

Special Displacement Window Application
Minor Amendment to LMS File# 0000054272

LPTV or Translator Facility: K49JX-D Facility ID 167155 Montrose, CO
Licensed Ch. 49 File# BLDTT-20081125AOO

Nature of Displacement: Within 600 MHz wireless spectrum

Proposed Facility: Ch. 23 15 kW ERP directional (azimuth pattern in Figure 1)

Modification Compliance: 0.7 km from licensed site
Contour comparison in Figure 2
TVStudy Analysis report in Table 1
Note: 18.9 percent interference that would be caused to the
K23GF-D Construction Permit facility
(BPDTT-20130318AFQ, Dove Creek CO) is disregarded, as
BPDTT-20130318AFQ expired on April 3, 2016 and
protection to that facility is no longer necessary.

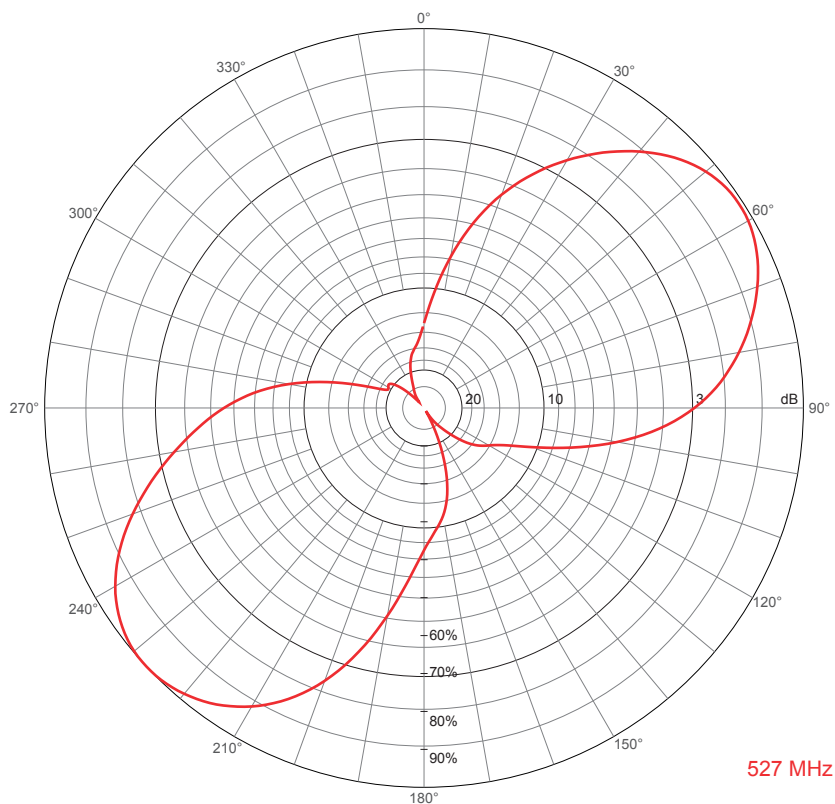
Contingent Application Rule: No waiver required, not dependent on spectrum to be vacated

RF Exposure: The calculated signal density near the tower at two meters above
ground level attributable to the proposed facility is 0.4 percent of
the general population/uncontrolled maximum permitted exposure
limit. Calculations conducted pursuant to FCC OET Bulletin
Number 65 and incorporate 10 percent relative field at downward
angles (from antenna elevation pattern data). This is below the
five percent threshold limit described in §1.1307(b) regarding
sites with multiple emitters, categorically excluding the applicant
from responsibility for taking any corrective action in the areas
where the proposal's contribution is less than five percent.

Chesapeake RF Consultants, LLC

Joseph M. Davis, P.E. June 14, 2018
207 Old Dominion Road Yorktown, VA 23692 703-650-9600

Azimuthal Pattern (polar-linear)



Antenna, Order No. 75010455
Panels per Bay: 2

Frequency: 527 MHz
Azimuthal Directivity: 4.5 dB
Directivity: 13.81 dBd

No.	Azimuth [°]	Radius [mm]	Offset [mm]	Power	Phase [°]
1	60	300	0	1	0
2	230	300	0	1	0

