

# ***KLEIN BROADCAST ENGINEERING, L.L.C.***

*dedicated to improving the science and technology of radio & television communications*

**AUGUST 2006**

**FCC FORM 349 APPLICATION  
FOR  
MODIFICATION OF FM TRANSLATOR STATION CONSTRUCTION PERMIT  
K275AO**

**(FCC FACILITY ID# 139243)  
FCC FILE# BLFT-20060102ACY**

**AGM-NEVADA, L.L.C.**

**FM CHANNEL 275 / 102.9mHz.  
ALBUQUERQUE , NEW MEXICO**

## **INTRODUCTION and ENGINEERING STATEMENT**

The engineering portion of this application was prepared by the firm of Klein Broadcast Engineering, L.L.C., in support of an application filed by AGM-Nevada, L.L.C., for modification of an FM Translator Station K275AO, to serve the Community of Albuquerque, New Mexico.

The FM Translator Station is proposed for operation on FM Channel 275 / 102.9mHz. 0.010kW Effective Radiated Power ( Vertical Polarization only) with an antenna center of radiation at 33 meters AGL using a Scala CLFM-V log periodic antenna.

The antenna location is proposed at NL:35-13-00 / WL:106-27-07 (NAD-27)  
(no change from current license)

The antenna is to be side mounted at the 33 meter level AGL, on an existing structure 42.67 meters in overall height AGL. The proposed construction of the facility specified herein will not change the overall height of the existing structure. The ASR number is 1011621.

**INTRODUCTION and ENGINEERING STATEMENT cont'd page two: K275AO**

The equipment to be used will be type accepted by the Commission. The elevation data pertinent to this application was rounded to the nearest meter.

Overall Existing Antenna Support Structure Height Above Ground	42.67 meters
Elevation of Site Above Mean Sea Level	3231 meters
Height of Antenna Radiation Center AMSL	3264 meters
Height of Antenna Radiation Center AGL	33 meters
Antenna HAAT	1252 meters

**FM ALLOCATION CONSIDERATIONS**

Engineering Exhibit E-5 is a geographic coordinate site location map. Exhibit E-6 and Exhibit E-8 shows the proposed operation of the proposed facility will cause no interference to second adjacent channel stations KIOT(FM) and KDRF(FM). The proposed interfering contour extends less than 0.4 kilometers from the proposed site location. This contour is wholly contained within the 60dBu f(50,50) contours of stations KIOT(FM) and KDRF(FM).

There are NO persons residing within the interfering contour of the proposed FM Translator Station facility. The proposed FM Translator Station on FM Channel 275 / 102.9mHz. would not cause any prohibited overlap of contours, except for FM Broadcast Stations KIOT(FM) and KDRF(FM), as defined in 47 C.F.R. Section 74.1204 of the Commission's Rules. No consideration was given to FM stations operating 53 or 54 (I.F.) channels removed from the proposed NEW FM Translator Station on FM Channel 298 / 107.5mHz., as the proposed operation of this station is less than 0.100kW E.R.P.

**INTRODUCTION and ENGINEERING STATEMENT cont'd page three: K275AO**

**The pertinent INTERFERING CONTOUR of the modified K275AO FM Translator**

**Station was computed using f(50,10) curves and all elevations are based on the DMA 3 Arc  
Second Digitized Terrain Data.**

**WAIVER REQUEST, 47 C.F.R. SECTION 74.1204**

**(to the extent necessary to permit proposed operation as specified and requested herein)**

**As shown in Engineering Exhibit E-6, Engineering Exhibit E-7 and Engineering Exhibit E-8, the proposed FM Translator Station is located within the protected contour, 60dBu f(50,50), of second adjacent channel FM Broadcast Stations KIOT(FM), FM Channel 273C / 102.5mHz., Los Lunas, New Mexico and KDRF(FM), FM Channel 277C / 103.3mHz, Albuquerque, New Mexico. Since Station KIOT(FM) (2<sup>nd</sup> adjacent channel) and KDRF(FM) operates with 20.0kW (+13.01dBk) Effective Radiated Power (Horizontal & Vertical Polarization), the proposed 0.010 kilowatt (-20.00 dBk) operation of K275AO FM Translator Station on FM Channel 275 is not expected to cause or create an interfering signal to Stations KKIOT(FM) or KDRF(FM). Interference can not be expected to that second adjacent channel station unless the interfering field strength exceeds the desired field by 20dB (in the case of a 2<sup>nd</sup> adjacent channel station), the interfering contour becomes extremely limited in area by the proposed operation of K275AO FM Translator Station. The calculated area is 0.2 square kilometers which is the area contained within the proposed translator station's 100dBu f(50,10) interfering contour. Initially the Commission granted this waiver request by granting the construction permit to be modified (FCC File Number: BMPFT-20051121AHY) as requested in the original FCC Form 349 application.**

**INTRODUCTION and ENGINEERING STATEMENT cont'd page four: K275AO**

**Additionally the Commission should consider the following two facts:**

**1. This proposal is located 0.21 kilometers from 2<sup>nd</sup> adjacent channel station KIOT(FM) on FM Channel 273C. No actual interference will occur since the undesired-to-desired signal ratio is less than the 40dB threshold of 47 C.F.R. Section 74.1204(a) at all points.**

