

## **ENGINEERING EXHIBIT**

### **Amendment to Application for Digital Television Station Construction Permit BMPCDT-20080619AAZ**

prepared for

**CBS Broadcasting Inc.**

WCBS-DT New York, NY

Facility ID 9610

Ch. 33 385 kW 519 m

*CBS Broadcasting Inc.* (“*CBS*”) is the licensee of television station WCBS-TV, Channel 33, New York, NY. WCBS is licensed (BLCDT-20090612AFN) to operate with an effective radiated power (“ERP”) of 284 kW at 397 meters antenna height above average terrain (“HAAT”), with a nondirectional antenna located at the Empire State Building (“ESB”). An application (BMPCDT-20080619AAZ) is pending for a Construction Permit (“CP”) to relocate WCBS-TV to the recently completed One World Trade Center building (“1WTC”) and to utilize a nondirectional ERP of 225 kW at 519 meters antenna HAAT. *CBS* seeks herein to amend the pending application to increase the proposed ERP to 385 kW. No other changes are proposed.

The proposed WCBS-TV facility will employ a shared antenna to be installed on the uppermost portion of the existing mast atop 1WTC. The mast structure atop 1WTC is associated with FCC Antenna Structure Registration number 1263701. 1WTC is located 4.6 km distant from the licensed WCBS-TV location, ESB. No change to the overall structure height will result from this proposal.

The proposed nondirectional antenna is an elliptically polarized RFS model PEP40E (25 percent vertical polarization). The horizontally polarized ERP is 385 kW and the vertically polarized ERP is 96.25 kW. The proposed antenna HAAT is 519 meters.

A map is supplied as Figure 1 which depicts the standard predicted coverage contours. This map includes the location of New York, WCBS-TV's principal community. As demonstrated thereon, the proposed facility complies with §73.625(a)(1) as the entire principal community will be encompassed by the 48 dBμ contour.

The proposed WCBS-TV facility's predicted service population provides a 101.8 percent match of the MB Docket 87-268 Seventh Report and Order Appendix B facility, as detailed in the following table.

**Digital Television Population Summary**

Population Summary (2000 Census) OET Bulletin 69 method	Appendix B	Proposed
Within Noise Limited Contour	20,243,429	21,019,538
Not affected by terrain losses	19,884,703	20,527,317
Lost to all interference	666,759	969,518
Net DTV Service	<b>19,217,944</b>	<b>19,557,799</b>
Match of Appendix B	---	<b>101.77%</b>

### **Contour Extension – Waiver**

This amendment is not subject to the FCC's "Freeze" Public Notice<sup>1</sup> of April 5, 2013 (DA 13-618), which imposed limitations on the filing and processing of full power station applications that propose an increase in their authorized noise-limited service contour ("NLSC"). In the FCC's *Incentive Auction* Report and Order<sup>2</sup>, the "Freeze" is waived for WCBS-TV and similarly situated stations as described in footnote 692:

"In addition, we will waive the Freeze PN to accept any applications from stations impacted by the destruction of the World Trade Center proposing a facility at 1WTC because we do not believe that it was possible to prepare a FCC Form 301 application for that site by April 5, 2013 given the stage of construction of the site at that time."

The WCBS-TV analog facility operated at the former World Trade Center ("WTC") location until its destruction on September 11, 2001. The WCBS-TV post-transition Appendix B

---

<sup>1</sup>"Media Bureau Announces Limitations on the Filing and Processing of Full Power and Class A Television Station Modification Applications, Effective Immediately, and Reminds Stations of Spectrum Act Preservation Mandate," DA 13-618, Public Notice, released April 5, 2013.

<sup>2</sup>"Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions", Report and Order, FCC 14-50, released June 2, 2014.

digital facility parameters were based on replication of the pre-transition analog Channel 2 WCBS-TV facility at WTC. Thus, WCBS-TV was impacted by the destruction of WTC and is eligible for a waiver of the April 5, 2013 “Freeze”. This amendment is submitted in order to obtain a CP for a facility at 1WTC prior to the Pre-Auction Licensing Deadline<sup>3</sup> of May 29, 2015.

### **Allocation and Interference**

The proposed facility expands the WCBS-TV service contour beyond that established by Appendix B values. A detailed interference study per OET Bulletin 69<sup>4</sup> shows that the proposal complies with the 0.5 percent limit of new interference caused to pertinent nearby digital television stations except for stations WPSG(DT) (Ch. 32, Philadelphia, PA) and WFSB(DT) (Ch. 33 Hartford, CT).

WPSG (license file number 0000001047) would receive 1.23 percent interference. WPSG is under common ownership with WCBS-TV. An interference consent statement (attached separately) covers this amount of interference.

WFSB would receive 3.11 percent interference to its licensed facility (BLCDT-20041029AIL). The licensee of WFSB has agreed to accept interference from WCBS-TV of up to 3.27 percent caused to the licensed WFSB facility. A copy of a consent statement from WFSB is attached separately.<sup>5</sup>

The interference study output report is provided as Table 1. Protection requirements towards authorized Class A stations are also satisfied. Accordingly, the proposed facility

---

<sup>3</sup>“Media Bureau Designates May 29, 2015 As Pre-Auction Licensing Deadline,” DA 15-116, Public Notice, released January 28, 2015.

