

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of LINCOLN BROADCASTING, LLC, licensee of digital broadcast television station KFXL-DT, Channel 51 in Lincoln, Nebraska, in support of its application for modification of Construction Permit BPCDT-20120202ACE, which authorizes the station to operate on Channel 15 from the presently licensed site. The purpose of this modification application is to specify a reduction in effective radiated power (from 1000 kW to 21.5 kW), a slight reduction in effective antenna height, and a directional antenna. No change in site location or overall tower height is proposed herein.

It is now proposed to mount a standard ERI directional antenna at the 141.7-meter level of the existing 152-meter tower upon which the licensed KFXL-DT antenna is presently mounted. Exhibit B provides elevation and azimuth pattern data for the proposed antenna. Exhibit C is a map upon which the predicted service contours are plotted. As shown, the city of license is completely contained within the newly proposed 48 dBu service contour. It is important to note that the new Channel 15 contour is completely contained within the 41 dBu contour of the facility authorized in BPCDT-20120202ACE, thereby meeting the terms of the Commission's present freeze on the filing of any television modification application that results in an extension of the authorized service contour in any direction. In addition, the new Channel 15 service contour completely envelops the contour of the licensed Channel 51 facility, meaning that no present off-air viewer of KFXL-DT programming will be disenfranchised upon implementation of the facility proposed herein.

EXHIBIT A

Since the proposed service contour is completely contained within that authorized to KFXL-DT on Channel 15, no interference study is provided herein. A power density study appears in Exhibit D.

It is not expected that the proposed facility would cause objectionable interference to any other broadcast or non-broadcast station authorized to operate at or near the KFXL-DT site. However, if such should occur, the owner of this station recognizes its obligation to take whatever corrective actions are necessary.

Since no change in overall height or location of the existing tower is proposed herein, the FAA has not been notified of this application. The FCC issued Antenna Structure Registration Number 1022906 to this tower.

I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.



