

TECHNICAL EXHIBIT
APPLICATION FOR CONSTRUCTION PERMIT
FM TRANSLATOR STATION W286AF
CHARLOTTESVILLE, VIRGINIA

April 1, 2002

CH 286 0.048 KW

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Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of an application for construction permit to modify W286AF, Charlottesville, Virginia. W286AF is licensed with a maximum effective radiated power of 0.110 kW (110 watts) on Channel 286.* W286AF provides “fill-in” translator service for WCYK-FM, Staunton, Virginia.† It is proposed to modify the proposed transmitter site to a location 1.0 km west of the licensed location. Also, there are changes in the antenna elevation and effective radiated power. This application is considered a minor change pursuant to Section 74.1233(a)(1) of the Commission’s Rules.

Proposed Transmitter Location

The proposed transmitting antenna will be side-mounted on the existing WKAV(AM) transmitting tower. WKAV is a non-directional AM broadcast facility using a “folded-unipole” (shunt-fed) type antenna system with a grounded base. The WKAV tower bears FCC antenna structure registration number 1020761. The overall structure height is 120.7 meters. The top of the folded-unipole apparatus is estimated to extend to no greater than 55 meters above the tower base. The proposed transmitting antenna will be located at 76 m above ground, which is also well above the folded-unipole installation on the tower. No significant change in the WKAV base impedance is expected as a result of the proposed FM translator installation.

* See FCC File Number BLFT-19970131TB.

† See FCC File Number BLH-19891222KH.

The W286AF transmitting facility will continue to employ a non-directional antenna. The maximum nominal non-direction ERP will be 0.048 kW; well below the maximum permissible requirement of 0.25 kW outlined in the FCC Rules.

Coverage Contour

Figure 1 is a map showing the proposed translator's 60 dBu (1 mV/m) coverage contour.

Allocation Study

The proposed translator facility appears to satisfy the protection requirements toward all stations as required by Section 74.1204 of the Commission's Rules. A summary of the allocation study for the proposed facility is included herein at Figure 2. Sheet 2 of Figure 2 is map depicting the allocation situation with respect to WAMM-FM, Bridgewater-VA and WBNN-FM, Dillwyn-VA. As indicated therein, the contour overlap requirements are met with respect to WAMM-FM and WBNN-FM. Therefore, it is concluded that the allocation requirements of Section 74.1204 of the FCC Rules are met.

Radiofrequency Electromagnetic Field Exposure

The proposed facility has been evaluated in terms of potential radiofrequency electromagnetic field exposure at ground level in accordance with OET Bulletin No. 65, "Evaluating compliance with FCC Specified Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields."[‡] Using a total effective radiated power of 0.096 kilowatt (horizontal and vertical polarization), the predicted power density at 2 meters above ground level is 0.585 uW/cm². This is less than five percent of the Commission's guideline in an uncontrolled environment for a FM radio station.[§]

[‡] OET Bulletin 65, Second Edition 97-01, August 1997.

