

TECHNICAL EXHIBIT  
ONE-STEP APPLICATION FOR  
FM CONSTRUCTION PERMIT  
FACILITY ID 9793  
STATION KIND-FM  
INDEPENDENCE, KANSAS  
CH 275C2 19.5 KW 242 M

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of an application for construction permit to upgrade the facilities of FM station KIND-FM at Independence, Kansas (Facility ID 9793). Currently, KIND-FM is licensed (BLH-20001220ACJ) to operate on channel 275C3 (102.9 MHz) at Independence with a nondirectional antenna maximum effective radiated power (ERP) of 25 kilowatts (kW) and an antenna radiation center height above average terrain (HAAT) of 83 meters. By means of this instant "one-step" upgrade application, it is proposed to upgrade from Class C3 to Class C2 status from a new transmitter site and operate with a nondirectional ERP of 19.5 kW and an HAAT of 242 meters. No other changes are proposed. Therefore, the instant application is considered a "minor" change in facilities in accordance with Section 73.3573(a)(1).

Response to Paragraph 5 - Antenna Registration

The FAA is being notified of the proposed tower construction. Upon receipt of a Determination of No Hazard to Air Navigation from the FAA the tower will be registered and the FCC will be notified of the tower registration information.

Response to Paragraph 13 - Allotment

It is proposed to upgrade KIND-FM from channel 275C3 to channel 275C2 at Independence pursuant to the FCC's one-step procedures. Figure 1 is an FM separation study from the one-step allotment coordinates. As shown, the allotment coordinates comply with the minimum distance separation requirements of Section 73.207 for Class C2 operation on channel 275 towards all existing, authorized and proposed stations and allotments.

Figure 2 is a map which demonstrates that the one-step allotment reference point coordinates comply with the provisions of Section 73.203(b).

Response to Paragraph 16

Figure 3, attached, is an FM separation study from KIND-FM's proposed antenna location for the channel 275C2 operation based on the Commission's CDBS database. As shown, the proposed antenna location complies with the minimum distance separation requirements of Section 73.207 for Class C2 operation on channel 275 towards all existing, authorized and proposed stations and allotments.

Response to Paragraph 14 - Community Coverage

Figure 4 is a map which demonstrates that KIND-FM's proposed operation complies with the provisions of Section 73.315. Specifically, it has been determined that the proposed 70 dBu contour will encompass 100% of the area within the Independence city limits (2000 Census).

Environmental Considerations

The proposed KIND-FM facilities were evaluated in terms of potential radiofrequency radiation exposure at 2 meters above ground level in accordance with OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation". This Bulletin provides assistance in determining whether FCC-regulated transmitting facilities, operations or devices comply with limits for human exposure to radiofrequency (RF) electromagnetic fields.

The calculated power density at 2 meters above ground level at the base of the tower was calculated using the appropriate equation contained in the Bulletin. Figure 5 is the vertical plane relative field pattern for the proposed ERI model SHPX-4AE, 4-bay,  $1-\lambda$  spaced, nondirectional antenna. As shown on Figure 5, the maximum vertical relative field value towards the tower base ( $-60^\circ$  to  $-90^\circ$  elevation) is less than 0.40. Therefore, using a vertical relative field value of 0.40, the total ERP of 39 kW (H+V) and an antenna center of radiation height above ground level of 220 meters, the calculated power density at 2

meters above ground level at the base of the tower is 0.0044 milliwatt per square centimeter ( $\text{mW}/\text{cm}^2$ ), or 2.2% of the Commission's recommended limit applicable to general population/uncontrolled exposure areas ( $0.2 \text{ mW}/\text{cm}^2$  for FM frequencies). Therefore, as the power density does not exceed the 5% threshold, it is believed that the proposal will comply with the RF emission rules.

Access to the tower site will be restricted and appropriately marked with warning signs. Furthermore, procedures will be in effect in the event that workers or other authorized personnel enter the restricted area or climb the tower to ensure worker safety with respect to radio frequency radiation exposure. Such procedures 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 station is at reduced power or shut down.



