

Station KTYO-DT • DTV Channel 47 • Las Cruces, New Mexico

Engineering Narrative Concerning Allocation Conditions

Background

It is proposed to modify the Construction Permit (FCC File No. BPCDT-19990709LE) of DTV Station KTYO-DT, Channel 47, Las Cruces, New Mexico. The proposed operation is 26.3 kilometers southeast from the permitted (and allotment) site. The proposed operation would be at the allotted ERP of 200 kilowatts, but at greater height. Therefore, the proposed operation is on the allotted channel, but at a location greater than 5.0 kilometers from the DTV reference site and with facilities having an antenna height that exceed the DTV reference HAAT for this station.

Interference Analysis

The proposed operation protects fully all full-service NTSC and DTV operations based upon the procedure set forth in OET Bulletin No. 69. The results of that analysis are given at the end of this narrative. With respect to the predicted interference to the licensed operation of NTSC Station KTYO, Channel 48, Las Cruces, the applicant reports that NTSC operation has been permanently suspended, in favor of a lower-power operation (BSTA-20030703ACP) at a site in Las Cruces. KTYO and KTYO-DT are co-owned, and the applicant reports that it is willing to accept any interference to its NTSC operation from the proposed DTV operation. If waiver of Section 73.623 is required, such waiver is respectfully requested.

Mexican Notification

The allotted operation of KTYO-DT is a “mutually-accepted short-spaced allotment” under the U.S.-Mexico Memorandum of Understanding (“DTV MOU”).* The allotted operation fails the spacing requirements set forth in the DTV MOU with respect to one Mexican NTSC station or allotment, while the proposed operation complies fully with the spacing requirements, as follows:

<u>Mexican Allotment</u>	<u>Channel</u>	<u>Required Spacing</u>	<u>Allotted Operation</u>	<u>Proposed Operation</u>
Cd. Juarez	N32	none between 24–96 km	36.9 km <i>fails</i>	7.4 km <i>complies</i>

* “Memorandum of Understanding Between the Federal Communications Commission of the United States of America and the Secretaria de Comunicaciones y Transportes of the United Mexican States Related to the Use of the 54–72, 76–88, 174–216 and 470–806 MHz Bands for the Digital Television Broadcasting Service Along the Common Border,” July 22, 1998.



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TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 08-01-2004 Time: 14:50:29

Record Selected for Analysis

KTYO-DT USERRECORD-01 LAS CRUCES NM US
Channel 47 ERP 200. kW HAAT 563. m RCAMSL 01804 m
Latitude 031-48-17 Longitude 0106-28-58
Status APP Zone 2 Border
Last update Cutoff date Docket
Comments
Applicant

Cell Size for Service Analysis 2.0 km/side

Distance Increments for Longley-Rice Analysis 1.00 km

Facility meets maximum height/power limits

Azimuth (Deg)	ERP (kW)	HAAT (m)	41.0 dBu F(50,90) (km)
0.0	200.000	265.9	79.2
45.0	200.000	605.6	106.2
90.0	200.000	606.9	106.3
135.0	200.000	678.3	109.3
180.0	200.000	628.5	107.2
225.0	200.000	535.5	102.2
270.0	200.000	616.7	106.7
315.0	200.000	565.7	104.2

Evaluation toward Class A Stations

No Spacing violations or contour overlap to Class A stations

Class A Evaluation Complete

SPACING VIOLATION FOUND BETWEEN STATION

KTYO-DT 47 LAS CRUCES NM USERRECORD01

and station



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SHORT TO: KTYO 47 LAS CRUCES NM BPCDT 19990709LE
032-02-30 0106-27-41
Req. separation 223.7 Actual separation 26.4 Short 197.3 km

SHORT TO: KZIA-DT 47 LAS CRUCES NM DTVPLN DTVP1366
32-02-30 106-27-41
Req. separation 223.7 Actual separation 26.4 Short 197.3 km

SHORT TO: KTYO 48 LAS CRUCES NM BLCT 19900625KE
032-02-30 0106-27-41
Req. separation => 12.0 <= 106.0 Actual separation 26.4 Short 79.6(14.4) km

