



ENGINEERING STUDY
MINOR LICENSE MODIFICATION
K279CF, Carthage, TX

TECHNICAL STATEMENT

This technical statement and attached exhibits were prepared on behalf of Hanszen Broadcasting Inc, ("HBI") licensee of K279CF, Facility ID 156995. This proposal is to relocate the translator to a different tower and increase its height and coverage. The proposed facility will continue to rebroadcast KGAS (AM), facility ID 31065.

Facilities Requested

| | |
|---------------------------|---|
| Location (NAD83) | 32° 07' 55.6" N Latitude, 94° 20' 52.5" W Longitude |
| Channel | 279D (103.7MHz) |
| Tower Overall AGL Height- | 140.2m |
| Tower ASR | 1275032 |
| Proposed Antenna | Single Element EPA Type 2 |
| Antenna AGL Height- | 122m |
| Site AMSL Height- | 86.6m |
| COR AMSL Height | 208.6m |
| ERP | 250W Non-Directional |

COMPLIANCE WITH 74.1204(a) [contour overlap]

The translator on channel 279D will be fully compliant with 74.1204(a). A table showing the allocation is attached as Exhibit A, and a map showing the closest protections is shown in Exhibit B.

It is noted that the applicant is aware that there is a vacant 279A allotment at Mount Enterprise, TX. The allotment, if built, would displace K279CF. However, the audience for K279CF (KGAS-AM) is used to hearing the station on this frequency and HBI would like to maintain the station on the current frequency until it is required to change channels.

COMPLIANCE WITH 74.1204(d)

The proposed translator on 279D will be compliant with 74.1204(d). As shown in Exhibit C, there will be no location at ground level where the signal from K279CF will be more than 40dB above the signal from third-adjacent KGAS-FM (282A).

COMPLIANCE WITH 74.1201(g)

Exhibit D demonstrates that the proposed translator remains entirely contained within the 2mV/m contour of KGAS (AM), Facility ID 31065.

COMPLIANCE WITH 74.1233 [Minor Change]

Exhibit D demonstrates that the proposed K279CF 60dBu contour overlaps the 60dBu of the presently licensed K279CF.

ENVIRONMENTAL EXHIBIT

The proposed translator facility will utilize a non-directional antenna located on an existing tower. The attachment of the proposed translator antenna will not alter the existing structure significantly for purposes of the Nationwide Programmatic Agreement and the NHPA Section 106.

The proposed 279D facility will utilize an EPA Type 2 non-directional antenna located at 122m AGL, Based upon the FCC “FM Model for Windows”¹ program using a worst-case ring-stub antenna, the proposed operation will produce 0.7 $\mu\text{W}/\text{cm}^2$ at a distance of 32m from the base of the tower at ground level or 0.4% of the MPE level. There are no non-excluded antennas on the tower. Because the projected MPE is well under 5%, this translator can be considered independently of other RF sources on the tower.

Based upon the information above, it is calculated that the facility will be in compliance with FCC guidelines and is excluded from further Environmental Assessment under 47CFR 1.1306 and 1.1307.

The proposed FM translator along with other users at the site will maintain an occupational safety policy and agrees to reduce power or cease operation during periods of maintenance to avoid potentially harmful exposure of personnel to non-ionizing RF radiation.

Respectfully Submitted

A handwritten signature in black ink, appearing to read "Bert Goldman", with a long horizontal flourish extending to the right.

Bert Goldman

Technical Consultant

¹ <https://www.fcc.gov/general/fm-model>

EXHIBIT A- ALLOCATION STUDY

ComStudy 2.2 search of channel 279 (103.7 MHz Class D) at 32-07-55.6 N, 94-20-52.5 W.

