Engineering Exhibit

APPLICATION TO FLASH CUT TO DIGITAL
A LOW POWER TELEVISION STATION

prepared for

BGM License LLC
K26KJ El Paso, Texas
Facility ID 59114
Ch. 26 (Digital "Flash-Cut") 15 kW

Table of Contents

This material supplies a "hard copy" of the engineering portions of this application as entered September 7, 2011 for filing electronically. Since the FCC's electronic filing system may be accessed by anyone with the applicant's name and password, and electronic data may otherwise be altered in an unauthorized fashion, we cannot be responsible for changes made subsequent to our entry of this data and related attachments.

Section III - Engineering (Digital)

TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

TECH BOX

1. Channel:
26

2. Translator Input Channel No. :

3. Primary station proposed to be rebroadcast:

Facility Identifier	Call Sign	City	State	Channel

4. Antenna Location Coordinates: (NAD 27)
Latitude:
Degrees 31 Minutes 48 Seconds 19 (•) North ( ) South

Longitude:
Degrees 106 Minutes 28 Seconds 59 (•) West ( ) East

5. Antenna Structure Registration Number: 1202400
☐ Not Applicable [Exhibit 11] ☐ Notification filed with FAA

6. Antenna Location Site Elevation Above Mean Sea Level: 1708. meters

7. Overall Tower Height Above Ground Level: 118.3 meters

8. Height of Radiation Center Above Ground Level: 73 meters

9. Maximum Effective Radiated Power (ERP): 15 kW

10. Transmitter Output Power: 0.692 kW

11. a.Transmitting Antenna:
Before selecting Directional "Off-the-Shelf", refer to "Search for Antenna Information" under CDBS Public Access (http://licensing.fcc.gov/prod/cdbs/pubacc/prod/cdbs_pa.htm). Make sure that the Standard Pattern is marked Yes and that the relative field values shown match your values. Enter the Manufacturer (Make) and Model exactly as displayed in the Antenna Search.
(•) Nondirectional ( ) Directional Off-the Shelf ( ) Directional composite

Manufacturer PSI Model PSILP16OI-26

b. Electrical Beam Tilt: 0.25 degrees ☐ Not Applicable

c. Mechanical Beam Tilt: degrees toward azimuth degrees True ☑ Not Applicable

d. Directional Antenna Relative Field Values: ☑ N/A (Nondirectional or Off-the-Shelf)
Rotation (Degrees): ☐ No Rotation

Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value
0		10		20		30		40		50	
60		70		80		90		100		110	
120		130		140		150		160		170	
180		190		200		210		220		230	
240		250		260		270		280		290	
300		310		320		330		340		350	
Additional Azimuths											

e. Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt? ( ) Yes (•) No

If Yes, attach an Exhibit (see instructions for details). [Exhibit 12]

Relative Field Polar Plot

NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.

12. **Out-of-channel Emission Mask:** (•) Simple ( ) Stringent ( ) Full Service

CERTIFICATION

13. **Interference** : The proposed facility complies with all of the following applicable rule sections. 47.C.F.R Sections 74.709, 74.793(e), 74.793(f), 74.793(g), 74.793(h), 74.794(b) and 73.1030. (•) Yes ( ) No

See Explanation in [Exhibit 13]

14. **Environmental Protection Act.** The proposed facility is excluded from environmental processing under 47. C.F.R. Section 1.1306 (i.e., The facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine RF compliance, an **Exhibit is required.** (•) Yes ( ) No

By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.

See Explanation in [Exhibit 14]

15. **Channels 52-59.** If the proposed channel is within channels 52-59, the applicant certifies compliance with the following requirements, as applicable:

☐ The applicant is applying for a digital companion channel for which no suitable channel from channel 2-51 is available.

☐ Pursuant to Section 74.786(d), the applicant has notified, within 30 days of filing this application, all commercial wireless licenses of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees.

16. **Channels 60-69.** If the proposed channel is within channels 60-69, the applicant certifies compliance with the following requirements, as applicable:

16. **Channels 60-69.** If the proposed channel is within channels 60-69, the applicant certifies compliance with the following requirements, as applicable:

☐ Pursuant to Section 74.786(e), the applicant has notified, within 30 days of filing this application , all commercial wireless licenses of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees.

☐ Pursuant to Section 74.786(e), the applicant proposing operation on channel 63, 64, 68 and 69 ("public safety channels") has secured a coordinated spectrum use agreements(s) with 700 MHz public safety regional planning committee(s) and state administrator(s) of the region(s) and state(s) within which the antenna site of the digital LPTV or TV translator station is proposed to locate, and those adjoining regions and states with boundaries within 75 miles of the proposed station location.

☐ Pursuant to Section 74.786(e), the applicant for a channel adjacent to channel 63, 64, 68 or 69 has notified, within 30 days of filing this application, the 700 MHz public safety regional planning committee(s) and state administrator(s) of the region and state containing the proposed digital LPTV or TV translator antenna site and regions and states whose geographic boundaries lie within 50 miles of the proposed LPTV or TV translator antenna site.

PREPARERS CERTIFICATION ON PAGE 3 MUST BE COMPLETED AND SIGNED.

SECTION III PREPARER'S CERTIFICATION

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name RICHARD H. MERTZ	Relationship to Applicant (e.g., Consulting Engineer) CONSULTANT
Signature	Date 09/07/2011
Mailing Address CAVELL, MERTZ & ASSOCIATES, INC. 7732 DONEGAN DRIVE	

City MANASSAS	State or Country (if foreign address) VA	Zip Code 20109 -
Telephone Number (include area code) 7033929090	E-Mail Address (if available) RMERTZ@CAVELLMERTZ.COM	

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

Exhibits

Exhibit 13
Description: K26KJ EXHIBIT 13

EXHIBIT 13 CONTAINS STATEMENT A, NATURE OF THE PROPOSAL, ALLOCATIONS CONSIDERATIONS; FIGURE 1; AND TABLE I.

