Comprehensive Technical Statement
In Support of

Selby Gospel Broadcasting Corporation

KNOF (FM), Facility ID 59624
Saint Paul, MN

Application Construction Permit for Minor Modification

73.215 Processing Requested

Introduction

Selby Gospel Broadcasting Corporation proposes to relocate its KNOF (FM), facility ID 59624.

Changes to the following parameters are proposed:

- Antenna location
- Antenna height
- Effective radiated power
- Directional antenna pattern

KNOF is a legacy short-spaced FM station with no fully-spaced location available. Full details are provided below showing that the application is acceptable under §73.215 of the Commission's Rules.

Data Sources

Calculations for the contours shown on the maps provided in this report were based on the FCC online terrain height calculator, which uses 30-second terrain data.

Distances were calculated using the standard distance computation methodology contained in §73.218(c).

Population data are 2010 US Census data rolled up from the block centroid data points.

Allocation Study

The following table lists all conflicts for which the requirements of §73.207 (column "fsrq") are not exceeded by at least 25 km:

appid	facid	adj	chan	ss	status	call	st	city	erp	da	haat	brg	dkm	fsrq	fsΔ	ssrq	ssΔ	eval
1331075	59624	0	237A	Y	CP	KNOF	MN	ST. PAUL	3.3	Y	136	69	7.06	115	-107.94	92	-84.94	STUDY
1149570	59624	0	237A	N	LIC	KNOF	MN	ST. PAUL	6	N	76	110	9.65	115	-105.35	92	-82.35	STUDY
1301020	10529	0	237C3	Y	LIC	WGMO	WI	SPOONER	7.1	N	152	52	127.55	142	-14.45	119	8.55	73.215
1092028	34906	1	238A	Y	LIC	KRDS-FM	MN	NEW PRAGUE	6	N	100	203	62.38	72	-9.62	49	13.38	73.215
1091811	33310	0	237C2	N	LIC	KDJS-FM	MN	WILLMAR	50	N	133	273	157.28	166	-8.72	143	14.28	73.215
209232	31613	1	238C3	N	LIC	KBEK	MN	MORA	25	N	100	354	85.59	89	-3.41	72	13.59	73.215
5270	36404	3	240A	N	LIC	WLKX-FM	MN	FOREST LAKE	3	N	91	24	38.70	31	7.70	25	13.70	CLEAR
175206	33277	0	237C3	Y	LIC	KAGE-FM	MN	WINONA	11	N	151	129	163.74	142	21.74	119	44.74	CLEAR

The first two records are for the current Construction Permit and licensed facility, which would be replaced by the facility contemplated in this application.

The proposed location is fully-spaced to WLKX-FM and KAGE-FM, and meets the requirements of §73.215 (column "ssrq") for all other conflicts.

KNOF and KRDS-FM became short-spaced in 1989 by the action of MM Docket 88-375, which authorized increases in power to 6 kW. The proposed location is 1.37 km closer to KRDS-FM than the presently licensed site. Therefore, this application treats KRDS-FM under §73.215.

