

TECHNICAL EXHIBIT  
APPLICATION FOR MINOR CHANGE  
MODIFICATION OF DTV CONSTRUCTION PERMIT  
STATION WSPA-DT (FACILITY ID 66391)  
SPARTANBURG, SOUTH CAROLINA

APRIL 2, 2003

CH 53    875 KW    657 M

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Technical Narrative

This Technical Exhibit supports a minor change application to modify the digital television (DTV) construction permit (CP) for station WSPA-DT at Spartanburg, South Carolina. Station WSPA-DT is currently has a construction permit to operate on channel 53 (BMPCDT-20000428AAZ, Facility ID 66391). Station WSPA-DT is authorized to use a Dielectric TFU-26GBH-R-O6 non-directional (ND) antenna system. The DTV effective radiated power (ERP) is 1000 kilowatts (kW). The antenna center of radiation is located 121 meters above ground level (AGL) and 1100 meters above mean sea level (AMSL). The antenna height above average terrain (HAAT) is 672 meters. The transmitter site coordinates are 35-10-12, 82-17-27 (NAD-27). The FCC tower registration number for the supporting structure is 1206410.

Proposed DTV Facilities

This minor change application proposes to simply decrease the DTV ERP and antenna HAAT. There is no proposed change in channel (53), site (35-10-12, 82-17-27), antenna system (Dielectric TFU-26GBH-R-O6) or city of assignment (Spartanburg, SC). It is proposed to reduce the ERP from 1000 kW to 875 kW. It is proposed to reduce the antenna radiation center height to 109.4 meters AGL and 1088.4 meters AMSL. The proposed antenna HAAT is 657 meters (down from 672 m). The Federal Aviation Administration (FAA) Southern Regional Office has been advised of the proposed WSPA-DT reduction in

overall structure height. After the FAA determination is received, the FCC antenna structure registration for #1206410 will be updated.

A waiver of the FCC's freeze on TV and DTV applications on channels 52 through 59 is respectfully requested since the proposal involves only a reduction in the ERP and antenna HAAT (ie, no extension of coverage), and will therefore have no increased allocation impact to the future users of the band.

The WSPA-DT transmitter site is approximately 6723 kilometers from the closest point of the Canadian border. The WSPA-DT site is more than 1500 kilometers from the closest point of the Mexican border. The closest FCC monitoring station is at Powder Springs, Georgia, approximately 266 kilometers to the southwest. The closest point of the National Radio Quiet Zone (VA/WV) is more than 300 kilometers to the northeast. The closest point of the Table Mountain Radio Quiet Zone (CO) is more than 2000 kilometers to the west-northwest. The closest radio astronomy site operating on TV channel 37 is at Green Bank, West Virginia, approximately 423 kilometers to the northeast. These separations are considered sufficient to not be a coordination concern.

The WSPA-DT transmitter site is also used for the WSPA-TV analog operation on channel 7. Station WSPA-FM on channel 255C (98.9 MHz) at Spartanburg is also at the site. There are no other known full service FM or TV stations within 11 kilometers of the WSPA-DT site. There are no known AM stations within 5 kilometers (3 miles) of the WSPA-DT site. No adverse electromagnetic interaction is expected. The applicant recognizes that it is responsible to remedy prohibited electromagnetic problems that its proposed operation may create.

Figure 3 is a map showing the predicted 48 dBu F(50,90) principal city contour and 41 dBu F(50,90) service contour for the proposed WSPA-DT operation. The city limits of Spartanburg, as defined in the 2000 US Census for South Carolina, are identified. The predicted 48 dBu contour encompasses the Spartanburg limits as required by the FCC rules. The estimated population (2000 Census) within the predicted 41 dBu contour is 2,949,450 people.

### Allocation Study

Interference calculations have been made using the procedures outlined in the FCC's OET-69 Bulletin and a 2 kilometer grid. The proposed WSPA-DT operation complies with the FCC's 2%/10% interference standards with respect to pertinent surrounding analog (NTSC) full service TV assignments and DTV assignments and allotments.

Pertinent low power television (LPTV) stations that qualify for Class A consideration and are operating within the FCC's core band (ie, 2-51) have been examined. No adverse interference problems to Class A TV assignments are predicted.

### Radiofrequency Electromagnetic Field Exposure

The proposed WSPA-DT facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the proposed antenna is located 109.4 meters above ground level. The proposed DTV ERP is 875 kW. A relative field value of 0.1 was assumed for the antenna's downward radiation (see Figure 2). The calculated power density at a point 2 meters (6.6 feet) above ground level is  $0.0253 \text{ mW/cm}^2$ . This is less than 6% of the FCC's recommended limit of  $0.47 \text{ mW/cm}^2$  for channel 53 for an "uncontrolled" environment. The calculated power density is less than 1.1% of the FCC's recommended limit for a "controlled" environment.