KEVIN T. FISHER

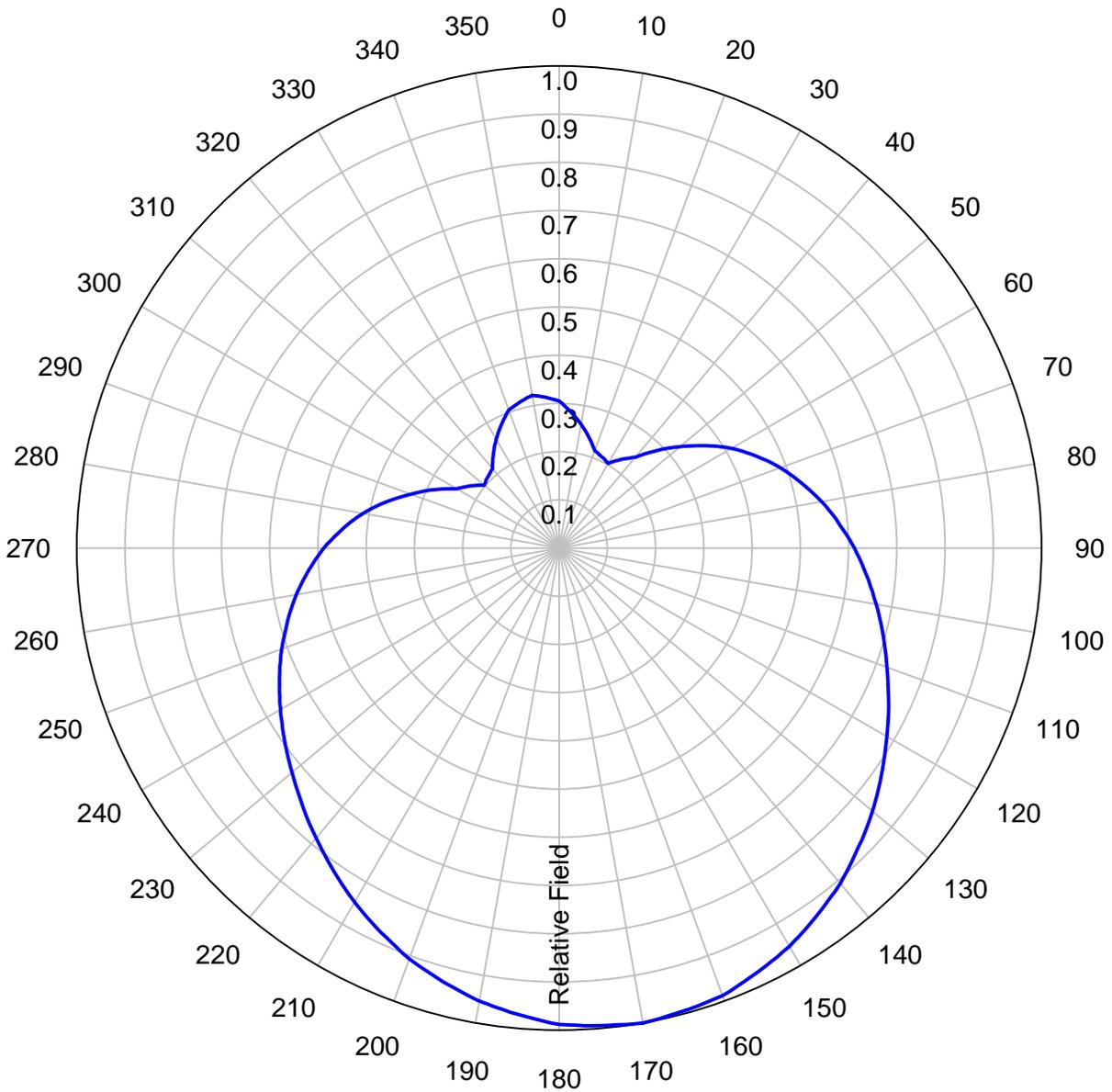
July 1, 2014



## AZIMUTH PATTERN

Type: ALP-M  
Numeric 2.54 dBd 4.05  
Directivity:  
Peak(s) at:

Channel: 15  
Location:  
Polarization: Horizontal  
Note: Pattern shape and directivity may vary with channel and mounting configuration.



Preliminary, subject to final design and review.

