

MULLANEY ENGINEERING, INC.

4937 G - Green Valley Road
Monrovia, MD 21770
Tel.: 301.921.0115

ENGINEERING EXHIBIT EE-1:

LA PROMESA FOUNDATION

**FM TRANSLATOR
MINOR CHANGE APPLICATION**

**250-MILE FM TRANSLATOR
MODIFICATION WINDOW FOR AM
CLASS C AND CLASS D STATIONS**

**FM TRANSLATOR STATION W262AR
REQUESTS FM CHANNEL 250D
IRONDALE, ALABAMA**

**APPLICATION FOR AUTHORITY TO
CONSTRUCT OR MAKE CHANGES IN AN
FM TRANSLATOR OR FM BOOSTER STATION**

**JANUARY 2016
FCC FACILITY NUMBER
150821**

**ENGINEERING EXHIBIT
IN SUPPORT OF
MINOR MODIFICATION OF CONSTRUCTION PERMIT
APPLICATION FOR AUTHORITY TO
CONSTRUCT OR MAKE CHANGES IN AN
FM TRANSLATOR OR FM BOOSTER STATION**

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NARRATIVE STATEMENT

I. GENERAL:

The engineering exhibit, of which this narrative is part, was prepared in support of a MINOR CHANGE application concerning FM Translator Station, W262AR currently licensed to Brewton, Alabama, FCC Facility ID: 150821.

The applicant proposes to make changes to the facility location, the facility antenna system, the final output frequency, the community of license, and the primary station to be rebroadcast.

This application is being filed during the 250-mile FM Translator Modification Window for Class C and Class D AM broadcast stations. The primary station WQOH, Irondale, Alabama is a Class D AM broadcast station. The application is deemed to be a minor change application during this special filing window.

Minor Change 250-mile Radius Compliance.

W262AR, Brewton, Alabama holds a license permit and a construction permit for operation at the following geographical coordinates and proposes operation

at the location listed in the table below, a proposed site move within the 250-mile allowable minor change radius (from either authorization).

	N. Latitude (DD-MM-SS)	W. Longitude (DDD-MM-SS)	Distance (current to proposed)
CURRENT LICENSE	31-06-42.6	087-01-38.9	
PROPOSED	33-32-54.0	086-39-56.0	169.2 miles
CURRENT CP PERMIT	31-08-04.2	086-55-24.4	
PROPOSED	33-32-54.0	086-39-56.0	167.0 miles

Distance per Sections 73.208 (FM)

(Valid out to a maximum distance of 475 km / 295 miles per Section 73.208©)

The station will provide FM "translator" service for co-owned noncommercial AM Station WQOH, Irondale, Alabama, FCC Facility ID: 726

The proposed FM Translator station will operate on channel 250D (97.9 MHZ) with an effective radiated power (ERP) of 0.032 kilowatts (32 watts) and an antenna height above mean sea level of 279 meters (AMSL) and above ground level of 53 meters (AGL). The applicant proposes to use a non-directional, 4-bay FM antenna utilizing circular polarization (H & V) with 0.5 wavelength spacing between radiating elements.

TRANSMITTER LOCATION - FIGURE 1:

The transmitting facility will consist of a 4-bay FM antenna side-mounted on an existing permanent structure. The FCC ASR registration for the structure is 1037862. This is the existing antenna structure of the primary station to be rebroadcast WQOH (AM) Irondale, Alabama.

VERTICAL SKETCH OF SUPPORTING STRUCTURE - FIGURE 2:

A vertical tower sketch showing the proposed antenna and the existing supporting structure is included as Figure 2. No change in the overall height of

the existing structure is proposed. The FAA has not been notified of this proposal.

COVERAGE CONTOURS - FIGURE 3:

The predicted coverage contours were calculated in accordance with the provisions of 47 CFR 73.313 (FM Contours) and 47 CFR 73.183 (AM Groundwave Signals).

Figure 3 contains a map in which the predicted coverage contours of the translator and the primary station to be rebroadcast has been drawn, the proposed 60 dBu contour is well within the 2mV/m groundwave contour of the primary station as well as the 25-mile radius limit from the AM site.

CHANNEL 250D ALLOCATION STUDY - FIGURE 3:

The proposed site fully protects all other stations of concern as detailed in Figure 3. No prohibitive overlap with any other facility of concern is predicted to occur when the vertical radiation pattern (vertical relative field) of the proposed antenna is taken into consideration.

WAIVER REQUEST 2ND AND 3RD ADJACENT CHANNEL STATIONS - FIGURE 3.

2nd Adjacent Channel Station W252BE (Ch.252D) is predicted to have a signal level of 62.6 dBu at the proposed site. The D/U (desired to undesired) signal ratio is 40 dBu. Thus, the interfering signal level from this proposal is $62.6 + 40 = 102.6$ dBu TO W252BE.

3rd Adjacent Channel Station WEZZ-FM (Ch.247C2) is predicted to have a signal level of 82.6 dBu at the proposed site. The D/U (desired to undesired) signal ratio is 40 dBu. Thus, the interfering signal level from this proposal is $82.6 + 40 = 122.6$ dBu to WEZZ-FM.

The worst-case interference signal is the 102.6 dBu contour. As detailed in Figure 3 the interference signal from this proposal does not reach the ground or any populated or traveled areas and cannot cause interference to any populated areas. There are no tall building, roof tops, or other occupied spaces within predicted interference contour from this proposal. Thus no interference is predicted to occur to a populated or traveled area, and a grant of the wavier request is in the public interest as no harm is caused by grant of this proposal.

OTHER CONSIDERATIONS:

The applicant recognizes its responsibility to remedy complaints of blanketing interference as required by 47 CFR 73.318, and to protect existing or proposed facilities in accordance with the Commission's applicable rules. An intermodulation study has been conducted and no adverse impact on existing facilities or pending applications is anticipated. The applicant clearly recognizes its responsibility to remedy interference complaints to existing stations resulting from its proposed operation. There are no known translator input frequencies within the area in which this proposal's output frequency would cause interference.

