

Environmental Considerations
KTVW License Partnership, G.P.
KTVW-DT Tucson, AZ
Channel 33 560 kW-DA 510 m

This application proposes continued use of the present KTVW-TV/DT transmitter location, at the South Mountain communications site, which is City of Phoenix park area leased to multiple broadcast and communications tenants. No physical construction is proposed outside the existing transmitter building. The only change proposed is a 19% increase in ERP.

Access to the property is restricted by perimeter fencing with double entry gates and mountainside slopes that can't be scaled readily. The entire mountaintop is considered to be a "controlled site" by the City and its broadcast tenants, with notice provided by a sign on the entry gates. A general radiofrequency radiation survey of South Mountain by Hammett & Edison, Inc., updated on 13 May 2014 and attached hereto, showed no exposure levels exceeding of the guideline value for controlled environments. An Occupational Exposure Guide document describes RFR conditions on South Mountain and governs above-ground work on all towers.

The station's 2014 license renewal application included the results of a survey of RF exposure levels at the transmitter site premises. The highest level encountered was 62.5% of the guideline value for uncontrolled environments, found in the parking deck and emergency power generator area. Assuming that KTVW-DT contributed all of that energy (which is unlikely, given the number of emitters at South Mountain), the proposed power increase would result in a spatial maximum RFE level at 74.5% of the guideline value for uncontrolled environments in that area.

Operation is proposed on channel 33, with its center frequency of 587 MHz yielding a radiofrequency radiation exposure guideline value of $391 \mu\text{W}/\text{cm}^2$ for the general population. The Andrew ATW25H4-ETC-33S antenna has its radiation center 77 meters above ground level. The maximum radiation value toward the ground may be presumed not to exceed 0.15 for both the horizontally and vertically polarized components. The vertically polarized ERP is 25% of the horizontal. Consequently, the worst-case predicted exposure level at 2 meters above ground level is $93.5 \mu\text{W}/\text{cm}^2$, which is 23.9% of the protection guideline value for uncontrolled environments and 4.8% of the value for controlled environments.

KTVW-DT cooperates with other users of South Mountain to limit human exposure to electromagnetic energy as may be necessitated by maintenance work on the towers, via power reductions and suspension of operation.

26 November 2017

A handwritten signature in black ink, appearing to read "Karl D. Lahm", written over a horizontal line.

Karl D. Lahm, P.E.
California Registration #E010307
Director, RF Systems Engineering
Univision Management Company
358 Pines Blvd.
Lake Villa, IL 60046
847.245.8699

**South Mountain Communications Site
Phoenix, Arizona**

**2014 Study of Radio Frequency
Exposure Conditions**

Part 1: Site Facilities and Field Measurement

May 13, 2014

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Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained to evaluate the radio frequency exposure conditions at the South Mountain Communications Site in Phoenix, Arizona, relative to the changes at the site since the last comprehensive ground-level and on-tower analyses. This statement (Part 1) covers site facilities and ground-level measurements.

Prevailing Electromagnetic Field Exposure Standard

The U.S. Congress requires that the Federal Communications Commission (“FCC”) evaluate its actions for possible significant impact on the environment. In Docket 93-62, effective October 15, 1997, the FCC adopted the human exposure limits for field strength and power density recommended in Report No. 86, “Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields,” published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements (“NCRP”). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent standard, developed by the Institute of Electrical and Electronics Engineers and approved as American National Standard ANSI/IEEE C95.1-2006, “Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz,” includes similar exposure limits. A summary of the FCC’s exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

The guidelines allow higher exposures for short time periods. Exposures can be averaged over a six-minute period, allowing, for example, a two-minute exposure to fields three times the limit if the remainder of the six-minute period does not include any significant exposure.

Restrictions on access to strong fields may be achieved in different manners for casual public exposure than for occupational exposure. Persons who are authorized to be in a site area can be educated to follow procedures that will limit time-averaged exposures to levels not exceeding the guidelines.

Site Description

The South Mountain Communications Site is entirely encompassed by a chain-link fence, with access into the area controlled by two locked gates. Figure 2 shows a plan view of the entire site, showing the approximate locations of all broadcast and non-broadcast towers and all buildings. Figure 3 provides a list of the broadcast towers (identified generally by number) and non-broadcast towers (identified by letter), with their respective base elevations and overall heights. Figure 4 provides summary information for each broadcast antenna at the site.



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Since any individuals requiring entry to the communications site must first be authorized by one of the site users and approved by site management in order to obtain access, a mechanism is in place to notify occasional site visitors (*e.g.*, contractors, air conditioner service personnel, and equipment installers) of the presence of high RF fields within the site boundary.

