

TECHNICAL EXHIBIT
MINOR CHANGE IN LICENSED FACILITY
STATION WBEK-CA (FACILITY ID 3369)
AUGUSTA, GEORGIA
CH 16(z) 150 KW (MAX-DA)

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of a minor change application for Class A television station WBEK-CA at Augusta, Georgia (BLTTL-20001215AAV).

Proposed Facilities

This application proposes to increase the directional antenna ERP and rotate the existing antenna to 100° True. The transmitter site will remain at 33-28-25 N, 82-02-05 W (NAD 27). The proposed maximum visual ERP is 150 kW and the antenna RCAMSL remains 180.7 meters. There will be no change in transmitter site, antenna, channel or community of license. The FCC antenna structure registration number is 1212621.

NTSC Allocation Considerations

A study has been conducted using the provisions of Sections 73.6011, 73.6012 and 73.6014 to assure that the proposal will not create prohibited interference with other authorized or pending NTSC full-power, Class A or LPTV stations. The proposal is involved in contour overlap with full-service NTSC stations WJWJ-TV (Ch. 16, Beaufort, SC) and

WGGS-TV (Ch. 16, Greenville, SC). However, the attached OET-69 interference study (Figures 1 & 2) indicates that no *prohibitive* interference will be caused to either station.

DTV Allocation Considerations

Pertinent DTV allotments and assignments on channels 15, 16 and 17 have been examined using the procedures outlined in the FCC's OET-69 bulletin.¹ The proposal in only involved in contour overlap with one station, namely, WGXA-DT (Ch. 16, Macon, GA). The OET-69 interference caused study to station WGXA-DT is also included in Figure 1.

If necessary, a waiver of the FCC rules is respectfully requested based on lack of prohibitive interference caused to stations WJWJ-TV, WGGS-TV and WGXA-DT using the procedures outlined in the FCC's OET-69 Bulletin.

Radiofrequency Electromagnetic Field Exposure

The proposed WBEK-CA facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. A maximum visual ERP of 150 kW with 10% aural power was assumed. A relative field value of 0.24 (at a downward angle of 73°) was assumed for the Antenna Concepts 8-bay downward radiation (see Figure 3). The calculated power density at a point 2 meters (6.6 feet) above ground level and at the "worst case" angle of 73° below horizontal is 0.1083 mW/cm². This is 34% of the FCC's recommended limit of 0.32 mW/cm² for channel 16 for an "uncontrolled" environment. This is believed to be in compliance (less than 100%) with the FCC standards as there are no other known broadcast operations in the vicinity.

¹ The duTreil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. A nominal grid size resolution of 1 km was employed. An Alpha based processor computer system was employed. The results have been found to be in very close agreement with the results of the FCC implementation of OET Bulletin No. 69.

Access to the transmitting site will be restricted and appropriately marked with warning signs. 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 WBEK-CA operation appears to be otherwise categorically excluded from environmental processing.

In addition, it appears that the existing structure is otherwise excluded from environmental processing as it complies with all the criteria for such an exclusion in Section 1.1306.

Jonathan N. Edwards

du Treil, Lundin & Rackley, Inc.
201 Fletcher Avenue
Sarasota, Florida 34237

September 21, 2001

INTERFERENCE CAUSED BY PROPOSED WBEK-CA OEPRATION

CELL SIZE : 1.00 km

Using offset in determining thresholds

Per 6th Report & Order and FCC OET-69 Bulletin

WJWJ-TV 32-42-44 080-40-49 16(-) 851.0 kW 394 m AMSL 50.0 % 61.9 dBu
BEAUFORT SC 19643 670 FCC NTSC BL: 670305 FCC IX POP%: 0.9
LIC BLET-395

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	19739.0 sq km	670588
not affected by terrain losses	19738.1	670588

WBEK-CA 33-28-25 082-02-05 16(Z) 150.0 kW-DA 180.7 m AMSL 10.0 % 71.9
AUGUSTA GA
APP

1.00	0.99	0.98	0.94	0.90	0.86	0.80	0.74	0.68	0.62	0.58	0.56
0.54	0.54	0.54	0.55	0.56	0.56	0.56	0.56	0.56	0.55	0.54	0.54
0.54	0.56	0.58	0.62	0.68	0.74	0.80	0.86	0.90	0.94	0.98	0.99