ENVIRONMENTAL CONSIDERATIONS:

The applicant believes its proposal will not significantly affect the environment for the following reasons:

- The proposal does not meet any of the criteria specified in Section 1.1307 of the FCC Rules. More specifically, the proposed facilities are not known to fall within any of the categories enumerated in Sections 1.1307(a)(1)-(7) and will not involve the use of high intensity white lights.
- The site and this proposal are exempt from NHPA Section 106 review as no construction will occur that would trigger a review under NHPA Section 106.

- Furthermore, operation of the proposed facility will not involve the exposure of workers or the general public to levels of radio frequency electromagnetic fields exceeding guidelines adopted by the Federal Communications Commission. (The current FCC guidelines are based upon criteria contained in the National Council of Radiation Protection and Measurements (NCRP) Report No.86 (1986) and ANSI/IEEE C95.1-1992.)
- Based upon a worst case downward field value of 1.0 for all angles below the horizon, and a power of 0.032-kilowatts (H & V), and an antenna height of 53 meters above ground. The power density level 2-meters above ground is predicted to be 0.0008 mW/cm² or less. The computed power density is 0.08% of the Commission's guideline for a controlled area and 0.40% for an uncontrolled area. This level is well below the Commission's guidelines for maximum exposure levels to electromagnetic fields and no further study is required. The minimum safe distance for a controlled area is 1.5 meters, the antenna is located at 53 meters above ground, therefore no exposure in excess of the guidelines can occur at ground level.

The applicant will fully-cooperate and coordinate with all site users as required by the Commission's rules.

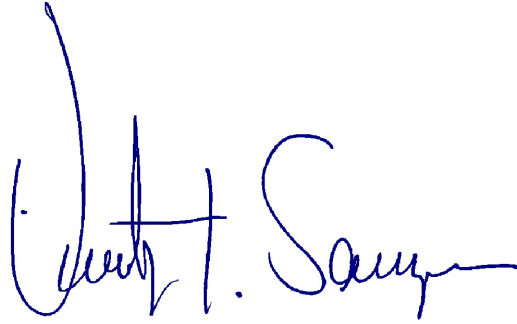
II SUMMARY:

The proposed FM translator (modification of W262AR) will operate as a FM translator for co-owned, AM Broadcast Station WQOH, Irondale, Alabama with a maximum ERP 0.032-kilowatts, utilizing a NON-DIRECTIONAL / OMNI circularly polarized antenna system.

Operation as proposed herein would not cause/increase any normally prohibited contour overlap, and would not have any significant impact on the environment.

The proposed operation is fully in compliance with all other areas of the Commission's rules and applicable international agreements.

January 26, 2016

A handwritten signature in blue ink, reading "Timothy Z. Sawyer". The signature is fluid and cursive, with a large initial "T" and "S".

Timothy Z. Sawyer, Consulting Engineer
Mullaney Engineering, Inc.
4937 G - Green Valley Road
Monrovia, MD 21770
Tel.: 301.921.0115 General Office Ext. 3

FCC TOWER REGISTRATION
FAA NOTIFICATION NOT REQUIRED
THIS IS AN EXISTING TOWER - NO CHANGES IN OVERALL HEIGHT ARE PROPOSED

Registration Detail			
Reg Number	1037862	Status	Constructed
File Number	A0910818	Constructed	01/01/1976
EMI	No	Dismantled	
NEPA	No		
Antenna Structure			
Structure Type	TOWER - Free standing or Guyed Structure used for Commu		
Location (in NAD83 Coordinates - Convert to NAD27)			
Lat/Long	33-32-54.0 N 086-39-56.0 W	Address	5200 ATLANTA HWY E
City, State	BIRMINGHAM , AL		
Zip	35210	County	JEFFERSON
Center of AM Array		Position of Tower in Array	
Heights (meters)			
Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)		
226.0	59.0		
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances		
285.0	58.0		
Painting and Lighting Specifications			
None			
FAA Notification			
FAA Study		FAA Issue Date	



