TECHNICAL STATEMENT
RE: DISPLACEMENT APPLICATION FOR
W13CS-D 15 KW-DA 196.2 AMSL CH. 28
GRENADA, MISSISSIPPI

INTRODUCTION

Legacy Broadcasting of MS ("Legacy"), the licensee of digital low power television station W13CS-D Channel 13, Facility ID No. 16828, is seeking authority to operate its station on a replacement channel under the provision for displacement relief because of interference received from an authorized DTV station.[1] Accordingly, Legacy submits the foregoing displacement application for operation on Channel 28.

This application is eligible for processing under the normal procedures governing displacement applications for digital low power television and TV translator stations.[2] All calculations, elevations and other technical data provided herein have been determined in accordance with the technical standards of the Federal Communications Commission (FCC), unless specifically stated otherwise

PROPOSED DISPLACEMENT FACILITY

Legacy proposes to side mount its new Channel 28 antenna on an existing FCC registered tower that is situated 34.0 kilometers (21.1 miles) from the reference coordinates of the station's community of license. The new antenna to be employed will be a horizontally polarized directional antenna with 0.5 degrees electrical beam tilt, Dielectric Model TLP-12H. The antenna radiation center height will be 196.2 meters above mean sea level (AMSL) as

[1] WHBQ-TV Channel 13 Memphis, TN, Facility ID No. 12521, FCC File No. BLCDT-20100917ACI.

[2] See 47 CFR § 74.787(a)(4) – Digital licensing of low power television and TV translator stations.

reflected in Figure 1. The station will operate at a maximum effective radiated power (ERP) of 15.0 kW and it will employ a simple out-of-channel emission mask filter.

INTERFERENCE PROTECTION

A detailed *TVStudy* analysis has been performed and the results indicate no interference check failures were found. A copy of the analysis summary is provided in Figure 2. This analysis confirms that a grant of this application will not result in any new interference to other prior authorized stations in accordance with the requirements in 47 C.F.R. §§ 74.709, 74.793(e), 74.793(f), 74.793(g) and 74.793(h).[3]

ENVIRONMENTAL IMPACT

As stated above, this displacement application specifies an existing FCC registered tower that was constructed before March 16, 2001.[4] Given that the proposed collocation of the new Channel 28 antenna will not result in a substantial increase in the size of the existing antenna-supporting structure,[5] the criteria outlined in 47 CFR § 1.1307(a) for certain types of facilities that may significantly affect the environment do not apply. With regard to the rules for

[3] *TVStudy* Program - Version 2.2.5 was utilized to evaluate this proposal based on the default Interference Check template normally used for application processing. The following analysis settings were used: cell size = 1.0 km; profile point spacing = 1.0 km.

[4] See 47 CFR Part 1, App. B, § III.A. An antenna may be mounted on an existing tower constructed on or before March 16, 2001 without such collocation being reviewed through the Section 106 process set forth in the NPA, unless (1) the mounting of the new antenna will result in a substantial increase in the size of the tower as defined in Stipulation I.E.; (2) the tower has been determined by the FCC to have an adverse effect on one or more historic properties; (3) the tower is the subject of a pending environmental review or related proceeding before the FCC involving compliance with Section 106; or, (4) the tower owner has received written or electronic notification that the FCC is in receipt of a complaint from that the collocation has an adverse effect on one or more historic properties.

[5] See 47 CFR Part 1, App. B, § I.E. A substantial increase in size means: "*(1) The mounting of the proposed antenna on the tower would increase the existing height of the tower by more than 10%, or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to avoid interference with existing antennas; or (2) The mounting of the proposed antenna would involve the installation of more than the standard number of new equipment cabinets for the technology involved, not to exceed four, or more than one new equipment shelter; or (3) The mounting of the proposed antenna would involve adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable; or (4) The mounting of the proposed antenna would expand the boundaries of the current tower site by more than 30 feet in any direction or involve excavation outside these expanded boundaries. The current tower site is defined as the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site."*

limiting human exposure to radio-frequency (RF) energy in 47 CFR § 1.1307(b), this application seeks authority to operate a low power television broadcast antenna in full compliance with those guidelines as described in more detail below. The following technical specifications are proposed:

Frequency :	554 - 560 MHz (UHF Channel 28)
Effective Radiated Power:	15.0 kW
Antenna Type:	Dielectric Model TLP-12H
Antenna Polarization:	Horizontal
Antenna Height:	89.6 meters AGL
Location coordinates:	33-32-21.0 NL, 090-02-08.0 WL (NAD83)
Site elevation:	106.6 meters AMSL
Overall tower height:	121.9 meters AGL
FCC ASRN:	1041937, Constructed in 1976

Using the methodology for predicting power density levels for television broadcast antennas outlined in OET-65, the above parameters are calculated to produce a maximum power density of 13.29 μW/cm² at points 2 meters above ground (approximate human head height).[6] This power density calculation was derived from OET-65 Equation 9, which is shown below.

