

**TECHNICAL EXHIBIT**  
**APPLICATION FOR CONSTRUCTION PERMIT**  
**KLAZ (FM)**  
**HOT SPRINGS, ARKANSAS**  
**CH 290 C1      100.0KW      299M HAAT**

Technical Narrative

KLAZ (FM), serving Hot Springs, Arkansas, is presently licensed to operate on Channel 290 C1 with an ERP of 95kW at 303m HAAT. This proposal seeks to modify the KLAZ (FM) transmission facility by re-locating to a new tower site, increasing power and reducing height above average terrain. No changes in class or channel are proposed. The proposed facility will operate with 100.0kW ERP at 299m HAAT. In order to accommodate this proposal, applicant respectfully requests that FM station KXRR, Monroe, LA be re-classified to a C0.

All calculations herein were made using RF Investigator-FM version 2.0.128. A new 314 meter (1030') tower will be erected to accommodate the facility. Upon receipt of the Federal Aviation Administration's *Determination of No Aeronautical Hazard*, the structure will be registered with the FCC. This application will then be amended to reflect the tower registration number. It is believed that this proposal conforms to all applicable rules and regulations of the FCC.

Proposed Transmitter Location

A map showing the transmitter site location is provided in Figure 1. KLAZ (FM) proposes use of an omni-directional 10-bay antenna mounted at 294m (965') above ground level. The transmitter site is uniquely described as: 34-21-31 N / 92-42-43 W (NAD27). As can be noted from the topo map in Figure 1, the site lies at 101m AMSL (330'). Thus, the Center of Radiation Above Mean Sea Level will be 395m (1,295').

### Interference Concerns

The 115 dBu predicted "blanketing" contour will extend approximately 3.3km from the transmitting site. Only 478 persons reside within the blanketing contour. Applicant recognizes its responsibility to resolve complaints of interference, including blanketing and receiver-induced interference as required by Sections 73.315(b), 73.316(e), and 73.318.

### Coverage Contours

The predicted coverage contours for the proposed operation were calculated by employing the USGS 03-second terrain database in accordance with Section 73.313. The average terrain elevations from 3 to 16 kilometers along 8 radials evenly spaced at 45-degree intervals were obtained from the USGS 03-second terrain database. Figure 2 shows the height above average terrain data. The average elevation was calculated at 96.0 meters. Because the transmitter site lies at 101 meters above sea level, it is 5

meters above average terrain. With the antenna center of radiation at 294 meters above ground level, that places the HAAT at 299 meters (294 + 5).

The terrain elevations were then used in combination with the effective radiated power for determining the distance to the coverage contours. Figure 3 shows the distance to contour values using 360 evenly spaced radials.

A contour coverage map is shown in Figure 4. The FCC predicted 70 dBu coverage contour encompasses 100% of the Hot Springs, Arkansas city limits, thus establishing compliance with the community coverage requirement. Figure 5 is a line of sight graph from the proposed site to the community of license.

#### Allocation Study

Figure 6 is an allocation study for Channel 290 C1 at the proposed site. The proposed site meets the FCC's minimum separation requirements in accordance with Section 73.207(b) to all assignments and stations with the exception of KXRR (FM), Monroe, Louisiana. KXRR is licensed as a Class C station, which requires an antenna height above average terrain of at least 451 meters. KXRR, however, operates with a HAAT of only 310 meters. Therefore, pursuant to Section 73.3573 Note 4, applicant requests that KXRR be re-classified as a Class C0 station. Applicant certifies that no alternative channel is available at the specified antenna location. As noted in Figure 6, this application is fully spaced if KXRR is re-classified to C0.

## Environmental Considerations

The proposed facility has been evaluated in terms of potential radiofrequency electromagnetic field exposure at ground level in accordance with OST Bulletin No. 65, *Evaluating Compliance with FCC Specified Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields*. The power density at the base of the tower was calculated using the appropriate procedure contained in Section 2, Supplement A, *Additional Information for Radio and Television Broadcast Stations*, of the Bulletin. For the calculation, a combined horizontal and vertical polarized effective radiated power of 200 kilowatts is employed with a radiation center of 294 meters (965 feet) above ground level. A *Shively* 6800 series 10 bay one-wavelength spaced antenna is proposed. Using this antenna type in the Commission's *FM Model* RFR calculation program, it is calculated that the maximum power density at ground level resulting from this facility is less than  $3 \mu\text{W}/\text{cm}^2$ . (See Figure 7.) This is less than two percent of the maximum Commission guideline value in an uncontrolled environment for a FM radio station. There are no other known emitters in the nearby vicinity.

Access to the transmitting site will be restricted and appropriately marked with warning signs. When it becomes necessary for workers to ascend the tower, appropriate measures, such as reduction or shut down of power if necessary, shall be taken to ensure that the human exposure to radiofrequency radiation will not exceed the FCC guidelines.

