

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of FOX TELEVISION STATIONS, INC., licensee of digital television station WNYW-DT, Channel 44 in New York, New York, in support of its Application for Construction Permit to operate an auxiliary facility at a site in West Orange, New Jersey. This site is also home to auxiliary facilities for WNBC-DT and WCBS-DT in New York, New York. This auxiliary facility will be utilized in the event that the presently licensed auxiliary facility on the Empire State Building cannot be used.

It is proposed to utilize the existing Dielectric broadband horizontally-polarized directional antenna, which is mounted at the 98-meter level of an existing 105-meter tower. Exhibit B provides azimuth and elevation pattern data for the proposed antenna. Exhibit C is a map upon which the predicted service contours of the main WNYW-DT facility authorized in BMPCDT-20080620AJQ and that of the proposed auxiliary facility are plotted. As shown, the auxiliary station's predicted 41 dBu contour is contained within that of the authorized main facility. As a result, and since this proposal is for an auxiliary facility, no interference study is provided herein.

Predicted service contours for the proposed auxiliary station are plotted in Exhibit D. From this map it is clear that the city of New York lies completely within the predicted 48 dBu service contour. Operating parameters for the proposed facility are provided in Exhibit E. A power density calculation appears in Exhibit F.

It is not expected that the proposed facility would cause objectionable interference to any other broadcast or non-broadcast station authorized to operate at or near the West Orange

tower site. However, if such should occur, the owner of this station recognizes its obligation to take whatever corrective actions are necessary.

Since no change in overall height or location of the existing tower is proposed herein, the FAA has not been notified of this application. In addition, the FCC issued Antenna Structure Registration Number 1060205 to this tower.

I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.



KEVIN T. FISHER

June 8, 2011



Proposal Number **DCA-11421** Revision: **3**
Date **2-May-06**
Call Letters **WNYW-DT** Channel **44**
Location **New York, NY**
Customer **Richland**
Antenna Type **TUD-C5SP-10/34U-2-B**

ELEVATION PATTERN

RMS Gain at Main Lobe **19.30 (12.86 dB)** Beam Tilt **0.50 deg**
RMS Gain at Horizontal **16.70 (12.23 dB)** Frequency **653.00 MHz**
Calculated / Measured **Calculated** Drawing # **10U212050-90**

