

TECHNICAL EXHIBIT
MINOR MODIFICATION APPLICATION
FM TRANSLATOR STATION K295BN (FACILITY ID 54322)
YUCCA, ARIZONA
CH 295 0.099 KW (MAX-DA) 2565 M AMSL

Technical Narrative

This Technical Exhibit was prepared in support of an application for construction permit for a FM translator station K295BN at Lake Havasu City, Arizona. K295BN is currently licensed to operate with a maximum directional effective radiated power (ERP) of 250 watts (BLFT-20090917ACS). This application proposes to change transmitter site, change the directional antenna, decrease its effective radiated power and change the community of license to Yucca, Arizona. The proposed 65 kilometer site change can be classified as a minor change as there will be contour overlap with the present and proposed 60 dBu contours. The translator will remain a fill-in translator for KNKK(FM) at Needles, California.

Tower Registration

The proposed antenna supporting structure has an overall height of less than 200 feet and not located near any public airports. Therefore, no antenna registration number is necessary.

Radio Frequency Exposure Analysis

The proposal is categorically excluded from environmental processing, as an existing tower site is to be employed, and the proposal complies with the FCC Rules concerning human exposure to radio frequency (RF) energy. The proposal will not exceed 2 percent of the RF exposure limit for general population/uncontrolled environments for the frequency proposed. The calculation of RF energy at ground level was made under the procedures of OET Bulletin No. 65.¹ The formula employed is as follows:

$$S = \frac{(33.4)F^2P}{R^2}$$

Where, S = power density in $\mu\text{W}/\text{cm}^2$, F = relative field factor at the angle to the calculation point, P = the total effective radiated power relative to a dipole in watts, and R = distance from the antenna radiation center to the calculation point in meters. Based on the conservative assumption of a relative field factor of 1.0 with a total effective radiated power of 198 watts, and an antenna radiation center height above ground of 20 meters, the calculated power density will not exceed $28 \mu\text{W}/\text{cm}^2$. Therefore, the calculated RF exposure at ground level will not exceed 5 percent of the limit of $1000 \mu\text{W}/\text{cm}^2$ for a controlled electromagnetic environment, which *Hayden Peak*, the proposed transmitter site, may be classified. As the predicted exposure contribution is less than five percent, consideration of other emitters is not necessary.

The transmitter site shall be restricted from access. In the event that personnel are required to climb the structure, the proposed FM translator transmissions shall be reduced or terminated as necessary to prevent RF exposure above the FCC recommended limits.

¹ Federal Communications Commission OET Bulletin No. 65, Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields (Edition 97-01, August 1997).

Predicted Coverage Contour

The predicted 60 dBu coverage contour was calculated in accordance with Section 73.313 of the FCC Rules. The average terrain elevations from 3 to 16 km from the proposed site were computed using the N.G.D.C. 30-second terrain database. The distances to the predicted 60 dBu coverage contour for the proposal was determined using the average elevations of radials spaced every 30-degrees of azimuth. It is proposed to use a Scala CA2-FM/CP antenna, oriented at 220 degrees True. The antenna radiation center height above average terrain and the ERP in each radial direction were used in conjunction with the propagation prediction curves of Section 73.333 to determine the distances to the contour. Figure 3 is a map showing the predicted 60 dBu coverage contour of the proposed translator facility.

The present 60 dBu contour is also shown on the map to indicate this is a minor change application.

Allocation Considerations

Toward all other licensed and authorized stations, there is no prohibited contour overlap predicted except toward (1) KNKK(FM) at Needles, California and (2) the application for a new translator on Channel 298D at Peach Springs, Arizona (FCC File Number BNPFT-20030317JJO).

As this is a fill-in translator for KNKK(FM), contour overlap is not prohibited pursuant to Section 74.1204(e). Therefore, KNKK(FM) is not an allocation concern.