KATHREIN

DTV Pros Jim Heard

KKCO

Date: 2018.05.18

KKCO Translators ch 21 and 23

Kathrein USA mj

Page: 3

KATHREIN SE

Anton-Kathrein-Str. 1-3

P.O. Box 10 04 44

83004 ROSENHEIM

Germany

Phone +49 8031 184-0

Fax +49 8031-495

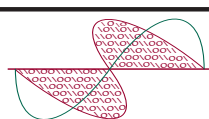
www.kathrein.de

Figure 1

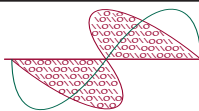
Antenna Azimuthal Pattern
K49JX-D Montrose, CO
Facility ID 167155
Ch. 23 (digital) 11.7 kW

prepared for
Gray Television Licensee, LLC

June, 2018



Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio



Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

Figure 2
Coverage Contour Comparison
K49JX-D Montrose, CO
Facility ID 167155
Ch. 23 (digital) 11.7 kW

prepared for
Gray Television Licensee, LLC

June, 2018

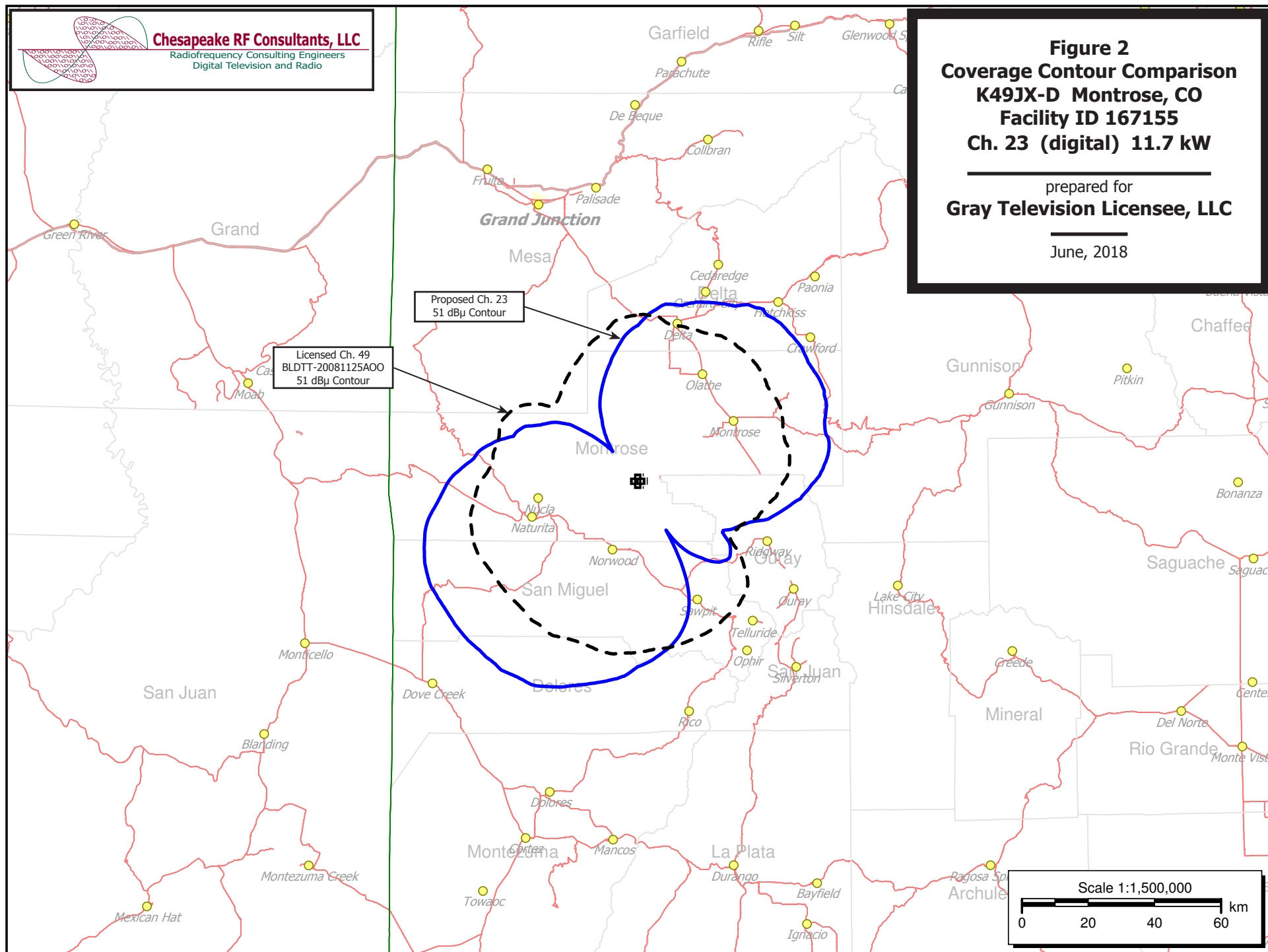


Table 1 K49JX-D TVStudy Analysis of Proposal (page 1 of 5)



tvstudy v2.2.5 (4uoc83)
Database: localhost, Study: K49JX-D Prop KAT all, Model: Longley-Rice
Start: 2018.06.14 13:48:08

Study created: 2018.06.14 13:48:08

Study build station data: LMS TV 2018-06-13

Proposal: K49JX-D D23 LD APP MONTROSE, CO
File number: K49JX-D Prop KAT
Facility ID: 167155
Station data: User record
Record ID: 2178
Country: U.S.

Build options:
Protect pre-transition records not on baseline channel

Search options:
Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	K19CE	N19z	TX	LIC	MONTROSE, CO	BLTT20040602ABQ	49.3 km
No	NEW	D22	LD	APP	ASPEN, CO	BNPDTL20090825BXF	155.9
No	K22LR-D	D22	LD	LIC	COLBRAN, CO	BLDTT20141217ABM	105.1
No	K22CU-D	D22	LD	LIC	CORTEZ, ETC, CO	BLDTT20090522ACH	105.7
No	K22JN-D	D22	LD	LIC	GRAND JUNCTION, CO	BLDTL20121205ABT	95.8
No	K22JM-D	D22	LD	LIC	GUNNISON, CO	BLDTL20121119AOW	115.7
No	K22LF-D	D22	LD	CP	AZTEC, NM	BDCCDTT20120521ACI	169.0
No	K38DA-D	D22	LD	APP	AZTEC, NM	BLANK0000053883	169.0
No	K48AW-D	D22	LD	APP	SHIPROCK, NM	BLANK0000053892	173.4
No	NEW	D23	LD	APP	ASPEN, CO	BNPDTL20090825BXH	155.9
No	K2CS-LP	N23z	TX	LIC	COLORADO SPRINGS, CO	BLTTL20021218AAJ	294.4
No	K23LH-D	D23	LD	LIC	CORTEZ, CO	BLDTT20110331AEZ	107.4
Yes	K23GF-D	D23	LD	LIC	DOVE CREEK, ETC, CO	BLDTT20120615ABH	87.4
