

TECHNICAL EXHIBIT
AMENDMENT TO APPLICATION FOR CONSTRUCTION PERMIT
FCC FILE NO. BPH-20061010AND
STATION KESC
OKEMAH, OKLAHOMA
CH 279C1 72 KW 282 M

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of an amendment to the pending application to modify the facilities of FM station KESC (BPH-20061010AND, Facility ID 83209). Station KESC currently operates on channel 279C1 at Wilburton, Oklahoma with a nondirectional effective radiated power (ERP) of 100 kW and an antenna height above average terrain (HAAT) of 185 meters (FCC File No. BLH-20020513AAT). As a result of the Report and Order in MB Docket No. 05-166 (DA 06-1004), the Commission modified the license of KESC to specify operation on channel 279C1 at Okemah, Oklahoma. The pending application (BPH-20061010AND) specifies operation on channel 279C1 at Okemah as specified in the Report and Order with an ERP of 100 kW and an HAAT of 299 meters.

The instant amendment application proposes to relocate the KESC transmitter site and operate on channel 279C1 with a non-directional antenna maximum ERP of 72 kW and an HAAT of 282 meters. In addition, processing pursuant to Section 73.215 is requested with respect to a short-spacing with KVSP on channel 278C at Anadarko, Oklahoma.

Response to Paragraph 5 - Antenna Structure Registration

The proposed antenna will be mounted at the 280-meter level on an authorized 320-meter tower. The tower registration number is 1015285.

Response to Paragraph 14 - Community Coverage

Figure 1 demonstrates that the proposed operation complies with the provisions of Sections 73.315.

Response to Paragraph 16 - Interference

Figure 2, attached, is an FM separation study from KESC's proposed antenna location for the channel 279C1 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 C1 operation on channel 279 towards all existing, authorized and proposed stations and allotments with the exception of the licensed operation of KVSP on channel 278C at Anadarko, Oklahoma. Station KESC proposes to utilize the contour protection provisions of Section 73.215 with respect to this short-spacing. Figure 3 is a map that depicts the protected and interfering contours for KESC's proposed operation and for KVSP's licensed operation based on its maximum Class C facilities. As indicated on Figure 3, the proposed KESC operation is not involved in contour overlap with the licensed operation of KVSP. Therefore, it is believed that the proposed KESC facility complies with the provisions of Section 73.215 with respect to the short-spacing to KVSP.¹

Response to Paragraph 17 - Environmental Protection Act

The proposed KESC facilities were evaluated in terms of potential radiofrequency radiation exposure at 2 meters above ground level in accordance with OST Bulletin No. 65 (Edition 97-01, August 1997), "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation".

The proposed KESC antenna will be side-mounted at the 280 meter level on the existing tower structure. 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 4 is vertical plane relative field pattern for the proposed ERI 8-bay, 1-wavelength bay spacing, non-directional antenna. As shown on Figure 4, the maximum vertical relative field value towards the tower base (-60° to -90° elevation) is less than 0.35. Therefore, using a "worst-case" vertical relative field value of 0.35, the total ERP of 144 kW (H+V) and an antenna center of radiation height above ground

¹ The distance between the proposed KESC transmitter site and KVSP's licensed transmitter site (203.5 km) complies with the minimum distance separation requirement of Section 73.215(e) (188 km).

level of 280 meters, the calculated power density at 2 meters above ground level at the base of the tower is 0.0076 milliwatt per square centimeter (mW/cm^2), or 3.8 percent of the Commission's recommended limit applicable to an "uncontrolled" exposure areas ($0.2 \text{ mW}/\text{cm}^2$ for FM frequencies). Therefore, based on the responsibility threshold of 5%, the proposal will comply with the RF emission rules.