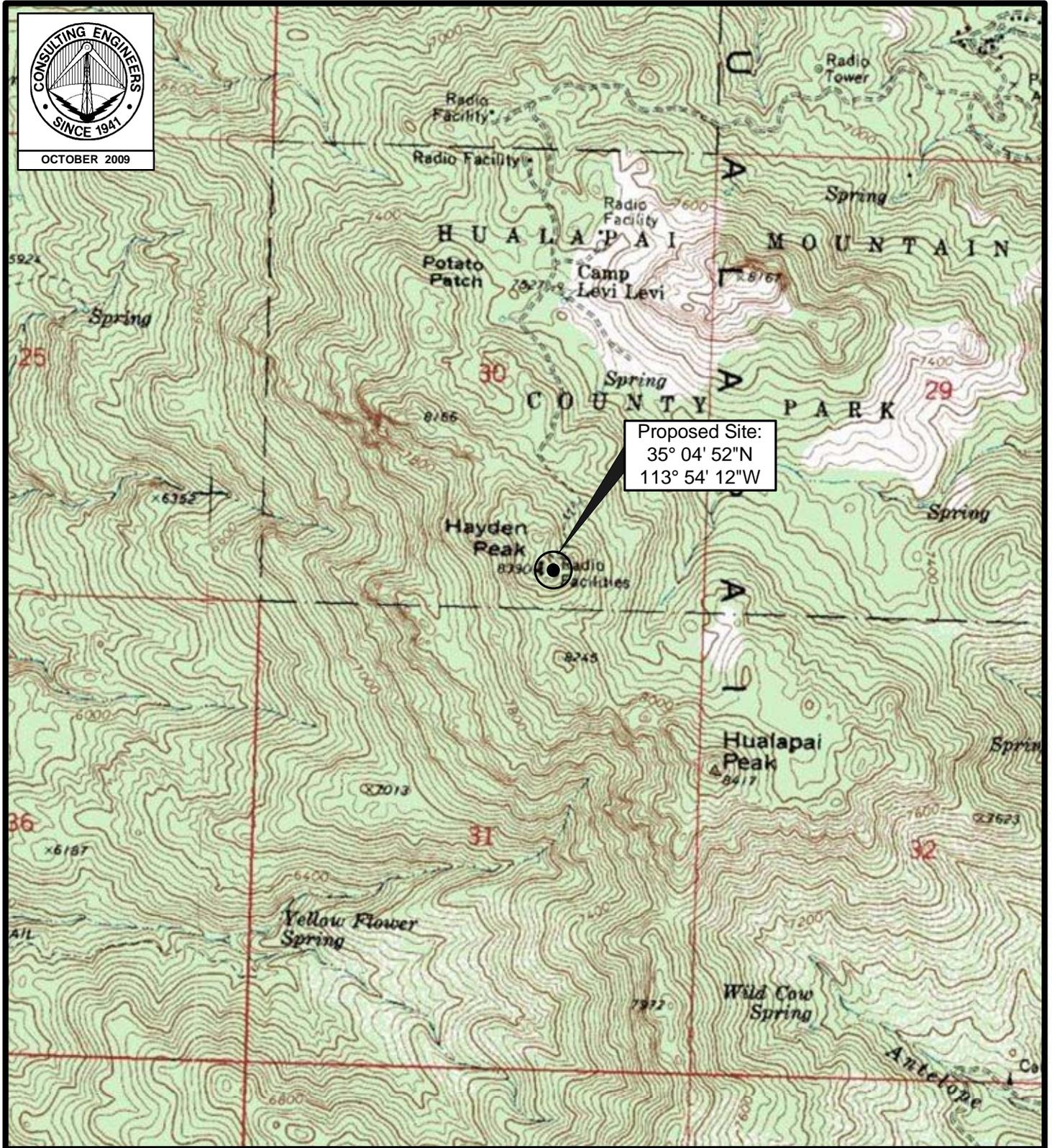
The proposed protected 60 dBu contour for the new translator at Peach Springs, Arizona (BNPFT-20030317JJO) does overlap the proposed K295BN 100 dBu interfering contour. As shown by the map contained in Figure 4, the interference area to the proposed Peach Springs translator (100 dBu contour) is contained within an area that has no population as permitted by Section 74.1204(d) of the Commission's Rules. Therefore, the herein proposed Yucca translator is not considered preclusive to the Peach Springs translator.

