

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of SKY TELEVISION, L.L.C., permittee of WSKY-DT, Channel 9 in Manteo, North Carolina, in support of its application for modification of Construction Permit BMPCDT-20080616AAG, to specify operation with an omnidirectional antenna and a reduction in effective radiated power. No change in site location or effective antenna height is proposed herein facility.

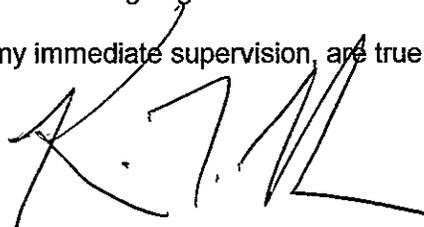
It is proposed to mount a standard Dielectric omnidirectional antenna at the 306-meter level of the existing 316-meter tower on which the present WSKY-DT antenna is mounted. Exhibit B provides an elevation pattern for the proposed antenna. Exhibit C is a map upon which the predicted service contours are plotted. As shown, the city of license is completely contained within the proposed 43 dBu service contour. An interference study is included in Exhibit D, and it is important to note that the analysis is based on use of a 1-kilometer cell size and 0.1-kilometer increment spacing. A power density calculation is provided in Exhibit E.

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 WSKY-DT 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 1252202 to this tower.

EXHIBIT A

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.

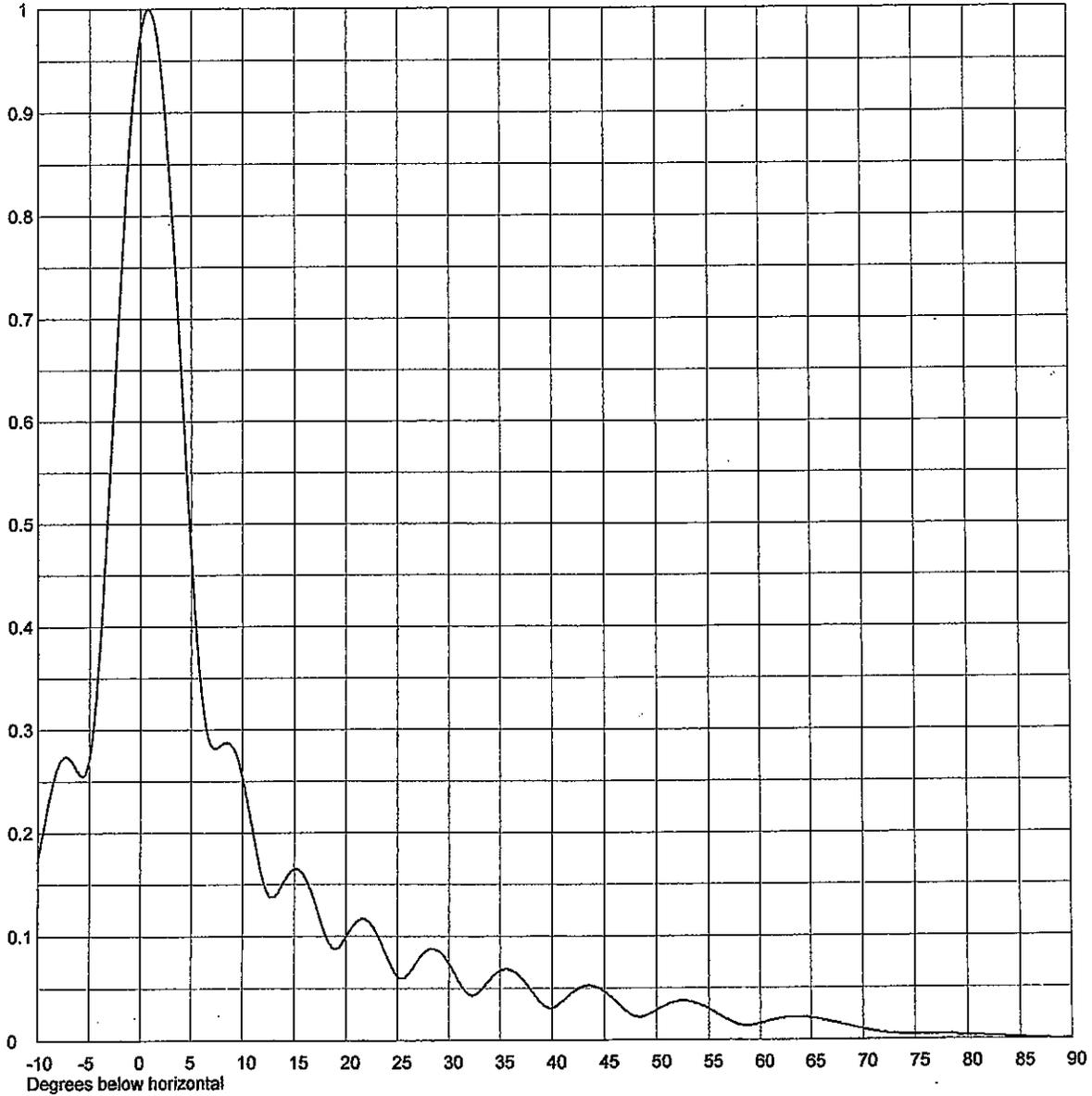
A handwritten signature in black ink, appearing to read 'K. T. Fisher', written over the text 'are true and correct to'.