Should there be any questions regarding this application, please contact the undersigned.



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July 16, 2004

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FIGURE 1-A: Proposed Transmitter Site Map

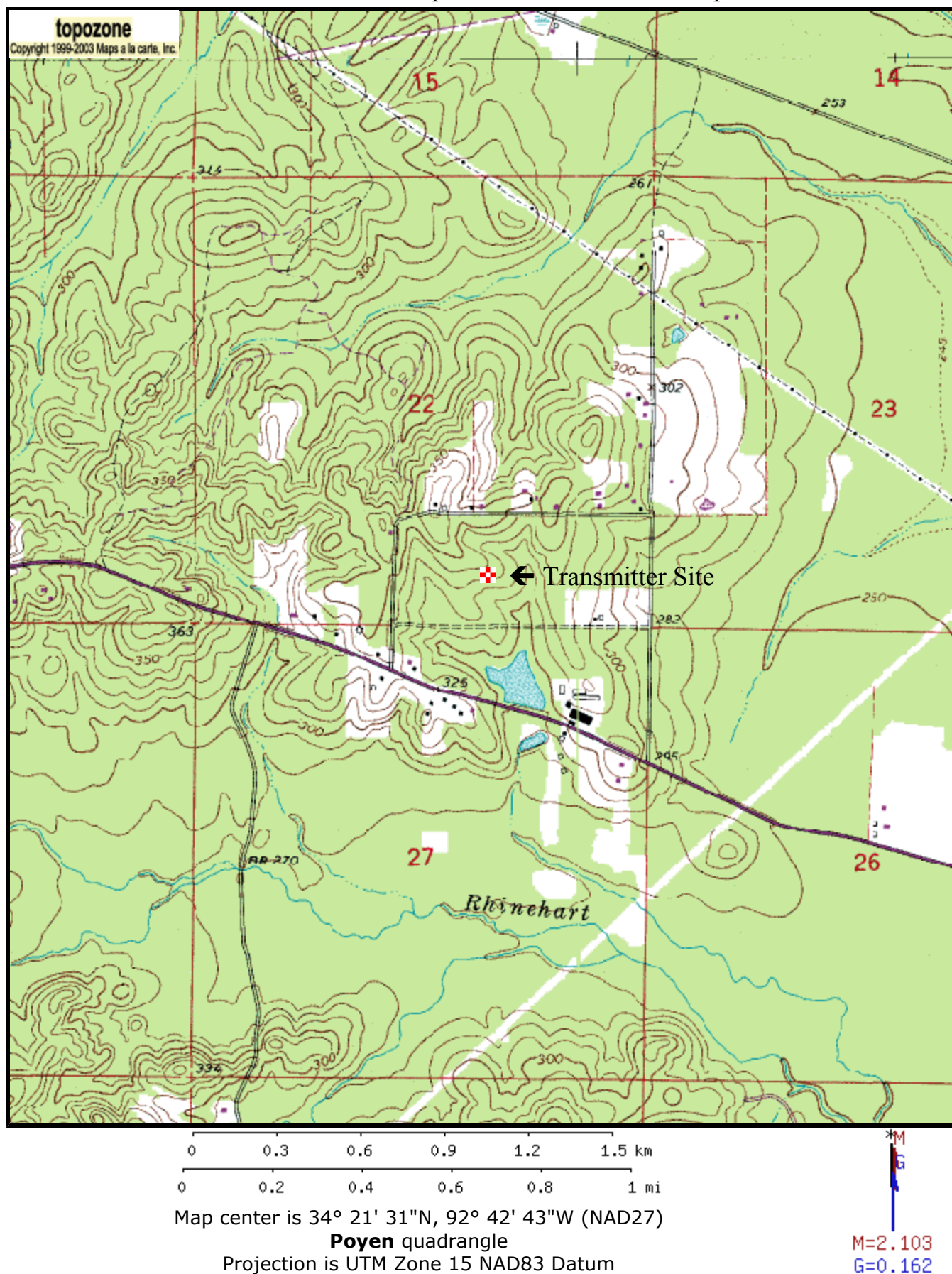
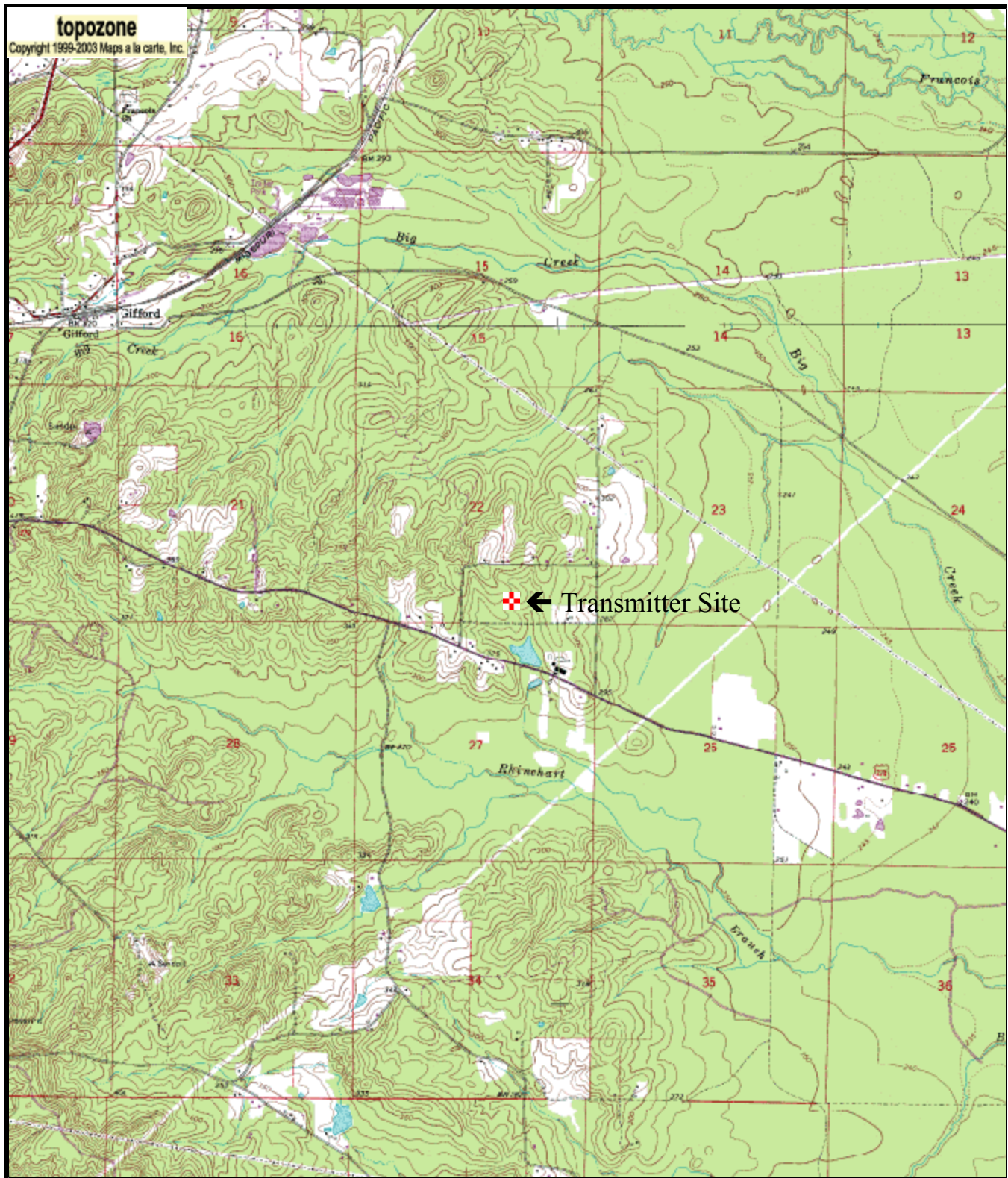


