**Environmental Protection Act**

**Proposed KEZB, Beaver, UT (FIN: 175866)**

**7/27/2018**

Power density for proposed KEZB was calculated according to the standard formula specified in OET 65 for worst case scenario.

$$S = 33.4\ (F^2)\ \ ERP \div R^2$$

The general population exposure limit (GPE) was obtained for proposed KEZB based on the value of 200μW/cm$^2$ as specified in OET 65[1].

Pages 2 through 4 of this exhibit consist of a table summarizing the pertinent data for proposed KEZB. The table shows the depression angle, interpolated relative field value, the power density (μW/cm$^2$) and the percent of the GPE limit. Calculations were performed on horizontal distances of 0m to 100m from the base of the tower.

## Conclusion

The analysis presented in this exhibit demonstrates that the greatest Rf power density from this proposal occurs at a distance of 7m from the base of the tower and represents 13.735μW/cm$^2$ or 6.87% of the allowable GPE limit of 200 μW/cm$^2$. This application is therefore compliant with the guidelines for human exposure as specified in OET Bulletin No. 65, Edition 97-01, August 1997[1].

Furthermore, the transmit tower is in a remote mountain top location accessible only by 4 wheel drive vehicles. The Gillies Hill electronic site is the home for numerous FM and TV translators, and other communication facilities. The transmit antennas for KEZB are the only transmit antennas mounted on a pipe extending from a wooden pole.

Please refer to the attached pictures of transmit antennas, warning signs on transmit pole and communications building, and remote nature of transmit site.

[1]OET Bulletin 65, Edition 97-01, Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields, page 67, Table 1B.

# Rf Hazard Calculation
# Proposed KEZB, Beaver,UT (FIN: 175866)
# 10/25/2017

| | |
|---|---|
| **Station:** | **KEZB** |
| **Antenna:** | **BKG88-2(1)** |
| **RCAGL (m):** | **12.000** |
| **ERP (kW):** | **0.300** |
| **Limit (µW/cm^2):** | **200.000** |

| Horizontal Distnce (m) | Depression Angle | Interpolated Relative Field Value | Power Density (µW/cm^2) | % of Limit |
|---|---|---|---|---|
| 0 | 90.00 | 0.100 | 1.002 | 0.50% |
| 1 | 84.29 | 0.095 | 0.895 | 0.45% |
| 2 | 78.69 | 0.144 | 1.999 | 1.00% |
| 3 | 73.30 | 0.216 | 4.296 | 2.15% |
| 4 | 68.20 | 0.296 | 7.569 | 3.78% |
| 5 | 63.43 | 0.365 | 10.666 | 5.33% |
| 6 | 59.04 | 0.416 | 12.724 | 6.36% |
| 7 | 55.01 | 0.452 | 13.735 | 6.87% |
| 8 | 51.34 | 0.458 | 12.816 | 6.41% |
| 9 | 48.01 | 0.446 | 11.016 | 5.51% |
| 10 | 45.00 | 0.417 | 8.712 | 4.36% |
| 11 | 42.27 | 0.374 | 6.339 | 3.17% |
| 12 | 39.81 | 0.323 | 4.293 | 2.15% |
| 13 | 37.57 | 0.265 | 2.614 | 1.31% |
| 14 | 35.54 | 0.204 | 1.412 | 0.71% |
| 15 | 33.69 | 0.142 | 0.620 | 0.31% |
| 16 | 32.01 | 0.080 | 0.181 | 0.09% |
| 17 | 30.47 | 0.019 | 0.009 | 0.00% |
| 18 | 29.05 | 0.040 | 0.037 | 0.02% |
| 19 | 27.76 | 0.096 | 0.199 | 0.10% |
| 20 | 26.57 | 0.149 | 0.445 | 0.22% |
| 21 | 25.46 | 0.200 | 0.739 | 0.37% |
| 22 | 24.44 | 0.247 | 1.043 | 0.52% |
| 23 | 23.50 | 0.290 | 1.340 | 0.67% |
| 24 | 22.62 | 0.331 | 1.623 | 0.81% |
| 25 | 21.80 | 0.369 | 1.885 | 0.94% |
| 26 | 21.04 | 0.405 | 2.120 | 1.06% |
| 27 | 20.32 | 0.439 | 2.327 | 1.16% |
| 28 | 19.65 | 0.470 | 2.499 | 1.25% |
| 29 | 19.03 | 0.498 | 2.639 | 1.32% |
| 30 | 18.43 | 0.524 | 2.750 | 1.37% |
| 31 | 17.88 | 0.548 | 2.838 | 1.42% |
| 32 | 17.35 | 0.571 | 2.904 | 1.45% |