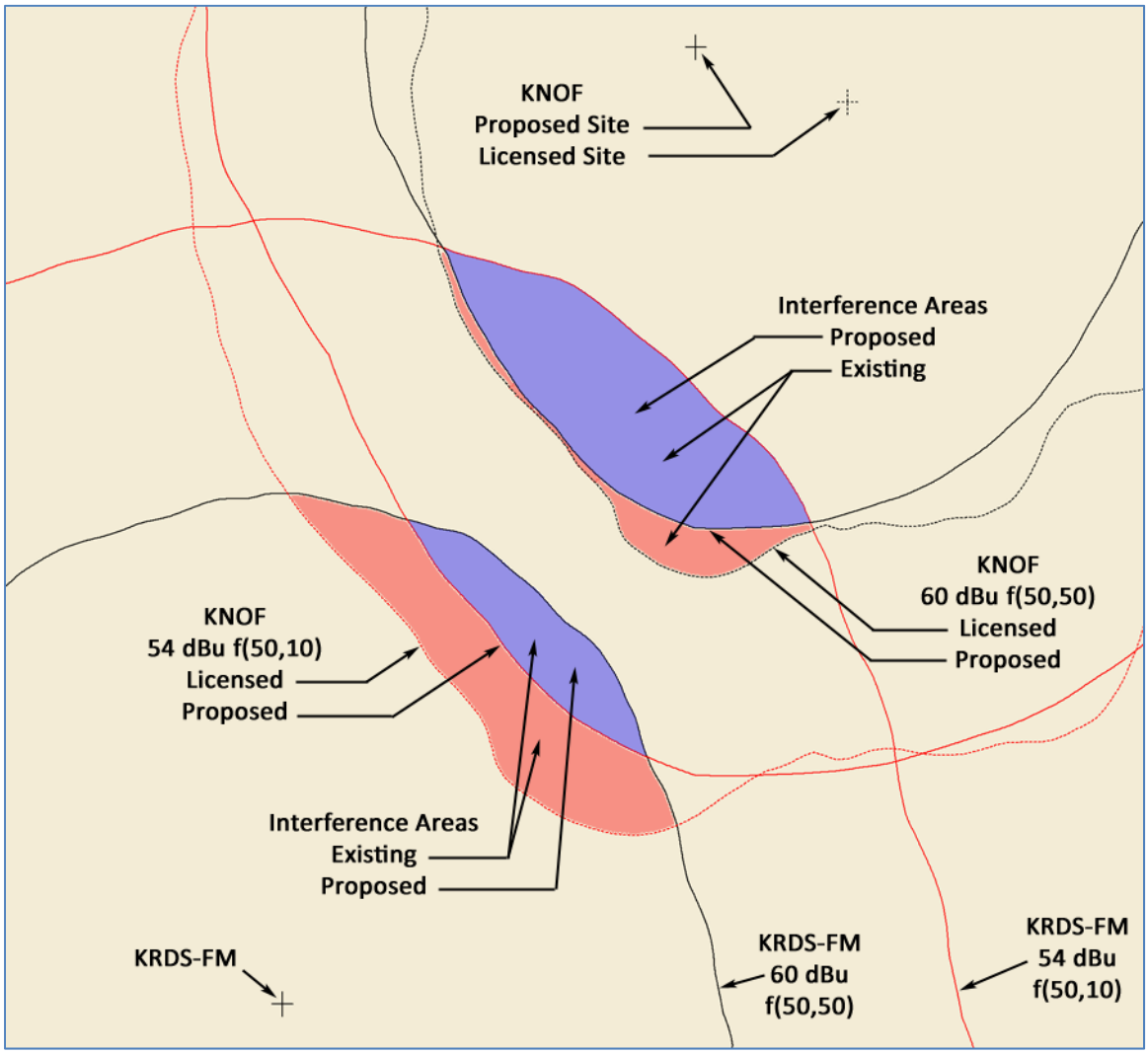
Therefore, §73.215 processing is requested with respect to WGMO, KRDS-FM, KDJS-FM, and KBEK.

Individual detailed interference studies are provided below for these stations.

Interference Study – KRDS-FM

KRDS-FM was granted under §73.215. It is therefore is evaluated on the basis of its actual operating parameters.

Due to the legacy short-spacing of KNOF and KRDS-FM, areas of overlap exist between the stations. As shown on the map on the following page, this application for KNOF would reduce the interference areas.



The existing overlap areas consist of both the red and the blue shaded areas. The proposed overlap areas consist only of the blue shaded areas. No new overlap is proposed.