FIGURE 1-B: Proposed Transmitter Site Map



0 0.7 1.4 2.1 2.8 3.5 km  
0 0.5 1 1.5 2 2.5 mi

Map center is 34° 21' 31"N, 92° 42' 43"W (NAD27)

**Poyen** quadrangle

Projection is UTM Zone 15 NAD83 Datum

M=2.103  
G=0.162



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Channel 290 C1  
Hot Springs, AR

Figure 2  
Terrain Data

KLAZ (FM)	Site Latitude 34-21-31 N	Site Longitude 92-42-43 W	Radials Used 8
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Site Elevation: 100.5m	Rad Center: 394.5 m AMSL	Data Source: USGS 3-Sec DEM(DMA)
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Bearing Degrees <u>True</u>	Average Height 3.0 to 16.0 km <u>meters</u>	Antenna Height HAAT <u>meters</u>	Min Height AMSL <u>meters</u>	Max Height AMSL <u>meters</u>
0	107.5	287.0	85.0	151.0
45	70.0	324.5	59.0	82.0
90	69.0	325.5	57.0	89.8
135	71.1	323.4	59.0	85.4
180	104.7	289.8	91.0	130.4
225	139.1	255.4	100.7	152.0
270	94.4	300.1	81.0	121.0
315	112.2	282.3	91.0	152.0
Average 8 radials:	96.0	298.5		