Attachment 13

Description
K26KJ Exhibit 13

Exhibit 14
Description: K26KJ EXHIBIT 14

EXHIBIT 14 CONTAINS STATEMENT B, ENVIRONMENTAL CONSIDERATIONS; TABLE OF CONTENTS; AND A COPY OF THE ENGINEERING PORTIONS OF THE FCC FORM.

Attachment 14

Description
K26KJ Exhibit 14

Exhibit 14 - Statement B

ENVIRONMENTAL CONSIDERATIONS

prepared for

BGM License LLC

K26KJ El Paso, Texas

Facility ID 59114

Ch. 26 (Digital "Flash-Cut") 15 kW

Introduction

The instant proposal is not believed to have a significant environmental impact as defined under §1.1306 of the Commission's Rules. Consequently, preparation of an Environmental Assessment is not required.

BGM License LLC herein proposes to "flash-cut" K26KJ to digital operation using the existing antenna. Since the same site and installed antenna will be employed, no actual tower site construction is needed. Please note that the tower owner recently updated the Antenna Structure Registration data for ASR No. 1202400. This updated information is reflected in FCC Form 346, "Tech-Box" questions 5[1] and 6.

The use of existing transmitting locations has been characterized as being environmentally preferable by the Commission, according to Note 1 of §1.1306 of the FCC Rules. No change in structure height is proposed, thus no change in current structure marking and lighting requirements is anticipated. Therefore, it is believed that this application may be categorically excluded from environmental processing pursuant to §1.1306 of the Commission's rules.

Human Exposure to Radiofrequency Electromagnetic Field

The proposed operation was evaluated for human exposure to radiofrequency electromagnetic field using the procedures outlined in the Commission's OET Bulletin No. 65 ("OET 65"). OET 65 describes a means of determining whether a proposed facility exceeds the radiofrequency exposure guidelines adopted in §1.1310. Under present Commission policy, a facility may be presumed to comply with the limits specified in §1.1310 if it satisfies the exposure criteria set forth in OET 65. Based upon that methodology, and as demonstrated in the following, the proposed transmitting system will comply with the cited adopted guidelines.

1 The Antenna Structure Registration data shows a site elevation of 1708.4 meters. 1708 meters is shown on the form due to the form's data entry limitations.

The K26KJ Channel 26 antenna center of radiation will be 73 meters above ground level. An effective radiated power of 15 kilowatts, horizontally polarized, will be employed utilizing a PSI model PSILP16OI-26 non-directional antenna. The antenna manufacturer was unable to provide an elevation pattern of sufficient detail (to 90° below the horizontal). However, published antenna manufacturer data cross references the subject antenna to that of another manufacturer, specifically an ERI ALP16L2 series antenna. Using the elevation pattern for the ALP series antenna, a conservative elevation pattern relative field value of 40% (from 10° to 90° below the horizontal) was assumed the initial calculation. The "general population/ uncontrolled" limit specified in §1.1310 for Channel 26 (center frequency 548 MHz) is 363.3 $\mu W/cm^2$.

OET 65's formula for television transmitting antennas is based on the NTSC transmission standards, where the average power is normally much less than the peak power. For the DTV facility in the instant proposal, the peak-to-average ratio is different than the NTSC ratio. The DTV ERP figure herein refers to the average power level. The formula used for calculating DTV signal density in this analysis is essentially the same as equation (10) in OET 65.

$$\mathbf{S = (33.4098)\ (F^2)\ (ERP)\ /\ D^2}$$

Where:

S	=	power density in microwatts/cm^2
ERP	=	total (average) ERP in Watts
F	=	relative field value
D	=	distance in meters

Using this formula the proposed facility would contribute a power density of 15.9 $\mu W/cm^2$ at two meters above ground level near antenna support structure, or 4.4 percent of the general population/uncontrolled limit. At ground level locations away from the base of the building, the calculated RF power density is even lower, due to the increasing distance from the transmitting antenna.

§1.1307(b)(3) states that facilities contributing less than five percent of the exposure limit at locations with multiple transmitters are categorically excluded from responsibility for taking any corrective action. Since the instant situation meets the five percent exclusion test at all ground level

areas, the impact of any other facilities near this site may be considered independently from this proposal. Accordingly, it is believed that the impact of the proposed operation should not be considered to be a factor at or near ground level as defined under §1.1307(b).

Safety of Tower Workers and the General Public

As demonstrated herein, excessive levels of RF energy attributable to the proposal will not be caused at publicly accessible areas at ground level near the antenna supporting structure. Consequently, members of the general public will not be exposed to RF levels in excess of the Commission's guidelines. Nevertheless, tower access will be restricted and controlled through the use of a locked fence. Additionally, appropriate RF exposure warning signs will be posted.

With respect to worker safety, it is believed that based on the preceding analysis, excessive exposure would not occur in areas at ground level. A site exposure policy will be employed protecting maintenance workers from excessive exposure when work must be performed on the tower or on nearby towers in areas where high RF levels may be present. Such protective measures may include, but will not be limited to, restriction of access to areas where levels in excess of the guidelines may be expected, power reduction, or the complete shutdown of facilities when work or inspections must be performed in areas where the exposure guidelines will be exceeded. On-site RF exposure measurements may also be undertaken to establish the bounds of safe working areas. The applicant will coordinate exposure procedures with all pertinent stations.

Conclusion

Based on the preceding, it is believed that the instant proposal may be categorically excluded from environmental processing under §1.1306 of the Rules; hence preparation of an Environmental Assessment is not required.