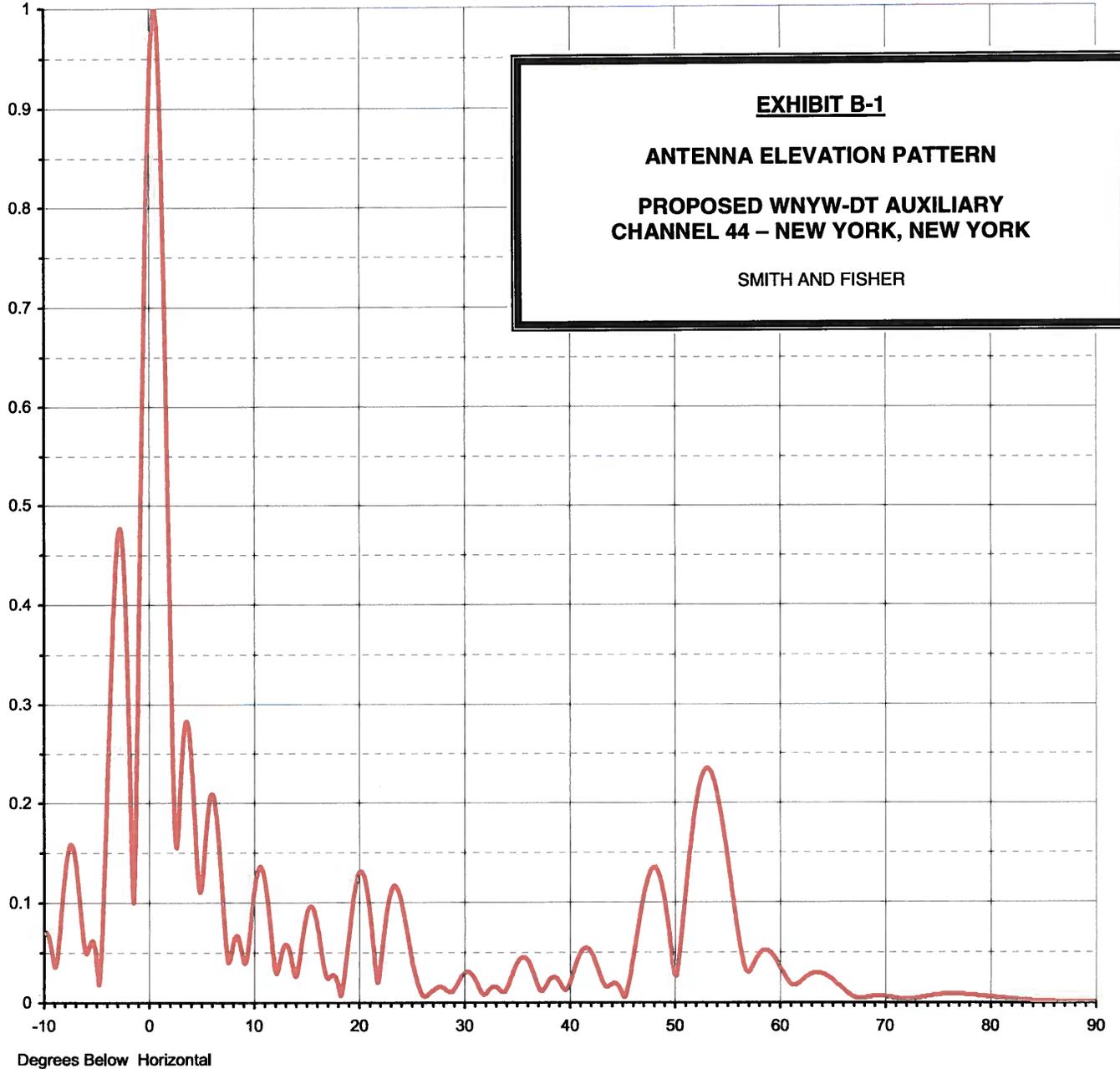


EXHIBIT B-2

ANTENNA AZIMUTH PATTERN

**PROPOSED WNYW-DT AUXILIARY
CHANNEL 44 – NEW YORK, NEW YORK**

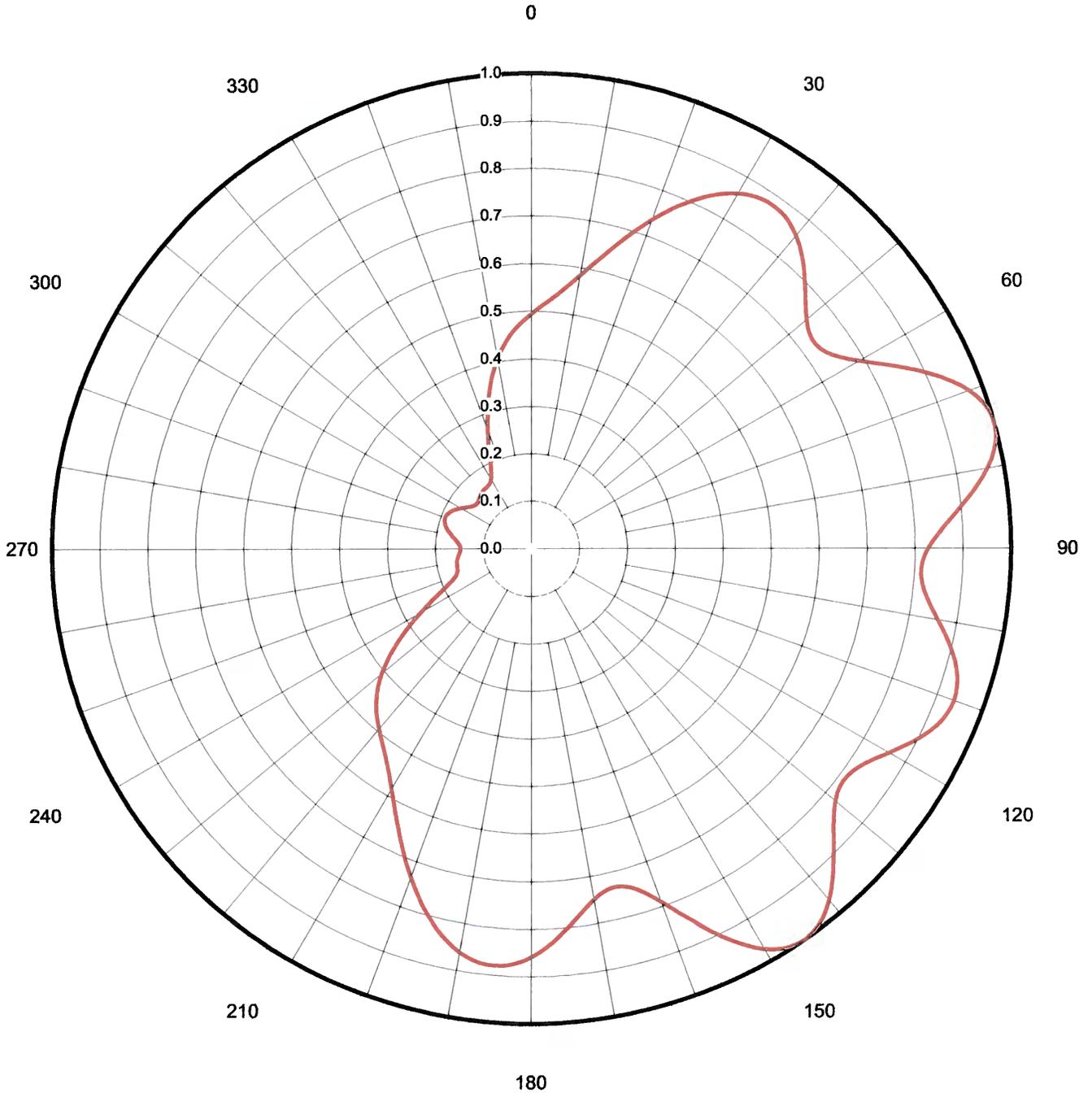
SMITH AND FISHER

Proposal Number	DCA-11421	Revision:	3
Date	2-May-06		
Call Letters	WNYW-DT	Channel	44
Location	New York, NY		
Customer	Richland		
Antenna Type	TUD-C5SP-10/34U-2-B		

AZIMUTH PATTERN

Gain **2.30 (3.62 dB)**
Calculated / Measured **Calculated**

Frequency **653.00 MHz**
Drawing # **TUD-C5SPB-6530**



ANTENNA AZIMUTH PATTERN DATA

PROPOSED WNYW-DT AUXILIARY
CHANNEL 44 – NEW YORK, NEW YORK

<u>Azimuth</u> <u>(° T)</u>	<u>Relative</u> <u>Field</u>	<u>ERP</u> <u>(dbk)</u>	<u>Azimuth</u> <u>(° T)</u>	<u>Relative</u> <u>Field</u>	<u>ERP</u> <u>(dbk)</u>
0	0.495	19.5	180	0.858	24.3
10	0.584	20.9	190	0.861	24.3
20	0.736	22.9	200	0.736	22.9
30	0.861	24.3	210	0.584	20.9
40	0.858	24.3	220	0.495	19.5
50	0.749	23.1	230	0.407	17.8
60	0.790	23.5	240	0.267	14.1
70	0.971	25.3	250	0.169	10.2
80	0.965	25.3	260	0.158	9.6
90	0.827	24.0	270	0.148	9.0
100	0.860	24.3	280	0.170	10.2
110	0.937	25.0	290	0.192	11.3
120	0.860	24.3	300	0.170	10.2
130	0.827	24.0	310	0.148	9.0
140	0.965	25.3	320	0.158	9.6
150	0.971	25.3	330	0.169	10.2
160	0.790	23.5	340	0.267	14.1
170	0.749	23.1	350	0.407	17.8



AUTHORIZED 41 DBU CONTOUR (BPCDT-20080620AJQ)
 PROPOSED AUXILIARY 41 DBU CONTOUR



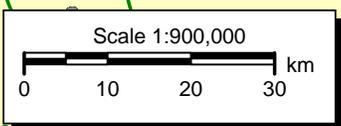
EXHIBIT C
CONTOUR COMPARISON
AUTHORIZED AND AUXILIARY
WNYW-DT
CHANNEL 44 - NEW YORK, NY



CONTOUR POPULATION