The population in the overlap area between the KRDS 60 dBu f(50,50) contour and the *present* KNOF 54 dBu f(50,10) contour is 15,125. The population in the overlap area between the KRDS 60 dBu f(50,50) contour and the *proposed* KNOF 54 dBu f(50,10) contour is 7,023, a reduction of 54%. The population in the overlap area between the *present* KNOF 60 dBu f(50,50) contour and the KRDS-FM 54 dBu f(50,10) contour is 163,893. The population in the overlap area between the *proposed* KNOF 60 dBu f(50,50) contour and the KRDS-FM 54 dBu f(50,10) contour is 135,919, a reduction of 17%.

Therefore, even though overlap areas will remain, both the area and population within the overlap areas will be reduced. The proposal should therefore be acceptable.

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http://www.skywaves.com Washington: 202-370-6357 consultants@skywaves.com

Interference Study – WGMO

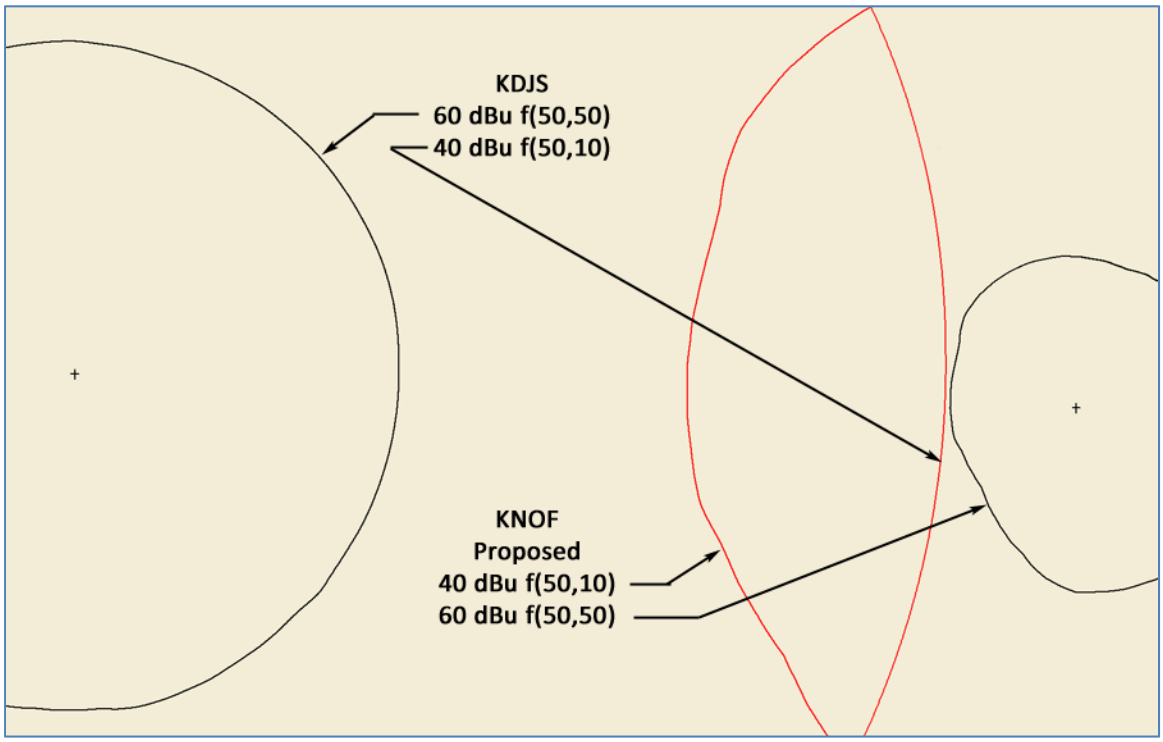
WGMO was granted under §73.215. It is therefore is evaluated on the basis of its actual parameters.

KNOF and WGMO are co-channel. There is no overlap between the 60 dBu f(50,50) contour of either station and the 40 dBu f(50,10) contour of the other.

Interference Study – KDJS-FM

KDJS-FM was not granted under §73.215, so it is evaluated on basis of a class-nominal facility.