Measurements at South Mountain

Measurements were made by the undersigned along with Hammett & Edison Staff Engineer Neil J. Olij on March 19–20, 2014, throughout the communications site. The primary measurement equipment used was a Narda Type NBM-520 Broadband Field Meter (Serial No. D-0453) with a Type EA-5091 Isotropic Electric Field Probe (Serial No. 01035). Both meter and probe were under current calibration by the manufacturer. The probe is frequency-shaped to reflect the occupational exposure limits detailed in the FCC standard, allowing the meter to measure correctly the total exposure levels from the various emitters at the site. The meter conveniently reads directly in percent of the occupational limit of the standard. Two sets of measurements were taken at the site. The first was for all stations operating with licensed main facilities, and the second was for stations having auxiliary facilities identified in Figure 4 operating with those facilities; stations without auxiliary facilities operated normally during the second set of measurements.*

Results of Measurements

A summary of the ground-level field measurements for the main facilities is shown in tabular form in Figures 5A and 5B. As shown, no areas exceeding the occupational exposure limit were found near the towers. Four relatively small areas at the Tower 1 (KSLX-FM) and Tower 2 (KZON) northern guy anchors, at the base of Tower 14 (KOOL-FM), and at the base of Tower 22 (KZZP) were found that exceeded the occupational exposure limit on a spatial peak basis; when spatially averaged, as allowed by FCC Rules, all of these areas measured at less than the FCC occupational limit. Figure 5C shows one area near Tower 21 (KMXP) that was found to exceed the occupational limit under KMXP auxiliary antenna operation. This particular issue had been identified in earlier measurements, and remains unchanged. The area is marked with warning signs to restrict access while the KMXP auxiliary antenna is in operation.

Two areas were identified as exceeding both spatial peak and spatially-averaged occupational exposure limits within 2 feet of the northern guy anchor and within 4 feet of the southeastern guy anchor of Tower 1 (KSLX-FM) under KSLX-FM auxiliary antenna operation only. These conditions

* During measurements with auxiliary facilities operating, only FM station auxiliary antennas were activated, with the following changes when compared to the auxiliary facilities listed in Figure 4: (1) The KJZZ auxiliary antenna on Tower 4 was not operable, (2) the KZON auxiliary antenna on Tower 2 was operating at 4.2 kW ERP, and (3) the KOOL-FM auxiliary antenna on Tower 15 was operating at 25 kW ERP.



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had not been previously identified in earlier measurements because the KSLX-FM auxiliary transmitting antenna was installed within the last year.

Recommendations

Under main antenna operation for the broadcast facilities as operating at the time of the visit, the maximum ambient RF level at the South Mountain broadcast site complied with the FCC's guidelines limiting occupational exposure to RF energy. However, three areas were found under operation of auxiliary transmitting facilities that require mitigation.

As described earlier, the area around Tower 21 is marked with warning signs for operation of the KMPX auxiliary transmitting antenna. However, it was noted that most of those signs are in need of repair or replacement. It is recommended that this work be completed to ensure compliance with FCC guidelines for KMPX auxiliary antenna operation. There are also two significant areas around the Tower 1 northern and southeastern guy anchors that were found to be well above the FCC occupational exposure limit for operation of the KSLX-FM auxiliary transmitting antenna. It was noted during the visit that guy wire attachment points on the tower were located close to the KSLX-FM auxiliary transmitting antenna placement. Thus, it may be possible to mitigate those areas through the installation of non-metallic fiberglass rods or with segments of a non-metallic guy material, such as Phillystran[®], placed at or near the tower guy attachment point(s). Otherwise, signs should be installed on the lower guys or guy attachment points warning of approaches within 2 feet of the northern guy anchor and within 4 feet of the southeastern guy anchor; the signs should be visible from all approaches.

The South Mountain site is entirely fenced to preclude public access; however, a cursory survey of visible locations along the fence found some areas where unauthorized access may be possible. Along the north side of the fence, there appeared to be locations where a sufficient opening existed for an individual to slide under the fence. It is recommended that the entire fence at South Mountain be inspected and that repairs be made to such areas as could allow unauthorized access to the site.

An Occupational Exposure Guide was developed in 2004 and all stations at the site are reported to have agreed to abide by its directives for restricting access to areas in which power density levels may exceed the applicable occupational limits. That OEG has been updated to reflect the most recent measurements; therefore, no further recommendations are required for compliance with the FCC's guidelines limiting occupational exposures.

