

Engineering Statement

KWSU-LD Construction Permit Modification

Washington State University

KWSU-LD , licensed to Washington State University ("WSU"), is a Digital Replacement Translator serving the areas of Cheney and Spokane, WA. WSU is presently authorized to move to channel 33 (reference BLEDT-20111003ALM).

WSU has been unable to secure a lease at the authorized site and hereby requests authorization to relocate the KWSU-LD facility to a site approximately 225 meters south-southwest of the authorized site. In addition, WSU requests a slight increase in authorized effective radiated power (from 1.2kW to 1.5kW) to compensate for a reduction in height above average terrain ("HAAT"). WSU also requests a re-orientation of the directional antenna from 223 degrees to 270 degrees to provide more adequate coverage for the previously under-served communities of Airway Heights and Country Homes.

The requested location, effective radiated power, antenna orientation and channel meet Commission protection requirements as documented in the TVStudy listing below.

TVStudy Run for WSU-LD on Channel 33 Using Proposed Antenna

Study created: 2018.09.28 10:14:16

Study build station data: LMS TV 2018-09-26

Proposal: KWSU-TV D33 LD CP PULLMAN, WA

File number: BLANK0000053960

Facility ID: 71024

Station data: User record

Record ID: 19

Country: U.S.

Build options:

Protect pre-transition records not on baseline channel

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	K32HA-D	D32	LD	LIC	BONNERS FERRY, ID	BLDTL20090722ABS	138.4 km
No	K40DJ-D	D32	LD	APP	COOLIN, ID	BLANK0000052366	111.9
No	KLEW-TV	D32	DT	LIC	LEWISTON, ID	BLCDT20100111ADM	125.4
Yes	KDYS-LD	D32	LD	LIC	SPOKANE, WA	BLDTL20130506ACL	13.3
No	K51EF-D	D33	LD	APP	COOLIN, ID	BLANK0000052368	111.9
Yes	K33LF-D	D33	LD	CP	LEWISTON, ID	BNPDTL20100119AEH	125.8
Yes	K33LW-D	D33	LD	LIC	SANDPOINT, ID	BLDTT20111019AAH	95.2
No	K17JG-D	D33	LD	CP	FERNDAL, ETC, MT	BLANK0000052297	249.3
No	K42HO-D	D33	LD	CP	ST. IGNATIUS, MT	BLANK0000053179	228.7
No	K33FS-D	D33	LD	LIC	LA GRANDE, OR	BLDTT20120625ABM	254.2
No	KRCW-TV	D33	DT	LIC	SALEM, OR	BMLCDT20070123ABS	474.3
Yes	KWPX-TV	D33	DT	LIC	BELLEVEU, WA	BLCDT20111025AIR	350.5
No	K42KA-D	D33	LD	CP	MOSES LAKE, WA	BLANK0000054607	157.2
Yes	K11DM	D33	LD	CP	OMAK, ETC., WA	BLANK0000008123	178.4
Yes	K33EJ-D	D33	DC	LIC	WALLA WALLA, WA	BLDTA20140917AAZ	189.1
Yes	KIMA-TV	D33	DT	LIC	YAKIMA, WA	BLCDT20090811ABV	269.4
No	K17JR-D	D34	LD	CP	LEWISTON, ID	BLANK0000054452	126.6
No	K34LW-D	D34	LD	CP	MULLAN, ID	BNPDTL20100505AFE	118.0
No	K30LS-D	D34	LD	APP	SANDPOINT, ID	BLANK0000051743	95.2
No	K34ND-D	D34	LD	LIC	MOSES LAKE, WA	BLANK0000055042	190.2
Yes	KGPX-TV	D34	DT	LIC	SPOKANE, WA	BLANK0000008553	2.4
Yes	KGPX-TV	D34	DT	CP	SPOKANE, WA	BLANK0000058407	1.8

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D33

Mask: Full Service

Latitude: 47 34 38.29 N (NAD83)

Longitude: 117 17 57.14 W

Height AMSL: 1148.0 m

HAAT: 429.0 m

Peak ERP: 1.50 kW

Antenna: MCX-LP-1900-E-4CP (ID 1003576) 270.0 deg

Elev Pattn: Generic

Elec Tilt: 1.50

50.6 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.799 kW	462.4 m	45.8 km
45.0	0.154	519.8	37.6
90.0	0.265	257.4	32.2
135.0	0.154	374.4	33.3
180.0	0.799	410.2	44.4
225.0	1.17	454.3	47.9
270.0	1.50	467.2	49.8
315.0	1.20	479.9	49.0

Database HAAT does not agree with computed HAAT

Database HAAT: 429 m Computed HAAT: 428 m

Proposal 25.60 dBu contour does not cross Canadian border

Distance to Canadian border: 158.1 km

Distance to Mexican border: 1664.4 km

Conditions at FCC monitoring station: Ferndale WA

Bearing: 293.5 degrees Distance: 417.8 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 126.2 degrees Distance: 1267.4 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%

---- Below is IX received by proposal BLANK0000053960 ----

Proposal receives 21.62% interference from scenario 1

Proposal receives 21.25% interference from scenario 2

No IX check failures found.