 48 DBU : 16,390,112
 41 DBU : 17,238,657



EXHIBIT D
PREDICTED SERVICE CONTOURS
WNYW-DT AUXILIARY
CHANNEL 44 - NEW YORK, NY



PROPOSED OPERATING PARAMETERS

PROPOSED WNYW-DT AUXILIARY
CHANNEL 44 – NEW YORK, NEW YORK

Transmitter Power Output:	10.0 kW
Transmission Line Efficiency:	81.8%*
Antenna Power Gain – Main Lobe:	44.4
Effective Radiated Power – Main Lobe:	363 kW
Transmitter Make and Model:	Type-accepted
Transmission Line Make and Model:	Dielectric EHT
Size and Type:	6-1/8" rigid
Length:	400 feet
Antenna Make and Model:	Dielectric TUD-C5SP-10/34U-2-B
Orientation	110 degrees true
Beam Tilt	0.5 degrees
Radiation Center Above Ground:	98.5 meters
Radiation Center Above Mean Sea Level:	288 meters

*Includes combiner loss

POWER DENSITY CALCULATION
PROPOSED WNYW-DT AUXILIARY
CHANNEL 44 – NEW YORK, NEW YORK

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this New York facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 363 kW, an antenna radiation center 98.5 meters above ground, and the elevation pattern of the Dielectric antenna, maximum power density two meters above ground of 0.046 mw/cm^2 is calculated to occur 73 meters southeast of the base of the tower. Since this is only 10.7 percent of the 0.43 mw/cm^2 reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 44 (650-656 MHz), a grant of this proposal may be considered a minor environmental action with respect to public and occupational ground-level exposure to nonionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive nonionizing radiation.