

## **Technical Exhibit to support K235CZ License to Cover**

DCB License Sub LLC <sup>1</sup> is pleased to report construction is complete for K235CZ FID# 202619. The CP (BNPFT-20180419ACP) expires Wednesday December 8, 2021. There are five CP conditions: these are addressed here and reproduced later in this exhibit.

K235CZ has been built as permitted except for a small change allowed by 74.1251 (ii) and (iii). The antenna is two meters higher than first permitted. The KPET tower <sup>2</sup> hosts an existing antenna for K286AO (FX). Rather than install an additional antenna and run an extra feed line on the tower, that antenna was lowered two meters so that each station could use the "Plus Two, Minus Four meter" rule. Changes in coverage, allocation and RF levels are de minimus. A form 2100/350 application is also being filed for K286AO.

Condition 1: By sharing the antenna and line, we avoided the disruption of operating impedance and KPET (AM) was maintained at the licensed value. Antenna Impedance was measured with a Delta Instruments OIB-3 Operating Impedance Bridge and with a Power AIM 120 from Array Solutions. There was a no measurable change in resistance. As part of the measurements, antenna and feed line grounding kits were tightened and lead dress was tweaked. X was put within a couple of ohms (less than 2% change) in reactance.

Condition 2: This exhibit supports the license to cover application for K235CZ permit BNPFT-20180419ACP. It will also be appended to the form 350 for K286AO's app to modify (showing slightly tweaked height). These will be filed before program tests begin.

Condition 3: Applicant agrees to coordinate with other users of the site; to reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic fields in excess of FCC guidelines.

Condition 4: K286AO has permission from Houston Christian Broadcasters to repeat KHLK (FM) Brownfield, Texas. That is reproduced later in this exhibit. No consideration is involved.

Condition 5: Applicant acknowledges and accepts this condition. Many thanks to the FCC Commissioners, Policy Makers and Staff for making these FM translators available to small town AM operators.

There was not a shared station condition on the permit. Measurements were made to verify compliance with pertinent Parts of 74.1236 & 73.317. A combiner is used to let both translators share the height adjusted antenna. Spurious measurements have been made with an Anritsu 2712B spectrum analyzer. Unwanted FM products were in excess of 73 db down from unmodulated carriers. KPET (AM) was rechecked for spurs using a Chris Scott Loop antenna and the Anritsu spectrum analyzer.

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<sup>1</sup>DCB License Sub LLC, KPET (AM) Lamesa, Texas FID # 71649 and permittee of K235CZ also Lamesa, Texas

<sup>2</sup> ASR # 1039816 used by KPET (AM), K286AO (FX) and now K235CZ (FX) is just outside the south edge of the city of Lamesa, TX.

## **The K235CZ Permit has 5 “Special operating conditions or restrictions” :**

**1** This construction permit authorizes the mounting of an antenna on the nondirectional tower of the AM station identified below. During the installation of the antenna, the AM station shall determine operating power by the indirect method (see Section 73.51 of the Commission’s Rules). Upon completion of the antenna installation, antenna impedance measurements on the AM antenna shall be made. If the resistance of the AM antenna has changed by more than 2 percent from the licensed value (see Section 73.45(c)(1) of the Commission’s Rules), an application for the AM station to return to direct power measurement, including a tower sketch of the installation, shall be filed with the Commission by the AM station licensee using form FCC 302-AM. (See Section 1.30003 of the Commission’s Rules.) The permittee must submit confirmation of completion of the requirements of this condition in the application for license to cover this construction permit. Station KPET(AM), Lamesa, TX.

**KPET remains on direct power measurement. As detailed above, the base Z did not change.**

**2** Prior to commencing program test operations, FM Translator or FM Booster permittee must have on file at the Commission, FCC Form 350, Application for an FM Translator or FM Booster Station License, pursuant to 47 C.F.R. Section 74.14.

**This exhibit is attached to Form 350 for K235CZ and will be filed before program tests begin.**

**3** The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic fields in excess of FCC guidelines.

**Applicant agrees to coordinate with other users of the site; to reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic fields in excess of FCC guidelines.**

**4** BEFORE PROGRAM TESTS COMMENCE with the facilities authorized herein, the permittee must provide evidence to the Media Bureau that FM translator station K286AO, Lamesa, TX, has changed the primary station it rebroadcasts to a station other than KPET(AM), Lamesa, TX. Documentation of compliance with this condition must be submitted with the FCC Form 350, Application for License.