KLAZ (FM)  
Ch 290 C1  
Hot Springs, Arkansas

Figure 3:  
Distances to Contours

'ID'	'Site Latitude'	'Site Longitude'	'Site HAT'
KLAZ (FM)	34-21-31 N	92-42-43 W	96
'Antenna'	'Radials Used'	'Antenna AMSL'	ERP (kW)
Omni	360	395	100.0
	70dBu (F 50:50)	60dBu (F 50:50)	
<u>'Bearing'</u>	<u>'To-Contour (km)'</u>	<u>'To-Contour (km)'</u>	
0	49.250	71.386	
1	49.243	71.377	
2	49.235	71.368	
3	49.251	71.387	
4	49.314	71.462	
5	49.428	71.599	
6	49.511	71.697	
7	49.572	71.770	
8	49.630	71.839	
9	49.641	71.852	
10	49.662	71.877	
11	49.745	71.975	
12	49.862	72.113	
13	49.988	72.261	
14	50.098	72.389	
15	50.202	72.509	
16	50.271	72.590	
17	50.350	72.680	
18	50.416	72.756	
19	50.451	72.795	
20	50.487	72.837	
21	50.526	72.880	
22	50.556	72.914	
23	50.586	72.949	
24	50.645	73.016	
25	50.703	73.081	
26	50.750	73.135	
27	50.799	73.190	
28	50.851	73.249	
29	50.901	73.306	
30	50.953	73.365	
31	50.997	73.414	
32	51.043	73.466	
33	51.085	73.514	
34	51.124	73.557	
35	51.166	73.605	
36	51.208	73.652	
37	51.255	73.705	
38	51.304	73.760	
39	51.354	73.817	
40	51.413	73.883	
41	51.468	73.945	
42	51.539	74.025	

KLAZ (FM)  
Ch 290 C1  
Hot Springs, Arkansas

Figure 3:  
Distances to Contours

43	51.611	74.106
44	51.679	74.183
45	51.737	74.249
46	51.789	74.308
47	51.829	74.352
48	51.854	74.380
49	51.866	74.395
50	51.870	74.398
51	51.866	74.394
52	51.859	74.386
53	51.852	74.378
54	51.845	74.370
55	51.828	74.351
56	51.814	74.335
57	51.798	74.317
58	51.777	74.293
59	51.759	74.274
60	51.743	74.256
61	51.731	74.241
62	51.720	74.229
63	51.713	74.221
64	51.712	74.220
65	51.707	74.215
66	51.703	74.210
67	51.699	74.206
68	51.692	74.198
69	51.679	74.183
70	51.663	74.165
71	51.640	74.139
72	51.625	74.122
73	51.631	74.129
74	51.644	74.144
75	51.647	74.147
76	51.661	74.163
77	51.735	74.247
78	51.849	74.375
79	51.929	74.465
80	51.922	74.457
81	51.896	74.427
82	51.871	74.400
83	51.859	74.387
84	51.859	74.387
85	51.856	74.383
86	51.841	74.365
87	51.827	74.350
88	51.825	74.347
89	51.827	74.350
90	51.797	74.317
91	51.762	74.276
92	51.745	74.258
93	51.786	74.304
94	51.832	74.356

KLAZ (FM)  
Ch 290 C1  
Hot Springs, Arkansas

Figure 3:  
Distances to Contours

95	51.865	74.393
96	51.873	74.402
97	51.870	74.398
98	51.861	74.388
99	51.852	74.379
100	51.843	74.368
101	51.842	74.367
102	51.840	74.364
103	51.842	74.367
104	51.846	74.372
105	51.848	74.374
106	51.849	74.375
107	51.853	74.379
108	51.854	74.380
109	51.852	74.378
110	51.852	74.378
111	51.850	74.376
112	51.853	74.379
113	51.856	74.383
114	51.859	74.386
115	51.862	74.389
116	51.867	74.395
117	51.869	74.398
118	51.873	74.402
119	51.875	74.404
120	51.872	74.401
121	51.865	74.393
122	51.860	74.387
123	51.856	74.383
124	51.853	74.380
125	51.850	74.376
126	51.847	74.373
127	51.840	74.364
128	51.833	74.357
129	51.817	74.339
130	51.803	74.323
131	51.779	74.296
132	51.753	74.266
133	51.726	74.236
134	51.696	74.202
135	51.662	74.164
136	51.624	74.121
137	51.577	74.068
138	51.530	74.015
139	51.482	73.961
140	51.430	73.902
141	51.386	73.853
142	51.352	73.814
143	51.312	73.770
144	51.277	73.730
145	51.237	73.685
146	51.197	73.640