## TABULATED DATA FOR AZIMUTH PATTERN

Type: ALP-M

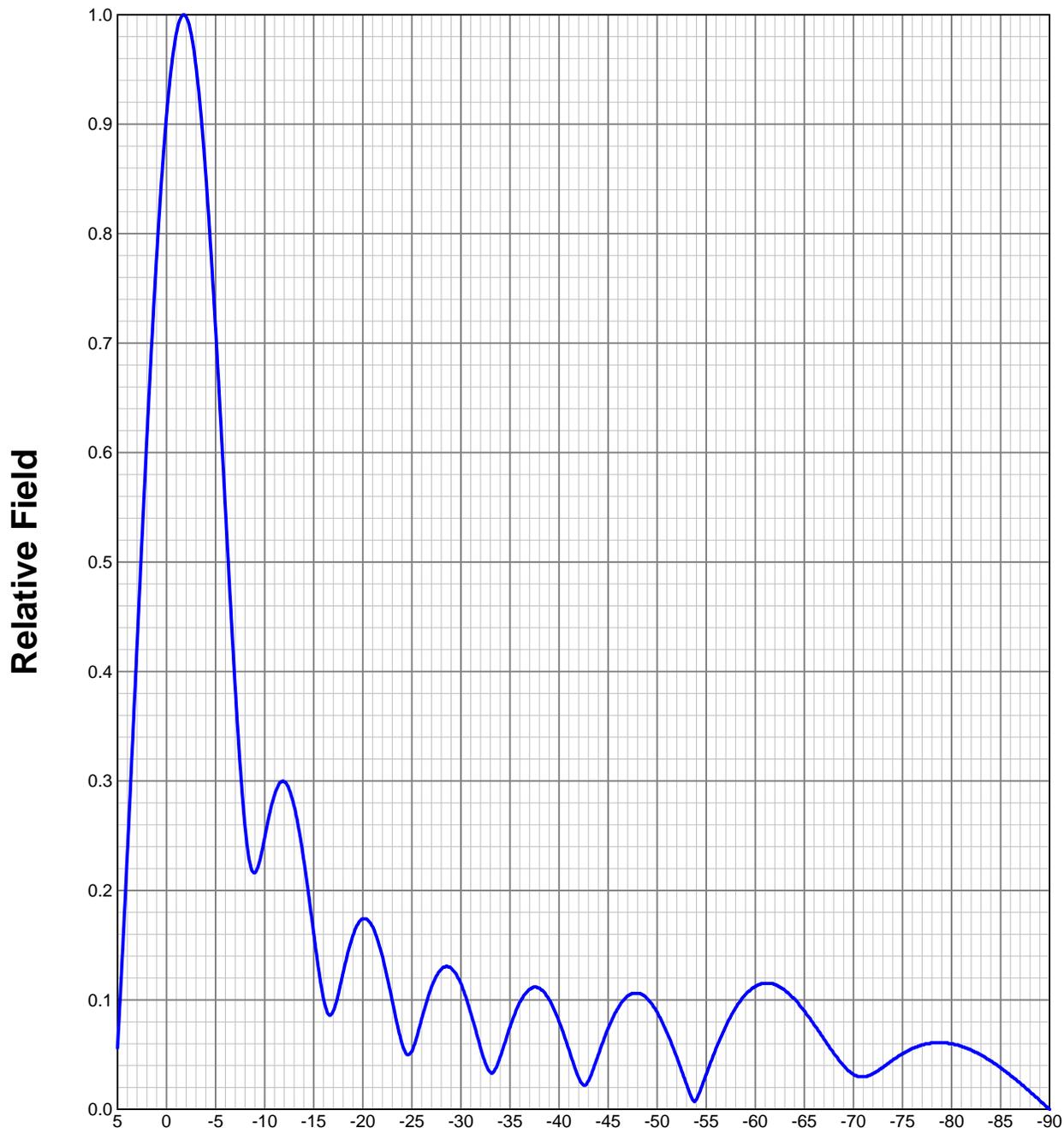
PolarizationHorizontal

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
0	0.305	-10.31	92	0.623	-4.11	184	0.974	-0.23	276	0.444	-7.05
2	0.296	-10.57	94	0.634	-3.96	186	0.968	-0.28	278	0.429	-7.35
4	0.287	-10.84	96	0.645	-3.81	188	0.961	-0.35	280	0.414	-7.66
6	0.279	-11.09	98	0.656	-3.66	190	0.954	-0.41	282	0.397	-8.02
8	0.270	-11.37	100	0.667	-3.52	192	0.945	-0.49	284	0.379	-8.43
10	0.261	-11.67	102	0.678	-3.38	194	0.935	-0.58	286	0.362	-8.83
12	0.252	-11.97	104	0.689	-3.24	196	0.926	-0.67	288	0.344	-9.27
14	0.243	-12.29	106	0.701	-3.09	198	0.916	-0.76	290	0.327	-9.71
16	0.233	-12.65	108	0.712	-2.95	200	0.907	-0.85	292	0.311	-10.14
18	0.224	-13.00	110	0.723	-2.82	202	0.895	-0.96	294	0.295	-10.60
20	0.215	-13.35	112	0.735	-2.67	204	0.883	-1.08	296	0.278	-11.12
22	0.213	-13.43	114	0.747	-2.53	206	0.872	-1.19	298	0.262	-11.63
24	0.210	-13.56	116	0.760	-2.38	208	0.860	-1.31	300	0.246	-12.18
26	0.208	-13.64	118	0.772	-2.25	210	0.848	-1.43	302	0.237	-12.51
28	0.205	-13.76	120	0.784	-2.11	212	0.835	-1.57	304	0.229	-12.80
30	0.203	-13.85	122	0.797	-1.97	214	0.822	-1.70	306	0.220	-13.15
32	0.212	-13.47	124	0.810	-1.83	216	0.810	-1.83	308	0.212	-13.47
34	0.220	-13.15	126	0.822	-1.70	218	0.797	-1.97	310	0.203	-13.85
36	0.229	-12.80	128	0.835	-1.57	220	0.784	-2.11	312	0.205	-13.76
38	0.237	-12.51	130	0.848	-1.43	222	0.772	-2.25	314	0.208	-13.64
40	0.246	-12.18	132	0.860	-1.31	224	0.760	-2.38	316	0.210	-13.56
42	0.262	-11.63	134	0.872	-1.19	226	0.747	-2.53	318	0.213	-13.43
44	0.278	-11.12	136	0.883	-1.08	228	0.735	-2.67	320	0.215	-13.35
46	0.295	-10.60	138	0.895	-0.96	230	0.723	-2.82	322	0.224	-13.00
48	0.311	-10.14	140	0.907	-0.85	232	0.712	-2.95	324	0.233	-12.65
50	0.327	-9.71	142	0.916	-0.76	234	0.701	-3.09	326	0.243	-12.29
52	0.344	-9.27	144	0.926	-0.67	236	0.689	-3.24	328	0.252	-11.97
54	0.362	-8.83	146	0.935	-0.58	238	0.678	-3.38	330	0.261	-11.67
56	0.379	-8.43	148	0.945	-0.49	240	0.667	-3.52	332	0.270	-11.37
58	0.397	-8.02	150	0.954	-0.41	242	0.656	-3.66	334	0.279	-11.09
