

**MULLANEY ENGINEERING, INC.**

9049 SHADY GROVE COURT  
GAITHERSBURG, MD 20877

**ENGINEERING EXHIBIT EE-REPLY:**

**REPLY - OPPOSITION  
TO INFORMAL OBJECTION OF BRYAN KING  
TO THE PENDING  
FM TRANSLATOR APPLICATION OF  
KATHERINE PYEATT - K287AY  
REQUEST TO MOVE FROM CH. 287 TO CH. 242  
BPFT-20100510ABW - AUSTIN, TEXAS**

**JUNE 15, 2010**



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**NARRATIVE STATEMENT:**

This engineering statement has been prepared on behalf of Katherine Pyeatt, licensee of FM translator K287AY at Austin, Texas (Facility ID 156299). The purpose of this statement is to support a reply - opposition to an informal objection against the pending application for modification of K287AY (BPFT-20100510ABW) by Bryan King. Mr. King is the **proposed assignee** of FM Station KAJZ at Llano, Texas (Facility ID: 87996) which operates on Ch. 242A (96.3 MHz) and this is the **same channel** to which K287AY proposes to move and operate with an Omni ERP of 250 watts.

It should be noted that KAJZ is licensed to operate with an ERP of 2.9 kW-DA at an HAAT of 140 meters. However, Since May of 2004 (**six years ago**), KAJZ has operated under various **STAs** authorizing a maximum ERP of 190 watts from nearby sites. In fact, since October 1, 2009 (**eight months ago**), KAJZ has been totally silent and has only recently returned to the air under another STA (BSTA-10100521ACF) with a maximum ERP of 110 watts at an HAAT of 145 meters

**King does not dispute** the fact that on paper the pending application of K287AY **fully complies** with the paper showing required by the rules, that **no prohibited contour overlap is caused** to the licensed 2.9 kW-DA facility of KAJZ, much less its STA operation at 110 watts (which has a much smaller 60 dBu footprint). King relies upon **Section 74.1204(f)** which states:

*(f) An application for an FM translator station will not be accepted for filing even though the proposed operation would not involve overlap of field strength contours with any other station, as set forth in paragraph (a) of this section, if the predicted 1 mV/m field strength contour of the FM translator station will overlap a populated area **already receiving a regularly used**, off-the-air signal of any authorized co-channel, first, second or third adjacent channel broadcast station, including Class D (secondary) noncommercial educational FM stations and grant of the authorization will result in interference to the reception of such signal.*

To this end, to support King's **first point of objection**, he provides statements from **seven listeners** indicating that they listen to KAJZ in the Austin area which, **if** true and accurate (?), would obviously be well within the 60 dBu or 1 mV/m contour of the proposed translator and thus, subject KAJZ to obvious interference from the translator in violation of Section 74.1204(f). **However, this engineering exhibit will show that reception of KAJZ's signal within the 60 dBu of translator is not possible.**

King's **second point of objection** is with regard to the **“fill-in” status** requested by K287AY since it will rebroadcast the signal of KKMJ FM which is essentially co-located at the same site being used by the translator. They cite cases as recently as the 1990s, where the Commission indicates that *“the sole purpose of FM translators is to provide service in areas where direct reception of radio service is unsatisfactory due to distance or intervening terrain obstructions”*. **Again, this engineering exhibit will show that the “fill-in” status of K287AY is in full agreement with the FCC rules for such operation.**

### **Translator Qualifies for “Fill-In” Status**

K287AY's existing license **currently authorizes** “fill-in” service for the HD2 digital channel of KKMJ which is essentially co-located (the pending application to change channels does not propose to change the primary station). The HD2 channel is in Digital format and it is or will be re-broadcast in Analog format by the translator. However, it should be noted that the HD2 channel is carrying the signal of KJCE AM which operates on 1370 kHz with 5 kW using 2 towers during daytime only. Both the application for Ch. 287 and the pending application for Ch. 242 demonstrated that the 60 dBu contour of the translator was well inside the 60 dBu of KKMJ-FM and also within the 2 mV/m contour of KJCE AM. **Based on the maps provided in those applications, the FM “fill-in” translator is operating as intended by the revised rules.**

## **Reception of KAJZ within Translator 60 dBu is Impossible**

King submits that KAJZ has previously been able to be received within the confines of the city of Austin which, **if** true and accurate (?), would obviously be well within the 60 dBu or 1 mV/m contour of the proposed translator and thus, subject KAJZ to obvious interference from the translator in violation of Section 74.1204(f). **However, the following engineering exhibit will show that reception of KAJZ's 2.9 kW-DA signal within the 60 dBu of translator is not possible using FCC contour overlap of Longley-Rice overlap analysis.** King notes that the KAJZ and the translator are barely 50 miles apart, however, the FCC rules only require two co-channel 6 kW stations to be 71 miles apart.