FCC TOWER REGISTRATION

FM TRANSLATOR - MODIFICATION
W262AR TO IRONTON, AL
WQOH(AM) SITE

**FIGURE
1**

MONROVIA, MARYLAND U.S.A

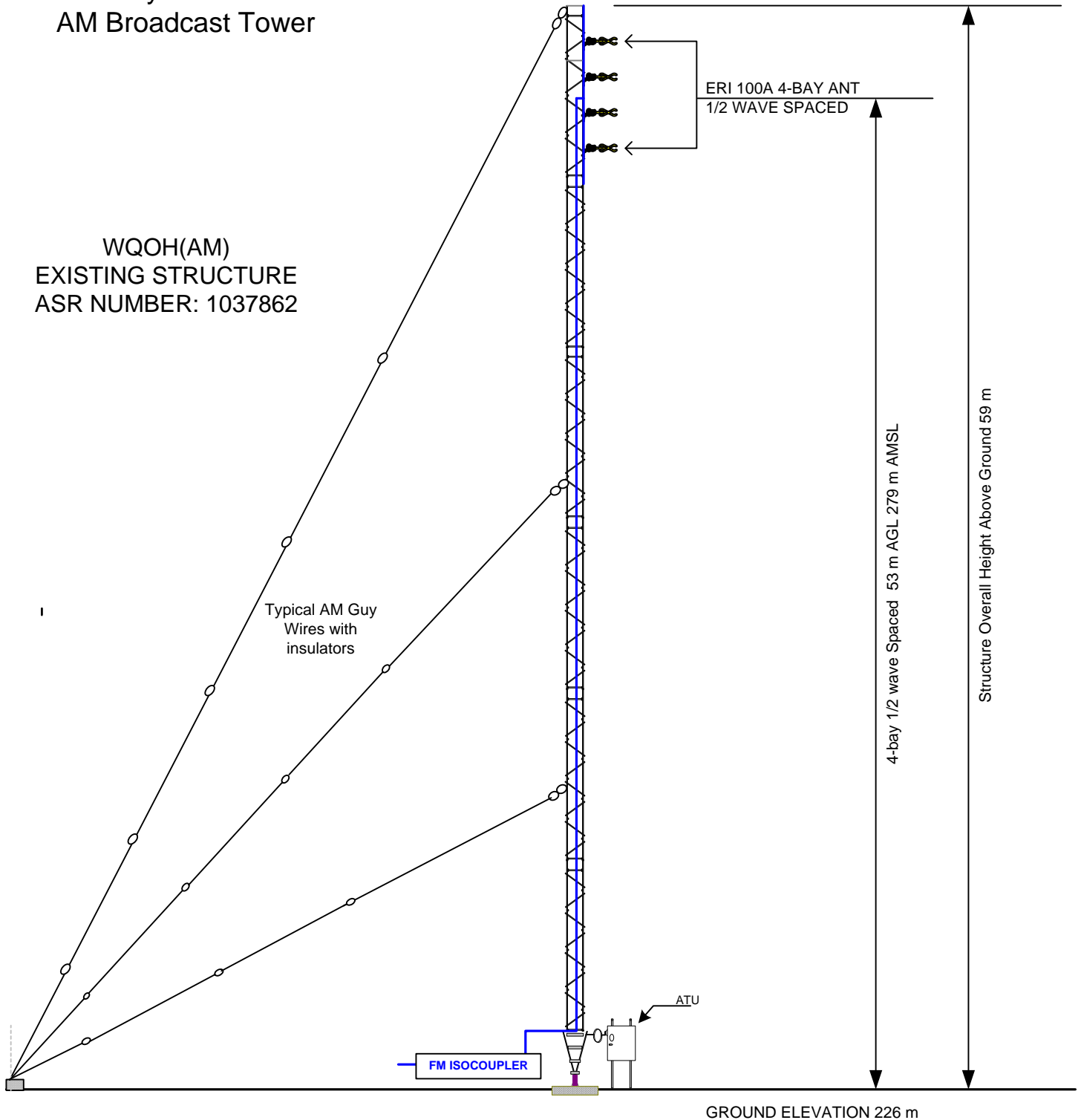
SIZE A	FSCM NO N/A	DWG NO 20160126WQOH-1	REV NONE
SCALE	N/A	JANUARY 2016	

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Uniform Cross-Section Guyed Steel AM Broadcast Tower

No Beacon or Top Light Is Required

WQOH(AM)
EXISTING STRUCTURE
ASR NUMBER: 1037862



VERTICAL SKETCH OF SUPPORTING STRUCTURE

FM TRANSLATOR ANTENNA
WQOH (AM) PRIMARY STATION
IRONDALE, ALABAMA

**FIGURE
2**

MONROVIA, MARYLAND U.S.A

SIZE
A

FSCM NO
N/A

DWG NO
20160126WQOH-2

REV
NONE

(c) 2016, ALL RIGHTS RESERVED

SCALE
N/A

JANUARY 2016

SHEET

MOD FMX

MOD OF FMX W262AR TO IRONDALE AL

Latitude: 33-32-54 N

Longitude: 086-39-56 W

ERP: 0.032 kW

Channel: 250 Frequency: 97.9 MHz

Antenna HAAT Height: 55.61 m

Antenna AMSL Height: 279.0 m

Horiz. Pattern: Omni

PRIMARY STATION AND FM TRANSLATOR

PREDICTED COVERAGE CONTOURS

PRIMARY STATION - WQOH (AM)

PROPOSED TRANSLATOR (MOD OF W262AR)

AM/FM TRANSLATOR MODIFICATION WINDOW - JANUARY 2016

FIGURE 3

**25 MILE RADIUS FROM
WQOH(AM)****60 DBU (F50,50) TRANSLATOR****54 DBU (F50,50) TRANSLATOR****2 MV/M GW CONTOUR
PRIMARY STATION WQOH(AM)**

Predicted Service Contour Population	
60 dBu Contour	34,831
54 dBu Contour	75,562