**2. This proposal is located 0.36 kilometers from 2<sup>nd</sup> adjacent channel station KDRF(FM) on FM Channel 277C. No actual interference will occur since the undesired-to-desired signal ratio is less than the 40dB threshold of 47 C.F.R. Section 74.1204(a) at all points.**

**The population within the proposed 100dBu f(50,10) contour is zero persons according to the method used by the Commission Staff for this determination using 7.5 minute series topographical quadrangle maps. Engineering Exhibit E-7 is a portion of a U.S.G.S. 7.5 minute series topographical quadrangle map of the area near Albuquerque, New Mexico.**

**The total population within the proposed facility for FM Translator Station K275AO 60dBu f(50,50) protected contour is 170,809 persons (2000 U.S. Census) that would receive service from the proposed facility of K275AO FM Translator Station within an area of 280.4 square kilometers. In contrast the benefit to granting the requested waiver of 47 C.F.R. Section 74.1204 to allow operation of the proposed facility of K275AO FM Translator Station on FM Channel 275 would bring service to 170,809 persons of the Community of Albuquerque, New Mexico. This type of Waiver Request has been granted before by the Commission's Staff. These waivers are a matter of routine with the Commission when there exists an extremely small limited interference area that contains no population, such as the case herein.**

**INTRODUCTION and ENGINEERING Statement cont'd page five: K274AO**

**FAA NOTIFICATION**

**The proposed FM translator station antenna will be side mounted on an existing structure at the 33 meter level AGL. The existing overall height of the proposed antenna support structure is 42.67 meters AGL and will not be changed or altered in any way. Notification to the FAA was not made.**

**ENVIRONMENTAL STATEMENT**

**The proposed facility of K275AO FM translator Station antenna will be side mounted at the 33 meter level AGL on an existing structure. This will not change the existing height of the structure. No new antenna support structure construction is proposed. The applicant will cooperate with other site users with regard to the cessation of operation or the reduction of operating power, whatever is necessary to comply with the Commission's Rules, Regulations and Guidelines on Human Exposure to Non-Ionizing RF Radiation. Details of actual compliance with the Commission's RFR Guidelines may be found in Exhibit E-10RHS. The proposed facility has an ERP of 0.010kW in only the Vertical Plane. Engineering Exhibit E-10RHS is a detailed study of the proposed FM translator facility with regard to its contribution to RFR levels on the site. The Engineering Exhibit E-10RHS concludes the proposed facility will contribute extremely limited RFR levels to the site.**

**Engineering Exhibit E-1 is a standard FCC FM Channel Spacing Study for FM Translator Station K275AO.**

**INTRODUCTION and ENGINEERING STATEMENT cont'd page six: K275AO**

**Engineering Exhibit E-2 is a copy of the current FCC License for FM Translator Station K275AO and is included herein to aid Commission staff in the processing of this application.**

**Engineering Exhibit E-3 is an analysis of the proposed 60dBu f(50,50) contour proposed for FM Translator Station K275AO and also plotted thereon is the 60dBu f(50,50) contour of the primary FM station to be rebroadcast, KHFM, Santa Fe, New Mexico, on FM channel 238C1 / 95.5MHz. The exhibit shows clearly the proposed 60dBu contour of the translator station is wholly contained within the 60dBu contour of the station to be rebroadcast.**

**Engineering Exhibit E-4 is a plot and tabulation of the azimuth pattern of the “off the shelf” directional antenna proposed by the applicant for the Kathrein/Scala CLFM-V, log periodic antenna.**

**Engineering Exhibit E-6 is a U.S.G.S. 7.5 minute series topographical map showing the proposed 100dBu f(50,10) contour for FM translator station K275AO. There are no persons within this contour and the area contained within the contour is 0.14 square kilometer.**

**Engineering Exhibit E-7 shows the proposed protected and interfering contour of K275AO and FM Broadcast Station KLBU. This exhibit show there would exist no prohibited contour overlap with this co-channel station. KLBU(FM) is completely protected from prohibited contour overlap as demonstrated herein.**

**INTRODUCTION and ENGINEERING STATEMENT cont'd page seven: K275AO**

**Engineering Exhibit E-8 shows the protected 60dBu f(50,50) contours of FM Stations KIOT(FM) and KDRF(FM) and the proposed 100dBu f(50,10) contour of K275AO.**

**Engineering Exhibit E-10RHS is a complete and comprehensive RFR analysis of the proposed facility for FM Translator Station K275AO.**

**The applicant, AGM-Nevada, L.L.C., requests the Commission consider this application for the facility proposed herein and respectfully requests the Commission grant the requested waiver of 47 C.F.R. Section 74.1204 of the Rules to the extent necessary to permit a grant of this instant application.**

**Respectfully submitted,**

**Elliott Kurt Klein, Consulting Broadcast Engineer**

**16 August 2006**

**KLEIN BROADCAST ENGINEERING, L.L.C.**