Yes	K23GF-D	D23	LD	CP	DOVE CREEK, ETC, CO	BPDTT20130318AFQ	120.4
Yes	K47JR-D	D23	LD	APP	GATEWAY, CO	BLANK0000052953	69.6
Yes	KREG-TV	D23	DT	LIC	GLENWOOD SPRINGS, CO	BLANK0000007830	142.4
No	K43GT	D23z	LD	APP	PAGOSA SPRINGS, CO	BLANK0000053304	158.2
Yes	K23DX-D	D23	LD	LIC	PITKIN, CO	BLDTT20101129AMF	149.7
No	K49JW-D	D23	LD	CP	ROMEO, ETC., CO	BLANK0000032475	251.4
Yes	K45KT-D	D23	LD	APP	SARGENTS, CO	BLANK0000054028	165.4
No	KCDO-TV	D23	DT	LIC	STERLING, CO	BLCDT20100127ADD	414.2
No	KTVS-LD	D23	LD	APP	ALBUQUERQUE, NM	BLANK0000053312	378.4
No	K23JD-D	D23	LD	LIC	COLFAX, NM	BLDTT20100716ABZ	329.5
No	K23KL-D	D23	LD	LIC	FARMINGTON, NM	BLDTT20100702BSP	182.7
No	K23FE-D	D23	LD	LIC	GALLUP, NM	BLDTT20100621ABK	304.3
No	K23KC-D	D23	LD	LIC	BLUFF, ETC, UT	BLDTT20140520AIL	166.0
No	K23JZ-D	D23	LD	LIC	BOULDER, UT	BLDTT20100806AAC	284.9
No	K23IK-D	D23	LD	LIC	CANNONVILLE, UT	BLDTT20100607ADM	345.7
No	K23KW-D	D23	LD	LIC	CIRCLEVILLE, UT	BLDTT20110823ACP	351.8
No	K23IE-D	D23	LD	LIC	EMERY, UT	BLDTT20080125ABQ	268.2
No	K23IW-D	D23	LD	LIC	ESCALANTE, UT	BLDTT20110503ABH	302.4
No	K23JW-D	D23	LD	LIC	FERRON, UT	BLDTT20100107ABP	269.3
No	K23KP-D	D23	LD	LIC	FISHLAKE RESORT, UT	BLDTT20100803AAZ	309.2
No	K23II-D	D23	LD	LIC	FREMONT, UT	BLDTT20090203AAD	304.6
No	K23JV-D	D23	LD	LIC	GREEN RIVER, UT	BLDTT20100107ABC	186.8
No	K23JP-D	D23	LD	LIC	HANKSVILLE, UT	BLDTT20091104AAE	217.6
No	K23JX-D	D23	LD	LIC	HATCH, UT	BLDTT20100524AAR	371.9
No	K23JY-D	D23	LD	LIC	HUNTINGTON, UT	BLDTT20100107ABJ	265.7
No	K46KT-D	D23	LD	APP	MAYFIELD, UT	BLANK0000053347	317.3
Yes	K23MT-D	D23	LD	LIC	MEXICAN HAT, UT	BLANK0000043093	194.8
No	K23JC-D	D23	LD	LIC	MONTEZUMA CRK/ANETH, UT	BLDTT20091222AMH	151.1
No	K48IL-D	D23	LD	CP	MOUNT PLEASANT, UT	BLANK0000053327	307.1
No	K23FT-D	D23	LD	LIC	MYTON, UT	BLDTT20101207AEI	317.9
No	K23KB-D	D23	LD	LIC	NEPHI, UT	BLDTT20110722AAE	359.2
No	K35JI-D	D23	LD	APP	ORANGEVILLE, UT	BLANK0000053570	273.3
No	K23GW	N23	TX	LIC	PRICE, UT	BLTT20060320AGT	267.5
No	K39KX-D	D23	LD	APP	RICHFIELD, ETC., UT	BLANK0000053323	337.3
No	K23FK-D	D23	LD	LIC	SALINA & REDMOND, UT	BLDTT20080818AAS	325.0
No	KSL-TV	D23	DT	CP	SALT LAKE CITY, UT	BLANK0000029868	430.6

