24.46	1441	0.500
16	25.91	1445	0.410
17	27.36	1450	0.230
18	28.49	1457	0.300
19	30.42	1508	0.260
20	31.38	1504	0.250

Radio Station: WRNI

40 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		7/5/01* 6/8/01	
1	3.54	1350*	28.0
2	4.99	1356*	27.0
3	6.44	1406*	10.0
4	8.05	1413*	9.90
5	9.33	1417*	5.30
6	11.43	1426*	2.10
7	12.55	1434*	3.10
8	14.32	1441*	2.50
9	16.25	1448*	1.10
10	17.70	1459*	0.890
11	19.31	1516*	0.950
12	21.40	918	0.760
13	22.21	930	0.530
14	22.69	937	0.500
15	23.66	947	0.620
16	24.30	956	0.520
17	25.59	1006	0.470
18	26.55	1013	0.490
19	27.36	1030	0.460
20	28.49	1039	0.400
21	29.93	1050	0.260
22	30.74	1145	0.320
23	31.87	1154	0.140
24	33.47	1201	0.230
25	34.28	1208	0.210
26	35.24	1215	0.320
27	36.21	1223	0.200

Radio Station: WRNI

60 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		7/5/01* 6/8/01	
1	3.70	1720*	39.0
2	5.31	1712*	16.0
3	6.60	1703*	10.5
4	8.21	1642*	6.90
5	10.62	1647*	3.70
6	13.04	1640*	2.20
7	14.97	1633*	1.10
8	18.51	1623*	0.320
9	20.92	1611*	0.390
10	22.53	1608*	0.800
11	24.14	1604*	0.560
12	24.46	1722	0.450
13	25.27	1711	0.500
14	26.72	1704	0.450
15	28.32	1656	0.360
16	29.13	1650	0.210
17	30.26	1642	0.280
18	31.70	1634	0.200
19	32.99	1626	0.160
20	34.60	1618	0.230
21	35.73	1612	0.180
22	37.66	1555	0.210
23	39.59	1546	0.150
24	40.23	1538	0.130
25	41.52	1523	0.120
26	42.81	1508	0.145
27	43.29	1504	0.135
28	44.74	1456	0.110
29	45.71	1450	0.110
30	46.99	1442	0.120
31	47.80	1431	0.100
32	48.76	1425	0.100
33	49.89	1416	0.090
34	50.86	1408	0.095

Radio Station: WRNI

70 Degree Stub Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/29/01	
1	32.67	1007	0.210
2	33.31	1016	0.240
3	34.92	1027	0.200
4	36.21	1037	0.250
5	37.66	1049	0.310
6	39.27	1055	0.130
7	40.88	1106	0.120
8	42.00	1114	0.070
9	43.13	1121	0.092
10	45.22	1202	0.065

Radio Station: WRNI

280 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/20/01	
1	3.22	1215	22.0
2	5.63	1222	6.90
3	7.24	1230	4.40
4	9.17	1254	5.20
5	11.10	1300	2.50
6	13.20	1307	1.00
7	15.29	1312	0.900
8	16.09	1315	0.880
9	16.74	1317	0.850
10	17.70	1321	0.790
11	18.51	1330	0.800
12	19.15	1336	0.700
13	19.79	1340	0.500
14	20.28	1343	0.400
15	21.57	1354	0.410
16	22.21	1357	0.480
17	25.27	1407	0.450
18	28.97	1422	0.120
19	31.38	1457	0.170
20	31.70	1459	0.200

Radio Station: WRNI

310.5 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/20/01	
1	3.22	1406	26.5
2	4.02	1409	20.5
3	5.31	1414	8.30
4	6.44	1418	2.90
5	8.05	1423	3.60
6	8.85	1427	2.30
7	9.66	1430	2.50
8	10.30	1433	2.40
9	11.10	1440	1.20
10	12.07	1449	1.00
11	13.20	1509	1.00
12	14.48	1506	0.58
13	15.29	1503	0.25
14	16.25	1501	0.40
15	20.60	1550	0.48
16	23.34	1614	0.45
17	25.75	1631	0.24
18	28.65	1640	0.25
19	29.61	1645	0.13
20	31.38	1650	0.13