Access to the transmitting site will be restricted and appropriately marked with warning signs. As this is a multi-user site an agreement will control access. In the event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down.

The proposed WSPA-DT operation appears to be otherwise categorically excluded from environmental processing.

If there are questions concerning the technical portion of this application, please contact the office of the undersigned.

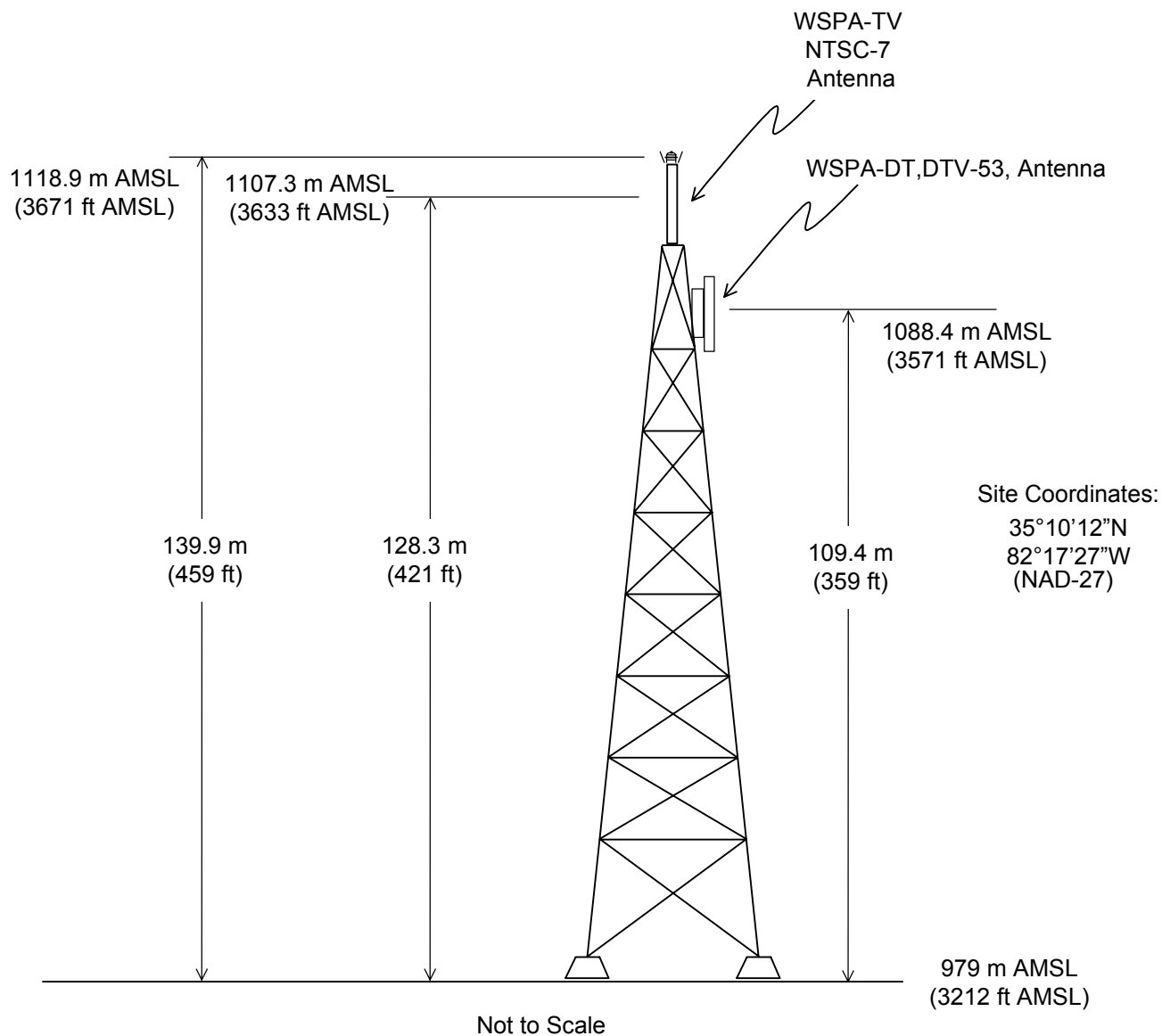
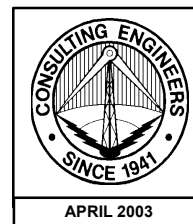
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April 2, 2003

Figure 1

FCC Tower ID: 1206410



## ANTENNA AND SUPPORTING STRUCTURE

STATION WSPA-TV

SPARTANBURG, SOUTH CAROLINA

NTSC CH 7	265 KW	676 M
DTV CH 53	875 KW	657 M

du Treil, Lundin & Rackley, Inc., Sarasota, Florida

Exhibit No.



