

KTCN (FM) ACTON, CALIFORNIA  
ANTENNA INSTALLATION

On May 16, 2020 I arrived at the KTCN (FM) tower site east of Acton, California. The plan was to mount a directional antenna according to FCC construction permit BPED-20190517AAJ and documentation provided by PSI Antennas, the company that furnished the antenna proof of performance. The construction permit prescribes a directional antenna pattern that is produced by the use of a custom PSI yagi antenna. Attached to this application is the antenna proof of performance. The proof demonstrates the measured antenna pattern, taking into account the individual tower and tower-mounting scenario as detailed by the permittee to PSI prior to testing on a range. Within the setup, the antenna is proposed to be mounted on a monopole. Within the original PSI proposal, a yagi was mounted on a monopole/mast aligned at a 225 degree azimuth that corresponds to the 221 degree rotation of the envelope pattern prescribed for the original licensed antenna set-up. Due to the polar symmetry of the mounting pole, the current construction permit specifies a new mounting of 217 degrees of the envelope pattern which corresponds to a 221 degree mounting of the yagi to elicit the exact measured pattern within the PSI yagi measured pattern report. Thus, the new azimuth has no effect on the measured pattern study.

The antenna was mounted at the height prescribed on the permit. David Weary from Weary and Associates aligned the yagi to the prescribed 221 degrees azimuth which correlates to the 217 degree rotation of the prescribed envelope pattern listed on the construction permit.

In total:

- The one-bay yagi was installed.
- The antenna was mounted at 217 deg (the surveyor's certification is forthcoming in the next couple of days supplied via amendment).
- The antenna was mounted with the center of radiation per specification on the construction permit.

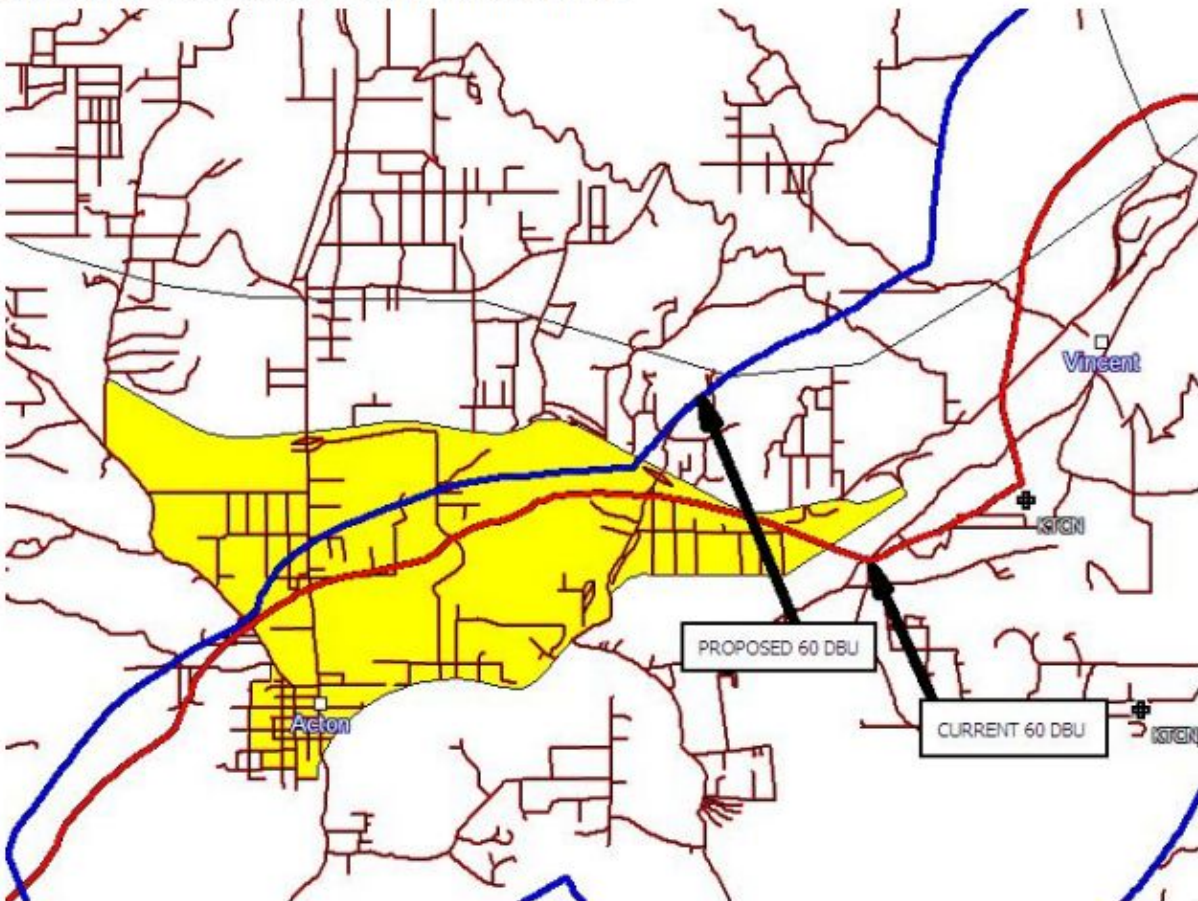
MEASURED ANTENNA PATTERN

Both the FCC envelope pattern and the measured horizontal pattern data were entered into computer software, and then 60 dBu contours plotted. Adequate coverage of the community of license, Acton, CA, was

confirmed covered by the measured antenna pattern, conforming to 47 C.F.R. Sections 73.315 or 73.515.

