

INTRODUCTION

This report and the accompanying exhibits are part of the application by The Rutherford Group, Inc., licensee of FM translator W270AF, Murfreesboro, Tennessee, seeking a construction permit to increase effective radiated power from 55 watts to 250 watts and center of radiation from 230 meters to 248 meters. No other changes are proposed.

DISCUSSION

W270AF, FCC facility ID 76886, operates as a fill-in translator service for WGNS-AM at Murfreesboro, Tennessee, FCC facility ID 66335.

RF exposure guidelines and practices continue to be observed. This is a access limited fenced area with warning signs posted. The RF contribution was calculated using the formula from OET Bulletin 65: $s(\text{RF in microwatts/cm}^2) = 33.4 \times (F \times F) \times (H \text{ ERP} + V \text{ ERP in watts}) / R \times r$ (the distance to the radiation center in meters – 2 m). Using the worst case vertical factor (F) of 1, the result is less than 2% of the 200 $\mu\text{W/cm}^2$ maximum permissible for general public exposure requiring consideration.

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Figure E1. Antenna Vertical Sketch

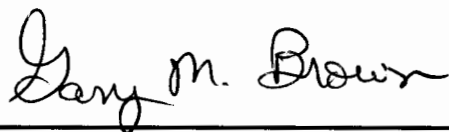
Figure E2. Allocation Study Tabulation

Figure E3. Existing and Proposed Contours with WGNS-AM 2 millivolt contour.

Figure E4. Co-Channel Contours Study Map

CERTIFICATION

This report was prepared by Gary M. Brown who believes all data is true and correct to the best of his knowledge and belief.