<sup>4</sup>FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 (“OET-69”). The implementation of OET-69 for this study followed the guidelines of OET-69 as specified therein. A standard cell size of 2 km was employed. Comparisons of various results of this computer program (run on a Sun Sparc processor) to the Commission’s implementation of OET-69 show excellent correlation.

<sup>5</sup>The WFSB CP BPCDT-20080619AFT listed in the interference consent agreement was not constructed and has expired. BPCDT-20110630AAH, a replacement CP for BPCDT-20080619AFT, has also expired.

complies with §73.616 regarding interference protection to digital television and Class A television facilities.

The nearest FCC monitoring station is 295 km distant at Laurel, MD. This exceeds the threshold minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. The site is not located within the areas requiring coordination with “quiet” zones specified in §73.1030(a) and (b). There are no authorized AM stations within 3 kilometers of the site. The site location is within the Canadian coordination zone (398 km to the Canada border), however no further international coordination should be required as FCC International Bureau staff has informally advised that U.S. proposals beyond 300 km from the border are no longer referred to Canada.

### **Human Exposure to Radiofrequency Electromagnetic Field**

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the Commission’s OET Bulletin Number. 65. Based on OET-65 equation (10), and assuming a maximum of 10 percent antenna relative field in downward elevations, the calculated signal density near the 1WTC building at two meters above ground level attributable to the proposed facility is  $0.6 \mu\text{W}/\text{cm}^2$ , which is 0.2 percent of the general population/uncontrolled maximum permitted exposure limit. This is well below the five percent threshold limit described in §1.1307(b)(3) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal’s contribution is less than five percent.

Access to the 1WTC rooftop, antenna support structure, and any areas within the building that may exceed exposure limits will be strictly controlled by the building owner. CBS will participate in the building’s RF exposure safety program along with other broadcasters and FCC licensees that may utilize the 1WTC as a transmission site. As necessary, based on calculations or actual measurements considering all emitters, exposure abatement procedures will be established. The RF safety program will be employed protecting maintenance and installation workers from excessive exposure when work must be performed in locations where high RF

levels may be present. Such areas will be placed under strict restricted access and properly identified.

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. The applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, mast or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

This exhibit is limited to the evaluation of exposure to RF electromagnetic field. The proposal involves use of a transmitting antenna to be side-mounted to an existing rooftop mast. No change in structure height is proposed. All other §1.1307(a) matters are covered by the structure owner as certified in the associated FCC Antenna Structure Registration number 1263701.

### **Certification**

The undersigned hereby certifies that the foregoing statement and associated attachments were prepared by him or under his direction, and that they are true and correct to the best of his knowledge and belief.



Joseph M. Davis, P.E.  
April 22, 2015

**Chesapeake RF Consultants, LLC**  
207 Old Dominion Road  
Yorktown, VA 23692  
703-650-9600

### List of Attachments

Figure 1	Proposed Coverage Contours
Table 1	OET Bulletin 69 Interference Study
Form 2100	Technical Specifications from FCC Form at Time of Upload



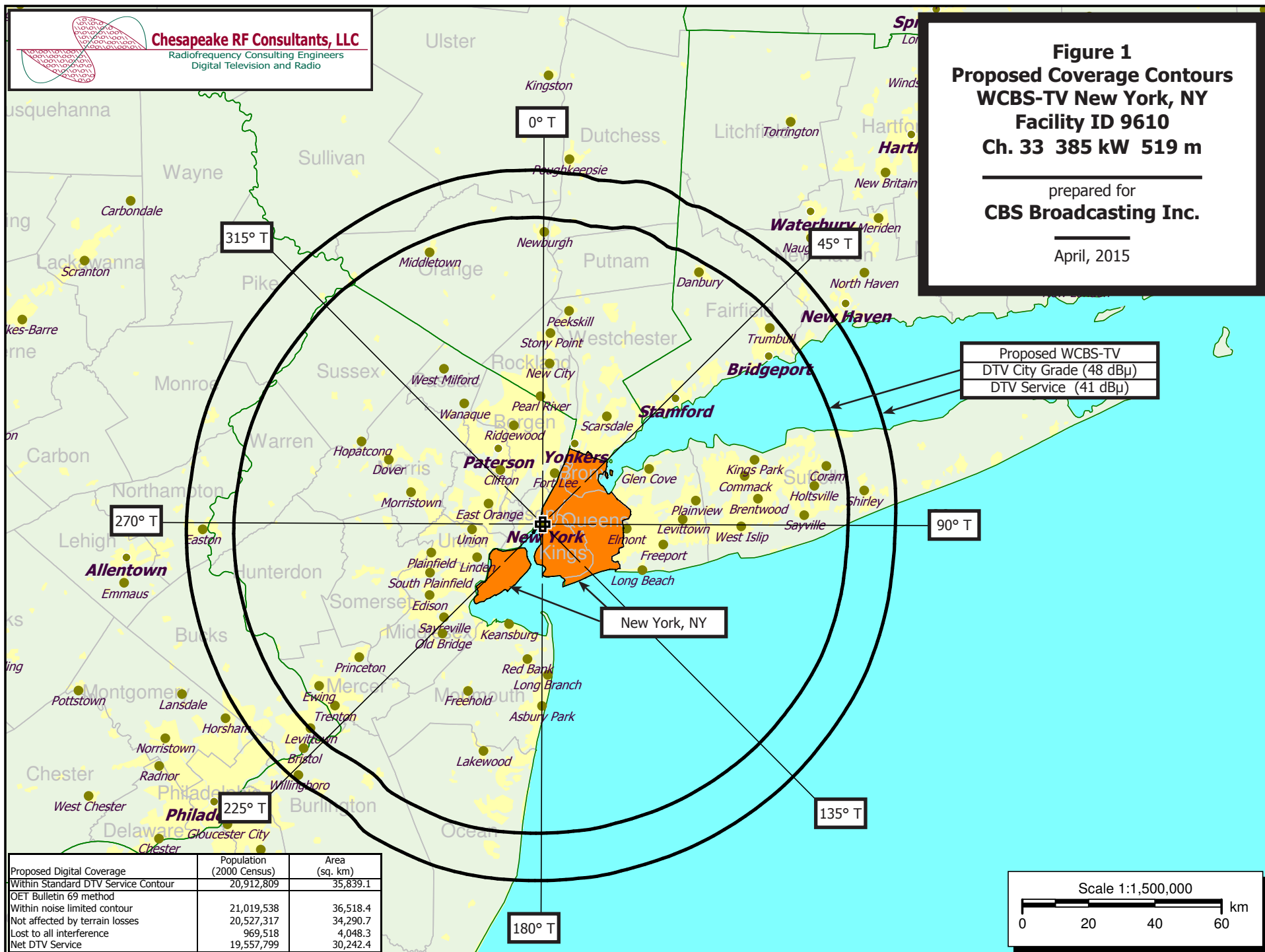
**Chesapeake RF Consultants, LLC**  
Radiofrequency Consulting Engineers  
Digital Television and Radio

