

TECHNICAL SUMMARY
APPLICATION FOR CONSTRUCTION PERMIT
LOW POWER DIGITAL STATION K26OK-D
LAKE HAVASU CITY, ARIZONA
CHANNEL 26 15 KW (DA)

1. Application Purpose: The instant application proposes to change the licensed K26OK-D directional antenna system from a Scala model 4DR-16S to a Kathrein model 4x1 750 0000049 E-pol panel array, increase the ERP from 2.21 kW (horizontal polarization) to 15 kW (elliptical polarization) and slightly modify the geographic coordinates to comport with the ASRN (1225844). No other changes are proposed.

2. Interference Compliance: As indicated in the attached *TVStudy* analysis summary, K26OK-D's proposed 15 kW operation meets the FCC's interference protection requirements with respect to all protected facilities. A cell size of 1.0 km and a profile resolution of 1.0 km points/km were utilized for the *TVStudy* analysis.

3. RFR Compliance: The proposed facilities were evaluated in terms of potential radiofrequency radiation (RFR) exposure at ground level to workers and the general public. The radiation center for the proposed DTV antenna will be located 16 meters above ground level. The total DTV ERP is 21.43 kW (15 kW H-pol, 6.43 kW V-pol). A greater than expected vertical plane relative field value of 0.13 is presumed for the antenna's downward radiation (-60° to -90° elevation, see attached vertical plane relative field pattern). The calculated power density at a point 2 meters above ground level is 61.7 uW/cm^2 which is 17.0% of the FCC's recommended limit of 363.3 uW/cm^2 for channel 26 for an uncontrolled environment. Thus, it is believed that the proposed K26OK-D facility is in compliance with the FCC's requirements with regard to RF radiation exposure. However, if necessary, measurements will be made to substantiate compliance with the FCC's RF radiation exposure requirements.

Access to the transmitting site will be restricted and appropriately marked with RFR warning signs. Furthermore, as this is a multi-user site, a protocol shall be in effect in the event that workers or other authorized personnel enter the restricted area or climb the supporting structure to ensure that appropriate measures will be taken to assure worker safety with respect to RF energy exposure.

K22NK-D TVSTUDY INTERFERENCE ANALYSIS

tvstudy v2.2.5 (4uoc83)
Database: localhost, Study: k26ok030, Model: Longley-Rice
Start: 2023.07.06 12:12:50

Study created: 2023.07.06 12:12:49

Study build station data: LMS TV 2023-07-03

Proposal: K26OK030 D26 LD APP LAKE HAVASU CITY, AZ
File number: k26ok030
Facility ID: 43398
Station data: User record
Record ID: 448
Country: U.S.

