

**Goldman Engineering Management
Dallas, Texas.**

WFJO (FM)

Proposed Minor Modification of Construction Permit

BPH20090217AEA

Overview of WFJO CP MOD Application

WFJO (FM) by this application proposes to modify facilities authorized in Construction Permit BPH20090217AEA due to the fact that the tower originally sought became unavailable in the intervening time between the original 301 application to move and when the licensee was able to begin construction following grant of the CP. The proposed new tower site is only 1.07km from the site originally granted in the construction permit.

Please note that there is no change in the underlying allocation nor fully spaced reference coordinates, only the actual transmitter site.

Transmitter Location for WFJO(FM) at Jacksonville Beach, Florida

WFJO desires to relocate to an existing tower, ASR 1020783. Following is an allocation table for WFJO at the proposed tower site:

ComStudy 2.2 search of channel 223 (92.5 MHz Class A) at 30-16-34.1 N, 81-33-51.4 W.

Callsign	State	City	Freq	Chan	ERP_w	Class	Status	Dist km	Sep	Clr	
WFJO	FL	JACKSONVILLE BEACH	92.5	223	1550	A	CP	1.07	115	113.9	CP this modifies
WFJO	FL	JACKSONVILLE BEACH	92.5	223	0	A	USE	16.95	115	-98	This allotment
WFJO	GA	FOLKSTON	92.5	223	3200	A	LIC	61.5	115	-53.5	DEL ¹
WNDT	FL	ALACHUA	92.5	223	3200	A	LIC	99.11	115	-15.9	73.215
871124MN	FL	ALACHUA	92.5	223	0	A	USE	104.57	115	-10.4	73.215
W218CA	FL	STOCKADE	92.9	225	10	D	CP	0.78	0	0.8	
WJXR	FL	MACCLENNY	92.1	221	0	C3	USE	43.46	42	1.5	
WJXR	FL	MACCLENNY	92.1	221	25000	C3	LIC	43.46	42	1.5	
WBGA	GA	ST. SIMONS ISLAND	92.7	224	16500	C3	CP	99.04	89	10	
WBGA	GA	ST. SIMONS ISLAND	92.7	224	0	C3	USE	99.04	89	10	
WBHQ	FL	BEVERLY BEACH	92.7	224	5500	A	LIC	87.1	72	15.1	
WAYL	FL	ST. AUGUSTINE	91.9	220	5000	A	LIC	52.34	31	21.3	

Following is a discussion of the notes above:

DEL- Mutually Exclusive Existing WFJO as currently licensed.

WNDT- WFJO will operate pursuant to Section 73.215 with respect to WNDT using a directional antenna. 73.215 spacing is 99.11km, minimum allowable under 73.215(e) is 92km.

73.215 demonstrating protection, WFJO to and from WNDT

Although WNDT operates at reduced ERP (3.2kW) due to their HAAT being over 100m (135m), since this station is compliant under 73.207, protection to and from this station is calculated as though WNDT is operating with facilities at 6kW @ 100m HAAT.

Figure 1 indicates the proposed WFJO antenna pattern. This pattern is compliant with FCC rule 73.316 and does not vary by more than 2dB per 10° nor is the attenuation greater than 15db in any azimuth. Figure 2 demonstrates protection of WNDT from WFJO and figure 3 demonstrates protection of WFJO from WNDT.

Supplemental Showing demonstrating Community of License coverage.

By relocating to the site proposed herein, utilizing the FCC 50/50 70dBu contour, 80% of the served community does not receive 70dBu or greater signal (either population, 62%, or area, 74%) as required by 47 CFR Section 73.315. Therefore, the applicant respectfully requests the use of the Longley-Rice alternate prediction method to demonstrate 70dBu signal over Jacksonville Beach.

This application meets the policy guidelines as adopted by the commission as follows:

1. Because this location is very close to the shore in Florida, the terrain is very flat and departs widely from the average terrain assumed for the 50/50 propagation curves in 47 CFR 73.333. In this case, the Delta-H has been calculated to be

10.0m along the azimuth between the proposed transmitter site and the community of license.