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Figure 1

CDBS FM SEPARATION STUDY

Job Title: KIND-FM, One-Step Allotment Reference Point

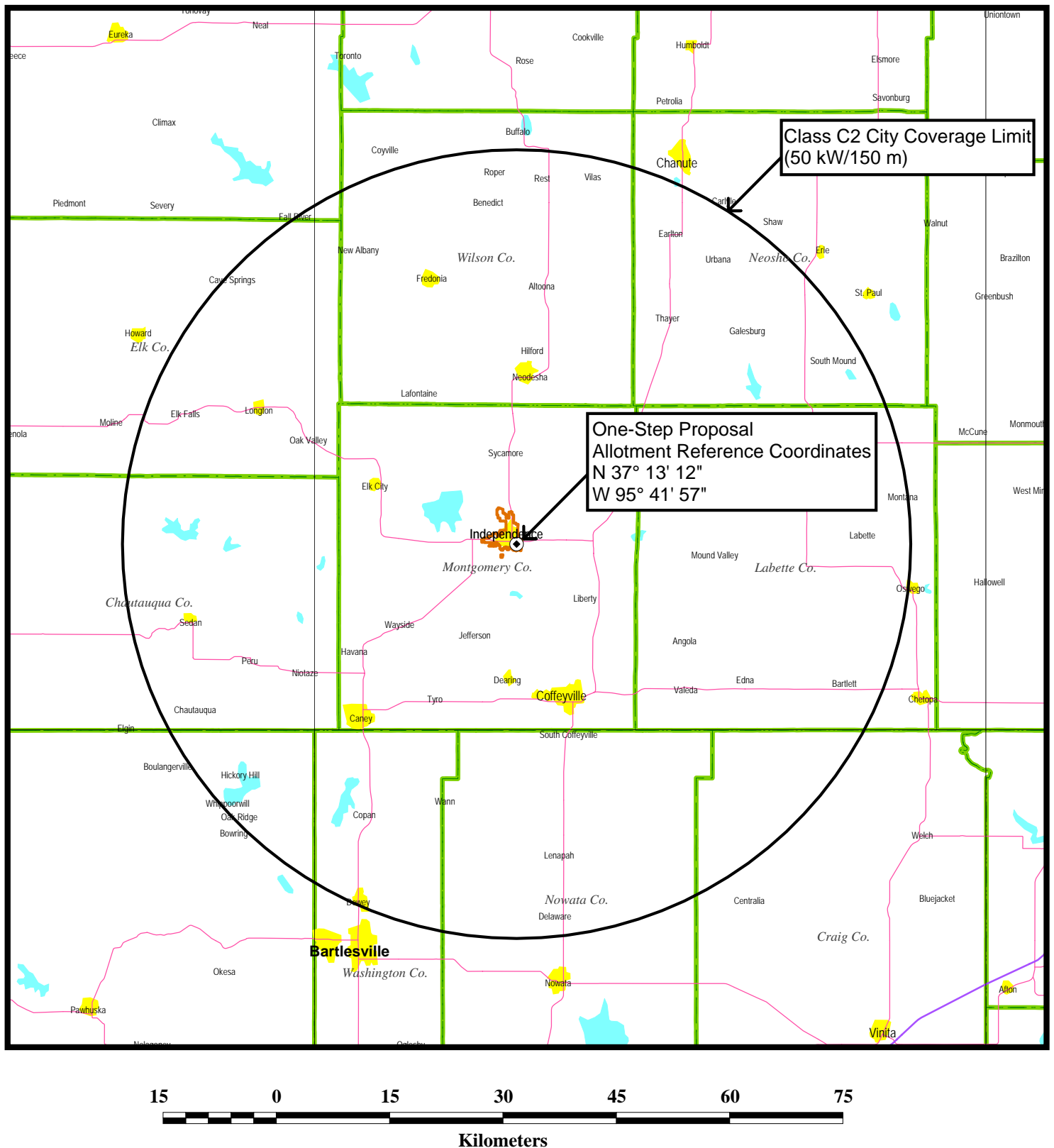
Separation Buffer: 50 km

Channel: 275 C2

Coordinates: 37-13-12 95-41-57

Call Id	City St	File Status	Num	Channel Freq	ERP HAAT	DA Id	Latitude Longitude	73 215	Bear	Dist. (km)	Req. (km) 215	207
KIXQ 5269	JOPLIN MO	BLH LIC C	20060106ABQ	273 C1 102.5	100.000 278	N	37-05-49 094-34-25	N	97.5	100.91 21.91	73.0 Clear	79.0
KIND-FM 9793	INDEPENDENC KS	BLH LIC C	20001220ACJ	275 C3 102.9	25.000 83	N	37-15-42 095-45-59	N	307.9	7.55		
KQTP 60034	ST. MARYS KS	BLH LIC C	20030326AHX	275 C2 102.9	30.000 182.2	Y	39-03-50 095-45-49	Y	358.4	204.74 14.74	177.0 Close	190.0
KHUT 18068	HUTCHINSON KS	BLH LIC C	19910530KB	275 C1 102.9	100.000 131	N	38-02-39 098-00-56	N	294.9	224.00 0.00	211.0 Close	224.0
KHOZ-FM 26235	HARRISON AR	BLH LIC C	19911223KI	275 C1 102.9	100.000 299	N	36-26-11 093-14-43	N	111.0	235.56 11.56	211.0 Close	224.0
0	OLPE KS	RM VAC C	9852	276 A 103.1	0.000		38-12-39 096-10-50		339.1	117.88 11.88	89.0 Close	106.0
NEW 166016	OLPE KS	BNPH CP C	20060309AEG	276 A 103.1	2.450 96	N	38-17-37 096-13-03	Y	339.3	127.61 21.61	89.0 Clear	106.0
KJSR 9801	TULSA OK	BMLH LIC C	20041022ADG	277 C 103.3	100.000 390	N	36-01-10 095-39-24	N	178.4	133.28 28.28	96.0 Clear	105.0
KWXD 28689	ASBURY MO	BLH LIC C	19940113KB	278 C3 103.5	16.000 126	N	37-23-44 094-40-42	N	77.5	92.57 36.57	50.0 Clear	56.0

