



**ENGINEERING EXHIBIT  
IN SUPPORT OF AN AMENDMENT TO  
APPLICATION FOR CONSTRUCTION PERMIT  
STATION WWDJ - HACKENSACK, NEW JERSEY  
970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

Applicant: Salem Media of New York, Inc.

April, 2006

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FCC FORM 301

ENGINEERING STATEMENT OF JAMES D. SADLER

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**ENGINEERING STATEMENT  
IN SUPPORT OF AN AMENDMENT TO  
AN APPLICATION FOR CONSTRUCTION PERMIT  
STATION WWDJ - HACKENSACK, NEW JERSEY  
970 kHz - 50 kW-D, 5 kW-N, U, DA-2  
FACILITY ID: 58635**

Applicant: Salem Media of New York, LLC

I am a Technical Consultant, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My qualifications as a Technical Consultant are a matter of record with the Federal Communications Commission.

**GENERAL**

Station WWDJ is licensed for operation on 970 kHz with power of 5 kilowatts employing a directional antenna during daytime and nighttime hours (DA-2). This office has been authorized by Salem Media of New York, LLC ("Salem"), licensee of Standard Broadcast Station WWDJ, Hackensack, New Jersey, to prepare this statement, FCC Form 301 (Section III), and the attached engineering figures in support of an Amendment to an Application for Construction Permit, BP-20050719AHN, pursuant to an interference reduction arrangement with the licensee of WAMD, Aberdeen, Maryland. By means of this amendment it is proposed to increase the WWDJ daytime power to 50 kilowatts and modify the daytime directional antenna pattern. The correction of the nighttime power requested in the pending application is withdrawn. Thus, there will be no changes

proposed to the WWDJ nighttime facility as presently licensed. The proposed modification of the daytime directional antenna system will require no changes to the existing towers and/or ground system.

Pursuant to 47 CFR Section 73.3517(c), this application is filed simultaneously with, and contingent upon, an Amendment to an Application for Construction Permit of Station WAMD, Aberdeen, Maryland. Station WAMD is licensed to operate on 970 kilohertz with daytime and nighttime power of 500 Watts, employing different directional antenna patterns during daytime and nighttime hours (DA-2). The modification proposed by WWDJ would create prohibited overlap with the licensed operation of WAMD. Therefore, it is proposed to reduce the daytime power of WAMD to 300 Watts and thereby eliminate the prohibited overlap. A grant of the proposed simultaneous modifications of Station WWDJ and Station WAMD will result in an overall increase in interference-free service.

A separate request for grant of mutual facilities changes pursuant to 47 CFR 73.3517(c) is attached to this application.

PROPOSED ANTENNA SYSTEM

The existing antenna system consists of three series-excited structures, each 89 electrical degrees in height. The towers will not be modified. The daytime antenna system will employ all three towers. The proposed daytime directional antenna pattern was calculated in accordance with the equations set forth in 47 CFR 73.150. A polar plot of the daytime horizontal plane standard radiation pattern is included herein as Figure 1. Figure 2 is a tabulation of the proposed daytime horizontal plane radiation pattern.

FIELD STRENGTH CONTOURS

The existing and proposed daytime field strength contours are plotted on a series of maps contained in Figure 3. Figure 3, Sheet 1, shows the existing and proposed daytime 1000 mV/m blanketing contours. The population within the proposed daytime 1000 mV/m contour is greater than 300 persons but less than 1 percent of the population within the proposed 25 mV/m contour. The existing and proposed daytime 25, 5, and 0.5 mV/m field strength contours are shown on Sheet 2. As shown on Sheet 2, the proposed daytime 5 mV/m contour fully encompasses the community of license as prescribed in 47 CFR 73.24(i).

The field strength contours were calculated using the "equivalent distance" method for paths consisting of more than one conductivity. The distances to the field strength contours are tabulated in Appendix A. Conductivity data employed in the calculation of field strength contours was obtained from FCC Figure M-3, except that measured conductivity data where available. A tabulation of the measured conductivity data sources employed in the calculation of contours is included in Appendix B. Appendix C contains all newly submitted field strength measurement data.

DAYTIME ALLOCATION STUDY

Stations requiring particular study and the pertinent field strength contours associated with those stations are shown on a series of maps contained in Figure 4. All field strength contours were calculated using the "equivalent distance" method for paths

consisting of more than one conductivity. Conductivity data employed in the calculation of field strength contours was obtained from FCC Figure M-3, except that measured conductivity data was employed where available. The stations included in the allocation study, the sources for the measured conductivity data and the facilities associated with each station are tabulated on Figure 5. Distances to the field strength contours are tabulated in Appendix A. Measured conductivity data employed in the calculation of field strength contours is referenced or included in Appendices B and C.

As depicted on Figure 4, the existing licensed operation of WWDJ has existing prohibited overlap with first adjacent channel station WELI, New Haven, Connecticut. The overlap with this station is predicted to occur on Long Island and can be attributed to the unusual saltwater path between the stations and the areas of overlap. Therefore, it is believed that a waiver of 47 CFR 73.37 with respect to prohibited contour overlap is not required. If the Commission determines that a waiver of the Rules is necessary, then a waiver of 47 CFR 73.37 is hereby respectively requested.

#### FIELD STRENGTH MEASUREMENTS

The field strength measurements contained in this application were made by station personnel and/or contract engineers under the direct supervision of the undersigned. Each individual is experienced in the taking of field strength measurements. Field strength measurement data is included herein as Appendix C. For each station with the exception of Station WPLY, field strength measurement data was analyzed employing the inverse

distance field strengths obtained from station files. Station WPLY appeared to be operating non-directionally with approximately 500 Watts while the field intensity measurements were being conducted. Therefore, an inverse distance field equivalent to operation with 500 Watts non-directional was employed in the WPLY conductivity analysis.

ENVIRONMENTAL IMPACT

GENERAL

The proposal described herein does not involve high intensity lighting as specified in 47 CFR 1.1307(a)(8), nor will it result in human exposure to radiofrequency radiation in excess of the standards specified in 47 CFR 1.1307(b). The applicant has determined that under the provisions of 47 CFR 1.1306, the proposal is excluded from environmental processing. No new tower construction is necessary.

RADIOFREQUENCY IMPACT

On January 1, 1986, the FCC amended its Rules to implement the National Environmental Policy Act of 1969 (NEPA). This amendment established RF radiation protection guidelines to be used to determine if potentially harmful RF exposure is possible from an FCC-regulated transmission facility. Effective October 15, 1997, the FCC adopted revised guidelines and procedures for evaluating environmental effects of RF emissions. These revised guidelines incorporate two tiers of exposure limits based on whether exposure occurs in a "controlled" (occupational) situation or an "uncontrolled" (general

population) situation. The FCC has also revised OET Bulletin No. 65 entitled, "Evaluating Compliance With FCC Guidelines For Human Exposure to Radiofrequency Electromagnetic Fields," to aid the radiation exposure analysis. This bulletin, as well as other current literature, provides detailed information for conducting an analysis including mathematical equations that can be used to determine compliance with the Commission's guidelines.

The proposed WWDJ facility will continue to be co-located with station WWRV(AM), New York, New York, thus the proposed site is considered a multiple-use site.

#### CALCULATION METHODS

Verification of compliance with FCC-specified guidelines for human exposure to RF radiation was obtained from OET Bulletin No. 65. The proposed WWDJ facility will operate on 970 kHz with a daytime power of 50 kW and a nighttime power of 5 kW. The co-located operation of WWRV is licensed for operation on 1330 kHz with a daytime power of 10 kW and a nighttime power of 5 kW. Assuming a worst-case combined power level of 60 kilowatts and Tables 2 and 3 of Supplement A, a fence of at least 6 meters from the base of the tower is required.

The entire transmitter site perimeter is fenced to prevent unauthorized access to distances well in excess of 6 meters, therefore the site will remain in compliance with MPE limits. The fences will be locked to preclude public access to the towers and appropriate warning signs are posted.

OCCUPATIONAL SAFETY

Access to the tower bases is restricted to authorized maintenance personnel only. WWDJ will ensure protection to station personnel or tower contractors working in the vicinity of the antenna. WWDJ will continue joint procedures with WWRV to be followed during times of service or maintenance of the transmission systems when necessary to avoid potentially harmful exposure to personnel.

CONCLUSION

This statement, Section III of FCC Form 301, and the attached figures were prepared by me or under my direct supervision and are believed to be true and correct.

It is submitted that the proposed operation described herein complies with the technical standards of the Rules and Regulations of the Commission.

DATED: April 26, 2006

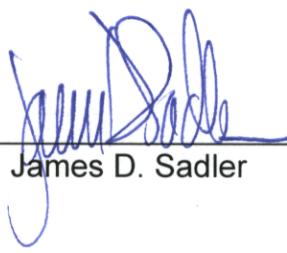
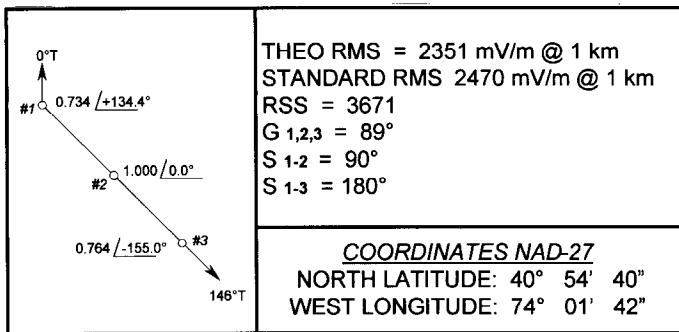
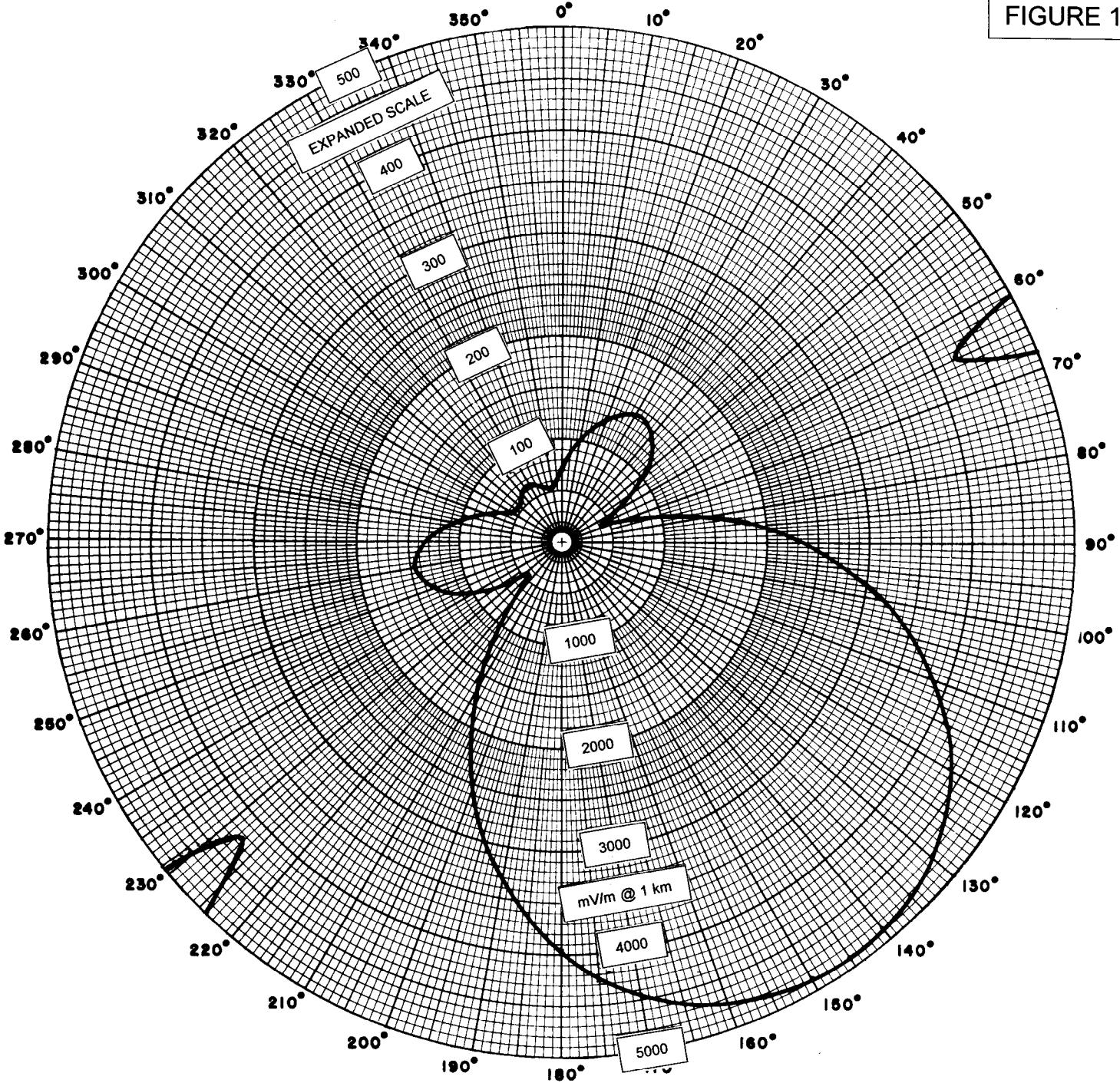
  
