

**TECHNICAL STATEMENT
IN SUPPORT OF THE CERTIFICATIONS
CONCERNING THE BROADCAST FACILITY
MODIFICATION AND ENVIRONMENTAL EFFECT
KSOY-LD CH. 34 MCALLEN, TEXAS**

INTRODUCTION

Eduardo S. Gallegos (the “Applicant”), licensee of digital low power television broadcast station KSOY-LD, Facility ID No. 16230, seeks to modify the station’s outstanding construction permit to reflect an antenna of a different make and model that has exactly the same directional characteristics as the one currently authorized for transitioning to Channel 34.¹ Aside from requesting authority to change the antenna in accordance with 47 CFR Section 74.751(b)(2),² this application does not specify any technical changes and thus does not require further coordination with the Government of the United Mexican States.

This application is eligible for processing under the normal procedures governing minor changes to digital low power television and TV translator stations.³ 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.

BROADCAST FACILITY MODIFICATION

As stated above, this application requests a change in antenna to facilitate the transition of KSOY-LD to Channel 34. The type of antenna to be employed is a horizontally polarized directional Dielectric Model TLP-16M (SP) with 0.5 degrees electrical beam tilt. The

¹ KSOY-LD was previously operating on Channel 44 until the station became displaced as a result of the Incentive Auction. The station was subsequently authorized by the grant of its Special Displacement Window application to relocate to Channel 34. See FCC File No. 0000054868.

² 47 CFR § 74.751(b)(2) requires filing a construction permit application for any change in the transmitting antenna system, including the direction of radiation, directive antenna pattern, antenna gain, transmission line loss characteristics, or height of antenna center of radiation.

³ See 47 CFR § 74.787 – Digital licensing of low power television and TV translator stations.



station intends to operate the proposed antenna at the maximum effective radiated power (ERP) of 15 kW as originally specified in the underlying construction permit. It further intends to install the proposed antenna at the currently authorized radiation center height of 419.0 meters above ground level (AGL) or 436.1 meters above mean sea level (AMSL).

Interference Analysis

A detailed *TVStudy* analysis was performed to demonstrate that KSOY-LD's secondary service authorization for relocating to Channel 34 will continue to comply with 47 C.F.R. Sections 74.709, 74.793(e), 74.793(f), 74.793(g) and 74.793(h).⁴ Therefore, a grant of this application will not result in any new interference to other prior authorized stations as shown in the analysis summary results provided in Figure 1.

International Coordination

The proposed directional antenna is designed to have an azimuth pattern that matches the one authorized in KSOY-LD's current construction permit. Because this application does not specify any changes in the technical parameters previously coordinated with Mexico and considering that the aforementioned *TVStudy* analysis found no interference check failures with regard to any Mexican stations or assignments, no further coordination of the previously approved relocation of KSOY-LD to Channel 34 is believed to be required.

ENVIRONMENTAL EFFECT

This application specifies an existing FCC registered tower that was constructed after March 16, 2001.⁵ Given that the collocation of the proposed antenna will not result in a substantial increase in the size of the existing antenna-supporting structure, the criteria outlined in 47 CFR § 1.1307(a) for certain types of facilities that may significantly affect the environment do not apply.⁶ With regard to the rules for limiting human exposure to radio-frequency (RF)

⁴ *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.

⁵ See 47 CFR Part 1, App. B, § IV.A. An antenna may be mounted on an existing tower constructed after March 16, 2001 without such collocation being reviewed through the Section 106 process set forth in the NPA, provided that the mounting of the new antenna will not result in a substantial increase in the size of the tower as defined in Stipulation I.E.

⁶ 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,



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. This determination was made based on the following technical parameters:

Frequency:	590 - 596 MHz (UHF Ch. 34)
Effective Radiated Power:	15.0 kW
Antenna Type:	DIE TLP-16M (SP)
Antenna Polarization:	Horizontal
Antenna Height:	419.0 meters AGL
Site coordinates (NAD83):	26-06-02.3 NL, 097-50-21.5 WL
Site elevation:	17.1 meters AMSL
Overall tower height:	454.5 meters AGL
FCC ASRN:	1222106, Constructed 8/20/2001

Using the methodology for predicting power density levels for television broadcast antennas outlined in FCC OET Bulletin No. 65, the above parameters are calculated to produce a maximum power density of 2.88 $\mu\text{W}/\text{cm}^2$ at points 2 meters above ground (approximate human head height).⁷ This power density calculation was derived from OET-65 Equation 9, which is shown below.