SHORT TO: KTYO 48 LAS CRUCES NM BSTA 20030703ACP
032-18-19 0106-46-41
Req. separation => 12.0 <= 106.0 Actual separation 62.1 Short 43.9(50.1) km

LANDMOBILE SPACING VIOLATIONS FOUND

NONE

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quite zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is within the Mexican coordination distance
Distance to border = 4.4km

Proposed station is OK toward AM broadcast stations

Start of Interference Analysis

Channel	Proposed Station Call	City/State	ARN
47	KTYO-DT	LAS CRUCES NM	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
47	KXGR-DT	GREEN VALLEY AZ	404.2	PLN	DTVPLN	-DTVP1351
47	KUVE-TV	GREEN VALLEY AZ	404.2	CP	BPCDT	-20000501AEM
47	NEW	HOBBS NM	334.3	APP	BNPEDT	-20040526ATP
47	NEW	HOBBS NM	327.2	APP	BNPEDT	-20040524AOU
47	NEW	HOBBS NM	334.3	APP	BNPEDT	-20040526ATP
47	NEW	HOBBS NM	327.3	LIC	BPRM	-20030604ACW
48	KTYO	LAS CRUCES NM	26.4	LIC	BLCT	-19900625KE
48	KTYO	LAS CRUCES NM	62.2	APP	BSTA	-20030703ACP



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Analysis of Interference to Affected Station 1

DTV Baseline Analysis

Channel	Call	City/State	Application Ref. No.
47	KXGR-DT	GREEN VALLEY AZ	DTVPLN -DTVP1351

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
46	KXGR	GREEN VALLEY AZ	0.0	PLN	DTVPLN -NPLN1694
47	KZIA-DT	LAS CRUCES NM	402.1	PLN	DTVPLN -DTVP1366

Results for: 47A AZ GREEN VALLEY DTVPLN DTVP1351 PLN
HAAT 1095.0 m, ATV ERP 72.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	807619	38508.7
not affected by terrain losses	632721	26016.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	0	0.0
lost to ATV IX only	0	0.0
lost to all IX	0	0.0

NTSC Baseline Analysis

Channel	Call	City/State	Application Ref. No.
46	KXGR	GREEN VALLEY AZ	DTVPLN -NPLN1694

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
39	NEW	PHOENIX AZ	162.0	PLN	DTVPLN -NPLN1557
42	KHRR-DT	TUCSON AZ	41.9	PLN	DTVPLN -DTVP1182
43	NEW	COOLIDGE AZ	110.9	PLN	DTVPLN -NPLN1634
44	KWBA-DT	SIERRA VISTA AZ	73.3	PLN	DTVPLN -DTVP1253
45	KUTPTV	PHOENIX AZ	161.7	PLN	DTVPLN -NPLN1677
47	KXGR-DT	GREEN VALLEY AZ	0.0	PLN	DTVPLN -DTVP1351
61	KASW	PHOENIX AZ	161.9	PLN	DTVPLN -NPLN1920

Results for: 46N AZ GREEN VALLEY DTVPLN NPLN1694 PLN

	POPULATION	AREA (sq km)
within Noise Limited Contour	807619	38504.7
not affected by terrain losses	614201	24284.0
lost to NTSC IX	317	302.1
lost to additional IX by ATV	49	8.1
lost to all IX	366	310.2

Analysis of current record

Channel	Call	City/State	Application Ref. No.
47	KXGR-DT	GREEN VALLEY AZ	DTVPLN -DTVP1351

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
46	KUVE-TV	GREEN VALLEY AZ	0.0	LIC	BLCT -20001221ABN
47	KZIA-DT	LAS CRUCES NM	402.1	PLN	DTVPLN -DTVP1366
47	KTYO-DT	LAS CRUCES NM	404.2	APP	USERRECORD-01

Proposal causes no interference



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Analysis of Interference to Affected Station 2

Analysis of current record

Channel	Call	City/State	Application Ref. No.
47	KUVE-TV	GREEN VALLEY AZ	BPCDT -20000501AEM

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
46	KUVE-TV	GREEN VALLEY AZ	0.0	LIC	BLCT -20001221ABN
47	KZIA-DT	LAS CRUCES NM	402.1	PLN	DTVPLN -DTVP1366
47	KTYO-DT	LAS CRUCES NM	404.2	APP	USERRECORD-01