$$S = \frac{33.4\ ERP}{R^2}$$

Where: S = power density in μW/cm²
ERP = power in watts
R = distance in meters

The maximum exposure limits applicable to Channel 28, as determined in accordance with 47 CFR § 1.1310 for uncontrolled and controlled situations, are 369 μW/cm² and 1,847 μW/cm² respectively. Because the worst-case exposure level determined for the proposed facility is not more than 5 percent of those guidelines and considering the requirements for signage and access control will be implemented as appropriate for compliance with the new

[6] FCC Office of Engineering and Technology, Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields, OET Bulletin 65, Edition 97-01 (1997) (OET-65).

rules adopted in the *RF Report and Order*, no further showing of compliance with the RF exposure rules is necessary.[7] For all the reasons stated above, this displacement application has been found to comply with the criteria in 47 CFR § 1.1307(a) and (b) and thus it does not require further environmental processing in accordance with 47 CFR § 1.1306.

Respectfully submitted,

Scott Turpie
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July 27, 2022

Attachments

Figure 1 – Antenna Sketch
Figure 2 – *TVStudy* Analysis Summary

[7] *Proposed Changes in the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields; Reassessment of Federal Communications Commission Radiofrequency Exposure Limits and Policies*, ET Docket No. 19-226, Resolution of Notice of Inquiry, Second Report and Order, Notice of Proposed Rulemaking, and Memorandum Opinion and Order, 34 FCC Rcd 11687 (2019) (*RF Report and Order*).

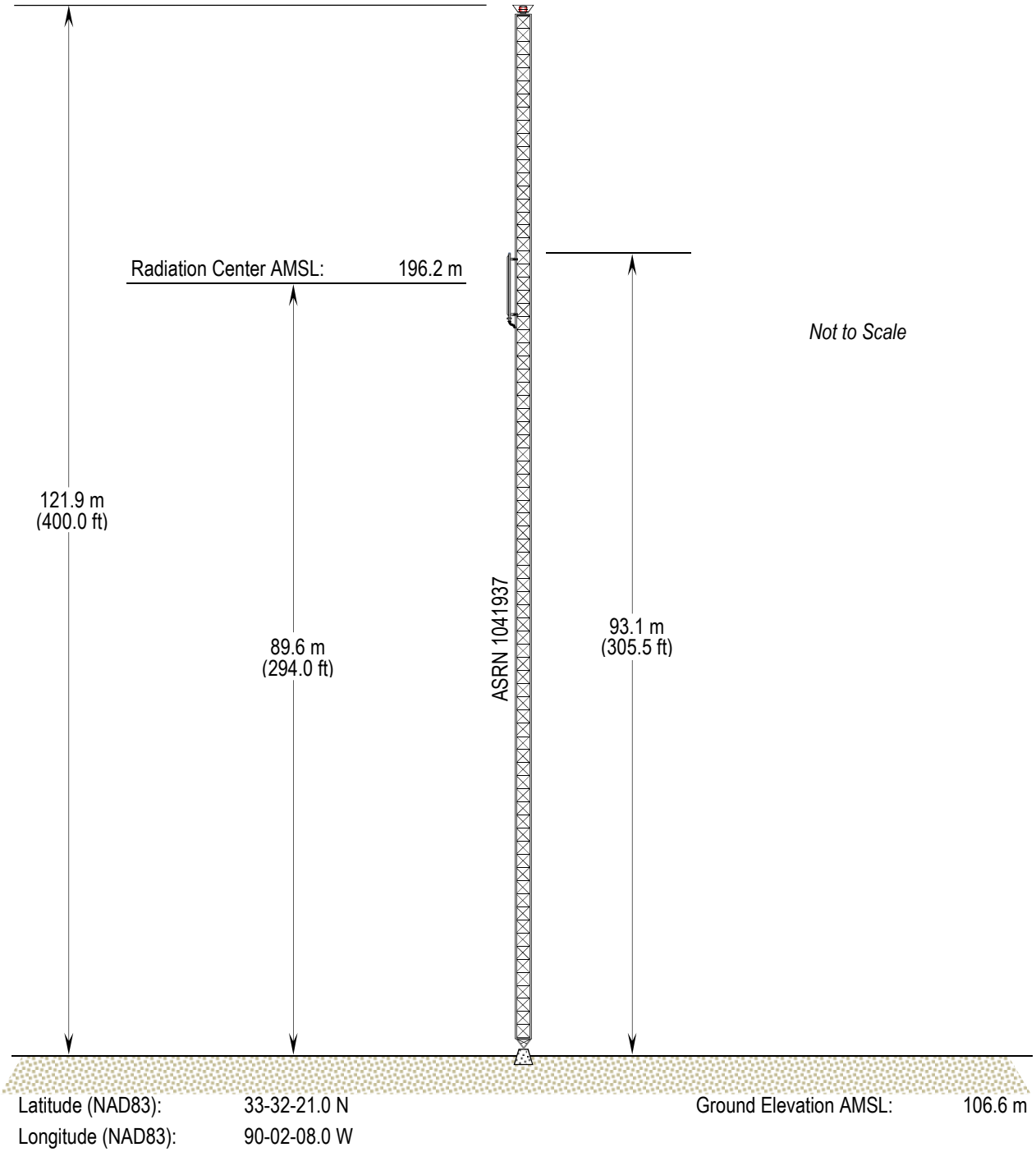

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FIGURE 1
ANTENNA SKETCH
W13CS-D 15.0KW-DA 196.2 M AMSL CH. 28
GRENADA, MISSISSIPPI

