

TECHNICAL EXHIBIT  
MINOR CHANGE IN AUTHORIZED FACILITY  
STATION KPSW-CA (FACILITY ID 73764)  
PHOENIX, ARIZONA  
CH 41(+) 45.9 KW-DA

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of a minor change application for Class A television station KPSW-CA at Phoenix, Arizona (BLTTA-20010712AHV, Facility ID 73764).

Proposed Facilities

This application proposes to change antenna system, increase antenna height and increase the visual effective radiated power (ERP). It is proposed to use a RFS RD16UA directional antenna (DA) system. The major lobe of the cardioid shaped pattern will be oriented toward 30 degrees True. The proposed maximum visual ERP will be 45.9 kilowatts (kW). The proposed antenna center of radiation will be located 21.3 meters above ground level (AGL) and 829.4 meters above mean sea level (AMSL). There will be no proposed change in channel (41), carrier offset (plus or +), transmitter site coordinates (33-20-00, 122-03-45) or community of license (Phoenix, AZ).

NTSC Allocation Considerations

A study has been conducted using the provisions of Sections 73.6011, 73.6012 and 73.6014 to assure that the proposal will not create prohibited interference with other

authorized or pending analog (NTSC) full-power, Class A or LPTV stations. The proposal is involved in contour overlap with LPTV stations K41ER on channel 41 at Globe-Miami, AZ and 2 pending LPTV applications for channel 41 at Prescott, AZ (Trinity Broadcasting Network, BNPTT-20000830AYH and Word of God Fellowship, Inc., BNPTTL-20000831CLN). However, the attached OET-69 interference study (Figure 1) indicates that no interference (ie, 0 people) will be caused to K41ER and the 2 Prescott, AZ LPTV applications. A waiver of the FCC rules is respectfully requested using the procedures outlined in the FCC's OET-69 Bulletin and a 1 kilometer grid.

#### DTV Allocation Considerations

Pertinent digital television (DTV) allotments and assignments on channels 40, 41 and 42 have been examined using the procedures outlined in the FCC's OET-69 Bulletin.<sup>1</sup> Figure 2 shows the calculated interference to all pertinent DTV assignments and allotments from the proposed KPSW-CA operation. As shown, the proposal complies with the FCC's "de minimis" interference policy (less than 0.5% interference). If necessary, a waiver of the FCC rules is respectfully requested based on use of the FCC's OET-69 Bulletin procedures for interference to DTV allotments and assignments.

#### Radiofrequency Electromagnetic Field Exposure

The proposed KPSW-CA facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. A maximum visual ERP of 45.9 kW with 10% aural power was assumed. A relative field value of 0.22 was assumed for the RFS RD16UA 16-bay downward radiation. The calculated

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<sup>1</sup> The duTreil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. A nominal grid size resolution of 1 km was employed. An Alpha based processor computer system was employed. The results have been found to be in very close agreement with the results of the FCC implementation of OET Bulletin No. 69.

power density at a point 2 meters (6.6 feet) above ground level is 0.0996 mW/cm<sup>2</sup>. This is 23.5% of the FCC's recommended limit of 0.42 mW/cm<sup>2</sup> for channel 41 for an "uncontrolled" environment and 4.7% of the FCC's recommended limit for a "controlled" environment.

The KPSW-CA site is also shared with several TV and FM stations. Access to the transmitting site will be restricted and appropriately marked with warning signs. In the event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down. The proposed KPSW-CA operation appears to be otherwise categorically excluded from environmental processing.

In addition, it appears that the existing structure is otherwise excluded from environmental processing as it complies with all the criteria for such an exclusion in Section 1.1306.

John A. Lundin

du Treil, Lundin & Rackley, Inc.  
201 Fletcher Avenue  
Sarasota, Florida 34237

(941) 329-6000

(941) 329-6030 (fax)

[john@DLR.com](mailto:john@DLR.com) (e-mail)

December 13, 2001

Study Date: 20011212  
 Study Start: 13:51:58  
**INTERFERENCE CAUSED TO LPTV ASSIGNMENTS FROM PROPOSED KPSW-CA**  
 CELL SIZE : 1.00 km  
 Per 6th Report & Order and FCC OET-69 Bulletin

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 K41ER 33-20-20 110-52-16 41(Z) 0.7 kW-DA 2031 m AMSL 50.0 % 74.2 dBu  
 GLOBE/MIAMI AZ  
 LIC BLTT-19990706JF  
 1.00 0.94 0.83 0.80 0.93 1.00 0.98 0.92 0.83 0.71 0.58 0.41  
 0.14 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02  
 0.13 0.40 0.56 0.71 0.82 0.92 0.98 0.98 0.89 0.78 0.83 0.95  
 Ref Az: 37.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	587.0 sq km	17129
not affected by terrain losses	559.2	17093