**Figure 1**  
**Proposed Coverage Contours**  
**WCBS-TV New York, NY**  
**Facility ID 9610**  
**Ch. 33 385 kW 519 m**

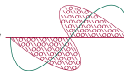
prepared for  
**CBS Broadcasting Inc.**

April, 2015

Proposed WCBS-TV  
DTV City Grade (48 dBμ)  
DTV Service (41 dBμ)



**Table 1 WCBS-TV OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 1 of 12)



**Chesapeake RF Consultants, LLC**  
Radiofrequency Consulting Engineers  
Digital Television and Radio

Note: The LMS application requires NAD-83 coordinates. FCC internal systems then convert to NAD-27 and port over to CDBS for processing. This interference analysis utilizes NAD-27 coordinates to replicate FCC processing.

TW Census data selected 2000  
Data Base Selected  
/space/software/cdbbs/pt\_tvdb.sff

TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 04-21-2015 Time: 13:41:41

Record Selected for Analysis

WCBS-TV USERRECORD-01 NEW YORK NY US  
Channel 33 ERP 385. kW HAAT 519. m RCAMSL 00530 m  
Latitude 040-42-46 Longitude 0074-00-48  
Status APP Zone 1 Border Site number: 01  
Last update Cutoff date Docket  
Comments  
Applicant

Cell Size for Service Analysis 2.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Facility (site # 01) meets maximum height/power limits

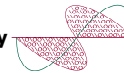
Site number	1		
Azimuth (Deg)	ERP (kW)	HAAT (m)	41.0 dBu F(50,90) (km)
0.0	385.000	511.6	106.3
45.0	385.000	529.1	107.6
90.0	385.000	508.4	106.0
135.0	385.000	519.8	106.9
180.0	385.000	522.8	107.1
225.0	385.000	519.5	106.9
270.0	385.000	521.3	107.0
315.0	385.000	516.7	106.7

Evaluation toward Class A Stations from site # 01

No Spacing violations or contour overlap  
to Class A stations from site # 01

Class A Evaluation Complete

**Table 1 WCBS-TV OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 2 of 12)



**Chesapeake RF Consultants, LLC**  
Radiofrequency Consulting Engineers  
Digital Television and Radio

Checks to Site Number 01

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is within the Canadian coordination distance  
Distance to border = 397.6km

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

\*\*\*\*\*  
Start of Interference Analysis

Channel	Call	City/State	ARN
33	WCBS-TV	NEW YORK NY	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
32	WPSG	PHILADELPHIA PA	127.6	LIC	BLANK	0000001047
32	WQPX-TV	SCRANTON PA	164.5	LIC	BLCDT	20060629AFR
33	WFSB	HARTFORD CT	155.3	LIC	BLCDT	20041029AIL
33	WHUT-TV	WASHINGTON DC	326.9	CP	BPEDT	20120627AAD
33	WHUT-TV	WASHINGTON DC	326.9	LIC	BLEDT	20071018AIJ
33	WPXG-TV	CONCORD NH	353.6	LIC	BLCDT	20031014AEP
34	WIVT	BINGHAMTON NY	219.9	LIC	BLCDT	20090819AGR
34	WMHT	SCHENECTADY NY	212.6	LIC	BLEDT	20040108ALV
34	WCAU	PHILADELPHIA PA	127.6	LIC	BLCDT	20090914AAX

