

TECHNICAL EXHIBIT  
MINOR CHANGE APPLICATION  
STATION KFPX (FACILITY ID 81509)  
NEWTON, IOWA

APRIL 4, 2007

CH 39 116 KW (MAX-DA) 154 M

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Technical Narrative

This Technical Exhibit supports a minor change application for construction permit for television station KFPX at Newton, Iowa. Station KFPX is licensed on analog channel 39 with a directional antenna maximum effective radiated power (ERP) of 4470 kilowatts (kW) and an antenna height above average terrain (HAAT) of 154 meters (BLCT-19980903KF).

Proposed Facilities

Station KFPX desires to “flash-cut” to digital mode on the current channel 39. Digital operation is proposed with the licensed (analog) directional antenna, along with a maximum ERP of 116 kW and an antenna height above average terrain (HAAT) of 154 meters (as specified in the FCC’s 7<sup>th</sup> Further Notice of Proposed Rulemaking), from the current transmitter site. The site coordinates remain (NAD27): 41-49-05 N, 93-12-32 W. The licensed Dielectric TFU-31JTT-R P220 antenna is proposed for digital operation. The antenna structure registration number (ASRN) is 1053076.

Figure 2 is a map indicating that the proposed City-Grade contour will encompass all of the city limits of Newton (derived from 2000 U.S. Census information for Iowa).

In the FCC's 7<sup>th</sup> Further Notice of Proposed Rulemaking (7<sup>th</sup> FNPRM), the following DTV allotment is proposed for KFPX:

<u>Channel</u>	<u>ERP</u>	<u>HAAT</u>	<u>Site Coordinates</u>	<u>Antenna ID</u>	<u>Population</u>
39	116	154	41-49-05 N, 93-12-32 W	74772	651,000

KFPX desires to operate its digital facility using its currently licensed directional antenna. This is the same antenna pattern that was used to replicate KFPX's certified analog coverage for the DTV allotment proposed in the 7<sup>th</sup> FNPRM. However, due to the difference in the analog F(50,50) versus digital F(50,90) propagation curves, the pattern proposed by the FCC in the 7<sup>th</sup> FNPRM differs slightly from the licensed pattern. The difference is believed to be minimal as evidenced by the coverage map in Figure 2. Since there is a slight extension to the current analog contour, the applicant is requesting waiver of the FCC's Freeze for the slight contour extension, if necessary.

#### Allocation Considerations

The proposed KFPX-DT operation meets the FCC's interference standards to pertinent analog (NTSC) and DTV assignments using the procedures outlined in the FCC's OET-69 Bulletin and a 2 kilometer grid cell size. The proposed KFPX-DT operation complies with the FCC's "de minimis" interference policy with respect to pertinent Class A TV assignments.

Since the proposed operation slightly extends the noise-limited contour beyond that proposed in the 7<sup>th</sup> FNPRM, OET-69 studies (using 2000 Census) were also conducted on a post-transition basis to determine if any impact would be caused to any other proposed allotment listed in the 7<sup>th</sup> FNPRM table (or to any Class A station). The results of the study indicate that new interference in the amount of 0.036% is predicted to be caused to the proposed (7<sup>th</sup> FNPRM) DTV allotment for station KMEG, Channel 39, Sioux City, IA (see Figure 3). Since this is less than the 0.1% de minimis value that the Commission used in the creation of the table, it will not have an adverse interference impact and should be acceptable.

Radiofrequency Electromagnetic Field Exposure

The proposed KFPX-DT facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the proposed antenna is located 143 meters above ground level with a maximum ERP of 116 kW. A conservative relative field value of 0.1 was assumed for the downward antenna radiation calculation (see Figure 4). The calculated power density at a point 2 meters above ground level will be  $0.002 \text{ mW/cm}^2$ . This is less than 5% of the FCC's recommended limit of  $0.42 \text{ mW/cm}^2$  for channel 39 for an "uncontrolled" environment.

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.

It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already have been provided to the FCC by the tower owner.