James D. Sadler

FIGURE 1



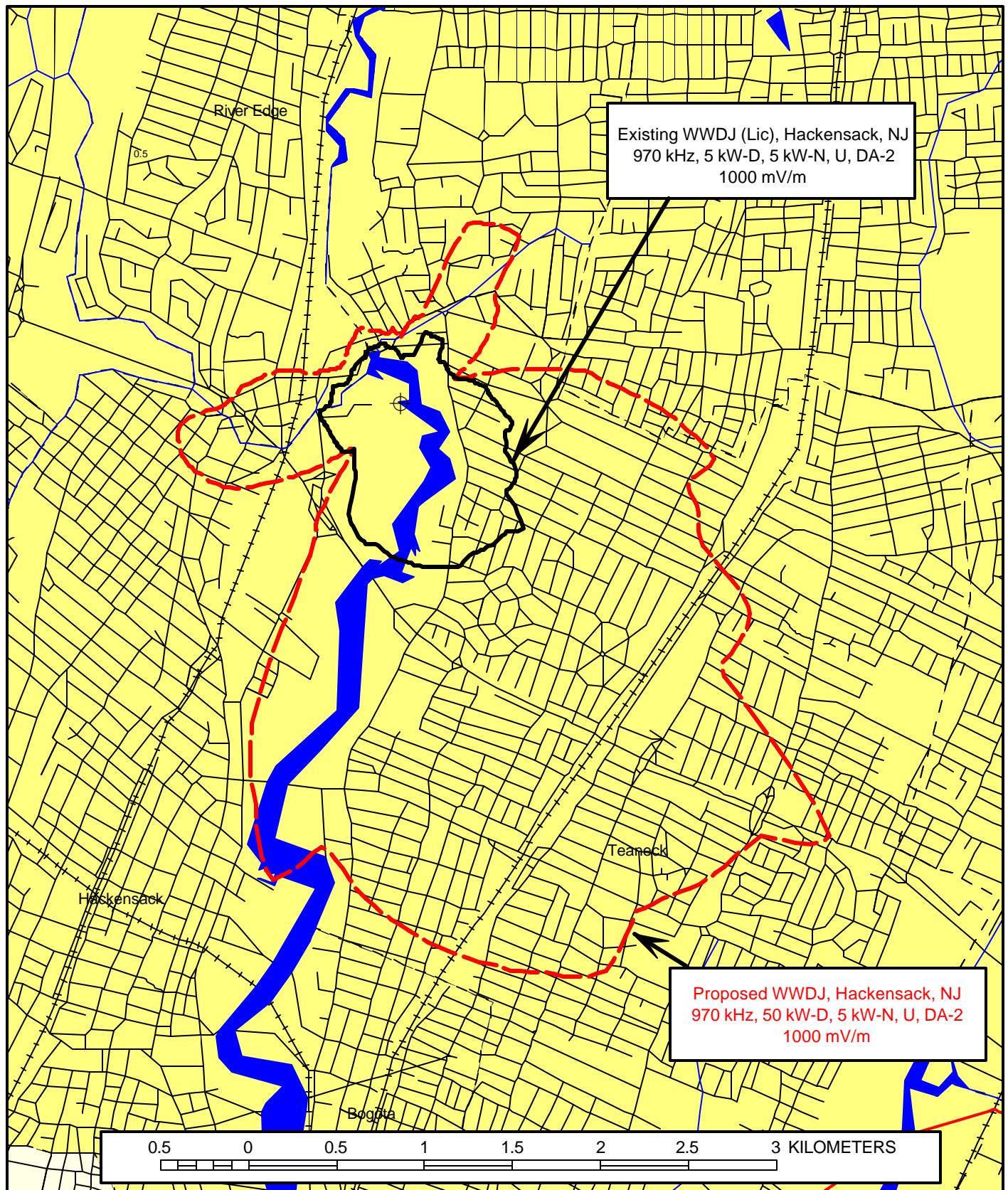
**PROPOSED DAYTIME HORIZONTAL PLANE  
STANDARD RADIATION PATTERN**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D / 5 kW-N, U, DA-2**  
**APRIL, 2006**

**TABULATION OF PROPOSED DAYTIME  
HORIZONTAL PLANE RADIATION PATTERN  
WWDJ, HACKENSACK, NEW JERSEY  
970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

Azimuth <u>(deg)</u>	Theoretical <u>(mV/m)</u>	Standard <u>(mV/m)</u>	Azimuth <u>(deg)</u>	Theoretical <u>(mV/m)</u>	Standard <u>(mV/m)</u>
0	665.6	705.5	180	3783.6	3973.9
5	797.3	842.7	185	3491.8	3667.6
10	943.7	995.6	190	3159.5	3318.8
15	1087.9	1146.4	195	2790.3	2931.4
20	1214.7	1279.1	200	2390.1	2511.4
25	1310.6	1379.5	205	1967.3	2067.9
30	1363.9	1435.4	210	1533.6	1613.2
35	1365.1	1436.6	215	1105.4	1164.7
40	1307.3	1376.1	220	711.2	752.9
45	1187.5	1250.5	225	430.0	461.7
50	1007.1	1061.8	230	446.4	478.5
55	776.2	820.7	235	675.5	715.7
60	528.1	562.8	240	919.8	970.6
65	393.7	424.5	245	1122.3	1182.3
70	576.6	613.0	250	1266.9	1333.7
75	941.2	993.0	255	1349.3	1420.1
80	1360.5	1431.8	260	1371.1	1442.9
85	1794.4	1886.5	265	1337.6	1407.8
90	2223.1	2336.2	270	1257.5	1323.8
95	2633.5	2766.8	275	1141.5	1202.4
100	3015.9	3168.2	280	1002.6	1057.1
105	3363.6	3533.0	285	855.1	903.0
110	3671.9	3856.7	290	715.3	757.3
115	3938.4	4136.5	295	601.4	638.7
120	4162.5	4371.7	300	529.9	564.7
125	4344.4	4562.6	305	507.4	541.4
130	4485.3	4710.5	310	522.2	556.7
135	4586.6	4816.9	315	552.4	587.9
140	4649.6	4883.1	320	579.4	615.9
145	4675.4	4910.2	325	592.2	629.2
150	4664.4	4898.6	330	586.6	623.4
155	4616.3	4848.1	335	564.4	600.4
160	4530.5	4758.0	340	533.6	568.5
165	4405.6	4626.9	345	510.0	544.1
170	4240.2	4453.3	350	515.3	549.6
175	4033.1	4235.9	355	567.0	603.1