2. The distance to the 70dBu contour is over 10% larger than the distance predicted by the standard contour prediction method. The Longley-Rice prediction method using standard land clutter values indicates the 70dBu contour extending to 28km along the arc from 70° to 110° which encompasses Jacksonville Beach. The FCC 50/50 contour indicates 16.3km. which is a 72% variance.

Exhibit 4. Shows the report used to determine compliance under the Longley-Rice alternate prediction method. Exhibit 5 indicates community of license coverage using Longley-Rice with standard terrain land cover attenuation calculated.

Environmental Exhibit

The proposed WFJO facility will be operated from an existing transmitter facility and tower at ASR 1020783; therefore no additional environmental processing will be necessary from a NEPA or SHPO standpoint. The ASR record for the proposed tower is attached as exhibit 6.

The program "FM MODEL" was utilized to determine the radiation characteristics of a 1 bay dipole type antenna for compliance with FCC and OSHA policies regarding RF radiation at 2 meters above ground using 1.6kW @ 194m AGL. The output of that program is shown as Exhibit 7. The program determined that the radiation from the proposed WFJO(FM) antenna will be 1.75 $\mu\text{W}/\text{cm}^2$ maximum. Since maximum public exposure is limited 200 $\mu\text{W}/\text{cm}^2$, the maximum RF power density at 2m AGL is only 0.95% of the maximum. Because the maximum public exposure level is under 5%, it is categorically excluded from further environmental review and is thus fully compliant with all rules pertaining to radiation exposure.

WFJO agrees to cooperate with other users on the tower to reduce or terminate operation if necessary during maintenance operations.

FIGURE 1- DIRECTIONAL PATTERN

WFJO Proposed Antenna Pattern

Pre-Rotation Antenna Pattern....

Azimuth (deg)	Relative Field
0.0	1.0
10.0	1.0
20.0	1.0
30.0	1.0
40.0	1.0
50.0	1.0
60.0	1.0
70.0	1.0
80.0	1.0
90.0	1.0
100.0	1.0
110.0	1.0
120.0	1.0
130.0	1.0
140.0	1.0
150.0	0.891
160.0	0.716
170.0	0.582
180.0	0.467
190.0	0.375
200.0	0.301
210.0	0.25
220.0	0.21
230.0	0.2
240.0	0.2
250.0	0.21
260.0	0.26
270.0	0.327
280.0	0.412
290.0	0.518
300.0	0.653
310.0	0.822
320.0	1.0
330.0	1.0
340.0	1.0
350.0	1.0

