

Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

Groundwave Interference Protection FCC Form 301 §III-A, Question 10.a.

The proposed facility meets all FCC Rules pertaining to groundwave protection of all existing stations, permits, and applications, including those stations listed in the table below. Contour maps are included as noted when helpful to demonstrate protection.

Contours have been projected using measured conductivities for seven stations: WSNR (licensed), WSNR (proposed), WHEN, WIP, WSNG, WEJL, and WPRO. The attached Exhibit 14F lists these data and indicates their sources. Detailed studies were performed for these stations to ensure that the proposed facilities met FCC protection requirements. Where measured conductivity data was not available for these stations, and for all other stations, contours have been projected using M3 data.

The permitted WSNR facility has existing contour overlap with two other stations (WIP and WPRO) and, as permitted by FCC Rules, the proposed facility maintains but does not increase the land area of those overlaps. Exhibit 14C provides a detailed summary of this situation.

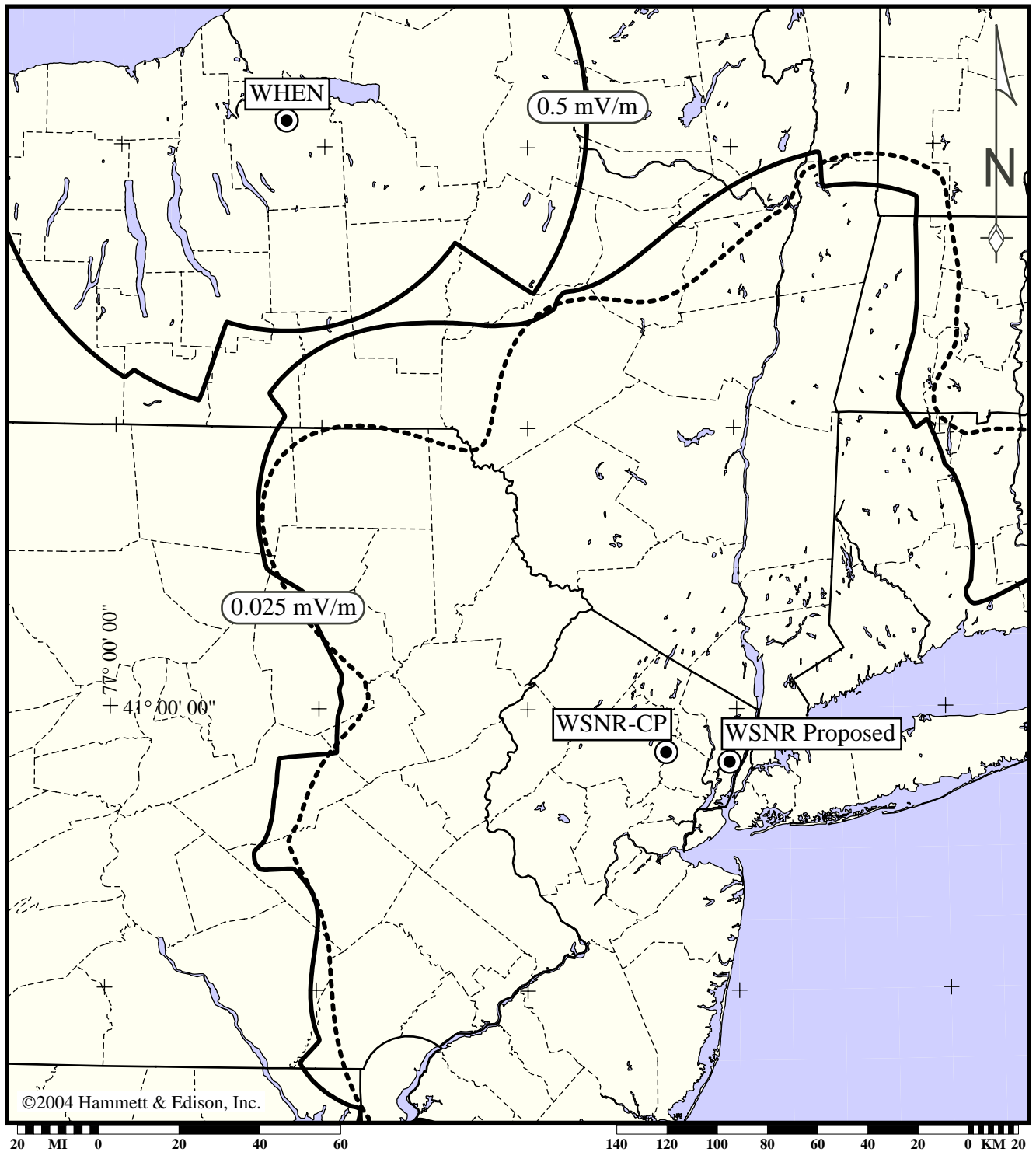
<u>Station</u>	<u>Frequency</u>	<u>Class</u>	<u>Location</u>	<u>FCC File No.</u>	<u>Map</u>
Co-Channel					
WHEN	620 kHz	B	Syracuse, NY	BL19990713DC	Ex. 14B
WKHB	620 kHz	B	Irwin, PA	BL20010416ABD	Ex. 14B
WVMT	620 kHz	B	Burlington, VT	BL19881229AE	Ex. 14B
First-Adjacent Channel					
WIP	610 kHz	B	Philadelphia, PA	BL19861110AE	Ex. 14C
WSNG	610 kHz	B	Torrington, CT	BL-10511	Ex. 14C
WEJL	630 kHz	D	Scranton, PA	BL20021004ADJ	Ex. 14C
WPRO	630 kHz	B	Providence, RI	BL19801215AH	Ex. 14C
Second-Adjacent Channel					
WICC	600 kHz	B	Bridgeport, CT	BL-13712	Ex. 14D
WWJZ	640 kHz	B	Mount Holly, NJ	BL199211110AA BP20020109AAE (CP)	Ex. 14D Ex. 14D
Third-Adjacent Channel					
WARM	590 kHz	B	Scranton, PA	BL19820930AD	Ex. 14E
WROW	590 kHz	B	Albany, NY	Facility ID #54853*	Ex. 14E
WJLT	650 kHz	D	Ashland, MA	BP19990521AT	

* FCC File No. not listed in FCC engineering database.



Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

Daytime Groundwave Protection
0.025 mV/m Proposed WSNR Interfering Contour
vs Co-Channel 0.5 mV/m Protected Contours



----- = Permitted
———— = Proposed

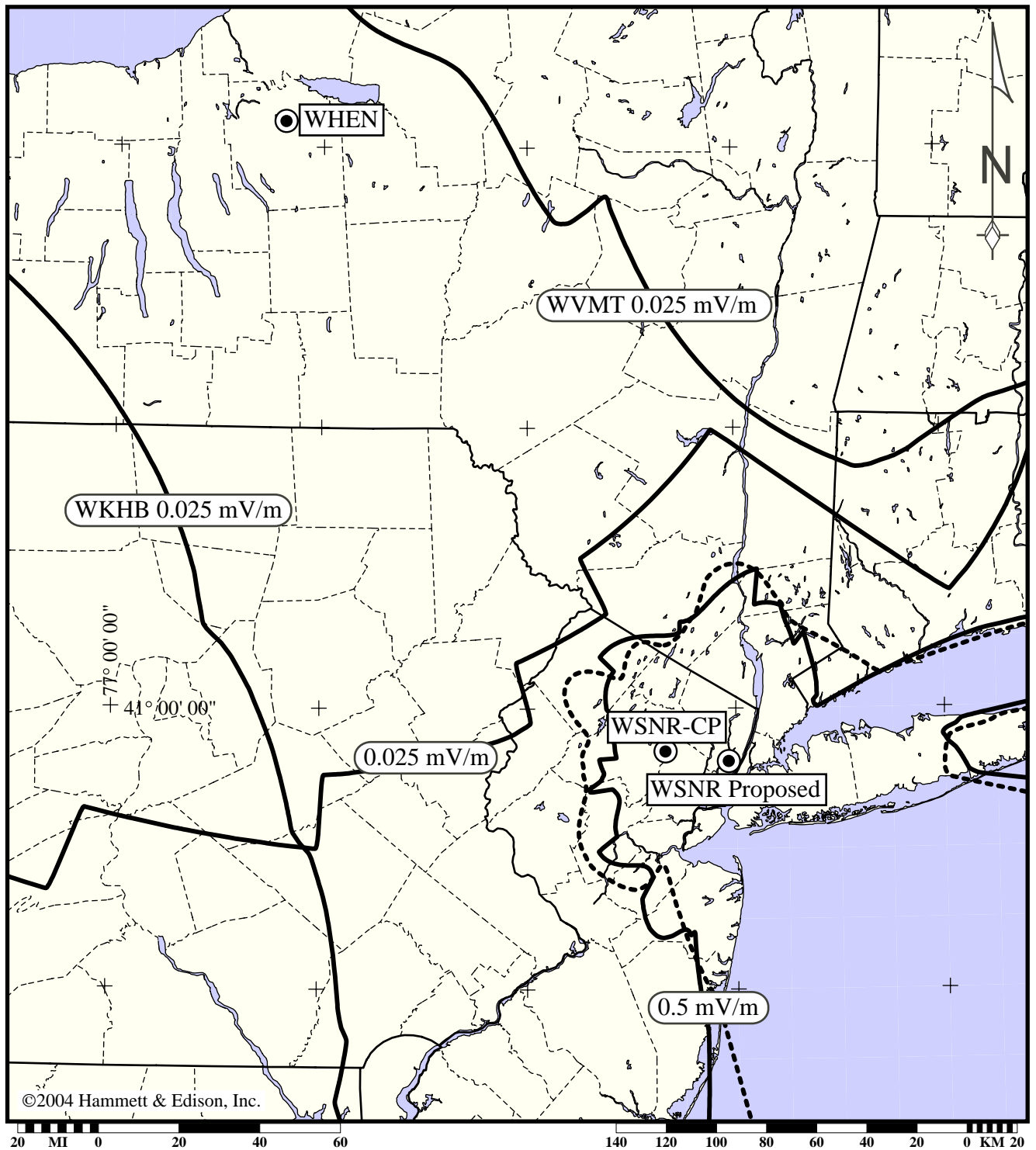


HAMMETT & EDISON, INC.
CONSULTING ENGINEERS
SAN FRANCISCO

040301
Exhibit 14B1

Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

Daytime Groundwave Protection
Co-Channel 0.025 mV/m Interfering Contours
vs Proposed WSNR 0.5 mV/m Protected Contour



