



## **RADIO FREQUENCY IMPACT, SAFETY & STATEMENT OF COMPLIANCE**

The licensee of KUNP-LD is committed to the protection of station personnel and/or tower contractors working in the vicinity of the KUNP-LD antenna and will reduce power or cease operation, when necessary, to ensure protection to personnel.

As shown in Appendix A the proposed KUNP-LD channel 34 modified facility will operate with a maximum ERP of 15 kW from an elliptically polarized non-directional transmitting antenna with a centerline height of 274.1 meters above ground level (AGL). Considering the elevation pattern submitted in this application, the vertical plane relative field factor is less than 0.150 at all depression angles greater than 14 degrees. The KUNP-LD proposed modified facility is predicted to produce a worst-case power density at two meters above ground level, at 99.0 meters from the tower base, of  $0.137 \mu\text{W}/\text{cm}^2$ , which is 0.035% of the FCC guideline value of  $395.33 \mu\text{W}/\text{cm}^2$  for an "uncontrolled" environment, and 0.007% of the FCC's guideline value for "controlled" environments. Therefore, pursuant to Section 1.1307(b)(3) of the FCC Rules, because the proposed facility would not exceed 5% of the uncontrolled and controlled exposure limits, the proposal's power density contribution is considered insignificant. (See Appendix A)

Further, the applicant will continue to cooperate and coordinate with other any other site users and reduce power or cease operation during times of service or maintenance of the transmission systems as necessary to avoid potentially harmful exposure to personnel. In light of the above, the proposed facility should be categorically excluded from RF environmental processing under Section 1.1307(b) of the Commission's Rules.

**KUNP-LD**  
**Channel 34 - Portland, Oregon**  
**ERP = 15000.00 WATTS**

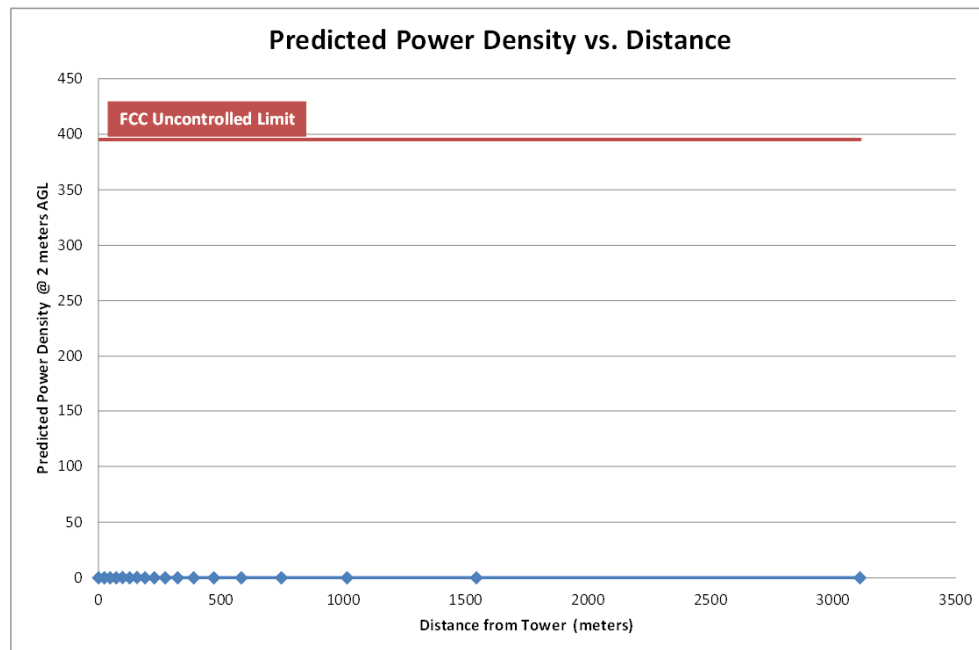
## APPENDIX A

**Maximum ERP** 15 kW

Polarization ----- 2 Circular  
 Antenna Height Above Ground - 274.1 meters 899.3 feet  
 FCC Uncontrolled RFR Limit ---- 395.33  $\mu\text{W}/\text{cm}^2$