Search options:
Non-U.S. records included

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	K22DR-D	N22	TX	LIC	LAUGHLIN, NV	BLTT19911118JJ	79.5 km
No	K23BJ-D	N23	TX	LIC	LAKE HAVASU CITY, AZ	BLTT19891127JR	0.1
No	K25PJ-D	D25	LD	LIC	CHLORIDE, AZ	BLANK0000071721	90.1
No	K25DH-D	D25	LD	LIC	MEADVIEW, AZ	BLDTT20130308ABY	142.3
No	K25OM-D	D25	LD	LIC	PRESCOTT, AZ	BLANK0000058628	168.3
No	KJPO-LD	D25	LD	LIC	TONOPAH, AZ	BLANK0000151024	166.3
No	K25QN-D	D25	LD	CP	DESERT CENTER, CA	BNPDTL20100514ACT	130.2
No	DK25GK	N25+	TX	APP	JOSHUA TREE, CA	BLTT20000605AOK	156.8
No	KPVM-LD	D25	LD	LIC	LAS VEGAS, NV	BLANK0000112505	161.3
No	K26NG-D	D26	LD	LIC	EAST FLAGSTAFF, AZ	BLANK0000058629	262.5
No	K26OD-D	D26	LD	LIC	GLOBE, AZ	BLANK0000064242	351.7
No	K26GF-D	D26	LD	LIC	PEACH SPRINGS, AZ	BLDTT20130308ACF	134.4
No	KUTP	D26	DT	LIC	PHOENIX, AZ	BLCDT20130625AAK	255.3
No	K27PC-D	D26	LD	CP	YUMA, AZ	BLANK0000212871	214.5
No	KUVI-DT	D26	DT	LIC	BAKERSFIELD, CA	BLANK0000081232	408.4
No	K26MW-D	D26	LD	LIC	LUCERNE VALLEY, CA	BLANK0000116236	266.8
Yes	K26PR-D	D26	LD	LIC	NEEDLES, CA	BLANK0000178666	33.4
No	KMIR-TV	D26	DT	LIC	PALM SPRINGS, CA	BLANK0000075143	206.4
No	KMRZ-LD	D26	LD	LIC	POMONA, CA	BLANK0000168080	308.8
No	KZGN-LD	D26	LD	LIC	RIDGECREST, CA	BLANK0000185235	320.5
No	KSWB-TV	D26	DT	LIC	SAN DIEGO, CA	BLANK0000068712	318.1
No	KSKJ-CD	D26	DC	LIC	VAN NUYS, CA	BLANK0000071612	341.2
No	KGNL-LD	D26	LD	LIC	LAS VEGAS, NV	BLANK0000126700	161.3
Yes	KTNV-TV	D26	DT	APP	LAS VEGAS, NV	BLANK0000145120	161.3
No	K26NP-D	D26	LD	LIC	VERTON, NV	BLANK0000137690	231.9
No	K20EC-D	D26	LD	LIC	KANAB, UT	BLANK0000059985	320.0
No	K26NZ-D	D26	LD	LIC	KANARRAVILLE, NEW HA, UT	BLANK0000091051	337.4
No	KVBT-LD	D26	LD	LIC	SANTA CLARA, ETC., UT	BLANK0000177050	287.1
No	DKDLU-LP	N26	TX	APP	ST. GEORGE, UT	BLTT19961024JB	282.8
No	K27DA-D	D27	LD	LIC	BIG SANDY VALLEY, AZ	BLDTT20130308AAI	71.9
No	K27NT-D	D27	LD	LIC	GOLDEN VALLEY, AZ	BLANK0000071725	70.9
No	KASW	D27	DD	LIC	PHOENIX, AZ	BLANK0000204930	255.2
No	KYPO-LD	D27	LD	LIC	TACNA, AZ	BLANK0000179279	114.1
No	KYPO-LD	N27	TX	LIC	TACNA, AZ	BLTT120080818AAL	114.1
No	K27NR-D	D27	LD	LIC	TOPOCK, AZ	BLANK0000071723	48.2
No	KAZS	D27	DT	CP	YUMA, AZ	BLANK0000212367	177.3
No	KVER-CD	D27	DC	LIC	INDIO, CA	BLANK0000074955	206.5
No	KPVT-LD	D27	LD	LIC	LAS VEGAS, NV	BLANK0000010689	166.7
No	XHEXT	D25	DT	LIC	MEXICALI, BN	BLANKBPFS20050721BFG	244.1
No	XHEBC	D26	DT	LIC	ENSENADA, BN	BLANKBPFS20160301ABP	369.0
No	XHSFB	D26	DT	LIC	SAN FELIPE, BN	BLANKBPFS20151106AAJ	400.3

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D26
Mask: Full Service
Latitude: 34 36 9.00 N (NAD83)
Longitude: 114 22 15.80 W
Height AMSL: 408.0 m
HAAT: 54.0 m