Table 1 K49JX-D TVStudy Analysis of Proposal
(page 2 of 5)



No	K23IQ-D	D23	LD	LIC	SAMAK, UT	BLDTT20090624ABT	367.4
No	K36IP-D	D23	LD	APP	SCIPPIO, UT	BLANK0000053587	355.3
No	K23IU-D	D23	LD	LIC	SCOFIELD, UT	BLDTT20090716ADQ	298.4
No	K23IV-D	D23	LD	LIC	SPRING GLEN, UT	BLDTT20090717AAA	289.0
No	K23HS	N23z	TX	LIC	WOODLAND & KAMAS, UT	BLTT20080402ACV	361.3
No	NEW	D24	LD	APP	ASPEN, CO	BNPDTL20090825BXI	155.9
No	K24LQ-D	D24	LD	LIC	COLLBRAN, CO	BLDTT20141217ABN	105.1
No	K24CH-D	D24	LD	LIC	CORTEZ, ETC, CO	BLDTT20090522ACF	105.7
No	K24JO-D	D24	LD	LIC	CRAWFORD, CO	BLDTT20110728AIK	68.2
No	K45DH-D	D24	LD	APP	DURANGO, CO	BLANK0000051782	113.5
No	K24KR-D	D24	LD	LIC	JACKS CABIN, CO	BLDTT20120413ABE	129.1
No	K47LZ-D	D24	LD	APP	SARGENTS, CO	BLANK0000054031	165.4
No	K25FZ	N25+	TX	LIC	GRAND JUNCTION, CO	BLTT19990706JH	95.8
No	K31CT	N31	TX	LIC	CORTEZ, CO	BLTTL20050802ACX	107.4

