

***B. W. St. Clair***

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## Self-Coordination Engineering Statement

Call/Transmitter Location: TBD/Thompson Falls, MT  
Frequency Band: 686-692 MHz.  
Applicant Name: Thompson Falls TV District

### **BACKGROUND**

The applicant is filing a new application for a digital microwave system that will be used to relay off-air signals from Thompson Falls to a nearby UHF-TV translator site. The currently licensed relay will be removed from service when this installation is completed. The microwave system will be vertically polarized and operated in the frequency range of UHF-TV channel 50.

### **FREQUENCY COORDINATION ANALYSIS**

The non-interference determination to other stations was performed in accordance with FCC Part 74.793 and 73.623 (C) 2 thru (C) 4 and was based on the simple FCC DTV emissions mask per Part 74.793 (C). Possible interference to other stations was established with a culling distance appropriate to the transmitted ERP and the antenna pattern directionality. Where appropriate, the interference to other stations was examined per the methodology stated in the Interference Study section below.

### **INTERFERENCE STUDY**

Channel 50 (686 - 692 MHz) was analyzed using an exact copy of the FCC's FLR computer program. The FLR program is used to determine non-interference conditions between the proposed microwave transmitter and any other UHF-TV station - including UHF taboos. Potential interference to other stations was studied using "Population Loss Studies" based on the "Longley-Rice Terrain Algorithm" in accordance with OET Bulletin 69.<sup>1</sup> Population loss for each station is less than 0.5% for full-service and Class A TV stations and less than 2% for LPTV and translator stations. Cell size for service analysis is 1.0 km/side. The distance increments for Longley-Rice Analysis is 1.0 km. Any discrepancies are noted below.

#### **ANALOG AND DIGITAL TV STATIONS**

None

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<sup>1</sup> The analysis was performed on a Sun "Blade" Computer using the exact replica of the FCC's analysis program.