\*\*\*\*\*

Analysis of Interference to Affected Station 1

Channel	Call	City/State	Application	Ref. No.
32	WPSG	PHILADELPHIA PA	BLANK	-0000001047

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
31	WPPX-TV	WILMINGTON DE	0.0	LIC	BLCDT	-20031203AFL
31	WPXN-TV	NEW YORK NY	127.6	APP	BMPCDT	-20080620ALZ
31	WPXN-TV	NEW YORK NY	131.8	LIC	BLCDT	-20110729AAQ
31	WSWB-DR	SCRANTON PA	160.4	APP	BPRM	-20080619ALI
31	WSWB	SCRANTON PA	160.4	LIC	BLCDT	-20140326AAZ
32	WBPX-TV	BOSTON MA	419.6	LIC	BLCDT	-20040723ACG
32	WTAJ-TV	ALTOONA PA	277.9	LIC	BLCDT	-20051018ACE
32	WQPX-TV	SCRANTON PA	160.3	LIC	BLCDT	-20060629AFR



**Table 1 WCBS-TV OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 3 of 12)



32	WVIR-TV	CHARLOTTESVILLE VA	361.7	LIC	BLCDT	-20040908AAE
33	WHUT-TV	WASHINGTON DC	199.3	CP	BPEDT	-20120627AAD
33	WHUT-TV	WASHINGTON DC	199.3	LIC	BLEDT	-20071018AIJ
33	WCBS-TV	NEW YORK NY	127.6	PLN	DTVPLN	-DTVP1227
33	WCBS-TV	NEW YORK NY	127.6	APP	USERRECORD-01	

Total scenarios = 2

Result key: 1  
Scenario 1 Affected station 1  
Before Analysis

Results for: 32A PA PHILADELPHIA	BLANK	0000001047	LIC
HAAT 400.0 m, ATV ERP 800.0 kW			
POPULATION	AREA (sq km)		
within Noise Limited Contour	9669508	29443.7	
not affected by terrain losses	9370058	28661.5	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	381067	985.7	
lost to ATV IX only	381067	985.7	
lost to all IX	381067	985.7	

Potential Interfering Stations Included in above Scenario 1

31A NY NEW YORK	BLCDT	20110729AAQ	LIC
32A PA ALTOONA	BLCDT	20051018ACE	LIC
32A PA SCRANTON	BLCDT	20060629AFR	LIC
32A VA CHARLOTTESVILLE	BLCDT	20040908AAE	LIC
33A NY NEW YORK	DTVPLN	DTVP1227	PLN

After Analysis

Results for: 32A PA PHILADELPHIA	BLANK	0000001047	LIC
HAAT 400.0 m, ATV ERP 800.0 kW			
POPULATION	AREA (sq km)		
within Noise Limited Contour	9669508	29443.7	
not affected by terrain losses	9370058	28661.5	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	491189	1153.3	
lost to ATV IX only	491189	1153.3	
lost to all IX	491189	1153.3	

Potential Interfering Stations Included in above Scenario 1

31A NY NEW YORK	BLCDT	20110729AAQ	LIC
32A PA ALTOONA	BLCDT	20051018ACE	LIC
32A PA SCRANTON	BLCDT	20060629AFR	LIC
32A VA CHARLOTTESVILLE	BLCDT	20040908AAE	LIC
33A NY NEW YORK	USERRECORD01		APP

The following station failed the de minimis interference criteria.  
33D NY NEW YORK USERRECORD01  
ERP 385.00 kW HAAT 519.0 m RCAMSL 530.0 m  
Antenna none

Due to interference to the following station and scenario: 1  
32D PA PHILADELPHIA BLANK 0000001047

**Table 1 WCBS-TV OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 4 of 12)



ERP 800.00 kW HAAT 400.0 m RCAMSL 465.0 m  
Antenna CDB 00000000107152

Percent new interference from proposal: 1.2251 to BLANK 0000001047

Worst case new IX 1.2251% Scenario 1

#####

Analysis of Interference to Affected Station 2

Analysis of current record			
Channel Call City/State Application Ref. No.			
32 WQPX-TV SCRANTON PA BLCDT -20060629AFR			

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
31	WPPX-TV	WILMINGTON DE	160.3	LIC	BLCDT -20031203AFL
31	WPXN-TV	NEW YORK NY	164.4	APP	BMPCDT -20080620ALZ
31	WPXN-TV	NEW YORK NY	164.5	LIC	BLCDT -20110729AAQ
31	WSWB-DR	SCRANTON PA	0.3	APP	BPRM -20080619ALI
31	WSWB	SCRANTON PA	0.2	LIC	BLCDT -20140326AAZ
32	WBPX-TV	BOSTON MA	385.0	LIC	BLCDT -20040723ACG
32	WNLO	BUFFALO NY	317.1	LIC	BLCDT -20070320AAV
32	WTAJ-TV	ALTOONA PA	247.3	LIC	BLCDT -20051018ACE
32	WPSG	PHILADELPHIA PA	160.3	LIC	BLANK -0000001047
32	WETK	BURLINGTON VT	417.2	LIC	BLEDT -20061011ADW
33	WCBS-TV	NEW YORK NY	164.5	PLN	DTVPLN -DTVP1227
33	WCBS-TV	NEW YORK NY	164.5	APP	USERRECORD-01