KLAZ (FM)  
Ch 290 C1  
Hot Springs, Arkansas

Figure 3:  
Distances to Contours

147	51.160	73.598
148	51.121	73.554
149	51.090	73.519
150	51.063	73.489
151	51.035	73.457
152	50.999	73.417
153	50.964	73.376
154	50.926	73.334
155	50.888	73.291
156	50.852	73.250
157	50.811	73.203
158	50.766	73.152
159	50.715	73.095
160	50.667	73.041
161	50.620	72.987
162	50.576	72.938
163	50.536	72.891
164	50.498	72.849
165	50.455	72.799
166	50.413	72.752
167	50.374	72.708
168	50.306	72.630
169	50.213	72.523
170	50.111	72.404
171	49.989	72.262
172	49.865	72.116
173	49.806	72.047
174	49.751	71.983
175	49.762	71.995
176	49.689	71.909
177	49.535	71.726
178	49.417	71.585
179	49.420	71.589
180	49.436	71.607
181	49.322	71.472
182	49.141	71.255
183	48.870	70.931
184	48.733	70.767
185	48.571	70.571
186	48.516	70.505
187	48.524	70.515
188	48.488	70.472
189	48.407	70.374
190	48.273	70.213
191	48.124	70.033
192	48.057	69.953
193	48.109	70.015
194	48.156	70.072
195	48.181	70.101
196	48.177	70.097
197	48.137	70.049
198	48.074	69.974

KLAZ (FM)  
Ch 290 C1  
Hot Springs, Arkansas

Figure 3:  
Distances to Contours

199	48.051	69.946
200	48.017	69.904
201	47.924	69.793
202	47.858	69.714
203	47.866	69.723
204	47.869	69.727
205	47.805	69.650
206	47.683	69.504
207	47.538	69.331
208	47.480	69.260
209	47.412	69.178
210	47.370	69.127
211	47.333	69.081
212	47.292	69.031
213	47.264	68.998
214	47.309	69.052
215	47.365	69.120
216	47.370	69.126
217	47.354	69.107
218	47.336	69.085
219	47.298	69.038
220	47.236	68.963
221	47.167	68.879
222	47.085	68.780
223	47.037	68.722
224	47.026	68.708
225	47.042	68.727
226	47.084	68.779
227	47.182	68.898
228	47.279	69.015
229	47.363	69.118
230	47.452	69.227
231	47.554	69.350
232	47.576	69.376
233	47.649	69.464
234	47.751	69.586
235	47.862	69.718
236	47.993	69.875
237	48.108	70.014
238	48.163	70.080
239	48.189	70.111
240	48.262	70.199
241	48.409	70.377
242	48.582	70.585
243	48.696	70.722
244	48.791	70.836
245	48.913	70.982
246	49.033	71.126
247	49.141	71.255
248	49.237	71.371
249	49.308	71.455
250	49.359	71.516

KLAZ (FM)  
Ch 290 C1  
Hot Springs, Arkansas

Figure 3:  
Distances to Contours

251	49.405	71.571
252	49.452	71.627
253	49.487	71.669
254	49.520	71.708
255	49.551	71.745
256	49.609	71.814
257	49.690	71.910
258	49.754	71.986
259	49.792	72.030
260	49.816	72.058
261	49.834	72.080
262	49.865	72.117
263	49.895	72.151
264	49.933	72.197
265	49.976	72.247
266	50.018	72.295
267	50.047	72.330
268	50.075	72.363
269	50.103	72.395
270	50.130	72.426
271	50.159	72.460
272	50.190	72.496
273	50.213	72.523
274	50.219	72.529
275	50.222	72.533
276	50.219	72.530
277	50.196	72.503
278	50.161	72.463
279	50.092	72.382
280	50.060	72.345
281	50.004	72.280
282	49.917	72.177
283	49.863	72.114
284	49.781	72.017
285	49.579	71.779
286	49.377	71.537
287	49.335	71.487
288	49.405	71.570
289	49.302	71.447
290	49.329	71.481
291	49.396	71.560
292	49.344	71.498
293	49.283	71.425
294	49.416	71.584
295	49.507	71.693
296	49.468	71.646
297	49.398	71.563
298	49.350	71.506
299	49.365	71.523
300	49.358	71.515
301	49.319	71.469
302	49.296	71.441