60	0.414	-7.66	152	0.961	-0.35	244	0.645	-3.81	336	0.287	-10.84
62	0.429	-7.35	154	0.968	-0.28	246	0.634	-3.96	338	0.296	-10.57
64	0.444	-7.05	156	0.974	-0.23	248	0.623	-4.11	340	0.305	-10.31
66	0.458	-6.78	158	0.981	-0.17	250	0.612	-4.26	342	0.308	-10.23
68	0.473	-6.50	160	0.988	-0.10	252	0.600	-4.44	344	0.312	-10.12
70	0.488	-6.23	162	0.990	-0.09	254	0.588	-4.61	346	0.315	-10.03
72	0.501	-6.00	164	0.993	-0.06	256	0.577	-4.78	348	0.319	-9.92
74	0.514	-5.78	166	0.995	-0.04	258	0.565	-4.96	350	0.322	-9.84
76	0.527	-5.56	168	0.998	-0.02	260	0.553	-5.15	352	0.319	-9.92
78	0.540	-5.35	170	1.000	0.00	262	0.540	-5.35	354	0.315	-10.03
80	0.553	-5.15	172	0.998	-0.02	264	0.527	-5.56	356	0.312	-10.12
82	0.565	-4.96	174	0.995	-0.04	266	0.514	-5.78	358	0.308	-10.23
84	0.577	-4.78	176	0.993	-0.06	268	0.501	-6.00	360	0.305	-10.31
86	0.588	-4.61	178	0.990	-0.09	270	0.488	-6.23			
88	0.600	-4.44	180	0.988	-0.10	272	0.473	-6.50			
90	0.612	-4.26	182	0.981	-0.17	274	0.458	-6.78			

*Preliminary, subject to final design and review.*

**ELEVATION PATTERN**

Type:	AL8		Channel:	15
Directivity:	Numeric	dBd	Location:	
Main Lobe:	8.50	9.29	Beam Tilt:	-1.75
Horizontal:	7.01	8.46	Polarization:	Horizontal



Preliminary, subject to final design and review.



POWER DENSITY CALCULATION

PROPOSED KFXL-DT  
CHANNEL 15 – LINCOLN, NEBRASKA  
[MODIFICATION OF BPCDT-20120202ACE]

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Lincoln facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 21.5 kW, an antenna radiation center 142 meters above ground, and the specific elevation pattern of the ERI AL8-M antenna, maximum power density two meters above ground of 0.00041 mW/cm<sup>2</sup> is calculated to occur 74 meters south of the base of the tower. Since this value is only 0.1 percent of the 0.32 mW/cm<sup>2</sup> reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 15 (476-482 MHz), a grant of this proposal may be considered a minor environmental action with respect to public and occupational exposure to non-ionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive non-ionizing radiation.