Radio Station: WJDA

155 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/14/01	
1	1.61	1348	210
2	4.83	1332	29.0
3	9.50	1313	6.20
4	14.97	1257	1.50
5	17.86	1240	0.980
6	18.83	1236	0.980
7	19.63	1223	0.800
8	20.60	1154	0.720
9	21.40	1150	0.700
10	22.21	1136	0.440
11	23.01	1120	0.620
12	23.98	1114	0.620
13	24.94	1110	0.420
14	25.91	1103	0.500
15	26.55	1059	0.510
16	27.20	1055	0.420
17	28.16	1050	0.350
18	28.97	1047	0.320
19	29.93	1044	0.350
20	30.58	1040	0.330

Radio Station: WJDA

175 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/15/01 6/8/01*	
1	3.22	1350	36.0
2	4.35	1344	24.5
3	5.79	1337	10.5
4	9.01	1324	3.90
5	10.14	1319	2.80
6	11.59	1312	1.90
7	12.39	1310	1.10
8	12.87	1307	1.60
9	14.48	1255	1.00
10	15.29	1235	0.900
11	16.74	1206*	0.500
12	18.02	1159*	0.580
13	19.31	1102*	0.540
14	19.96	1055*	0.620
15	20.28	1049*	0.480
16	21.08	1043*	0.480
17	21.73	1039*	0.450
18	22.69	1036*	0.500
19	23.34	1032*	0.340
20	24.62	1026*	0.260
21	25.59	1021*	0.310
22	26.23	1019*	0.250
23	26.72	1014*	0.250
24	27.52	1011*	0.235
25	28.16	1007*	0.230

Radio Station: WJDA

195 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/15/01 6/8/01*	
1	3.54	1355	25.0
2	5.63	1412	11.0
3	6.44	1419	10.0
4	8.69	1421	5.10
5	10.30	1430	2.70
6	12.07	1441	1.70
7	13.04	1449	1.00
8	13.68	1459	1.00
9	14.48	1503	1.10
10	15.13	1506	1.00
11	16.25	1234*	0.590
12	17.06	1238*	0.900
13	18.02	1245*	1.00
14	18.67	1249*	0.990
15	19.47	1253*	0.980
16	20.76	1259*	0.650
17	21.89	1304*	0.850
18	23.17	1319*	0.880
19	23.50	1335*	0.520
20	23.82	1337*	0.480
21	24.62	1341*	0.440
22	25.59	1345*	0.360
23	27.04	1349*	0.260
24	28.49	1354*	0.320
25	28.65	1358*	0.310
26	28.97	1404*	0.310

Radio Station: WJDA

215 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/15/01 6/8/01*	
1	3.38	1637	39.0
2	4.02	1634	30.0
3	5.47	1627	11.0
4	6.44	1608	10.0
5	7.24	1601	6.90
6	8.85	1557	2.60
7	10.78	1546	2.40
8	13.04	1533	1.90
9	14.32	1527	1.50
10	15.45	1522	0.950
11	18.51	1556*	1.00
12	18.83	1553*	0.800
13	19.15	1541*	1.00
14	19.63	1545*	0.840
15	20.44	1536*	0.600
16	20.92	1533*	0.370
17	22.37	1528*	0.520
18	23.34	1521*	0.230
19	24.94	1515*	0.250
20	27.36	1459*	0.230
21	28.81	1453*	0.220
22	29.77	1449*	0.170
23	30.90	1445*	0.160
24	32.03	1441*	0.210
25	32.83	1438*	0.140

Radio Station: WJDA

235 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/14/01	
1	1.61	1435	80.0
2	4.83	1444	20.0
3	5.47	1451	18.0
4	6.28	1456	8.00
5	8.05	1504	3.30
6	9.33	1509	2.10
7	11.59	1517	1.30
8	12.55	1522	1.70
9	14.16	1539	1.30
10	16.09	1545	0.900
11	17.70	1604	0.640
12	18.67	1608	0.500
13	20.92	1613	0.600
14	22.53	1620	0.290
15	23.50	1634	0.350
16	25.91	1645	0.210
17	27.52	1652	0.100
18	28.97	1658	0.340
19	29.93	1702	0.160
20	31.38	1708	0.170

Radio Station: WJDA

245 Degree Stub Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/29/01	
1	19.15	1413	0.92
2	20.76	1400	0.92
3	22.69	1342	0.66
4	24.78	1348	0.35
5	25.43	1453	0.25