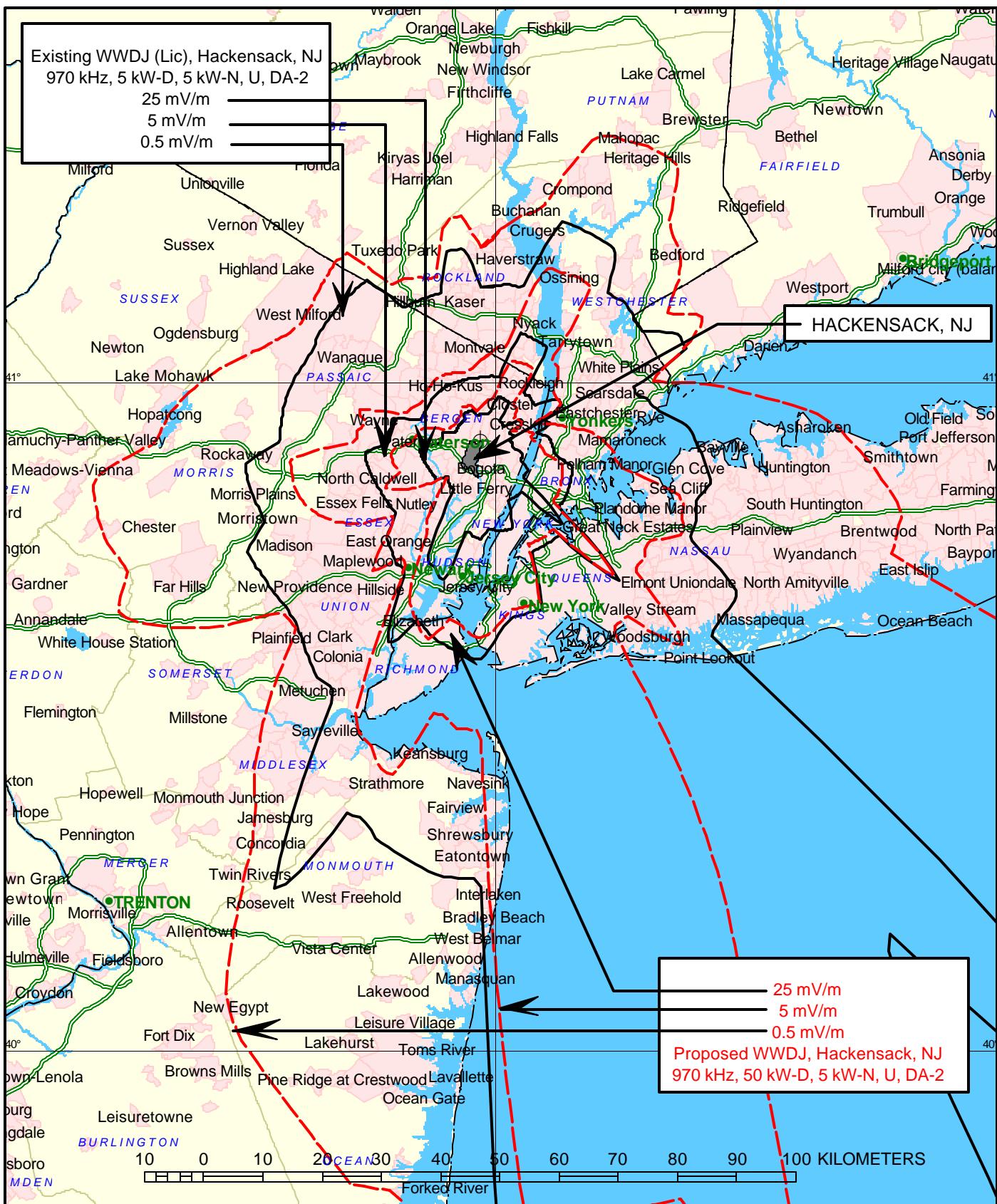
Fields in mV/m @ 1 kilometer

Figure 3  
Sheet 1 of 2



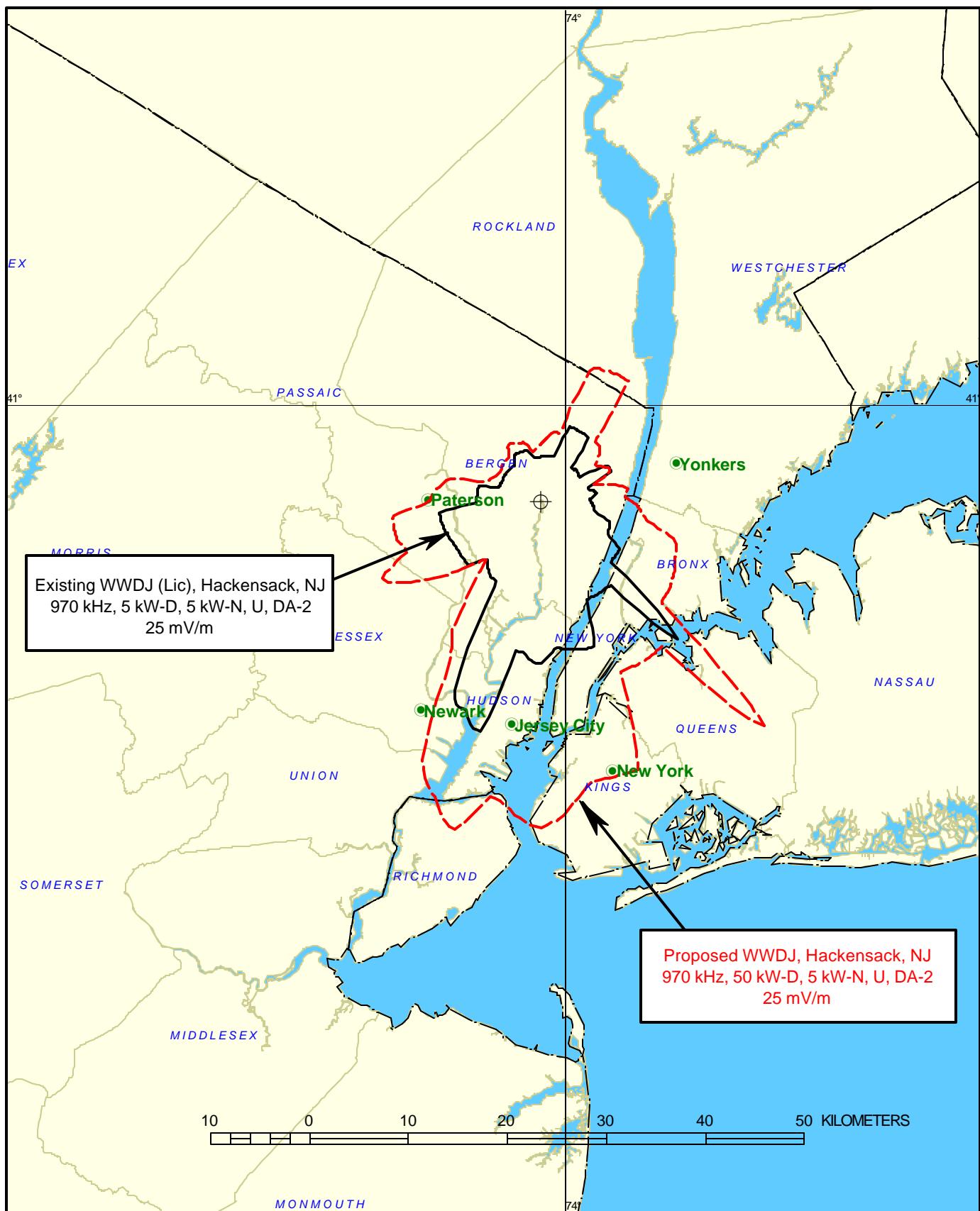
EXISTING AND PROPOSED  
DAYTIME FIELD STRENGTH CONTOURS  
WWDJ, HACKENSACK, NEW JERSEY  
970 kHz, 50 kW-D, 5 kW-N, U, DA-2  
APRIL, 2006

Figure 3  
Sheet 2 of 2



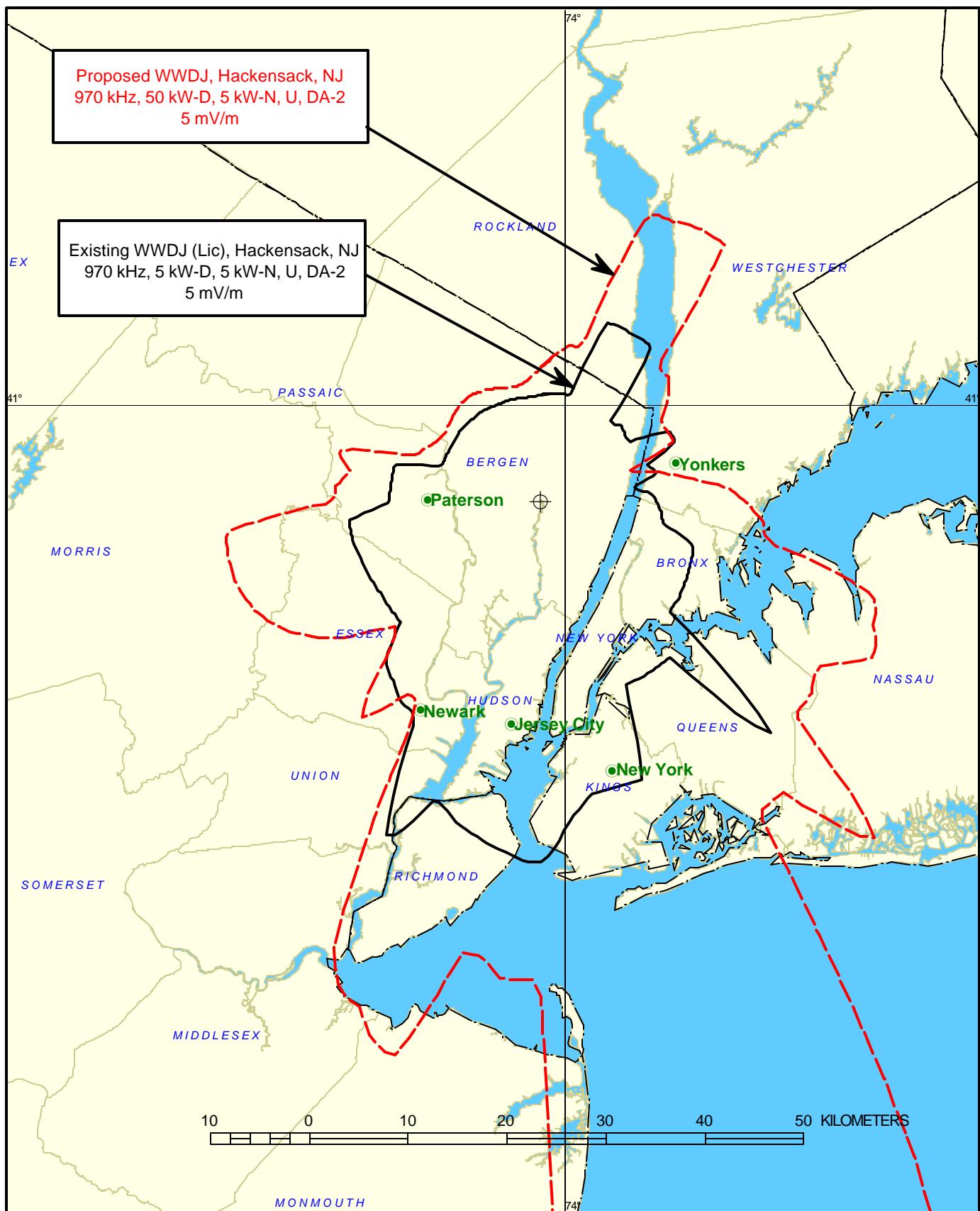
EXISTING AND PROPOSED  
DAYTIME FIELD STRENGTH CONTOURS  
WWDJ, HACKENSACK, NEW JERSEY  
970 kHz, 50 kW-D, 5 kW-N, U, DA-2  
APRIL, 2006