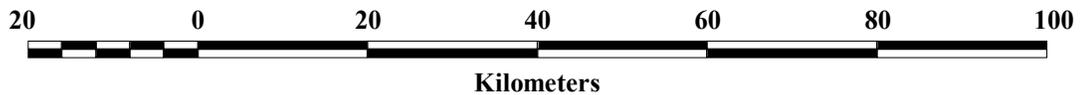
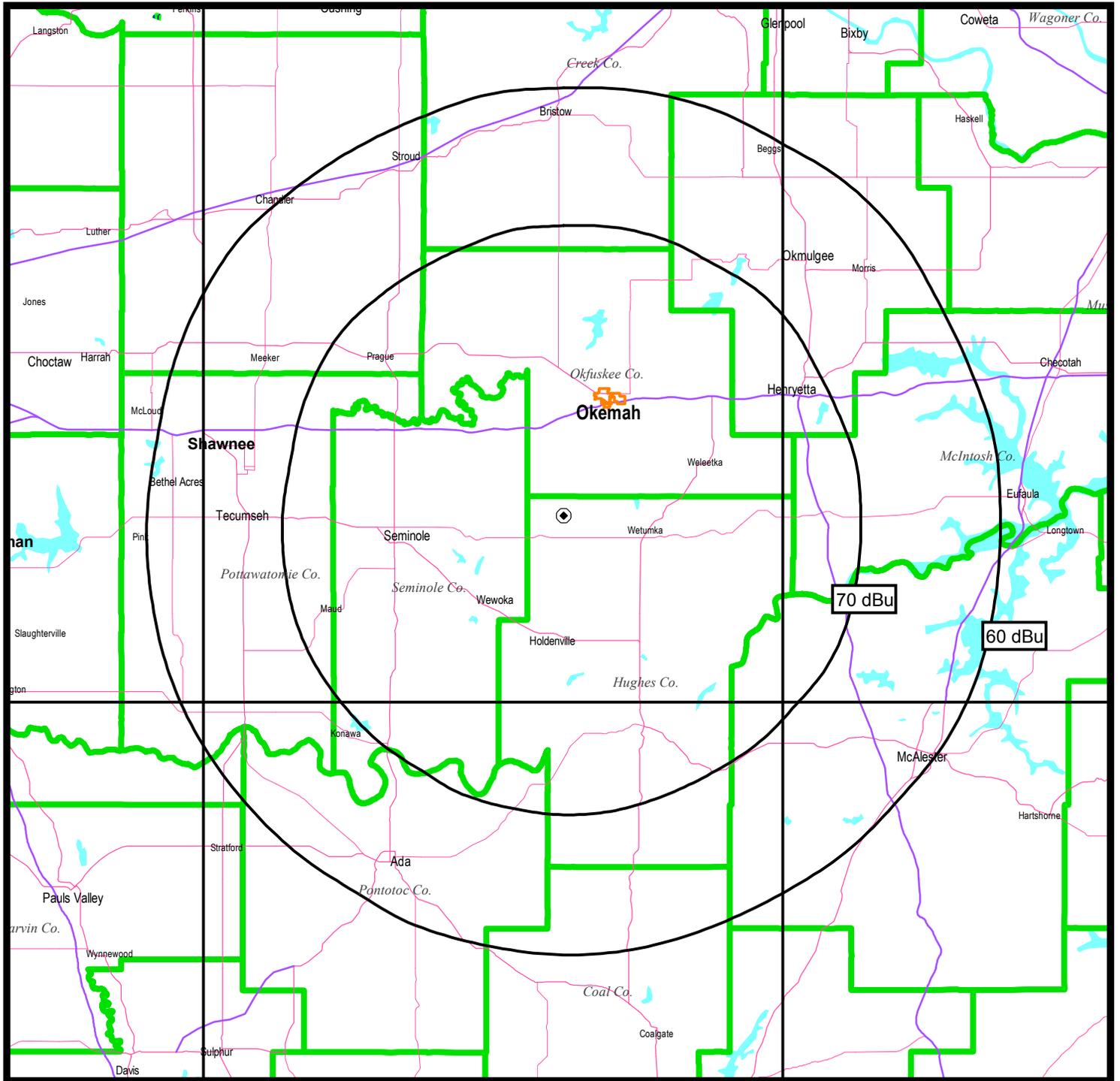