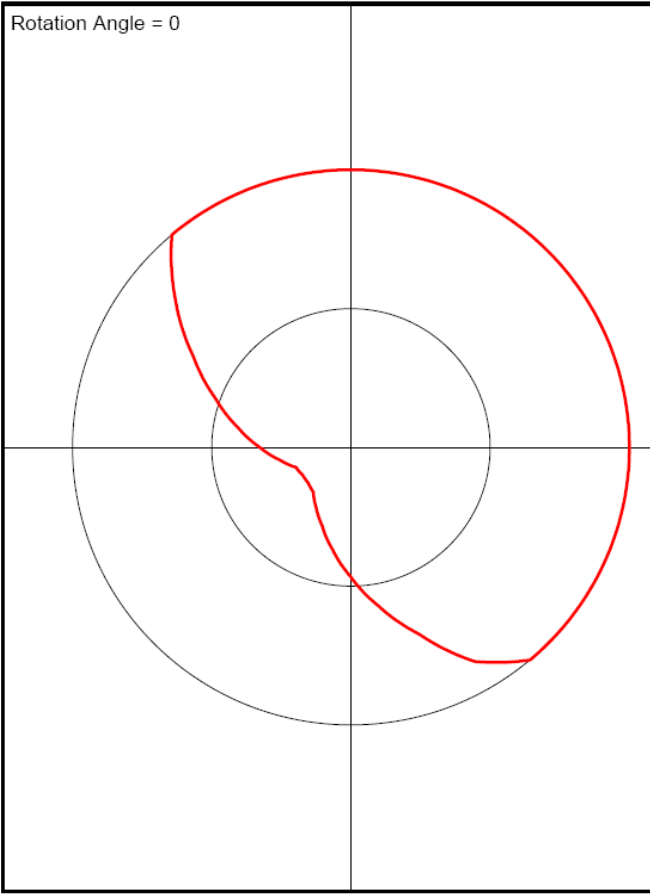


FIGURE 2- 73.215 PROTECTION TO WNDT (6kW @ 100m) from WFJO