The local Austin engineer which takes care of the K287AY translator facility has driven the area within the 60 dBu after KAJZ resumed operation under its 110 watt STA and was not able to obtain a receivable signal. This engineer also drive to/from Llano via two different routes. The radio in the engineer's car was not able to capture the KAJZ signal until it was within 20 miles of Llano. If desired by the FCC, a sworn declaration can be filed attesting to these facts.

Keep in mind, that for at least **the past 6 years**, KAJZ has not been operating with its licensed facility but it has been operating **under an STA** with no more than 190 watts, according to FCC records. The analysis contained herein demonstrates that even when operating at full power **it is not possible to be received in Austin**, therefore, it certainly follows that **it is not possible to be received in Austin when the ERP is some 9 dB lower.**

We are **unable to easily explain** the seven statements upon which King bases his claim of reception for KAJZ in the Austin area. It is curious to note that **none** of the seven statements from local residents refer to their ability to receive KAJZ **in the past tense** (“I am a listener...”, “I listen...”, “I also listen in the car...”) . Remember, KAJZ has **been totally silent for the past 8 months**, yet no one mentioned they **have not been able to listen** for the past 8 months. Since no actual dates are given in any of the statements during which reception by these individual was possible, one must assume that they must be referring to sometime period during the past several years when the station was operating under an STA with substantially reduced ERP (-9 dB) **but that is pure speculation.**

As a possible explanation, we note that only one of the seven statements gives the actual frequency (96.3 MHz) being listened to. So maybe the others were listening to another frequency - is it possible that KAJZ was **being re-broadcast over a local translator** ???

Again, it is curious to note that King was able to track down seven **“independent listeners”** (people not associated with KAJZ or with Mr. King now that he intends to be the new owner of KAJZ) to provide statements that they **“currently”** listen (at least 8 months earlier) to KAJZ on a regular basis. King was able to do this even though KAJZ was and had not been on the air for 8 months, **although, these loyal listeners apparently had not noticed the total silence for nearly 240 days.** Given that none of the listeners acknowledged that KAJZ had been off the air for 8 months - **these statements should not be considered to be from “regular” listeners as required by the rules.**

The FCC protects the direct reception by members of the public regardless of signal quality because some people are willing to listen to a very poor quality signal, if it is the only source of the program available. However, listeners are also **very moody** and just because they have listened to a station in the past (because of format, radio personalities or political leanings) **is no assurance that they will continue to listen** to that station in the future especially when new management takes over and make changes (same disclaimer used about stock market, past performance is no guarantee of future performance).

### **Detailed Reception Analysis of KAJZ in Austin, TX**

K287AY fully understands the difference between protection of a station **“on-paper”** and protection of the **“real world”** coverage of that same station by a secondary translator, **especially a co-channel facility**. So in an abundance of caution, the reception of KAJZ in the city of Austin was **evaluated in several different ways**. First what is the signal strength of KAJZ in Austin using both Longley-Rice and traditional FCC prediction methods. Secondly, does the KAJZ signal receive interference from other “existing / operating” stations in the vicinity, again by both L-R & FCC methods.

**Figure A** is a tabulation providing a technical summary of the facilities authorized or now pending. It should be noted that the translator only proposes to change its channel and increase its ERP from 75 to 250 watts. No change of site or antenna height is proposed.

**Figure A-1** is a map showing the relative location of KAJZ and the translator while also showing traditional FCC coverages. It should be noted that at the western edge of the translator 60 dBu contour, the KAJZ licensed facility has a predicted signal level of 38 dBu (0.079 mV/m) while the 110 watt STA has just 30 dBu (0.032 mV/m, **a very weak signal**).

**Figure A-2** is a polar plot of the licensed 2.9 kW directional antenna pattern as compared to the Omni 110 watt STA operation.

**Figure 1** is a L-R map showing the **predicted raw coverage** or signal level in Austin and within the proposed translator 60 dBu contour. It confirms that when including intervening terrain, KAJZ has at best a **very weak signal** throughout all of the area. However, it does not mean it is impossible to receive since **no masking interference** was included.