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

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

The maximum exposure limits applicable to Channel 34, as determined in accordance with 47 CFR § 1.1310 for uncontrolled and controlled situations, are 393 $\mu\text{W}/\text{cm}^2$ and 1,967

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."

⁷ 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).



$\mu\text{W}/\text{cm}^2$ 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.⁸ 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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⁸ *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 Summary Results
TVStudy Version 2.2.5.

Study created: 2022.01.28 11:43:19

Study build station data: LMS TV 2022-01-28

Proposal: KSOY-LD D34 LD APP MCALLEN, TX

File number: KSOY-LD MOD-0000054868

Facility ID: 16230

Station data: User record

Record ID: 752

Country: U.S.

Build options:

Protect pre-transition records not on baseline channel

Search options:

Non-U.S. records included

Baseline record excluded if station has QP

Individual records excluded:

BFFS20050721GAXHOR D33 DT LIC MATAMOROS, TA BLANKBFS20050721AGA

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KEYE-TV	D34	DT	LIC	AUSTIN, TX	BLANK0000121387	469.2 km
No	KYDF-LD	D34+	LD	LIC	CORPUS CHRISTI, TX	BLANK0000106107	191.8
No	KYDF-LD	N34+	TX	LIC	CORPUS CHRISTI, TX	BLTTL20071003AAH	194.0
No	KIAH	D34	DT	LIC	HOUSTON, TX	BLANK0000167309	448.8
No	KAZH-LD	D35	LD	LIC	MCALLEN, TX	BLANK0000120149	42.8
No	XHLAT	D33	DT	LIC	NEW LAREDO, TA	BLANKBFS20160318AY	223.1
No	XHAMC	D34	DT	LIC	CIUDAD ACUNA, CI	BLANKBFS20160304AAX	465.6
No	LICITACI0ND34		DT	LIC	MONGLOVA, CI	BLANKBFSXXX0013XXX	369.0
No	XHSBC	D34	DT	LIC	SABINAS-NEW LAREDO, TA	BLANKBFS20160226ABT	379.1
Yes	XHONL	D34	DT	LIC	MONTERREY, NL	BLANKBFS20160309ABE	245.2
No	LICITACI0ND34		DT	LIC	NEW LAREDO, TA	BLANKBFS20090331AHG	223.1
No	CADENATRES034		DT	LIC	SOTO LA MARINA, TA	BLANKBFS162526XX	262.2
No	CADENATRES035		DT	LIC	AGUALEGUAS, NL	BLANKBFS20160525ABV	171.0
No	XHMNU	D35	DT	LIC	MONTERREY, NL	BLANKBFS20151202BPS	250.5
No	XHCTNL	D35	DT	LIC	NEW LAREDO, TA	BLANKBFS20090331AHO	225.7
No	CADENATRES035		DT	LIC	SAN FERNANDO, TA	BLANKBFS20160525AGJ	141.6

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D34
Mask: Full Service

Latitude: 26 6 2.30 N (NAD83)
Longitude: 97 50 21.50 W
Height AMSL: 436.1 m
HAAT: 0.0 m
Peak ERP: 15.0 kW
Antenna: DIE TLP-16M (SP) (ID 113335) 10.0 deg
Elev Pattern: Generic
Elec Tilt: 0.50

50.7 dBu contour:			
Azimuth	ERP	HAAT	Distance
0.0 deg	15.0 kW	419.4 m	61.8 km
45.0	15.0	421.4	61.9
90.0	9.96	420.6	59.5
135.0	1.95	417.9	49.8
180.0	0.277	415.8	37.9
225.0	0.170	413.0	34.9
270.0	5.84	416.2	56.1
315.0	14.0	417.4	61.3

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 418 m

Distance to Canadian border: 2211.8 km

**Proposal is within coordination distance of Mexican border
Distance to Mexican border: 4.0 km

Conditions at FCC monitoring station: Kingsville TX
Bearing: 358.3 degrees Distance: 149.1 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 338.1 degrees Distance: 1701.4 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%

----- Below is IX received by proposal KSOY-LD MOD-0000054868 -----

Proposal receives 3.22% interference from scenario 1
No IX check failures found.