

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

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

**FCC FORM 301 APPLICATION  
for  
MODIFICATION of FM BROADCAST STATION CONSTRUCTION PERMIT  
FCC FILE# BNPH-20041228ABE  
(a minor change & One-Step Upgrade application)  
(FCC FACILITY ID # 164129)  
FM IDAHO COMPANY, L.L.C  
K I S Y (FM)  
FM CHANNEL 271 C2 / 102.1 mHz.  
TWIN FALLS, IDAHO**

**NOVEMBER 2006**

## **INTRODUCTION and ENGINEERING STATEMENT**

The firm of Klein Broadcast Engineering, L.L.C., has been retained by the applicant, FM Idaho Company, L.L.C., the permittee of FM Broadcast Station KISY at Twin Falls, Idaho. The instant application requests a One-Step Upgrade to channel 271 C2, additionally the applicant requests an Effective Radiated Power of 23.0 kilowatts for Station KISY in both the Horizontal and Vertical Planes. The application also requests operation with a directional antenna with the directional antenna pattern for Station KISY as specified herein. The applicant requests this application be processed under 47 C.F.R. Section 73.215 of the Rules and Regulations of the Federal Communications Commission, a contour protection grant with respect to Station KDBI at Emmett, Idaho and Station KVUW at Wendover, Nevada.

Engineering Exhibit E-1 is a complete FCC FM Channel Spacing Study that shows compliance with 47 C.F.R. Section 73.215 of the Commission's Rules for the proposed transmitter site location coordinates. This study demonstrates the proposed KISY main transmission facility is clear to all known stations, allocations and proposed allotments under 47 CFR Section 73.215 of the Rules and Regulations of the Federal Communications Commission with the following exceptions: Station KDBI at Emmett, Idaho, is short-spaced under Section 47 CFR 73.207 but is clear under 47 CFR Section 73.215. Station KVUW at Wendover, Nevada, is short-spaced under 47 CFR Section 73.207 but is also clear under 47 CFR Section 73.215 to the proposed facility for KISY.

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Engineering Exhibit E-1A is an FCC FM Channel Spacing Study from the 47 CFR Section 73.207 Reference Coordinates site for the change in channel requested in this instant One-Step application. The 47 CFR Section 73.207 Reference coordinates are:

NL: 42-47-19 / WL: 114-12-13 (NAD 1927)

These coordinates are clear to all known stations, vacant allotments and proposed allotments.

Engineering Exhibit E-2 is a contour map prepared to show the proposed computed service contours for the facility specified herein. It clearly shows the predicted 60dBu f(50,50) and 70dBu f(50,50) contours. The City Limit Boundaries of the Principal Community, Twin Falls, Idaho, are also clearly marked as determined by the 2000 U.S. Census. This exhibit demonstrates the predicted 70dBu contour encompasses the entire principal community of Twin Falls, Idaho. This exhibit was generated using the DMA 3 Arc Second Digitized Terrain Datafile and the FCC Standard Contour Prediction Method f(50,50) with 360 Radials.

In the case of any radial having a negative elevation, that radial was treated as if it had a height of positive 30 meters as allowed for by 47 CFR Section 73.313(e)

## **INTRODUCTION and ENGINEERING STATEMENT** cont'd page three: KISY(FM)

Exhibit E-3 is a map showing the Interfering and Protected contours of stations KISY and KDBI ( as a full Class C facility, 100kW ERP at 600 meters HAAT ) This exhibit clearly shows compliance with the contour protection requirements of 47 C.F.R. Section 73.215 with respect to Station KISY at Twin Falls, Idaho and Station KDBI(full Class C) at Emmett, Idaho. This map exhibit was prepared using the DMA 3 Arc Second Digitized Terrain Datafile and the FCC Standard Contour Prediction Method,  $f(50,50)$  and  $f(50,10)$  with 360 Radials. In the case of any radial having a negative elevation, that radial was treated as if it had a height of positive 30 meters as allowed for by 47 CFR Section 73.313(e) The facility used for the analysis of Station KDBI is that of a maximum class C facility, 100.0kW ERP at 600meters HAAT. The first adjacent-channel protection requirement between Station KISY and Station KDBI (full Class C) shows no overlap of the interfering 54dBu  $f(50,10)$  contours to the protected 60dBu  $f(50,50)$  contours of each station.

Exhibit E-4 is a map showing the Interfering and Protected contours of stations KISY and KVUW ( as a full Class C facility, 100kW ERP at 600 meters HAAT ) This exhibit clearly shows compliance with the contour protection requirements of 47 C.F.R. Section 73.215 with respect to Station KISY at Twin Falls, Idaho and Station KVUW(full Class C CP) at Wendover, Nevada. This map exhibit was prepared using the DMA 3 Arc Second Digitized Terrain Datafile and the FCC Standard Contour Prediction Method,  $f(50,50)$  and  $f(50,10)$  with 360 Radials. In the case of any radial having a negative elevation, that radial was treated as if it had a height of positive 30 meters as allowed for by 47 CFR Section 73.313(e) The facility used for the analysis of Station KVUW is that of a maximum class C facility, 100.0kW ERP at 600meters HAAT. The first adjacent-channel protection requirement between Station KISY and Station KVUW (full Class C) shows no overlap of the interfering 54dBu  $f(50,10)$  contours to the protected 60dBu  $f(50,50)$  contours of each station.

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Exhibit E-5 is a Polar Plot of the proposed directional antenna pattern to be employed at Station KISY(FM).

Exhibit E-5A is a Tabulation of the directional antenna pattern proposed herein, calculated every one degree for 360 degrees.

Engineering Exhibit E-10RHS is a complete and comprehensive RF Radiation Hazard Study/Evaluation of the facility proposed in the instant application. Based on the calculations and findings contained therein, the proposed new main transmission facility complies with all of the requirements of the FCC O.S.T. Bulletin #65, Guidelines for Human Exposure to Non-Ionizing Radio Frequency Radiation, as amended to date.

The instant application proposes the following specifications for the new KISY main transmission facility:

Transmitter Site Location Coordinates: NL: 42 – 43 – 54 / WL: 114 – 25 – 04 (NAD-27) (No Change)

Ground Level AMSL at proposed site: 1310 meters AMSL

Overall Height Above Ground of Antenna Support Structure: 123 meters AGL

Overall Height Above Mean Sea Level of Antenna Support Structure: 1433 meters AMSL

Antenna Radiation Center Above Ground Level: 82 meters AGL

Antenna Radiation Center Above Mean Sea Level: 1392 meters AMSL

Antenna Support Structure Registration Number: 1041912

HAAT: 220 meters

Effective Radiated Power: 23.0 kW H & V

(All elevations rounded to the nearest meter)

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An analysis of the engineering data presented herein demonstrates compliance of the proposed facility with all of the applicable Rules and Regulations of the Federal Communications Commission as amended to date. Therefore, the applicant and permittee of FM Broadcast Station KISY at Twin Falls, Idaho, FM Idaho Company, L.L.C., requests the Commission consider and GRANT the instant application for the facility requested herein under the Rules and Regulations of the Federal Communications Commission, as amended to date.

Respectfully submitted,

Elliott Kurt Klein, Consulting Broadcast Engineer

For the firm:

KLEIN BROADCAST ENGINEERING, L.L.C.

01 November 2006

FM Idaho Company, L.L.C.  
FM Broadcast Station K I S Y  
Twin Falls, Idaho