Date 31 Mar 2003  
Call Letters WSPA-TV Channel 53  
Location Spartanburg, SC  
Customer  
Antenna Type TFU-26GTH-R 06

### ELEVATION PATTERN

RMS Gain at Main Lobe	23.5 (13.71 dB)	Beam Tilt	0.75 Degrees
RMS Gain at Horizontal	18.2 (12.60 dB)	Frequency	707.00 MHz
Calculated / Measured	Calculated	Drawing #	26G235075

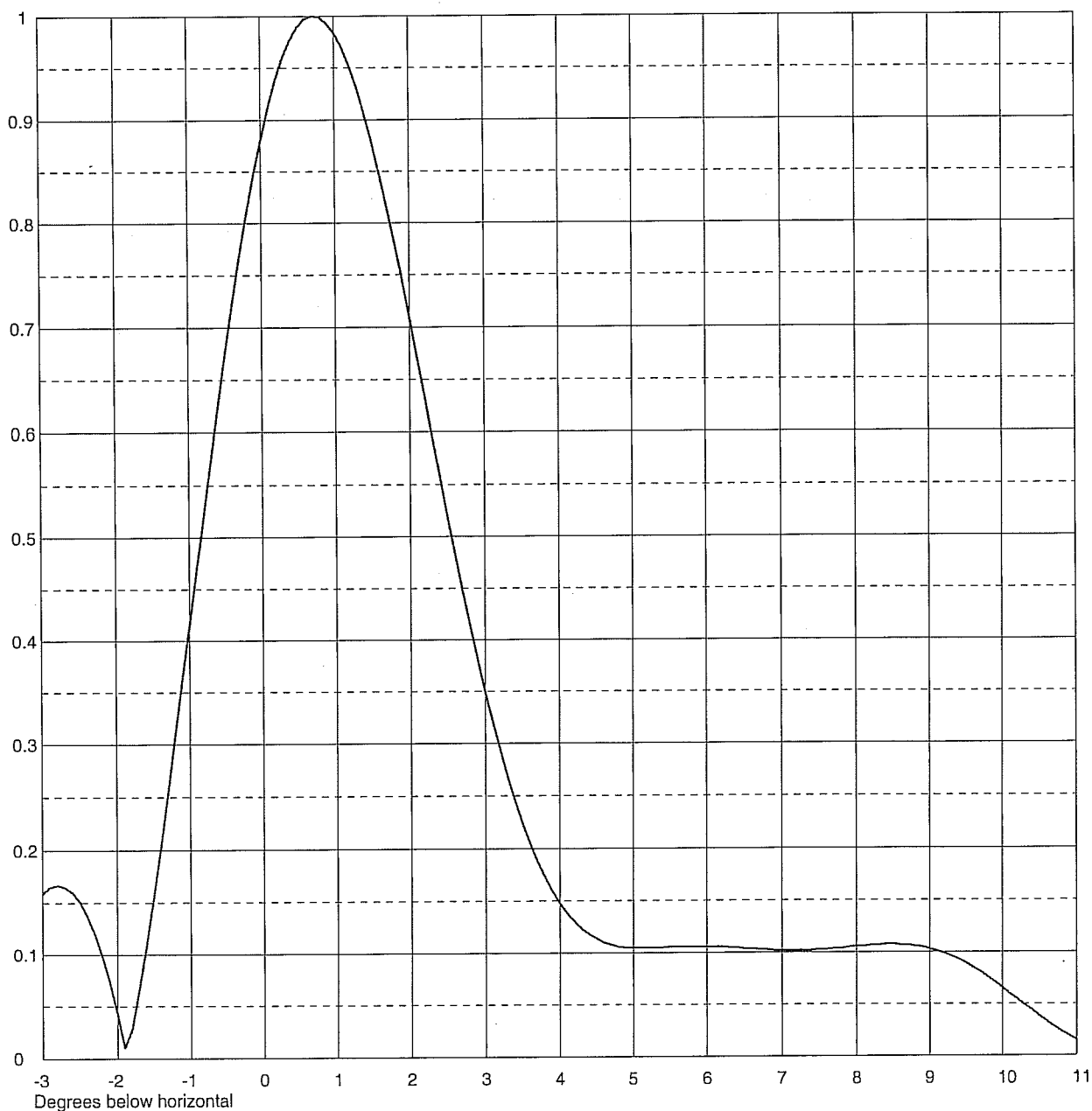




Exhibit No.



