

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of FOX TELEVISION STATIONS, INC., licensee of Digital Television Station WDCA-DT, Channel 35 in Washington, D.C., in support of its Application for Construction Permit for a digital auxiliary facility.

It is proposed to mount a Dielectric omnidirectional antenna at the 139-meter level of the WDCA-DT tower. An antenna elevation pattern is provided in Exhibit B. Operating parameters for the proposed facility are tabulated in Exhibit C. Exhibit D is a map upon which the predicted service contours for the proposed auxiliary facility are plotted. Exhibit E is a map upon which the authorized WDCA-DT post-transition 41 dBu contour is plotted in relation to that proposed for the auxiliary facility. As shown, the auxiliary contour is completely contained within the authorized service contour. As a result, no interference study is required. A power density calculation follows as 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 WDCA-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. The FCC has issued Antenna Structure Registration Number 1042983 to this tower.

I declare under penalty of perjury that the foregoing statements are true and correct to the best of my knowledge and belief.

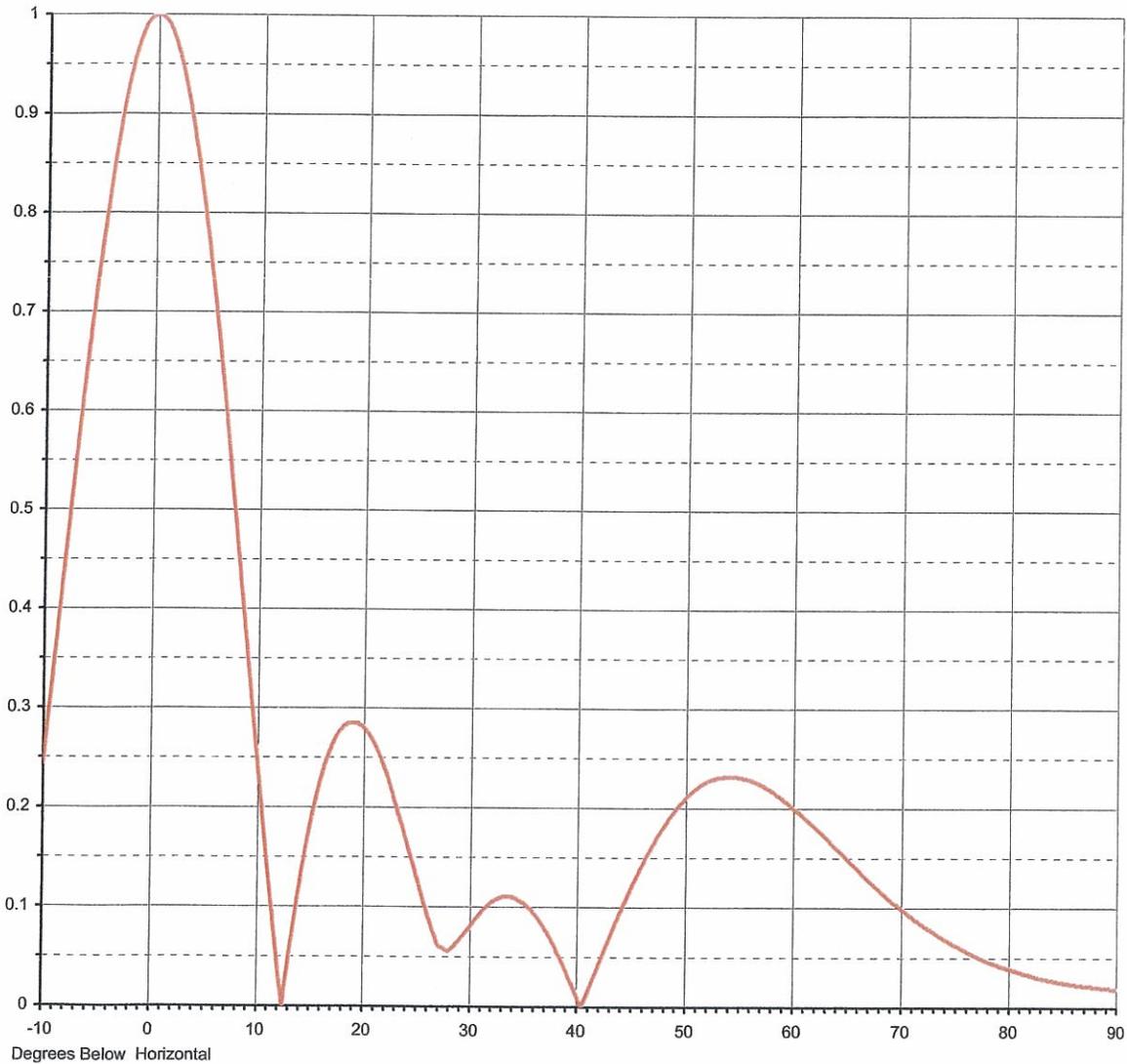