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 KPSW-CA 33-20-00 112-03-45 41(+) 45.9 kW-DA 829.4 m AMSL 10.0 % 74.2  
 PHOENIX AZ  
 PROPOSAL  
 1.00 0.98 0.96 0.93 0.93 0.94 0.97 0.99 0.98 0.95 0.87 0.77  
 0.63 0.47 0.35 0.23 0.21 0.22 0.23 0.22 0.21 0.23 0.35 0.47  
 0.63 0.77 0.87 0.95 0.98 0.99 0.97 0.94 0.93 0.93 0.96 0.98  
 Ref Az: 30.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00 dB

	Area	Pop
<b>Interference</b>	<b>5.0 sq km</b>	<b>0 (0.0%)</b>

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NEW-LPTV 34-29-25 112-32-00 41(-) 10.0 kW-DA 2177 m AMSL 50.0 % 74.2 dBu  
PRESCOTT AZ

APP BNPTT-20000830AYH Trinity Broadcasting Network

1.00	0.98	0.91	0.82	0.72	0.62	0.52	0.44	0.38	0.32	0.28	0.24
0.20	0.17	0.13	0.10	0.10	0.13	0.15	0.13	0.10	0.10	0.13	0.17
0.20	0.24	0.28	0.32	0.38	0.44	0.52	0.62	0.72	0.82	0.91	0.98

Ref Az: 30.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	1143.3 sq km	49767
not affected by terrain losses	881.7	39217

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KPSW-CA 33-20-00 112-03-45 41(+) 45.9 kW-DA 829.4 m AMSL 10.0 % 74.2  
PHOENIX AZ

PROPOSAL

1.00	0.98	0.96	0.93	0.93	0.94	0.97	0.99	0.98	0.95	0.87	0.77
0.63	0.47	0.35	0.23	0.21	0.22	0.23	0.22	0.21	0.23	0.35	0.47
0.63	0.77	0.87	0.95	0.98	0.99	0.97	0.94	0.93	0.93	0.96	0.98

Ref Az: 30.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00 dB

Interference	Area	Pop
	0 sq km	0 (0.0%)

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NEW-LPTV 34-42-04 112-07-04 41(+) 15.0 kW-DA 2430 m AMSL 50.0 % 74.2 dBu  
PRESCOTT AZ

APP BNPTTL-20000831CLN Word of God Fellowship, Inc.

1.00	0.96	0.87	0.72	0.55	0.40	0.26	0.14	0.08	0.03	0.03	0.03
0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02
0.02	0.03	0.03	0.03	0.08	0.14	0.26	0.40	0.55	0.72	0.87	0.96

Ref Az: 60.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	1713.5 sq km	34974
not affected by terrain losses	1682.2	32216

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KPSW-CA 33-20-00 112-03-45 41(+) 45.9 kW-DA 829.4 m AMSL 10.0 % 74.2  
PHOENIX AZ

LIC BLTTL-19990809JK

1.00	0.98	0.96	0.93	0.93	0.94	0.97	0.99	0.98	0.95	0.87	0.77
0.63	0.47	0.35	0.23	0.21	0.22	0.23	0.22	0.21	0.23	0.35	0.47
0.63	0.77	0.87	0.95	0.98	0.99	0.97	0.94	0.93	0.93	0.96	0.98

Ref Az: 30.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00 dB

Interference	Area	Pop
	2.93	0 (0.0%)

Study end time: 13:52:55

Study Date: 20011212  
Study Start: 16:30:18

**INTERFERENCE CAUSED TO DTV ALLOTMENTS & ASSIGNMENTS FROM PROPOSED KPSW-CA**

CELL SIZE : 1.00 km

Per 6th Report & Order and FCC OET-69 Bulletin

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KYMA-DT 33-03-10 114-49-40 41(N) 926.0 kW 747.4 m AMSL 90.0 % 41.2 dBu  
YUMA AZ 34473 233 DTVSERVICE: 233000 NTSCSERVICE: 232000  
CP BPCDT-19991029AAZ

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	38126.6 sq km	234317
not affected by terrain losses	33720.8	231887

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KPSW-CA 33-20-00 112-03-45 41(+) 45.9 kW-DA 829.4 m AMSL 10.0 % 74.2  
PHOENIX AZ  
PROPOSAL

1.00	0.98	0.96	0.93	0.93	0.94	0.97	0.99	0.98	0.95	0.87	0.77
0.63	0.47	0.35	0.23	0.21	0.22	0.23	0.22	0.21	0.23	0.35	0.47
0.63	0.77	0.87	0.95	0.98	0.99	0.97	0.94	0.93	0.93	0.96	0.98