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Conclusion

Based upon observations and measurements made during the March 2014 visit to the South Mountain Communications Site, the site was found to comply with applicable FCC requirements for human exposure to RF energy for operation of main transmitting facilities. Provided that recommended mitigation measures are implemented, the site also can comply with the same FCC requirements for operation of auxiliary transmitting facilities.

Note that a computer study of on-tower exposure conditions for all listed towers is to be provided as Part 2 of this study; this portion of the study, which addresses applicable FCC RF exposure compliance issues, is being provided in advance of the on-tower study, such that site users can review the facilities described in Figures 2–4 and report any discrepancies found before the on-tower calculations are performed.

List of Figures

In carrying out these engineering studies, the following attached figures were prepared under my direct supervision:

1. RFR radio frequency protection guide
2. Site map showing approximate locations of towers and buildings
3. Summary of tower specifications
4. Summary of broadcast station operating parameters
5. Summary of measurements.

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration No. E-14217, which expires on June 30, 2015. This work has been carried out by him or under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.



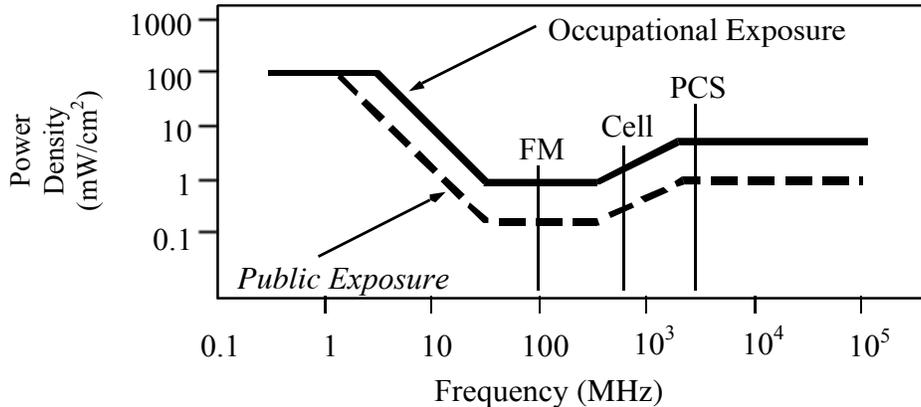
May 13, 2014

FCC Radio Frequency Protection Guide

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission (“FCC”) to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, “Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields,” published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements (“NCRP”). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent standard, developed by the Institute of Electrical and Electronics Engineers and approved as American National Standard ANSI/IEEE C95.1-2006, “Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz,” includes similar limits. These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

As shown in the table and chart below, separate limits apply for occupational and public exposure conditions, with the latter limits (in *italics* and/or dashed) up to five times more restrictive:

Frequency Applicable Range (MHz)	Electromagnetic Fields (f is frequency of emission in MHz)					
	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm ²)	
0.3 – 1.34	614	<i>614</i>	1.63	<i>1.63</i>	100	<i>100</i>
1.34 – 3.0	614	<i>823.8/f</i>	1.63	<i>2.19/f</i>	100	<i>180/f²</i>
3.0 – 30	1842/f	<i>823.8/f</i>	4.89/f	<i>2.19/f</i>	900/f ²	<i>180/f²</i>
30 – 300	61.4	<i>27.5</i>	0.163	<i>0.0729</i>	1.0	<i>0.2</i>
300 – 1,500	3.54√f	<i>1.59√f</i>	√f/106	<i>√f/238</i>	f/300	<i>f/1500</i>
1,500 – 100,000	137	<i>61.4</i>	0.364	<i>0.163</i>	5.0	<i>1.0</i>