KDJS is Class C2. It is therefore evaluated with the class-nominal parameters of 50 kW at 150 m above average terrain. KDJS operates with 50 kW at 133 m above average terrain. The average terrain is adjusted up to 150 m.

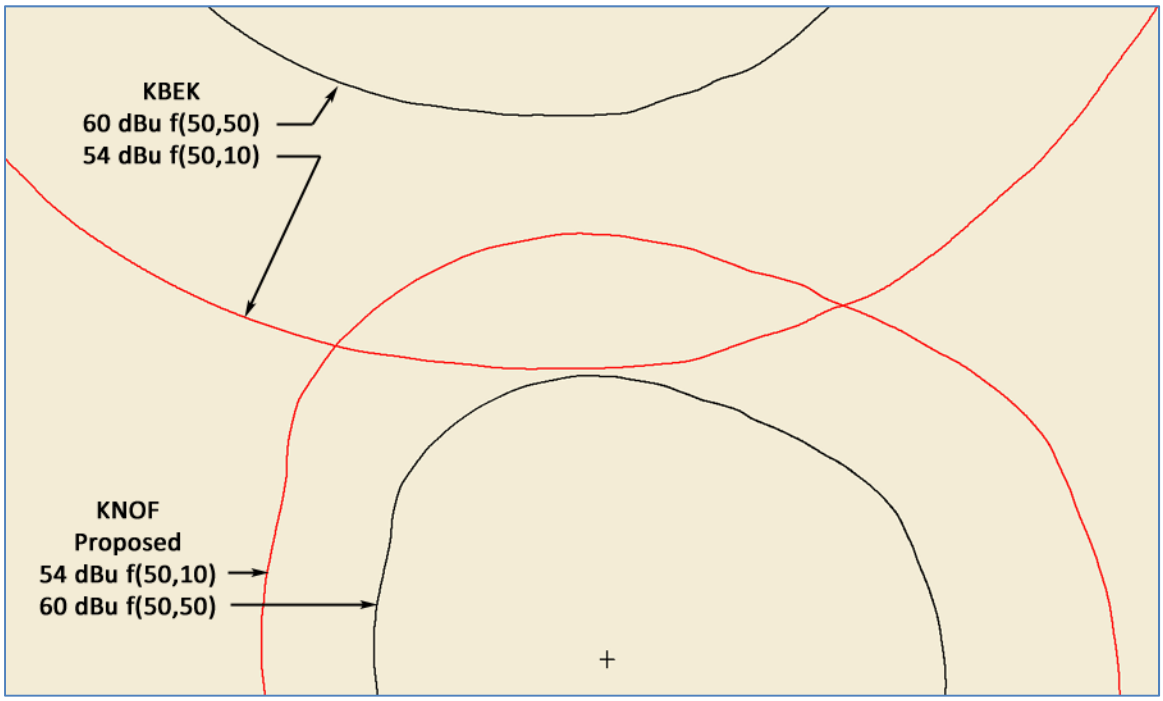


KDJS and KNOF are co-channel. There is no overlap between the 60 dBu f(50,50) contour of either station and the 40 dBu f(50,10) contour of the other.

Interference Study – KBEK

KBEK was not granted under §73.215, so it is evaluated on basis of a class-nominal facility.

KBEK is Class C3. It is therefore evaluated with the class-nominal parameters of 25 kW at 100 m above average terrain. These are its actual parameters, so no adjustments are necessary.



KNOF and KBEK are first adjacent. There is no overlap between the 60 dBu f(50,50) contour of either station and the 54 dBu f(50,10) contour of the other.

Blanketing Interference

With a maximum ERP of 0.9 kW, the distance to the blanketing contour is 374 m. The antenna will be mounted 266 m above ground, making the maximum extent of the blanketing contour on the ground a radius of 263 m around the antenna. The proposed location is a building in a commercial downtown area. Blanketing interference is not expected to be a problem, but if blanketing interference complaints do arise, the applicant commits to resolving them in accordance with §73.318.