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D23
Mask: Full Service
Latitude: 38 18 55.00 N (NAD83)
Longitude: 108 12 17.40 W
Height AMSL: 3101.0 m
HAAT: 0.0 m
Peak ERP: 11.7 kW
Antenna: KAT 4x2 75010455 20180518 0.0 deg
Elev Pattern: Generic
Elec Tilt: 1.20

49.7 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.587 kW	605.5 m	48.8 km
45.0	10.0	566.6	65.7
90.0	5.95	348.7	54.7
135.0	0.119	476.4	36.1
180.0	1.65	732.4	57.8
225.0	11.6	783.2	71.9
270.0	3.25	573.1	58.9
315.0	0.035	212.5	20.8

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 537 m

Distance to Canadian border: 1187.6 km

Distance to Mexican border: 726.0 km

Conditions at FCC monitoring station: Douglas AZ
Bearing: 190.3 degrees Distance: 768.8 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 50.8 degrees Distance: 323.6 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 BLDTT20120615ABH LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	K23GF-D	D23	LD	LIC	DOVE CREEK, ETC, CO	BLDTT20120615ABH	
Undesireds:	K49JX-D	D23	LD	APP	MONTROSE, CO	K49JX-D Prop KAT	87.4 km

Table 1 K49JX-D TVStudy Analysis of Proposal
(page 3 of 5)



K22CU-D	D22	LD	LIC	CORTEZ, ETC, CO	BLDTT20090522ACH	80.4
K23LH-D	D23	LD	LIC	CORTEZ, CO	BLDTT20110331AEZ	82.3
K24CH-D	D24	LD	LIC	CORTEZ, ETC, CO	BLDTT20090522ACF	80.4

Service area		Terrain-limited		IX-free, before		IX-free, after		Percent	New IX
1413.1	2,185	1283.1	2,137	1225.3	2,121	1219.2	2,121	0.50	0.00
Undesired		Total IX		Unique IX, before		Unique IX, after			
K49JX-D	D23 LD APP	33.5	0			6.1	0		
K22CU-D	D22 LD LIC	5.1	0	0.0	0	0.0	0		
K23LH-D	D23 LD LIC	56.8	16	52.7	16	28.4	16		
K24CH-D	D24 LD LIC	5.1	0	0.0	0	0.0	0		

Interference to BPDTT20130318AFQ CP scenario 1

**IX: 18.90% interference caused

(Note: BPDTT-20130318AFQ expired on 04/03/2016 and does not require protection)

Desired:	Call K23GF-D	Chan D23	Svc LD	Status CP	City, State DOVE CREEK, ETC, CO	File Number BPDTT20130318AFQ	Distance		
Undesireds:	K49JX-D	D23	LD	APP	MONTROSE, CO	K49JX-D Prop KAT	120.4 km		
	K23LH-D	D23	LD	LIC	CORTEZ, CO	BLDTT20110331AEZ	124.9		
	K23KC-D	D23	LD	LIC	BLUFF, ETC, UT	BLDTT20140520AIL	61.6		
	Service area 1558.4			Terrain-limited 2,675		IX-free, before 1486.4	IX-free, after 2,636	Percent New IX 1464.1	
									2,630
									1290.1
									2,133
									11.88
									18.90
Undesired					Total IX		Unique IX, before		Unique IX, after
K49JX-D	D23	LD	APP		183.1	497		174.0	497
K23LH-D	D23	LD	LIC		22.3	6	18.2	6	11.2
K23KC-D	D23	LD	LIC		4.1	0	0.0	0	0.0

Interference to BLANK0000052953 APP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance			
Desired:	K47JR-D	D23	LD	APP	GATEWAY, CO	BLANK0000052953				
Undesireds:	K49JX-D	D23	LD	APP	MONTROSE, CO	K49JX-D Prop KAT	69.6 km			
	K23GF-D	D23	LD	LIC	DOVE CREEK, ETC, CO	BLDTT20120615ABH	107.6			
	K23JV-D	D23	LD	LIC	GREEN RIVER, UT	BLDTT20100107ABC	122.1			
	K35JI-D	D23	LD	APP	ORANGEVILLE, UT	BLANK0000053570	208.7			
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX			
1432.6	392	1129.9		389	1104.9	317	1032.8	312	6.52	1.58
Undesired				Total IX	Unique IX, before		Unique IX, after			
K49JX-D	D23	LD	APP	75.1	5		72.1	5		
K23JV-D	D23	LD	LIC	2.0	0	0.0	0	0.0	0	
K35JI-D	D23	LD	APP	25.0	72	23.0	72	21.0	72	