Proposal causes no interference

#####

Analysis of Interference to Affected Station 3

Analysis of current record			
Channel Call City/State Application Ref. No.			
33 WFSB HARTFORD CT BLCDT -20041029AIL			

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
32	WBPX-TV	BOSTON MA	143.3	LIC	BLCDT -20040723ACG
33	WPXG-TV	CONCORD NH	198.4	LIC	BLCDT -20031014AEP
33	WCBS-TV	NEW YORK NY	155.4	PLN	DTVPLN -DTVP1227
34	WNEU	MERRIMACK NH	167.4	LIC	BLCDT -20021028AAH
34	WMHT	SCHENECTADY NY	137.0	LIC	BLEDT -20040108ALV
33	WCBS-TV	NEW YORK NY	155.3	APP	USERRECORD-01

Total scenarios = 1



**Table 1 WCBS-TV OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 5 of 12)



**Chesapeake RF Consultants, LLC**  
Radiofrequency Consulting Engineers  
Digital Television and Radio

Result key: 3  
Scenario 1 Affected station 3  
Before Analysis

Results for: 33A CT HARTFORD BLCDT 20041029AIL LIC  
HAAT 289.0 m, ATV ERP 1000.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	4594265	27295.2
not affected by terrain losses	4213689	24657.8
lost to NTSC IX	0	0.0
lost to additional IX by ATV	674463	3542.1
lost to ATV IX only	674463	3542.1
lost to all IX	674463	3542.1

Potential Interfering Stations Included in above Scenario 1

32A MA BOSTON	BLCDT	20040723ACG	LIC
33A NH CONCORD	BLCDT	20031014AEP	LIC
34A NY SCHENECTADY	BLEDT	20040108ALV	LIC
33A NY NEW YORK	DTVPLN	DTPV1227	PLN

After Analysis

Results for: 33A CT HARTFORD BLCDT 20041029AIL LIC  
HAAT 289.0 m, ATV ERP 1000.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	4594265	27295.2
not affected by terrain losses	4213689	24657.8
lost to NTSC IX	0	0.0
lost to additional IX by ATV	784514	4559.3
lost to ATV IX only	784514	4559.3
lost to all IX	784514	4559.3

Potential Interfering Stations Included in above Scenario 1

32A MA BOSTON	BLCDT	20040723ACG	LIC
33A NH CONCORD	BLCDT	20031014AEP	LIC
34A NY SCHENECTADY	BLEDT	20040108ALV	LIC
33A NY NEW YORK	USERRECORD01	APP	

The following station failed the de minimis interference criteria.  
33D NY NEW YORK USERRECORD01  
ERP 385.00 kW HAAT 519.0 m RCAMSL 530.0 m  
Antenna none

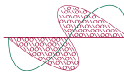
Due to interference to the following station and scenario: 1  
33D CT HARTFORD BLCDT 20041029AIL  
ERP 1000.00 kW HAAT 289.0 m RCAMSL 375.0 m  
Antenna CDB 00000000044846

Percent new interference from proposal: 3.1095 to BLCDT 20041029AIL

Worst case new IX 3.1095% Scenario 1

#####

**Table 1 WCBS-TV OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 6 of 12)



**Chesapeake RF Consultants, LLC**  
Radiofrequency Consulting Engineers  
Digital Television and Radio

Analysis of Interference to Affected Station 4

Analysis of current record  
Channel Call City/State Application Ref. No.  
33 WHUT-TV WASHINGTON DC BPEDT -20120627AAD

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
32	WTAJ-TV	ALTOONA PA	214.1	LIC	BLCDT -20051018ACE
32	WPSG	PHILADELPHIA PA	199.3	LIC	BLANK -0000001047
32	WVIR-TV	CHARLOTTESVILLE VA	162.5	LIC	BLCDT -20040908AAE
33	WMYV	GREENSBORO NC	419.6	LIC	BLCDT -20020430ABD
33	WCBS-TV	NEW YORK NY	326.8	PLN	DTVPLN -DTPV1227
33	WTVZ-TV	NORFOLK VA	243.4	LIC	BLCDT -20090602ABA
33	WNPB-TV	MORGANTOWN WV	245.1	LIC	BLEDT -20121205ACJ
34	WJAC-TV	JOHNSTOWN PA	226.8	LIC	BLCDT -20051123AKN
34	WCAU	PHILADELPHIA PA	199.3	LIC	BLCDT -20090914AAX
34	WPXW-TV	MANASSAS VA	0.0	LIC	BLCDT -20090612AIZ
33	WCBS-TV	NEW YORK NY	326.9	APP	USERRECORD-01

Total scenarios = 1

Result key: 4  
Scenario 1 Affected station 4  
Before Analysis

Results for: 33A DC WASHINGTON BPEDT 20120627AAD CP  
HAAT 254.0 m, ATV ERP 1000.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	7360131	26442.2
not affected by terrain losses	7313335	25541.8
lost to NTSC IX	0	0.0
lost to additional IX by ATV	18617	360.1
lost to ATV IX only	18617	360.1
lost to all IX	18617	360.1