Channel 6 Television Interference

The proposal is not for a channel that is implicated in Channel 6 interference.

Transmitter Location and Antenna Description

Tower data:

Description:	East Pole atop the IDS Building 80 S Eighth St Minneapolis, MN
Coordinates (NAD-27)	44 58 34 N Lat 93 16 20 W Lon
ASR	1029018

Antenna data:

Description	One-bay custom-pattern CP directional
Antenna center	266 m AGL 526 m AMSL 258 m AAT (from FCC online HAAT calculator)

ERP:

Horizontal	0.900 kW
Vertical	0.900 kW

Pattern:

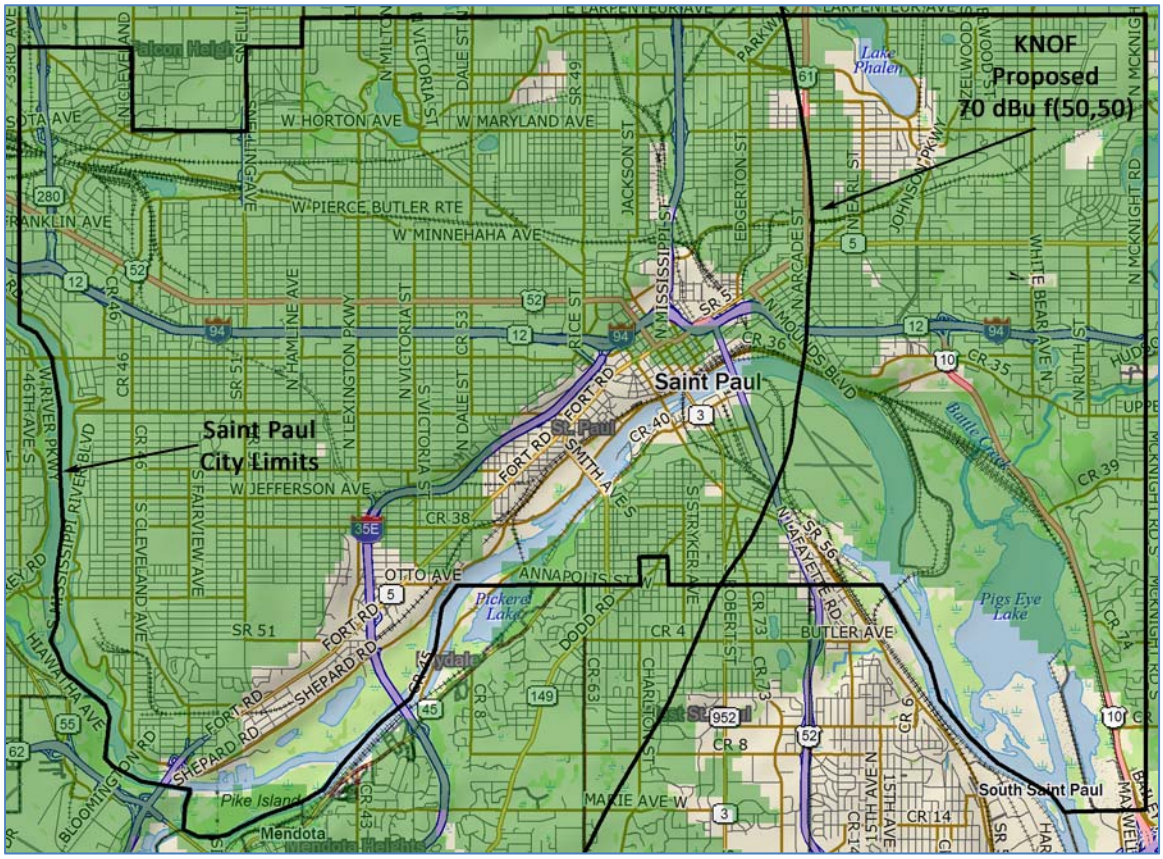
brg	rel fld	brg	rel fld	brg	rel fld
0	0.650	120	1.000	240	0.460
10	0.660	130	1.000	250	0.460
20	0.670	140	1.000	260	0.480
30	0.700	150	1.000	270	0.480
40	0.750	160	1.000	280	0.480
50	0.850	170	1.000	290	0.500
60	0.950	180	1.000	300	0.540
70	1.000	190	0.880	310	0.620
80	1.000	200	0.700	320	0.660
90	1.000	210	0.600	330	0.670
100	1.000	220	0.520	340	0.670
110	1.000	230	0.460	350	0.650