Radio Station: WCCC

81 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/22/01	
1	2.57	1527	15.0
2	3.86	1519	15.0
3	4.51	1514	10.0
4	5.79	1452	5.60
5	6.44	1446	5.10
6	7.56	1434	5.20
7	8.37	1425	2.30
8	9.33	1419	2.10
9	10.30	1409	1.40
10	10.94	1406	1.00
11	11.27	1359	1.45
12	11.59	1352	1.30
13	12.71	1347	2.30
14	14.81	1335	0.720
15	15.93	1325	0.760
16	23.34	1209	0.360
17	31.87	1151	0.130
18	37.34	1134	0.075
19	43.77	1119	0.048
20	50.21	1105	0.042
21	53.43	1055	0.026
22	59.87	1039	0.031
23	67.59	1017	0.026
24	74.19	956	0.022
25	82.08	934	0.016
26	86.10	925	0.010

Radio Station: WCCC

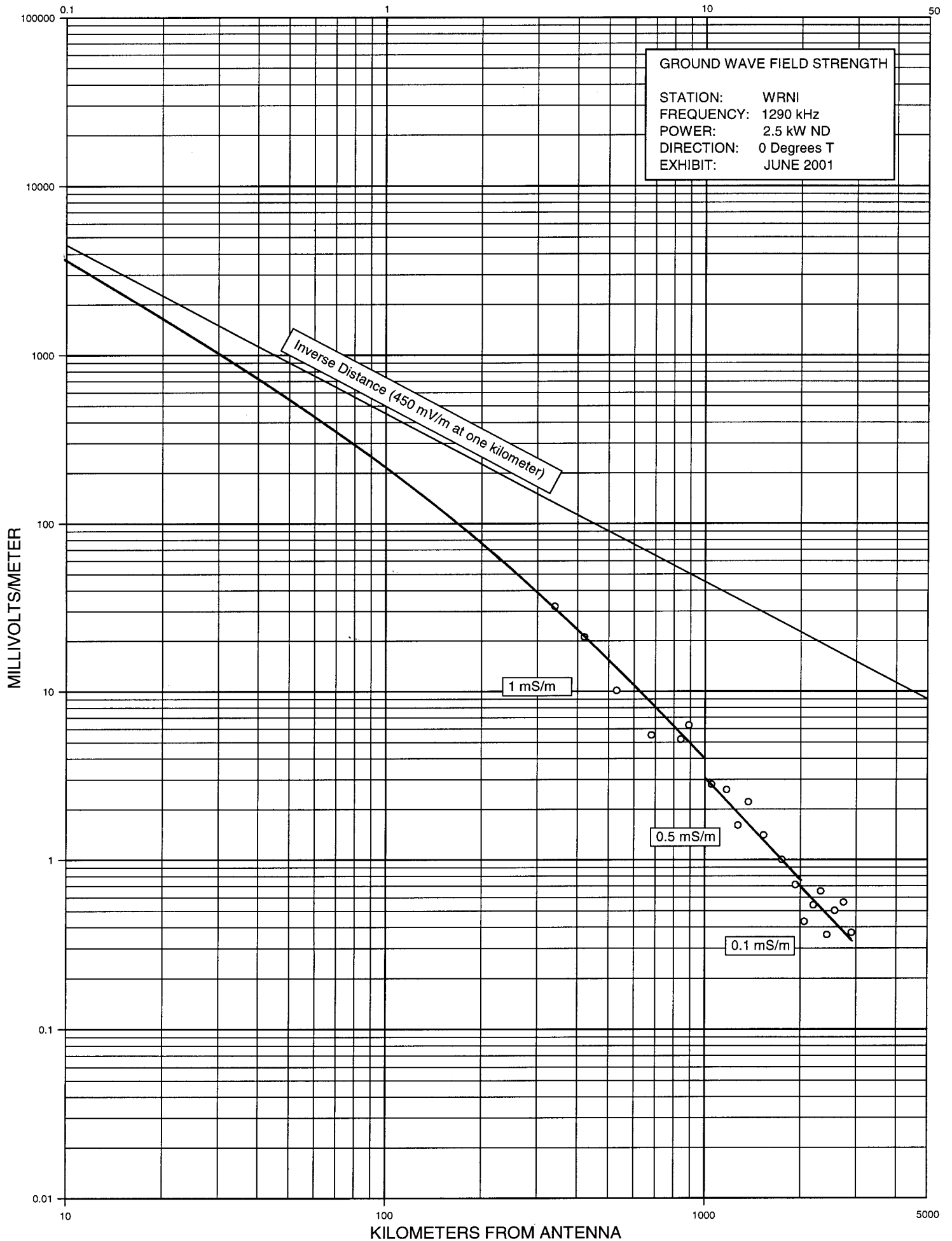
101 Degree Radial - Day

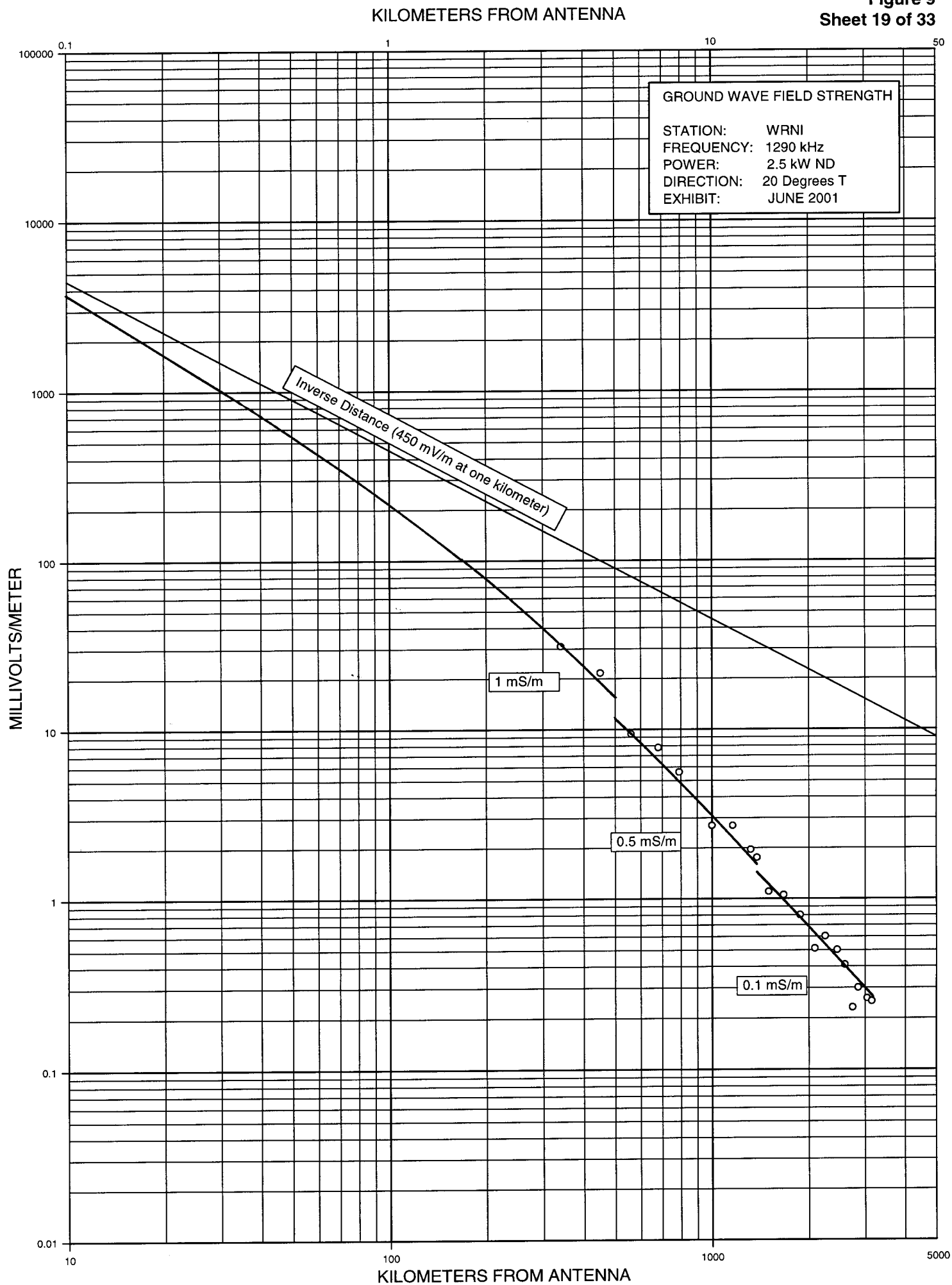
Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/21/01	
1	1.61	1817	40.0
2	2.41	1829	12.0
3	3.22	1831	13.0
4	4.02	1834	13.0
5	4.99	1836	9.00
6	6.60	1840	6.00
7	8.05	1843	3.60
8	9.82	1850	2.40
9	12.87	1736	0.400
10	16.09	1731	0.840
11	17.70	1729	0.750
12	20.92	1724	0.700
13	22.53	1721	0.480
14	24.14	1716	0.380
15	37.01	1659	0.045
16	48.28	1641	0.050
17	53.11	1609	0.035
18	54.72	1556	0.040
19	61.48	1601	0.030
20	65.98	1622	0.024