Scale 1:375,000

0	10	20	30
km			

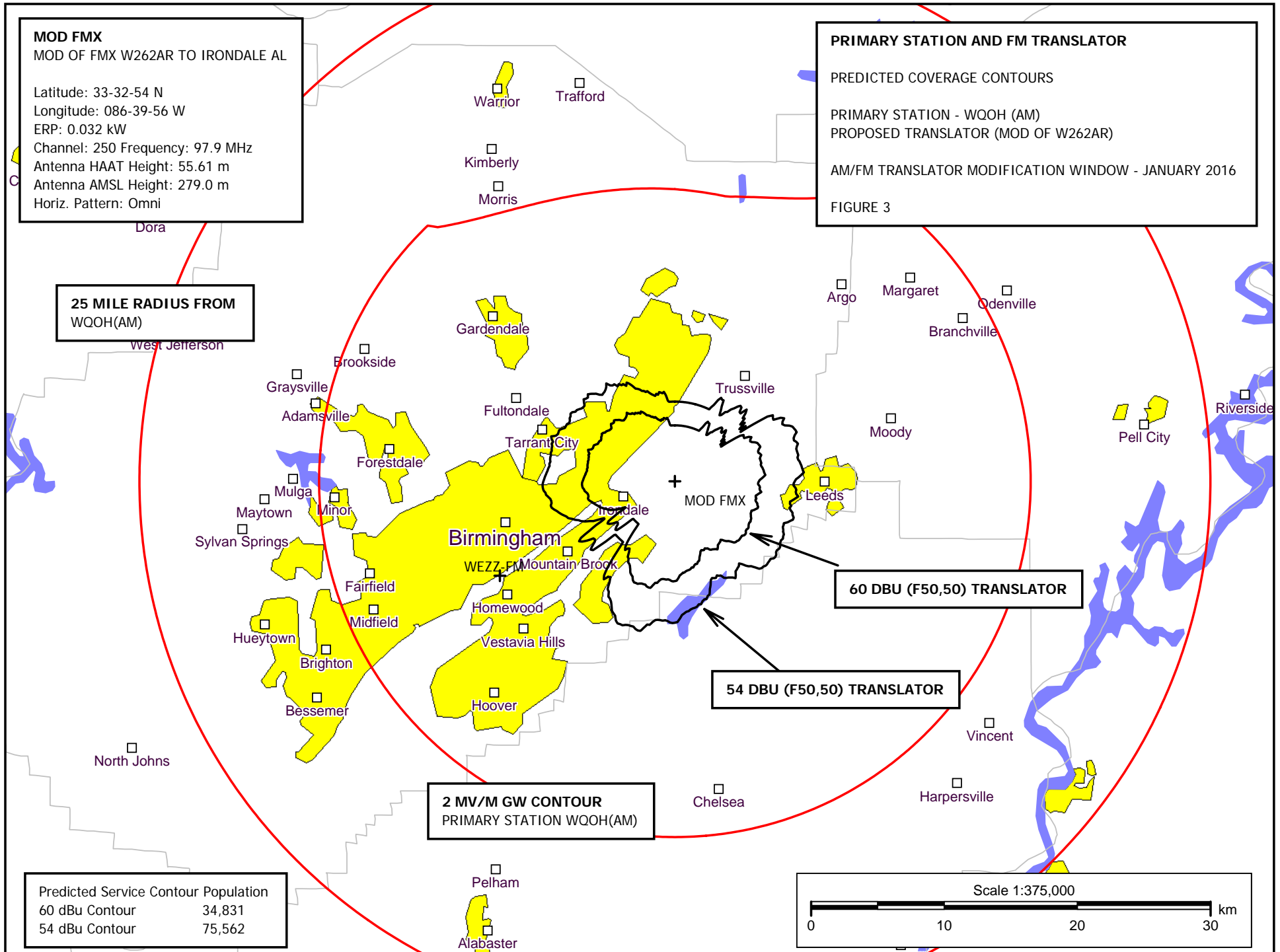


FIGURE 3

AM FM TRANSLATOR MODIFICATION WINDOW
MOD OF W262AR TO WQOH SITE
IRONDALE, ALABAMA

REFERENCE CH# 250D - 97.9 MHz, Pwr= 0.032 kW, HAAT= 63.4 M, COR= 279 M
33 32 54.0 N. Average Protected F(50-50)= 6.2 km
86 39 56.0 W. Omni-directional

CH CITY	CALL	TYPE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
247C2 Gardendale	WEZZ-FM	LIC	NC AL	241.6 61.5	14.92 BLH20040722ADW	33 29 04.0 86 48 25.0	6.400 404	4.4 597	49.3 Sm-wznn, Llc	5.6	-34.8*
250A Oxford	WVOK-FM	LIC	C AL	83.4 263.8	74.12 BLH20010406AAJ	33 37 20.0 85 52 19.0	0.510 338	83.5 564	29.5 Woodard Broadcasting Co.,	-16.1*	22.0
252D Tarrant	W252BE	LIC	DC AL	241.2 61.1	14.86 BMLFT20140520ALM	33 29 02.0 86 48 21.0	0.090 350	0.7 538	17.4 Valleydale Broadcasting, L	9.3	-2.9*
249C3 Jemison	WHPH	LIC	NCX AL	195.3 15.2	65.13 BLH20100519ADS	32 58 55.0 86 51 02.0	13.000 140	58.9 301	39.3 Great South Wireless, Llc	-2.0	14.2
251C1 Fayette	WTXT	LIC	CX AL	256.6 76.0	106.05 BLH20120823AAB	33 19 20.9 87 46 25.6	100.000 274	101.1 366	69.1 Capstar Tx, Llc	-1.9	27.2
250D Cullman	W250BM	CP	DC AL	348.2 168.1	73.67 BPFT20140416ABC	34 11 54.0 86 49 47.0	0.250	40.7 294	11.9 Tripp, Llc	28.2	46.9
250A Wetumpka	WJWZ	LIC	NC AL	160.8 341.0	129.31 BLH20120507AAU	32 26 50.0 86 12 37.0	3.700 92	80.6 164	26.4 Bluewater Broadcasting Com	43.0	83.9
252A Ashland	WFXO	LIC	ZCX AL	109.2 289.6	80.43 BLH20050527BCZ	33 18 30.0 85 50 58.0	1.700 188	2.3 521	27.5 Williams Communications, I	71.7	52.5
249A Union Grove	WZZN	LIC	NCX AL	6.9 186.9	100.09 BLH20091222ARG	34 26 39.0 86 32 05.0	0.950 251	40.5 509	26.8 Great South Wireless, Llc	55.4	67.3
250D Cullman	W250BM	LIC	C AL	342.8 162.6	79.74 BLFT20140415ACE	34 14 04.0 86 55 24.0	0.020	17.8 283	5.4 Tripp, Llc	57.3	59.4
248A Goodwater	AL4100	RSV-A	AL	132.5 312.9	83.43 RM10324*	33 02 22.0 86 00 21.0	6.000 100	2.4 328	23.9	74.7	59.2
248D Gadsden	W248CE	LIC	DC AL	48.3 228.7	82.09 BLFT20141229AWC	34 02 14.0 86 00 00.0	0.250	0.8 393	16.8 Shelby Broadcast Associate	76.2	64.9
251D Gadsden	W251BV	LIC	C AL	48.2 228.6	81.00 BLFT20151005ACF	34 01 54.4 86 00 36.1	0.010	10.9 341	7.6 Board Of Trustees Of Jacks	65.0	66.2
251D Gadsden	W251BV	CP	C AL	48.2 228.6	81.00 BMPFT20151214ACT	34 01 54.4 86 00 36.1	0.010	10.9 341	7.6 Board Of Trustees Of Jacks	65.0	66.2
249A Winfield	WKXM-FM	LIC	ZCX AL	297.4 116.8	118.07 BLH20041104AME	34 01 53.0 87 48 06.0	3.900 123	43.4 306	28.4 Ad-media Management Corp.	68.0	80.1
248A Goodwater	WKGA	LIC	ZCX AL	132.4 312.8	85.37 BLH20050202ADU	33 01 42.0 85 59 23.0	5.100 108	1.6 332	14.1 Lake Broadcasting, Inc.	77.4	70.9

Terrain database is NGDC 30 SEC, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM
Contour distances are on direct line to and from reference station. 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 restricted contour.