| CALL | CITY | ST CHN CL | DIST | SEP | BRNG | CLEARANCE |
|------------|------------------|-----------|-------|------|-------|-------------------------|
| KGAS-FM | CARTHAGE | TX 282 A | 7.62 | 0.00 | 278.9 | -26.70 dB Exhibit C |
| MM-FM1138A | MOUNT ENTERPRISE | TX 279 A | 36.40 | 0.00 | 240.5 | N/A dB VACANT ALLOTMENT |
| K279CI | LONGVIEW | TX 279 D | 67.74 | 0.00 | 319.3 | 1.15 dB Exhibit B |
| KMHT-FM | MARSHALL | TX 280 A | 47.90 | 0.00 | 359.6 | 0.58 dB Exhibit B |
| KBTB | HAUGHTON | LA 279 A | 85.87 | 0.00 | 56.7 | 2.22 dB |
| K279DC | DIBOLL | TX 279 D | 93.50 | 0.00 | 199.0 | 6.14 dB |
| KJCS | NACOGDOCHES | TX 277 C2 | 89.36 | 0.00 | 209.9 | 15.52 dB |
| KTHP | HEMPHILL | TX 280 A | 92.04 | 0.00 | 148.6 | 20.64 dB |
| K280CL | RUSK | TX 280 D | 85.35 | 0.00 | 246.1 | 20.64 dB |

