Technical Statement in Support of
Distributed Transmission System (DTS) Operation
for KQSL, Fort Bragg, CA Channel 8
July 27, 2018

Summary of Technical Proposal:

The applicant requests the ability to build a Distributed Transmission System to fill in coverage of Hopland and Cloverdale, California. There would be no change the main transmitter facility of KQSL covering its main city of license of Fort Bragg, California. An additional facility would be constructed on Duncan's Peak near Hopland, CA, with a single log-periodic antenna aimed towards Cloverdale to add in coverage of Cloverdale and Hopland which are currently terrain shielded from the main KQSL transmitter, but for which is in KQSL's current service contour.

Section 73.622(f)(2) states that the DTS must not extend coverage of the station's authorized service area except a minimal amount necessary to cover the applicant's service area. The proposed new DTS site in Hopland is 19 km from Cloverdale. To stay within the service contour of KQSL or within the equivalent maximized service area of the largest station in the market, a power of less than 1 watt would be needed. However, when performing a Longley-Rice study of coverage of Cloverdale, a power of 1 watt ERP would not provide a signal level of 36 dBuV/m to the majority of Cloverdale. Therefore, the applicant requests the ability to increase power above 1 watt for the new facility in Hopland to provide sufficient coverage of Cloverdale.

To fill in coverage of Cloverdale, no other site could be found besides the Hopland site to enable coverage of both Hopland and Cloverdale while not causing interference to KQSL's existing coverage or to other full power and Class A stations. Cloverdale is at the northern edge of Sonoma County with no other commercial TV stations predicting service contours over it. So, it is in the public interest to establish first full power commercial TV over-the-air coverage of this community. Cloverdale is approximately 126 km from San Francisco and to the main broadcast tower for the San Francisco market at Sutro mountain. Therefore, it would also be in the public interest to allow sufficient power from the newly proposed DTS transmitter for KQSL to cover the underserved community of Cloverdale well.

The applicant requests the ability to operate at 1kW ERP with a Kathrein-Scala CL-713 at an azimuth of 145 degrees at a height of 7 meters AGL. Section 73.626 (f)(2) does allow for a minimal amount of contour expansion to allow the DTS transmitters to coverall all of the applicant's service area. To predict a 36 dBuV/m signal contour over Cloverdale from the proposed tower would lead to an ERP of less than 1 watt. However, according to the Longley-Rice prediction models this would not predict any coverage of Cloverdale at 36 dBuV/m. To adequately cover Cloverdale would require a higher ERP, and so the applicant requests the ability to operate at 1 kW ERP from the Hopland site. If the Commission determines that an ERP of 1 kW for the DTS transmitter is too much at the site, then the applicant requests the ability to amend to a power level agreeable by the Commission staff. If a waiver request is needed to propose the amount of amount of power requested for the new DTS transmitters in Hopland, then one is hereby requested.

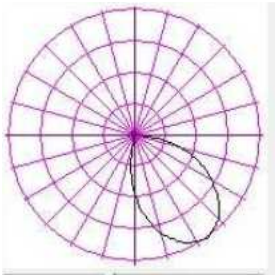
Environmental Statement:

According to TV Study, this proposal would not result in interference above the de minimus level to any other full power or Class A station.

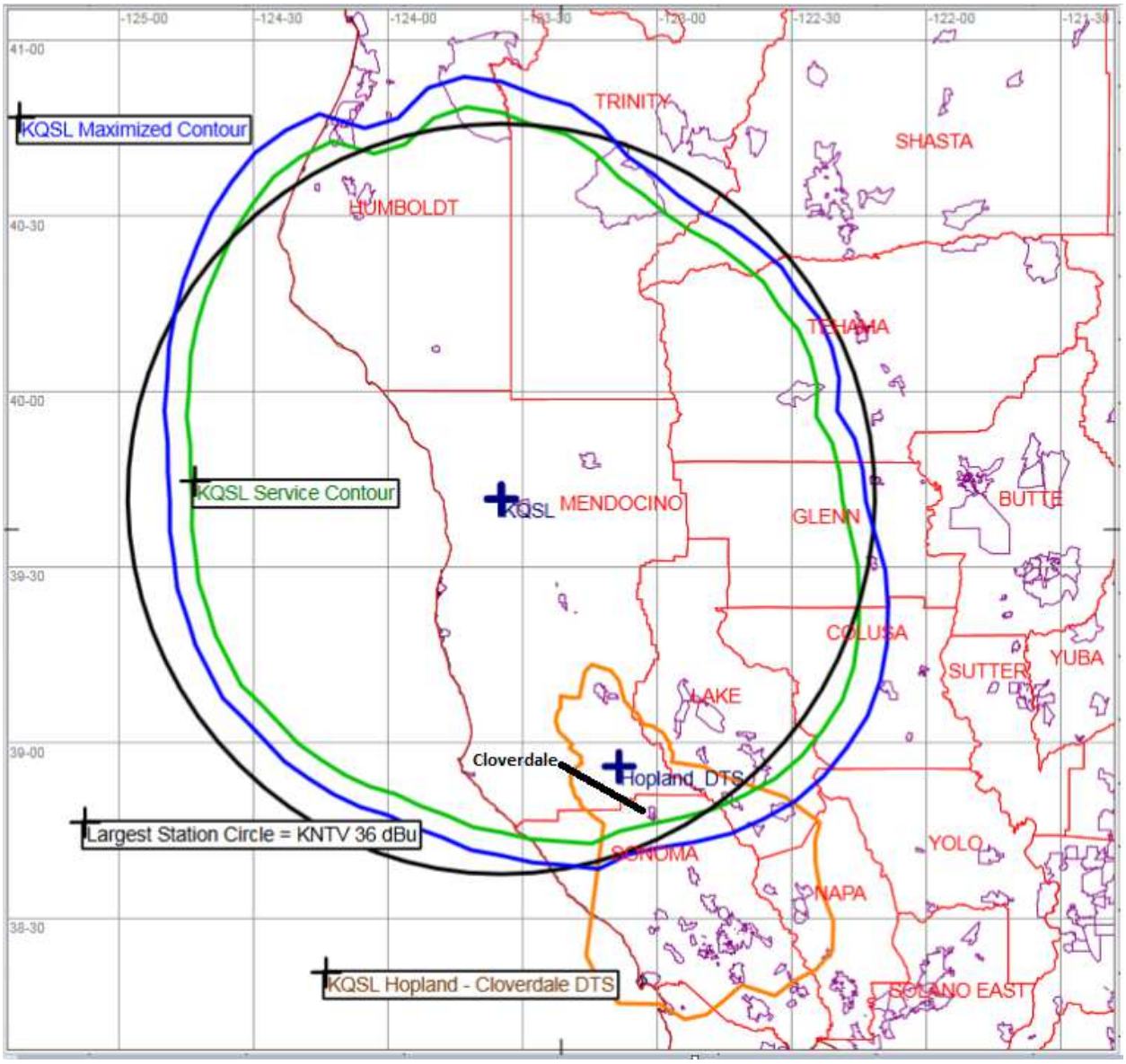
The newly proposed site is completely fenced. The proposal would not create an environmental impact. The proposed antenna is a horizontally-polarized Kathrein-Scala CL-713-HRM. This antenna very little downward radiation with the power being directed outward from the tower. The tower is primarily used for cellular communications with the only broadcast station at the tower being an FM translator at 11 watts that is co-owned by One Ministries, In.. Furthermore, the ridge that the tower is located on is uninhabited with only a private road for access to the site. The applicant will ensure placards warning of radiation hazard are posted in and around the site always and that station personnel are trained how to cease power in the event that anyone climbs the tower.

Proposed technical parameters of additional DTS transmitter at Hopland, CA:

Channel: 8
Location: 38° 55’ 54” N 123° 08’ 034” W (NAD 83)
Site Ground Level: 818 meters
Overall Tower Height AGL: 21.3 meters
Height of Radiation Center AGL: 7 meters
Height of Radiation AMSL: 825 meters
Height above Average Terrain: 422 meters
Antenna: Kathrein-Scala CL-713(Rear Horizontal Mount)
Polarization: Horizontal
Azimuth: 145 degrees
No mechanical or electrical beam tilt is proposed
Antenna Pattern (stock Kathrein-Scala CL-713):

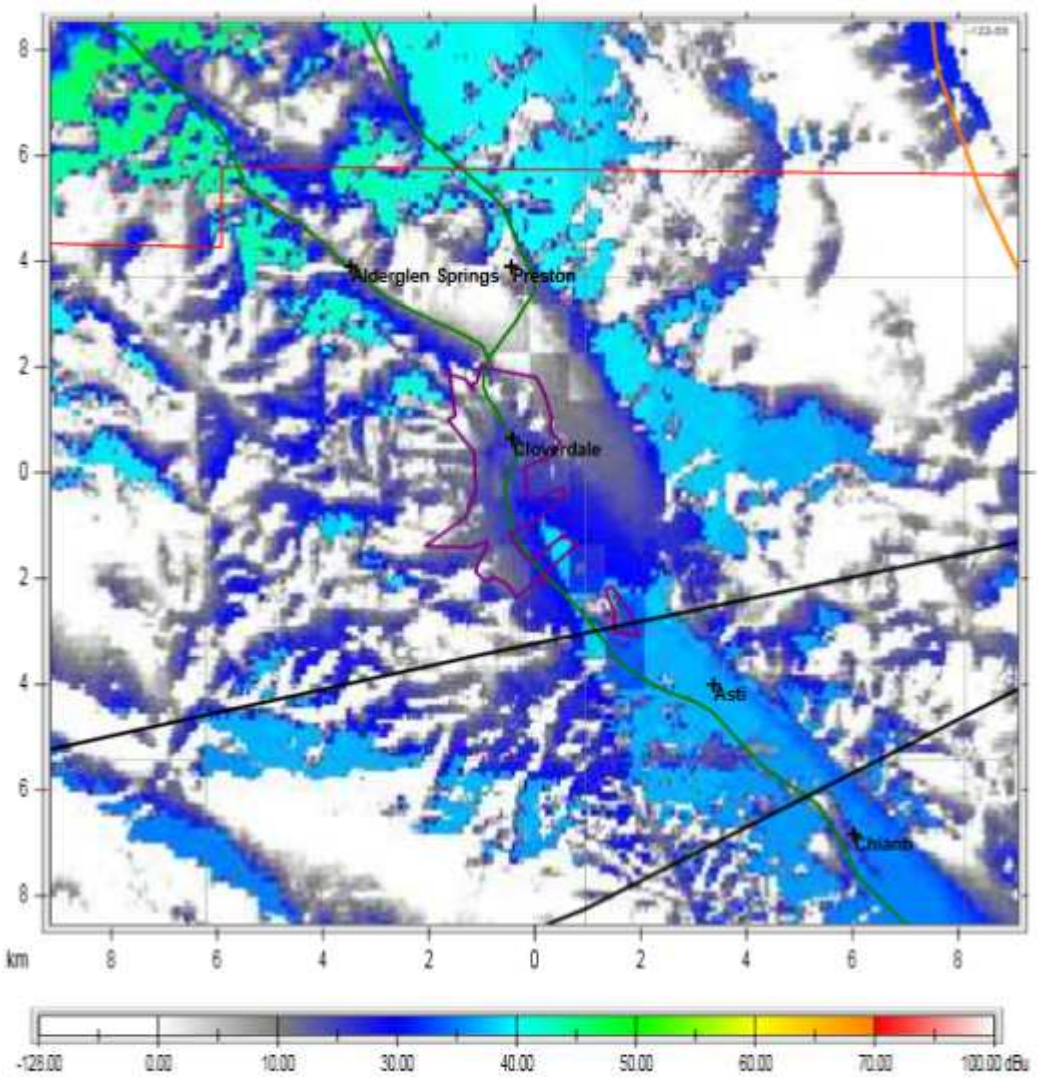


Contour Map of Proposed DTS with additional new transmitter site at Hopland, CA to cover Cloverdale (Orange Contour is the proposed service contour for the new DTS facility in Hopland):

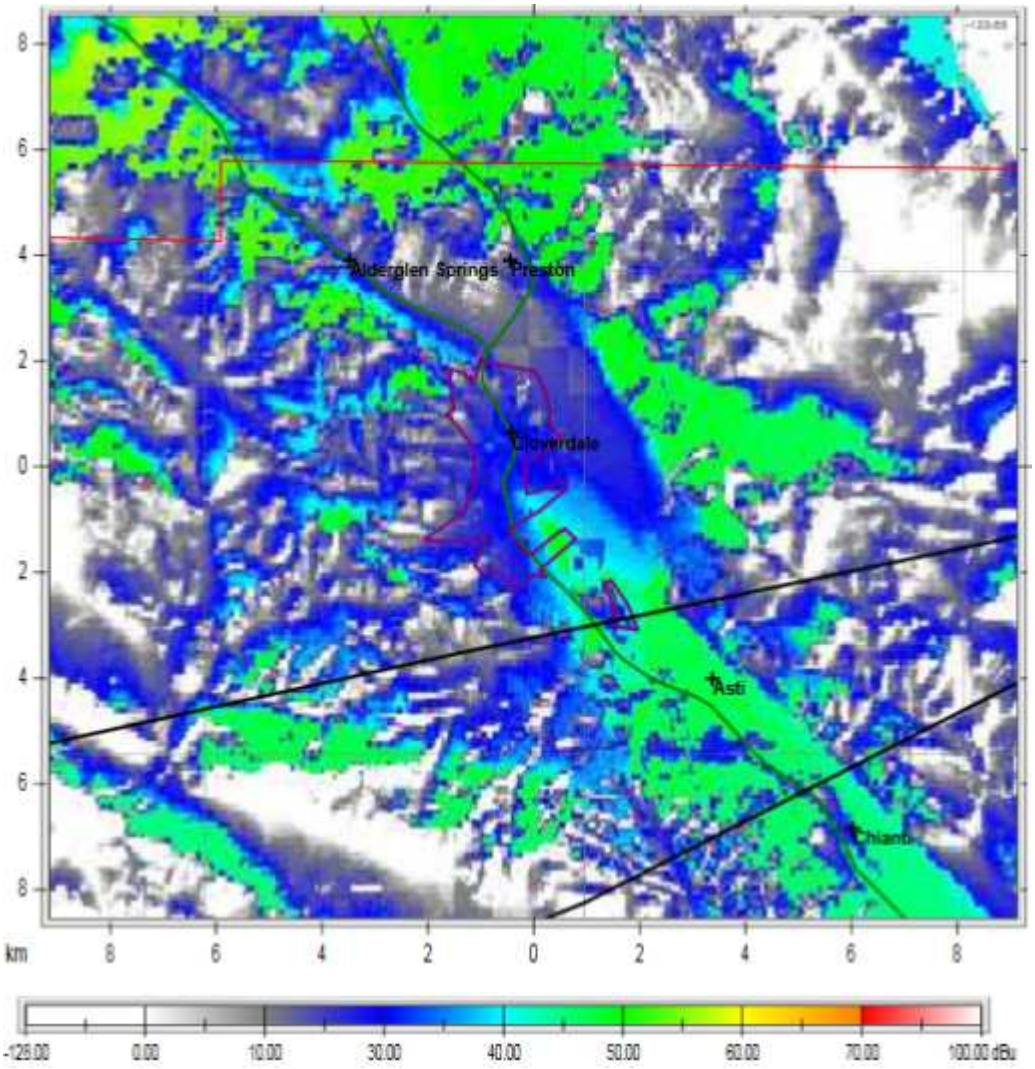


Comparison of Longley-Rice Signal Strength over Cloverdale vs. ERP of Hopland DTS:

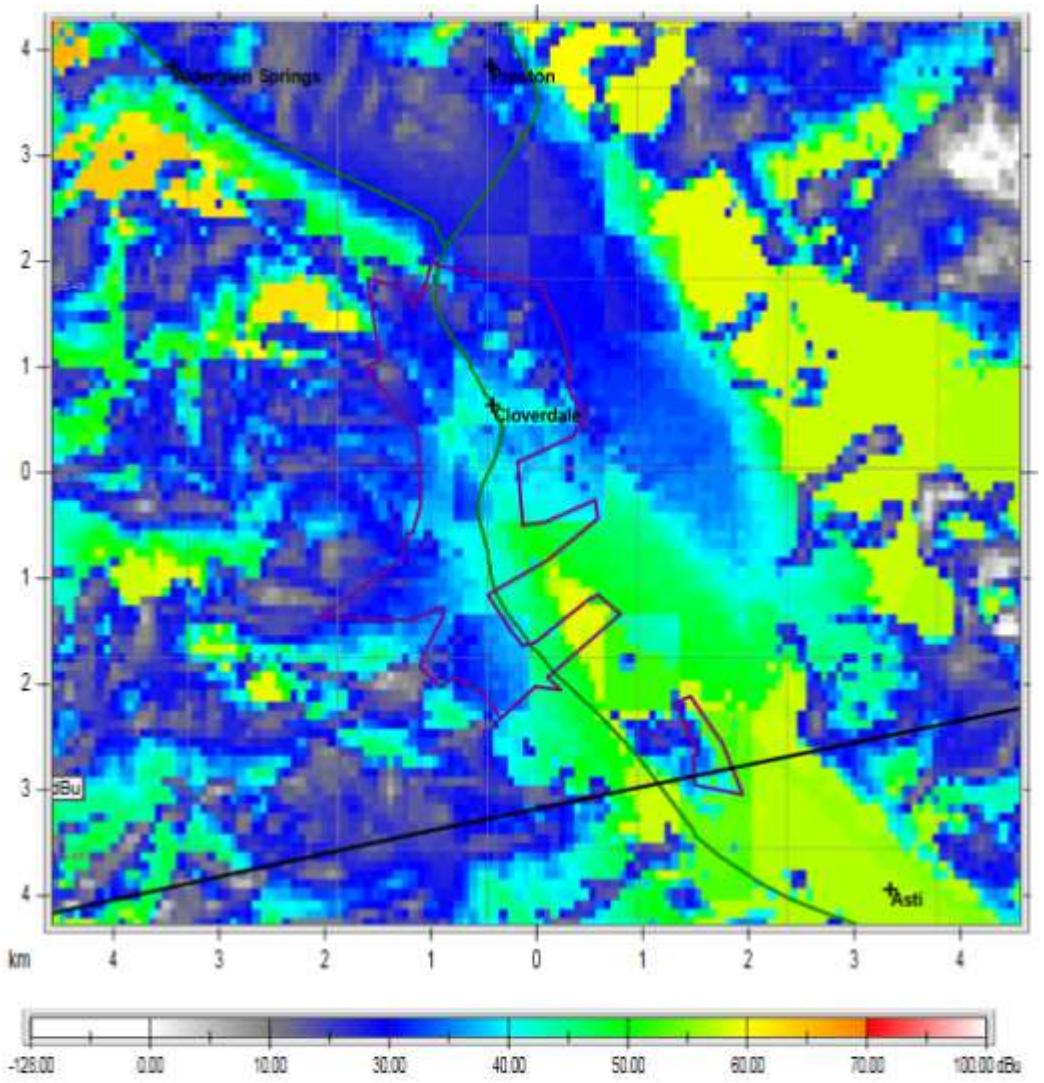
At an ERP of 1 watt, no area of Cloverdale would receive a 36 dBuV/m signal:



