

**TECHNICAL STATEMENT
RE: CONSTRUCTION PERMIT CERTIFICATIONS
W13CS-D 1.8 KW-DA 152.3 AMSL CH. 13
GRENADA, MISSISSIPPI**

INTRODUCTION

Legacy Broadcasting of MS (“Legacy”), the licensee of digital low power television station W13CS-D Channel 13, Facility ID No. 16828, seeks to upgrade the station’s technical parameters for an increase in effective radiated power (ERP). Legacy also intends to change the principal community of license from Grenada, MS to Carrollton, MS at the license application stage. No change in frequency (out-put channel) or antenna location is proposed; thus, this application is eligible for processing under the normal procedures governing minor changes to digital LPTV and TV translator stations.¹

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 POWER INCREASE

Legacy proposes to increase ERP to 1.8 kW using the station’s existing directional antenna system and transmitter. The existing antenna system is a vertically stacked array of four Scala Model CL-713 log-periodic antennas. This system is configured for horizontal polarization. The antenna radiation center height will remain at 152.3 meters above mean sea level (AMSL). The station 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 1](#). This analysis confirms that a grant of this application will not result in any new interference to other

¹ See 47 CFR § 74.787 – Digital licensing of low power television and TV translator stations.



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).²

ENVIRONMENTAL IMPACT

This minor change application specifies an existing FCC registered tower that was constructed before March 16, 2001.³ Given that no change in W13CS-D's existing antenna is proposed, 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 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 :	210-216 MHz (VHF Channel 13)
Effective Radiated Power:	1.8 kW
Antenna Type:	Scala Model 4xCL-713
Antenna Polarization:	Horizontal
Antenna Height:	77.0 meters AGL
Location coordinates:	33-46-45.0 NL, 089-49-33.0 WL (NAD83)
Site elevation:	75.3 meters AMSL
Overall tower height:	91.4 meters AGL
FCC ASRN:	1042311, Constructed in 1970

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 1.54 $\mu\text{W}/\text{cm}^2$ at points 2 meters above ground (approximate human head height).⁴ This power density calculation was derived from OET-65 Equation 10, which is shown below.

² *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.

³ 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.

⁴ 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).



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

Where: S = power density in $\mu\text{W}/\text{cm}^2$
F = relative field factor
ERP = power in watts
R = distance in meters

A relative field factor of 0.38 was used for the above power density calculation, which is the highest value for the proposed antenna at angles greater than 50 degrees below the horizontal. The maximum exposure limits applicable to Channel 13, as determined in accordance with 47 CFR § 1.1310 for uncontrolled and controlled situations, are $200 \mu\text{W}/\text{cm}^2$ and $1,000 \mu\text{W}/\text{cm}^2$ 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 rules adopted in the RF Report and Order, no further showing of compliance with the RF exposure rules is necessary.⁵ For all the reasons stated above, this minor change application has been found to comply with the criteria in 47 CFR § 1.1307(a) and (b) and thus does not require further environmental processing in accordance with 47 CFR § 1.1306.

Respectfully submitted,

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Attachments

Figure 1 – *TVStudy* Analysis Summary

⁵ *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).

FIGURE 1 Analysis Results Summary TVStudy Version 2.2.5.

Study created: 2022.08.30 12:35:11

Study build station data: LMS TV 2022-08-29

Proposal: W13CS-D D13 LD APP GRENADA, MS
File number: W13CS-D 13-S 1.8kW-DA Std-OET
Facility ID: 16828
Station data: User record
Record ID: 827
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	WEBU-LD	N11+	TX	LIC	Water Valley, MS	BLTVL198808221F	51.3 km
No	KTHV	D12	DT	LIC	LITTLE ROCK, AR	BLANK0000150693	270.5
No	WPRQ-LD	D12	LD	LIC	CLARKSDALE, MS	BLANK0000084343	80.2
No	WJTV	D12	DT	LIC	JACKSON, MS	BLCDT20111014ABR	179.3
No	W13DT-D	D13	LD	CP	MONTGOMERY, AL	BNPDTL20090825BZ0	372.8
No	KETG	D13	DT	LIC	ARKADELPHIA, AR	BLEDT20100308ACO	303.8
No	KEMV	D13	DT	LIC	MOUNTAIN VIEW, AR	BLEDT20100608ACU	318.9
No	WBKO	D13	DT	CP	BOWLING GREEN, KY	BLANK0000035946	477.0
No	WBKO	D13	DT	LIC	BOWLING GREEN, KY	BLCDT20090423ABM	477.0
No	WBRZ-TV	D13	DT	CP	BATON ROUGE, LA	BLANK0000189587	407.9
No	WBRZ-TV	D13	DT	LIC	BATON ROUGE, LA	BLCDT20110420AB1	407.9
No	KLTM-TV	D13	DT	LIC	MONROE, LA	BLEDT20090619ABS	273.3
Yes	WTOK-TV	D13	DT	LIC	MERIDIAN, MS	BLANK0000124908	192.9
No	WRCB	D13	DT	CP	CHATTANOOGA, TN	BLANK0000035995	441.0
No	WRCB	D13	DT	LIC	CHATTANOOGA, TN	BLCDT20110729AACZ	441.0
Yes	WHBQ-TV	D13	DT	LIC	MEMPHIS, TN	BLCDT20100917AACZ	155.1

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D13
Mask: Simple
Latitude: 33 46 45.00 N (NAD83)
Longitude: 89 49 33.00 W
Height AMSL: 152.3 m
HAAT: 0.0 m

Peak ERP: 1.80 kW
Antenna: SCA-(4) CL-713 (ID 107149) 0.0 deg
Elev Pattn: Generic

48.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.002 kW	75.5 m	7.5 km
45.0	0.000	93.3	4.7
90.0	0.000	72.8	4.2
135.0	0.406	89.4	30.5
180.0	1.61	47.1	30.5
225.0	0.000	62.8	5.6
270.0	0.000	98.1	4.8
315.0	0.000	71.5	6.3

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 76 m

Distance to Canadian border: 1075.9 km

Distance to Mexican border: 1104.0 km

Conditions at FCC monitoring station: Powder Springs GA
Bearing: 87.5 degrees Distance: 471.2 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 301.8 degrees Distance: 1535.7 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%

Proposal causes 0.02% interference to BLANK0000124908 LIC scenario 1
Proposal causes no interference to BLCDT20100917AAC LIC

--- Below is IX received by proposal W13CS-D 13-S 1.8kW-DA ---

Proposal receives 8.71% interference from scenario 1

No IX check failures found.