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Figure 1



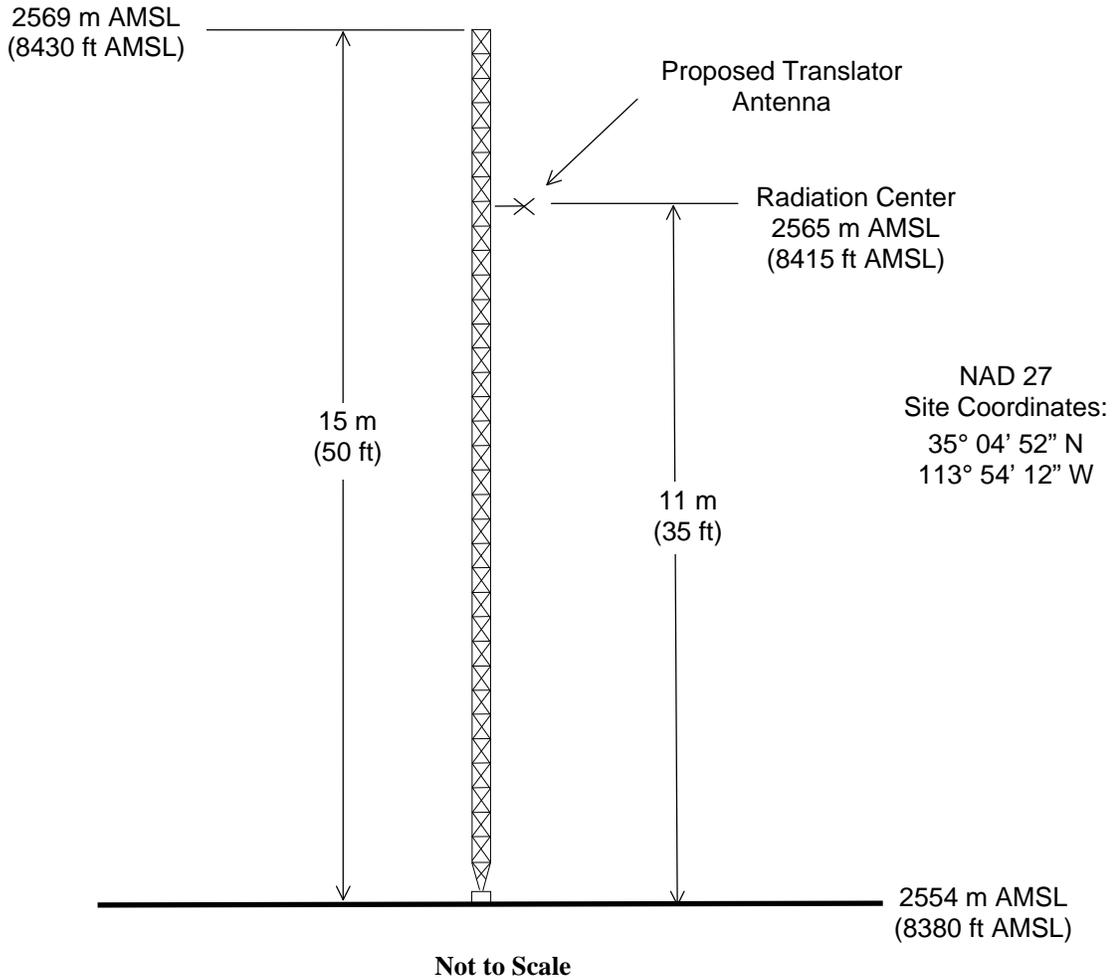
PROPOSED TRANSMITTER SITE

FM TRANSLATOR STATION K295BN
YUCCA, ARIZONA
CH 295 0.099 KW (MAX-DA)