Proposal causes no interference

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Analysis of Interference to Affected Station 3

Analysis of current record

Channel	Call	City/State	Application Ref. No.
47	NEW	HOBBS NM	BNPEDT -20040526ATP

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
47	KZIA-DT	LAS CRUCES NM	324.9	PLN	DTVPLN -DTVP1366
47	KTYO-DT	LAS CRUCES NM	334.3	APP	USERRECORD-01

Proposal causes no interference

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Analysis of Interference to Affected Station 4

Analysis of current record

Channel	Call	City/State	Application Ref. No.
47	NEW	HOBBS NM	BNPEDT -20040524AOU

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
47	KZIA-DT	LAS CRUCES NM	317.3	PLN	DTVPLN -DTVP1366
47	KTYO-DT	LAS CRUCES NM	327.2	APP	USERRECORD-01

Proposal causes no interference

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Analysis of Interference to Affected Station 5

Analysis of current record

Channel	Call	City/State	Application Ref. No.
47	NEW	HOBBS NM	BNPEDT -20040526ATP



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Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
47	KZIA-DT	LAS CRUCES NM	324.9	PLN	DTVPLN -DTVP1366
47	KTYO-DT	LAS CRUCES NM	334.3	APP	USERRECORD-01

Proposal causes no interference

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Analysis of Interference to Affected Station 6

Analysis of current record

Channel	Call	City/State	Application Ref. No.
47	NEW	HOBBS NM	BPRM -20030604ACW

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
47	KZIA-DT	LAS CRUCES NM	317.5	PLN	DTVPLN -DTVP1366
47	KTYO-DT	LAS CRUCES NM	327.3	APP	USERRECORD-01

Proposal causes no interference

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Analysis of Interference to Affected Station 7

NTSC Baseline Analysis

Channel	Call	City/State	Application Ref. No.
48	KZIA	LAS CRUCES NM	DTVPLN -NPLN1736

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
47	KZIA-DT	LAS CRUCES NM	0.0	PLN	DTVPLN -DTVP1366
51	KJLF-DT	EL PASO TX	25.3	PLN	DTVPLN -DTVP1495

Results for: 48N NM LAS CRUCES	DTVPLN	NPLN1736	PLN
	POPULATION	AREA (sq km)	
within Noise Limited Contour	714821	9422.9	
not affected by terrain losses	570528	7294.8	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	0	0.0	
lost to all IX	0	0.0	

Analysis of current record

Channel	Call	City/State	Application Ref. No.
48	KTYO	LAS CRUCES NM	BLCT -19900625KE

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
47	KZIA-DT	LAS CRUCES NM	0.0	PLN	DTVPLN -DTVP1366
51	KJLF-DT	EL PASO TX	25.3	PLN	DTVPLN -DTVP1495



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51	KTFN	EL PASO TX	26.4	CP	BPCDT	-19991029AEX
47	KTYO-DT	LAS CRUCES NM	26.4	APP	USERRECORD-01	

Total scenarios = 1

Result key: 1
Scenario 1 Affected station 7
Before Analysis

Results for: 48N NM LAS CRUCES	BLCT	19900625KE	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	714821	9422.9	
not affected by terrain losses	570528	7294.8	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	6437	4.0	
lost to all IX	6437	4.0	

Potential Interfering Stations Included in above Scenario 1

51A TX EL PASO	BPCDT	19991029AEX	CP
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After Analysis

Results for: 48N NM LAS CRUCES	BLCT	19900625KE	LIC
	POPULATION	AREA (sq km)	
within Noise Limited Contour	714821	9422.9	
not affected by terrain losses	570528	7294.8	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	186446	1082.0	
lost to all IX	186446	1082.0	

Potential Interfering Stations Included in above Scenario 1

51A TX EL PASO	BPCDT	19991029AEX	CP
47A NM LAS CRUCES	USERRECORD01		APP

The following station failed the de minimis interference criteria.
47D NM LAS CRUCES USERRECORD01
ERP 200.00 kW HAAT 563.0 m RCAMSL 1804.0 m
Antenna none

Due to interference to the following station and scenario: 1
48N NM LAS CRUCES BLCT 19900625KE
ERP 5000.00 kW HAAT 134.0 m RCAMSL 1399.0 m
Antenna CDB 00000000017243