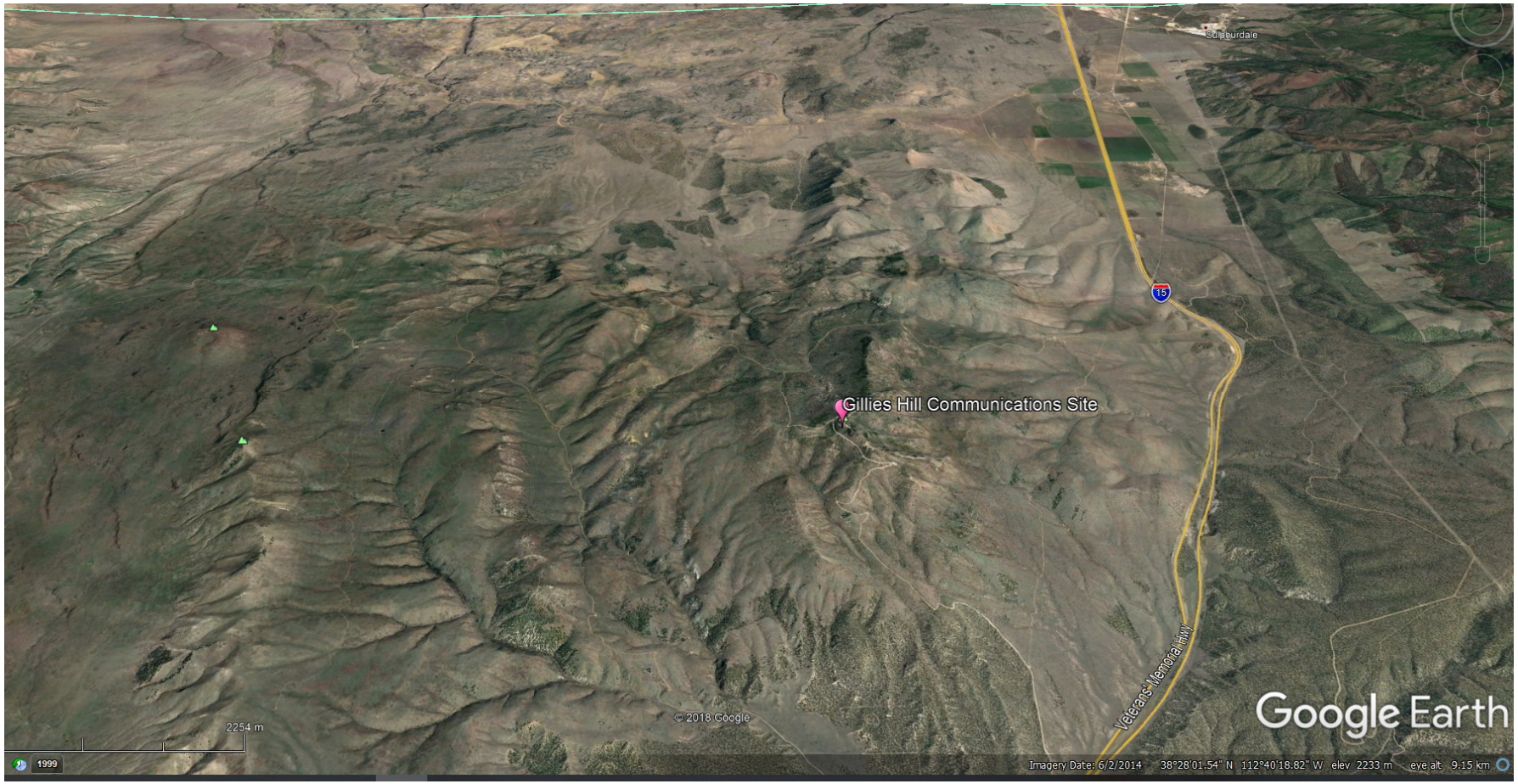
| Horizontal Distnce (m) | Depression Angle | Interpolated Relative Field Value | Power Density (µW/cm^2) | % of Limit |
|---|---|---|---|---|
| 33 | 16.86 | 0.592 | 2.954 | 1.48% |
| 34 | 16.39 | 0.612 | 2.990 | 1.50% |
| 35 | 15.95 | 0.631 | 3.013 | 1.51% |
| 36 | 15.52 | 0.649 | 3.019 | 1.51% |
| 37 | 15.12 | 0.665 | 3.016 | 1.51% |
| 38 | 14.74 | 0.680 | 3.001 | 1.50% |
| 39 | 14.38 | 0.694 | 2.978 | 1.49% |
| 40 | 14.04 | 0.708 | 2.951 | 1.48% |
| 41 | 13.71 | 0.720 | 2.918 | 1.46% |
| 42 | 13.39 | 0.732 | 2.881 | 1.44% |
| 43 | 13.09 | 0.744 | 2.842 | 1.42% |
| 44 | 12.80 | 0.754 | 2.797 | 1.40% |
| 45 | 12.53 | 0.763 | 2.749 | 1.37% |
| 46 | 12.26 | 0.773 | 2.700 | 1.35% |
| 47 | 12.01 | 0.782 | 2.651 | 1.33% |
| 48 | 11.77 | 0.790 | 2.602 | 1.30% |
| 49 | 11.53 | 0.798 | 2.553 | 1.28% |
| 50 | 11.31 | 0.806 | 2.505 | 1.25% |
| 51 | 11.09 | 0.814 | 2.456 | 1.23% |
| 52 | 10.89 | 0.821 | 2.406 | 1.20% |
| 53 | 10.68 | 0.827 | 2.354 | 1.18% |
| 54 | 10.49 | 0.833 | 2.304 | 1.15% |
| 55 | 10.30 | 0.839 | 2.255 | 1.13% |
| 56 | 10.12 | 0.844 | 2.206 | 1.10% |
| 57 | 9.95 | 0.849 | 2.158 | 1.08% |
| 58 | 9.78 | 0.854 | 2.109 | 1.05% |
| 59 | 9.62 | 0.858 | 2.061 | 1.03% |
| 60 | 9.46 | 0.863 | 2.015 | 1.01% |
| 61 | 9.31 | 0.867 | 1.970 | 0.98% |
| 62 | 9.16 | 0.871 | 1.926 | 0.96% |
| 63 | 9.02 | 0.874 | 1.883 | 0.94% |
| 64 | 8.88 | 0.878 | 1.841 | 0.92% |
| 65 | 8.75 | 0.881 | 1.800 | 0.90% |
| 66 | 8.62 | 0.885 | 1.760 | 0.88% |
| 67 | 8.49 | 0.888 | 1.721 | 0.86% |
| 68 | 8.37 | 0.891 | 1.683 | 0.84% |
| 69 | 8.25 | 0.894 | 1.647 | 0.82% |
| 70 | 8.13 | 0.897 | 1.612 | 0.81% |
| 71 | 8.02 | 0.900 | 1.577 | 0.79% |
| 72 | 7.91 | 0.902 | 1.543 | 0.77% |
| 73 | 7.80 | 0.905 | 1.510 | 0.76% |
| 74 | 7.70 | 0.907 | 1.478 | 0.74% |
| 75 | 7.59 | 0.909 | 1.447 | 0.72% |
| 76 | 7.50 | 0.912 | 1.417 | 0.71% |

