ENGINEERING STATEMENT
REQUEST FOR SPECIAL TEMPORARY AUTHORITY
ON BEHALF OF
KRTV COMMUNICATIONS, INC.
K45CS, LEWISTOWN, MONTANA
CHANNEL 45 1.05 KW 1786 METERS RCAMSL

**JUNE 2007** 

COHEN, DIPPELL AND EVERIST, P.C.

CONSULTING ENGINEERS RADIO AND TELEVISION WASHINGTON, D.C.

### COHEN, DIPPELL AND EVERIST, P. C.

City of Washington	)
	) ss
District of Columbia	)

Ryan Felmlee, being duly sworn upon his oath, deposes and states that:

He is a graduate electrical engineer of the Pennsylvania State University, has successfully completed the Engineer-In-Training examination ("EIT") in the State of Virginia, and is a staff engineer of Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1300 L Street, N.W., Suite 1100, Washington, D.C. 20005;

That the attached engineering report was prepared by him or under his supervision and direction and

That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true.

Ryan Felmlee District of Columbia

Subscribed and sworn to before me this \_\_\_\_\_\_\_

day of \_

Notary Public

My Commission Expires:

### Introduction

This engineering statement has been prepared on behalf of KRTV Communications, Inc, ("KRTV") licensee of Class A television station K45CS, Lewistown, Montana, and is in support of its request for special temporary authority to relocate the K45CS transmitting antenna to an existing adjacent tower which is less than 500 feet from the currently licensed K45CS transmitting site. K45CS proposes to operate from the adjacent transmitting site on channel 45 with a non-directional ERP of 1.05 kW and a radiation center above mean seal level ("RCAMSL") of 1786 meters, using a Kathrein Scala, SL-8 UHF paraslot antenna. The proposed K45CS operation will create a 74 dBu F(50,50) coverage contour (Exhibit E-1) from the adjacent transmitting site that will not exceed that of the K45CS licensed operation. The K45CS site relocation request is based on a Homeland Security upgrade at the currently licensed K45CS site planned for early July, 2007. As a result of these Homeland Security actions, the K45CS Class A operation must relocate and cannot return to the currently licensed tower. KRTV is simultaneously filing an application for minor modification of its K45CS facilities with this request for special temporary authority.

### Community of License

The NAD-27 geographic coordinates of the transmitter site are as follows:

North Latitude: 47° 10′ 39″

West Longitude: 109° 32' 06"

The existing tower is less than 200 feet and TOWAIR indicates that the structure does not require registration. There are no airports within 8 kilometers (5 miles) of the existing site.

## **Technical Specifications**

Antenna Location Site Elevation	1764.9 meters
Above Mean Sea Level	(5790.4 feet)
Height of Radiation Center Above	21.0 meters
Ground Level	(69.0 feet)
Height of Radiation Center Above	1786 meters
Mean Sea Level	(5859.6 feet)
Overall Tower Height Above Ground	23.8 meters
	(78.1 feet)
Maximum Effective Radiated Power	1.15 kW
Transmitter Output Power	0.095  kW

## **Transmitting Equipment**

Transmitter: Type Accepted

Antenna: Kathrein Scala SL-8 or equivalent

1.75° Electrical Beamtilt

11.4 dBd Gain

Transmission Line: Andrew, Type LDF5-50A 7/8", 50 ohm,

30.5 m (100 ft) in length

Attenuation: 0.988 dB

The K45CS transmitter will be operated at a power output of 0.095 kW to achieve an ERP of 1.05 kW. The antenna will be top-mounted on the existing tower as shown in Exhibit E-2. The overall tower height above ground level with the top-mounted antenna will be 23.8 meters and 1788.7 meters above mean sea level.

### Other Broadcast Facilities

An analysis was completed to determine the presence of stations in the vicinity of the K45CS transmitting site using the June 26, 2007, data contained within the Commission's Consolidated Database System ("CDBS"). Within 0.5 km of the proposed site, there is one authorized full service FM radio station, one NTSC television stations, and two licensed low-power analog television or television translator stations. There are no AM facilities within 3.22 km of the existing tower. Although no adverse technical effects are expected due to the proposed changes, the licensee will take measures to resolve any problems proven to be related to the changes proposed in this application.

# **Interference Analysis**

A study of predicted interference caused by the proposed K45CS Class A operation has not been performed since the operation from the adjacent transmitting site using the proposed operating parameters will not exceed the coverage area of the K45CS licensed operation.

### FCC Rule, Section 1.1307

The proposed 1.05 kW non-directional operation will utilize a Kathrein Scala, SL-8 antenna (or equivalent) described above with a center of radiation above ground of 21 meters. The antenna will be side-mounted on an existing tower with an overall height of 23.8 meters above ground. The proposed operation of K45CS will create a radio frequency field level of 1.9  $\mu$ W/cm<sup>2</sup> at the base of the tower. This level is less than 0.5% of the Maximum Permissible Exposure ("MPE") level for the general population and uncontrolled environment.

Authorized personnel and rigging contractors will be alerted to the potential zone of high radio frequency field levels on the tower, and if necessary, the station will operate with reduced power or terminate the operation of the transmitter as appropriate when it is necessary for authorized personnel or contractors to perform work on or near the tower. Workers and the general public, therefore, will not be subjected to RFF levels in excess of the current FCC guidelines.

### **Environmental Assessment**

An environmental assessment ("EA") is categorically excluded under Section 1.1306 of the FCC Rules and Regulations as the tower was constructed prior to the requirements specified in WT Docket No. 03-128 and the applicant indicates:

- (a)(1) The existing tower is not located in an officially designated wilderness area.
- (a)(2) The existing tower is not located in an officially designated wildlife preserve.
- (a)(3) The proposed facilities will not affect any listed threatened or endangered species or habitats.
- (a)(3)(ii) The proposed facilities will not jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats.
- (a)(4) The proposed facilities will be located on a tower which was built prior to the adoption of WT Docket No. 03-128 and will not affect any known districts, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering, or culture.
- (a)(5) The existing tower is not located near any known Indian religious sites.
- (a)(6) The existing tower is not located in a flood plain.

- (a)(7) The installation of the DTV facilities on an existing tower will not involve a significant change in surface features of the ground in the vicinity of the tower.
- (a)(8) It is not proposed to equip the tower with high intensity white lights unless required by the FAA.
- (b) Workers and the general public will not be subjected to RFF levels in excess of the current FCC guidelines contained in OET Bulletin No. 65, Edition 97-01, dated August 1997 and Supplement A.