KEVIN T. FISHER

December 22, 2009

### ELEVATION PATTERN

RMS Gain at Main Lobe	<b>9.0 (9.54 dB)</b>	Beam Tilt	<b>0.75 Degrees</b>
RMS Gain at Horizontal	<b>8.6 (9.34 dB)</b>	Frequency	<b>189.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>19W090075-90</b>



Remarks:

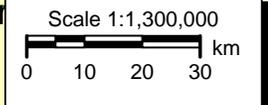
**EXHIBIT B**  
**ANTENNA ELEVATION PATTERN**  
**PROPOSED WSKY-DT**  
**CHANNEL 9 – MANTEO, NORTH CAROLINA**  
**[MODIFICATION OF BMPCDT-20080616AAG]**  
**SMITH AND FISHER**

**CONTOUR POPULATION**  
**43 DBU : 1,736,542**  
**36 DBU : 1,823,470**

Smith and Fisher



**EXHIBIT C**  
**PREDICTED SERVICE CONTOURS**  
**PROPOSED WSKY-DT**  
**CH. 9 - MANTEO, NORTH CAROLINA**



INTERFERENCE STUDY

PROPOSED WSKY-DT  
CHANNEL 9 – MANTEO, NORTH CAROLINA  
[MODIFICATION OF BMPCDT-20080616AAG]

The instant application specifies an ERP of 70 kw (omnidirectional) at 306 meters above average terrain, which we have determined to be allowable under the FCC's interference standards with respect to various post-transition digital television facilities.

In evaluating the interference effect of this proposal, we have relied upon the V-Soft Communications "SunDTV" computer program, which mimics the FCC's interference program. In conducting our study, we employed a cell size of 1.0 kilometer and an increment spacing of 0.1 kilometer along each radial. In addition, we utilized the 2000 U.S. Census. Changes in interference caused by proposed WSKY-DT to other pertinent stations are tabulated in Exhibit D-2.

As shown, the proposed WSKY-DT facility would not contribute more than 0.5% interference (beyond that which is caused by the allotted WSKY-DT facility) to the service population of any potentially affected post-transition DTV station.

A Longley-Rice interference study also reveals that the proposed WSKY-DT facility does not cause significant (0.5%) interference within the protected service contour of any potentially affected Class A low power television station.

Therefore, this proposal meets the FCC's *de minimis* interference standards for DTV operations.

