

TECHNICAL EXHIBIT
AMENDMENT TO DIGITAL DISPLACEMENT APPLICATION FOR
STATION K64ES (FACILITY ID 33899)
CHELAN, WASHINGTON
CH 28 7.5 KW

Technical Narrative

This technical exhibit supports a displacement application for digital operation for TV translator station K64ES at Chelan, Washington (Facility ID 33899). Station K64ES is licensed for an analog (NTSC) operation on channel 64 with a zero (0) carrier offset (BLTTL-19960227JB). A directional antenna (DA) is employed. The maximum visual effective radiated power (ERP) is 1.38 kilowatts (kW). The antenna center of radiation is 5 meters above ground level (AGL), and 1174 meters above mean sea level (AMSL). The transmitter site coordinates are 47-48-27, 120-02-00 (NAD-27). There is no FCC antenna structure registration number for the supporting structure. K64ES has an application pending to displace to digital channel 28 (BDISDTT-20060222ABJ). This amendment is to reduce ERP to 7.5 kW only in order to alleviate a domestic allocation issue.

As K64ES currently operates as an analog station on an out-of-core channel (64), K64ES proposes to displace to in-core channel 28 and operate digitally. No change in site (47-48-27, 120-02-00) or city of assignment (Chelan, WA) is proposed. It is proposed to use a Dielectric model TLP-8A non-directional antenna system fed by a 2 kW DTV transmitter. The proposed ERP is 7.5 kW. The proposed antenna center of radiation will be 9.1 meters above ground level (AGL), and 1178 meters AMSL.

The gain for the Dielectric model TLP-8A antenna system is 8 (9.03 dB). The antenna will be coupled to the transmitter through 15.2 meters (50 feet) of 1-5/8 inch air dielectric flexible coaxial transmission line. The efficiency of the line on channel 28 is 93.4%. The TV translator DTV transmitter power output (TPO) will be 1 kW. This combination results in the proposed LD translator ERP of 7.5 kW-ND. There are no known full service AM,

FM or TV broadcast stations within 4 kilometers (2.5 miles) of the K64ES site. Although no adverse electromagnetic interaction is expected, the applicant recognizes its responsibility to correct problems that its proposed TV translator DTV operation may cause.

Since the proposed site is the same as the licensed site it is apparent that there will be common area where both contours overlap.

Allocation Considerations

A study has been conducted using the provisions of Section 74 Subpart G of the FCC rules to assure that the proposal will not create prohibited interference with other authorized or pending analog (NTSC) and digital (DTV) full-power TV, low power television (LPTV), TV translator, and Class A TV stations. The proposed K64ES channel 28 TV translator DTV operation was studied using the FCC's LD rules and the interference procedures outlined in the FCC's OET-69 Bulletin. In accordance with current FCC processing policy, a standard 1 kilometer cell size and terrain increment, and the 1990 U.S. Census was employed. The proposed K64ES channel 28 TV translator DTV operation complies with the FCC's allocation standards (i.e., less than 0.5% new interference caused to other pertinent assignments). If necessary, waiver of the FCC's rules is respectfully requested based on use of the procedures outlined in the FCC's OET-69 Bulletin.

Canadian Coordination


The K64ES site is 132 kilometers from the nearest point of the U.S./Canada border. According to conversations with FCC staff, the pending K64ES 15 kW application was already accepted by Canada and subsequently approved. Since this application is merely to reduce ERP by 2 dB, it is not believed that further coordination with Canada is necessary. If the Commission differs in opinion, coordination is respectfully requested.

Radiofrequency Electromagnetic Field Exposure

The proposed K64ES facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the proposed antenna is located 9.1 meters above ground level with an ERP of 7.5 kW. Based on the antenna vertical elevation relative field pattern in Figure 1, the "worst-case" calculated power density at 2 meters above ground level is expected to occur at a downward angle of 64 degrees with a relative field of 0.23. The power density at this location is calculated to be 0.27 mW/cm². This is less than the FCC recommended limit 0.37 mW/cm² for channel 28 for an "uncontrolled" environment.

In the event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down.

It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already have been provided to the FCC by the tower owner as part of the tower registration process.



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April 21, 2009

Dielectric

Date	16 Feb 2006	Channel	28
Call Letters	K64ES		
Location	Chelan, WA		
Customer			
Antenna Type	TLP-8A		

ELEVATION PATTERN

RMS Gain at Main Lobe	8.0 (9.03 dB)	Beam Tilt	1.00 Degrees
RMS Gain at Horizontal	7.5 (8.75 dB)	Frequency	557.00 MHz
Calculated / Measured	Calculated	Drawing #	08L080100-90