ALLOCATION/STUDY NOTES:

* WAIVER REQUEST TO 2ND ADJACENT CHANNEL W252BE AND 3RD ADJACENT CHANNEL STATION WEZZ-FM
NO POPULATION IN INTERFERENCE AREA - SEE WAIVER REQUEST ENGINEERING NARRATIVE AND EXHIBITS.

PROPOSAL IS PREDICTED TO RECEIVE INTERFERENCE FROM WVOK-FM CH250A, BUT NOT CAUSE INTERFERENCE TO WVOK-FM
PROPOSAL IS CO-LOCATED WITH AM STATION - CO-OWNER PRIMARY STATION WQOH(AM)

FIGURE 3

ADJACENT CHANNEL WAIVER REQUEST

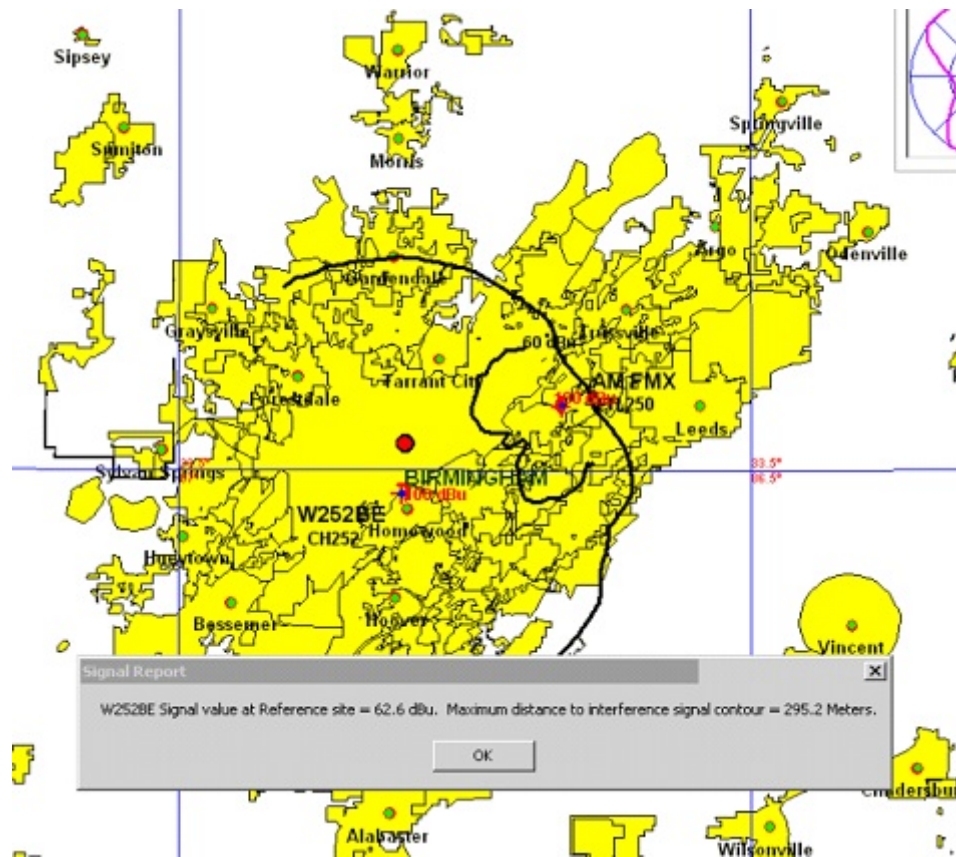
SECOND-ADJACENT CHANNEL STATION W252BE (CH. 252D)

THIRD-ADJACENT CHANNEL STATION WEZZ-FM (CH. 247C2)