Potential Interfering Stations Included in above Scenario 1

33A VA NORFOLK	BLCDT	20090602ABA	LIC
33A WV MORGANTOWN	BLEDT	20121205ACJ	LIC
33A NY NEW YORK	DTVPLN	DTPV1227	PLN

After Analysis

Results for: 33A DC WASHINGTON BPEDT 20120627AAD CP  
HAAT 254.0 m, ATV ERP 1000.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	7360131	26442.2
not affected by terrain losses	7313335	25541.8
lost to NTSC IX	0	0.0
lost to additional IX by ATV	18617	360.1
lost to ATV IX only	18617	360.1
lost to all IX	18617	360.1

Potential Interfering Stations Included in above Scenario 1

**Table 1 WCBS-TV OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 7 of 12)



**Chesapeake RF Consultants, LLC**  
Radiofrequency Consulting Engineers  
Digital Television and Radio

33A VA NORFOLK	BLCDT	20090602ABA	LIC
33A WV MORGANTOWN	BLEDT	20121205ACJ	LIC
33A NY NEW YORK	USERRECORD01		APP

Percent new IX = 0.0000%

Worst case new IX 0.0000% Scenario 1

#####

Analysis of Interference to Affected Station 5

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
33	WHUT-TV	WASHINGTON DC	BLEDT	-20071018AIJ

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
32	WTAJ-TV	ALTOONA PA	214.1	LIC	BLCDT	-20051018ACE
32	WPSG	PHILADELPHIA PA	199.3	LIC	BLANK	-0000001047
32	WVIR-TV	CHARLOTTESVILLE VA	162.5	LIC	BLCDT	-20040908AAE
33	WMYV	GREENSBORO NC	419.6	LIC	BLCDT	-20020430ABD
33	WCBS-TV	NEW YORK NY	326.8	PLN	DTVPLN	-DTVPI227
33	WTVZ-TV	NORFOLK VA	243.4	LIC	BLCDT	-20090602ABA
33	WNPB-TV	MORGANTOWN WV	245.1	LIC	BLEDT	-20121205ACJ
34	WJAC-TV	JOHNSTOWN PA	226.8	LIC	BLCDT	-20051123AKN
34	WCAU	PHILADELPHIA PA	199.3	LIC	BLCDT	-20090914AAX
34	WPXW-TV	MANASSAS VA	0.0	LIC	BLCDT	-20090612AIZ
33	WCBS-TV	NEW YORK NY	326.9	APP	USERRECORD-01	

Total scenarios = 1

Result key: 5

Scenario 1 Affected station 5

Before Analysis

Results for: 33A DC WASHINGTON BLEDT 20071018AIJ LIC

HAAT	254.0 m, ATV ERP	100.0 kW
	POPULATION	AREA (sq km)
within Noise Limited Contour	6810141	17910.5
not affected by terrain losses	6789915	17618.4
lost to NTSC IX	0	0.0
lost to additional IX by ATV	10254	108.0
lost to ATV IX only	10254	108.0
lost to all IX	10254	108.0

Potential Interfering Stations Included in above Scenario 1

33A VA NORFOLK	BLCDT	20090602ABA	LIC
33A WV MORGANTOWN	BLEDT	20121205ACJ	LIC
33A NY NEW YORK	DTVPLN	DTVPI227	PLN

After Analysis

**Table 1 WCBS-TV OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 8 of 12)



**Chesapeake RF Consultants, LLC**  
Radiofrequency Consulting Engineers  
Digital Television and Radio

Results for: 33A DC WASHINGTON BLEDT 20071018AIJ LIC  
HAAT 254.0 m, ATV ERP 100.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	6810141	17910.5
not affected by terrain losses	6789915	17618.4
lost to NTSC IX	0	0.0
lost to additional IX by ATV	10438	112.0
lost to ATV IX only	10438	112.0
lost to all IX	10438	112.0

Potential Interfering Stations Included in above Scenario 1

33A VA NORFOLK	BLCDT	20090602ABA	LIC
33A WV MORGANTOWN	BLEDT	20121205ACJ	LIC
33A NY NEW YORK	USERRECORD01		APP

Percent new IX = 0.0027%

Worst case new IX 0.0027% Scenario 1

#####

Analysis of Interference to Affected Station 6

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
33	WPXG-TV	CONCORD NH	BLCDT	-20031014AEP

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
32	WBPX-TV	BOSTON MA	97.8	LIC	BLCDT	-20040723ACG
32	WETK	BURLINGTON VT	191.2	LIC	BLEDT	-20061011ADW
33	WFSB	HARTFORD CT	198.4	LIC	BLCDT	-20041029AIL
33	WCBS-TV	NEW YORK NY	353.7	PLN	DTVPLN	-DTVPI227
34	WNEU	MERRIMACK NH	31.2	LIC	BLCDT	-20021028AAH
34	WMHT	SCHENECTADY NY	227.7	LIC	BLEDT	-20040108ALV
33	WCBS-TV	NEW YORK NY	353.6	APP	USERRECORD-01	

Total scenarios = 1

Result key: 6

Scenario 1 Affected station 6

Before Analysis

Results for: 33A NH CONCORD BLCDT 20031014AEP LIC

HAAT	344.0 m, ATV ERP	100.0 kW
	POPULATION	AREA (sq km)
within Noise Limited Contour	2485051	19886.0
not affected by terrain losses	2412661	17842.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	85341	1142.5
lost to ATV IX only	85341	1142.5
lost to all IX	85341	1142.5