**K286AO has permission to rebroadcast KHLK (FM). When the form 350s are filed, KPET program will go off K286AO and KHLK programs will begin. Then KPET will begin on K235CZ AND ONLY K235CZ.**

**5** Pursuant to Revitalization of the AM Radio Service, Notice of Proposed Rule Making, 28 FCC Rcd 15221, 15227, para. 14 (2013), and First Report and Order, 30 FCC Rcd 12145, 12154, para. 17 and n. 43 (2015), the permittee and any successor in interest (licensee, transferee, or assignee) shall be subject to the following restrictions: (1) this facility may only, in perpetuity, be used to rebroadcast the authorized facilities of the AM primary station set forth in this construction permit, except that it may also originate nighttime programming if the AM primary station set forth in this construction permit is not authorized regular nighttime service, and then only during periods of the broadcast day when the primary AM station is not regularly authorized to operate; (2) if the AM primary station is operating with reduced facilities, this cross-service FM translator facility may only operate if its coverage contour conforms to the limits set forth in 47 CFR Section 74.1201(g) as applied to the reduced facilities of the AM primary station; (3) the authorization for this facility may not be assigned or transferred except in conjunction with the primary AM station set forth in this construction permit; and (4) if the authorization of the AM primary station set forth in this construction permit is rescinded, revoked, surrendered, subject to special temporary authorization (STA) to remain silent, or is otherwise suspended from operation, the authorization of this cross-service FM translator station shall likewise be rescinded, revoked, surrendered, silent for the duration of the AM primary station’s STA to remain silent, or suspended from operation. Minor modifications of this authorization are permitted, provided that the translator meets all of the preceding conditions. Grant of this authorization is conditioned on the common ownership, in perpetuity, of this facility and the specified AM primary station. Any violation of this condition shall result in the rescission of the grant of this authorization and the dismissal, with prejudice, of the associated application and, if applicable, cancellation of the associated construction permit. **Applicant acknowledges and accepts this condition.**

**Permission from Mr. Bruce Munsterman, President of Houston Christian Broadcasters to allow K286AO (FX) Lamesa, Texas to rebroadcast their KHLK (FM) FID# 61581**

<<David,

Good to hear from you and yes, you may rebroadcast KHLK Brownfield! We whole heartedly give permission to do this.

We appreciate your helpfulness in extending the outreach of this station by retransmitting the programming onto 105.1FM, K286AO Lamesa in and around Lamesa. Let us know if there's anything you need to help with this effort.

If you need something on letterhead for your files, please let me know, otherwise this email will be sufficient for our purposes.

Thanks again and take care!

Bruce Munsterman  
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KHCB Network  
Houston Christian Broadcasters, Inc.  
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713 520 5200

"Keeping Him Close By"  
[www.khcb.org](http://www.khcb.org)Highlint >>

## Pertinent Part of 74.1251

### § 74.1251 Technical and equipment modifications.

(a) No change, either mechanical or electrical, except as provided in part 2 of this chapter, may be made in FM translator or booster apparatus which has been certificated by the Commission without prior authority of the Commission.

(b) Formal application on FCC Form 349 is required of all permittees and licensees for any of the following changes:

(1) Replacement of the transmitter as a whole, except replacement with a transmitter of identical power rating which has been certificated by the FCC for use by FM translator or FM booster stations, or any change which could result in the electrical characteristics or performance of the station. Upon the installation or modification of the transmitting equipment for which prior FCC authority is not required under the provisions of this paragraph, the licensee shall place in the station records a certification that the new installation complies in all respects with the technical requirements of this part and the terms of the station authorization.

(2) A change in the transmitting antenna system, including the direction of radiation or directive antenna pattern.

(3) Any change in the overall height of the antenna structure except where notice to the Federal Aviation Administration is specifically not required under § 17.14(b) of this chapter.

(4) Any change in the location of the translator or booster except a move within the same building or upon the same pole or tower.

(5) Any horizontal change in the location of the antenna structure which would (i) be in excess of 152.4 meters (500 feet), or (ii) would require notice to the Federal Aviation Administration pursuant to § 17.7 of the FCC's rules.

(6) Any change in the output frequency of a translator.