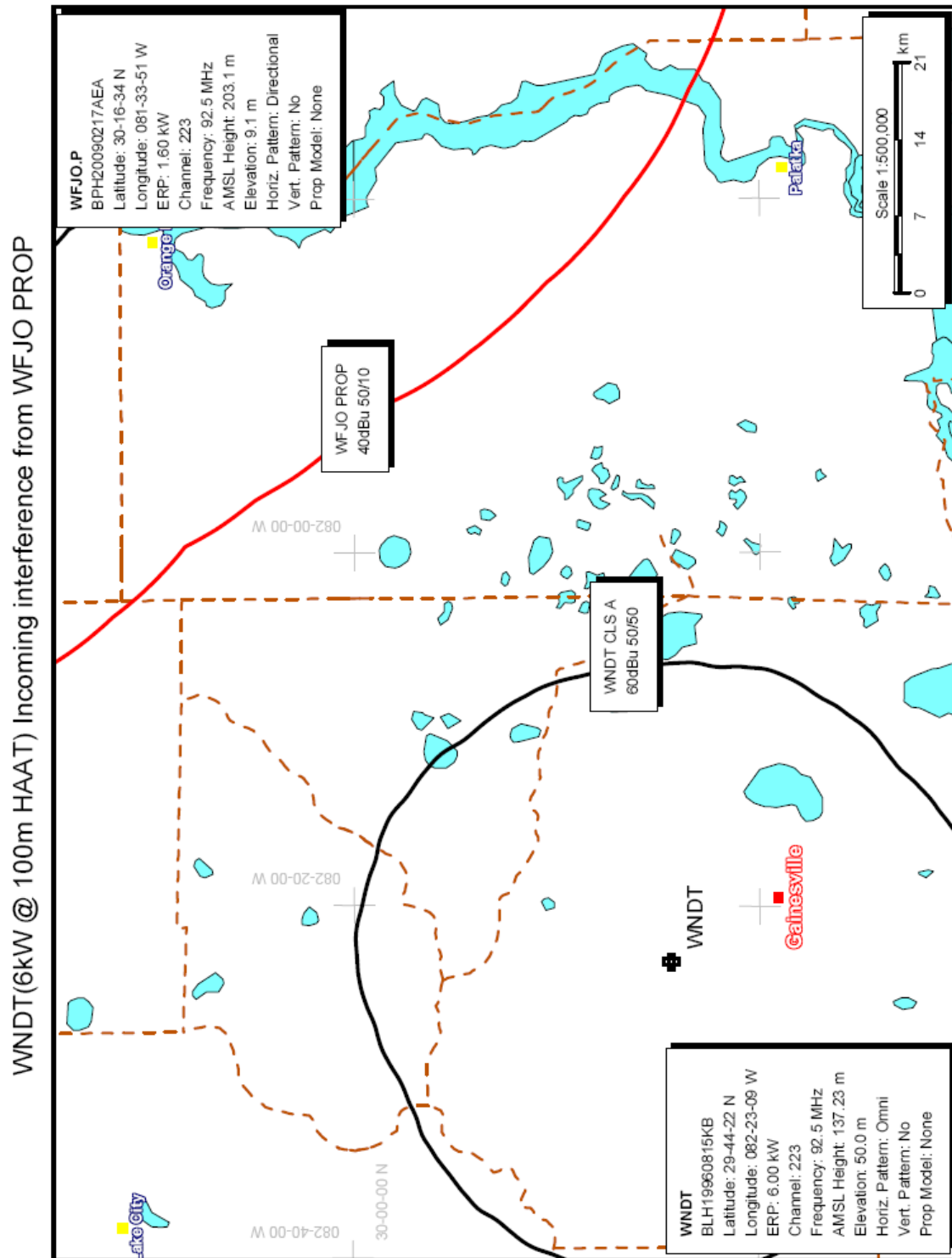


FIGURE 3- 73.215 PROTECTION TO WFJO FROM WNDT (6kW @ 100m)