Ref Az: 30.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 2.00 dB

	Area	Pop
<b>Interference</b>	<b>8.0 sq km</b>	<b>0 (0.0%)</b>

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DKYMA 33-03-10 114-49-40 41(0) 962.3 kW-DA 773 m AMSL 90.0 % 41.2 dBu  
YUMA AZ 34473 233 DTVSERVICE: 233000 NTSCSERVICE: 232000  
DTVALT DTV ALLOTMENT

0.94	0.94	0.94	0.94	0.95	0.95	0.95	0.96	0.98	1.00	0.98	0.97
0.95	0.95	0.95	0.95	0.95	0.95	0.96	0.96	0.96	0.97	0.97	0.97
0.96	0.96	0.95	0.95	0.95	0.94	0.94	0.94	0.93	0.94	0.94	0.94

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	39151.8 sq km	235126
not affected by terrain losses	34425.8	232775

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KPSW-CA 33-20-00 112-03-45 41(+) 45.9 kW-DA 829.4 m AMSL 10.0 % 74.2  
PHOENIX AZ  
PROPOSAL

1.00	0.98	0.96	0.93	0.93	0.94	0.97	0.99	0.98	0.95	0.87	0.77
0.63	0.47	0.35	0.23	0.21	0.22	0.23	0.22	0.21	0.23	0.35	0.47
0.63	0.77	0.87	0.95	0.98	0.99	0.97	0.94	0.93	0.93	0.96	0.98

Ref Az: 30.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 2.00 dB

	Area	Pop
<b>Interference</b>	<b>10.0 sq km</b>	<b>0 (0.0%)</b>

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DKHRR 32-14-55 111-06-57 42(0) 50.0 kW-DA 1383 m AMSL 90.0 % 41.3 dBu  
TUCSON AZ 15188 673 DTVSERVICE: 673000 NTSCSERVICE: 672000

DTVALT DTV ALLOTMENT

0.91	1.00	0.92	0.86	0.79	0.71	0.68	0.68	0.71	0.77	0.81	0.87
0.92	0.96	0.82	0.71	0.60	0.40	0.31	0.29	0.27	0.28	0.28	0.30
0.30	0.29	0.29	0.28	0.28	0.28	0.29	0.30	0.36	0.47	0.67	0.84

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

USING NTSC GRADE B FOR SERVICE AREA

	Area	Pop
within Noise Limited Contour	21670.6 sq km	691472
not affected by terrain losses	15431.6	672234

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KPSW-CA 33-20-00 112-03-45 41(+) 45.9 kW-DA 829.4 m AMSL 10.0 % 74.2  
PHOENIX AZ

PROPOSAL

1.00	0.98	0.96	0.93	0.93	0.94	0.97	0.99	0.98	0.95	0.87	0.77
0.63	0.47	0.35	0.23	0.21	0.22	0.23	0.22	0.21	0.23	0.35	0.47
0.63	0.77	0.87	0.95	0.98	0.99	0.97	0.94	0.93	0.93	0.96	0.98

Ref Az: 30.0

Using DEFAULT vertical antenna pattern

D/U Baseline: -48.00 dB

Interference	Area	Pop
	0 sq km	0 (0.0%)

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KHRR-DT 32-14-55 111-06-57 42(N) 950.0 kW-DA 1383.3 m AMSL 90.0 % 41.3 dBu  
TUCSON AZ 15188 673 DTVSERVICE: 673000 NTSCSERVICE: 672000

APP BPCDT-19991028AFS

0.64	0.54	0.48	0.40	0.33	0.25	0.21	0.21	0.22	0.22	0.21	0.19
0.16	0.13	0.10	0.10	0.12	0.16	0.18	0.19	0.20	0.21	0.22	0.23
0.23	0.24	0.24	0.25	0.28	0.46	0.63	0.81	0.93	1.00	0.94	0.82

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	30463.5 sq km	753958
not affected by terrain losses	22775.7	728980

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KPSW-CA 33-20-00 112-03-45 41(+) 45.9 kW-DA 829.4 m AMSL 10.0 % 74.2  
PHOENIX AZ

PROPOSAL

1.00	0.98	0.96	0.93	0.93	0.94	0.97	0.99	0.98	0.95	0.87	0.77
0.63	0.47	0.35	0.23	0.21	0.22	0.23	0.22	0.21	0.23	0.35	0.47
0.63	0.77	0.87	0.95	0.98	0.99	0.97	0.94	0.93	0.93	0.96	0.98

Ref Az: 30.0

Using DEFAULT vertical antenna pattern

D/U Baseline: -48.00 dB

Interference	Area	Pop
	0 sq km	0 (0.0%)

Study end time: 16:34:42