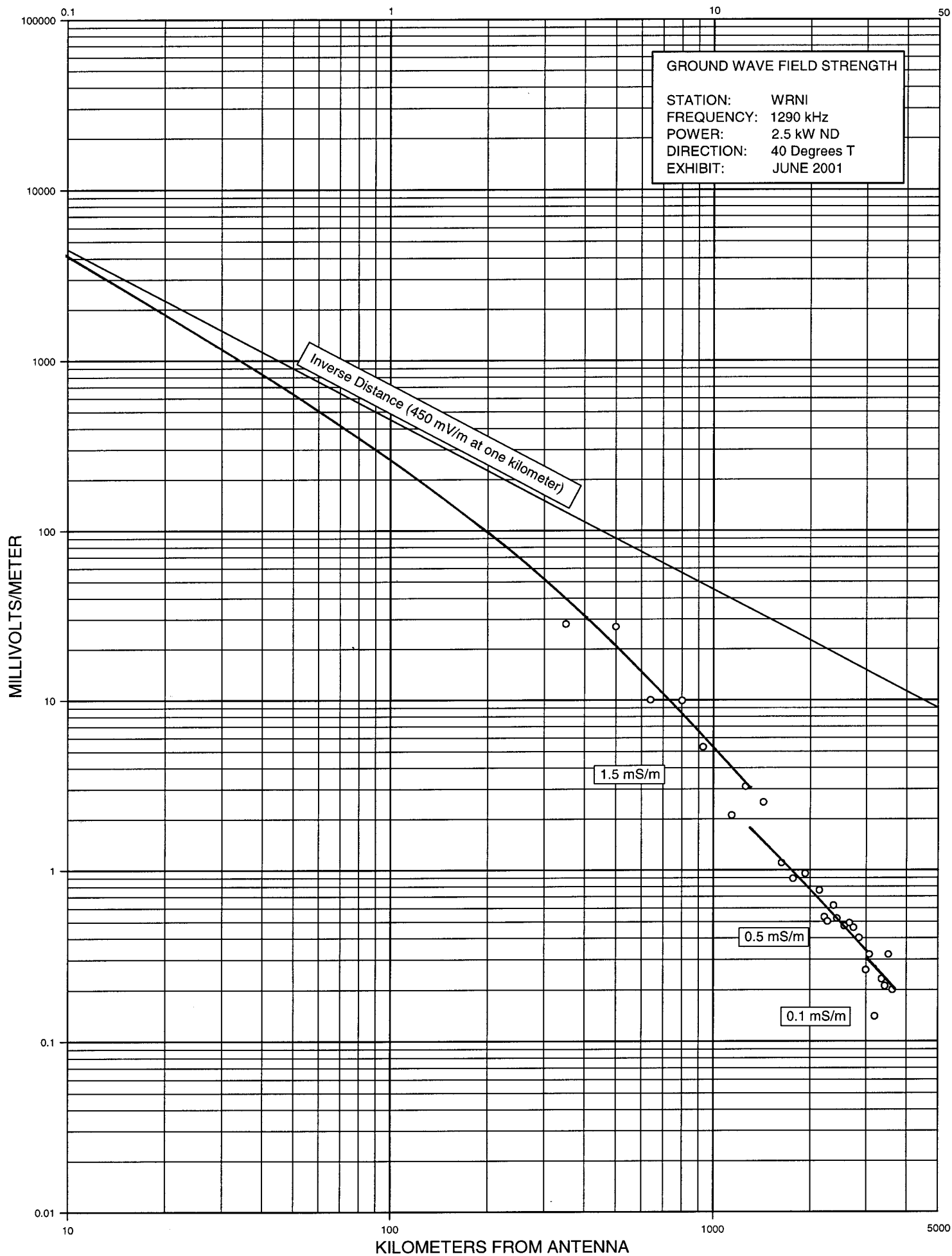
Radio Station: WCCC

111 Degree Stub Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/22/01	
1	38.62	1517	0.052
2	48.28	1508	0.050
3	51.50	1411	0.060
4	56.33	1404	0.050
5	59.55	1422	0.040
6	62.76	1440	0.030







KILOMETERS FROM ANTENNA