July 2022

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FIGURE 2
Analysis Results Summary
***TVStudy Version** 2.2.5.*

Study created: 2022.07.28 13:12:28

Study build station data: LMS TV 2022-07-28

```
    Proposal: W13CS-D D28 LD APP GRENADA, MS
 File number: W13CS-D 28S 15KW TLP-12H 196.2M OET-Std
 Facility ID: 16828
Station data: User record
   Record ID: 819
     Country: U.S.
```

Build options:
Protect pre-transition records not on baseline channel

Search options:
Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KTVE	D27	DT	LIC	EL DORADO, AR	BLCDT20070105ABH	209.8 km
No	KAIT	D27	DT	LIC	JONESBORO, AR	BLANK0000171337	273.9
Yes	WCBI-TV	D27	DT	LIC	COLUMBUS, MS	BLANK0000059851	109.7
No	WMPJ-LD	D27	LD	APP	OXFORD, MS	BLANK0000124745	150.4
No	WLJT-DT	D27	DT	LIC	LEXINGTON, TN	BLANK0000058637	273.9
No	WUOA-LD	D28	LD	LIC	BIRMINGHAM, AL	BLANK0000116438	299.3
No	WWBH-LD	D28	LD	LIC	MOBILE, AL	BLANK0000107240	395.6
No	WMCF-TV	D28	DT	LIC	MONTGOMERY, AL	BLANK0000107502	379.5
No	WYAM-LD	D28	LD	LIC	PRICEVILLE, AL	BLANK0000095679	309.4
No	WUDX-LD	D28	LD	LIC	TUSCALOOSA, AL	BLANK0000177474	170.4
No	KARZ-TV	D28	DT	LIC	LITTLE ROCK, AR	BLANK0000160006	265.8
No	WELF-TV	D28	DT	LIC	DALTON, GA	BLANK0000090766	447.8
No	DDDWQTV-LP	D28+	LD	APP	MURRAY, KY	BLANK0000054105	368.8
No	KATC	D28	DT	LIC	LAFAYETTE, LA	BLCDT20071109AAV	415.8
No	WYES-TV	D28	DT	CP	NEW ORLEANS, LA	BLANK0000153421	398.6
No	KNLD-LD	D28	LD	LIC	NEW ORLEANS, LA	BLDTL20100312ABM	402.2
No	KNLD-LD	D28	LD	CP	NEW ORLEANS, LA	BDFCDTL20100201ADQ	402.2
No	KTBS-TV	D28	DT	LIC	SHREVEPORT, LA	BLANK0000193557	375.1
Yes	WMAW-TV	D28	DT	LIC	MERIDIAN, MS	BLANK0000106235	178.8
Yes	WREG-TV	D28	DT	LIC	MEMPHIS, TN	BLCDT20050513AAE	183.5
No	KCEB	D28	DT	LIC	LONGVIEW, TX	BLANK0000080719	375.1
No	K29NC-D	D29	LD	LIC	MONROE, LA	BLANK0000163541	214.6
No	WKNO	D29	DT	LIC	MEMPHIS, TN	BLEDT20060627ABE	180.6

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:


```
    Channel: D28
       Mask: Simple
   Latitude:  33 32 21.00 N (NAD83)
  Longitude:  90  2  8.00 W
Height AMSL: 196.2 m
       HAAT: 0.0 m
   Peak ERP: 15.0 kW
    Antenna: DIE TLP-12H 25.0 deg
Elev Pattrn: Generic
  Elec Tilt: 0.50
```

50.1 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	12.6 kW	117.6 m	44.6 km
45.0	12.6	101.4	43.0
90.0	9.68	108.5	42.5
135.0	9.31	107.2	42.1
180.0	2.92	107.7	36.4
225.0	3.41	154.5	40.5
270.0	8.42	155.5	45.2
315.0	10.4	156.3	46.3

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 126 m

Distance to Canadian border: 1108.8 km

Distance to Mexican border: 1071.1 km

Conditions at FCC monitoring station: Powder Springs GA
Bearing: 84.3 degrees Distance: 492.4 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 302.8 degrees Distance: 1533.5 km

Study cell size: 1.00 km
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

No IX check failures found.