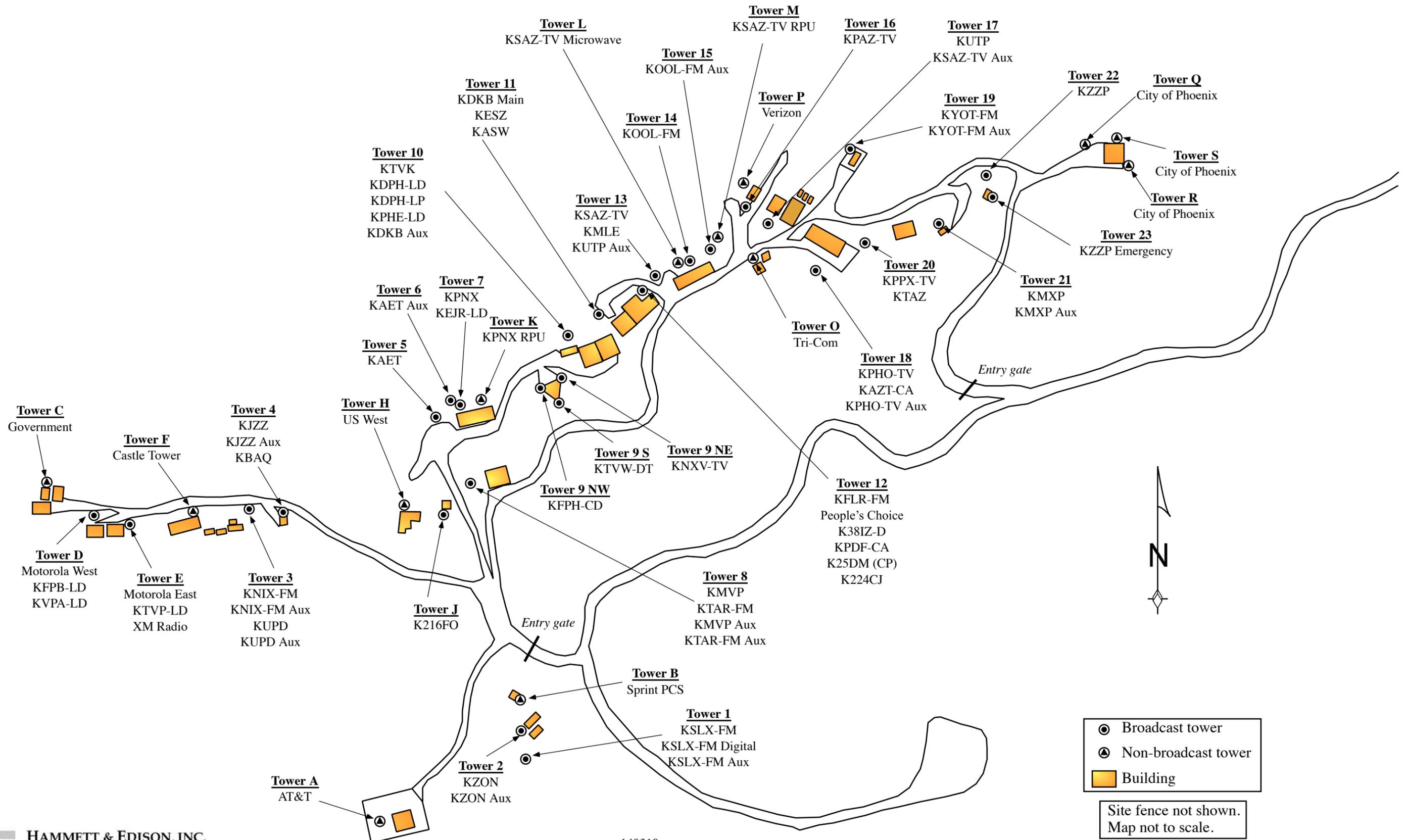


Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has built those formulas into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radio sources. The program allows for the description of buildings and uneven terrain, if required to obtain more accurate projections.



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Tower Locations and Identifications



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Broadcast Tower Heights

<u>Tower</u>	<u>Description</u>	<u>Base Elevation (AMSL)</u>	<u>Overall Height (AGL)</u>
1	KSLX-FM	2,595 ft	416 ft
2	KZON	2,602	354
D	KFPB-LD/KVPA-LD	2,652	120
E	KTVP-LD/XM Radio	2,652	120
3	KNIX-FM/KUPD	2,644	243
4	KJZZ/KBAQ	2,642	240
5	KAET	2,685	346
6	KAET Aux	2,690	176
7	KPNX/KEJR-LD	2,694	389
J	K216FO	2,662	120
8	KMVP/KTAR-FM	2,649	378
9 NW	KFPH-CD	2,690	260
9 NE	KNXV-TV	2,690	263
9 S	KTVW-DT	2,690	265
10	KTVK/KDKB (Aux)/KDPH-LP&LD, KPHE-LD	2,699	343
11	KASW/KESZ/KDKB	2,696	343
12	KFLR-FM/People's Choice/K25DM (CP)/ K38IZ-D/KPDF-CA/K224CJ	2,683	184
13	KSAZ-TV/KMLE/KUTP Aux	2,678	372
14	KOOL-FM	2,680	270
15	KOOL-FM Aux	2,682	238
16	KPAZ-TV	2,666	178
17	KUTP/KSAZ-TV Aux	2,656	378
18	KPHO-TV/KAZT-CA	2,643	370
19	KYOT-FM	2,614	200
20	KPPX-TV/KTAZ	2,627	392
21	KMXP	2,608	151
22	KZZP	2,600	200
23	KZZP Emergency	2,590	36