----- = Permitted
———— = Proposed

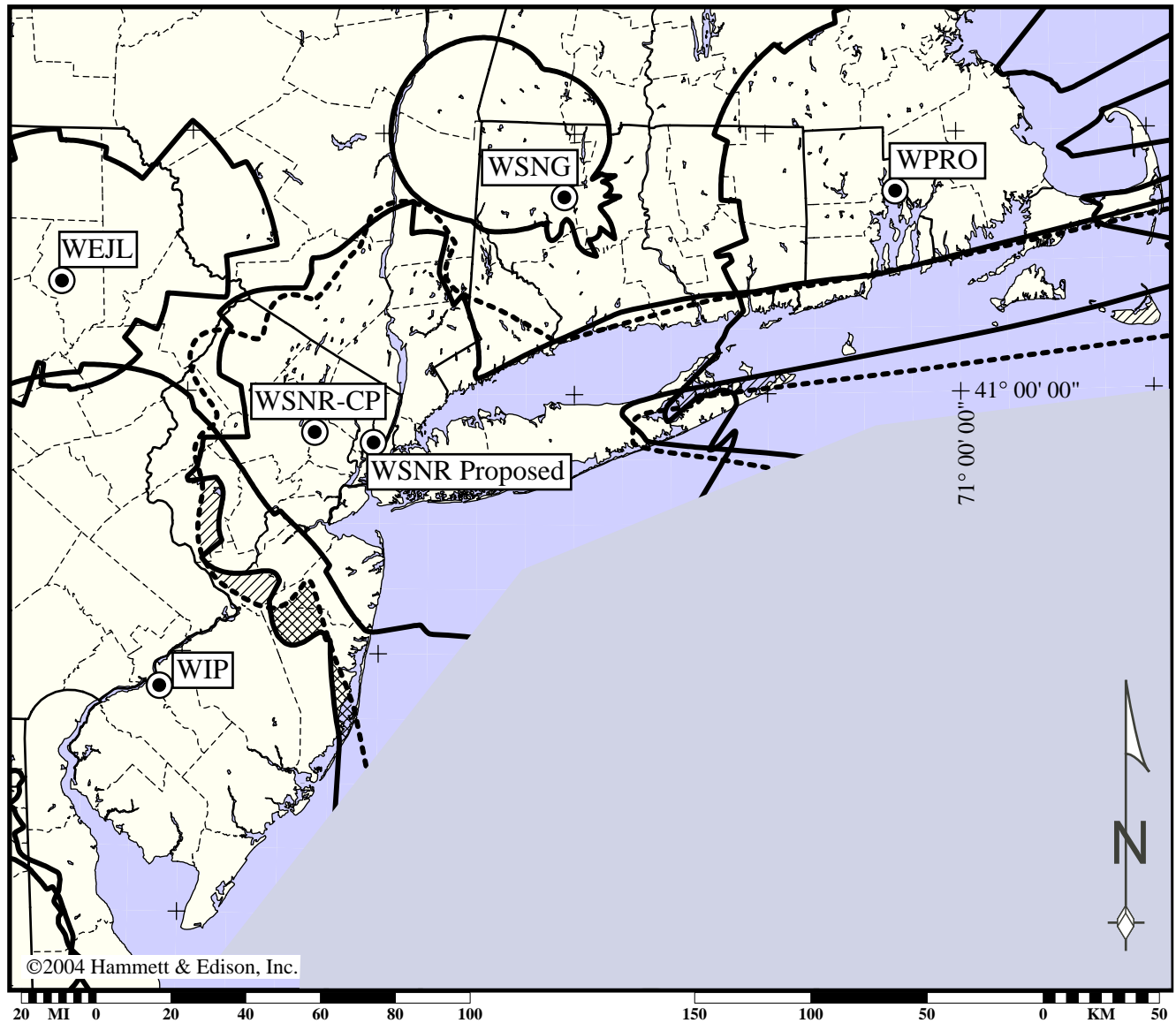


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Exhibit 14B2



Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

Daytime Groundwave Protection
Proposed WSNR 0.25 mV/m Interfering Contour
vs 0.5 mV/m Protected First-Adjacent Contours



Areas of overlap determined by Polar Integration:

	vs WIP	vs WPRO
 = Existing Overlap relinquished	886.5 sq. km	401.1 sq. km
 = Proposed Overlap increased	380.2	105.6
Net overlap reduction	506.3	295.5

	= Permitted
	= Proposed

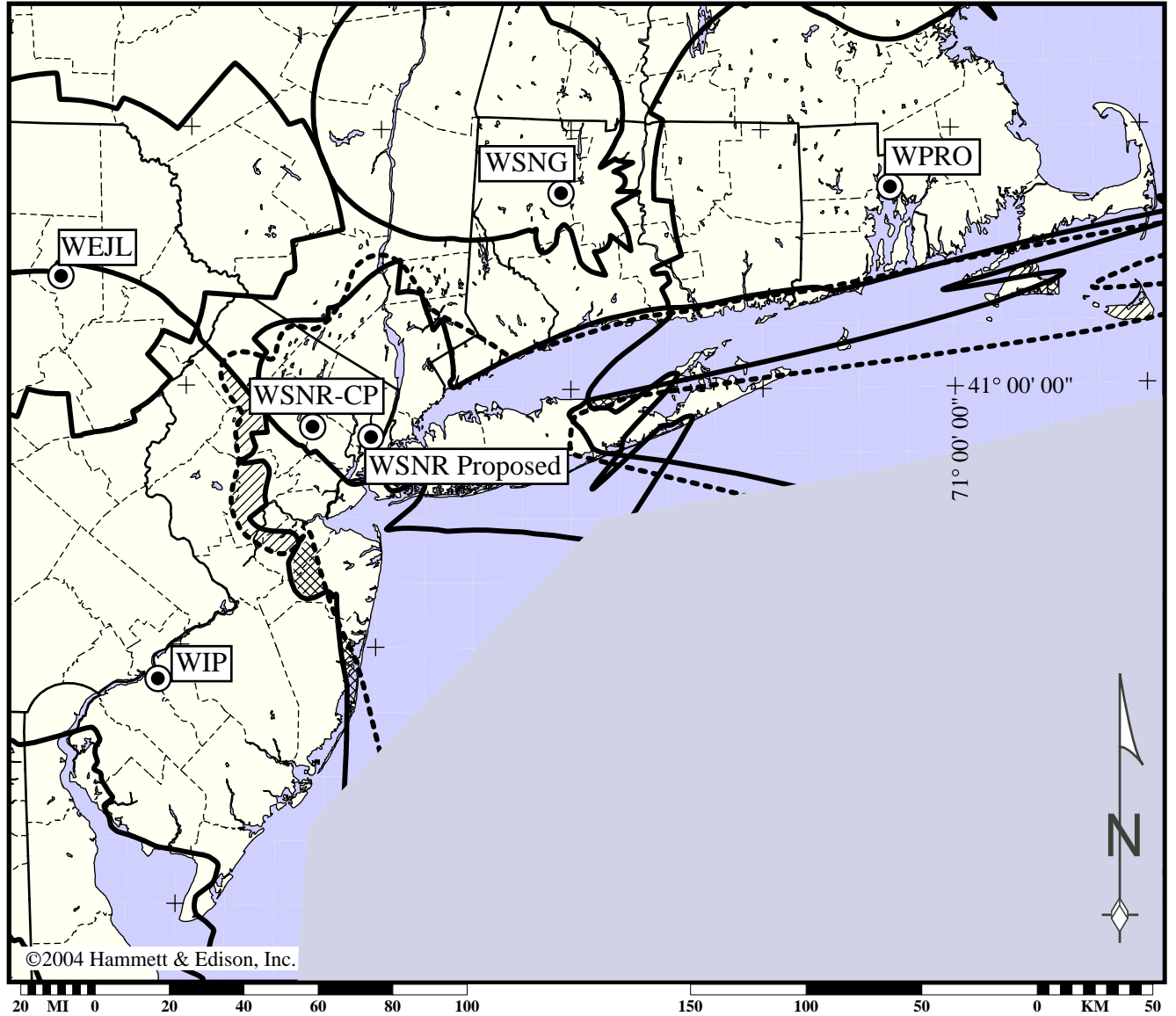


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Exhibit 14C1

Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

Daytime Groundwave Protection
0.25 mV/m First-Adjacent Interfering Contours
vs Proposed WSNR 0.5 mV/m Protected Contour



Areas of overlap determined by Polar Integration:

	vs WIP	vs WPRO
 = Existing Overlap relinquished	740.2 sq. km	219.0 sq. km
 = Proposed Overlap increased	701.7	120.3
Net overlap reduction	38.5	98.7