Interference to BLANK0000052953 APP scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance	
Desired:	K47JR-D	D23	LD	APP	GATEWAY, CO	BLANK0000052953		
Undesireds:	K49JX-D	D23	LD	APP	MONTROSE, CO	K49JX-D Prop KAT	69.6 km	
	K23GF-D	D23	LD	CP	DOVE CREEK, ETC, CO	BPDTT20130318AFQ	114.5	
	K23JV-D	D23	LD	LIC	GREEN RIVER, UT	BLDTT20100107ABC	122.1	
	K35JI-D	D23	LD	APP	ORANGEVILLE, UT	BLANK0000053570	208.7	
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX	
1432.6 392		1129.9		389 1102.9 317		1030.8 312	6.54 1.58	
Undesired				Total IX	Unique IX, before		Unique IX, after	
K49JX-D	D23	LD	APP	75.1	5	72.1	5	
K23GF-D	D23	LD	CP	4.0	0	2.0 0	0	
K23JV-D	D23	LD	LIC	2.0	0	0.0 0	0	
K35JI-D	D23	LD	APP	25.0	72	21.0 72	72	

Table 1 K49JX-D TVStudy Analysis of Proposal
(page 4 of 5)



Interference to BLANK0000007830 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	KREG-TV	D23	DT	LIC	GLENWOOD SPRINGS, CO	BLANK0000007830	
Undesireds:	K49JX-D	D23	LD	APP	MONTROSE, CO	K49JX-D Prop KAT	142.4 km
	KCDO-TV	D23	DT	LIC	STERLING, CO	BLCDT20100127ADD	301.1
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
20962.6 149,331		14061.4 98,163		14060.4 98,163		13971.7 97,969	0.63 0.20
Undesired		Total IX		Unique IX, before		Unique IX, after	
K49JX-D D23 LD APP		88.7 194		88.7 194			
KCDO-TV D23 DT LIC		1.0 0		1.0 0			

Interference to BLDTT20101129AMF LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	K23DX-D	D23	LD	LIC	PITKIN, CO	BLDTT20101129AMF	
Undesireds:	K49JX-D	D23	LD	APP	MONTROSE, CO	K49JX-D Prop KAT	149.7 km
	K23GF-D	D23	LD	LIC	DOVE CREEK, ETC, CO	BLDTT20120615ABH	228.6
	K45KT-D	D23	LD	APP	SARGENTS, CO	BLANK0000054028	21.6
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
308.4 182		266.3 182		264.3 182		261.3 182	1.14 0.00
Undesired		Total IX		Unique IX, before		Unique IX, after	
K49JX-D D23 LD APP		4.0 0		3.0 0			
K45KT-D D23 LD APP		2.0 0		1.0 0			

Interference to BLANK0000054028 APP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	K45KT-D	D23	LD	APP	SARGENTS, CO	BLANK0000054028	
Undesireds:	K49JX-D	D23	LD	APP	MONTROSE, CO	K49JX-D Prop KAT	165.4 km
	K22JM-D	D22	LD	LIC	GUNNISON, CO	BLDTL20121119AOW	51.0
	K23GF-D	D23	LD	LIC	DOVE CREEK, ETC, CO	BLDTT20120615ABH	240.9
	K23DX-D	D23	LD	LIC	PITKIN, CO	BLDTT20101129AMF	21.6
	K49JW-D	D23	LD	CP	ROME, ETC., CO	BLANK0000032475	183.9
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
2204.1 832		1667.1 523		1586.9 422		1559.8 422	1.71 0.00
Undesired		Total IX		Unique IX, before		Unique IX, after	
K49JX-D D23 LD APP		34.1 0		27.1 0			
K22JM-D D22 LD LIC		76.2 101		69.2 101			
K23DX-D D23 LD LIC		5.0 0		2.0 0			
K49JW-D D23 LD CP		1.0 0		1.0 0			