 03-05-15

GARY M. BROWN

MARCH 5, 2015

EXHIBIT E-1

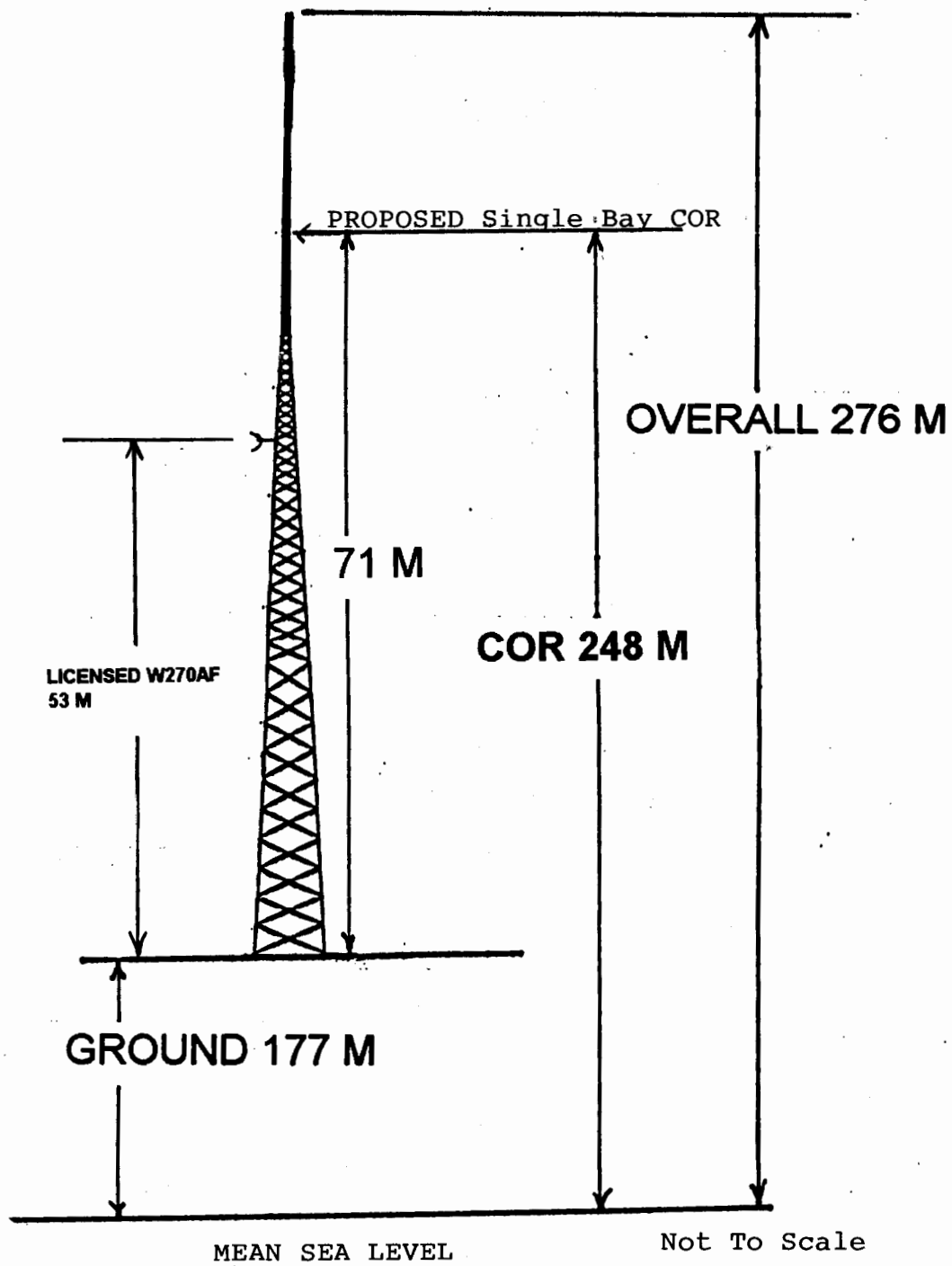


EXHIBIT E-2

FILL IN FOR WGNS POWER INCREASE APPLICATION MARCH 2015

The Rutherford Group, Inc.

REFERENCE CH# 270D - 101.9 MHz, Pwr= 0.25 kW, HAAT= 57.1 M, COR= 248 M
35 50 26.0 N. Average Protected F(50-50)= 9.94 km
86 23 27.0 W. Omni-directional

DISPLAY DATES
DATA 03-02-15
SEARCH 03-04-15

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
270D W270AB Murfreesboro Translator For WFMQ, Lebanon, TN		LIC _CN TN		0.0 0.0	0.00 BLFT19970924TF	35 50 26.0 86 23 27.0	0.055 40	23.3 230	6.9 The Rutherford Group, Inc.	-34.9*	-46.6*
270D W270AB Lebanon		CP _C_ TN		15.2 195.3	42.24 BPFT20121113ALU	36 12 26.0 86 16 03.0	0.055 28	15.5 216	4.8 Community Broadcasting, Inc	15.6	0.1
270D W270AB Lebanon		LIC _C_ TN		15.2 195.3	42.24 BLFT20021211AAN	36 12 26.0 86 16 03.0	0.038 -128	14.0 60	4.4 Community Broadcasting, Inc	17.1	0.6
271C1 WDRM Decatur		LIC _CX AL		190.7 10.5	118.44 BMLH20060413ACH	34 47 36.0 86 37 51.0	100.000 299	103.8 532	71.4 Capstar Tx Llc	5.1	34.3
269A WKOM Columbia		LIC _CN TN		247.4 67.0	63.80 BLH19970910KF	35 37 05.0 87 02 33.0	4.100 118	41.8 332	27.1 Middle Tennessee Broadcast	13.0	24.2
269A WJLE-FM Smithville ERP increase from 3.0 to 4.4 KW per		LIC _CN TN		79.4 259.8	52.22 BMLH19971229KB MM Doc. 88-375	35 55 31.0 85 49 14.0	4.400 59	28.3 349	16.8 Center Hill Broadcasting C	14.9	19.5
271D W271AB Nashville		LIC _C_ TN		308.2 127.9	54.20 BLFT20091029AAW	36 08 27.0 86 51 56.0	0.145 246	26.3 421	17.6 Montgomery Broadcasting Co	16.4	20.0
273C1 WPRT-FM Pegram		LIC NCX TN		301.8 121.2	96.39 BLH20031124ASU	36 17 36.0 87 18 20.0	100.000 297	10.4 483	73.7 Montgomery Broadcasting Co	74.7	21.6
268A WFTZ Manchester		CP NCX TN		155.6 335.7	54.00 BPH20130521AFC	35 23 53.0 86 08 40.0	5.700 100	2.9 417	29.2 Phase Two Communications,	41.7	22.5
271A WLCT Lafayette		LIC _C_ TN		23.9 204.1	84.52 BMLH19990624KA	36 32 06.0 86 00 27.0	6.000 99	50.6 351	32.8 Lafayette Broadcasting Co.	23.3	36.0
273C1 AL0450 Pegram		RSV-A TN		301.4 120.9	98.13 RM10555	36 17 50.0 87 19 31.0	100.000 299	10.4 489	73.6 Radio Active Media, Inc.	76.5	23.3
270C1 WQXQ Central City		LIC _CN KY		344.7 164.4	201.10 BLH19930826KA	37 35 03.0 86 59 29.0	100.000 204	163.0 346	64.6 Radio Active Media, Inc.	26.5	97.0
268A WFTZ Manchester		LIC _CN TN		155.6 335.7	54.06 BLH19921123KC	35 23 51.0 86 08 39.0	3.000 100	2.3 409	24.4 Phase Two Communications,	42.3	27.2
268D W271AB Nashville		APP DC TN		308.2 127.9	54.20 BPFT20140909AAX	36 08 27.0 86 51 56.0	0.250	1.1 421	20.3 Montgomery Broadcasting Co	41.6	32.8
216C2 WFCL Nashville		LIC _CX TN		308.2 127.9	54.20 BMLE20030214ABG	36 08 27.0 86 51 56.0	10.000 212	12.8 385	58.8 Nashville Public Radio	15.0R	39.2M