K22NK-D TVSTUDY INTERFERENCE ANALYSIS

Peak ERP: 15.0 kW
 Antenna: Kat_4x1_750_0000049_E 350.0 deg
 Elev Pattn: Generic

50.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.044 kW	35.8 m	8.8 km
45.0	0.037	-7.4	7.9
90.0	0.333	-298.4	13.5
135.0	8.56	-5.4	27.8
180.0	10.5	255.9	52.3
225.0	0.547	173.6	32.4
270.0	0.029	113.6	14.2
315.0	0.048	167.7	19.9

Distance to Canadian border: 1600.3 km

**Proposal is within coordination distance of Mexican border

Distance to Mexican border: 211.8 km

Conditions at FCC monitoring station: Douglas AZ

Bearing: 126.8 degrees Distance: 558.4 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 50.0 degrees Distance: 1011.3 km

Study cell size: 1.00 km

Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%

Maximum new IX to LPTV: 2.00%

 Interference to BLANK0000178666 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	K26PR-D	D26	LD	LIC	NEEDLES, CA	BLANK0000178666	
Undesireds:	K26OK030	D26	LD	APP	LAKE HAVASU CITY, AZ	k26ok030	33.4 km
	KTNV-TV	D26	DT	APP	LAS VEGAS, NV	BLANK0000145120	130.2
	K27NR-D	D27	LD	LIC	TOPOCK, AZ	BLANK0000071723	31.8
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
1747.0		71,622		1662.9		70,990	0.30 0.00
Undesired		Total IX		Unique IX, before		Unique IX, after	
K26OK030 D26 LD APP		5.0		0		5.0	0
KTNV-TV D26 DT APP		5.0		3.0		0	0
K27NR-D D27 LD LIC		3.0		1.0		0	0

 Interference to BLANK0000145120 APP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KTNV-TV	D26	DT	APP	LAS VEGAS, NV	BLANK0000145120	
Undesireds:	K26OK030	D26	LD	APP	LAKE HAVASU CITY, AZ	k26ok030	161.3 km
	KUTP	D26	DT	LIC	PHOENIX, AZ	BLCDDT20130625AAK	398.2
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
47356.3		2,097,121		30787.4		1,932,375	0.11 0.00
Undesired		Total IX		Unique IX, before		Unique IX, after	
K26OK030 D26 LD APP		33.9		0		33.9	0
KUTP D26 DT LIC		3.0		3		3	3

 Interference to proposal scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	K26OK030	D26	LD	APP	LAKE HAVASU CITY, AZ	k26ok030	

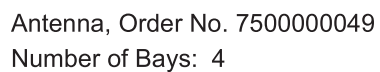
K22NK-D TVSTUDY INTERFERENCE ANALYSIS

Undesireds:	KUTP	D26	DT	LIC	PHOENIX, AZ	BLCDT20130625AAK	255.3 km
	K27PC-D	D26	LD	CP	YUMA, AZ	BLANK0000212871	214.5
	K26PR-D	D26	LD	LIC	NEEDLES, CA	BLANK0000178666	33.4
	KTNV-TV	D26	DT	APP	LAS VEGAS, NV	BLANK0000145120	161.3
	KYPO-LD	D27	LD	LIC	TACNA, AZ	BLANK0000179279	114.1
	K27NR-D	D27	LD	LIC	TOPOCK, AZ	BLANK0000071723	48.2

	Service area		Terrain-limited		IX-free		Percent IX
2186.7	63,482	1580.7	56,410	1535.4	56,408	2.86	0.00

Undesired			Total IX		Unique IX	Prcnt Unique IX
KUTP D26 DT LIC	1.0	0	0.0	0	0.00	0.00
K26PR-D D26 LD LIC	16.1	0	15.1	0	0.95	0.00
KTNV-TV D26 DT APP	29.2	2	26.2	2	1.66	0.00
K27NR-D D27 LD LIC	3.0	0	1.0	0	0.06	0.00

Subject to alternation



No.	Vert. Distance [mm]	Power	Phase [°]
4	3450	1	39.4
3	2300	1	26.3
2	1150	1	13.1
1	0	1	0