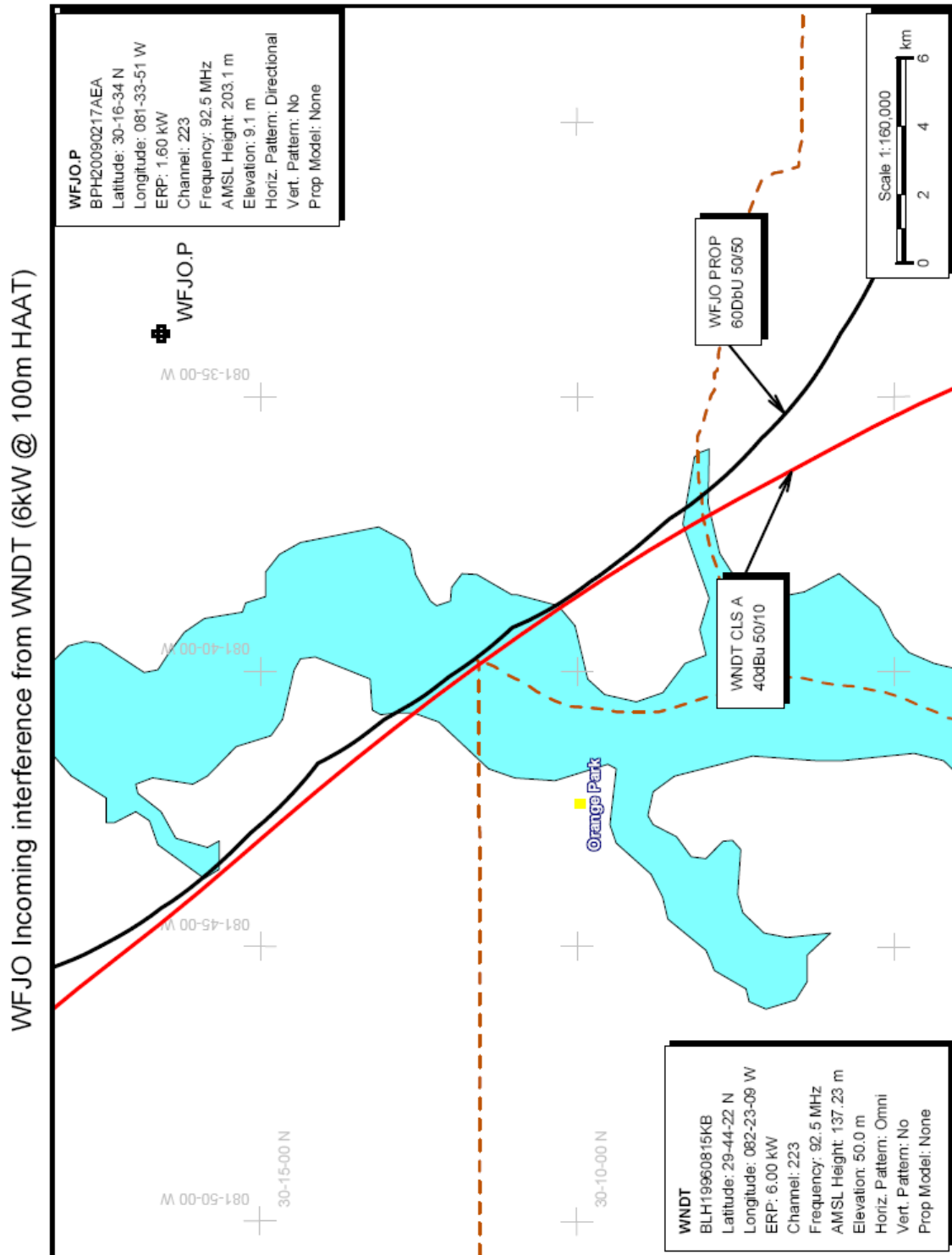


EXHIBIT 4 - COMPARISON FCC 50/50 TO LONGLEY-RICE COVERAGE

Latitude: 30-16-34 N
 Longitude: 081-33-51 W
 ERP: 1.60 kW
 Channel: 223
 Frequency: 92.5 MHz
 AMSL Height: 203.1 m
 Elevation: 9.1 m
 Horiz. Antenna Pattern: Directional
 Vert. Elevation Pattern: No

Type of contour: FCC
 Location Variability: 50.0 %
 Time Variability: 50.0 %
 # of Radials Calculated: 360
 FCC Matching HAAT Calculation Used
 Field Strength: 70.00 dBuV/m

Longley-Rice Coverage Study
 Signal Resolution: 0.5 km
 Area of calculation: Circle: R = 100 km
 Land cover attenuation was used.

Study Date: 2/3/2011
 Land Cover Attenuations
 Database: Global 1km Land Cover Data

Unknown: 0.0 dB
 Open Land: 2.0 dB
 Agricultural: 2.5 dB
 Water Body: 0.0 dB
 Forest: 4.0 dB
 Wetland: 2.0 dB
 Urban: 5.0 dB
 Snow/Ice: 0.0 dB

Primary Terrain: FCC 30 Second US Database
 Coordinate System: NAD27

Propagation Model: Longley/Rice
 Climate: Continental temperate
 Conductivity: 0.0050
 Dielectric Constant: 15.0
 Refractivity: 311.0
 Receiver Height AG: 9.1 m
 Receiver Gain: 0 dB
 Time Variability: 50.0%
 Situation Variability: 50.0%
 ITM Mode: Broadcast

Bearing (deg)	FCC 50/50 70dBu Distance (km)	LONGLEY-RICE 70dBu Distance (km)	% Difference
70.0	16.3	28.0	72
75.0	16.3	28.0	72
80.0	16.3	28.0	72
85.0	16.3	28.0	72
90.0	16.3	28.0	72
95.0	16.3	28.0	72
100.0	16.3	28.0	72
105.0	16.3	28.0	72
110.0	16.3	28.0	72