NO POPULATION WITHIN INTERFERENCE CONTOUR

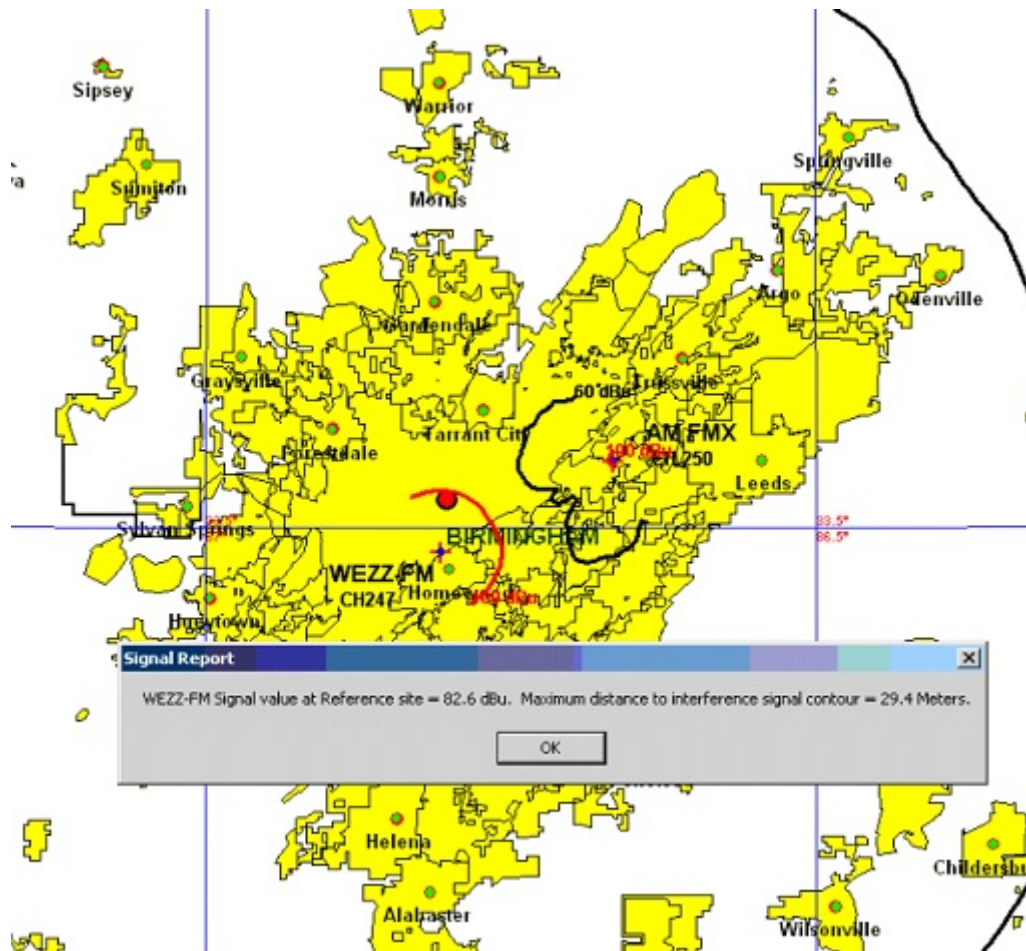
Second-Adjacent Channel Station W252BE (Ch.252D) is predicted to have a signal level of 62.6 dBu at the proposed site (the reference site). The D/U (desired to undesired) signal ratio is 40 dBu. Thus, the interfering signal level from this proposal is $62.6 + 40 = 102.6$ dBu to W252BE

The map below shows the calculated predicted signal level from W252BE at the proposed translator site, and the predicted interfering contour distance (maximum horizontal distance).



Third-Adjacent Channel Station WEZZ-FM (Ch.247C2) is predicted to have a signal level of 82.6 dBu at the proposed site (the reference site). The D/U (desired to undesired) signal ratio is 40 dBu. Thus, the interfering signal level from this proposal is $82.6 + 40 = 122.6$ dBu to WEZZ-FM.

The map below shows the calculated predicted signal level from WEZZ-FM at the proposed translator site, and the predicted interfering contour distance (maximum horizontal distance).



The worst-case interference signal is the 102.6 dBu contour to either station from this proposal.

As detailed on the following pages, the interference signal from this proposal does not reach the ground, or any populated or traveled areas and cannot cause interference to any populated areas when the downward radiation characteristics of the specified antenna system are used.

There are no tall building, roof tops, or other occupied spaces within the interference contour from this proposal. Thus no interference is predicted to occur to a populated area, and a grant of this wavier request is in the public interest as no harm is caused by a grant of the proposal.

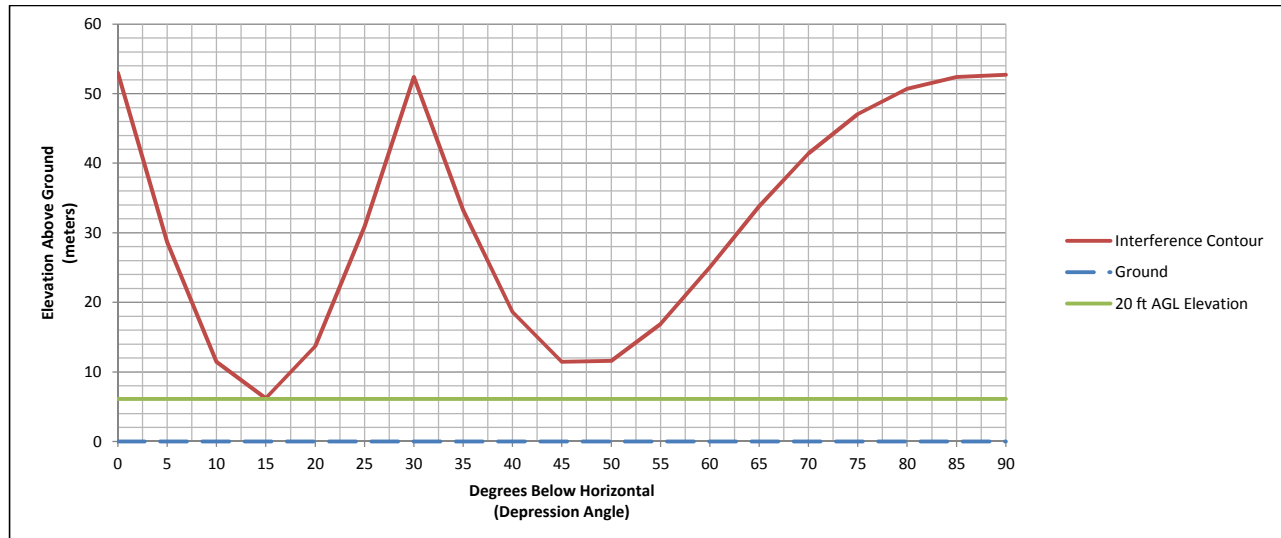
Applicant believes that it has demonstrate that due to lack of population within the interference contour that it is in compliance with the Commission's rules - however, should a waiver of the rules with regards to the second and third-adjacent station contour overlaps be necessary it respectfully requests that said waiver be granted.