Ref Az: 100.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00 dB

	Area	Pop
Interference	297.5 sq km	763 (0.11%)

WGGS-TV 34-56-26 082-24-41 16(+) 5000.0 kW 657 m AMSL 50.0 % 61.9 dBu
GREENVILLE SC 16413 1105 FCC NTSC BL: 1209510 FCC IX POP%: 0.1
CP BPCT-19960628KK

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	27312.6 sq km	1608725
not affected by terrain losses	24126.2	1396652

WBEK-CA 33-28-25 082-02-05 16(Z) 150.0 kW-DA 180.7 m AMSL 10.0 % 71.9
AUGUSTA GA
APP

1.00	0.99	0.98	0.94	0.90	0.86	0.80	0.74	0.68	0.62	0.58	0.56
0.54	0.54	0.54	0.55	0.56	0.56	0.56	0.56	0.56	0.55	0.54	0.54
0.54	0.56	0.58	0.62	0.68	0.74	0.80	0.86	0.90	0.94	0.98	0.99

Ref Az: 100.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00 dB

	Area	Pop
Interference	398.2 sq km	9086 (0.56%)

(See Figure 2 for detailed interference "masking" study)

WGGG-TV 34-56-26 082-24-41 16(+) 1120.0 kW-DA 666 m AMSL 50.0 % 61.9 dBu
GREENVILLE SC 16413 1105 FCC NTSC BL: 1209510 FCC IX POP%: 0.1

LIC BLCT-2629

0.75	0.80	0.84	0.88	0.90	0.95	0.96	0.96	0.94	0.92	0.92	0.94
0.98	1.00	1.00	1.00	0.97	0.94	0.92	0.94	0.96	0.98	0.98	0.95
0.93	0.89	0.85	0.81	0.76	0.69	0.61	0.57	0.55	0.57	0.62	0.69

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	18467.1 sq km	1208870
not affected by terrain losses	16688.7	1111939

WBEK-CA 33-28-25 082-02-05 16(Z) 150.0 kW-DA 180.7 m AMSL 10.0 % 71.9
AUGUSTA GA

APP

1.00	0.99	0.98	0.94	0.90	0.86	0.80	0.74	0.68	0.62	0.58	0.56
0.54	0.54	0.54	0.55	0.56	0.56	0.56	0.56	0.56	0.55	0.54	0.54
0.54	0.56	0.58	0.62	0.68	0.74	0.80	0.86	0.90	0.94	0.98	0.99

Ref Az: 100.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00 dB

	Area	Pop
Interference	194.1 sq km	2791 (0.23%)

DWGXA 32-44-58 083-33-35 16(0) 50.0 kW-DA 358 m AMSL 90.0 % 38.9 dBu
MACON GA 14633 474 DTVSERVICE: 474000 NTSCSERVICE: 467000

DTVALT DTV ALLOTMENT

0.96	0.96	0.96	0.96	0.96	0.96	0.95	0.95	0.95	0.95	0.95	0.96
0.96	0.96	0.96	0.97	0.98	0.99	1.00	1.00	0.99	0.99	0.99	0.98
0.98	0.98	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.96	0.96	0.96

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

USING NTSC GRADE B FOR SERVICE AREA

	Area	Pop
within Noise Limited Contour	14739.0 sq km	475597
not affected by terrain losses	14732.0	475429

WBEK-CA 33-28-25 082-02-05 16(Z) 150.0 kW-DA 180.7 m AMSL 10.0 % 71.9
AUGUSTA GA

APP

1.00	0.99	0.98	0.94	0.90	0.86	0.80	0.74	0.68	0.62	0.58	0.56
0.54	0.54	0.54	0.55	0.56	0.56	0.56	0.56	0.56	0.55	0.54	0.54
0.54	0.56	0.58	0.62	0.68	0.74	0.80	0.86	0.90	0.94	0.98	0.99

Ref Az: 100.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 2.00 dB

	Area	Pop
Interference	5.0 sq km	0 (0.0%)

WGXA-DT 32-44-58 083-33-35 16(N) 1000.0 kW-DA 343 m AMSL 90.0 % 38.9 dBu
 MACON GA 14633 474 DTVSERVICE: 474000 NTSCSERVICE: 467000
 CP BPCDT-19991029AFU