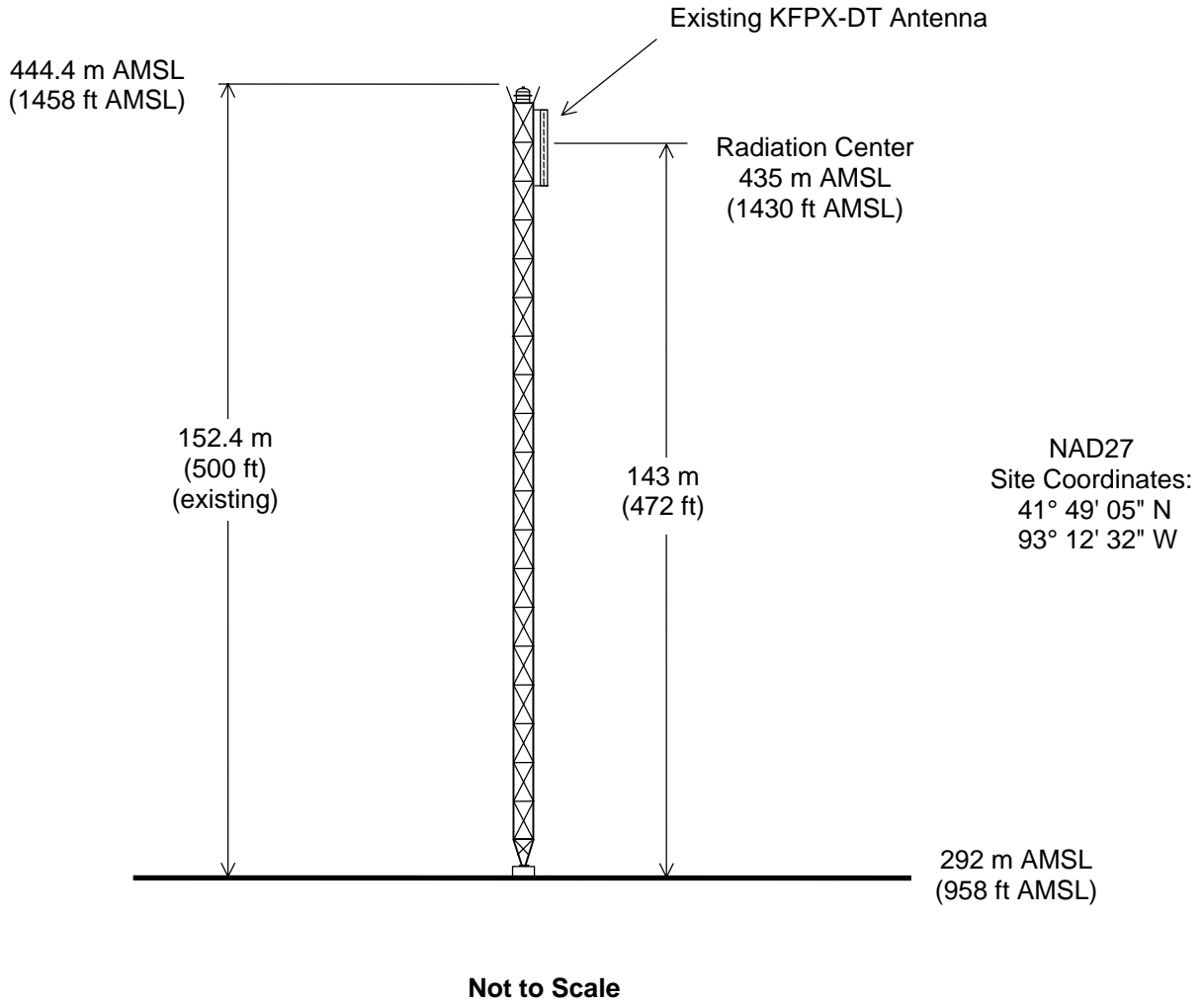


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ASRN: 1053076



## ANTENNA AND SUPPORTING STRUCTURE

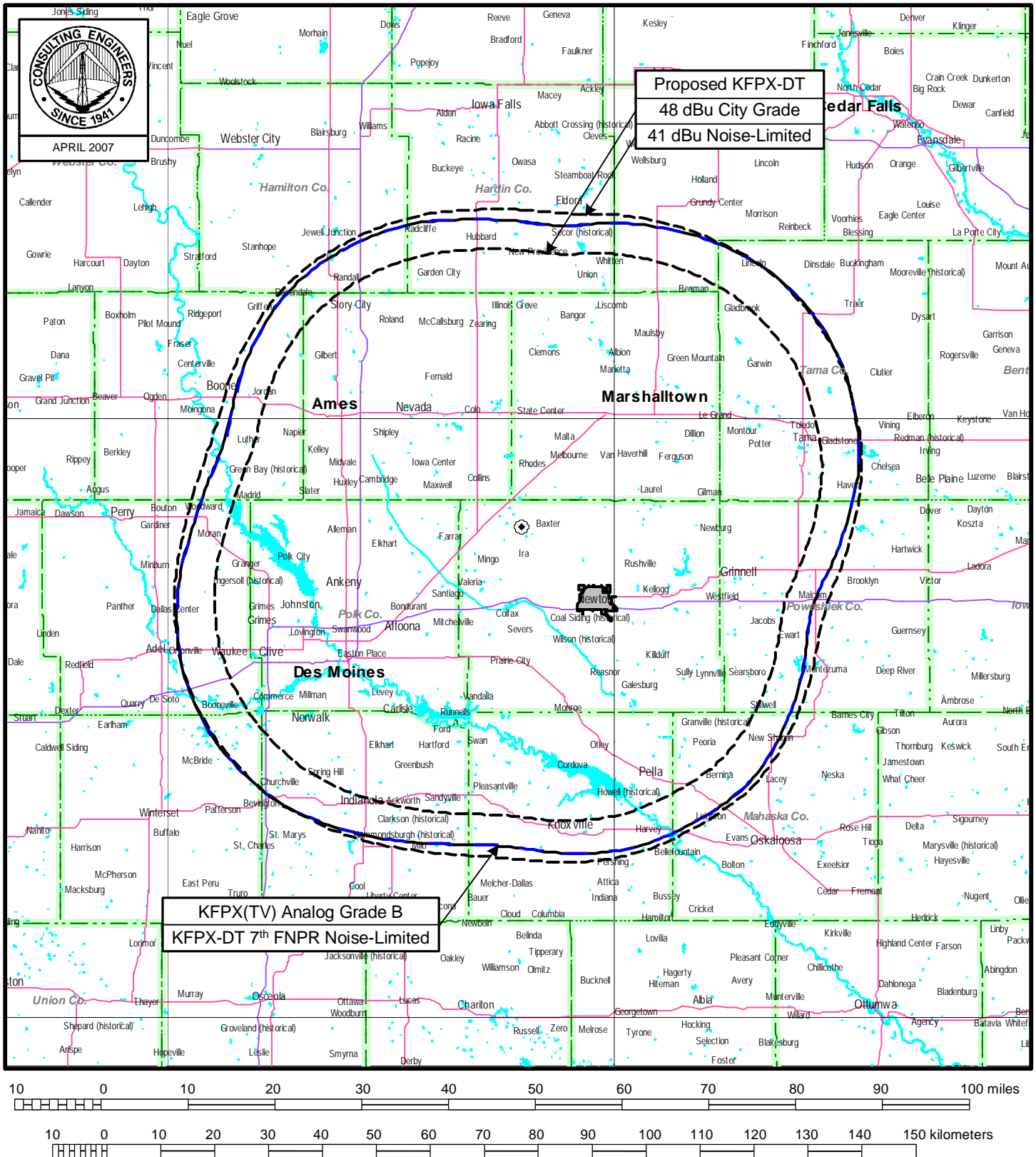
STATION KFPX-DT

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du Treil, Lundin &amp; Rackley, Inc. Sarasota, Florida

Figure 2



## PREDICTED COVERAGE CONTOURS

STATION KFPX-DT

NEWTON, IOWA

CH 39 116 KW (MAX-DA) 154 M

du Treil, Lundin & Rackley, Inc Sarasota, Florida

TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Census data selected 2000

Date: 03-28-2007 Time: 15:42:19

Record Selected for Analysis

KFPX USERRECORD-01 NEWTON IA US  
Channel 39 ERP 116. kW HAAT 152. m RCAMSL 00436 m  
Latitude 041-49-05 Longitude 0093-12-32  
Status APP Zone 2 Border  
Dir Antenna Make CDB Model 00000000018827 Beam tilt N Ref Azimuth 0.