Figure 4  
Sheet 1 of 5



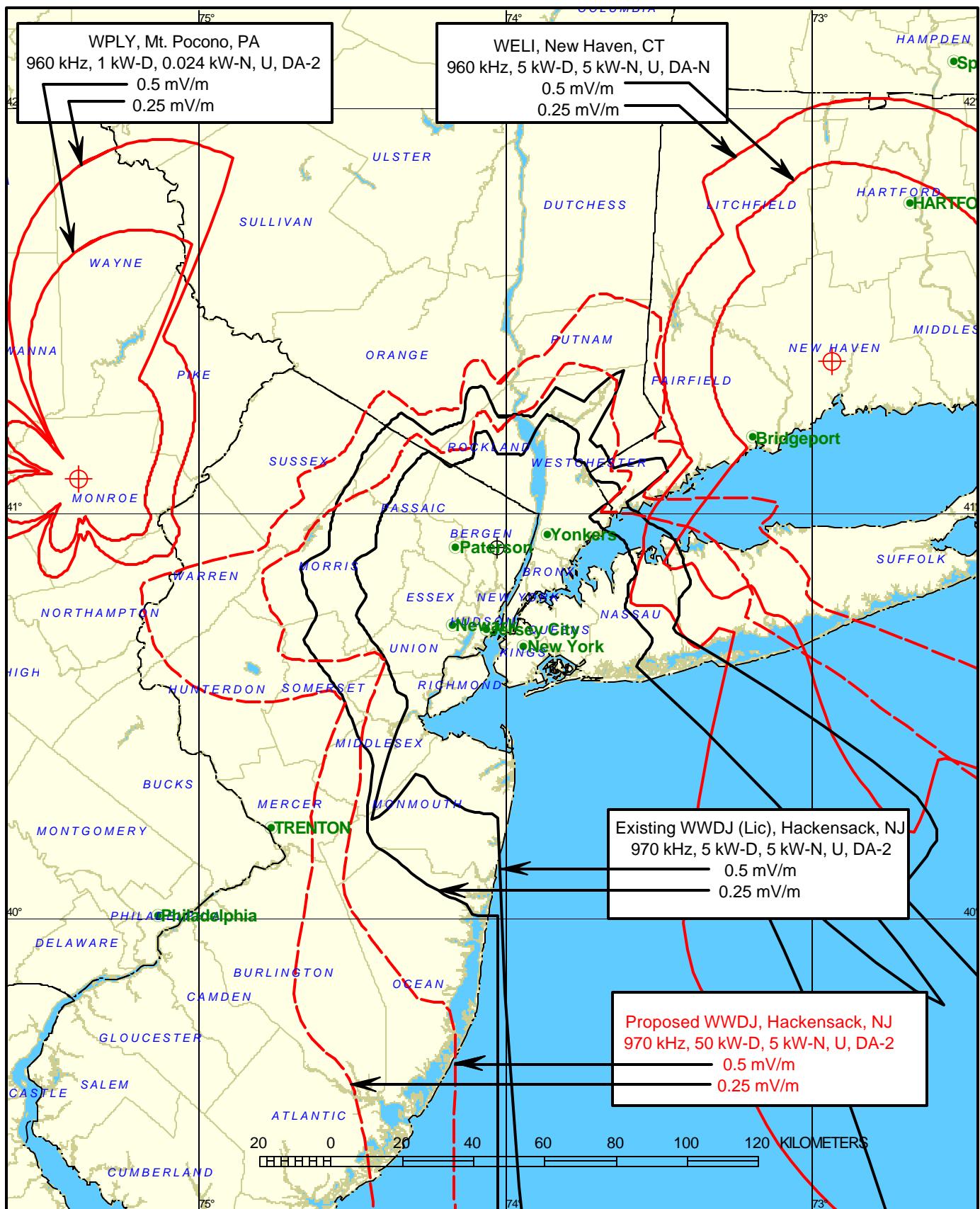
DAYTIME ALLOCATION STUDY - 940 kHz, 1000 kHz  
WWDJ, HACKENSACK, NEW JERSEY  
970 kHz, 50 kW-D, 5 kW-N, U, DA-2  
APRIL, 2006

Figure 4  
Sheet 2 of 5



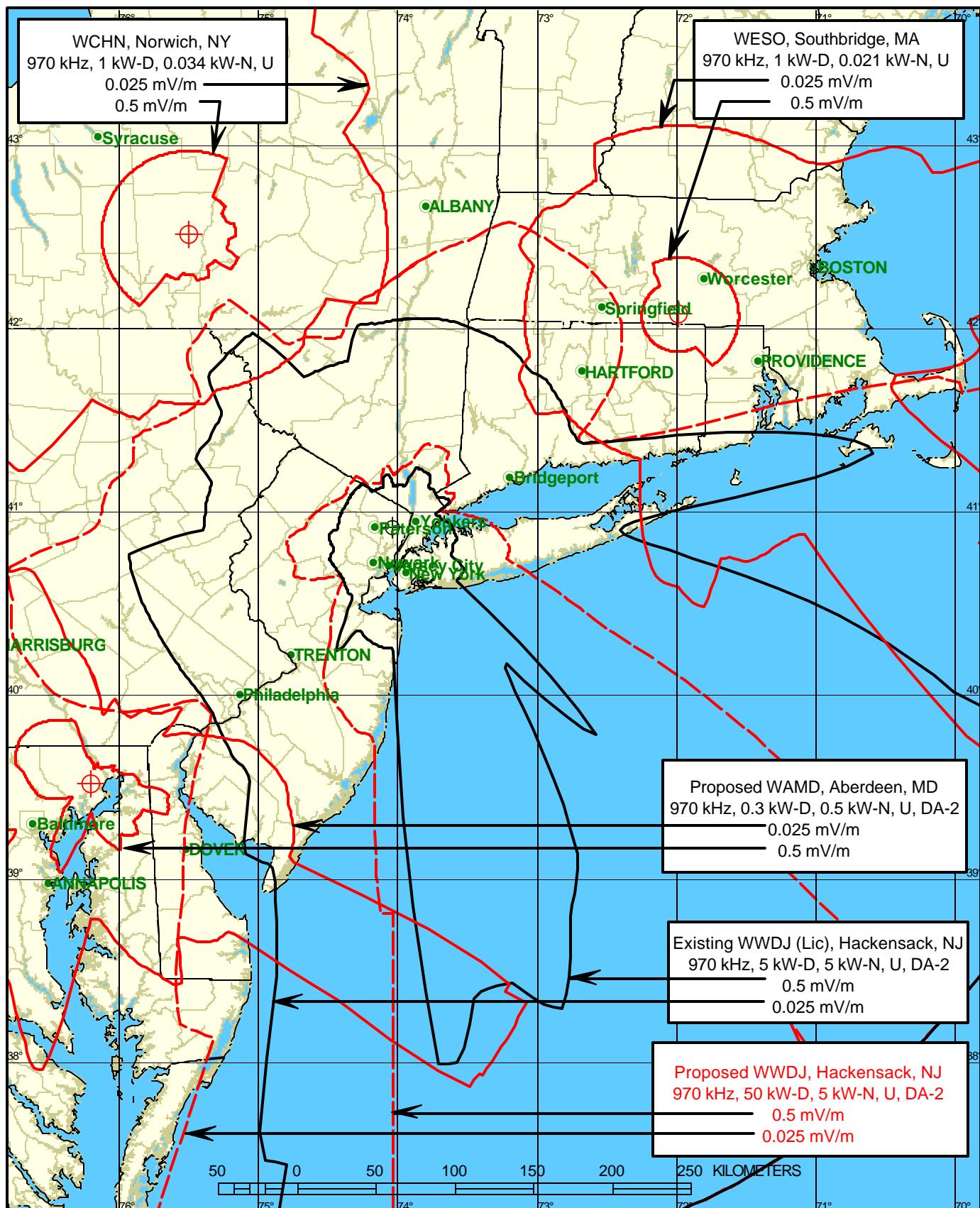
DAYTIME ALLOCATION STUDY - 950 kHz, 990 kHz  
WWDJ, HACKENSACK, NEW JERSEY  
970 kHz, 50 kW-D, 5 kW-N, U, DA-2  
APRIL, 2006

Figure 4  
Sheet 3 of 5



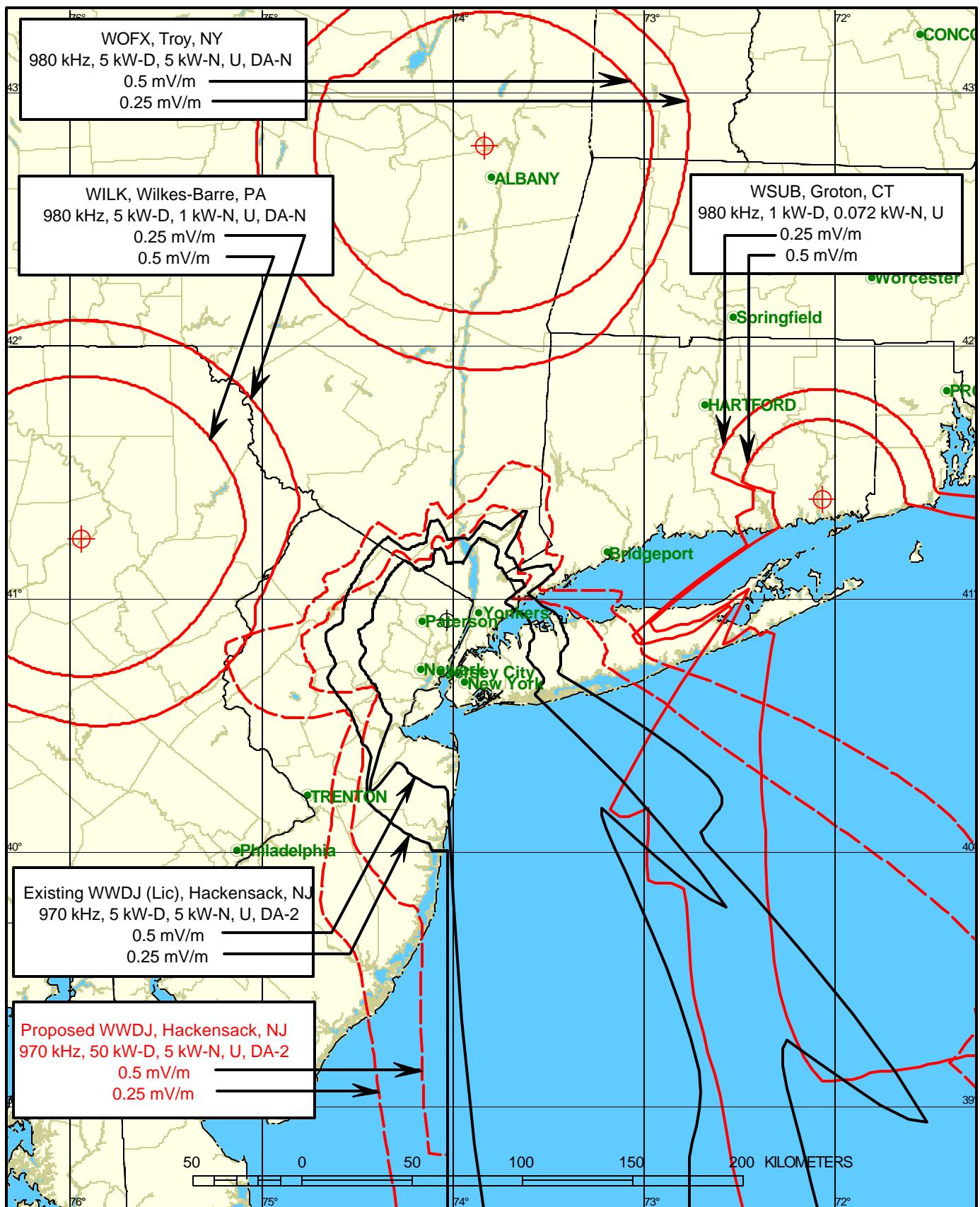
DAYTIME ALLOCATION STUDY - 960 kHz  
WWDJ, HACKENSACK, NEW JERSEY  
970 kHz, 50 kW-D, 5 kW-N, U, DA-2  
APRIL, 2006

Figure 4  
Sheet 4 of 5



DAYTIME ALLOCATION STUDY - 970 kHz  
WWDJ, HACKENSACK, NEW JERSEY  
970 kHz, 50 kW-D, 5 kW-N, U, DA-2  
APRIL, 2006

Figure 4  
Sheet 5 of 5



**TABULATION OF STATIONS CONSIDERED IN  
DAYTIME ALLOCATION STUDY  
WWDJ – HACKENSACK, NEW JERSEY  
970 kHz – 50 kW-D, 5 kW-N, U, DA-2**