-----	= Permitted
—————	= Proposed

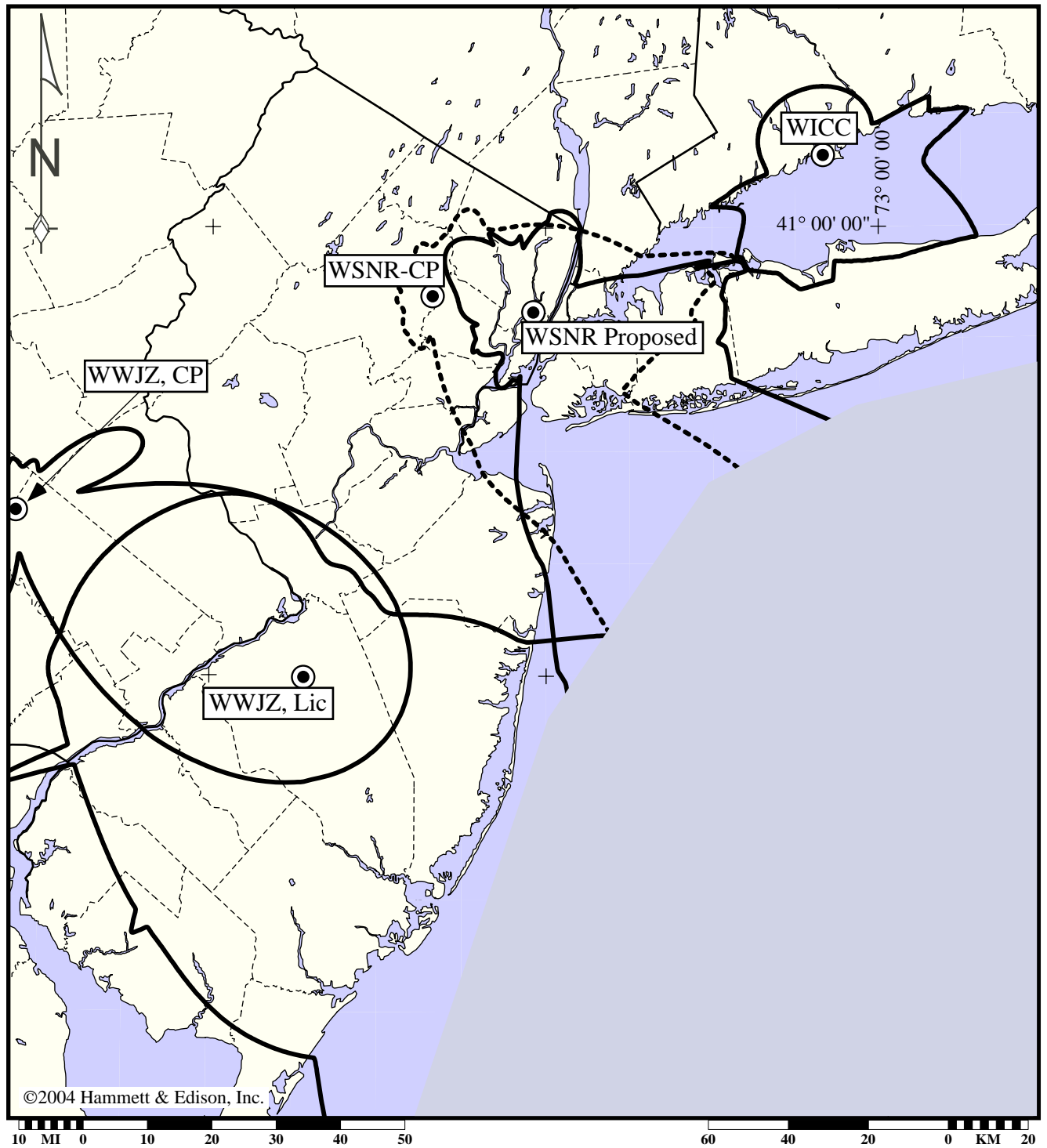


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Exhibit 14C2

Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

Daytime Groundwave Protection
Proposed WSNR 5 mV/m Contour
vs 5 mV/m Second-Adjacent Contours