FIGURE 5- Community of License Coverage

WFJO Community of License Coverage using Longley-Rice

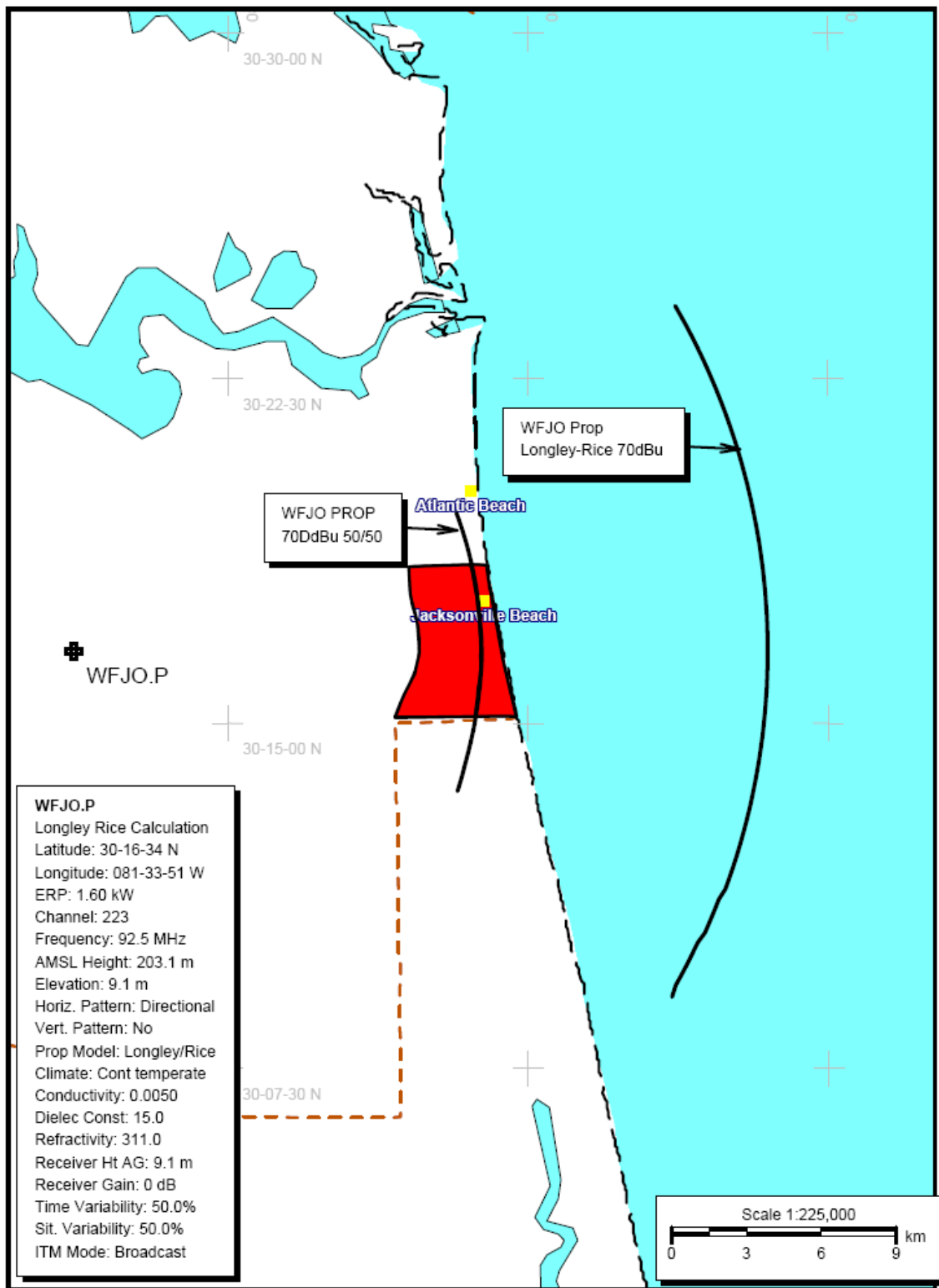


FIGURE 6 – ASR 1020783

ASR Registration Search

Registration 1020783

[Map Registration](#)

Registration Detail

Reg Number	1020783	Status	Constructed
File Number	A0613870	Constructed	11/05/2008
FAA Study	2008-ASO-1257-OE	EMI	No
FAA Issue Date	05/31/2008	NEPA	No

Antenna Structure

Structure Type TOWER - Free standing or Guyed Structure used for Communications Purposes

Location (in NAD83 Coordinates)

Lat/Long 30-16-35.0 N 081-33-50.7 W 8541 NEWTON RD (#302757)

City, State JACKSONVILLE , FL

Center of
AM Array

Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
9.1	323.4
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
332.5	317.9

Painting and Lighting Specifications

FAA Chapters 4, 7, 12

Paint and Light in Accordance with FAA Circular Number 70/7460-1K

Owner & Contact Information

FRN	0014350276	Licensee ID	L00132178
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Owner