This pattern meets the requirements of 73.510(b) in that the maximum directivity is less than 15 dB and the maximum change over any ten degree increment is less than 2 dB.

Principal Community Coverage

The proposed 70 dBu f(50,50) contour encompasses about 75% of the land area of the principal community of Saint Paul, MN, and 74% of the population.

A Point-to-Point terrain-aware study was run on the proposed facility. In the following map, green areas will receive at least a 70 dBu signal from the proposed facility:



More than 80% of the city limits will receive at least a 70 dBu signal.

For each population centroid in Saint Paul city, the PTP signal strength was calculated.

The total population of Saint Paul city is 285,068.

The population receiving at least a 70 dBu signal will be 261,881, or 91.9% of the total population of the principal community.

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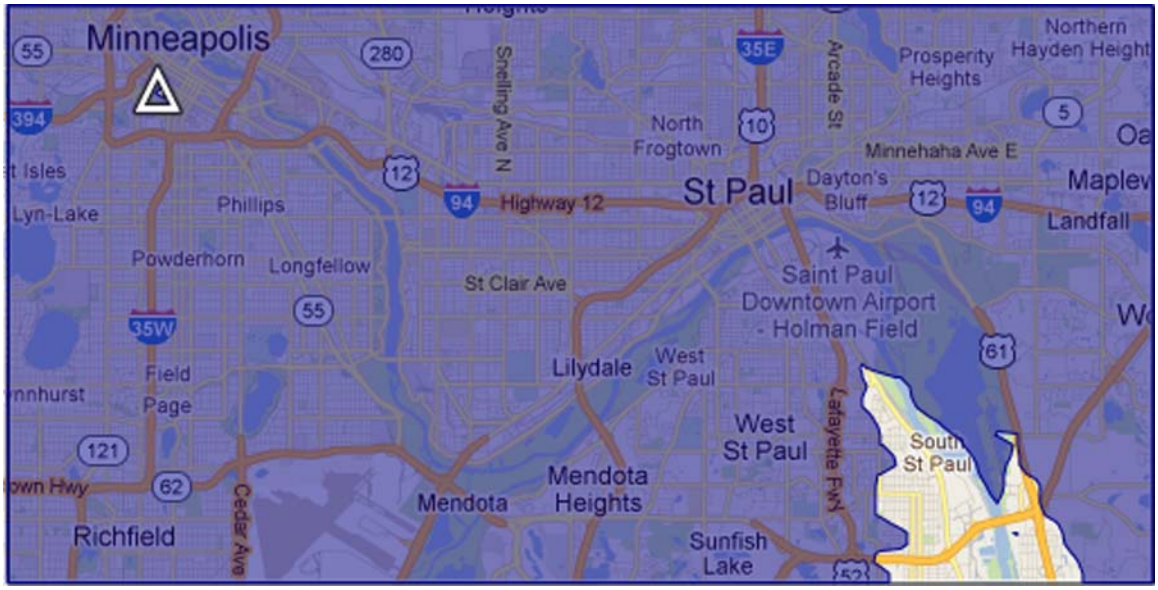
As a confirmation, the following Longley-Rice map shows in a blue shade the areas that are expected to receive a 70 dBu signal or greater:



More than 80% of the area of the city will receive at least a 70 dBu signal.

Based on the general agreement between the Longley-Rice and PTP models, it is proposed that the principal community will be served adequately.