## Summary Study

Percent allowed new interference: 0.500  
 Percent allowed new interference to Class A: 0.500  
 Census data selected 2000  
 Post Transition Data Base Selected ./data\_files/pt\_tvdb.sff

## TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 03-19-2009 Time: 22:51:38

Record Selected for Analysis

WSKY-TV- USERRECORD-01 MANTEO NC US  
 Channel 09 ERP 70. kW HAAT 306. m RCAMSL 00310 m  
 Latitude 036-31-15 Longitude 0076-18-16  
 Status APP Zone 2 Border  
 Dir Antenna Make usr Model USRPAT01 Beam tilt N Ref Azimuth 0.  
 Last update Cutoff date Docket  
 Comments  
 Applicant

Cell Size for Service Analysis 1.0 km/side

Distance Increments for Longley-Rice Analysis 0.10 km

Facility meets maximum height/power limits

Azimuth (Deg)	ERP (kW)	HAAT (m)	36.0 dBu F(50,90) (km)
0.0	70.000	306.4	108.8
45.0	70.000	306.6	108.8
90.0	70.000	306.8	108.8
135.0	70.000	305.3	108.7
180.0	70.000	307.2	108.9
225.0	70.000	307.2	108.9
270.0	70.000	305.5	108.7
315.0	70.000	305.7	108.8

## Evaluation toward Class A Stations

No Spacing violations or contour overlap to Class A stations

Class A Evaluation Complete

## SPACING VIOLATION FOUND BETWEEN STATION

WSKY-TV- 09 MANTEO

NC USERRECORD01

and station

SHORT TO: WSKY-TV 09 MANTEO NC DTVPLN DTVP0206  
 36 -32-54 76 -11-16  
 Req. separation 273.6 Actual separation 10.9 Short 262.7 km

SHORT TO: WNCT-TV 09 GREENVILLE NC BLCT 19801023KI  
 035-21-55 0077-23-38  
 Req. separation 273.6 Actual separation 161.6 Short 112.0 km

SHORT TO: WNCT-TV 09 GREENVILLE NC BPCT 20030408AAQ  
 035-21-55 0077-23-38  
 Req. separation 273.6 Actual separation 161.6 Short 112.0 km

SHORT TO: WAVY-TV 10 PORTSMOUTH VA BMLCT 19960821KE  
 036-49-14 0076-30-41  
 Req. separation => 9.0 <= 125.0 Actual separation 38.1 Short 86.9(  
 29.1) km

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quiet zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

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Start of Interference Analysis

Channel	Proposed Station	ARN
09	Call City/State WSKY-TV- MANTEO NC	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan No.	Call	City/State	Dist(km)	Status	Application	Ref.
08	WFXI	MOREHEAD CITY NC	182.9	PLN	DTVPLN	-
DTVP0144						
08	WFXI	MOREHEAD CITY NC	182.9	CP MOD	BMPCDT	-
20080619AEE						
09	WUSA	WASHINGTON DC	278.5	PLN	DTVPLN	-
DTVP0188						
09	WUSA	WASHINGTON DC	278.5	CP MOD	BMPCDT	-
20080425ABL						
09	WHMC	CONWAY SC	382.7	CP	BPEDT	-
20080620AKP						
09	WHMC	CONWAY SC	382.7	PLN	DTVPLN	-

DTVP0218						
09	WHMC	CONWAY SC	382.7	LIC	BLEDT	-
20050830ACK						
10	WNCT-TV	GREENVILLE NC	161.6	CP MOD	BMPCDT	-
20040730ARH						
10	WNCT-TV	GREENVILLE NC	161.6	PLN	DTVPLN	-
DTVP0273						

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Study of this proposal found the following interference problem(s):

NONE.

POWER DENSITY CALCULATION

PROPOSED WSKY-DT  
CHANNEL 9 – MANTEO, NORTH CAROLINA  
[MODIFICATION OF BMPCDT-20080616AAG]

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Manteo facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 70 kw, an antenna radiation center 306 meters above ground, and the elevation pattern of the Dielectric antenna, maximum power density two meters above ground of  $0.000091 \text{ mw/cm}^2$  is calculated to occur 229 meters from the base of the tower. Since this is less than 0.1 percent of the  $0.2 \text{ mw/cm}^2$  reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 9 (186-192 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.