

Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields

**KUPL Auxiliary Facility
Stonehenge Common Antenna and Transmitter Site
Portland, Oregon
Report of Measurements & Conclusions
Response to KUPL CP Special Operating Condition 2**

July 17, 2018

This report details radio frequency radiation (RFR) measurements made on July 17, 2018, at and around the Stonehenge Common Antenna Site in Portland, Oregon. The measurements detailed herein were made by James Boyd of Boyd Broadcast Technical Services.

The measurement equipment used consists of a Narda Microwave model 8718B RFR meter (SN: 7127) with a model A8722D E-Field probe (SN: 09014). The E-Field probe is broadband with a frequency coverage of 300 kHz to 50 GHz. The instrument set was calibrated in March of 2016.

The A8722D probe used is a “shaped” probe, meaning that the response to radiofrequency fields follows the 1997 FCC Limits for Maximum Permissible Exposure (MPE) for Occupational/Controlled Exposure, resulting in a display on the 8718B meter of percentage of MPE. Because of the frequencies in use at this site, the MPE for General Population/Uncontrolled Exposure limit is one-fifth or 20% of the Occupational/Controlled Exposure limit. Readings in areas where access is available to the General Population (Uncontrolled), were multiplied by a factor of 5. A picture of the measurement test equipment used is shown on page five.

Measurement techniques used are consistent with generally accepted practices. Steps and procedures used in making these measurements are similar to those printed in Section 3 of OET Bulletin 65, Edition 97-01, August 1997, published by the FCC Office of Engineering and Technology.

KUPL is located on a 153.9 meter tower. The tower supports several antennas including the KUPL auxiliary antenna (shared with KBFF and KXL-FM Auxiliary) which is mounted with a radiation center of 130 meters.

The antenna support structure is located near the apex of a local promontory known as Council Crest. There are no significant rises in terrain within several hundred meters. The point of closest approach to the antenna is directly beneath it. The base of the tower is accessible to the general public.

There are FM stations on three different antennas at this site. They are KBOO, KGON, KRYP, KPDQ-FM, KNRK, KBFF, KWEE, KYCH-FM, KLVP, KUPL (Auxiliary), KWJJ, KXL-FM (Auxiliary) and KFIS. There are also numerous land-mobile, microwave and wireless antennas on the Stonehenge tower.

The area surrounding the transmitter site slopes downward, and in some places, steeply downward. The area around the site is residential with mostly single-family homes.

Measurements were made at 25 locations throughout the area within about 500 meters of the tower. No areas exceeded the MPE for General Population/Uncontrolled Exposure.

The highest level observed was located about 100 feet north of the intersection of McDonnell Terrace and Council Crest Drive. At this location RFR measured 27.5% of the General Population MPE.

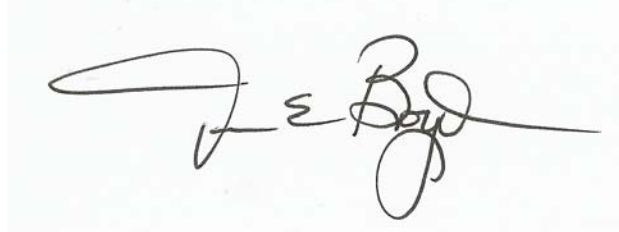
The data collected conclusively shows RFR levels in areas accessible to the general public do not exceed FCC limits for General Public/Uncontrolled MPE.

Workers in the building at the transmitter site are safe at full power levels.

Tower work, of course, requires shut down of the facilities.

A picture of the Stonehenge tower is shown on page three. A map and satellite photo of the area around the transmitter site is on page four. A picture of the Narda survey instrument and probe is on page five.

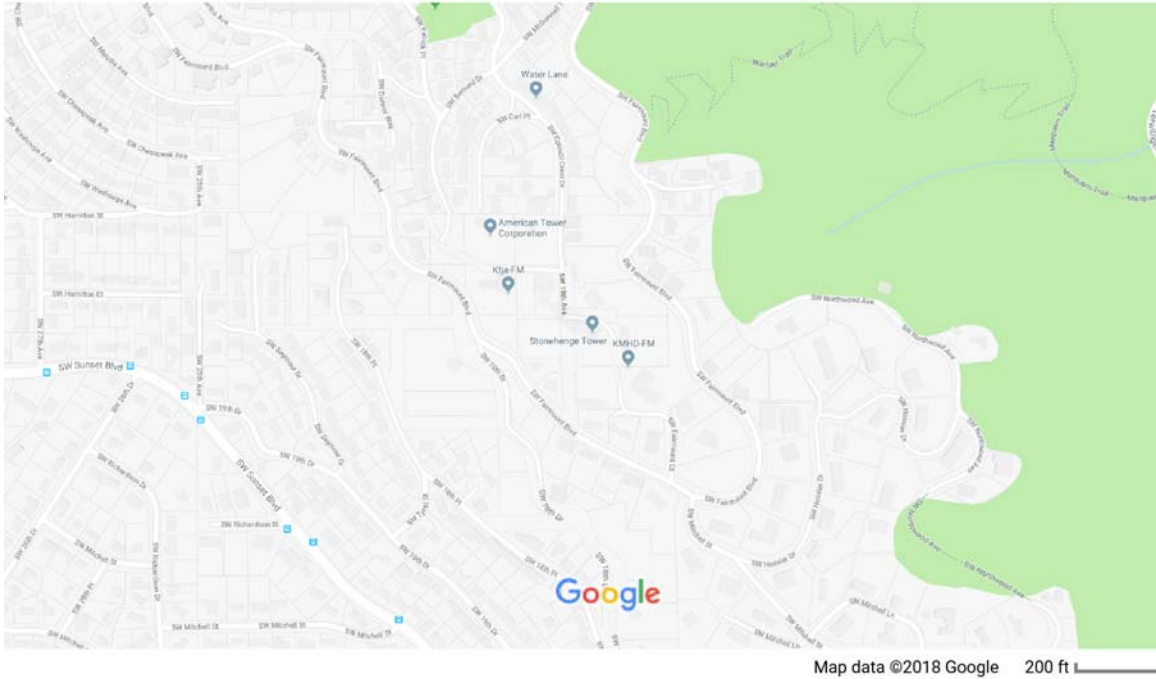
All measurements were made by the undersigned who is an experienced radio broadcast technician and has experience making these measurements. The technical qualifications of the undersigned are a matter of record with the Federal Communications Commission.

A handwritten signature in black ink, appearing to read "J E Boyd", with a long horizontal line extending to the right.

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Stonehenge Tower



Map of area around the Stonehenge transmitter site.



Satellite photo of area around the Stonehenge transmitter site.



Narda Test Equipment