KLAZ (FM)  
Ch 290 C1  
Hot Springs, Arkansas

Figure 3:  
Distances to Contours

303	49.234	71.366
304	49.246	71.381
305	49.228	71.359
306	49.173	71.294
307	49.209	71.337
308	49.305	71.452
309	49.348	71.503
310	49.278	71.419
311	49.200	71.326
312	49.140	71.254
313	49.083	71.186
314	49.013	71.102
315	48.924	70.995
316	48.843	70.898
317	48.820	70.871
318	48.803	70.851
319	48.728	70.760
320	48.671	70.692
321	48.704	70.732
322	48.766	70.805
323	48.854	70.912
324	48.858	70.916
325	48.842	70.897
326	48.929	71.002
327	49.085	71.188
328	49.189	71.312
329	49.139	71.253
330	49.000	71.086
331	48.889	70.954
332	48.803	70.851
333	48.791	70.835
334	48.767	70.807
335	48.848	70.904
336	48.973	71.055
337	49.089	71.193
338	49.052	71.148
339	48.957	71.035
340	48.908	70.976
341	48.886	70.950
342	48.913	70.982
343	48.889	70.953
344	48.920	70.991
345	49.092	71.197
346	49.125	71.236
347	49.144	71.259
348	49.177	71.299
349	49.201	71.327
350	49.155	71.272
351	49.082	71.185
352	49.085	71.189
353	49.081	71.184
354	49.015	71.105



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Ch 290 C1  
Hot Springs, Arkansas

Figure 3:  
Distances to Contours

355	48.927	70.999
356	48.970	71.050
357	49.128	71.239
358	49.212	71.340
359	49.239	71.373