0.75	0.76	0.81	0.87	0.94	0.99	1.00	0.97	0.90	0.83	0.76	0.71
0.69	0.68	0.68	0.67	0.65	0.63	0.61	0.58	0.55	0.52	0.49	0.48
0.47	0.47	0.48	0.51	0.56	0.62	0.68	0.73	0.77	0.77	0.76	0.75

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	22142.3 sq km	606628
not affected by terrain losses	22091.3	606328

WBEK-CA 33-28-25 082-02-05 16(Z) 150.0 kW-DA 180.7 m AMSL 10.0 % 71.9
 AUGUSTA GA
 APP

1.00	0.99	0.98	0.94	0.90	0.86	0.80	0.74	0.68	0.62	0.58	0.56
0.54	0.54	0.54	0.55	0.56	0.56	0.56	0.56	0.56	0.55	0.54	0.54
0.54	0.56	0.58	0.62	0.68	0.74	0.80	0.86	0.90	0.94	0.98	0.99

Ref Az: 100.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 2.00 dB

	Area	Pop
Interference	24.0 sq km	162 (0.03%)

INTERFERENCE RECEIVED BY WGGG-TV (CP) FROM ALL SURROUNDING ASSIGNMENTS

CELL SIZE : 1.00 km

Using offset in determining thresholds

Per 6th Report & Order and FCC OET-69 Bulletin

WGGG-TV 34-56-26 082-24-41 16(+) 5000.0 kW 657 m AMSL 50.0 % 61.9 dBu
GREENVILLE SC 16413 1105 FCC NTSC BL: 1209510 FCC IX POP%: 0.1
CP BPCT-19960628KK

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	27312.6 sq km	1608725
not affected by terrain losses	24126.2	1396652

WBSC-DT 34-38-51 082-16-13 14(N) 310.0 kW-DA 553 m AMSL 10.0 % 38.7 dBu
ANDERSON SC 15464 1025 DTVSERVICE: 1025000 NTSCSERVICE: 984000
CP BPCDT-19991109ACE

0.66	0.50	0.40	0.37	0.40	0.50	0.66	0.83	0.95	1.00	0.95	0.83
0.66	0.50	0.40	0.37	0.40	0.50	0.66	0.83	0.95	1.00	0.95	0.83
0.66	0.50	0.40	0.37	0.40	0.50	0.66	0.83	0.95	1.00	0.95	0.83

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

D/U Baseline: -24.00 dB

	Area	Pop
Interference	2.0 sq km	110

WNBS-DT 34-50-23 081-01-06 15(N) 50.0 kW 383 m AMSL 10.0 % 38.8 dBu
ROCK HILL SC 11306 1017 DTVSERVICE: 1017000 NTSCSERVICE: 1006000
CP BPEDT-20000501AHV

Using DEFAULT vertical antenna pattern

D/U Baseline: -14.00 dB

	Area	Pop
Interference	3.0 sq km	87

WGXA-DT 32-44-58 083-33-35 16(N) 1000.0 kW-DA 343 m AMSL 10.0 % 38.9 dBu
MACON GA 14633 474 DTVSERVICE: 474000 NTSCSERVICE: 467000
CP BPCDT-19991029AFU

0.75	0.76	0.81	0.87	0.94	0.99	1.00	0.97	0.90	0.83	0.76	0.71
0.69	0.68	0.68	0.67	0.65	0.63	0.61	0.58	0.55	0.52	0.49	0.48
0.47	0.47	0.48	0.51	0.56	0.62	0.68	0.73	0.77	0.77	0.76	0.75

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 34.00 dB

	Area	Pop
Interference	911.4 sq km	14886

WGPX 36-14-54 079-39-21 16(Z) 5000.0 kW-DA 461 m AMSL 10.0 % 61.9 dBu
BURLINGTON NC 11351 1056 FCC NTSC BL: 1424810 FCC IX POP%: 0.4
LIC BLCT-19980410KG

0.89	0.90	0.90	0.91	0.93	0.96	0.99	1.00	0.99	0.94	0.86	0.74
0.60	0.44	0.31	0.22	0.20	0.22	0.23	0.22	0.20	0.22	0.31	0.44
0.60	0.74	0.86	0.94	0.99	1.00	0.99	0.96	0.93	0.91	0.90	0.90