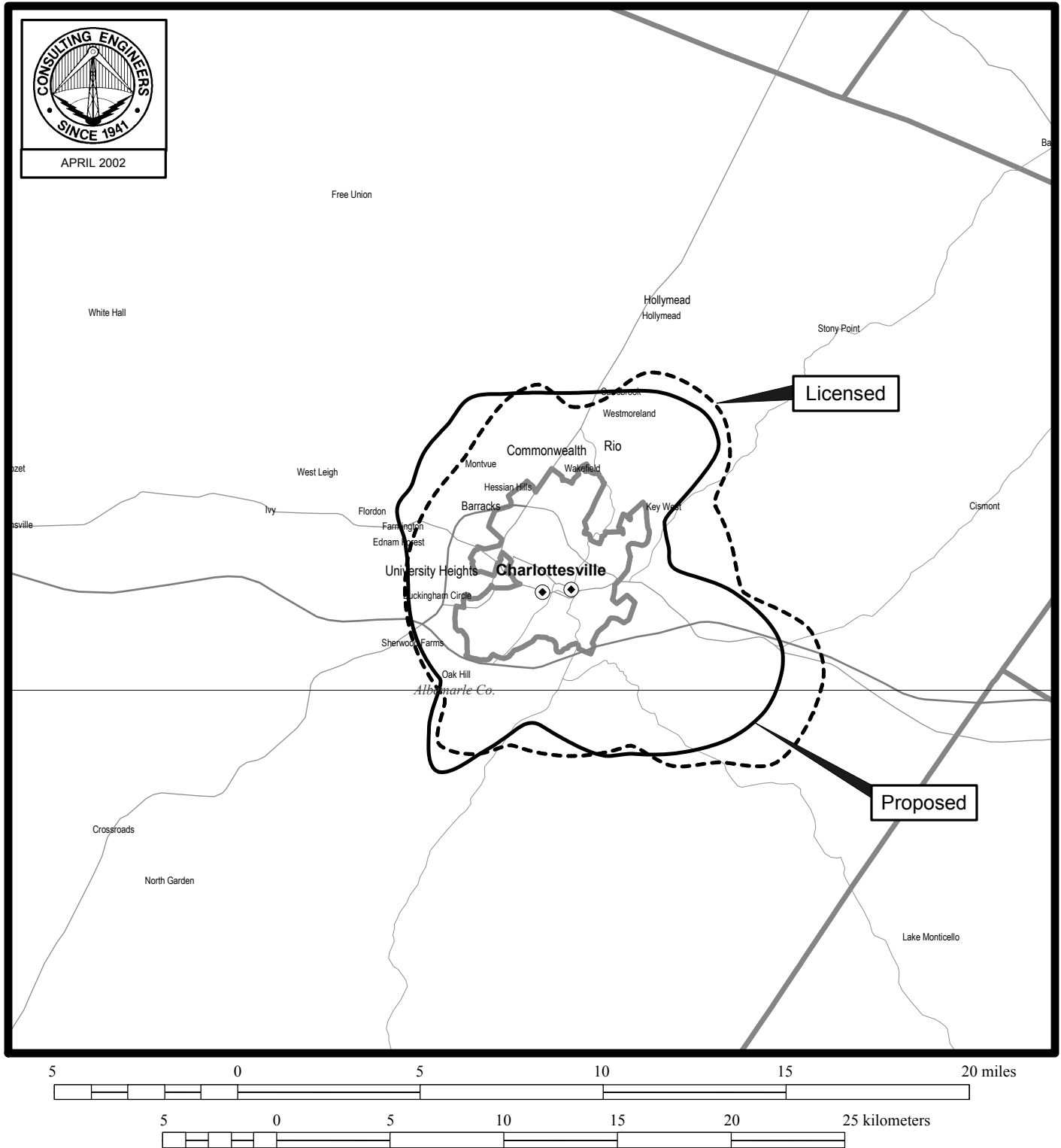
[§] The FCC maximum guideline for an FM broadcast radio station in an uncontrolled environment is 200 uW/cm².

Pursuant to Section 1.1307(b) of the Commission's Rules, the power density contributions of co-located and nearby broadcast stations are not required to be calculated as the proposed translator's power density contribution is less than five percent of the guideline value.

Access to the transmitting site is restricted and appropriately marked with warning signs. When it becomes necessary for workers to ascend the structure, appropriate measures, such as reduction or termination of power, if necessary, shall be taken to ensure that the human exposure to radiofrequency electromagnetic fields will not exceed the FCC guidelines.

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PREDICTED 60 DBU COVERAGE CONTOURS

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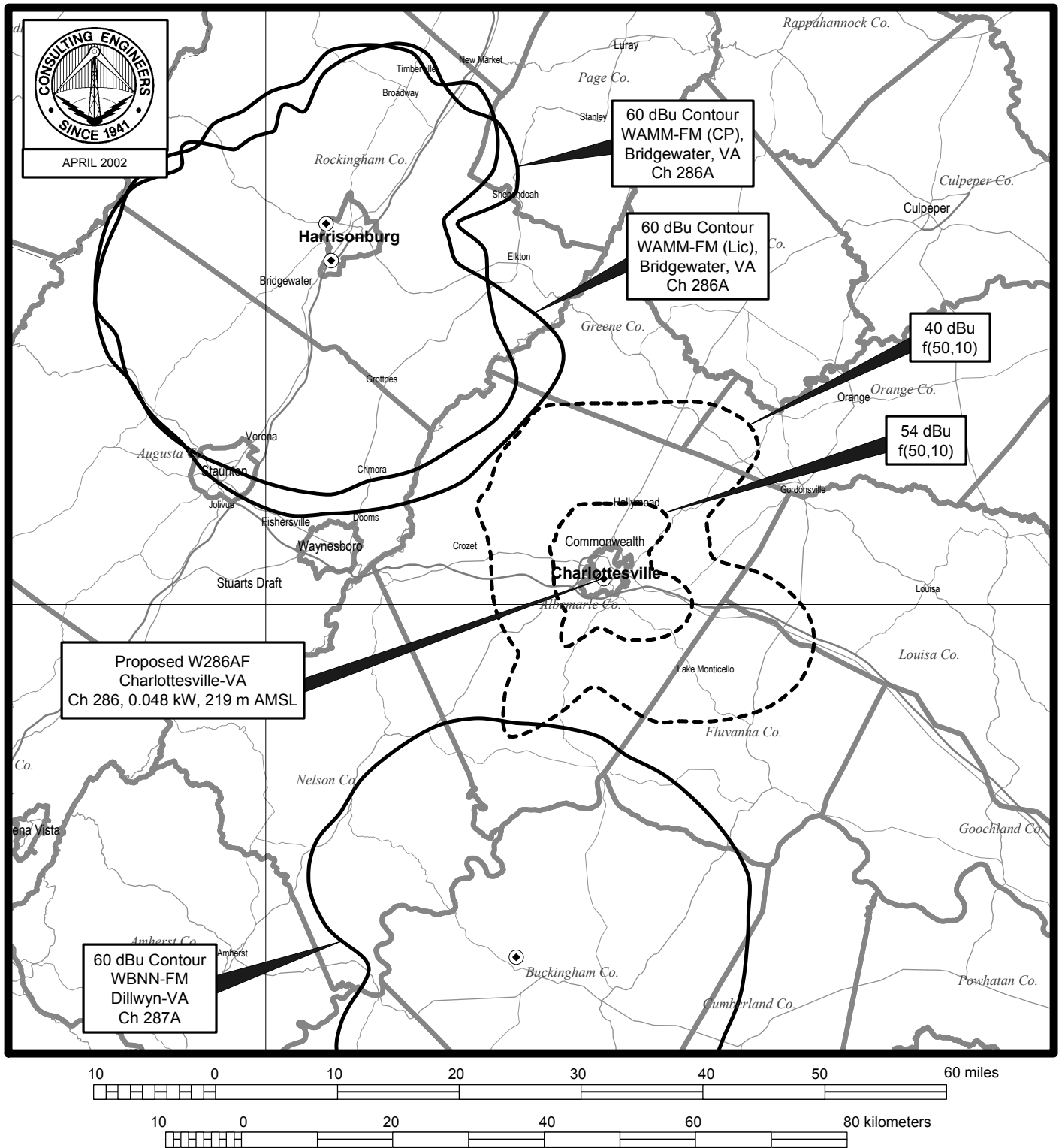
du Treil, Lundin & Rackley, Inc. Sarasota, Florida