The original licensed stations complied with the minimum requirements for covering the community of license (see RED contour below). Within the approved FCC construction permit, a coverage upgrade was proposed to the station, expanding the station's footprint to a greater degree over Acton, California (see BLUE contour below):

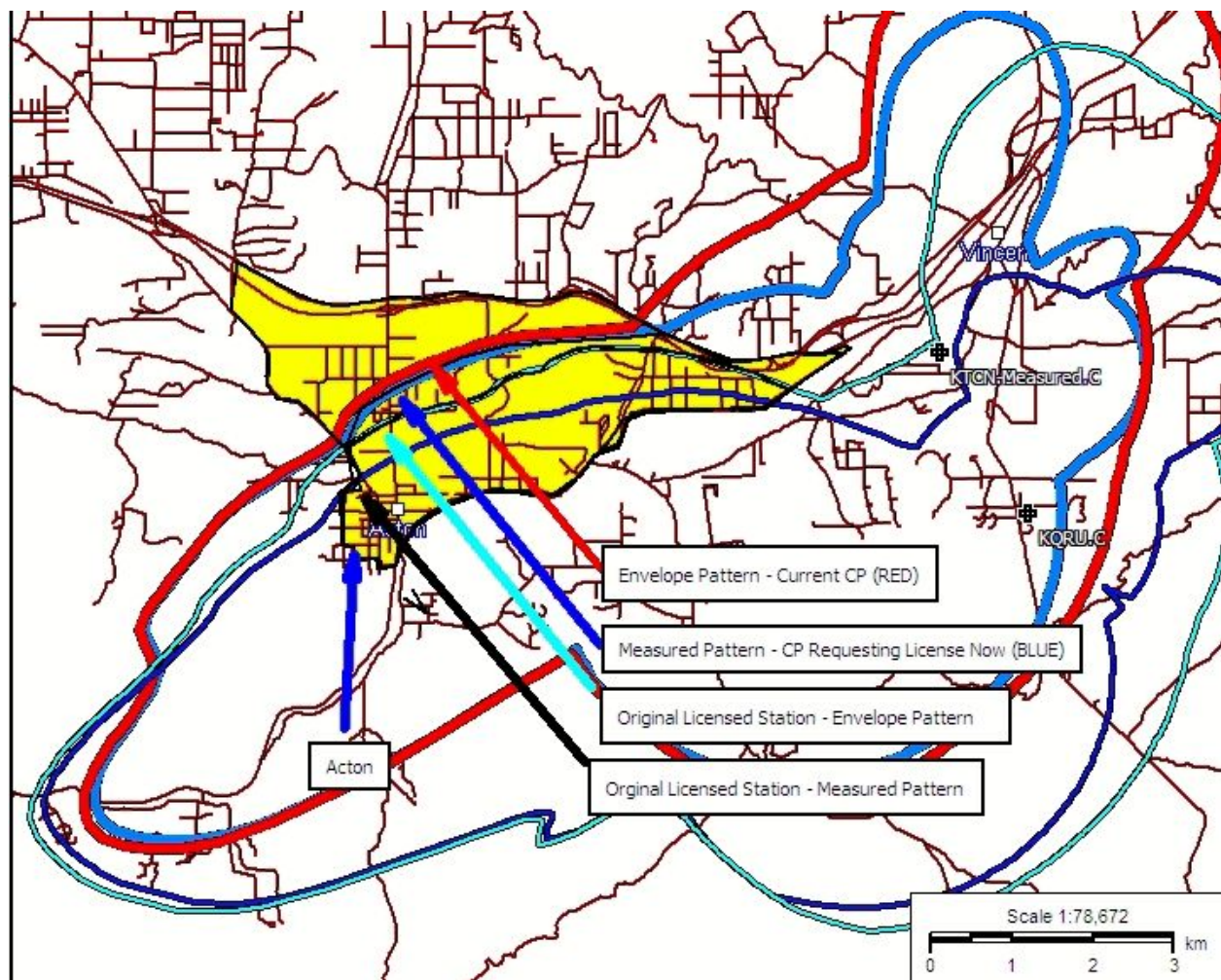
#### COMMUNITY OF LICENSE COVERAGE DETAIL



RED SHOWS CURRENT 60 DBU COVERAGE. BLUE IS PROPOSED 60 DBU COVERAGE. LICENSED CONTOUR PASSED 50% COVERAGE POPULATION THRESHOLD FOR ACTON. THE PROPOSED CONTOUR INCREASES COMMUNITY OF LICENSE COVERAGE FOR ACTON.

In the diagram below, the measured pattern in blue with the envelope pattern in red (along with the previously licensed measured and envelope patterns). The measured pattern covers Acton to a greater

degree than the current licensed facility. The recently constructed facility thus is compliant to the community of coverage rules.



#### ERP Calculation Check

CABLE: LMR-400 42 FEET = 0.486 DB TOTAL LOSS AT 88.3 MHZ

ANTENNA = 4.4X OR 6.4 DB GAIN (ONE BAY)

ERP = .12 KW

$120 \text{ w} / 4.4\text{x gain} = 27.3 \text{ w}$  watts into antenna

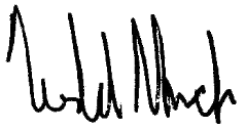
Line loss total of 3.7 w

$27.3 + 3.7 = \underline{31 \text{ w TPO}}$

For automatic program test authority with directional antenna, wattage is set to 1/2 the total ERP until authorization of license.

### VALIDATION

I, Todd Urick, certify that the report above, on behalf of the applicant, to be accurate and true to the best of my knowledge. My background is that I have a B.S. in Civil and Environmental Engineering from the University of California, Davis, and have 15 years experience working in broadcast engineering for FM radio stations, including preparing numerous engineering proposals for FCC facilities. This background is seen as qualified as the overseeing engineer for these purposes.

A handwritten signature in black ink, appearing to read 'Todd Urick', with a stylized, cursive script.

Todd Urick  
May 17, 2020