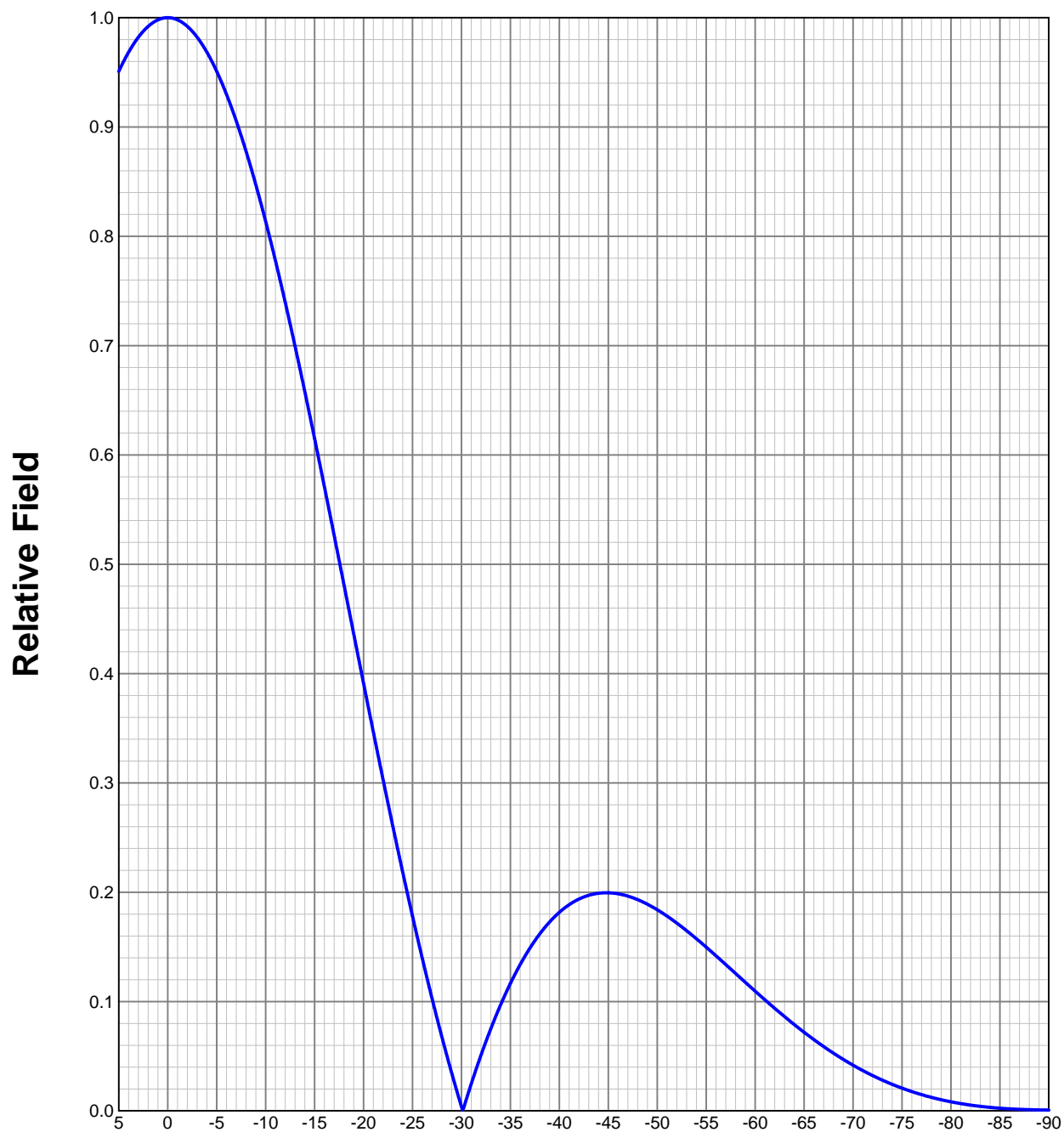
A grant is in the public interest in that it has been demonstrated that no harm will occur from a grant and that no population is at risk.

	Antenna
Manufacturer	ERI
Model	100A
Number of Bays	4
Inter-Bay Spacing	0.5 WAVE LENGTH

Center of Radiation:	53	m AGL
Effective Radiated Power (ERP):	32	Watts
Interference Contour FS:	102.6	dBu
E Field Strength:	0.10544	V/m
Free Space Impedance:	377	Ohms
Power Density:	0.00002949	W/m^2
Maximum Free Space Distance:	293.86	meters

DEPRESSION ANGLE	RELATIVE		ERP WATTS	IN METERS			
	FIELD	POWER		VECTOR LENGTH	HORIZONTAL	VERTICAL	AGL
0	1.0000	1.0000	32.00	293.86	293.86	0.00	53.00
5	0.9510	0.9044	28.94	279.46	278.40	24.36	28.64
10	0.8140	0.6626	21.20	239.20	235.57	41.54	11.46
15	0.6150	0.3782	12.10	180.72	174.57	46.77	6.23
20	0.3910	0.1529	4.89	114.90	107.97	39.30	13.70
25	0.1780	0.0317	1.01	52.31	47.41	22.11	30.89
30	0.0040	0.0000	0.00	1.18	1.02	0.59	52.41
35	0.1170	0.0137	0.44	34.38	28.16	19.72	33.28
40	0.1820	0.0331	1.06	53.48	40.97	34.38	18.62
45	0.2000	0.0400	1.28	58.77	41.56	41.56	11.44
50	0.1840	0.0339	1.08	54.07	34.76	41.42	11.58
55	0.1500	0.0225	0.72	44.08	25.28	36.11	16.89
60	0.1100	0.0121	0.39	32.32	16.16	27.99	25.01
65	0.0720	0.0052	0.17	21.16	8.94	19.18	33.82
70	0.0420	0.0018	0.06	12.34	4.22	11.60	41.40
75	0.0210	0.0004	0.01	6.17	1.60	5.96	47.04
80	0.0080	0.0001	0.00	2.35	0.41	2.32	50.68
85	0.0020	0.0000	0.00	0.59	0.05	0.59	52.41
90	0.0010	0.0000	0.00	0.29	0.00	0.29	52.71