Terrain database is NGDC 30 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
In & Out distances between contours are shown at closest points. Reference zone= East Zone, Co to 3rd adjacent.
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
"*"affixed to 'IN' or 'OUT' values = site inside protected contour.
Reference station has protected zone issue:

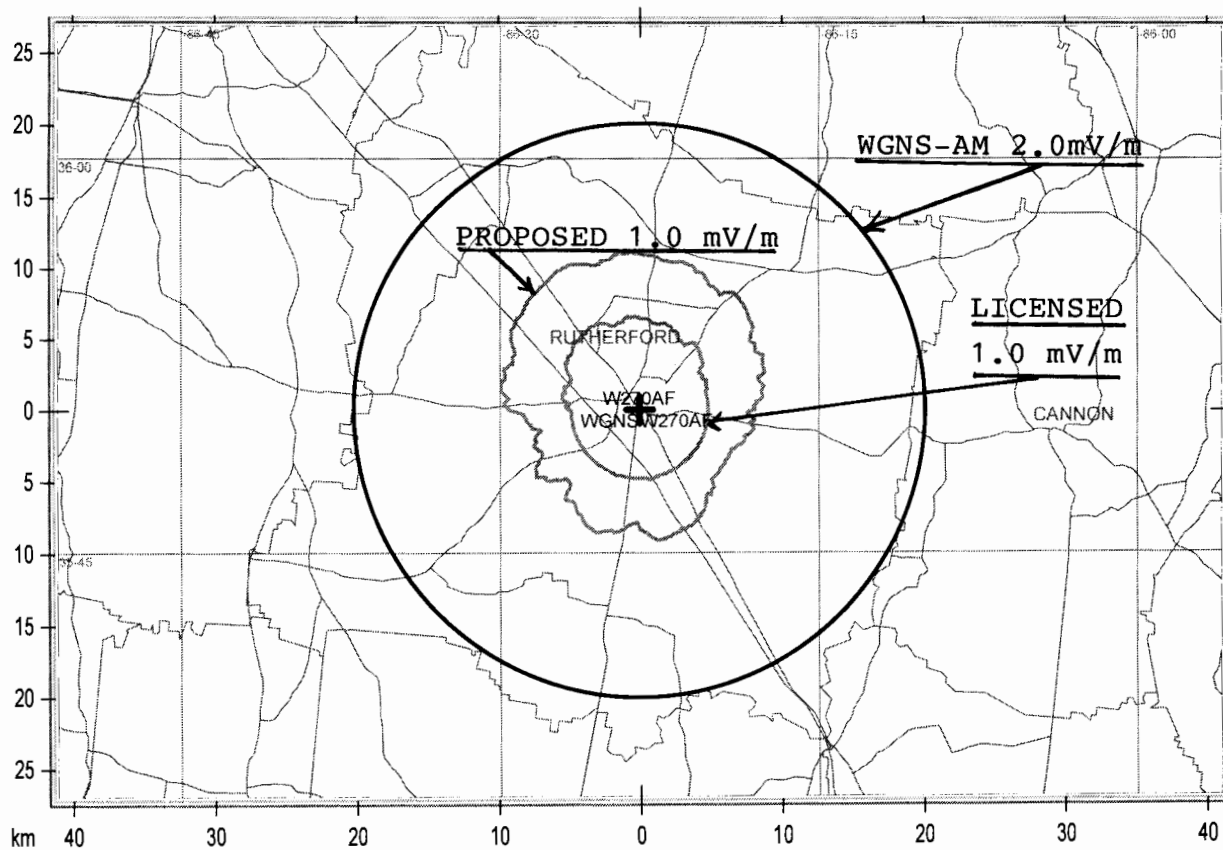


EXHIBIT E-3

SERVICE CONTOURS

EXHIBIT E-4

FILL IN FOR WGNS POWER INCREASE APPLICATION MARCH 2015
The Rutherford Group, Inc.

FMCommander Single Allocation Study - 03-04-2015 - NGDC 30 SEC
W270AF's Overlaps (In= 15.64 km, Out= 0.11 km)

W270AF CH 270 D

Lat= 35 50 26.0, Lng= 86 23 27.0

0.25 kW 57.1 M HAAT, 248 M COR

Prot.= 60 dBu, Intef.= 40 dBu

W270AB CH 270 D BPFT20121113ALU

Lat= 36 12 26.0, Lng= 86 16 03.0

0.055 kW 28.2 M HAAT, 216 M COR

Prot.= 60 dBu, Intef.= 40 dBu