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	21.150	140.9	58.7
45.0	103.153	134.9	65.7
90.0	36.248	142.7	61.4
135.0	47.143	165.0	64.4
180.0	21.150	180.5	61.6
225.0	103.153	165.1	68.2
270.0	36.248	154.3	62.3
315.0	47.143	132.3	61.8

Evaluation toward Class A Stations

No Spacing violations or contour overlap to Class A stations

Class A Evaluation Complete

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 beyond the Mexican coordination distance

Proposed station is OK toward AM broadcast stations

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Start of Interference Analysis

Channel	Call	Proposed Station City/State	ARN
39	KFPX	NEWTON IA	USERRECORD01

Stations Potentially Affected by Proposed Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
39	KMEG	SIOUX CITY IA	262.4	CP	BPCDT	-19990415KE
39	WAOE	PEORIA IL	333.0	CP	BPCDT	-19991101AED



%%%

# Analysis of Interference to Affected Station 1

## Analysis of current record

Channel	Call	City/State	Application	Ref. No.
39	KMEG	SIOUX CITY IA	BPCDT	-19990415KE

## Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
39	KFPX	NEWTON IA	262.4	APP	USERRECORD-01	

Total scenarios = 1

Result key: 1  
Scenario 1 Affected station 1  
Before Analysis

Results for: 39A IA SIOUX CITY BPCDT 19990415KE CP  
HAAT 611.0 m, ATV ERP 1000.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	667829	45840.2
not affected by terrain losses	662842	45563.1
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

Potential Interfering Stations Included in above Scenario 1

## After Analysis

Results for: 39A IA SIOUX CITY BPCDT 19990415KE CP  
HAAT 611.0 m, ATV ERP 1000.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	667829	45840.2
not affected by terrain losses	662842	45563.1
lost to NTSC IX	0	0.0
lost to additional IX by ATV	241	20.1
lost to ATV IX only	241	20.1
lost to all IX	241	20.1

Potential Interfering Stations Included in above Scenario 1

39A IA NEWTON USERRECORD01 APP

Percent new IX = 0.0364%

Worst case new IX 0.0364% Scenario 1

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## Analysis of Interference to Affected Station 2

## Analysis of current record

Channel	Call	City/State	Application	Ref. No.
39	WAOE	PEORIA IL	BPCDT	-19991101AED

## Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
38	WGBO-TV	JOLIET IL	212.7	LIC	BLCDT	-20040413AAE
38	WQAD-TV	MOLINE IL	102.2	LIC	BLCDT	-20031014AEO
39	WFXW	TERRE HAUTE IN	241.1	CP MOD	BMPCDT	-19991101AJG
39	KETC	ST. LOUIS MO	251.0	CP	BDTV	-00000175
39	KFPX	NEWTON IA	333.0	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.
39	KFPX	NEWTON IA	USERRECORD-01	

## Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
39	KMEG	SIOUX CITY IA	262.4	CP	BPCDT	-19990415KE
39	WAOE	PEORIA IL	333.0	CP	BPCDT	-19991101AED

Total scenarios = 1

Result key: 2

Scenario 1 Affected station 3

Before Analysis

Results for: 39A IA NEWTON USERRECORD01 APP

HAAT 152.0 m, ATV ERP 116.0 kW

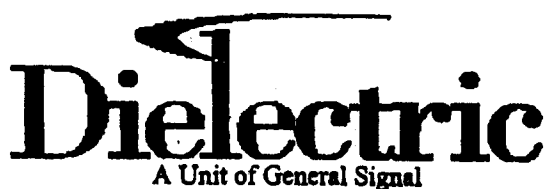
	POPULATION	AREA (sq km)
within Noise Limited Contour	655708	12509.0
not affected by terrain losses	655676	12484.9
lost to NTSC IX	0	0.0
lost to additional IX by ATV	165	28.1
lost to ATV IX only	165	28.1
lost to all IX	165	28.1

Potential Interfering Stations Included in above Scenario 1

39A IA SIOUX CITY BPCDT 19990415KE CP

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Figure 4



Proposal Number	DCA-7877	Revision	1
Date	14-Apr-98		
Call Letters		Channel	39
Location	Newton, IA		
Customer	Paxson Communication		
Antenna Type	TFU-31JTT-R		

### ELEVATION PATTERN

RMS Gain at Main Lobe	28.00 (14.47 dB)	Beam Tilt	0.50 deg
RMS Gain at Horizontal	23.00 (13.62 dB)	Frequency	623.00 MHz
Calculated / Measured	Calculated	Drawing #	31N28005-90