Proposed WWDJ  
Hackensack, New Jersey  
970 kHz – 50 kW-D, 5 kW-N, U, DA-2

Site Coordinates: 40° 54' 40" North Latitude 74° 01' 42" West Longitude

Day RMS: 2351 mV/m at one kilometer

<u>Radial (deg. T)</u>	<u>Conductivity Data Source</u>
146	Station WWRV, File No. BL-199110624AC
70, 90, 110, 120, 190	Station WWRV, File No. BP-2001214AJK
195, 215, 235, 255	Station WWDJ, File No. BP-20050719AHN (9/2005 Amendment)
5, 25, 45, 65, 275, 295, 315, 335, 355	See Appendices B and C

Existing WWDJ  
Hackensack, New Jersey  
970 kHz – 5 kW-D, 5 kW-N, U, DA-2

Site Coordinates: 40° 54' 40" North Latitude 74° 01' 42" West Longitude

Day RMS: 643.7 mV/m at one kilometer

<u>Radial (deg. T)</u>	<u>Conductivity Data Source</u>
146	Station WWRV, File No. BL-199110624AC
70, 90, 110, 120, 190	Station WWRV, File No. BP-2001214AJK
195, 215, 235, 255	Station WWDJ, File No. BP-20050719AHN (9/2005 Amendment)
5, 25, 45, 65, 275, 295, 315, 335, 355	See Appendices B and C

Tabulation of Stations Considered in Daytime  
Allocation Study  
Station WWDJ, Hackensack, New Jersey

Figure 5  
Sheet 2 of 4

WELI, New Haven, Connecticut  
960 kHz – 5 kW-D, 5 kW-N, U, DA-N

Site Coordinates: 41° 22' 14" North Latitude 74° 01' 42" West Longitude

Day RMS: 676.5 mV/m at one kilometer

Radial <u>(deg. T)</u>	Conductivity Data <u>Source</u>
210, 230, 250, 270, 290, 310	Station WWDJ, File No. BP-20050719AHN (9/2005 Amendment)
All Other	FCC Figure M-3

WPLY, Mt. Pocono, PA  
960 kHz – 1 kW-D, 0.024 kW-N, U, DA-2

Site Coordinates: 41° 04' 41" North Latitude 75° 23' 33" West Longitude

Day RMS: 281.6 mV/m at one kilometer

Radial <u>(deg. T)</u>	Conductivity Data <u>Source</u>
40, 60, 80, 100, 120, 140, 160	See Appendices B and C
All Other	FCC Figure M-3

WESO, Southbridge, MA  
970 kHz – 1 kW-D, 0.021 kW-N, U

Site Coordinates: 42° 03' 59" North Latitude 71° 59' 28" West Longitude

Day RMS: 302.6 mV/m at one kilometer

Radial <u>(deg. T)</u>	Conductivity Data <u>Source</u>
160, 180, 200, 220, 240, 260, 280, 300, 320	See Appendices B and C
All Other	FCC Figure M-3

Tabulation of Stations Considered in Daytime  
Allocation Study  
Station WWDJ, Hackensack, New Jersey

Figure 5  
Sheet 3 of 4

Proposed WAMD, Aberdeen, MD  
970 kHz – 0.3 kW-D, 0.5 kW-N, U, DA-2

Site Coordinates: 39° 30' 35" North Latitude 76° 11' 38" West Longitude

Day RMS: 200.4 mV/m at one kilometer

Radial <u>(deg. T)</u>	Conductivity Data <u>Source</u>
0, 20, 40, 60, 80, 100, 120, 140	See Appendices B and C
All Other	FCC Figure M-3

WCHN, Norwich, NY  
970 kHz – 1 kW-D, 0.034 kW-N, U

Site Coordinates: 42° 30' 23" North Latitude 75° 29' 34" West Longitude

Day RMS: 302.6 mV/m at one kilometer

Radial <u>(deg. T)</u>	Conductivity Data <u>Source</u>
40, 60, 80, 100, 120, 140, 160, 180, 200	See Appendices B and C
All Other	FCC Figure M-3

WSUB, Groton, Connecticut  
980 kHz – 1 kW-D, 0.072 kW-N, U

Site Coordinates: 41° 23' 05" North Latitude 72° 04' 13" West Longitude

Day RMS: 305.8 mV/m at one kilometer

Radial <u>(deg. T)</u>	Conductivity Data <u>Source</u>
250, 270	See Appendices B and C
All Other	FCC Figure M-3

Tabulation of Stations Considered in Daytime  
Allocation Study  
Station WWDJ, Hackensack, New Jersey

Figure 5  
Sheet 4 of 4

WOFX, Troy, NY  
980 kHz – 5 kW-D, 5 kW-N, U, DA-N

Site Coordinates: 42° 46' 56" North Latitude 73° 50' 07" West Longitude

Day RMS: 683.7 mV/m at one kilometer

Radial  
(deg. T)  
All

Conductivity Data  
Source  
FCC Figure M-3

WILK, Wilkes-Barre, PA  
980 kHz – 5 kW-D, 1 kW-N, U, DA-N

Site Coordinates: 41° 13' 42" North Latitude 75° 56' 53" West Longitude

Day RMS: 302.6 mV/m at one kilometer

Radial  
(deg. T)  
All

Conductivity Data  
Source  
FCC Figure M-3

## **APPENDIX A**

**TABULATION OF DISTANCES TO CONTOURS**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

WWDJ (LIC) - HACKENSACK, NEW JERSEY  
 970 kHz - 5.0 kW-D, 3.8 kW-N, U, DA-2

Daytime RMS: 643.7 mV/m  
 40° 54' 40" N 74° 01' 42" W

Azimuth (deg. T.)	Distance to Contours (km)					
	1000 mV/m	25 mV/m	5.0 mV/m	0.5 mV/m	0.25 mV/m	0.025 mV/m.
0	0.27	4.69	10.91	25.93	36.40	126.08
5	0.28	4.76	11.05	26.26	36.85	127.38
10	0.28	4.85	11.22	26.67	37.42	129.02
15	0.29	4.91	11.34	26.95	37.81	130.14
20	0.43	8.18	19.35	39.29	47.09	130.26
25	0.43	8.15	19.30	39.19	46.97	129.97
30	0.43	8.15	19.29	39.18	46.96	129.94
35	0.42	8.00	19.02	38.65	59.79	128.40
40	0.33	4.67	10.86	32.62	39.11	125.66
45	0.35	4.80	11.13	33.39	40.04	128.20
50	0.34	4.70	10.92	32.79	39.31	126.21
55	0.33	4.66	10.83	32.52	38.99	125.33
60	0.34	7.42	14.40	36.52	50.25	122.14
65	0.35	7.65	14.75	37.36	51.40	124.62
70	0.41	4.89	11.31	26.88	37.71	165.79
75	0.45	5.21	11.96	28.43	39.85	237.79
80	0.50	5.55	9.45	30.04	42.06	291.46
85	0.52	4.80	11.09	34.17	47.54	181.71
90	0.56	5.05	11.62	35.73	49.68	136.17
95	0.60	5.29	12.11	37.20	51.68	180.93
100	0.64	5.52	12.61	38.67	53.68	274.07
105	0.62	6.99	15.55	37.08	51.70	353.99
110	0.65	7.21	15.99	38.15	53.16	424.72
115	0.67	7.34	16.26	38.81	54.06	>450.00
120	0.76	8.92	16.53	49.02	134.03	>450.00
125	0.78	9.05	16.76	49.68	145.16	>450.00
130	0.79	9.15	16.93	50.17	149.24	>450.00
135	0.99	19.22	32.58	175.72	306.31	>450.00
140	0.95	10.70	20.12	106.64	237.28	>450.00
145	0.95	10.72	20.16	149.04	279.70	>450.00
150	0.95	10.71	20.14	226.93	357.59	>450.00
155	0.94	10.67	20.08	258.89	389.51	>450.00
160	0.98	15.27	29.48	308.91	439.45	>450.00
165	0.96	15.11	29.51	284.60	415.03	>450.00
170	0.94	14.90	29.65	289.11	419.38	>450.00
175	0.91	14.63	32.12	326.05	>450.00	>450.00

**TABULATION OF DISTANCES TO CONTOURS**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

WWDJ (LIC) - HACKENSACK, NEW JERSEY  
 970 kHz - 5.0 kW-D, 3.8 kW-N, U, DA-2

Daytime RMS: 643.7 mV/m  
 40° 54' 40" N 74° 01' 42" W

Azimuth (deg. T.)	Distance to Contours (km)					
	1000 mV/m	25 mV/m	5.0 mV/m	0.5 mV/m	0.25 mV/m	0.025 mV/m.
180	0.88	16.05	36.06	74.07	100.68	>450.00
185	0.85	15.65	35.37	72.68	97.94	>450.00
190	0.80	15.07	34.35	70.67	95.31	391.02
195	0.81	23.69	33.12	68.26	92.12	280.64
200	0.75	22.15	31.82	65.70	88.74	218.27
205	0.68	20.70	36.79	82.05	85.50	217.45
210	0.49	9.58	25.77	50.14	68.46	176.85
215	0.45	9.01	24.52	47.81	65.29	170.15
220	0.41	8.42	23.23	45.42	62.08	163.14
225	0.37	7.90	22.09	43.33	59.24	156.85
230	0.43	9.63	18.48	42.55	58.18	154.55
235	0.43	9.64	18.48	42.56	58.19	154.57
240	0.43	9.66	18.51	42.62	58.28	154.81
245	0.43	9.75	18.63	42.88	58.63	155.73
250	0.43	9.91	18.85	38.32	52.71	156.98
255	0.44	10.10	19.11	38.83	53.40	158.67
260	0.45	10.23	19.30	39.19	53.89	159.88
265	0.46	10.27	19.35	39.29	54.03	160.21
270	0.40	6.63	15.38	33.68	46.63	114.75
275	0.39	6.55	15.23	33.35	46.17	113.74
280	0.39	6.54	15.21	33.30	46.11	113.62
285	0.39	6.49	15.11	33.08	45.81	112.94
290	0.33	4.67	10.87	32.64	45.20	126.05
295	0.32	4.57	10.67	32.05	44.39	123.75
300	0.32	4.56	10.64	31.97	44.29	123.49
305	0.33	4.65	10.70	32.50	45.01	125.45
310	0.33	4.66	10.85	32.57	45.11	143.86
315	0.34	4.69	10.91	32.75	45.35	144.62
320	0.34	4.71	10.93	32.81	45.44	144.93
325	0.34	4.73	10.97	32.93	45.60	145.46
330	0.36	5.60	10.94	26.00	36.49	106.57
335	0.36	5.56	10.87	25.84	36.27	105.71
340	0.36	5.55	10.86	25.80	36.22	105.52
345	0.36	5.55	10.84	25.76	36.17	105.31
350	0.33	4.63	10.78	32.38	44.85	124.85
355	0.33	4.61	10.74	32.25	44.67	124.43