Date 31 Mar 2003  
Call Letters WSPA-TV Channel 53  
Location Spartanburg, SC  
Customer  
Antenna Type TFU-26GTH-R O6

### ELEVATION PATTERN

RMS Gain at Main Lobe	23.5 (13.71 dB)	Beam Tilt	0.75 Degrees
RMS Gain at Horizontal	18.2 (12.60 dB)	Frequency	707.00 MHz
Calculated / Measured	Calculated	Drawing #	26G235075-90

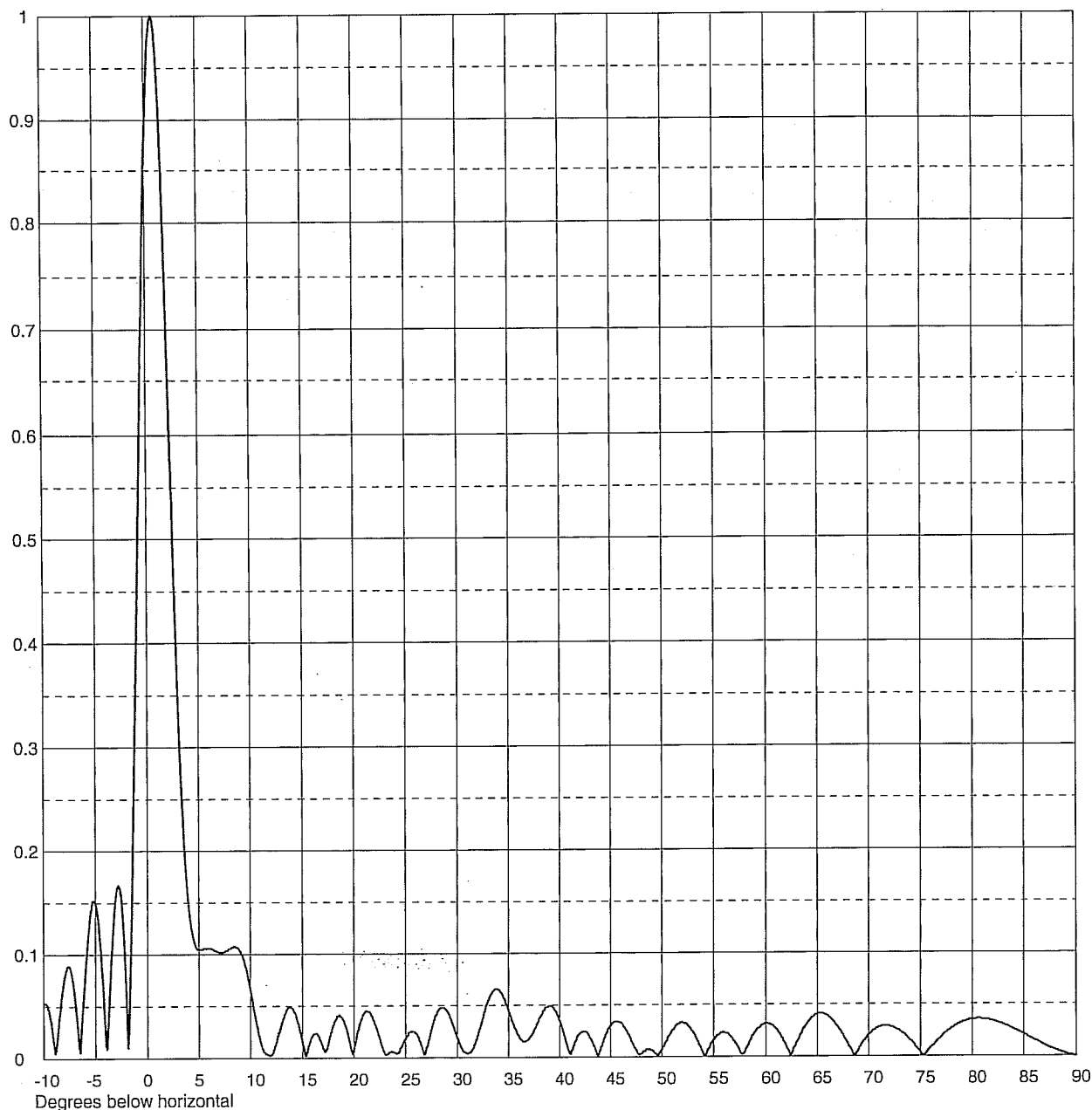
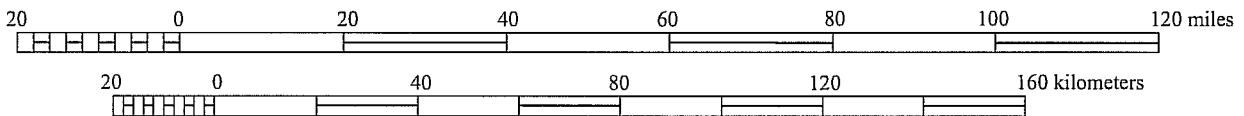
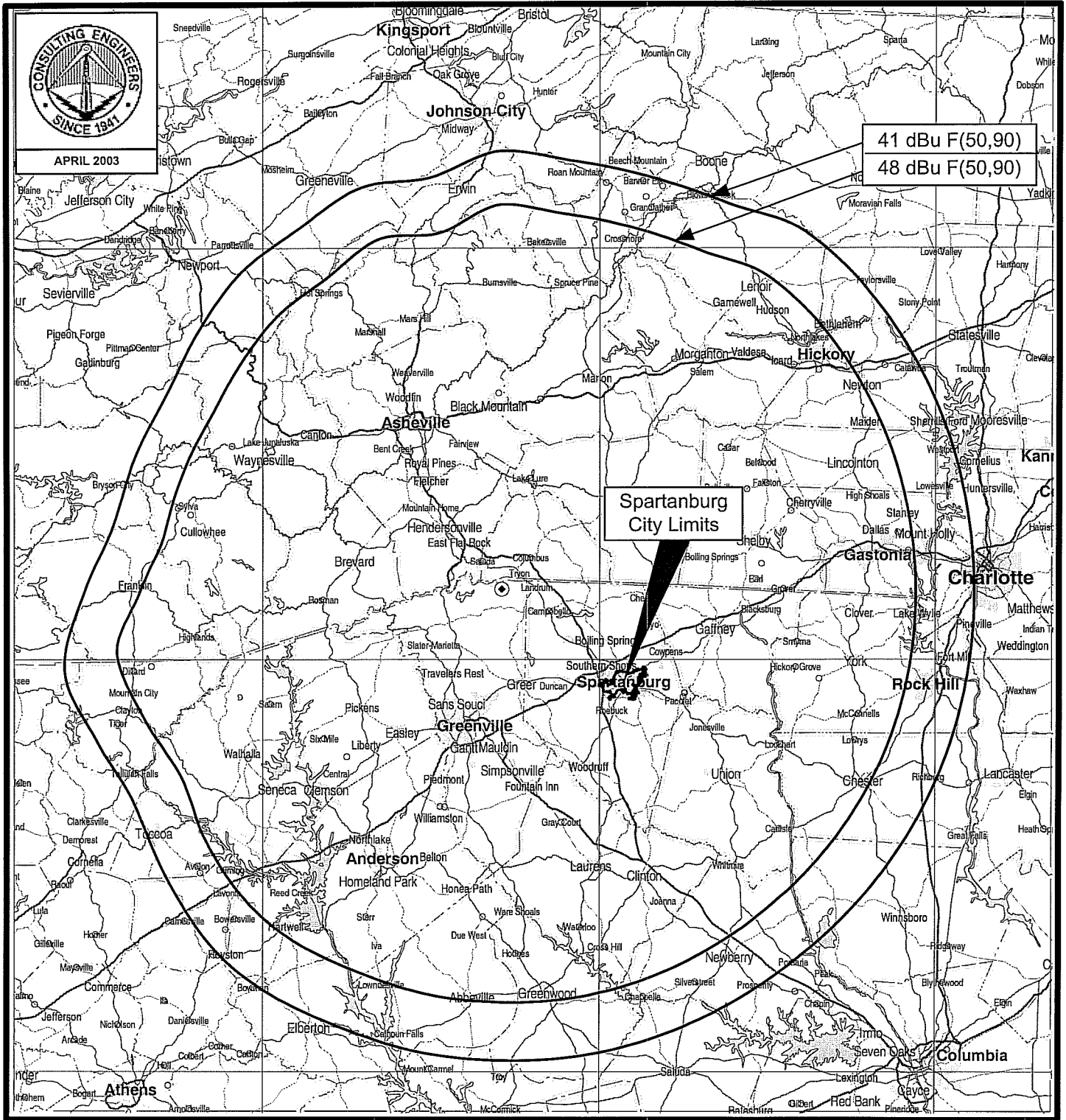


Figure 3



## PREDICTED DIGITAL TV COVERAGE CONTOURS

STATION WSPA-DT  
SPARTANBURG, SOUTH CAROLINA  
CH 53 875 KW 657 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida