



# **OWL ENGINEERING & EMC TEST LABS, INC.**

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**CONSULTING COMMUNICATIONS ENGINEERS · EMC TEST LABORATORIES**

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The antenna impedance of the KTOE and KFSP non-directional towers were measured as required by the special condition of the construction permit.

After the installation of the translator antenna the impedance of the antenna towers did not change by more than 2% and operation was continued at the licensed parameters.

The directional antenna system was measured after construction and both the licensed antenna monitor and monitoring points and none varied and were within the license parameters.

The antenna systems non-directional pattern was modeled using MiniNec Broadcast Pro for both KTOE and KFSP. The existing STL tower used for the translator antenna was included in the analysis calculations and confirmed the field measurements that it did not cause distortion to the non-directional patterns or the directional antenna system.

Spurious and harmonic measurements were made and showed that all emissions were within the Rules and Regulations.

Garrett G. Lysiak, P.E.