**TABULATION OF DISTANCES TO CONTOURS**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

WWDJ (PRO) - HACKENSACK, NEW JERSEY  
 970 kHz - 50 kW-D, 3.8 kW-N, U, DA-2

Daytime RMS: 2351 mV/m  
 40° 54' 40" N 74° 01' 42" W

Azimuth (deg. T.)	Distance to Contours (km)					
	1000 mV/m	25 mV/m	5.0 mV/m	0.5 mV/m	0.25 mV/m	0.025 mV/m.
0	0.39	6.05	13.65	32.50	45.44	151.27
5	0.44	6.66	14.87	35.44	49.46	161.83
10	0.50	7.26	16.10	38.42	53.52	172.15
15	0.56	7.81	17.22	41.13	57.19	182.55
20	1.06	14.12	30.20	53.67	73.66	198.22
25	1.13	14.68	31.22	55.58	76.19	198.05
30	1.17	14.98	31.77	56.61	77.55	196.13
35	1.17	14.99	31.79	56.63	77.58	196.18
40	0.85	8.58	18.79	48.27	66.65	193.27
45	0.79	8.17	17.95	46.14	63.78	188.47
50	0.69	7.51	16.61	42.70	59.14	176.70
55	0.56	6.56	14.68	37.76	52.45	160.23
60	0.45	7.34	14.49	42.18	57.96	138.92
65	0.35	7.56	14.61	37.03	50.95	123.65
70	0.51	5.61	9.55	30.34	42.48	181.12
75	0.78	7.25	12.23	38.37	53.46	349.98
80	1.06	8.75	14.73	45.76	77.47	450.00
85	1.22	8.32	18.54	55.98	72.03	392.64
90	1.44	9.27	20.58	61.81	79.36	352.66
95	1.64	10.10	22.34	66.82	85.82	434.53
100	1.81	10.81	23.86	71.07	91.37	>450.00
105	1.70	13.66	34.03	70.78	161.39	>450.00
110	1.80	14.25	35.43	101.24	237.61	>450.00
115	1.89	14.74	36.59	147.03	283.65	>450.00
120	2.28	15.13	32.47	275.38	412.15	>450.00
125	2.35	15.45	33.13	289.40	426.36	>450.00
130	2.41	15.68	33.63	295.66	432.72	>450.00
135	3.46	31.53	47.44	>450.00	>450.00	>450.00
140	3.20	18.78	37.86	386.15	>450.00	>450.00
145	3.21	18.83	38.80	428.95	>450.00	>450.00
150	3.20	18.81	75.51	>450.00	>450.00	>450.00
155	3.18	18.72	106.96	>450.00	>450.00	>450.00
160	3.42	28.41	156.05	>450.00	>450.00	>450.00
165	3.35	28.39	130.37	>450.00	>450.00	>450.00
170	3.25	28.46	133.00	>450.00	>450.00	>450.00
175	3.12	30.84	167.47	>450.00	>450.00	>450.00

**TABULATION OF DISTANCES TO CONTOURS**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

WWDJ (PRO) - HACKENSACK, NEW JERSEY  
 970 kHz - 50 kW-D, 3.8 kW-N, U, DA-2

Daytime RMS: 2351 mV/m  
 40° 54' 40" N 74° 01' 42" W

Azimuth (deg. T.)	Distance to Contours (km)					
	1000 mV/m	25 mV/m	5.0 mV/m	0.5 mV/m	0.25 mV/m	0.025 mV/m.
180	2.96	32.54	49.60	233.69	370.16	>450.00
185	2.77	31.36	47.89	133.36	261.11	>450.00
190	2.55	29.93	45.85	125.54	192.75	>450.00
195	2.80	33.89	57.34	117.12	154.16	>450.00
200	2.41	31.35	53.74	109.89	145.25	328.00
205	2.00	28.35	49.51	101.31	134.58	320.10
210	1.08	18.58	27.09	76.35	103.17	262.69
215	0.83	15.65	23.37	66.08	89.73	224.67
220	0.57	10.61	27.98	54.33	74.08	188.48
225	0.37	7.96	22.22	43.56	59.56	157.56
230	0.46	10.21	19.27	44.27	60.52	160.67
235	0.69	13.19	23.26	53.11	72.43	189.99
240	0.92	15.80	26.70	60.90	82.89	213.41
245	1.11	17.67	29.16	66.53	90.31	229.08
250	1.19	14.43	30.76	62.59	95.13	234.68
255	1.26	14.90	31.62	64.39	97.72	239.81
260	1.28	15.02	31.85	64.85	98.39	234.47
265	1.25	14.84	31.50	64.13	97.36	232.64
270	0.99	11.58	21.63	54.53	65.47	182.94
275	0.92	11.03	20.69	52.16	62.64	176.09
280	0.82	10.32	19.49	49.13	59.02	171.21
285	0.72	9.50	20.81	45.65	54.85	160.98
290	0.52	6.29	14.12	42.04	58.03	165.17
295	0.46	5.74	13.01	38.81	53.64	152.42
300	0.41	5.36	12.25	36.63	50.66	143.41
305	0.40	5.24	12.01	35.91	49.68	140.37
310	0.41	5.32	12.17	36.38	50.33	160.46
315	0.42	5.48	12.50	37.33	51.62	164.42
320	0.44	5.62	12.78	38.16	52.75	167.83
325	0.45	5.69	12.91	38.54	53.27	169.40
330	0.49	6.75	12.86	30.59	42.82	130.27
335	0.47	6.61	12.62	30.03	42.05	127.50
340	0.45	6.41	12.29	29.24	40.97	123.54
345	0.43	6.26	12.03	28.62	40.11	120.37
350	0.40	5.28	12.09	36.17	50.03	137.21
355	0.43	5.56	12.65	37.78	52.23	142.33

**TABULATION OF DISTANCES TO CONTOURS**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

WELI - NEW HAVEN, CONNECTICUT  
 960 kHz - 5.0 kW-D, 5.0 kW-N, U, DA-N

Daytime Radiation: 302.6 mV/m  
 41° 22' 14" N 72° 56' 15" W

Azimuth (deg. T.)	Distance to Contours (km)	
	0.5 mV/m	0.25 mV/m
0	54.98	71.45
5	54.98	72.63
10	54.98	73.64
15	54.98	74.72
20	54.98	74.88
25	54.98	74.88
30	54.98	74.88
35	54.98	74.88
40	54.98	74.88
45	54.98	74.88
50	54.98	74.88
55	54.98	74.88
60	54.98	74.88
65	54.98	74.88
70	54.98	74.88
75	54.98	74.88
80	54.98	74.88
85	54.98	74.88
90	55.40	76.80
95	56.95	142.80
100	88.17	217.64
105	158.57	288.03
110	181.72	300.00
115	164.56	294.03
120	106.56	236.02
125	139.86	269.33
130	112.35	241.81
135	156.31	285.78
140	207.54	>300.00
145	274.58	>300.00
150	149.83	279.30
155	116.91	246.38
160	118.21	247.68
165	112.83	242.30
170	130.97	260.44
175	118.06	247.53

**TABULATION OF DISTANCES TO CONTOURS**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

WELI - NEW HAVEN, CONNECTICUT  
 960 kHz - 5.0 kW-D, 5.0 kW-N, U, DA-N

Daytime Radiation: 302.6 mV/m  
 41° 22' 14" N 72° 56' 15" W

Azimuth (deg. T.)	Distance to Contours (km)	
	0.5 mV/m	0.25 mV/m
180	101.97	231.44
185	80.53	210.00
190	71.43	181.81
195	70.96	159.01
200	64.89	78.87
205	71.48	86.49
210	70.02	84.00
215	66.98	80.97
220	71.70	85.69
225	32.85	72.97
230	32.85	65.43
235	32.85	46.79
240	32.85	46.79
245	32.85	45.95
250	32.85	45.95
255	32.85	45.95
260	32.85	45.95
265	32.85	45.95
270	32.85	45.95
275	32.85	45.95
280	32.85	45.95
285	32.85	45.95
290	32.85	45.95
295	32.85	45.95
300	32.85	45.95
305	32.85	45.95
310	32.85	45.95
315	32.85	45.95
320	32.85	45.95
325	45.05	60.98
330	45.60	61.53
335	46.41	62.34
340	47.51	63.44
345	49.29	65.21
350	52.15	68.07
355	54.15	70.08

**TABULATION OF DISTANCES TO CONTOURS**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

WPLY - MOUNT POCONO, PENNSYLVANIA  
 960 kHz - 1.0 kW-D, 0.024 kW-N, U, DA-2

Daytime RMS: 281.6 mV/m  
 41° 04' 41" N 75° 23' 33" W

Azimuth (deg. T.)	Distance to Contours (km)	
	0.5 mV/m	0.25 mV/m
0	63.59	86.47
5	67.15	91.23
10	69.77	94.77
15	71.41	97.05
20	72.12	98.11
25	71.89	97.97
30	32.83	45.91
35	32.25	45.13
40	31.38	43.92
45	30.25	42.38
50	28.93	40.56
55	27.48	38.55
60	25.95	36.44
65	24.41	34.32
70	22.94	32.28
75	21.60	30.41
80	20.45	28.82
85	19.55	27.57
90	18.94	26.72
95	18.63	26.30
100	18.61	26.26
105	18.82	26.55
110	19.19	27.06
115	21.65	30.29
120	22.13	30.95
125	22.51	31.48
130	22.72	31.77
135	20.59	29.01
140	20.26	28.56
145	19.60	27.65
150	18.57	26.20
155	17.12	24.19
160	15.23	21.55
165	12.83	18.21
170	9.82	14.00
175	11.41	16.13

**TABULATION OF DISTANCES TO CONTOURS**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

WPLY - MOUNT POCONO, PENNSYLVANIA  
960 kHz - 1.0 kW-D, 0.024 kW-N, U, DA-2

Daytime RMS: 281.6 mV/m  
41° 04' 41" N 75° 23' 33" W

Azimuth (deg. T.)	Distance to Contours (km)	
	0.5 mV/m	0.25 mV/m
180	10.24	14.59
185	15.85	21.94
190	18.68	25.68
195	19.85	27.24
200	19.74	27.09
205	18.46	25.39
210	15.93	22.04
215	11.78	16.60
220	7.75	11.32
225	12.93	18.10
230	17.01	23.47
235	19.77	27.13
240	21.61	29.58
245	22.70	31.05
250	23.13	31.64
255	22.96	31.40
260	22.17	30.35
265	20.77	28.46
270	18.65	25.93
275	15.63	22.24
280	11.28	15.95
285	7.84	11.44
290	12.65	19.85
295	18.36	27.56
300	22.33	32.47
305	24.50	35.14
310	24.92	35.59
315	23.22	33.35
320	18.31	27.06
325	7.95	12.87
330	19.73	28.81
335	31.10	43.34
340	39.90	54.83
345	47.31	64.62
350	53.68	73.11
355	59.10	80.35

**TABULATION OF DISTANCES TO CONTOURS**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

WESO - SOUTH BRIDGE, MASSACHUSETTS  
 970 kHz - 1.0 kW-D, 0.021kW-N, U

Daytime Radiation: 302.6 mV/m  
 42° 03' 59" N 71° 59' 28" W

Azimuth (deg. T.)	Distance to Contours (km)	
	0.5 mV/m	0.025 mV/m
0	35.57	115.69
5	35.69	115.81
10	35.88	115.99
15	35.99	116.25
20	35.99	116.58
25	35.99	117.00
30	35.99	117.66
35	35.99	119.12
40	35.99	122.20
45	35.99	133.66
50	35.99	161.38
55	35.99	172.76
60	35.99	178.57
65	35.99	274.34
70	35.99	304.76
75	35.99	293.80
80	35.99	226.13
85	35.99	213.93
90	35.99	173.05
95	35.99	180.40
100	35.99	165.27
105	35.99	133.66
110	35.99	138.73
115	35.99	173.87
120	35.99	252.14
125	35.99	275.55
130	35.99	330.58
135	35.99	>350.00
140	35.99	>350.00
145	35.99	308.38
150	21.42	151.88
155	21.42	150.20
160	21.42	153.11
165	21.42	154.03
170	21.42	149.27
175	21.42	176.36