du Treil, Lundin & Rackley, Inc. Sarasota, Florida



ASRN: N/A



ANTENNA AND SUPPORTING STRUCTURE

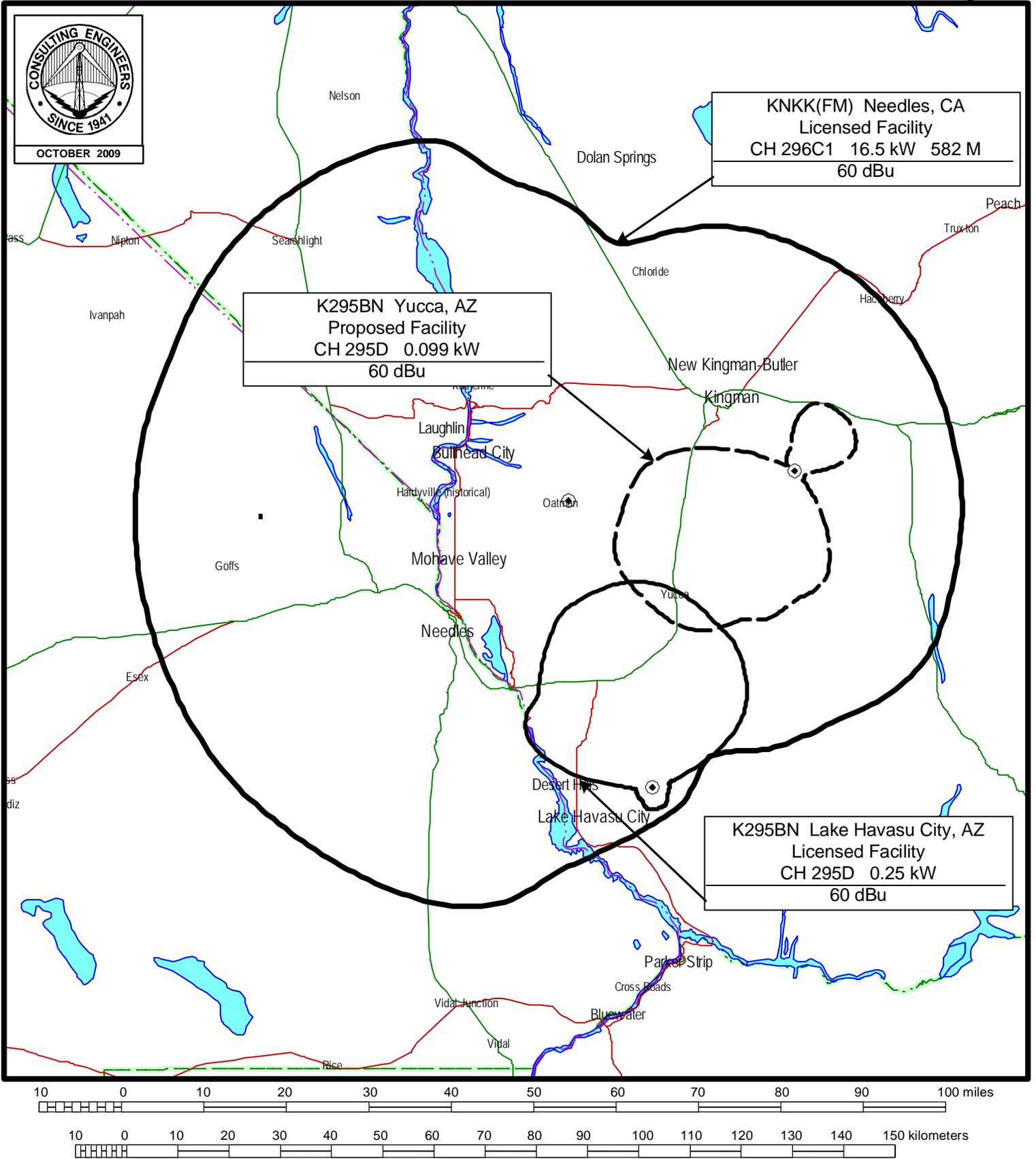
FM TRANSLATOR STATION K295BN

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Figure 3



FCC PREDICTED COVERAGE CONTOURS

FM TRANSLATOR STATION K295BN
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CH 295 0.099 KW (MAX-DA)

du Treil, Lundin & Rackley, Inc. Sarasota, Florida



**PROPOSED 100 DBU INTERFERRING CONTOUR
IMPACT TO PROPOSED PEACH SPRINGS, ARIZONA
FM TRANSLATOR (BNPFT-20030317JJO)**

FM TRANSLATOR STATION K295BN
YUCCA, ARIZONA
CH 295 0.099 KW (MAX-DA)