**Table 1 WCBS-TV OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 9 of 12)



Potential Interfering Stations Included in above Scenario 1

32A MA BOSTON	BLCDT	20040723ACG	LIC
33A CT HARTFORD	BLCDT	20041029AIL	LIC
34A NH MERRIMACK	BLCDT	20021028AAH	LIC
33A NY NEW YORK	DTVPLN	DTVP1227	PLN

After Analysis

Results for: 33A NH CONCORD BLCDT 20031014AEP LIC  
HAAT 344.0 m, ATV ERP 100.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	2485051	19886.0
not affected by terrain losses	2412661	17842.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	86785	1150.6
lost to ATV IX only	86785	1150.6
lost to all IX	86785	1150.6

Potential Interfering Stations Included in above Scenario 1

32A MA BOSTON	BLCDT	20040723ACG	LIC
33A CT HARTFORD	BLCDT	20041029AIL	LIC
34A NH MERRIMACK	BLCDT	20021028AAH	LIC
33A NY NEW YORK	USERRECORD01		APP

Percent new IX = 0.0620%

Worst case new IX 0.0620% Scenario 1

#####

Analysis of Interference to Affected Station 7

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
34	WIVT	BINGHAMTON NY	BLCDT	-20090819AGR

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
33	WGRZ	BUFFALO NY	227.1	LIC	BLCDT	-20050705AAG
33	WCBS-TV	NEW YORK NY	219.9	PLN	DTVPLN	-DTVP1227
34	WNEU	MERRIMACK NH	371.1	LIC	BLCDT	-20021028AAH
34	WMHT	SCHENECTADY NY	170.7	LIC	BLEDT	-20040108ALV
34	WJAC-TV	JOHNSTOWN PA	315.9	LIC	BLCDT	-20051123AKN
34	WCAU	PHILADELPHIA PA	232.1	LIC	BLCDT	-20090914AAX
34	WPXW-TV	MANASSAS VA	358.8	LIC	BLCDT	-20090612AIZ
33	WCBS-TV	NEW YORK NY	219.9	APP	USERRECORD-01	

Proposal causes no interference

#####

Analysis of Interference to Affected Station 8

**Table 1 WCBS-TV OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 10 of 12)



Analysis of current record

Channel	Call	City/State	Application	Ref. No.
34	WMHT	SCHENECTADY NY	BLEDT	-20040108ALV

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
33	WFSB	HARTFORD CT	137.0	LIC	BLCDT	-20041029AIL
33	WPXG-TV	CONCORD NH	227.7	LIC	BLCDT	-20031014AEP
33	WCBS-TV	NEW YORK NY	212.7	PLN	DTVPLN	-DTVP1227
34	WNEU	MERRIMACK NH	201.5	LIC	BLCDT	-20021028AAH
34	WIVT	BINGHAMTON NY	170.7	LIC	BLCDT	-20090819AGR
34	WCAU	PHILADELPHIA PA	304.8	LIC	BLCDT	-20090914AAX
35	WVIT	NEW BRITAIN CT	141.4	LIC	BLCDT	-20041203AEF
35	WBIN-TV	DERRY NH	214.2	LIC	BLCDT	-20070126ACX
33	WCBS-TV	NEW YORK NY	212.6	APP	USERRECORD-01	

Proposed station is beyond the site to nearest cell evaluation distance

#####

Analysis of Interference to Affected Station 9

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
34	WCAU	PHILADELPHIA PA	BLCDT	-20090914AAX

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
33	WHUT-TV	WASHINGTON DC	199.3	CP	BPEDT	-20120627AAD
33	WHUT-TV	WASHINGTON DC	199.3	LIC	BLEDT	-20071018AIJ
33	WCBS-TV	NEW YORK NY	127.6	PLN	DTVPLN	-DTVP1227
34	WIVT	BINGHAMTON NY	232.1	LIC	BLCDT	-20090819AGR
34	WMHT	SCHENECTADY NY	304.8	LIC	BLEDT	-20040108ALV
34	WJAC-TV	JOHNSTOWN PA	320.1	LIC	BLCDT	-20051123AKN
34	WPXW-TV	MANASSAS VA	199.3	LIC	BLCDT	-20090612AIZ
35	WDCA	WASHINGTON DC	199.1	LIC	BLCDT	-20070411AAH
35	WDCA	WASHINGTON DC	199.1	APP	BPCDT	-20121105ANF
35	WYBE	PHILADELPHIA PA	0.0	LIC	BLEDT	-20091222ARE
33	WCBS-TV	NEW YORK NY	127.6	APP	USERRECORD-01	

Total scenarios = 1

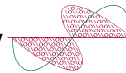
Result key: 7

Scenario 1 Affected station 9  
Before Analysis

Results for: 34A PA PHILADELPHIA BLCDT 20090914AAX LIC  
HAAT 400.0 m, ATV ERP 700.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	10374042	33622.8

**Table 1 WCBS-TV OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 11 of 12)



**Chesapeake RF Consultants, LLC**  
Radio Frequency Consulting Engineers  
Digital Television and Radio

not affected by terrain losses	10237510	32554.0
lost to NTSC IX	0	0.0
lost to additional IX by ATV	485173	1774.5
lost to ATV IX only	485173	1774.5
lost to all IX	485173	1774.5