**TABULATION OF DISTANCES TO CONTOURS**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

WESO - SOUTH BRIDGE, MASSACHUSETTS  
970 kHz - 1.0 kW-D, 0.021kW-N, U

Daytime Radiation: 302.6 mV/m  
42° 03' 59" N 71° 59' 28" W

Azimuth (deg. T.)	Distance to Contours (km)	
	0.5 mV/m	0.025 mV/m
180	21.42	164.20
185	21.42	157.44
190	21.42	127.19
195	21.42	89.12
200	21.42	89.12
205	21.42	89.12
210	21.42	89.12
215	21.42	89.12
220	21.42	89.12
225	21.42	89.12
230	21.42	89.12
235	21.42	102.61
240	21.42	102.10
245	21.42	101.46
250	21.42	100.60
255	21.42	91.65
260	21.42	90.89
265	21.42	90.89
270	21.42	90.89
275	21.42	90.42
280	21.42	90.42
285	21.42	90.42
290	21.42	90.42
295	21.42	103.18
300	21.42	102.22
305	21.42	102.11
310	21.42	102.06
315	21.42	95.49
320	21.42	95.49
325	21.42	95.49
330	21.42	95.49
335	35.30	115.42
340	35.26	115.38
345	35.27	115.39
350	35.34	115.45
355	35.45	115.57

**TABULATION OF DISTANCES TO CONTOURS**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

PROPOSED WAMD - ABERDEEN, MARYLAND  
970 kHz - 0.3 kW-D, 0.5 kW-N, U, DA-2

Daytime RMS: 153.4 mV/m  
39° 21' 47" N 75° 57' 14" W

Azimuth (deg. T.)	Distance to Contours (km)	
	0.5 mV/m	0.025 mV/m.
0	15.33	69.42
5	13.03	55.20
10	10.38	43.26
15	13.72	54.06
20	12.23	49.19
25	11.80	47.77
30	11.76	47.67
35	13.67	55.59
40	14.19	57.21
45	15.98	62.70
50	18.98	72.09
55	15.42	53.64
60	18.31	63.32
65	18.51	73.28
70	20.83	85.27
75	26.10	99.62
80	27.98	106.67
85	29.58	113.59
90	30.95	119.40
95	46.14	121.24
100	47.51	125.40
105	48.64	128.78
110	49.42	132.00
115	34.81	283.28
120	34.77	300.00
125	34.44	295.72
130	33.82	198.99
135	40.38	126.92
140	38.93	121.88
145	37.11	115.41
150	34.88	107.38
155	42.65	132.59
160	38.82	122.26
165	34.91	111.27
170	30.23	97.72
175	24.97	84.48

**TABULATION OF DISTANCES TO CONTOURS**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

PROPOSED WAMD - ABERDEEN, MARYLAND  
970 kHz - 0.3 kW-D, 0.5 kW-N, U, DA-2

Daytime RMS: 153.4 mV/m  
39° 21' 47" N 75° 57' 14" W

Azimuth (deg. T.)	Distance to Contours (km)	
	0.5 mV/m	0.025 mV/m.
180	15.93	81.25
185	20.98	114.20
190	32.33	175.06
195	38.08	161.37
200	56.18	141.09
205	50.26	126.28
210	49.89	123.44
215	40.91	118.10
220	31.26	106.06
225	25.54	96.77
230	21.69	81.56
235	16.20	63.55
240	13.83	53.82
245	18.47	63.33
250	23.98	75.81
255	28.77	87.13
260	32.92	97.36
265	35.24	106.32
270	37.19	114.17
275	39.45	121.47
280	42.16	128.75
285	47.36	149.34
290	49.32	154.23
295	50.76	157.90
300	51.61	159.86
305	51.82	159.88
310	51.45	158.82
315	50.57	156.96
320	49.25	154.21
325	47.58	150.78
330	45.70	147.01
335	43.83	142.80
340	41.88	138.47
345	39.61	133.29
350	19.00	91.19
355	17.30	81.26

**TABULATION OF DISTANCES TO CONTOURS**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

WCHN - NORWICH, NEW YORK  
 970 kHz - 1.0 kW-D, 0.034 kW-N, U

Daytime Radiation: 302.6 mV/m  
 42° 30' 23" N 75° 29' 34" W

Azimuth (deg. T.)	Distance to Contours (km)	
	0.5 mV/m	0.025 mV/m
0	51.35	175.05
5	51.35	175.05
10	51.35	175.05
15	51.35	175.05
20	51.35	175.05
25	51.35	175.05
30	27.29	141.61
35	27.29	141.61
40	27.29	141.61
45	27.29	141.61
50	27.29	135.28
55	23.33	109.85
60	23.33	110.29
65	23.33	111.55
70	23.33	111.55
75	27.29	116.04
80	27.29	116.04
85	27.29	116.04
90	27.29	116.04
95	23.33	117.20
100	23.33	117.20
105	23.33	117.20
110	23.33	117.20
115	31.68	89.50
120	31.68	89.50
125	31.68	89.50
130	31.68	89.50
135	21.42	95.19
140	21.42	95.19
145	21.42	95.19
150	21.42	95.19
155	27.29	94.88
160	27.29	94.88
165	27.29	94.88
170	27.29	94.88
175	23.33	101.97

**TABULATION OF DISTANCES TO CONTOURS**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

WCHN - NORWICH, NEW YORK  
 970 kHz - 1.0 kW-D, 0.034 kW-N, U

Daytime Radiation: 302.6 mV/m  
 42° 30' 23" N 75° 29' 34" W

Azimuth (deg. T.)	Distance to Contours (km)	
	0.5 mV/m	0.025 mV/m
180	23.33	101.97
185	23.33	101.97
190	23.33	101.97
195	27.29	114.90
200	27.29	114.90
205	27.29	114.90
210	27.29	114.90
215	51.35	173.34
220	51.35	174.62
225	51.35	175.05
230	51.35	175.05
235	51.35	175.05
240	51.35	175.05
245	51.35	175.05
250	51.35	175.05
255	51.35	175.05
260	51.35	175.05
265	51.35	175.05
270	51.35	175.05
275	51.35	175.05
280	51.35	175.05
285	51.35	175.05
290	51.35	175.05
295	51.35	175.05
300	51.35	175.05
305	51.35	179.38
310	51.35	182.06
315	51.35	184.42
320	51.35	186.02
325	51.35	185.35
330	51.35	185.61
335	51.35	182.86
340	51.35	177.30
345	51.35	175.05
350	51.35	175.05
355	51.35	175.05

**TABULATION OF DISTANCES TO CONTOURS**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

WSUB - GROTON, CONNECTICUT  
 980 kHz - 1.0 kW-D, 0.072 kW-N, U

Daytime Radiation: 305.8 mV/m  
 41° 23' 05" N 72° 04' 13" W

Azimuth (deg. T.)	Distance to Contours (km)	
	0.5 mV/m	0.25 mV/m
0	36.16	49.47
5	36.16	49.47
10	36.16	49.47
15	36.16	49.47
20	36.16	49.47
25	36.16	49.47
30	36.16	49.47
35	36.16	49.47
40	36.16	49.47
45	36.16	49.47
50	36.16	49.47
55	36.16	49.47
60	36.16	49.47
65	36.16	49.47
70	36.16	49.47
75	36.16	49.47
80	36.16	49.47
85	36.16	50.93
90	36.16	90.44
95	55.66	174.28
100	119.58	238.21
105	150.87	269.50
110	173.71	292.34
115	278.20	>300.00
120	297.57	>300.00
125	297.18	>300.00
130	296.43	>300.00
135	295.28	>300.00
140	293.63	>300.00
145	297.17	>300.00
150	>300.00	>300.00
155	289.46	>300.00
160	262.85	>300.00
165	251.36	>300.00
170	251.82	>300.00
175	251.47	>300.00

**TABULATION OF DISTANCES TO CONTOURS**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

WSUB - GROTON, CONNECTICUT  
 980 kHz - 1.0 kW-D, 0.072 kW-N, U

Daytime Radiation: 305.8 mV/m  
 41° 23' 05" N 72° 04' 13" W

Azimuth (deg. T.)	Distance to Contours (km)	
	0.5 mV/m	0.25 mV/m
180	254.08	>300.00
185	216.84	>300.00
190	146.49	265.12
195	105.17	223.79
200	61.72	180.35
205	64.55	183.18
210	63.18	154.76
215	75.69	164.47
220	49.76	61.46
225	70.73	80.07
230	84.15	93.49
235	92.44	101.78
240	21.53	38.03
245	21.53	38.03
250	21.53	38.03
255	21.53	38.03
260	21.53	38.03
265	21.53	30.31
270	21.53	30.31
275	21.53	30.31
280	21.53	30.31
285	36.16	49.47
290	36.16	49.47
295	36.16	49.47
300	36.16	49.47
305	36.16	49.47
310	36.16	49.47
315	36.16	49.47
320	36.16	49.47
325	36.16	49.47
330	36.16	49.47
335	36.16	49.47
340	36.16	49.47
345	36.16	49.47
350	36.16	49.47
355	36.16	49.47

**TABULATION OF DISTANCES TO CONTOURS**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

WOFX - TROY, NEW YORK  
980 kHz - 5.0 kW-D, 5.0 kW-N, U, DA-N

Daytime Radiation: 305.8 mV/m  
42° 46' 56" N 73° 50' 07" W

Azimuth (deg. T.)	Distance to Contours (km)	
	0.5 mV/m	0.25 mV/m
0	59.66	78.61
5	59.84	78.79
10	60.08	79.03
15	60.40	79.35
20	60.81	79.76
25	61.23	80.18
30	61.65	80.60
35	62.17	81.12
40	62.84	81.79
45	63.67	82.62
50	64.72	83.67
55	66.06	85.01
60	67.37	86.32
65	68.91	87.77
70	70.96	88.30
75	72.60	88.88
80	72.60	88.22
85	71.97	87.26
90	71.27	86.55
95	70.81	86.09
100	70.57	85.85
105	70.52	85.81
110	70.68	85.97
115	71.05	86.34
120	71.64	86.92
125	72.47	87.75
130	72.60	88.87
135	72.60	90.32
140	72.60	92.17
145	72.60	93.97
150	72.60	96.01
155	72.60	97.30
160	72.60	97.30
165	72.60	97.30
170	72.60	97.30
175	72.60	97.30