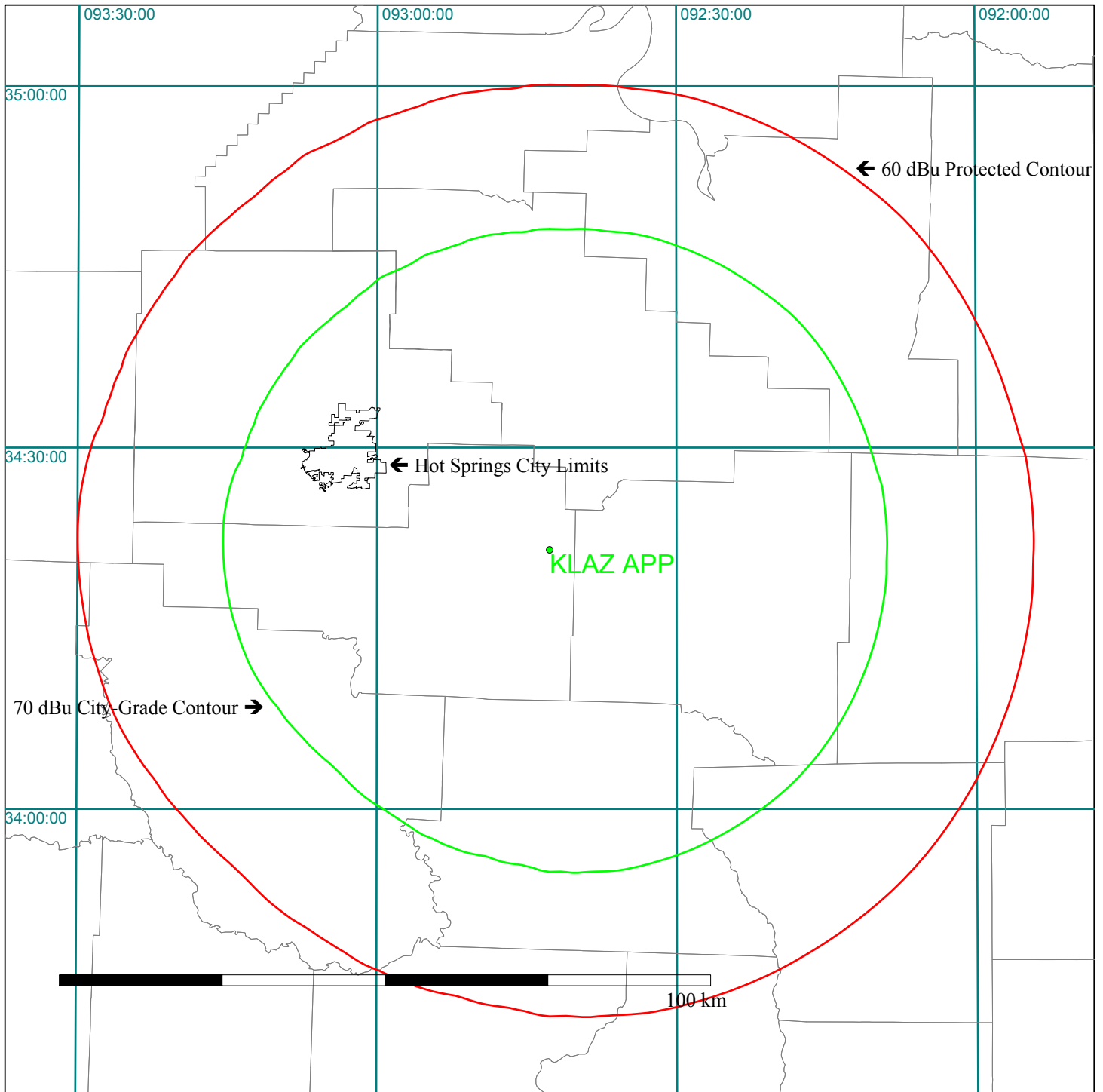
KLAZ (FM) Ch 290 C1

Hot Springs, AR

FIGURE 4

Proposed Contour Coverage Map

100.0 kW @ 299 M HAAT



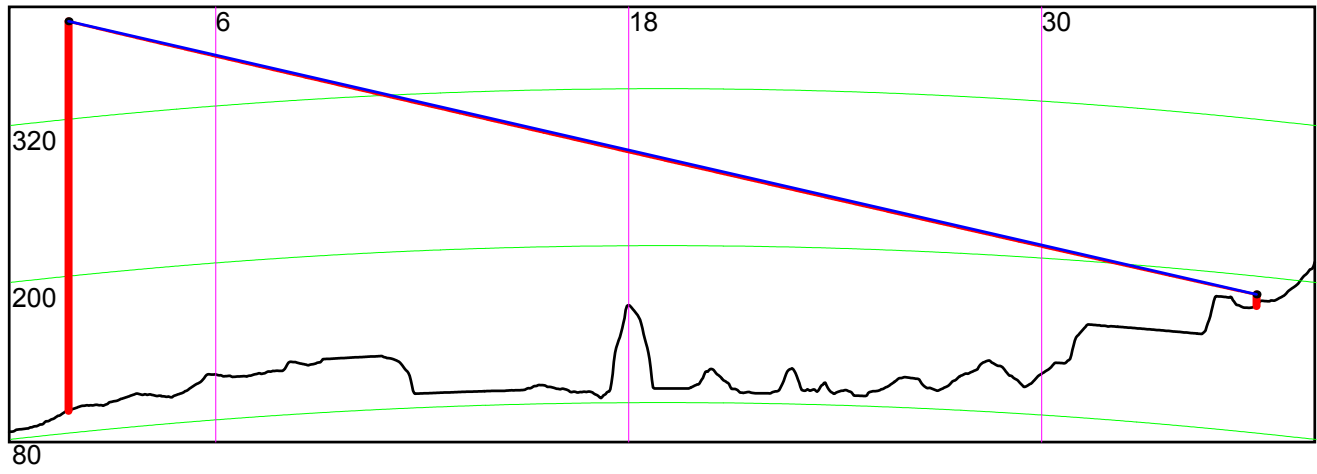
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CH 290 C1

