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STA Application for Operation at Reduced Parameters During Spectrum Repack Transition
KIRO-TV, Inc.
KIRO-TV, Seattle, WA
File Number: BLCDT-20091218ACR

KIRO-TV Antenna and Transmitter Installation Issues

KIRO-TV, licensed to KIRO-TV, Inc., (hereinafter "KIRO") and serving the Seattle, Washington market, currently operates on Channel 39 at a site on Queen Anne Avenue North in Seattle. KIRO has two antennas and two transmitters at the Queen Anne site – Main and Auxiliary antennas and Main and Auxiliary transmitters. The Main antenna is considerably higher than the Auxiliary antenna, and the Main transmitter produces double the power output of the Auxiliary transmitter. The result is that the Auxiliary antenna and transmitter combination produces considerably weaker signals over a much smaller service area than is provided by the combination of the Main antenna and transmitter. The Auxiliary antenna and transmitter system is adequate for operation during short-term outages, but it is not sufficient for operation during longer periods such as will be necessary for substantial reconstruction of the KIRO facilities.

KIRO will move from Channel 39 to Channel 23 in the Post-Incentive-Auction spectrum repack. To change the station's channel, both of its antennas and both of its transmitters must be replaced. The replacements must be made with as little disruption as possible to its delivery of service to its viewers. Minimizing disruption of signal delivery implies delivering the strongest signals possible at any given time. To achieve that goal, KIRO has developed a transition plan the first step of which is to modify its Channel 39 Auxiliary facilities to provide the best signals they can while the KIRO Main facilities are converted for operation on Channel 23. Once that conversion is complete and after the station transitions to its new channel, the Auxiliary facilities also will be converted to Channel 23.

To support the KIRO transition plan, a total of five applications to the FCC are expected. The first was the Construction Permit application to convert the Main facilities, which was filed previously and has been granted. Next is an Engineering STA request to enable continued operation on Channel 39 with the best performance achievable using the current Auxiliary equipment, the application for which is supported by this Technical Statement. Following the STA will be a Construction Permit application to move the Auxiliary facilities to Channel 23 in the physical location specified in this STA application. Finally, there will be two applications for Licenses to Cover the Main and Auxiliary facilities following their respective moves to Channel 23.

Request for Operation with Reduced Parameters Under STA

To maintain the best possible service to the KIRO viewing audience during the station's reconstruction and channel transition, the current Channel 39 Auxiliary antenna will be moved as high on the KIRO tower as possible without preventing work on replacement of the Main antenna, located near the top of the tower, while operation continues on the relocated Auxiliary antenna. Continued operation on Channel 39 will depend on use of the medium-power transmitter that KIRO maintains for Auxiliary operation since the Main transmitter will be replaced at the same time as the Main antenna. Once the antennas and transmitters all are replaced, switching will be provided so that it will be possible to feed the new Auxiliary antenna with the new Main transmitter, enabling higher power operation on the Auxiliary antenna than currently is possible, while allowing switching to a lower power Auxiliary transmitter when both the Main antenna and Main transmitter must be taken off the air. In the meantime, operation of KIRO on Channel 39 is proposed with the Temporary facilities described in the next section and in the associated record in the Commission's LMS system.

Facilities Requested Under STA

KIRO requests an Engineering STA for its Main station license to operate on its current, pre-auction channel at reduced parameters while it constructs its post-auction facilities. Requested facilities at the Queen Anne site are detailed technically in the LMS form to which this description is attached. In summary, they include operation with a directional antenna having a radiation center height of 145.69 m (478.0 ft) above ground level (RCAGL), corresponding to 267.59 m above mean sea level (RCAMSL), peak effective radiated power (ERP) of 490 kW, and an azimuth orientation of the axis of symmetry of the antenna toward 90.0 degrees True. The map in Figure 1 on the next page shows a comparison of the contours of the current Main facility and of the proposed temporary facility to be used during reconstruction of the Queen Anne operation.

Environmental Impact and Radio Frequency Radiation

None of the conditions specified in Section 1.1307 of the FCC rules that would require the preparation of an Environmental Assessment pertain with respect to the proposed facility. In particular, because the proposed facility will be installed on a tower at an existing site, the proposed operation does not implicate many of the causes for further investigation and preparation of further reports.

With respect to Radio Frequency Radiation exposure, OET Bulletin No. 65 provides methods for evaluating the level of exposure for both employees (occupational/controlled situations) and non-employees (general population/uncontrolled situations). The combination of the antenna radiation pattern, as provided in the manufacturer's technical specifications, with the antenna height above ground level and the operating power level indicate that the potential exposure would be less than 5 percent of the Maximum Permissible Exposure (MPE) limit for general population/uncontrolled situations at the site.

To be precise, OET-65 methods produce an exposure estimate of approximately 1.21 percent of the limit for general population/uncontrolled situations. Since the facility has a calculated exposure value of less than 5 percent of the relevant exposure limit, it is categorically excluded from requirements for detailed RF exposure analyses of the site.