Percent new DTV interference without proposal:	0.9	BLCT	19900625KE
Percent new DTV interference with proposal:	26.1	BLCT	19900625KE

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Analysis of Interference to Affected Station 8



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Analysis of current record

Channel	Call	City/State	Application Ref. No.
48	KTYO	LAS CRUCES NM	BSTA -20030703ACP

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
47	KZIA-DT	LAS CRUCES NM	41.8	PLN	DTVPLN -DTVP1366
51	KJLF-DT	EL PASO TX	60.9	PLN	DTVPLN -DTVP1495
51	KTFN	EL PASO TX	62.2	CP	BPCDT -19991029AEX
47	KTYO-DT	LAS CRUCES NM	62.2	APP	USERRECORD-01

Total scenarios = 1

Result key: 2
Scenario 1 Affected station 8
Before Analysis

Results for: 48N NM LAS CRUCES	BSTA	20030703ACP	APP
	POPULATION	AREA (sq km)	
within Noise Limited Contour	92565	1088.4	
not affected by terrain losses	92565	1056.1	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	0	0.0	
lost to all IX	0	0.0	

Potential Interfering Stations Included in above Scenario 1

After Analysis

Results for: 48N NM LAS CRUCES	BSTA	20030703ACP	APP
	POPULATION	AREA (sq km)	
within Noise Limited Contour	92565	1088.4	
not affected by terrain losses	92565	1056.1	
lost to NTSC IX	0	0.0	
lost to additional IX by ATV	4	104.8	
lost to all IX	4	104.8	

Potential Interfering Stations Included in above Scenario 1

47A NM LAS CRUCES	USERRECORD01	APP
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Analysis of Interference to Affected Station 9

DTV Baseline Analysis

Channel	Call	City/State	Application Ref. No.
47	KZIA-DT	LAS CRUCES NM	DTVPLN -DTVP1366

Stations Potentially Affecting This Station



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Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
47	KXGR-DT	GREEN VALLEY AZ	402.1	PLN	DTVPLN	-DTVP1351
48	KZIA	LAS CRUCES NM	0.0	PLN	DTVPLN	-NPLN1736

Results for: 47A NM LAS CRUCES DTVPLN DTVP1366 PLN

HAAT 134.0 m, ATV ERP 200.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	717064	10257.5
not affected by terrain losses	588083	8181.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	0	0.0
lost to ATV IX only	0	0.0
lost to all IX	0	0.0

NTSC Baseline Analysis

Channel	Call	City/State	Application	Ref. No.
48	KZIA	LAS CRUCES NM	DTVPLN	-NPLN1736

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
47	KZIA-DT	LAS CRUCES NM	0.0	PLN	DTVPLN	-DTVP1366
51	KJLF-DT	EL PASO TX	25.3	PLN	DTVPLN	-DTVP1495

Results for: 48N NM LAS CRUCES DTVPLN NPLN1736 PLN

	POPULATION	AREA (sq km)
within Noise Limited Contour	714821	9422.9
not affected by terrain losses	570528	7294.8
lost to NTSC IX	0	0.0
lost to additional IX by ATV	0	0.0
lost to all IX	0	0.0

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
47	KTYO-DT	LAS CRUCES NM	USERRECORD-01	

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
47	KXGR-DT	GREEN VALLEY AZ	404.2	PLN	DTVPLN	-DTVP1351
47	KUVE-TV	GREEN VALLEY AZ	404.2	CP	BPCDT	-20000501AEM
47	NEW	HOBBS NM	334.3	APP	BNPEDT	-20040526ATP
47	NEW	HOBBS NM	327.2	APP	BNPEDT	-20040524AOU
47	NEW	HOBBS NM	334.3	APP	BNPEDT	-20040526ATP
47	NEW	HOBBS NM	327.3	LIC	BPRM	-20030604ACW
48	KTYO	LAS CRUCES NM	26.4	LIC	BLCT	-19900625KE
48	KTYO	LAS CRUCES NM	62.2	APP	BSTA	-20030703ACP

Total scenarios = 1

Result key: 3
 Scenario 1 Affected station 9
 Before Analysis