Hot Springs, AR

FIGURE 5: Terrain Profile



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Hot Springs, Arkansas

Allocation Study at  
Proposed Site

N 34:21:31 / W 92:42:43

Figure 6

Note	Callsign	Latitude (NAD27)	Longitude (NAD27)	City	State	Channel	Class	Status	Dist (km)	Req'd Min	Clearance	ERP	HAAT	Bearing
1	KLAZ	N34:22:20	W093:02:51	HOT SPRINGS	AR	290 : 105.9 MHz	C1	LIC	30.9	245	-214.1	95.00	303	273
2	KXRR	N32:39:36	W092:05:15	MONROE	LA	291 : 106.1 MHz	C	LIC	197.1	209	-11.9	97.00	310	163
3	KFFB	N35:44:00	W092:15:37	FAIRFIELD BAY	AR	291 : 106.1 MHz	C2	LIC	158.0	158	0.0	15.50	268	15
4	KXRR	N32:39:36	W092:05:15	MONROE	LA	291 : 106.1 MHz	C0	PROP	197.1	196	1.1	100.00	310	163
	STAT:VAC	N35:14:00	W091:39:54	KENSETT	AR	289 : 105.7 MHz	A	VAC	136.4	133	3.4	0.00	0	45
	KOLL	N34:36:06	W091:51:40	LONOKE	AR	292 : 106.3 MHz	C2	LIC	82.7	79	3.7	50.00	150	71
	WGKX	N35:09:16	W089:49:20	MEMPHIS	TN	290 : 105.9 MHz	C	CP	278.9	270	8.9	100.00	302.6	72
	WGKX	N35:09:17	W089:49:20	MEMPHIS	TN	290 : 105.9 MHz	C	LIC	278.9	270	8.9	100.00	303	72
	KELD-FM	N33:32:23	W092:34:59	HAMPTON	AR	293 : 106.5 MHz	C3	LIC	91.6	76	15.6	17.50	92	173
	KRKD	N33:32:25	W091:22:39	DERMOTT	AR	289 : 105.7 MHz	A	LIC	153.2	133	20.2	3.00	100	126
	KYEL	N35:06:11	W093:13:58	DANVILLE	AR	288 : 105.5 MHz	A	LIC	95.4	75	20.4	4.40	116	330
	NEW	N34:17:26	W092:29:36	SHERIDAN	AR	288 : 105.5 MHz	DX	APP	21.5	0	21.5	0.08	0	111
	KWRF-FM	N33:37:59	W092:03:51	WARREN	AR	288 : 105.5 MHz	A	LIC	100.3	75	25.3	3.00	81	143
	NEW	N34:18:24	W092:25:42	SHERIDAN	AR	288 : 105.5 MHz	DX	APP	26.7	0	26.7	0.02	0	102
	KKBI	N34:14:45	W094:46:58	BROKEN BOW	OK	291 : 106.1 MHz	C2	LIC	191.1	158	33.1	17.00	249	266
	STAT:VAC	N34:21:49	W093:54:48	DAISY	AR	293 : 106.5 MHz	C3	VAC	110.5	76	34.5	0.00	0	270
	KNAS	N33:55:45	W093:51:01	NASHVILLE	AR	288 : 105.5 MHz	A	LIC	115.3	75	40.3	3.00	26	246
	KWAK-FM	N34:25:52	W091:26:08	STUTT GART	AR	288 : 105.5 MHz	A	LIC	117.7	75	42.7	2.70	105	86
	K288FD	N34:08:13	W093:06:58	ARKADELPHIA	AR	288 : 105.5 MHz	DX	CP	44.6	0	44.6	0.12	0	237
	K288EZ	N34:45:37	W092:22:39	LITTLE ROCK	AR	288 : 105.5 MHz	DX	CP	54.1	0	54.1	0.25	0	35
	KCXY	N33:30:14	W092:48:38	EAST CAMDEN	AR	237 : 95.3 MHz	C1	LIC	95.2	34	61.2	100.00	139	185
	KYKX	N32:35:37	W094:49:10	LONGVIEW	TX	289 : 105.7 MHz	C	LIC	276.9	209	67.9	100.00	352	225
	NEW	N34:51:06	W092:14:14	LITTLE ROCK	AR	237 : 95.3 MHz	DX	APP	69.9	0	69.9	0.25	0	39
	STAT:VAC	N34:56:29	W095:34:30	HAILEYVILLE	OK	290 : 105.9 MHz	A	VAC	270.3	200	70.3	0.00	0	284
	KMCK-FM	N36:11:07	W094:17:49	SILOAM SPRINGS	AR	289 : 105.7 MHz	C1	LIC	248.7	177	71.7	100.00	145	325
	NEW	N34:51:45	W092:13:18	LITTLE ROCK	AR	237 : 95.3 MHz	DX	APP	71.8	0	71.8	0.20	0	39
	KQOR	N34:32:42	W094:18:21	MENA	AR	287 : 105.3 MHz	C3	LIC	147.9	76	71.9	12.50	143	278
	STAT:ADD	N32:35:37	W094:49:10	LONGVIEW	TX	289 : 105.7 MHz	C0	ADD	276.9	196	80.9	0.00	0	225
	DKWHN-FM	N32:58:47	W093:08:38	HAYNESVILLE	LA	288 : 105.5 MHz	A	VAC	158.1	75	83.1	0.00	0	195
	KYGL	N33:18:30	W093:56:54	TEXARKANA	AR	292 : 106.3 MHz	C2	LIC	163.3	79	84.3	50.00	150	224
	STAT:VAC	N36:44:39	W091:24:28	ALTON	MO	290 : 105.9 MHz	A	VAC	289.9	200	89.9	0.00	0	24
	WOAD-FM	N32:38:53	W089:59:20	PICKENS	MS	290 : 105.9 MHz	C2	LIC	316.3	224	92.3	23.00	224	127
	KZKZ-FM	N35:13:44	W094:15:45	GREENWOOD	AR	292 : 106.3 MHz	C3	LIC	171.6	76	95.6	15.00	121	304
	K288FC	N33:28:32	W092:48:19	CAMDEN	AR	288 : 105.5 MHz	DX	CP	98.3	0	98.3	0.09	0	185

KLAZ (FM) - CH 290 C1  
Hot Springs, Arkansas

Allocation Study at  
Proposed Site

N 34:21:31 / W 92:42:43

Figure 6

NEW	N33:42:18	W093:27:10	HOPE	AR	287 : 105.3 MHz	DX	APP	99.7	0	99.7	0.25	0	223
NEW	N33:42:18	W093:27:10	HOPE	AR	287 : 105.3 MHz	DX	APP	99.7	0	99.7	0.25	0	223

- 1 Present licensed facility of subject station.
- 2 Re-classification to C0 requested per 73.3573 Note 4.
- 3 Clearance rounds to 0.
- 4 Proposed C0 assignment.

Database Date: JUL 14 2004

KLAZ (FM)  
Ch 290 C1  
Hot Springs, AR

FIGURE 7