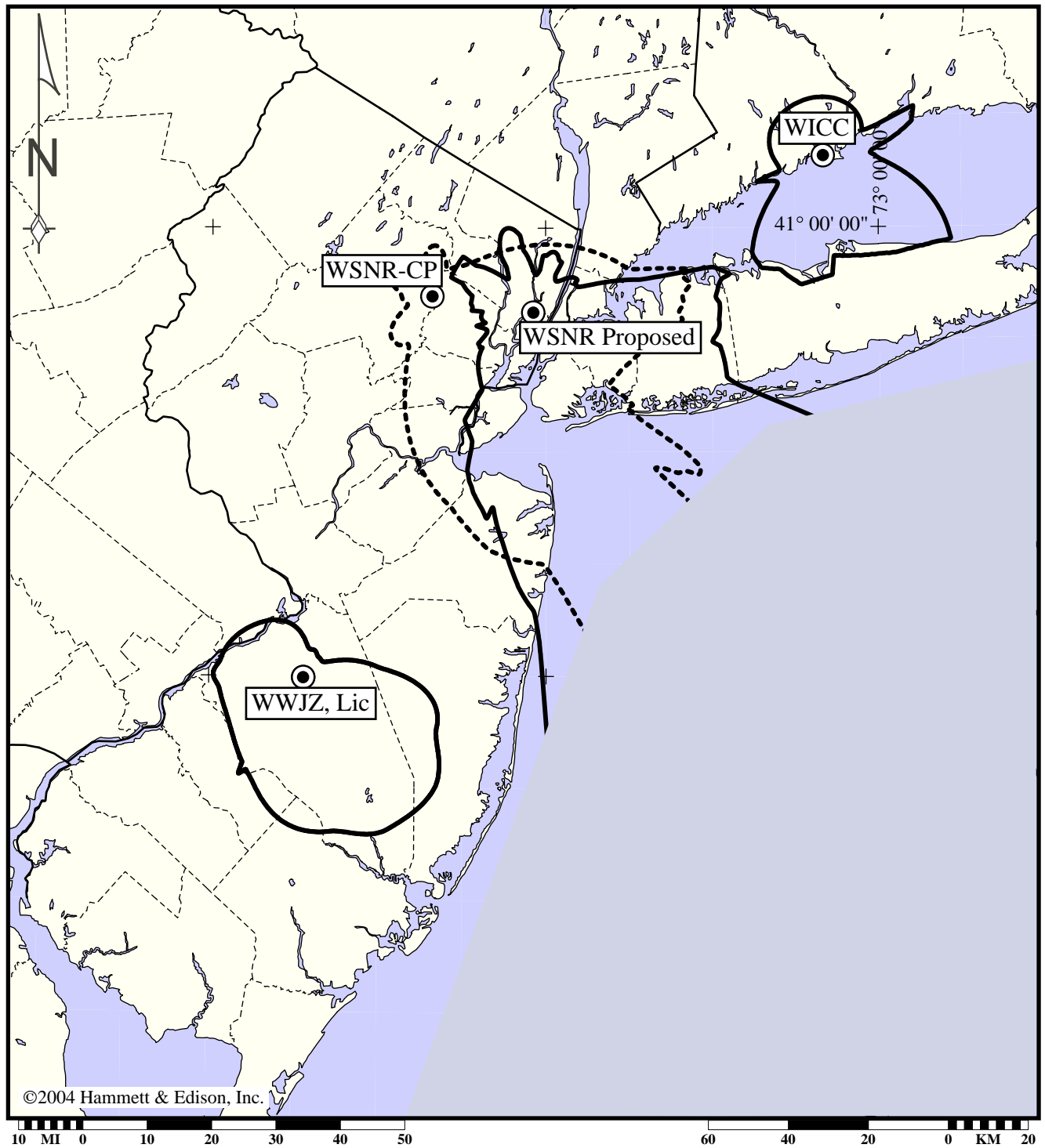


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040301
Exhibit 14D1

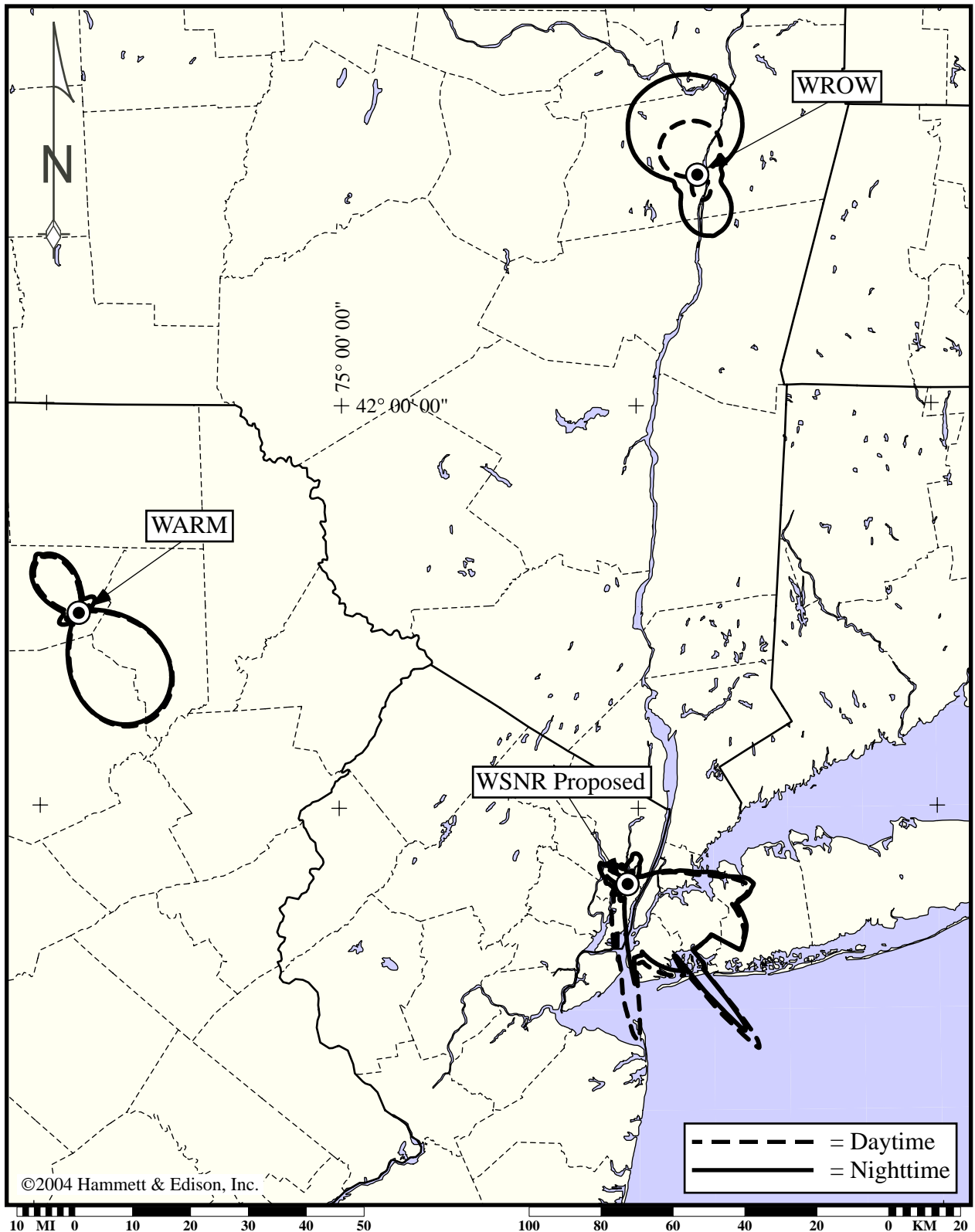
Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

Nighttime Groundwave Protection
Proposed WSNR 5 mV/m Contour
vs 5 mV/m Second-Adjacent Contours



Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

Daytime and Nighttime Groundwave Protection
Proposed WSNR 25 mV/m Contour
vs 25 mV/m Third-Adjacent Contours



HAMMETT & EDISON, INC.
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SAN FRANCISCO

040301
Exhibit 14E

Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

Measured Soil Conductivity Data used for Projection of Field Strength Contours

The following tables show the measured soil conductivities used to determine the locations of pertinent field strength contours for seven stations: WSNR (licensed), WSNR (proposed), WHEN, WIP, WSNR, WEJL, and WPRO. Detailed studies were performed for these stations to ensure that the proposed facilities met FCC protection requirements. Measured conductivities were used over an arc of $\pm 10^\circ$ from each measured radial; in cases where measured conductivity data exists for radials spaced closer than 20° , the break was taken at the center point between the radials. Estimated conductivities (*i.e.*, from Map M3) were combined with the measured data (using the equivalent distance method) for contour distances located beyond the measured data.

Licensed Radio Station WSNR – 620 kHz, Jersey City, New Jersey 19 Measured Soil Radials

Source: FCC File No. BL19980427KB, WSNR Application for License

Coordinates: N 40° 47' 53" W 74° 06' 24"

Az	σ_T	<u>Conductivity</u>		<u>Conductivity</u>		<u>Conductivity</u>		<u>Conductivity</u>		<u>Conductivity</u>		<u>Conductivity</u>	
		mS/m	km	mS/m	km	mS/m	km	mS/m	km	mS/m	km	mS/m	km
5.0		10.0	20.0	4.0	33.6								
22.0		10.0	32.5										
37.0		10.0	18.0	5.0	34.7								
58.5		15.0	16.0	4.0	32.4								
71.0		15.0	19.5	4.0	28.7								
90.0		10.0	25.0	3.0	36.2								
129.0		10.0	30.0										
155.0		10.0	27.2										
187.5		10.0	29.3										
200.0		10.0	35.0										
207.5		20.0	32.3										
219.5		10.0	27.0	5.0	40.1								
234.0		4.0	8.0	8.0	32.2								
252.5		3.0	3.6	20.0	18.0	4.0	36.9						
273.5		3.0	34.4										
280.5		3.0	36.1										
309.0		4.0	31.4										
338.5		2.0	3.2	10.0	18.0	3.0	30.0	1.5	36.2				
348.5		2.0	3.2	10.0	21.0	4.0	36.2						

Proposed Radio Station WSNR - 620 kHz, Jersey City, New Jersey 9 Measured Soil Radials

Source: FCC File No. BL-12598, WBBR Application for License

Coordinates: N 40° 48' 42" W 74° 02' 13"