Notwithstanding the foregoing, KIRO-TV, Inc. recognizes its responsibility for the safety and health of employees and contractors when exposed to RF radiation conditions. It will take the steps necessary to assure that personnel working in its facilities and on the tower and antennas are protected from exposure to RF radiation levels exceeding those specified in the Commission's rules. It will work cooperatively with other users of the site to assure a safe working environment for all. Added steps to

be taken may include measurements and monitoring as well as power reduction or turning off the transmitter, if necessary to ensure a safe working environment.

Contour Comparison of KIRO Licensed Main and Proposed Temporary Facilities

Figure 1 below shows the Channel 39 contours of the licensed KIRO facility at the Queen Anne site, in orange, and of the proposed Temporary KIRO facility, in brown, overlaid on the map. The map was produced using EDX Signal software, version 11.6.6.

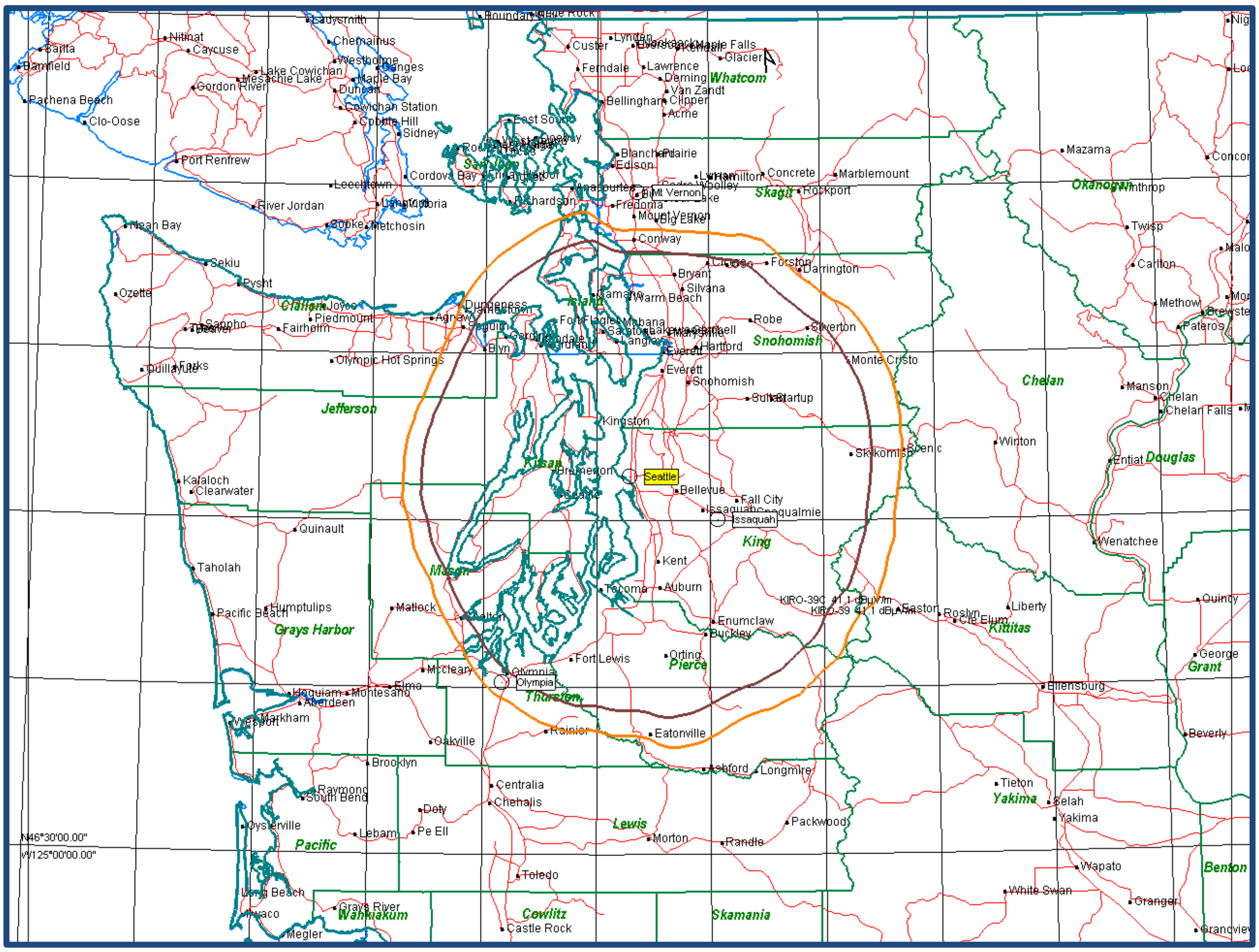

Figure 1 – Comparison of KIRO 41.1 dBu Contours – Licensed Facility (Orange) vs. Proposed Temporary Facility (Brown)