| Horizontal Distnce (m) | Depression Angle | Interpolated Relative Field Value | Power Density (µW/cm^2) | % of Limit |
|---|---|---|---|---|
| 77 | 7.40 | 0.914 | 1.388 | 0.69% |
| 78 | 7.31 | 0.916 | 1.359 | 0.68% |
| 79 | 7.21 | 0.918 | 1.332 | 0.67% |
| 80 | 7.13 | 0.920 | 1.305 | 0.65% |
| 81 | 7.04 | 0.922 | 1.279 | 0.64% |
| 82 | 6.95 | 0.924 | 1.253 | 0.63% |
| 83 | 6.87 | 0.926 | 1.228 | 0.61% |
| 84 | 6.79 | 0.927 | 1.204 | 0.60% |
| 85 | 6.71 | 0.929 | 1.180 | 0.59% |
| 86 | 6.63 | 0.930 | 1.157 | 0.58% |
| 87 | 6.56 | 0.932 | 1.135 | 0.57% |
| 88 | 6.48 | 0.933 | 1.113 | 0.56% |
| 89 | 6.41 | 0.935 | 1.092 | 0.55% |
| 90 | 6.34 | 0.936 | 1.071 | 0.54% |
| 91 | 6.27 | 0.938 | 1.051 | 0.53% |
| 92 | 6.20 | 0.939 | 1.031 | 0.52% |
| 93 | 6.14 | 0.940 | 1.013 | 0.51% |
| 94 | 6.07 | 0.942 | 0.994 | 0.50% |
| 95 | 6.01 | 0.943 | 0.976 | 0.49% |
| 96 | 5.95 | 0.944 | 0.958 | 0.48% |
| 97 | 5.89 | 0.945 | 0.941 | 0.47% |
| 98 | 5.83 | 0.946 | 0.924 | 0.46% |
| 99 | 5.77 | 0.947 | 0.907 | 0.45% |
| 100 | 5.71 | 0.948 | 0.891 | 0.45% |

**Gillies Hill Remote Mountain Top Electronic Site**

**Gillies Hill Communications Site**

**KEZB(FM), Beaver, UT FAC# 175866**



**View of Valley from Transmit  Site on Gillies Hill**

**KEZB Transmit Antennas (NICOM BKG88-2-Full Wave Spaced)**

# Rf Hazard Warning Sign on Transmit Pole

# Warning Sign on Locked Communications Equipment Building