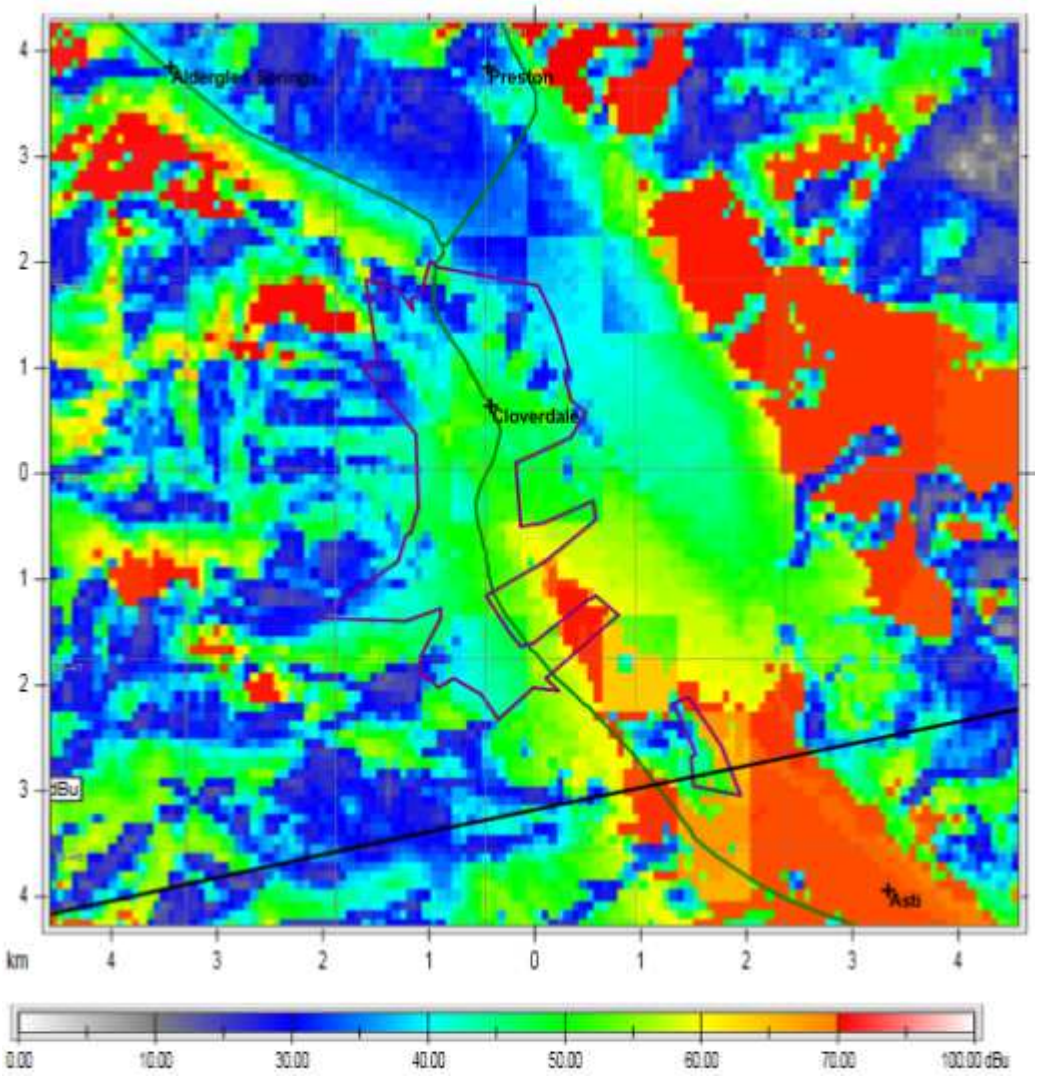
At an ERP of 10 watts, only a small area of Cloverdale would receive a 36 dBuV/m signal:



At an ERP of 100 watts, less than half of Cloverdale would receive a 36 dBuV/m signal



At an ERP of 1000 watts, almost all of Cloverdale would receive at least a 36 dBuV/m signal:



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