**Figure 2** is a L-R map which displays areas in which the signal of KAJZ is **receiving “masking” interference**. Interference is assumed to exist if the standard D/U ratios are not met. The D/U for co-channel is +20 dB, for 1<sup>st</sup> adjacent is +6 dB and for 2<sup>nd</sup>/3<sup>rd</sup> adjacent -40 dB. If there is a color other than “white” on the map then this indicates that some other specific undesired station’s signal exceeds the D/U ratio, thus, “masks” the KAJZ



“very weak signal” sufficiently such that KAJZ would not be receivable. The color given indicates one of the seven stations in the index generates the **largest amount** of masking. The fact that only one color is displayed **does not mean that only one** station is causing “masking” to the signal of KAJZ. To prove this, **Figures 2-A, 2-B, 2-C, 2-D, 2-E, 2-F & 2-G** have also been submitted since each only shows the “masking” **from just one** of the seven stations. It should be understood that the analysis contained herein **never includes the potential masking interference** from the proposed translators facility on Ch. 242.

**Figure 3** is a L-R map which **subtracts** the masking interference found in Figure 2 and shows the resulting L-R signal strength of KAJZ that is not being masked. As can be seen, **“Interference-Free”** service area is very sporadic and when it does exist it is a **very weak signal** that will be extremely difficult for an FM radio to “capture”.

**Figure 4** is a map showing the **contour overlap** in accordance with the traditional **FCC method**. This method identified **eight other existing** FM stations which cause significant overlap. Of which four stations provide **100% overlap**, two provide 90% overlap and two provide 50% overlap (of KAJZ’s very weak signal within the 60 dBu contour of the translator). **Using FCC methods, reception is not possible.**

## SUMMARY

Katherine Pyeatt urges the FCC to **dismiss the Informal Objection** of Bryan King and to **grant the pending modification application of K287AY** to change channels & increase ERP. **K287AY has voluntarily gone off the air and now seeks immediate relief in the grant of its modification application to change channels so that it can resume service.**

**King does not dispute** the fact that on paper the pending application of K287AY **fully complies** with the paper showing required by the rules, that **no prohibited contour overlap is caused** to the licensed 2.9 kW-DA facility of KAJZ, much less its STA operation at 110 watts (which has a much smaller 60 dBu footprint). **King's objection relies upon Section 74.1204(f).**

King has failed to present credible evidence in Support of his Section 74.1204(f) claim that KAJZ **ever had reception service** in Austin or within the 60 dBu contour proposed in this translator modification application, especially, given the fact that KAJZ has been operating with very minimal STA facilities (190 watts or less) for the past 6 years. King filed his informal objection **before** KAJZ had resumed STA operation after 8 months of being dark. The seven statements King provided to demonstrate prior listening habits **fail to acknowledge** that the KAJZ has been off the air for the past 8 months. Those seven "regular" listeners apparently failed to notice KAJZ had gone silent. KAJZ's has now resumed operation under its 110 watt STA and at the request of K287AY, a local engineer has verified the signal of KAJZ **is still not receivable** within the translator's proposed 60 dBu contour. **Without establishing KAJZ currently has local reception, Bryan King has no grounds to base his informal objection on.**

**K287AY fully understand its obligations** under the FCC rules not to prevent the direct reception of another FM station by members of the general public regardless of signal quality. **It proved its complete understanding of this obligation when it voluntarily ceased operation of its Ch. 287 facility after receiving complaints.** In the unlikely event that KAJZ eventually resumes normal 2.9 kW-DA operations (after 6 years of STA operations) **KAJZ is still not expected to be receivable in Austin.** This exhibit has provided exhaustive analysis using both Longley-Rice and the FCC traditional contour overlap methods to demonstrate that the theoretical 2.9 kW-DA signal of KAJZ is extremely weak and that this extremely weak signal is masked by interference **from other existing FM facilities.** Since the STA is for much smaller facilities no current listenership is possible in Austin.

**Service to Bryan King's attorney, Lee Peltzman, will be via e-mail Wednesday morning. This statement and exhibit in opposition is being filed as an amendment to the translator application.**

All facts contained herein are true of my own knowledge except where stated to be on information or belief, and as to those facts, I believe them to be true. Information concerning the technical equipment installed and compliance with special conditions was obtained directly from the licensee. I declare under penalty of perjury that the foregoing is true and correct.



John J. Mullaney, Consulting Engineer

June 15, 2010.