**TABULATION OF DISTANCES TO CONTOURS**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

WOFX - TROY, NEW YORK  
980 kHz - 5.0 kW-D, 5.0 kW-N, U, DA-N

Daytime Radiation: 305.8 mV/m  
42° 46' 56" N 73° 50' 07" W

Azimuth (deg. T.)	Distance to Contours (km)	
	0.5 mV/m	0.25 mV/m
180	72.60	97.30
185	72.60	97.30
190	72.60	97.30
195	72.60	97.30
200	72.60	97.30
205	72.60	97.30
210	72.60	97.30
215	72.60	97.30
220	72.60	97.30
225	72.60	97.30
230	72.60	97.30
235	72.60	97.30
240	72.60	97.30
245	72.60	97.30
250	72.60	97.30
255	72.60	97.30
260	72.60	97.30
265	72.60	97.30
270	72.60	97.30
275	72.60	97.30
280	72.60	97.30
285	72.60	97.30
290	72.60	97.30
295	72.50	97.20
300	64.43	89.13
305	62.58	86.57
310	61.65	85.11
315	60.99	84.31
320	60.54	83.63
325	60.19	82.90
330	59.92	81.80
335	59.72	80.65
340	59.59	79.32
345	59.52	78.47
350	59.51	78.46
355	59.56	78.51

**TABULATION OF DISTANCES TO CONTOURS**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

WILK - WILKES-BARRE, PENNSYLVANIA  
 980 kHz - 5.0 kW-D, 1.0 kW-N, U, DA-N

Daytime Radiation: 304.2 mV/m  
 41° 13' 42" N 75° 56' 53" W

Azimuth (deg. T.)	Distance to Contours (km)	
	0.5 mV/m	0.25 mV/m
0	72.44	97.08
5	72.44	97.08
10	72.44	97.08
15	72.44	97.08
20	72.44	97.08
25	72.44	97.08
30	72.44	97.08
35	72.44	97.08
40	72.44	97.08
45	72.44	97.08
50	72.44	97.08
55	72.44	97.08
60	72.44	97.08
65	72.44	97.08
70	72.44	97.08
75	72.44	97.08
80	72.44	97.08
85	72.44	92.31
90	70.28	89.18
95	67.67	86.58
100	65.64	84.55
105	64.14	83.04
110	62.98	81.89
115	62.08	84.50
120	61.36	84.55
125	60.79	84.43
130	60.34	84.29
135	59.98	84.09
140	59.71	83.86
145	59.51	83.59
150	59.37	83.41
155	59.27	83.17
160	59.18	82.79
165	59.15	82.32
170	59.18	81.80
175	59.22	81.28

**TABULATION OF DISTANCES TO CONTOURS**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

WILK - WILKES-BARRE, PENNSYLVANIA  
980 kHz - 5.0 kW-D, 1.0 kW-N, U, DA-N

Daytime Radiation: 304.2 mV/m  
41° 13' 42" N 75° 56' 53" W

Azimuth (deg. T.)	Distance to Contours (km)	
	0.5 mV/m	0.25 mV/m
180	59.12	80.41
185	59.08	79.43
190	59.09	78.25
195	59.16	78.07
200	59.27	78.18
205	59.32	78.23
210	59.42	78.33
215	59.59	78.50
220	59.83	78.74
225	60.08	78.99
230	60.24	79.14
235	60.46	79.37
240	60.77	79.68
245	61.17	80.07
250	61.67	80.58
255	62.30	81.21
260	63.04	81.94
265	63.96	82.86
270	65.13	84.03
275	67.63	86.53
280	72.44	97.08
285	72.44	97.08
290	72.44	97.08
295	72.44	97.08
300	72.44	97.08
305	72.44	97.08
310	72.44	97.08
315	72.44	97.08
320	72.44	97.08
325	72.44	97.08
330	72.44	97.08
335	72.44	97.08
340	72.44	97.08
345	72.44	97.08
350	72.44	97.08
355	72.44	97.08

## **APPENDIX B**

**TABULATION OF MEASURED CONDUCTIVITY DATA**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

**STATION WWDJ - HACKENSACK, NEW JERSEY**

<u>Source</u>	Azimuth (deg. T.)	s (mS/m)	Distance From Transmitter to End of Conductivity (km)
See Appendix C	5.0	0.1	1.6
		1.0	30.0
		0.1	68.0
		1.0	175.4
See Appendix C	25.0	3.0	32.0
		1.5	52.0
		2.0	60.0
		1.0	149.8
See Appendix C	45.0	1.0	36.0
		0.5	100.0
		1.0	172.2
See Appendix C	65.0	1.5	1.0
		3.0	8.0
		2.0	15.0
		1.5	115.0
		1.0	135.7
BP-20001214AJK	70.0	2.0	5.4
		1.0	12.6
		0.1	57.0
		1.0	83.2
BP-20001214AJK	90.0	1.5	5.1
		0.5	71.2
		0.1	82.0

**TABULATION OF MEASURED CONDUCTIVITY DATA**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

**STATION WWDJ - HACKENSACK, NEW JERSEY**

<u>Source</u>	Azimuth (deg. T.)	s (mS/m)	Distance From Transmitter to End of Conductivity (km)
BP-20001214AJK	110.0	1.0	16.9
		1.5	45.9
		0.1	54.0
BP-20001214AJK	120.0	1.5	9.9
		1.0	54.9
BL-19910624AC	146.0	3.0	6.2
		4.0	8.5
		2.0	16.0
		3.0	20.0
		1.5	32.1
BP-20001214AJK	190.0	4.0	5.6
		5.0	51.5
		3.0	99.5
BP-20050719AHN (9/2005 Amendment)	195.0	20.0	24.0
		7.0	38.0
		5.0	85.0
		3.0	185.1
BP-20050719AHN (9/2005 Amendment)	215.0	1.5	3.2
		3.0	11.0
		4.0	34.0
		2.0	206.0
BP-20050719AHN (9/2005 Amendment)	235.0	8.0	11.0
		5.0	23.0
		3.0	30.0
		2.0	154.0

**TABULATION OF MEASURED CONDUCTIVITY DATA**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

**STATION WWDJ - HACKENSACK, NEW JERSEY**

<u>Source</u>	Azimuth (deg. T.)	s (mS/m)	Distance From Transmitter to End of Conductivity (km)
BP-20050719AHN (9/2005 Amendment)	255.0	5.0	14.0
		3.0	32.0
		1.5	66.0
		2.0	180.2
See Appendix C	275.0	2.0	22.0
		1.5	27.0
		1.0	60.0
		0.5	118.6
See Appendix C	295.0	1.0	124.7
See Appendix C	315.0	1.0	81.7
See Appendix C	335.0	1.5	10.0
		1.0	30.0
		0.1	104.0
See Appendix C	355.0	1.0	155.3

**TABULATION OF MEASURED CONDUCTIVITY DATA**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

**STATION WELI - NEW HAVEN, CONNECTICUT**

<u>Source</u>	Azimuth (deg. T.)	s (mS/m)	Distance From Transmitter to End of Conductivity (km)
BP-20050719AHN (9/2005 Amendment)	210.0	0.5	20.5
BP-20050719AHN (9/2005 Amendment)	230.0	1.0	3.6
		0.5	14.0
		0.1	42.0
BP-20050719AHN (9/2005 Amendment)	250.0	0.1	64.0
BP-20050719AHN (9/2005 Amendment)	270.0	0.1	69.0
BP-20050719AHN (9/2005 Amendment)	290.0	1.5	2.0
		0.5	4.6
		0.1	64.5
BP-20050719AHN (9/2005 Amendment)	310.0	0.1	70.5

**TABULATION OF MEASURED CONDUCTIVITY DATA  
WWDJ - HACKENSACK, NEW JERSEY  
970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

**STATION WPLY - MT. POCONO, PENNSYLVANIA**

<u>Source</u>	Azimuth (deg. T.)	s (mS/m)	Distance From Transmitter to End of Conductivity (km)
See Appendix C	40.0	1.5	2.0
		0.5	8.0
		0.1	96.9
See Appendix C	60.0	0.1	72.4
See Appendix C	80.0	0.1	56.5
See Appendix C	100.0	1.0	2.4
		0.5	7.0
		0.1	65.0
See Appendix C	120.0	0.5	66.3
See Appendix C	140.0	1.0	10.0
		0.1	66.5
See Appendix C	160.0	1.0	3.0
		0.1	32.0
		1.0	50.0
		0.1	66.1

**TABULATION OF MEASURED CONDUCTIVITY DATA  
WWDJ - HACKENSACK, NEW JERSEY  
970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

**STATION WESO - SOUTHBRIDGE, MASSACHUSETTS**

<u>Source</u>	Azimuth (deg. T.)	s (mS/m)	Distance From Transmitter to End of Conductivity (km)
See Appendix C	160.0	0.1	58.0
See Appendix C	180.0	0.1	46.1
See Appendix C	200.0	0.1	94.8
See Appendix C	220.0	0.1	116.8
See Appendix C	240.0	0.1	55.2
See Appendix C	260.0	0.1	77.7
See Appendix C	280.0	0.1	80.8
See Appendix C	300.0	0.1	26.4
See Appendix C	320.0	0.1	51.8

**TABULATION OF MEASURED CONDUCTIVITY DATA**  
**WWDJ - HACKENSACK, NEW JERSEY**  
**970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

**STATION WAMD - ABERDEEN, MARYLAND**

<u>Source</u>	Azimuth (deg. T.)	s (mS/m)	Distance From Transmitter to End of Conductivity (km)
See Appendix C	0.0	1.0	51.3
See Appendix C	20.0	2.0	1.6
		6.0	10.0
		3.0	57.1
See Appendix C	40.0	4.0	67.4
See Appendix C	60.0	2.0	20.0
		1.5	73.5
See Appendix C	80.0	1.5	3.0
		2.0	104.9
See Appendix C	100.0	4.0	50.0
		6.0	85.0
		2.0	118.5
See Appendix C	120.0	3.0	30.0
		2.0	73.6
See Appendix C	140.0	1.0	1.4
		1.5	20.0
		3.0	50.0
		1.5	67.6

**TABULATION OF MEASURED CONDUCTIVITY DATA  
WWDJ - HACKENSACK, NEW JERSEY  
970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

**STATION WCHN - NORWICH, NEW YORK**

<u>Source</u>	Azimuth (deg. T.)	s (mS/m)	Distance From Transmitter to End of Conductivity (km)
See Appendix C	40.0	1.0	50.0
		1.5	62.0
See Appendix C	60.0	0.1	0.5
		1.5	9.5
		1.0	27.0
		0.5	67.6
See Appendix C	80.0	1.0	40.0
		0.5	61.2
See Appendix C	100.0	0.5	59.6
See Appendix C	120.0	0.5	1.8
		1.5	40.0
		1.0	70.0
		0.1	88.5
See Appendix C	140.0	0.1	79.7
See Appendix C	160.0	1.0	36.0
		0.5	99.8
See Appendix C	180.0	1.5	18.0
		1.0	25.0
		0.5	60.0
		0.1	70.0
See Appendix C	200.0	1.0	40.0
		0.5	62.8

**TABULATION OF MEASURED CONDUCTIVITY DATA  
WWDJ - HACKENSACK, NEW JERSEY  
970 kHz - 50 kW-D, 5 kW-N, U, DA-2**

**STATION WSUB - GROTON, CONNECTICUT**

<u>Source</u>	Azimuth (deg. T.)	s (mS/m)	Distance From Transmitter to End of Conductivity (km)
See Appendix C	250.0	0.1	26.0
		1.0	42.6
See Appendix C	270.0	0.1	2.8
		0.5	7.0
		0.1	59.9