LMS as of 7/19/2023

EXHIBIT B- Protections

K279CF Proposed, 250w, ,122m AGL, 74.1204(a) Compliance

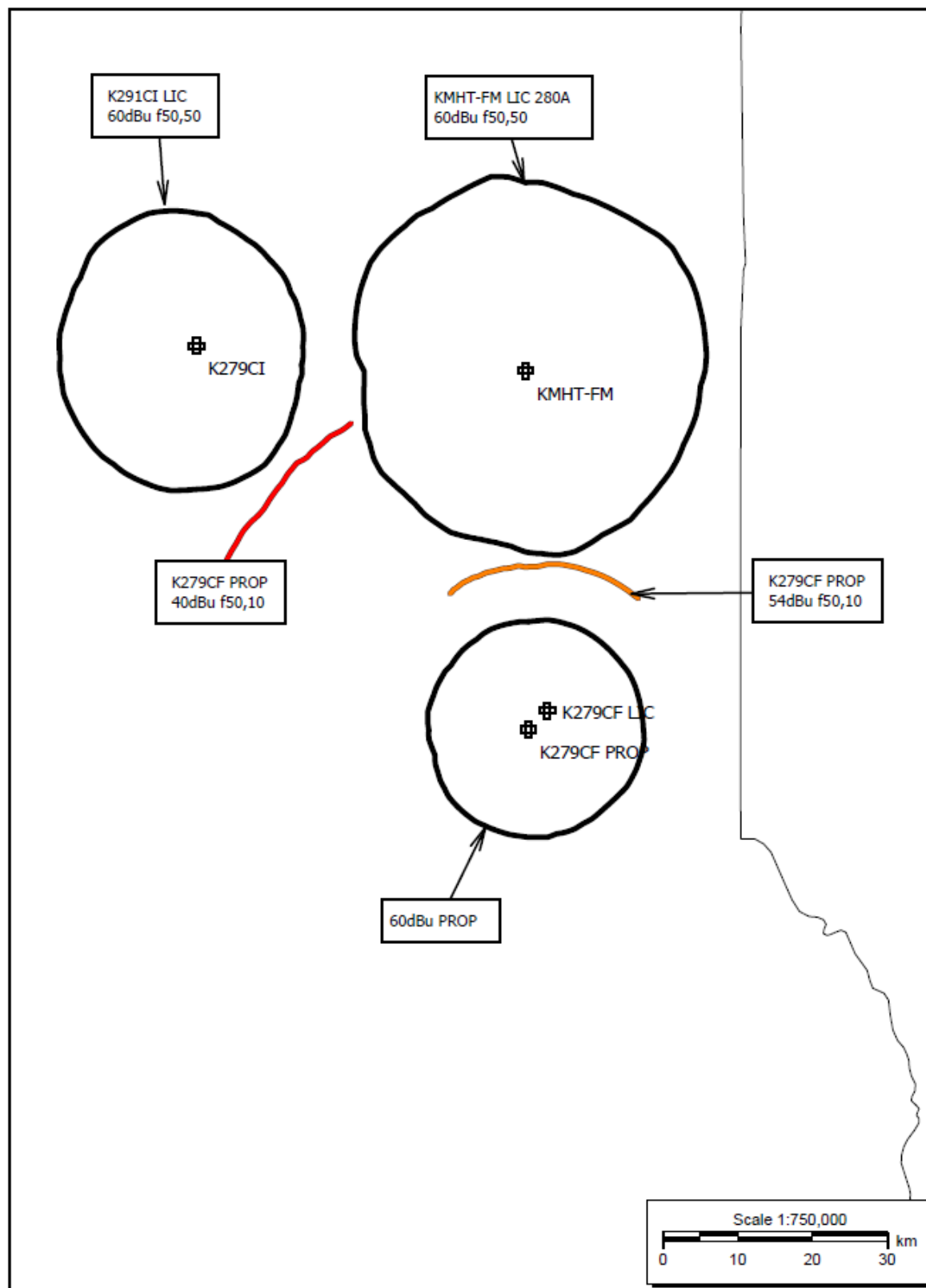


EXHIBIT C- 74.1204(d) Compliance

Compliance to KGAS-FM

K279CF Carthage, TX, Showing Protection to KGAS-FM, Channel: 282
Geographic Coordinates: N. 320755.6 W. 942052.5
74.1204(d) Study - Using NED 03 SEC Terrain Database
Translator or LPFM Maximum Licensed ERP = 0.25 kW, Channel: 279
Translator or LPFM Antenna Height AG = 122 meters
K279CF Antenna Azimuth Model = Vertical Model Name = SHPX1F

Protected Station's Contour = 84.01965 dBu
Translator's or LPFM's full Interference contour 124.01965

Review Azimuth = 0 Degrees True
Horizontal Relative Field at Review Azimuth = 1.000
Translator/LPFM ERP on the horizontal at Review Azimuth = 0.25 kW
Distance between stations = 7.6 km
Protected Station= KGAS-FM, 6 kW, 191 M meters COR AMSL

| Depression Angle From Degree (Deg) | Vertical Relative Field | Horizontal Relative Field | ERP (kw) | Dist to IX Contour Along Dep. Angle (m) | Dist to IX Contour From Tower Base (m) | Height IX Above Ground (m) |
|--|-------------------------------|---------------------------------|----------|---|--|----------------------------------|
| 00.00 | 1.0 | 1.0 | 0.2500 | 069.8212 | 069.8212 | 122.000 |
| 05.00 | 0.993 | 1.0 | 0.2465 | 069.3325 | 069.0686 | 115.957 |
| 10.00 | 0.974 | 1.0 | 0.2372 | 068.0059 | 066.9727 | 110.191 |
| 15.00 | 0.941 | 1.0 | 0.2214 | 065.7018 | 063.4630 | 104.995 |
| 20.00 | 0.897 | 1.0 | 0.2012 | 062.6296 | 058.8526 | 100.579 |
| 25.00 | 0.843 | 1.0 | 0.1777 | 058.8593 | 053.3446 | 097.125 |
| 30.00 | 0.78 | 1.0 | 0.1521 | 054.4606 | 047.1642 | 094.770 |
| 35.00 | 0.709 | 1.0 | 0.1257 | 049.5033 | 040.5507 | 093.606 |
| 40.00 | 0.633 | 1.0 | 0.1002 | 044.1968 | 033.8567 | 093.591 |
| 45.00 | 0.554 | 1.0 | 0.0767 | 038.6810 | 027.3516 | 094.648 |
| 50.00 | 0.473 | 1.0 | 0.0559 | 033.0254 | 021.2283 | 096.701 |
| 55.00 | 0.394 | 1.0 | 0.0388 | 027.5096 | 015.7788 | 099.465 |
| 60.00 | 0.317 | 1.0 | 0.0251 | 022.1333 | 011.0667 | 102.832 |
| 65.00 | 0.245 | 1.0 | 0.0150 | 017.1062 | 007.2294 | 106.497 |
| 70.00 | 0.181 | 1.0 | 0.0082 | 012.6376 | 004.3223 | 110.125 |
| 75.00 | 0.124 | 1.0 | 0.0038 | 008.6578 | 002.2408 | 113.637 |
| 80.00 | 0.077 | 1.0 | 0.0015 | 005.3762 | 000.9336 | 116.705 |
| 85.00 | 0.041 | 1.0 | 0.0004 | 002.8627 | 000.2495 | 119.148 |
| 90.00 | 0.016 | 1.0 | 0.0001 | 001.1171 | 000.0000 | 120.883 |

EXHIBIT D- 74.1233 COMPLIANCE

K279CF Proposed, 250w, ,122m AGL

