

## Exhibit 19.1

### Protection of Channel 6 Television Facilities

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The proposed KJTA (FM) site is within the 196 km radius, specified in §73.525(a)(1), of one Channel 6 television facility. That facility is KTVW-CA, File No. BLTVA-20001204AHY. The station is licensed to Flagstaff/Doney Park, AZ. The applicant proposes to afford KTVW-CA protection under the provisions for co-location found in §73.525(d). In accordance with this section of the rules, the following facts are noted.

1. As required by §73.525(d), the proposed KJTA (FM) site is within 0.4 km of the licensed KTVW-CA site. Inspection of the allocation tabulation found in **Exhibit 16.1** will show that the KTVW-CA site is located 0.04 km on a bearing of 39.6° from the proposed KJTA (FM) site.
2. The proposed FM effective radiated power (ERP) is less than or equal to 21.4 kW as required by §73.525(d)(1). KJTA (FM) is requesting a maximum ERP of 1.0 kW using circular polarization.
3. The proposed FM center of radiation (COR) is within 30 meters of the licensed television COR as required by §73.525(d)(2). The KTVW-CA license lists the COR as 2834 meters AMSL. KJTA (FM) is requesting a COR of 2839 meters.
4. The antenna requirements of §73.525(d)(2) are met. This section of the rules specifies the FM facility must either use the same number of bays or have a vertical plane radiation pattern that does not exceed the similar pattern for the television antenna by more than 2.0 dB. KTVW-CA uses a directional pattern that is achieved through multiple Kathrein-Scala Model HDCA-5 yagi antennas. The applicant's engineering staff has inspected and photographed the antenna site. The KTVW-CA antenna consists of a pair of HDCA-5 5-element yagi antennas with their azimuths aligned to produce the required pattern. The antennas are mounted at the same height. Because the inherent radiation properties of multi-element yagi antennas and conventional FM bays differ widely, the applicant is proposing to use the provision of comparing vertical plane radiation patterns in order to afford maximum protection to KTVW-CA.
5. Kathrein-Scala, the manufacturer of the KTVW-CA array, was asked to develop a vertical plane pattern for the Channel 6 array. From this data, the relative field values have been tabulated from the horizon to the ground in 5° increments. Similarly, a full page plot of the vertical plane pattern for a 2-bay, half-wave spaced, ERI antenna has been scaled to determine relative field values at the same increments. The ratio of the ERI relative field to the Kathrein-Scala relative field has been analyzed at each data point to be certain the ERI pattern does not exceed the Kathrein-Scala pattern by more than 2.0 dB. The results are tabulated in **Exhibit 19.2**.

Based on the above data, it is concluded the proposed KJTA (FM) installation is in compliance with §73.525(d) and the required protection is fully afforded to KTVW-CA.

## Exhibit 19.2

### Analysis of Vertical Plane Antenna Patterns

Depression Angle in Degrees	Scala HDCA-5 Array Vertical Plane Pattern Relative Field	ERI - 2 Bay Half-Wave Vertical Plane Pattern Relative Field	ERI/SCA Ratio dB
0°	1.000	1.000	0.00
5°	0.990	0.988	-0.02
10°	0.977	0.952	-0.23
15°	0.947	0.894	-0.50
20°	0.900	0.817	-0.84
25°	0.840	0.725	-1.28
30°	0.770	0.628	-1.77
35°	0.690	0.527	-2.34
40°	0.600	0.428	-2.93
45°	0.501	0.334	-3.52
50°	0.405	0.253	-4.09
55°	0.322	0.180	-5.05
60°	0.250	0.123	-6.16
65°	0.195	0.078	-7.96
70°	0.190	0.045	-12.51
75°	0.197	0.023	-18.65
80°	0.207	0.012	-24.74
85°	0.224	0.005	-33.03
90°	0.230	0.003	-37.69