Interference to BLANK0000043093 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	K23MT-D	D23	LD	LIC	MEXICAN HAT, UT	BLANK0000043093	
Undesireds:	K49JX-D	D23	LD	APP	MONTROSE, CO	K49JX-D Prop KAT	194.8 km
	K23GF-D	D23	LD	LIC	DOVE CREEK, ETC, CO	BLDTT20120615ABH	107.8
	K23KL-D	D23	LD	LIC	FARMINGTON, NM	BLDTT20100702BSP	154.2
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
203.4 310		183.5 310		180.5 310		179.5 310	0.55 0.00
Undesired		Total IX		Unique IX, before		Unique IX, after	
K49JX-D D23 LD APP		3.0 0		1.0 0			
K23GF-D D23 LD LIC		3.0 0		0.0 0			
K23KL-D D23 LD LIC		2.0 0		0.0 0			

Interference to BLANK0000043093 LIC scenario 2

Table 1 K49JX-D TVStudy Analysis of Proposal
(page 5 of 5)



Desired:	Call K23MT-D	Chan D23	Svc LD	Status LIC	City, State MEXICAN HAT, UT	File Number BLANK0000043093	Distance
Undesireds:	K49JX-D	D23	LD	APP	MONTROSE, CO	K49JX-D Prop KAT	194.8 km
	K23GF-D	D23	LD	CP	DOVE CREEK, ETC, CO	BPDTT20130318AFQ	83.3
	K23KL-D	D23	LD	LIC	FARMINGTON, NM	BLDTT20100702BSP	154.2
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
203.4	310	183.5		310	178.5	310	176.5 310
							1.12 0.00
Undesired				Total IX	Unique IX, before		Unique IX, after
K49JX-D	D23	LD	APP	3.0	0	2.0	0
K23GF-D	D23	LD	CP	3.0	0	3.0	0
K23KL-D	D23	LD	LIC	2.0	0	1.0	0

Interference to proposal scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	K49JX-D	D23	LD	APP	MONTROSE, CO	K49JX-D Prop KAT	
Undesireds:	K23GF-D	D23	LD	LIC	DOVE CREEK, ETC, CO	BLDTT20120615ABH	87.4 km
	K47JR-D	D23	LD	APP	GATEWAY, CO	BLANK0000052953	69.6
	KREG-TV	D23	DT	LIC	GLENWOOD SPRINGS, CO	BLANK0000007830	142.4
	K45KT-D	D23	LD	APP	SARGENTS, CO	BLANK0000054028	165.4
Service area		Terrain-limited			IX-free	Percent IX	
9093.1	59,485	7477.9		58,144	7426.5	58,068	0.69 0.13
Undesired				Total	IX	Unique	IX
K47JR-D	D23	LD	APP	4.0	0	4.0	0
KREG-TV	D23	DT	LIC	36.3	76	36.3	76
K45KT-D	D23	LD	APP	11.0	0	11.0	0

Interference to proposal scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance		
Desired:	K49JX-D	D23	LD	APP	MONTROSE, CO	K49JX-D Prop KAT			
Undesireds:	K23GF-D	D23	LD	CP	DOVE CREEK, ETC, CO	BPDTT20130318AFQ	120.4 km		
	K47JR-D	D23	LD	APP	GATEWAY, CO	BLANK0000052953	69.6		
	KREG-TV	D23	DT	LIC	GLENWOOD SPRINGS, CO	BLANK0000007830	142.4		
	K45KT-D	D23	LD	APP	SARGENTS, CO	BLANK0000054028	165.4		
Service area		Terrain-limited			IX-free	Percent IX			
9093.1	59,485	7477.9	58,144	7406.4	58,068	0.96	0.13		
Undesired				Total IX	Unique IX	Prcnt Unique IX			
K23GF-D	D23	LD	CP	24.2	0	20.1	0	0.27	0.00
K47JR-D	D23	LD	APP	4.0	0	3.0	0	0.04	0.00
KREG-TV	D23	DT	LIC	36.3	76	33.2	76	0.44	0.13
K45KT-D	D23	LD	APP	11.0	0	11.0	0	0.15	0.00