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Non-Broadcast Tower Heights

<u>Tower</u>	<u>Description</u>	<u>Base Elevation (AMSL)</u>	<u>Overall Height (AGL)</u>
A	AT&T	2,580 ft	130 ft
B	Sprint PCS	2,610	50
C	Government	2,687	110
F	Castle Tower	2,649	120
H	US West	2,683	100
K	KPNX RPU	2,694	30
L	KSAZ-TV Microwave	2,679	40
M	KSAZ-TV RPU	2,679	30
O	Tri-Com	2,667	150
P	Verizon	2,670	100
Q	City of Phoenix	2,595	220
R	City of Phoenix Trunk	2,585	80
S	City of Phoenix Microwave	2,580	41

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Site User Table

<u>Tower</u>	<u>Station</u>	<u>TV Channel or FM Frequency</u>	<u>COR Height AGL</u>	<u>Effective Radiated Power*</u>	<u>Antenna Make/Model</u>	<u>Polarization</u>	<u>Orientation</u>	<u>Beam Tilt</u>	<u>Antenna Aperture</u>	<u>Antenna Power Gain</u>
1	ASR 1052104									
	KSLX-FM	100.7	119.2 m	100 (104) kW†	ERI SHPX-7AC	C	ND	0°	21.4 m	3.89
	KSLX-FM Digital	100.7	100.0	1.0	ERI LPX-2E	C	ND	0°	3.5	1.0
	KSLX-FM Aux	100.7	108.0	12.0	ERI SHP-1AE	C	ND	0°	0.5	0.46
2	ASR 1007947									
	KZON	101.5	93.3	104	ERI SHP-8AC	C	ND	0°	20.7	4.3
	KZON Aux	101.5	69.0	10	ERI SHP-1AE	C	ND	0°	0.5	0.46
D	No ASR									
E	KFPB-LD	50	30	4.5	Scala 4DR-8-2HW	H	0°T	0°	1.5	7.1
	KVPA-LD	42	20	15	ERI ALP8M8-CSW-42-CP	C	0°T	2°	3.3	6.3
3	ASR 1002361									
	KTVP-LD	22	21	5	SWR SWLP12 ML	C	20°T	0°	6.5	9.5
	XM Radio	2.3 GHz	18.3	2	Tiitek TA 2304-2	V	27°T	2° (6°)	1.0	12.2
	KNIX-FM	102.5	56.0	101	ERI FMH-12AC	C	ND	0.625°	33.5	8.2
	KNIX-FM Aux	102.5	32.0	20	ERI FMH-1E	C	ND	0°	0.5	0.46
	KUPD	97.9	59.0	101	Continental GSCPS-10A G	C	ND	0.625°	27.6	5.4
	KUPD Aux	97.9	40.0	1.5	ERI FMH-1AE	C	ND	0°	0.5	0.46
4	ASR 1003590									
	KJZZ	91.5	59.0	100	ERI SHPX-12AC-HW-SP	C	ND	0.625°	17.4	3.7
	KBAQ	89.5	44.0	30	ERI MP-10AC-HW-SP	C	355°T	0.585°	15.1	4.7
	KJZZ Aux	91.5	18.3	10	ERI SHPX-4AC-SP	C	ND	0°	9.1	2.13
5	ASR 1001134									
	KAET	08	93.9	40	RCA TW-9A8	H	ND	0.5°	22.3	9.0
6	No ASR									
	KAET Aux	08	42.1	40	GE TY-70AH	H	ND	0°	23.2	12.2

* ERP may differ from licensed power. For FM stations, ERP is circularly polarized and includes digital power if applicable. For NTSC TV Stations, unless otherwise noted, ERP is peak visual power. For DTV stations, unless otherwise noted, ERP is average power.

† KSLX-FM licensed operation is for 100 kW ERP analog and 1 kW ERP digital using the separate antenna as indicated. Proposed operation is for 100 kW analog and 4 kW digital using the ma antenna only.