ELEVATION PATTERN**Type:****1004H****Channel:****250****Directivity:****Numeric****dBd****Location:****IRONDALE, AL****Main Lobe:****1.18****0.70****Beam Tilt:****0.00****Horizontal:****1.18****0.70****Polarization:****Circular***Preliminary, subject to final design and review.*

TABULATED DATA FOR ELEVATION PATTERN

Type: 1004H

Polarization: Circular

ANGLEFIELD	dB	ANGLEFIELD	dB	ANGLEFIELD	dB	ANGLEFIELD	dB	ANGLEFIELD	dB
5.00	0.951	-0.44	-6.75	0.912	-0.80	-27.00	0.103	-19.77	-50.50
4.75	0.956	-0.39	-7.00	0.905	-0.86	-27.50	0.085	-21.42	-51.00
4.50	0.960	-0.35	-7.25	0.899	-0.93	-28.00	0.068	-23.39	-51.50
4.25	0.964	-0.32	-7.50	0.892	-0.99	-28.50	0.051	-25.85	-52.00
4.00	0.968	-0.28	-7.75	0.885	-1.06	-29.00	0.035	-29.18	-52.50
3.75	0.972	-0.25	-8.00	0.878	-1.13	-29.50	0.019	-34.39	-53.00
3.50	0.976	-0.21	-8.25	0.870	-1.21	-30.00	0.004	-48.10	-53.50
3.25	0.979	-0.18	-8.50	0.863	-1.28	-30.50	0.011	-39.44	-54.00
3.00	0.982	-0.16	-8.75	0.855	-1.36	-31.00	0.025	-32.14	-54.50
2.75	0.985	-0.13	-9.00	0.847	-1.44	-31.50	0.038	-28.36	-55.00
2.50	0.988	-0.11	-9.25	0.839	-1.53	-32.00	0.051	-25.83	-55.50
2.25	0.990	-0.09	-9.50	0.831	-1.61	-32.50	0.063	-23.95	-56.00
2.00	0.992	-0.07	-9.75	0.822	-1.70	-33.00	0.075	-22.47	-56.50
1.75	0.994	-0.05	-10.00	0.814	-1.79	-33.50	0.086	-21.27	-57.00
1.50	0.996	-0.04	-10.50	0.796	-1.98	-34.00	0.097	-20.26	-57.50
1.25	0.997	-0.03	-11.00	0.778	-2.18	-34.50	0.107	-19.40	-58.00
1.00	0.998	-0.02	-11.50	0.759	-2.40	-35.00	0.117	-18.67	-58.50
0.75	0.999	-0.01	-12.00	0.740	-2.62	-35.50	0.126	-18.02	-59.00
0.50	1.000	0.00	-12.50	0.720	-2.86	-36.00	0.134	-17.46	-59.50
0.25	1.000	0.00	-13.00	0.700	-3.10	-36.50	0.142	-16.97	-60.00
0.00	1.000	0.00	-13.50	0.679	-3.36	-37.00	0.149	-16.54	-60.50
-0.25	1.000	0.00	-14.00	0.658	-3.64	-37.50	0.156	-16.15	-61.00
-0.50	1.000	0.00	-14.50	0.637	-3.92	-38.00	0.162	-15.81	-61.50
-0.75	0.999	-0.01	-15.00	0.615	-4.22	-38.50	0.168	-15.51	-62.00
-1.00	0.998	-0.02	-15.50	0.593	-4.54	-39.00	0.173	-15.25	-62.50
-1.25	0.997	-0.03	-16.00	0.571	-4.87	-39.50	0.177	-15.02	-63.00
-1.50	0.996	-0.04	-16.50	0.549	-5.21	-40.00	0.182	-14.81	-63.50
-1.75	0.994	-0.05	-17.00	0.526	-5.58	-40.50	0.185	-14.64	-64.00
-2.00	0.992	-0.07	-17.50	0.504	-5.95	-41.00	0.189	-14.49	-64.50
-2.25	0.990	-0.09	-18.00	0.481	-6.35	-41.50	0.191	-14.36	-65.00
-2.50	0.988	-0.11	-18.50	0.459	-6.77	-42.00	0.194	-14.25	-65.50
-2.75	0.985	-0.13	-19.00	0.436	-7.21	-42.50	0.196	-14.17	-66.00
-3.00	0.982	-0.16	-19.50	0.414	-7.67	-43.00	0.197	-14.10	-66.50
-3.25	0.979	-0.18	-20.00	0.391	-8.15	-43.50	0.198	-14.05	-67.00
-3.50	0.976	-0.21	-20.50	0.369	-8.66	-44.00	0.199	-14.02	-67.50
-3.75	0.972	-0.25	-21.00	0.347	-9.20	-44.50	0.199	-14.00	-68.00
-4.00	0.968	-0.28	-21.50	0.325	-9.77	-45.00	0.200	-14.00	-68.50
-4.25	0.964	-0.32	-22.00	0.303	-10.38	-45.50	0.199	-14.01	-69.00
-4.50	0.960	-0.35	-22.50	0.281	-11.02	-46.00	0.199	-14.04	-69.50
-4.75	0.956	-0.39	-23.00	0.260	-11.70	-46.50	0.198	-14.08	-70.00
-5.00	0.951	-0.44	-23.50	0.239	-12.43	-47.00	0.196	-14.13	-70.50
-5.25	0.946	-0.48	-24.00	0.218	-13.22	-47.50	0.195	-14.20	-71.00
-5.50	0.941	-0.53	-24.50	0.198	-14.06	-48.00	0.193	-14.28	-71.50
-5.75	0.935	-0.58	-25.00	0.178	-14.98	-48.50	0.191	-14.37	-72.00
-6.00	0.930	-0.63	-25.50	0.159	-15.99	-49.00	0.189	-14.47	-72.50
-6.25	0.924	-0.69	-26.00	0.140	-17.11	-49.50	0.187	-14.58	-73.00
-6.50	0.918	-0.74	-26.50	0.121	-18.35	-50.00	0.184	-14.70	-73.50

Preliminary, subject to final design and review.