Ref Az: 180.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00 dB

	Area	Pop
Interference	575.2 sq km	16711

WPDE-DT 34-21-53 079-19-49 16(N) 421.0 kW 632.6 m AMSL 10.0 % 38.9 dBu
FLORENCE SC 29016 1066 DTVSERVICE: 1066000 NTSCSERVICE: 1054000
CP BPCDT-19991101AFV

Using DEFAULT vertical antenna pattern

D/U Baseline: 34.00 dB

	Area	Pop
Interference	574.2 sq km	11238

WJWJ-TV 32-42-44 080-40-49 16(-) 851.0 kW 394 m AMSL 10.0 % 61.9 dBu
BEAUFORT SC 19643 670 FCC NTSC BL: 670305 FCC IX POP%: 0.9
LIC BLET-395

Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00 dB

	Area	Pop
Interference	157.1 sq km	2636

WUNE-TV 36-03-47 081-50-33 17(Z) 1550.0 kW-DA 1532 m AMSL 10.0 % 62.0 dBu
LINVILLE NC 16899 842 FCC NTSC BL: 1218100 FCC IX POP%: 0.3
LIC BLET-19950124KM

0.24	0.20	0.25	0.37	0.52	0.65	0.76	0.86	0.93	0.98	1.00	1.00
0.98	0.93	0.89	0.87	0.87	0.87	0.89	0.93	0.98	1.00	1.00	0.98
0.93	0.86	0.76	0.65	0.52	0.37	0.25	0.20	0.24	0.31	0.34	0.31

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

D/U Baseline: -13.00 dB

	Area	Pop
Interference	146.1 sq km	2452

WNEH-DT 34-22-19 082-10-04 18(N) 50.0 kW 411.4 m AMSL 10.0 % 39.1 dBu
GREENWOOD SC 14183 772 DTVSERVICE: 772000 NTSCSERVICE: 764000
CP BPEDT-20000501AGM

Using DEFAULT vertical antenna pattern

D/U Baseline: -28.00 dB

	Area	Pop
Interference	16.0 sq km	294

WBTV-DT 35-21-51 081-11-13 23(N) 1000.0 kW 808 m AMSL 10.0 % 39.6 dBu
CHARLOTTE NC 46452 3199 DTVSERVICE: 3199000 NTSCSERVICE: 2375000
CP BPCDT-19970919KE
Using DEFAULT vertical antenna pattern

D/U Baseline: -34.00 dB

	Area	Pop
Interference	12.0 sq km	434

WNSC-TV 34-50-24 081-01-07 30(+) 676.0 kW 384 m AMSL 10.0 % 63.3 dBu
ROCK HILL SC 11334 1006 FCC NTSC BL: 1031959 FCC IX POP%: 6.5
LIC BLCT-2595
Using DEFAULT vertical antenna pattern

D/U Baseline: -25.00 dB

	Area	Pop
Interference	3.0 sq km	87

WBEK-CA 33-28-25 082-02-05 16(Z) 150.0 kW-DA 180.7 m AMSL 10.0 % 71.9 dBu
AUGUSTA GA
APP
1.00 0.99 0.98 0.94 0.90 0.86 0.80 0.74 0.68 0.62 0.58 0.56
0.54 0.54 0.54 0.55 0.56 0.56 0.56 0.56 0.56 0.55 0.54 0.54
0.54 0.56 0.58 0.62 0.68 0.74 0.80 0.86 0.90 0.94 0.98 0.99
Ref Az: 100.0
Using DEFAULT vertical antenna pattern