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Site User Table

Tower	Station	TV Channel or FM Frequency	COR Height AGL	Effective Radiated Power	Antenna Make/Model	Polarization	Orientation	Beam Tilt	Antenna Aperture	Antenna Power Gain
7	ASR 1002073									
	KPNX	12	103.4 m	40 kW	RCA TW-15B12	H	ND	0°	30.5 m	15.0
	KEJR-LD	40	20.0	14	SWR SWEDM8MCR/40-DT CP	C	350°T	1.5°	1.9	18.6
	No ASR									
J	K216FO	91.1	26.6	0.011	ERI CP-22A	C	ND	0°	2.1	0.63
	ASR 1001097									
	KMVP	98.7	101.0	101	ERI SHPX-8AC6-SP	C	ND	0.627°	28.6	4.10
	KTAR-FM	92.3	101.0	101		C	ND	0.627°	28.6	4.23
KMVP Aux	98.7	81.0	51.3	ERI SHPX-4AC6-SP	C	ND	0.627°	9.9	2.07	
KTAR-FM Aux	92.3	81.0	51		C	ND	0.627°	9.9	2.12	
9	ASR 1065157									
	KFPH-CD	35	58	15	SWR SWLP16WL	C	15°T	0°	8.3	33.5
	KNXV-TV	15	78	643	Dielectric TFU-20GTH/VP O4	E(40%)	ND	0.75°	13.4	12.5
	KTVW-DT	33	77	587.5	Andrew ATW25H4-ETC-33S	E(25%)	30°T	1.0°	12.8	25
10	ASR1002070									
	KTVK	24	55.5	1,000	Dielectric TFU-24DSB-H(C)	H	45°T	1.0°	15.8	40.8
	KDPH-LD	46	45	15	SWR SWLP16EC	H	20°T	1°	8.3	41.28
	KDPH-LP	N48	52	150	Dielectric TFU-24DSB/VP-R C170	E(80%)	30°T	1.85°	12.5	38.2
	KPHE-LD	16	27.7	15	ERI AL8W-16-PL	H	0°T	1.75°	6.1	13.6
	KDKB Aux	93.3	33.5	13	ERI SHPX-1AE	C	ND	0°	0.5	0.46
11	ASR 1002069									
	KESZ	99.9	78.0	101	Jampro JHPC-12-RFR	C	ND	0.7°	16.5	4.06
	KASW	49	52.9	531	Dielectric TFU-24DSB-H(C)	H	55°T	1.0°	15.8	40.8
	KDKB Main	93.3	61.0	110	ERI SHPX-8AC	C	ND	0°	22.5	4.49

* ERP may differ from licensed power. For FM stations, ERP is circularly polarized and includes digital power if applicable. For NTSC TV Stations, unless otherwise noted, ERP is peak visual power. For DTV stations, unless otherwise noted, ERP is average power.

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Site User Table

Tower	Station	TV Channel or FM Frequency	COR Height AGL	Effective Radiated Power	Antenna Make/Model	Polarization	Orientation	Beam Tilt	Antenna Aperture	Antenna Power Gain
12	No ASR									
	KFLR-FM	90.3	47.2 m	100 kW	ERI MP-4C-DA-SP	C	320°T	0°	7.2 m	4.37
	People's Choice 1	MMDS†	28.2	17.35	Andrew HMD8HC-W	H	ND	0°	1.0	17.18
	People's Choice 2	MMDS†	20.3	17.35	Andrew HMD8VC-W	V	ND	0°	1.0	17.18
	K25DM (CP)†	18	19	3.0	Dielectric DLP-8MR	H	330°T	0°	4.5	10.5
	K38IZ-D	38	23.4	9.9	SWR SWMP80	H	ND	1.5°	4.3	8.12
	KPDF-CA	N41	15.1	45.9	RFS RD16UA	H	30°T	1.5°	6.7	14.7
K224CJ	92.7	12.0	0.01	Jampro JST-2	C	ND	0°	3.7	1.0	
13	ASR 1001496									
	KSAZ-TV	10	100.0	48	Dielectric TF-12HT	H	0°T	0°	22.2	12.3
	KMLE	107.9	83.0	101	Shively 6814-8	C	ND	0.66°	23.0	4.46
	KUTP Aux	26	52	324	Dielectric TFU-28DSC-R CT150	H	45°T	1.0°	17.0	35.3
14	ASR 1007949									
	KOOL-FM	94.5	66.4	100	ERI FMXH-10AC	C	ND	0.685°	29.1	5.68
15	ASR 1001497									
	KOOL-FM Digital	94.5	48.7	50	ERI FMH-4AC6	C	ND	0.625°	10.0	2.13
	KOOL-FM Aux	94.5	48.7	1.0						
16	No ASR									
	KPAZ-TV	20	45.4	1,000	ERI ATW24H3-HITOU-21H	H	ND	1.25°	15.9	24.0

* ERP may differ from licensed power. For FM stations, ERP is circularly polarized and includes digital power if applicable. For NTSC TV Stations, unless otherwise noted, ERP is peak visual power. For DTV stations, unless otherwise noted, ERP is average power.