Az	σ_T	<u>Conductivity</u>		<u>Conductivity</u>		<u>Conductivity</u>		<u>Conductivity</u>		<u>Conductivity</u>		<u>Conductivity</u>	
		mS/m	km	mS/m	km	mS/m	km	mS/m	km	mS/m	km	mS/m	km
20.0		20.0	14.5	8.0	19.3	5.0	30.6	2.0	32.2				
65.0		10.0	4.8	4.0	12.9	3.0	29.0						
110.0		8.0	4.8	4.0	24.0	3.0	35.4						
158.0		20.0	4.8	4.0	9.7	2.0	32.2						
203.0		20.0	9.7	15.0	17.5	10.0	32.2						
247.0		20.0	9.7	10.0	15.9	5.0	24.1	3.0	64.4				
282.0		20.0	6.3	10.0	15.9	4.0	37.0	2.0	51.3	1.5	74.0		
298.0		20.0	7.4	8.0	22.5	4.0	29.0	2.0	70.8				
340.0		15.0	10.9	8.0	22.5	4.0	35.4						



Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

Measured Soil Conductivity Data used for Projection of Field Strength Contours

Radio Station WHEN - 620 kHz, Syracuse, New York 11 Measured Soil Radials

Source: FCC File No. BMP19990713AG, WEJL Application for Construction Permit
plus FCC File No. BMP20011203AAM, WSNR Application for Construction Permit

Coordinates: N 43° 05' 32" W 76° 11' 22"

Az	°T	Conductivity		Conductivity		Conductivity		Conductivity		Conductivity		Conductivity	
		mS/m	km	mS/m	km	mS/m	km	mS/m	km	mS/m	km	mS/m	km
68.5		4.0	22.0										
77.0		4.0	32.2										
122.0		4.0	29.5										
135.0		0.5	0.5	1.5	2.1	3.0	50.1	2.0	99.9	1.0	300.0		
146.9		5.0	12.1	4.0	28.0	3.0	42.0	2.0	120.1	1.5	135.0	1.0	140.8
166.9		2.0	6.9	3.0	46.0	2.0	127.9	1.5	148.9				
186.9		4.0	40.1	3.0	70.0	2.0	115.1						
201.0		4.0	12.1	3.0	29.9								
223.0		4.0	31.1										
257.0		4.0	31.2										
274.0		4.0	31.9										

Radio Station WIP - 610 kHz, Philadelphia, Pennsylvania 10 Measured Soil Radials

Source: FCC File No. BL19861110AE, WIP Application for License

Coordinates: N 39° 51' 56" W 75° 06' 43"

Az	°T	Conductivity		Conductivity		Conductivity		Conductivity		Conductivity		Conductivity	
		mS/m	km	mS/m	km	mS/m	km	mS/m	km	mS/m	km	mS/m	km
44.0		1.0	2.4	3.0	9.7	5.0	31.9						
105.0		0.5	1.1	1.5	3.1	3.0	16.1	2.0	31.2				
140.0		2.0	31.9										
175.0		3.0	16.9	2.0	31.4								
218.0		2.0	2.9	5.0	31.2								
230.0		1.5	1.6	5.0	31.9								
242.0		2.0	4.3	5.0	30.7								
285.0		2.0	3.2	5.0	31.4								
320.0		0.5	1.3	3.0	2.4	5.0	22.5	3.0	31.9				
355.0		0.5	1.1	1.0	2.7	2.0	8.0	6.0	31.4				

Radio Station WSNR - 610 kHz, Torrington, Connecticut 10 Measured Soil Radials

Source: FCC File No. BL-10511, WSNR Application for License

Coordinates: N 41° 45' 28" W 73° 03' 06"

Az	°T	Conductivity		Conductivity		Conductivity		Conductivity		Conductivity		Conductivity	
		mS/m	km	mS/m	km	mS/m	km	mS/m	km	mS/m	km	mS/m	km
30.0		1.5	4.8	1.0	30.4								
47.0		1.0	31.9										
78.0		1.0	7.2	0.5	17.7	1.0	30.4						
140.0		1.0	31.5										
175.0		1.0	1.1	0.5	28.5								
219.0		1.0	31.9										
250.0		1.0	26.9										
290.0		1.0	26.7										
320.0		1.0	28.8										
355.0		1.0	29.0										



Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

Measured Soil Conductivity Data used for Projection of Field Strength Contours

Radio Station WEJL - 630 kHz, Scranton, Pennsylvania 17 Measured Soil Radials

Source: FCC File No. BMP19990713AG, WEJL Application for Construction Permit
plus FCC File No. BMP20011203AAM, WSNR Application for Construction Permit

Coordinates: N 41° 24' 34" W 75° 40' 01"

Az °T	Conductivity		Conductivity		Conductivity		Conductivity		Conductivity		Conductivity	
	mS/m	km	mS/m	km	mS/m	km	mS/m	km	mS/m	km	mS/m	km
7.2	4.0	8.0	2.0	29.9	2.0	60.0	1.5	111.8				
27.2	10.0	9.0	3.0	17.1	2.0	34.0	1.5	65.0				
45.0	2.0	1.9	4.0	22.0	3.0	36.7						
90.0	2.0	5.0	1.5	31.4								
105.0	0.5	0.75	1.0	105.0	0.5	119.6						
120.0	3.0	8.0	1.0	29.9	0.5	60.0	0.1	66.1				
140.0	1.5	1.6	6.0	5.0	1.5	20.0	1.0	57.1				
160.0	2.0	24.1	1.0	46.7								
180.0	1.5	22.5	1.0	45.1								
185.0	3.0	5.0	1.5	6.9	1.0	20.0	0.5	80.0	1.0	121.5		
205.0	0.5	1.8	1.5	3.5	3.0	8.0	1.5	17.1	1.5	60.0	1.0	108.6
225.0	2.0	13.0	5.0	36.0	3.0	70.0	2.0	139.2				
245.0	1.5	1.9	3.0	8.0	1.5	80.0	2.0	105.1				
270.0	5.0	6.9	1.5	27.5								
307.2	1.5	130.4										
327.2	1.0	1.0	4.0	5.0	2.0	55.0	1.5	140.3				
347.2	3.0	22.0	2.0	119.6								

Radio Station WPRO - 630 kHz, Providence, Rhode Island 15 Measured Soil Radials

Source: FCC File No. BL19801215AH, WPRO Application for License
plus 2004 measurements on 130°T, 136°T and 203°T (see Exhibits 14G–14J)

Coordinates: N 41° 46' 28" W 71° 19' 23"

Az °T	Conductivity		Conductivity		Conductivity		Conductivity		Conductivity		Conductivity	
	mS/m	km	mS/m	km	mS/m	km	mS/m	km	mS/m	km	mS/m	km
51.0	3.0	8.9	1.0	32.0								
60.0	2.0	9.7	1.5	32.0								
70.5	2.0	11.3	1.5	17.7	1.0	32.0						
112.0	3.0	19.3	1.5	29.8								
131.0	2.0	10.5	4.0	25.0	2.0	40.0						
136.0	2.0	10.0	3.0	20.5	2.0	40.0						
148.0	3.0	16.1	1.5	33.3								
203.0	2.0	8.0	3.0	48.0								
217.0	4.0	19.3	2.0	32.8								
237.5	3.0	13.7	2.0	33.8								
240.0	2.0	17.7	1.5	27.0								
263.0	3.0	16.9	1.0	32.0								
277.5	4.0	12.9	1.5	34.4								
332.0	3.0	20.1	1.5	31.5								
352.0	2.0	32.7										



**William Weeks
Hungry Wolf Electronics
119 Mulberry Lane
Milton, New York 12547**

This statement is a supplement to the attached record of field strength measurements on Radio Station WPRO, 630 kHz, Providence, Rhode Island. These measurements were made at the request of Hammett & Edison, Inc., Consulting Engineers, during the month of February, 2004.

I certify that the attached field intensity measurements were made by me. I have been engaged in the construction and maintenance of broadcast stations for more than thirty years, and my qualifications are a matter of record before the Commission.



William Weeks
February 17, 2004

Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

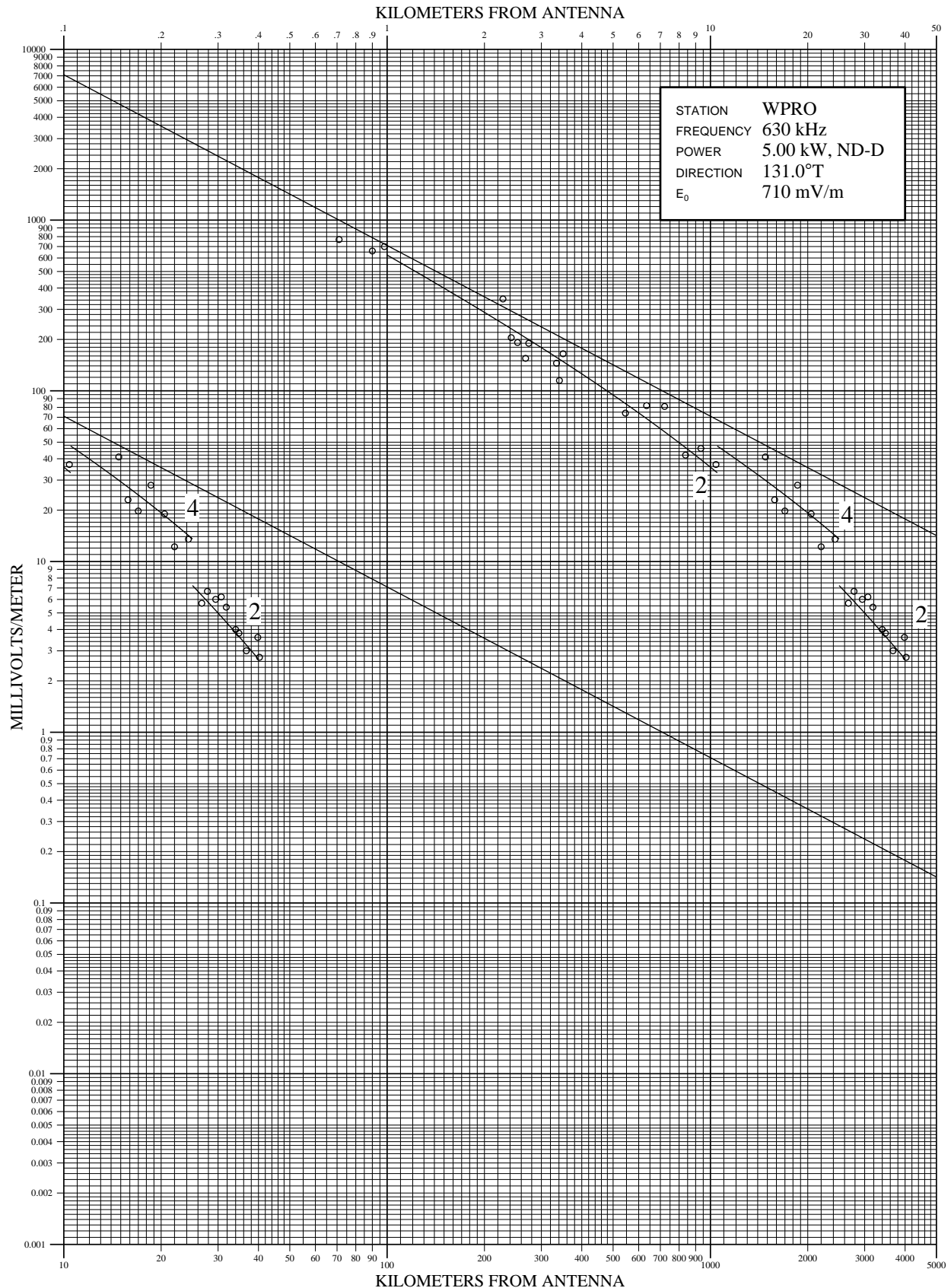
Measured Field Strengths for WPRO, 630 kHz, on 131°T

<u>Distance</u>	<u>Time</u>	<u>Field</u>	
0.71 km	7:40 am	770 mV/m	
0.90	7:54	660	
0.98	7:57	700	Date of Measurements
2.28	8:10	345	February 17, 2004
2.42	8:13	205	
2.53	8:15	192	
2.68	8:17	155	
2.74	8:20	190	Measurements made
3.34	8:26	145	using an FIM-21
3.41	8:30	115	Field Intensity Meter,
3.50	8:33	165	S/N 171 last calibrated
5.46	8:59	74	in February 2002
6.35	9:03	82	
7.22	9:10	81	
8.38	9:34	42	
9.34	9:39	46	
10.4	9:58	37.0	
14.8	10:29	41	
15.8	11:02	23.0	
17.0	11:13	19.8	
18.6	11:29	28.0	
20.5	11:35	19.0	
22.0	11:50	12.2	
24.3	11:56	13.5	
26.7	12:09 pm	5.7	
27.8	12:15	6.7	
29.5	12:22	6.0	
30.7	12:29	6.2	
31.8	12:34	5.4	
34.0	12:44	4.0	
34.8	12:47	3.80	
36.7	12:54	3.00	
39.8	13:05	3.60	
40.3	13:10	2.75	

Note: Close-in measurements out to 2.74 km made on 116°T due to inaccessibility of close-in points on 131°T radial. Commission policy has been to allow for use of close-in measurements on spur radials up to 20° from the close-in radial.