American Towers, Inc.
Attention To: Compliance Dept.
1898 Leland Drive, Suite A
Marietta , GA 30067

P: (678)265-6770
E:

Contact

Dept. , Compliance
1898 Leland Drive, Suite A
Marietta , GA 30067

P: (678)265-6770
E:

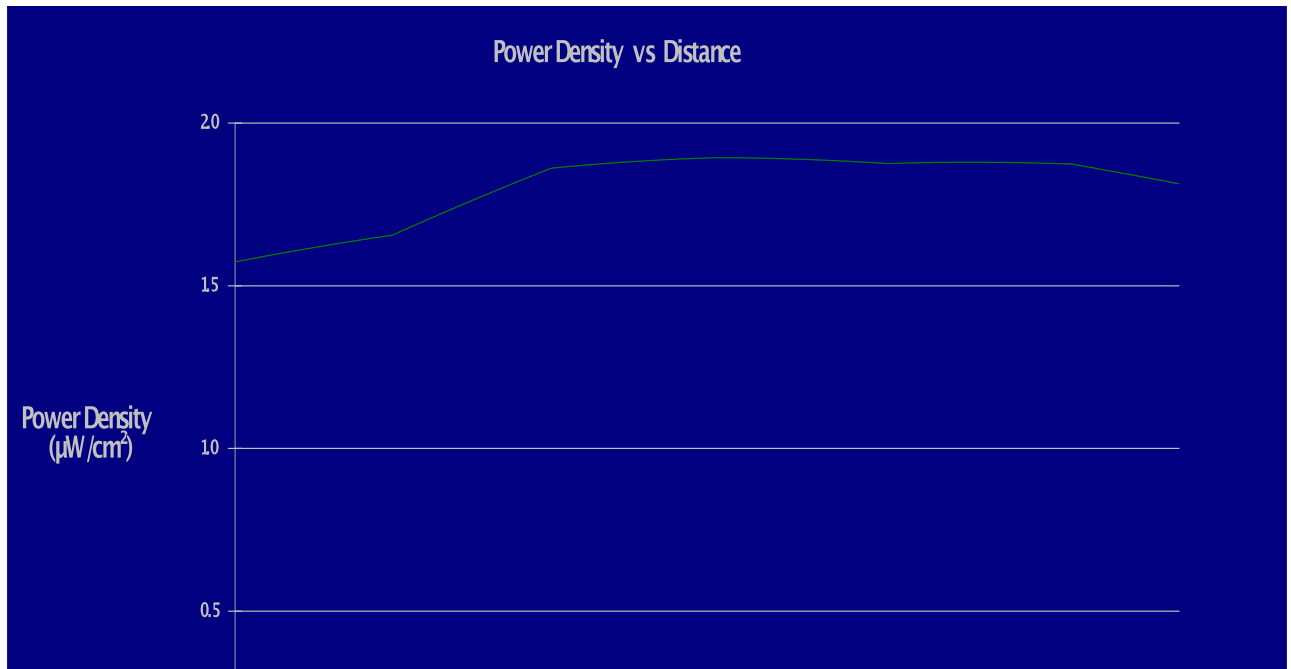
Last Action Status

Status	Constructed	Received	11/05/2008
Purpose	Notification	Entered	11/05/2008
Mode	Interactive		

Related Applications

11/05/2008	A0613864 - Modification (MD)
11/05/2008	A0613870 - Notification (NT)
08/12/2008	A0604910 - Admin Update (AU)
	Related applications (13)

FIGURE 7 Power Density vs. Distance



Distance (m)- 500 Type: Phelps-Dodge "Ring Stub" or Dipole (EPA)"
Horizontal ERP= 1,600 Number of Elements = 1
Vertical ERP= 1,600 Element Spacing = 1
Antenna Height (m) 194
Maximum Power density at 2m AGL = $1.75 \mu\text{W}/\text{cm}^2$