† Former MMDS and MDS antennas; may not be operating in new BRS band.

‡ Facility under construction as reported by licensee/permittee. Not operating during March 2014 site visit.



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Site User Table

Tower	Station	TV Channel or FM Frequency	COR Height AGL	Effective Radiated Power	Antenna Make/Model	Polarization	Orientation	Beam Tilt	Antenna Aperture	Antenna Power Gain
17	ASR 1002348									
	KSAZ-TV Aux	10	68.9 m	48 kW	Dielectric TL8-V8	H	45°T	0.75°	13.4 m	13.6
	KUTP	26	88.2	1,000	Dielectric TFU-20DSC-R CT150	H	50°T	1.0°	12.7	24.8
18	ASR 1005664									
	KPHO-TV	17	83.0	1,000	Dielectric TFU-26DSC C170	H	40°T	1.0°	18.0	33.2
	KPHO-TV Aux	17	56.7	217	ERI ATW4G4 50-HSS-17	H	50°T	1.0°	4.3	8.0
	KAZT-CD	36	61.6	15	SWR SWLP16WL	C	0°T	1.25°	8.3	10.6
19	ASR 1019338									
	KYOT-FM	95.5	50.9	101	Harris FMH-8AC-SP	C	ND	1°	20.4	4.16
	KYOT-FM Aux	95.5	22.9	7.5	Harris FMH-4AC	C	ND	0°	5.3	1.31
20	ASR 1204586									
	KPPX-TV	51	103.0	1,000	Dielectric TFU-3 IEBT-R	H	ND	1°	14.7	27.0
	KTAZ	39	90.3	550	Dielectric TFU-16JSC C165	H	50°T	1.25	9.3	24.8
21	ASR 1042037									
	KMXP	96.9	33.8	101	ERI SHP-8AC-SP	C	ND	0.625°	20.1	4.49
	KMXP Aux	96.9	15.0	8.6	ERI SHP-1AE	C	ND	0°	0.5	0.46
22	No ASR									
	KZZP	104.7	42.4	101	Collins 37-CP-12	C	ND	0°	32.1	6.53
23	No ASR									
	KZZP Emergency									

Emergency antenna only — Not studied

* ERP may differ from licensed power. For FM stations, ERP is circularly polarized and includes digital power if applicable. For NTSC TV Stations, unless otherwise noted, ERP is peak visual power. For DTV stations, unless otherwise noted, ERP is average power.



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Ground Level Measurements near Broadcast Towers – Main Antenna Operations –

<u>Tower</u>	<u>Description</u>	<u>Measured Power Density</u>
1	KSLX-FM	2–65%* occupational
2	KZON	3–43%*
D	KFPB-LD/KVPA-LD	2–8%
E	KTVP-LD/XM Radio	2–7%
3	KNIX-FM/KUPD	1–20%
4	KJZZ/KBAQ	1–14%
5	KAET	3–17%
6	KAET Aux	3–17%
7	KPNX/KEJR-LD	3–17%
J	K216FO	2–9%
8	KMVP/KTAR-FM	2–6%
9 NW	KFPH-CA	6–19%
9 NE	KNXV-TV	6–19%
9 S	KTVW-DT	6–19%
10	KTVK/KDKB (Aux)/KDPH-LP&LD, KPHE-LD	4–14%
11	KASW/KESZ/KDKB	3–16%
12	KFLR-FM/People's Choice/K25DM (CP)/ K38IZ-D/KPDF-CA/K224CJ	5–20%
13	KSAZ-TV/KMLE/KUTP Aux	6–20%
14	KOOL-FM	12–49%*
15	KOOL-FM Aux	12–29%
16	KPAZ-TV	4–8%
17	KUTP/KSAZ-TV Aux	3–12%
18	KPHO-TV/KAZT-CA	2–8%
19	KYOT-FM	2–5%
20	KPPX-TV/KTAZ	3–10%
21	KMXP	3–8%
22	KZZP	10–85%*
23	KZZP Emergency	10–79%

Measurements taken on March 19, 2014.

- * Four areas were noted that exceeded the FCC occupational limit on a spatial peak basis. When spatially averaged as allowed by FCC Rules, these areas measured at less than the occupational limit. Those areas consisted of the northern guy anchors of Towers 1 and 2, the base of Tower 14, and the base of Tower 22.