Maximum Computed Power Density 0.137  $\mu\text{W}/\text{cm}^2$   
 0.03% of limit

| Angle<br>Below<br>Horizontal<br>(degrees) | <Point X><br>Horiz Distance<br>from tower<br>to 2 m AGL<br>(meters) | Slant Distance<br>from antenna<br>to Point X<br>(meters) | Vertical<br>Pattern<br>(REL. FIELD) | KUNP-LD<br>ERP<br>(kW) | KUNP-LD<br>Calculated<br>Power<br>Density<br>$\mu\text{W}/\text{cm}^2$ | Percent<br>Limit | Limit<br>Exceeded? |
|---|---|--|-------------------------------------|------------------------|--|------------------|--------------------|
| 1   |   |  | 1.000                               | 15.0000                |  |                  |                    |
| 5   | 3110.1  | 3122.0   | 0.397                               | 2.3641                 | 0.016  | 0.00%            | No                 |
| 10  | 1543.2  | 1567.0   | 0.141                               | 0.2982                 | 0.008  | 0.00%            | No                 |
| 15  | 1015.5  | 1051.3   | 0.068                               | 0.0694                 | 0.004  | 0.00%            | No                 |
| 20  | 747.6   | 795.6  | 0.021                               | 0.0066                 | 0.001  | 0.00%            | No                 |
| 25  | 583.5   | 643.8  | 0.042                               | 0.0265                 | 0.004  | 0.00%            | No                 |
| 30  | 471.3   | 544.2  | 0.073                               | 0.0799                 | 0.018  | 0.00%            | No                 |
| 35  | 388.6   | 474.4  | 0.099                               | 0.1470                 | 0.044  | 0.01%            | No                 |
| 40  | 324.3   | 423.3  | 0.054                               | 0.0437                 | 0.016  | 0.00%            | No                 |
| 45  | 272.1   | 384.8  | 0.094                               | 0.1325                 | 0.060  | 0.02%            | No                 |
| 50  | 228.3   | 355.2  | 0.046                               | 0.0317                 | 0.017  | 0.00%            | No                 |
| 55  | 190.5   | 332.2  | 0.024                               | 0.0086                 | 0.005  | 0.00%            | No                 |
| 60  | 157.1   | 314.2  | 0.104                               | 0.1622                 | 0.110  | 0.03%            | No                 |
| 65  | 126.9   | 300.2  | 0.056                               | 0.0470                 | 0.035  | 0.01%            | No                 |
| 70  | 99.0  | 289.6  | 0.107                               | 0.1717                 | 0.137  | 0.03%            | No                 |
| 75  | 72.9  | 281.7  | 0.061                               | 0.0558                 | 0.047  | 0.01%            | No                 |
| 80  | 48.0  | 276.3  | 0.017                               | 0.0043                 | 0.004  | 0.00%            | No                 |
| 85  | 23.8  | 273.1  | 0.003                               | 0.0001                 | 0.000  | 0.00%            | No                 |
| 90  | 0.0   | 272.1  | 0.000                               | 0.0000                 | 0.000  | 0.00%            | No                 |

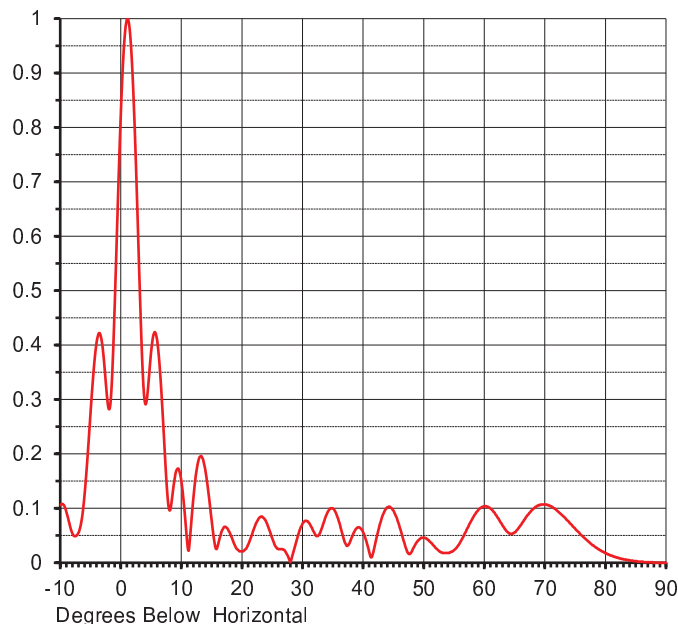
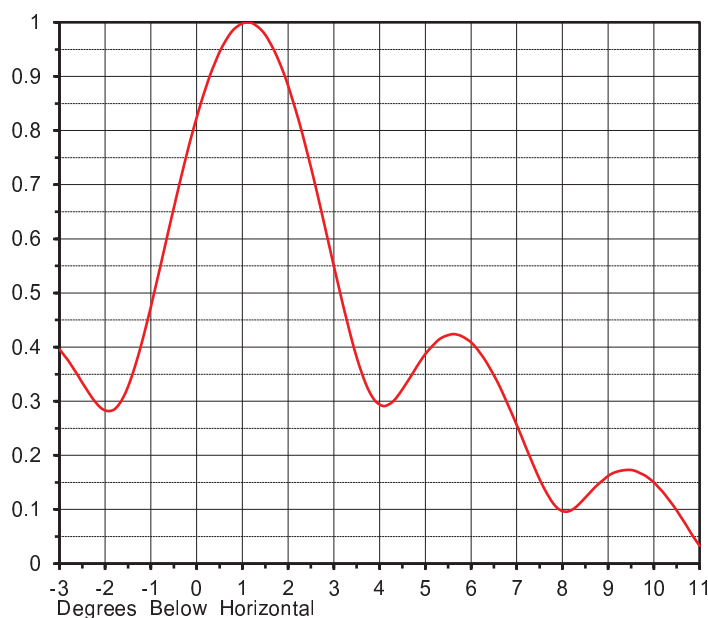


## ELEVATION PATTERN

Proposal No. **C-70868-1**  
 Date **6-Oct-17**  
 Call Letters **KRCW**  
 Channel **33**  
 Frequency **587 MHz**  
 Antenna Type **TUM25-O4-8/32H-1-R-T**

RMS Directivity at Main Lobe **14.0 ( 11.46 dB )**  
 RMS Directivity at Horizontal **10.2 ( 10.09 dB )**  
**Calculated**

Beam Tilt **1.00 deg**  
 Pattern Number **08U140100**



| Angle | Field | Angle | Field | Angle | Field | Angle | Field | Angle | Field |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| -10.0 | 0.106 | 10.0  | 0.141 | 30.0  | 0.073 | 50.0  | 0.046 | 70.0  | 0.107 |
| -9.0  | 0.090 | 11.0  | 0.024 | 31.0  | 0.073 | 51.0  | 0.038 | 71.0  | 0.103 |
| -8.0  | 0.052 | 12.0  | 0.132 | 32.0  | 0.052 | 52.0  | 0.026 | 72.0  | 0.095 |
| -7.0  | 0.057 | 13.0  | 0.195 | 33.0  | 0.061 | 53.0  | 0.018 | 73.0  | 0.085 |
| -6.0  | 0.135 | 14.0  | 0.160 | 34.0  | 0.092 | 54.0  | 0.018 | 74.0  | 0.073 |
| -5.0  | 0.291 | 15.0  | 0.068 | 35.0  | 0.099 | 55.0  | 0.024 | 75.0  | 0.061 |
| -4.0  | 0.411 | 16.0  | 0.035 | 36.0  | 0.073 | 56.0  | 0.039 | 76.0  | 0.050 |
| -3.0  | 0.385 | 17.0  | 0.066 | 37.0  | 0.035 | 57.0  | 0.061 | 77.0  | 0.040 |
| -2.0  | 0.282 | 18.0  | 0.052 | 38.0  | 0.046 | 58.0  | 0.082 | 78.0  | 0.031 |
| -1.0  | 0.511 | 19.0  | 0.026 | 39.0  | 0.065 | 59.0  | 0.098 | 79.0  | 0.023 |
| 0.0   | 0.853 | 20.0  | 0.021 | 40.0  | 0.054 | 60.0  | 0.104 | 80.0  | 0.017 |
| 1.0   | 1.000 | 21.0  | 0.035 | 41.0  | 0.016 | 61.0  | 0.099 | 81.0  | 0.013 |
| 2.0   | 0.856 | 22.0  | 0.066 | 42.0  | 0.040 | 62.0  | 0.085 | 82.0  | 0.009 |
| 3.0   | 0.514 | 23.0  | 0.084 | 43.0  | 0.083 | 63.0  | 0.067 | 83.0  | 0.006 |
| 4.0   | 0.291 | 24.0  | 0.073 | 44.0  | 0.102 | 64.0  | 0.054 | 84.0  | 0.004 |
| 5.0   | 0.397 | 25.0  | 0.042 | 45.0  | 0.094 | 65.0  | 0.056 | 85.0  | 0.003 |
| 6.0   | 0.400 | 26.0  | 0.025 | 46.0  | 0.063 | 66.0  | 0.070 | 86.0  | 0.002 |
| 7.0   | 0.236 | 27.0  | 0.022 | 47.0  | 0.026 | 67.0  | 0.087 | 87.0  | 0.001 |
| 8.0   | 0.096 | 28.0  | 0.004 | 48.0  | 0.022 | 68.0  | 0.099 | 88.0  | 0.000 |
| 9.0   | 0.167 | 29.0  | 0.044 | 49.0  | 0.041 | 69.0  | 0.106 | 89.0  | 0.000 |
|       |       |       |       |       |       |       |       | 90.0  | 0.000 |

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