(7) Any increase of authorized effective radiated power. FM translator and booster stations may decrease ERP on a modification of license application provided that exhibits are included to demonstrate that the following requirements are met:

(i) The license application may not propose to eliminate the authorized horizontally polarized ERP, if a horizontally polarized ERP is currently authorized;

**(ii) The installed height of the antenna radiation center is not increased by more than two meters nor decreased by more than four meters from the authorized height for the antenna radiation center; and**

**(iii) The station is not presently authorized with separate horizontal and vertical antennas mounted at different heights. Use of separate horizontal and vertical antennas requires a construction permit before implementation or changes.**

**K235CZ is 2 meters higher than first planned, so that it can share an antenna with K286AO. Antenna is a "Double Vee" design. It does not have separate H or V elements.**

(8) Any change in area being served.

(c) Changes in the primary FM station being retransmitted must be submitted to the FCC in writing.

(d) Any application proposing a change in the height of the antenna structure or its location must also include the Antenna Structure Registration Number (FCC Form 854R) of the antenna structure upon which it proposes to locate its antenna. In the event the antenna structure does not have a Registration Number, either the antenna structure owner shall file FCC Form 854 ("Application for Antenna Structure Registration") in accordance with part 17 of this chapter or the applicant shall provide a detailed explanation why registration and clearance are not required.

[ 35 FR 15388 , Oct. 2, 1970, as amended at 45 FR 26068 , Apr. 17, 1980; 47 FR 24580 , June 7, 1982; 50 FR 3525 , Jan. 25, 1985; 50 FR 23710 , June 5, 1985; 55 FR 50698 , Dec. 10, 1990; 61 FR 4368 , Feb. 6, 1996; 63 FR 33879 , June 22, 1998; 63 FR 36606 , July 7, 1998; 65 FR 79780 , Dec. 20, 2000]

## Emission Checks (Pertinent Parts of 74.1236 & 73.317)

### § [74.1236](#) Emission and bandwidth.

(a) The license of a station authorized under this subpart allows the transmission of either F3 or other types of frequency modulation (see § [2.201](#) of this chapter) upon a showing of need, as long as the emission complies with the following:

(1) For transmitter output powers no greater than 10 watts, paragraphs (b), (c), and (d) of this section apply.

#### **(2) For transmitter output powers greater than 10 watts, § [73.317](#) (a), (b), (c), and (d) apply.**

(b) Standard width FM channels will be assigned and the transmitting apparatus shall be operated so as to limit spurious emissions to the lowest practicable value. Any emissions including intermodulation products and radiofrequency harmonics which are not essential for the transmission of the desired aural information shall be considered to be spurious emissions.

(c) The power of emissions appearing outside the assigned channel shall be attenuated below the total power of the emission as follows:

Distance of emission from center frequency	Minimum attenuation below unmodulated carrier
120 to 240 kHz	25 dB
Over 240 and up to 600 kHz	35 dB
Over 600 kHz	60 dB

(d) Greater attenuation than that specified in paragraph (c) of this section may be required if interference results outside the assigned channel.

[ [35 FR 15388](#) , Oct. 2, 1970, as amended at [52 FR 31406](#) , Aug. 20, 1987; [55 FR 50698](#) , Dec. 10, 1990]

### § [73.317](#) FM transmission system requirements.

(a) FM broadcast stations employing transmitters authorized after January 1, 1960, must maintain the bandwidth occupied by their emissions in accordance with the specification detailed below. FM broadcast stations employing transmitters installed or type accepted before January 1, 1960, must achieve the highest degree of compliance with these specifications practicable with their existing equipment. In either case, should harmful interference to other authorized stations occur, the licensee shall correct the problem promptly or cease operation.

**(b) Any emission appearing on a frequency removed from the carrier by between 120 kHz and 240 kHz inclusive must be attenuated at least 25 dB below the level of the unmodulated carrier. Compliance with this requirement will be deemed to show the occupied bandwidth to be 240 kHz or less.**

**(c) Any emission appearing on a frequency removed from the carrier by more than 240 kHz and up to and including 600 kHz must be attenuated at least 35 dB below the level of the unmodulated carrier.**

**(d) Any emission appearing on a frequency removed from the carrier by more than 600 kHz must be attenuated at least  $43 + 10 \log_{10}$  (Power, in watts) dB below the level of the unmodulated carrier, or 80 dB, whichever is the lesser attenuation.**

(e) Preemphasis shall not be greater than the impedance-frequency characteristics of a series inductance resistance network having a time constant of 75 microseconds. (See upper curve of Figure 2 of § [73.333](#).)

[ [51 FR 17028](#) , May 8, 1986]

Information in this exhibit was prepared by me. Most was from personal observation. Certain information came from publicly available databases and is believed accurate. Please call or e-mail if additional information is needed.

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