Potential Interfering Stations Included in above Scenario 1

34A NY BINGHAMTON	BLCDT	20090819AGR	LIC
34A NY SCHENECTADY	BLEDT	20040108ALV	LIC
34A PA JOHNSTOWN	BLCDT	20051123AKN	LIC
34A VA MANASSAS	BLCDT	20090612AIZ	LIC
33A NY NEW YORK	DTVPLN	DTVP1227	PLN

After Analysis

Results for: 34A PA PHILADELPHIA BLCDT 20090914AAX LIC  
HAAT 400.0 m, ATV ERP 700.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	10374042	33622.8
not affected by terrain losses	10237510	32554.0
lost to NTSC IX	0	0.0
lost to additional IX by ATV	530955	1859.2
lost to ATV IX only	530955	1859.2
lost to all IX	530955	1859.2

Potential Interfering Stations Included in above Scenario 1

34A NY BINGHAMTON	BLCDT	20090819AGR	LIC
34A NY SCHENECTADY	BLEDT	20040108ALV	LIC
34A PA JOHNSTOWN	BLCDT	20051123AKN	LIC
34A VA MANASSAS	BLCDT	20090612AIZ	LIC
33A NY NEW YORK	USERRECORD01		APP

Percent new IX = 0.4694%

Worst case new IX 0.4694% Scenario 1

#####

Analysis of Interference to Affected Station 10

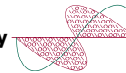
Analysis of current record

Channel	Call	City/State	Application Ref. No.
33	WCBS-TV	NEW YORK NY	USERRECORD-01

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
32	WPSG	PHILADELPHIA PA	127.6	LIC	BLANK -0000001047
32	WPX-TV	SCRANTON PA	164.5	LIC	BLCDT -20060629AFR
33	WFSB	HARTFORD CT	155.3	LIC	BLCDT -20041029AIL
33	WHUT-TV	WASHINGTON DC	326.9	CP	BPEDT -20120627AAD
33	WHUT-TV	WASHINGTON DC	326.9	LIC	BLEDT -20071018AIJ
33	WPXG-TV	CONCORD NH	353.6	LIC	BLCDT -20031014AEP
34	WIVT	BINGHAMTON NY	219.9	LIC	BLCDT -20090819AGR

**Table 1 WCBS-TV OET Bulletin 69 Interference Study**  
(worst-case scenarios shown page 12 of 12)



**Chesapeake RF Consultants, LLC**  
Radio Frequency Consulting Engineers  
Digital Television and Radio

34	WMHT	SCHENECTADY NY	212.6	LIC	BLEDT	-20040108ALV
34	WCAU	PHILADELPHIA PA	127.6	LIC	BLCDT	-20090914AAX

Total scenarios = 2

Result key: 9  
Scenario 2 Affected station 10  
Before Analysis

Results for: 33A NY NEW YORK USERRECORD01 APP

HAAT 519.0 m, ATV ERP 385.0 kW	POPULATION	AREA (sq km)
within Noise Limited Contour	21019538	36518.4
not affected by terrain losses	20527317	34290.7
lost to NTSC IX	0	0.0
lost to additional IX by ATV	969518	4048.3
lost to ATV IX only	969518	4048.3
lost to all IX	969518	4048.3

Potential Interfering Stations Included in above Scenario 2

32A PA PHILADELPHIA	BLANK	0000001047	LIC
33A CT HARTFORD	BLCDT	20041029AIL	LIC
33A DC WASHINGTON	BLEDT	20071018AIJ	LIC
34A PA PHILADELPHIA	BLCDT	20090914AAX	LIC

#####

FINISHED FINISHED FINISHED FINISHED FINISHED FINISHED

Channel and Facility Information	Section	Question	Response
	Proposed Community of License	Facility ID	0610
		State	New York
		City	NEW YORK
		DTV Channel	33
	Facility Type	Facility Type	Commercial
		Station Type	Main
	Zone	Zone	1
Antenna Location Data	Section	Question	Response
	Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	Yes
		ASR Number	1263701
	Coordinates (NAD83)	Latitude	40° 42' 46.8" N+
		Longitude	074° 00' 47.3" W-
		Structure Type	BTWR-Building with TOWER/ANTENNA on top
		Overall Structure Height	546.2 meters
		Support Structure Height	406.8 meters
		Ground Elevation (AMSL)	4.3 meters
		Antenna Data	Height of Radiation Center Above Ground Level
	Height of Radiation Center Above Average Terrain		519.1 meters
	Height of Radiation Center Above Mean Sea Level		530.4 meters
	Effective Radiated Power		385 kW

**Antenna  
Technical Data**

Section	Question	Response
Antenna Type	Antenna Type	Non-Directional
	Do you have an Antenna ID?	
	Antenna ID	
Antenna Manufacturer and Model	Manufacturer:	RFS
	Model	PHP40E
	Rotation	
	Electrical Beam Tilt	1
	Mechanical Beam Tilt	Not Applicable
	toward azimuth	
	Polarization	Elliptical
DTV and DTS: Elevation Pattern	Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt?	No
	Uploaded file for elevation antenna (or radiation) pattern data	