Measured Field Strengths for WPRO, 630 kHz, on 131°T



Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

Measured Field Strengths for WPRO, 630 kHz, on 136°T

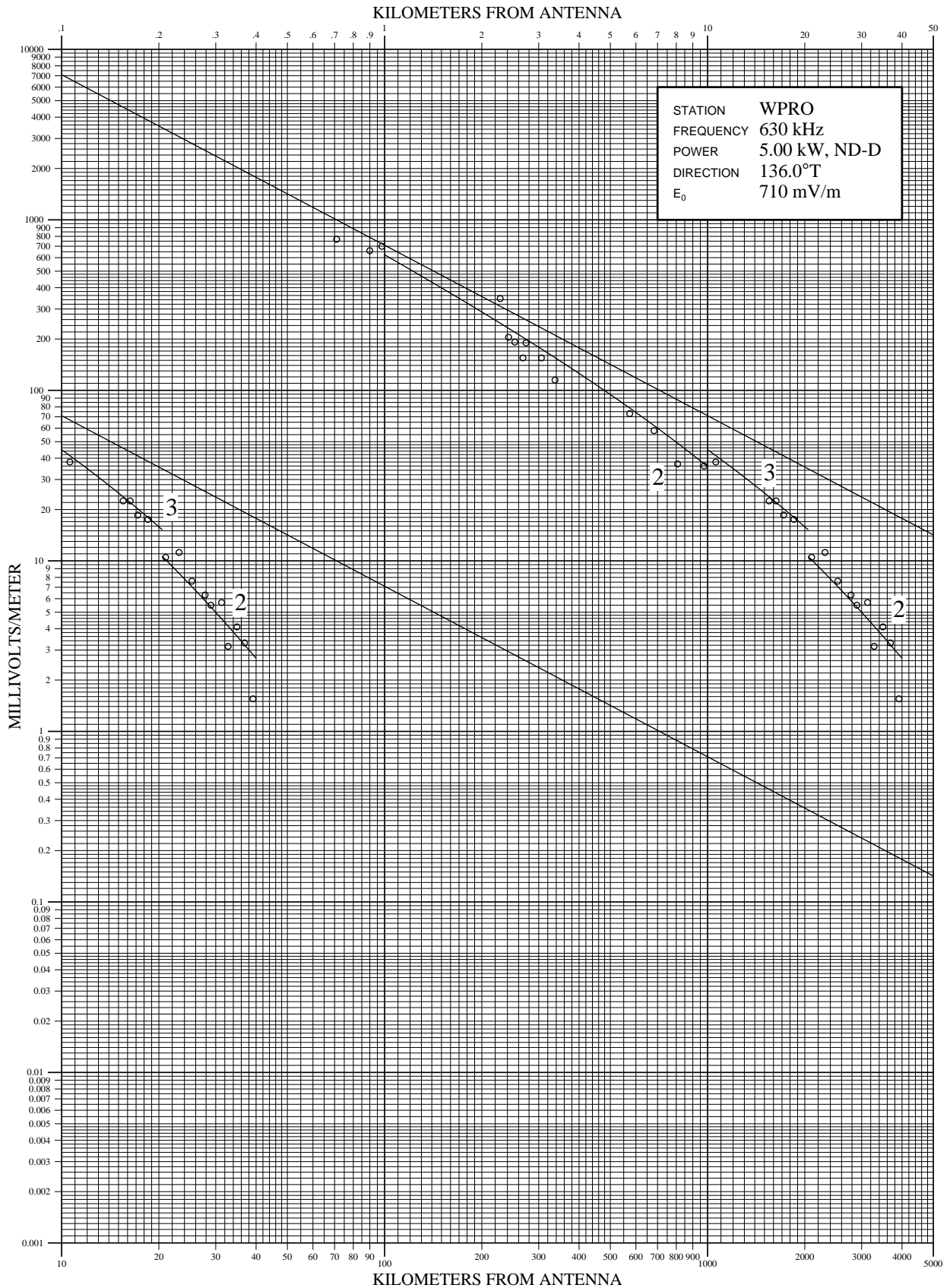
<u>Distance</u>	<u>Time</u>	<u>Field</u>	
0.71 km	7:40 am	770 mV/m	
0.90	7:54	660	
0.98	7:57	700	Date of Measurements
2.28	8:10	345	February 17, 2004
2.42	8:13	190	
2.53	8:15	192	
2.68	8:17	155	
2.74	8:20	190	Measurements made
3.06	8:37	155	using an FIM-21
3.37	8:46	115	Field Intensity Meter,
5.74	8:56	73	S/N 171 last calibrated
6.83	9:15	58	in February 2002
8.08	9:24	37.0	
9.75	9:44	36.0	
10.6	9:48	38.0	
15.5	10:37	22.5	
16.3	10:43	22.5	
17.2	10:47	18.6	
18.5	11:22	17.5	
21.0	11:41	10.5	
23.1	14:32 pm	11.2	
25.3	14:25	7.6	
27.8	14:17	6.3	
29.0	14:10	5.5	
31.3	14:05	5.7	
32.8	14:01	3.15	
34.9	13:51	4.1	
36.8	13:47	3.30	
39.1	13:34	1.55	

Note: Close-in measurements out to 2.74 km made on 116°T due to inaccessibility of close-in points on 136°T radial. Commission policy has been to allow for use of close-in measurements on spur radials up to 20° from the close-in radial.



Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

Measured Field Strengths for WPRO, 630 kHz, on 136°T



HAMMETT & EDISON, INC.
CONSULTING ENGINEERS
SAN FRANCISCO

040301
Exhibit 14H2

Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

Measured Field Strengths for WPRO, 630 kHz, on 203°T

<u>Distance</u>	<u>Time</u>	<u>Field</u>	
0.33 km	12:22 pm	2800 mV/m	
0.64	12:16	1035	
1.10	11:46	930	Date of Measurements
1.32	11:52	540	February 12, 2004
1.43	11:55	470	
1.54	12:33	295	
1.78	12:35	320	
1.83	12:38	350	Measurements made
2.01	12:43	258	using an FIM-21
2.31	12:50	190	Field Intensity Meter,
2.40	12:54	240	S/N 171 last calibrated
2.53	12:57	160	in February 2002
2.77	13:06	185	
3.00	13:09	192	
3.42	13:17	178	
3.60	13:43	162	
3.86	13:20	99	
3.96	13:39	122	
4.29	13:25	138	
9.24	14:39	50	
10.5	14:46	43	
11.8	14:50	39.0	
12.6	14:58	43.5	
25.6	15:52	16.5	
26.6	15:57	16.2	
27.1	16:01	13.5	
29.2	16:08	9.1	
30.4	16:18	10.0	
34.0	16:25	5.9	
36.7	16:30	4.7	
37.4	16:32	5.1	
38.6	16:36	3.30	
40.7	16:43	4.1	
41.9	16:48	2.00	
43.4	16:51	3.40	
44.9	16:56	3.10	
46.8	17:04	2.85	
47.7	17:08	2.85	



Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

Measured Field Strengths for WPRO, 630 kHz, on 203°T