Main Studio Location

The main studio is located at 1425 Chicago Avenue in Minneapolis. The location is within the proposed 70 dBu f(50,50) contour.

International

The FM Agreements with Canada and Mexico require evaluation and potential coordination of any proposal within 320 km of the border.

The distance to the nearest point along the US/Canada border is 365 km. Coordination with Canada is not required.

The distance to the nearest point along the US/Mexico border is 1,833 km. Coordination with Mexico is not required.

Protected Monitoring Stations

The nearest Protected Monitoring Station is 615 km distant, in Grand Island, NE.

Quiet Zone Calculations

The proposed site is outside the National Radio Quiet Zone (National Radio Astronomy Observatory Notification Area) in West Virginia.

The proposed site is outside the Arecibo Observatory notification area in Puerto Rico.

The proposed site is not within a 100km extension of the Table Mountain Radio Receiving Zone in Colorado.

EPA RF Showing

The proposed transmitter site is the IDS building in downtown Minneapolis. The building is topped with two 100' poles which host a total of six existing or proposed broadcast facilities:

WGVZ	950 W
K278BP	175 W
K273BH	250 W
W227BF	99 W
NEW	41 W
KFAI	900 W
KNOF	900 W proposed
Total	3,315 W

The minimum height above mean sea level of all the above is 503 m, or 243 m above ground. Given the worst-case antenna and 6,630 W total H+V effective radiated power, the worst-case exposure 2 m above the ground is 2.3 μW/cm². That is about 1% of the limit for casual / uncontrolled exposure.

The roof is well controlled. Appropriate controls, warnings, and signage are provided to protect workers.

The applicant commits to reducing power or temporarily suspending operations to protect workers in the vicinity of the antenna.

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ASR Registration Search

Registration 1029018

Map Registration

Registration Detail			
Reg Number	1029018	Status	Constructed
File Number	A0034445	Constructed	01/01/1975
FAA Study	N/A	EMI	No
FAA Issue Date		NEPA	No

Antenna Structure		
Structure Type	2BPOLE - Building with Pole	
Location (in NAD83 Coordinates)		
Lat/Long	44-58-34.0 N 093-16-21.0 W	EAST POLE 1 - 80 S EIGHTH ST
City, State	MINNEAPOLIS , MN	
Center of AM Array		

Heights (meters)	
Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
260.3	270.1
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
530.4	236.2

Painting and Lighting Specifications
FCC Paragraphs B, H

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Owner & Contact Information			
FRN		Licensee ID	
Owner			
EIGHTH STREET TOWER CORPORATION Attention To: BROADCAST SVCS INC PETER D MILLER 4801 INDUSTRIAL PKY INDIANAPOLIS , IN 46226		P: (317)895-9050 E:	
Contact			
		P: E:	

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Last Action Status			
Status	Constructed	Received	09/05/1997
Purpose	Modification	Entered	09/10/1997
Mode	Mail In (Manual)		

Related Applications

09/05/1997	A0034445 - New (NE)

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Comments

Comments	
05/11/2011	SUPERCEDED REGISTRATION TO INDICATE EAST POLE BASED ON CORRESPONDENCE FROM PETER MILLER DTD 7-27-98.
05/11/2011	SUPERCEDED REGISTRATION TO INDICATE EAST POLE BASED ON CORRESPONDENCE FROM PETER MILLER DTD 7-27-98.

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Automated Letters

None

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CLOSE WINDOW

Output from NADCON for station ASR 1029018

North American Datum Conversion

NAD 83 to NAD 27

NADCON Program Version 2.11

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Transformation #: 1 Region: Conus

	Latitude	Longitude	
NAD 27 datum values:	44 58 34.12484	93 16 20.18916	
NAD 83 datum values:	44 58 34.00000	93 16 21.00000	
NAD 27 - NAD 83 shift values:	0.12484	-0.81084	(secs.)
	3.854	-17.766	(meters)
Magnitude of total shift:	18.180		(meters)

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