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Allocation Study

Call Id	City St	Status	File Num	Channel Freq	ERP HAAT	DA Id	Latitude Longitude	73 215	Bear	Dist. (km)	Req. (km)
WKJS 321	CREWE VA	LIC C	BLH 19920211KA	284 C1 104.7	100.000Y 322	000Y 13807	37-10-15 077-57-16	N	153.6	106.45 29.77	76.7 Clear
WKJS	60	dBu	Desired = 74. km ; Proposed				80	dBu; Undesired = 2.6			
WBPP 60362	STRASBURG VA	LIC C	BMLH 19970912KG	285 A 104.9	4.100 N 240		39-01-22 078-25-35	N	2.8	110.31 59.31	51.0 Clear
WBPP	60	dBu	Desired = 38.6 km ; Proposed				54	dBu; Undesired = 12.4			
W286AF 81122	CHARLOTTE VA	SV LIC C	BLFT 19970131TB	286 D 105.1	0.110 N 85		38-01-52 078-28-41	N	84.7	1.00	
(Applicant's authorized facility.)											
WAMM-F 73935	BRIDGEWATER VA	LIC C	BLH 19941128KB	286 A 105.1	6.000 N 150		38-24-30 078-54-04	Y	319.6	55.32 -8.38	63.7 Short
WAMM-F	60	dBu	Desired = 34.1 km ; Proposed				40	dBu; Undesired = 29.6			
(Contour overlap requirements met. See Sheet 2 of Figure 2 for contour analysis.)											
WAMM-F 73935	BRIDGEWATER VA	BPH CP C	BPH 20010628AB	286 A 105.1	6.000 Y 174	40200	38-27-08 078-54-32	Y	322.1	59.51 -6.69	66.2 Short
WAMM-F	60	dBu	Desired = 36.6 km ; Proposed				40	dBu; Undesired = 29.6			
(Contour overlap requirements met. See Sheet 2 of Figure 2 for contour analysis.)											
WAVA 4644	ARLINGTON VA	LIC C	BLH 19891103KB	286 B 105.1	41.000 N 217		38-53-44 077-08-04	N	50.4	152.35 39.65	112.7 Clear
WAVA	54	dBu	Desired = 70.2 km ; Proposed				34	dBu; Undesired = 42.5			
WBNN-F 85488	DILLWYN VA	LIC C	BLH 20000810AB	287 A 105.3	6.000 N 140		37-34-50 078-37-18	N	193.1	51.26 5.96	45.3 Clear
WBNN-F	60	dBu	Desired = 32.9 km ; Proposed				54	dBu; Undesired = 12.4			
WLSA 41899	LOUISA VA	LIC C	BMLH 19891222KE	288 A 105.5	3.300 N 122		38-01-37 078-01-05	N	90.4	41.39 11.72	29.7 Close
WLSA	60	dBu	Desired = 27. km ; Proposed				80	dBu; Undesired = 2.6			
WMXH-F 12625	LURAY VA	LIC C	BLH 19980323KG	289 A 105.7	0.135 N 706		38-36-05 078-37-57	N	348.9	64.62 34.04	30.6 Clear
WMXH-F	60	dBu	Desired = 30.1 km ; Proposed				100	dBu; Undesired = .5			

Note: Analysis based on maximum HAAT for proposed facility of 106 m.



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