Figure 2



## COMPLIANCE WITH SECTION 73.203(b)

FM STATION KIND  
INDEPENDENCE, KANSAS  
CH 275C2 19.5 KW-ND 242 M

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

Figure 3

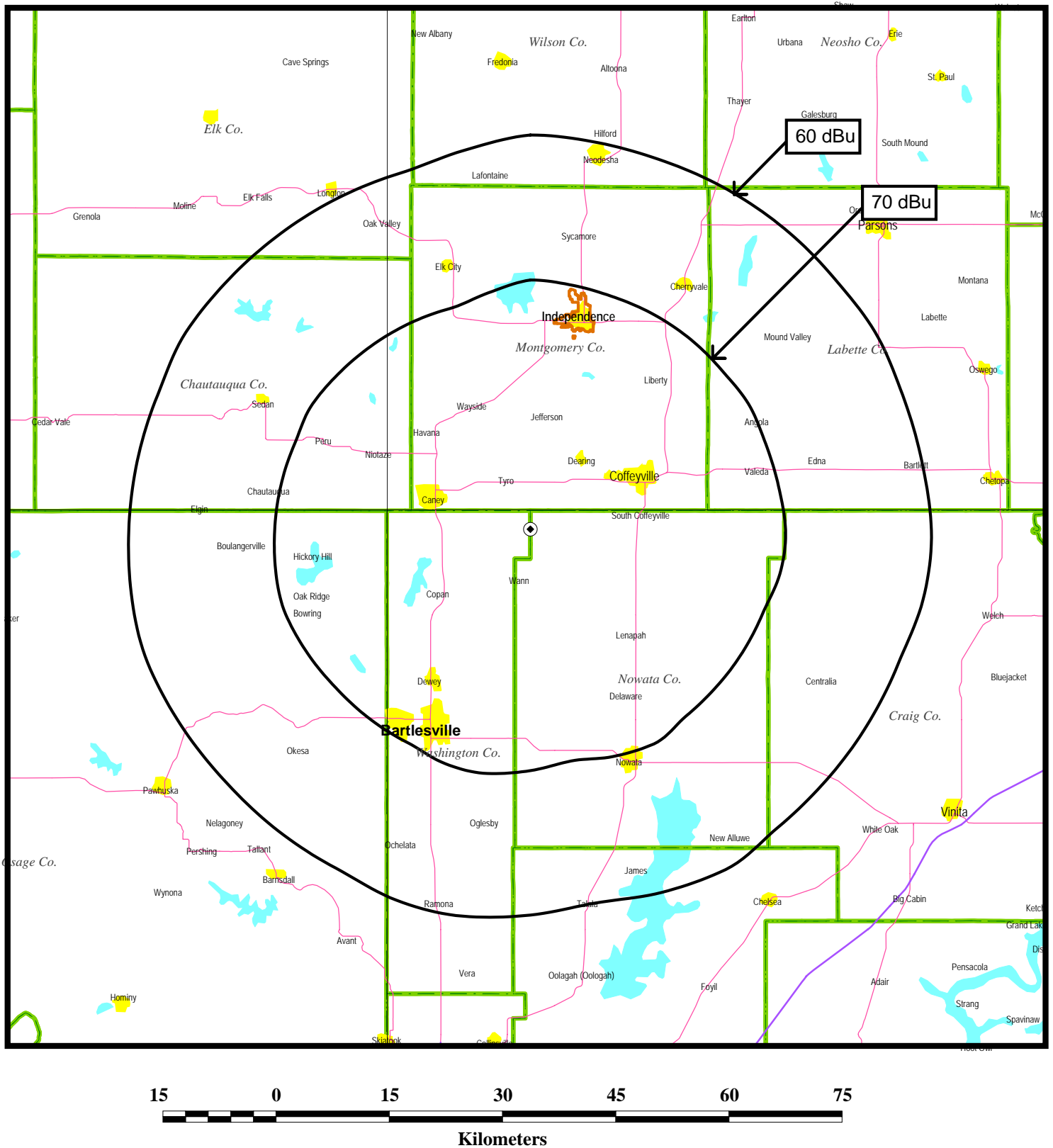
CDBS FM SEPARATION STUDY

Job Title: KIND-FM, Proposed KIND-FM Site  
Channel: 275 C2

Separation Buffer: 50 km  
Coordinates: 36-58-37 95-47-10

Call Id	City St	File Status	Num	Channel Freq	ERP HAAT	DA Id	Latitude Longitude	73 215	Bear	Dist. (km)	Req. (km) 215	207
KKCM 47102	SAND SPRING OK LIC	BLH C	19990129KA	272 C2 102.3	50.000 150		36-12-39 096-06-03	N	198.3	89.56 31.56	52.0 Clear	58.0
KACY 77876	ARKANSAS KS LIC	CI BLH C	19990806KG	273 A 102.5	6.000 100	29298	37-05-01 096-55-46	N	277.0	102.42 47.42	49.0 Clear	55.0
KIXQ 5269	JOPLIN MO LIC	BLH C	20060106ABQ	273 C1 102.5	100.000 278	N	37-05-49 094-34-25	N	82.6	108.70 29.70	73.0 Clear	79.0
KJYO 11918	OKLAHOMA OK LIC	CI BLH C	20000105AAS	274 C 102.7	100.000 372	N	35-35-52 097-29-22		225.4	216.42 28.42	176.0 Clear	188.0
KJYO 11918	OKLAHOMA OK CP	CI BPH C	20041104ARJ	274 C 102.7	100.000 479	N	35-35-52 097-29-22	N	225.4	216.42 28.42	176.0 Clear	188.0