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Ground Level Measurements near Non-Broadcast Towers – Main Antenna Operations –

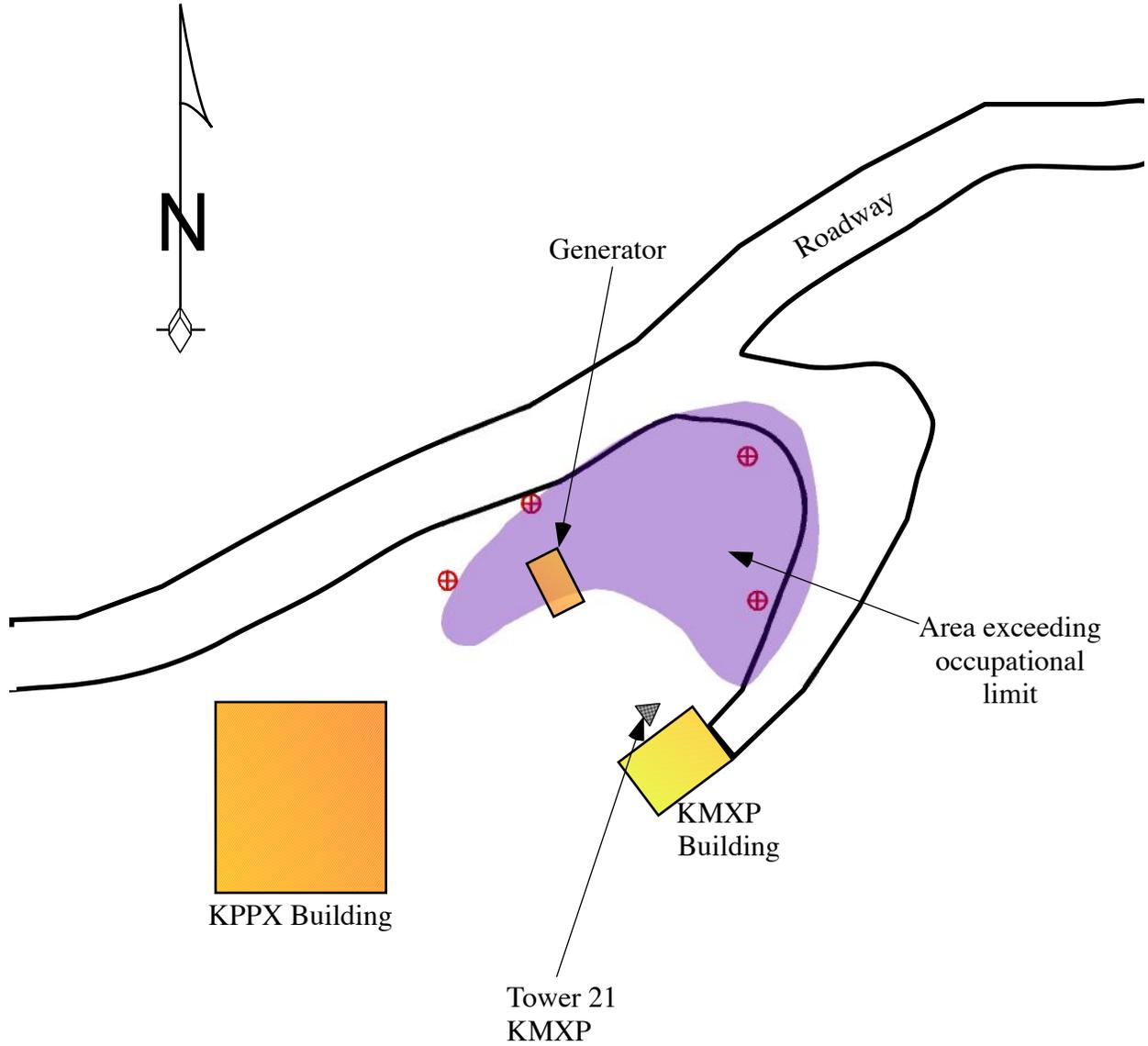
<u>Tower</u>	<u>Description</u>	<u>Measured Power Density</u>
A	AT&T	1–4% occupational
B	Sprint PCS	1–14%
C	Government	2–6%
F	Castle Tower	2–14%
H	US West	1–4%
K	KPNX RPU	3–7%
L	KSAZ-TV Microwave	4–12%
M	KSAZ-TV RPU	6–20%
O	Tri-Com	8–20%
P	Verizon	4–11%
Q	City of Phoenix	inaccessible
R	City of Phoenix Trunk	inaccessible
S	City of Phoenix Microwave	inaccessible

Measurements taken on March 19, 2014.

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Approximate Area Near KMXB Tower
Exceeding FCC Occupational Limit

★ Applies for Auxiliary Antenna Operation Only ★



Drawing to approximate scale

⊕ Presently installed warning signs

Measurements taken on March 20, 2014