KEVIN T. FISHER

June 11, 2009

**ELEVATION PATTERN**

RMS Gain at Main Lobe	<b>4.67 ( 6.69 dB )</b>	Beam Tilt	<b>0.00 deg</b>
RMS Gain at Horizontal	<b>4.70 ( 6.72 dB )</b>	Frequency	<b>599.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>TUA STBY C35000-90</b>



This document contains proprietary and confidential information of Dielectric Communications and SPX Corporation. It is to be used solely for the purpose for which it is provided. No disclosure, reproduction, or use of this document or any part of it may be made without the written permission of Dielectric Communications or SPX Corporation.

**EXHIBIT B**  
**ANTENNA ELEVATION PATTERN**  
**PROPOSED WDCA-DT AUXILIARY**  
**CHANNEL 35 – WASHINGTON, D.C.**  
**SMITH AND FISHER**

PROPOSED OPERATING PARAMETERS

PROPOSED WDCA-DT AUXILIARY  
CHANNEL 35 – WASHINGTON, D.C.

Transmitter Power Output:	50.2 kw
Transmission Line Efficiency:	69.7%
Antenna Power Gain – Main Lobe:	4.67
Effective Radiated Power – Main Lobe:	163 kw
Transmitter Make and Model:	Type-accepted
Transmission Line Make and Model:	Andrew HJ9HP-50
Size and Type:	5" rigid
Length:	700 feet
Antenna:	
Make and Model:	Dielectric TUA-O4-2/8-1
Orientation:	Omnidirectional
Beam Tilt:	None
Radiation Center Above Ground:	139 meters
Radiation Center Above Mean Sea Level:	244 meters