KIND-FM 9793	INDEPENDENC KS LIC	BLH C	20001220ACJ	275 C3 102.9	25.000 83	N	37-15-42 095-45-59	N	3.2	31.65		
KHUT 18068	HUTCHINSON KS LIC	BLH C	19910530KB	275 C1 102.9	100.000 131	N	38-02-39 098-00-56	N	301.8	229.97 5.97	211.0 Close	224.0
KQTP 60034	ST. MARYS KS LIC	BLH C	20030326AHX	275 C2 102.9	30.000 182.2	Y 59854	39-03-50 095-45-49	Y	0.5	231.65 41.65	177.0 Clear	190.0
KHOZ-FM 26235	HARRISON AR LIC	BLH C	19911223KI	275 C1 102.9	100.000 299	N	36-26-11 093-14-43	N	104.1	234.83 10.83	211.0 Close	224.0
0	OLPE KS VAC	RM C	9852	276 A 103.1	0.000		38-12-39 096-10-50		345.9	141.31 35.31	89.0 Clear	106.0
NEW 166016	OLPE KS CP	BNPH C	20060309AEG	276 A 103.1	2.450 96	N	38-17-37 096-13-03	Y	345.6	151.01 45.01	89.0 Clear	106.0
KJSR 9801	TULSA OK LIC	BMLH C	20041022ADG	277 C 103.3	100.000 390	N	36-01-10 095-39-24	N	173.8	106.88 1.88	96.0 Close	105.0

Figure 4



## COMPLIANCE WITH SECTION 73.315

FM STATION KIND-FM  
INDEPENDENCE, KANSAS  
CH 275C2 19.5 KW-ND 242 M

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

SHPX-4AE

ELEVATION PATTERN

Type:	SHPX4F		Channel:	275
Directivity:	Numeric	dBd	Location:	
Main Lobe:	2.13	3.29	Beam Tilt:	0.00
Horizontal:	2.13	3.29	Polarization:	Circular

Relative Field

