

# T Z SAWYER TECHNICAL CONSULTANTS

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## ENGINEERING STATEMENT IN SUPPORT OF SPECIAL TEMPORARY AUTHORITY (STA) REQUEST

STARADIO CORPORATION

RADIO STATION KWGF (FM) VAUGHN, MONTANA  
CH 269C1 - 101.7 MHZ, FCC Facility ID: 164134

RADIO STATION KINX (FM) FAIRFIELD, MONTANA  
CH 274C1 - 102.7 MHZ, FCC Facility ID: 164133

### **Engineering Narrative**

This engineering narrative statement supports a request by FM Radio Stations, KWGF (FM), Vaughn, Montana, and KINX (FM), Fairfield, Montana to operate from a temporary site (co-owned KQDI-FM transmitter site) with reduced power, using a temporary antenna while replacement of its COMMON main antenna is made.

A temporary low-power transmitters (400 watt each) will be installed, along with a small transmitter combiner network that will feed a COMMON STA antenna. Each facility will operate with an effective radiated power (non-directionally) of 0.483 kilowatts (H & V).

The predicted service contours (identical) from this proposal does not extend beyond the licensed service contours (identical) from either facility, as shown on the service contour map - Figure 1.

As noted above KWFG and KINX share a common antenna at their licensed site. The stations will be/ are replacing the common antenna with an identical antenna (type and model), and seek to operate during this period (not to exceed 6 months) from an STA site located on the KQDI-FM tower.

A grant of this proposal is in the public interest as it will allow KWFG and KINX to continue to broadcast to their respective listeners and their communities while the common main antenna is replaced.

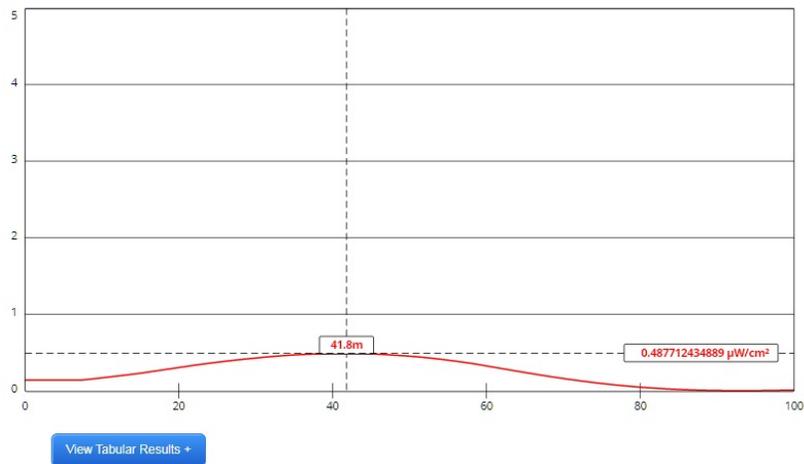
A similar STA was sought during the repair of the common antenna in 2013. The technical details follow in the table below:

### STA FACILITIES SOUGHT

|                                |                                 |                   |
|--------------------------------|---------------------------------|-------------------|
| STATION                        | KWGF                            | KINX              |
| FAC ID                         | 164134                          | 164133            |
| FREQUENCY/CHANNEL              | 101.7 MHZ / 269C1               | 102.7 MHZ / 274C1 |
| MAXIMUM ERP (H & V)            | 0.483 KW                        | 0.483 KW          |
| TOWER FCC ASR                  | 1007676                         |                   |
| LATITUDE (dd-mm-ss.s) NAD 83   | 47-32-22.8 N                    |                   |
| LONGITUDE (ddd-mm-ss.s) NAD 83 | 111-17-08.9 W                   |                   |
| ANTENNA                        | ERI LPX-3E (3-Bays 1.0 spacing) |                   |
| AMSL                           | 1151.3 meters                   |                   |
| AGL                            | 85.3 meters                     |                   |
| TPO                            | 0.400 kW                        |                   |

#### Safety & Other Considerations:

Staradio (licensee of each facility) will cooperate with all site users regarding access to the tower and worker safety, and will reduce power or terminate operations if needed to remain in compliance with the Commission's Rules. The results of the FCC's on-line FM Model program indicate that the power density from the STA proposal is well below the Commission's guideline for both workers and the general public (less than 1%). The antenna is an EPA Type 3 (ERI LPX 3-bays fully spaced). A graphical plot of the predicted power density is shown below:



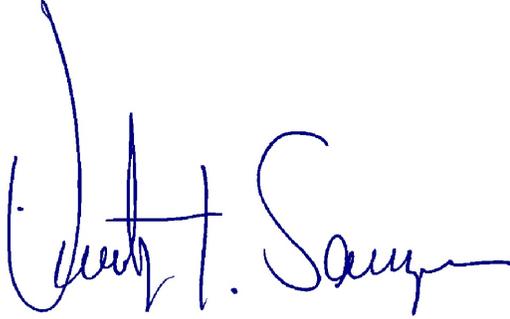
|                   |                                |                     |     |
|-------------------|--------------------------------|---------------------|-----|
| Channel Selection | Channel 269 (101.7 MHz) ▼      |                     |     |
| Antenna Type +    | EPA Type 3: Opposed U Dipole ▼ |                     |     |
| Height (m)        | 85.3                           | Distance (m)        | 100 |
| ERP-H (W)         | 483                            | ERP-V (W)           | 483 |
| Num of Elements   | 3                              | Element Spacing (λ) | 1   |
| Num of Points     | 500                            | <b>Apply</b>        |     |



Attachments: Proposed STA Service Contour Map

Respectfully submitted,

Timothy Z. Sawyer, Consulting Engineer  
T Z Sawyer Technical Consultants  
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Falls Church, VA 22043  
September 28, 2020

A handwritten signature in blue ink, reading "Timothy Z. Sawyer". The signature is written in a cursive style with a large initial "T" and "S".