**CONTOUR POPULATION**

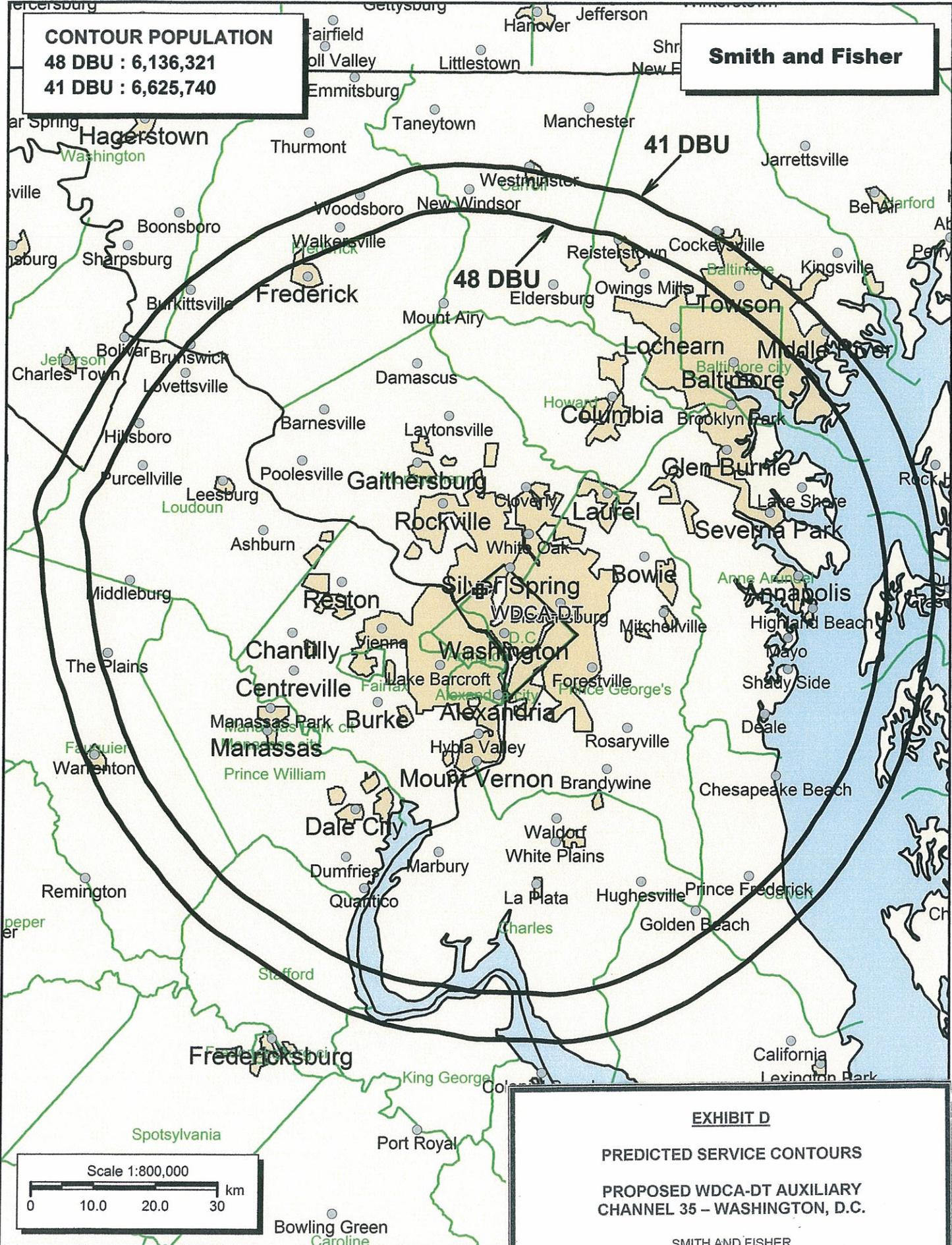
**48 DBU : 6,136,321**

**41 DBU : 6,625,740**

**Smith and Fisher**

**41 DBU**

**48 DBU**

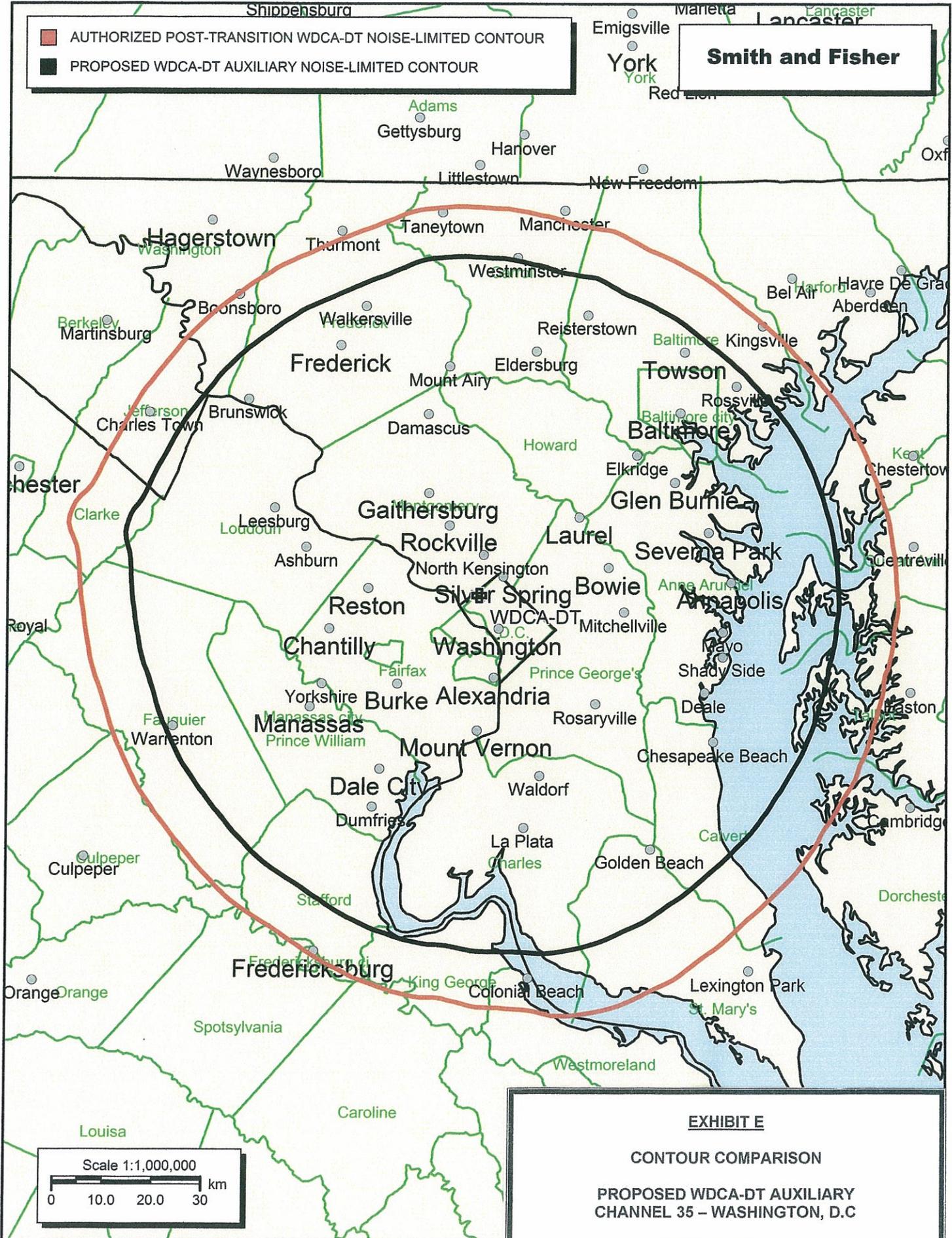


**EXHIBIT D**

**PREDICTED SERVICE CONTOURS**

**PROPOSED WDCA-DT AUXILIARY CHANNEL 35 – WASHINGTON, D.C.**

SMITH AND FISHER



**Smith and Fisher**

**EXHIBIT E**  
**CONTOUR COMPARISON**  
**PROPOSED WDCA-DT AUXILIARY**  
**CHANNEL 35 - WASHINGTON, D.C.**  
 SMITH AND FISHER

EXHIBIT F

POWER DENSITY CALCULATION  
PROPOSED WDCA-DT AUXILIARY  
CHANNEL 35 – WASHINGTON, D.C.

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Washington facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 163 kw, an antenna radiation center 139 meters above ground, and the elevation pattern of the Dielectric antenna, maximum power density two meters above ground of  $0.010 \text{ mw/cm}^2$  is calculated to occur 98 meters from the base of the tower. Since this is only 2.5 percent of the  $0.40 \text{ mw/cm}^2$  reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 35 (596-602 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.