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Figure 1



COMPLIANCE WITH SECTION 73.315

**FM STATION KESC
OKEMAH, OKLAHOMA
CH 279C1 72 KW 282 M**

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

CDBS FM SEPARATION STUDY

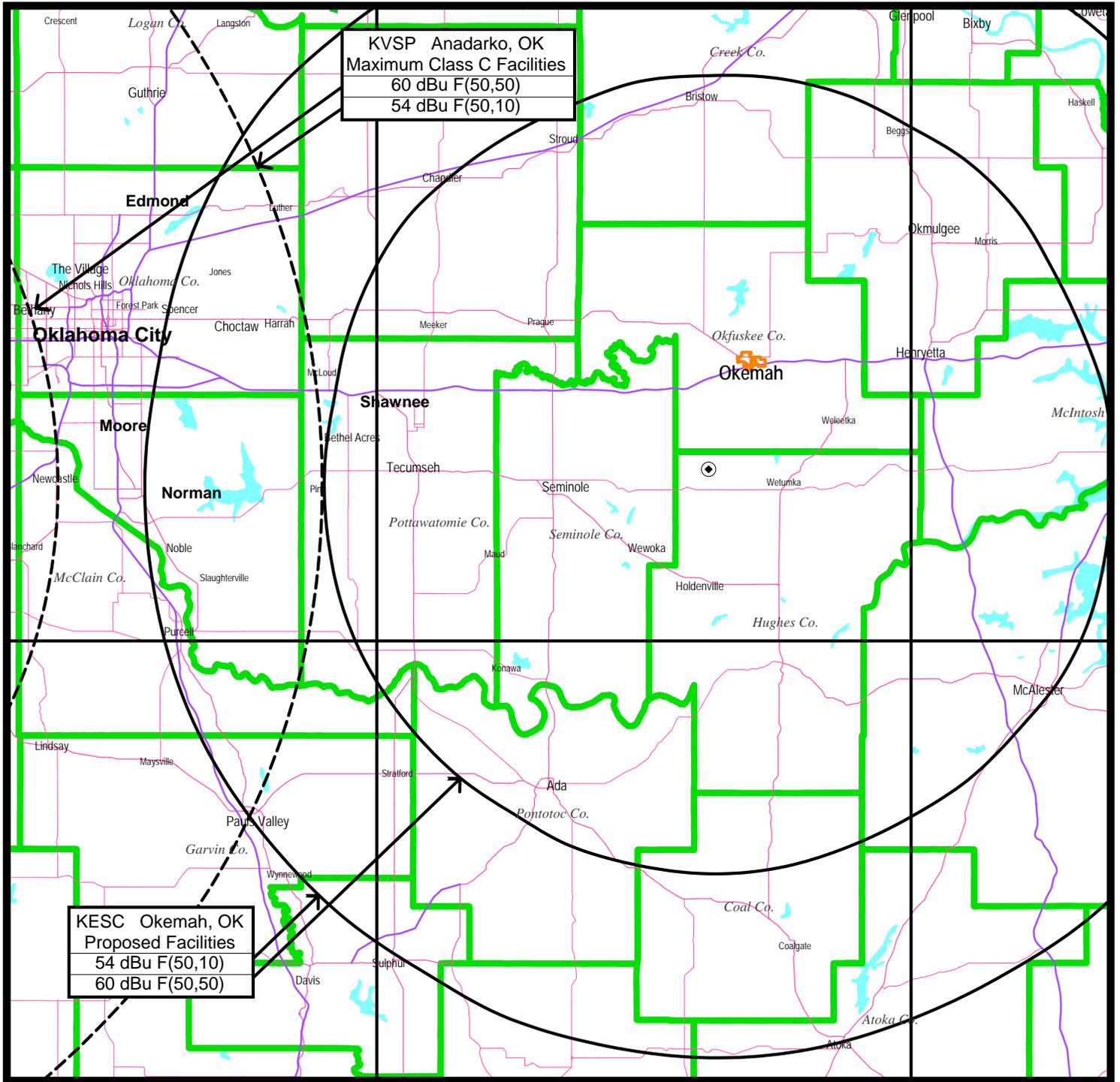
Job Title: KESC, Ch. 279C1 Proposed Site
 Channel: 279 C1

Separation Buffer: 32 km
 Coordinates: 35-15-47 096-22-43

Call Id	City St	File Status Num	Channel Freq	ERP HAAT	DA Id	Latitude Longitude	73 215	Bear	Dist. (km)	Req. (km) 215	207
KJSR 9801	TULSA OK LIC	BMLH C 20041022ADG	277 C 103.3	100.000 390	N	36-01-10 095-39-24	N	37.6	106.39 1.39	99.0 Close	105.0
KVSP 2189	ANADARKO OK LIC	BLH C 20040723AAG	278 C 103.5	100.000 600	N	35-15-04 098-36-53	N	270.3	203.50 -5.50	188.0 Short ¹	209.0
0	OKEMAH OK RSV	RM C 11228	279 C1 103.7	0.000		35-14-22 096-18-48		113.9	6.49		
KESC 83209	OKEMAH OK APP	BPH C 20061010AND	279 C1 103.7	100.000 299	N	35-15-27 096-18-03	Y	95.0	7.10		
KESC 83209	WILBURTON OK LIC	BLH C 20020513AAT	279 C1 103.7	100.000 185	N	34-59-13 095-42-10	N	116.3	68.80		
KVIL 28624	HIGHLAND TX LIC	PA BLH C 19990216KB	279 C 103.7	100.000 507	N	32-35-19 096-58-05	N	190.5	301.61 31.61	249.0 Clear	270.0
KMGL 55708	OKLAHOMA OK LIC	CI BLH C 19820830AH	281 C 104.1	100.000 415	N	35-32-58 097-29-18	N	287.9	105.69 0.69	99.0 Close	105.0
KMGL 55708	OKLAHOMA OK CP	CI BPH C 20051117ABV	281 C 104.1	100.000 472	N	35-33-36 097-29-07	N	288.5	105.78 0.78	99.0 Close	105.0

¹ Processing pursuant to Section 73.215 requested with respect to the short-spacing with KVSP. The distance between the proposed KESC transmitter site and KVSP's licensed transmitter site (203.5 km) complies with the minimum distance separation requirement of Section 73.215(e) (188 km). See Technical Narrative and Figure 3.

Figure 3



COMPLIANCE WITH SECTION 73.215

**FM STATION KESC
OKEMAH, OKLAHOMA
CH 279C1 72 KW 282 M**

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

Figure 4

ELECTRONICS RESEARCH, INC.
108 MARKET STREET
NEWBURGH, IN. 47630

----- THEORETICAL
VERTICAL PLANE RELATIVE FIELD

MAY 24, 1953
ELEMENT SPACING:
1.0 WAVELENGTH

8 ERI TYPE SHIP, SHPX, LP, OR LPX ELEMENTS
0 DEGREE(S) BEAM TILT
0 PERCENT FIRST NULL FILL
0 PERCENT SECOND NULL FILL

FIGURE F8

POWER GAIN IS 4.407 IN THE HORIZONTAL PLANE(4.407 IN THE MAX.)