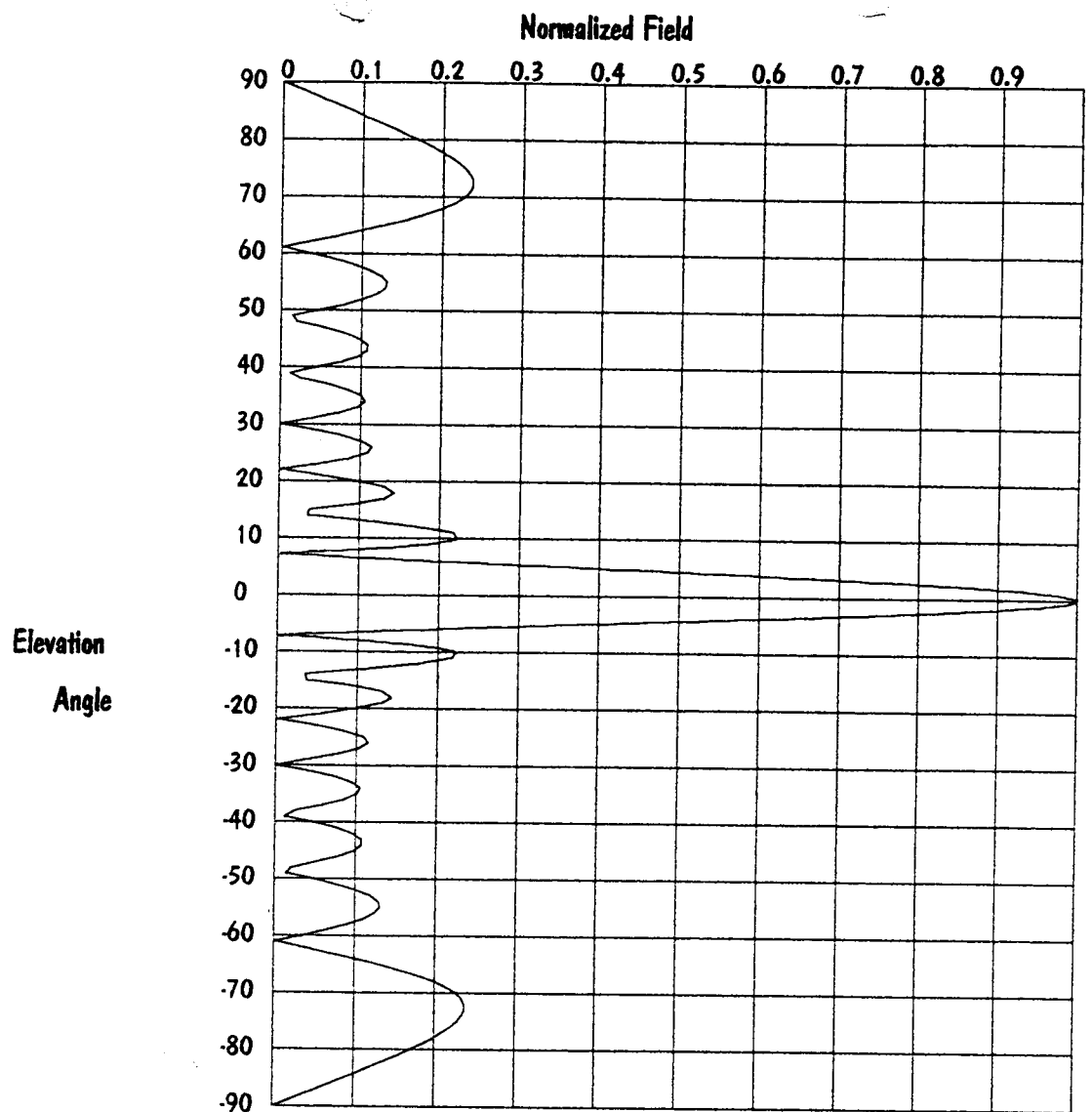
D/U Baseline: 28.00 dB

	Area	Pop
Interference	398.2 sq km	9086 (0.56%)

lost to NTSC IX	1097.5 sq km	27106
lost to additional IX by DTV	874.4	16524
total lost to DTV IX	1431.6	25809

Call Sign	No.cells	Unique Area	Unique Pop
WBSC-DT	1	1.0 sq km	0
WGXA-DT	625	625.3	11382
WGPX	264	264.1	9840
WPDE-DT	233	233.1	4780
WJWJ-TV	9	9.0	124
WUNE-TV	80	80.0	1022
WNEH-DT	5	5.0	101
WBTV-DT	1	1.0	16
WBEK-CA	135	135.0	5430 (0.34%)

lost to all IX	1971.8	43630
total service	22154.41	1353022



Elevation Pattern

Antenna Concepts Inc.

Scale: Linear

Units: Absolute

CLIENT: *da Treil, Lundin & Rackley, Inc.*

Date: 4/13/1998

ANTENNA TYPE: *ACS8 bay Low Power slot*

FREQUENCY: *UHF*

PATTERN POL.: *Horizontal*

Beam Tilt (Deg.): *0*

Elev. DIRECTIVITY: *8.9688/ 9.5273dBd*

Null Fill (%) : *, ,*