

TECHNICAL EXHIBIT  
APPLICATION FOR FM CONSTRUCTION PERMIT  
FM BOOSTER  
RADIO STATION KEGA(FM)  
PARK CITY, UTAH

FEBRUARY 13, 2004

CH 268     3 KW (MAX-DA)

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Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of an application for a new FM booster at Park City, Utah. The primary station is KEGA(FM) on Channel 268C assigned to Oakley, Utah.

Proposed Transmitter Location

The location is uniquely described by the following geographic coordinates:

40° 51' 18" North Latitude  
111° 28' 47" West Longitude

A map showing the transmitter location is included herein as Figure 1. A sketch showing the proposed antenna and supporting structure is shown on Figure 2.

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Coverage Contours

Figure 3 is a map showing the proposed booster station's 60 dBu (1.0 mV/m) coverage contour encompassed by the primary station's (KEGA(FM), Channel 268C, Oakley, Utah) 60 dBu protected contour.<sup>1</sup>

The appendix contains the information on the proposed Jampro directional antenna. Also proposed in the Appendix is a certification from the proposed antenna manufacturer that the new antenna will not affect the other antennas located on the tower is provided.

Allocation Study

There are no first-adjacent channel allocation issues.

Radiofrequency Electromagnetic Field Exposure

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."<sup>2</sup> The proposed calculated power density at the base of the tower was calculated using the appropriate equation on Page 23 of the Bulletin.

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<sup>1</sup> The KEGA(FM) licensed facility, BLH-20030604ABC, is used to define the primary station.

<sup>2</sup> OET Bulletin 65, Second Edition 97-01, August, 1997.

Using a total effective radiated power of 3 kilowatt and a reasonable assumed downward relative field value of 0.3, the predicted power density at ground level located 34 meters (110 feet) below the antenna radiation center is 0.009 mW/cm<sup>2</sup>. This is less than 5 percent of the Commission's guideline in an uncontrolled environment for a FM radio station.<sup>3</sup>

Pursuant to Section 1.1307(b) of the Commission's Rules, the power density contributions of co-located and nearby broadcast stations are not required to be calculated as the proposed translator's power density contribution is less than five percent of the guideline value.

Access to the transmitting site is 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 electromagnetic fields will not exceed the FCC guidelines.

Charles A. Cooper

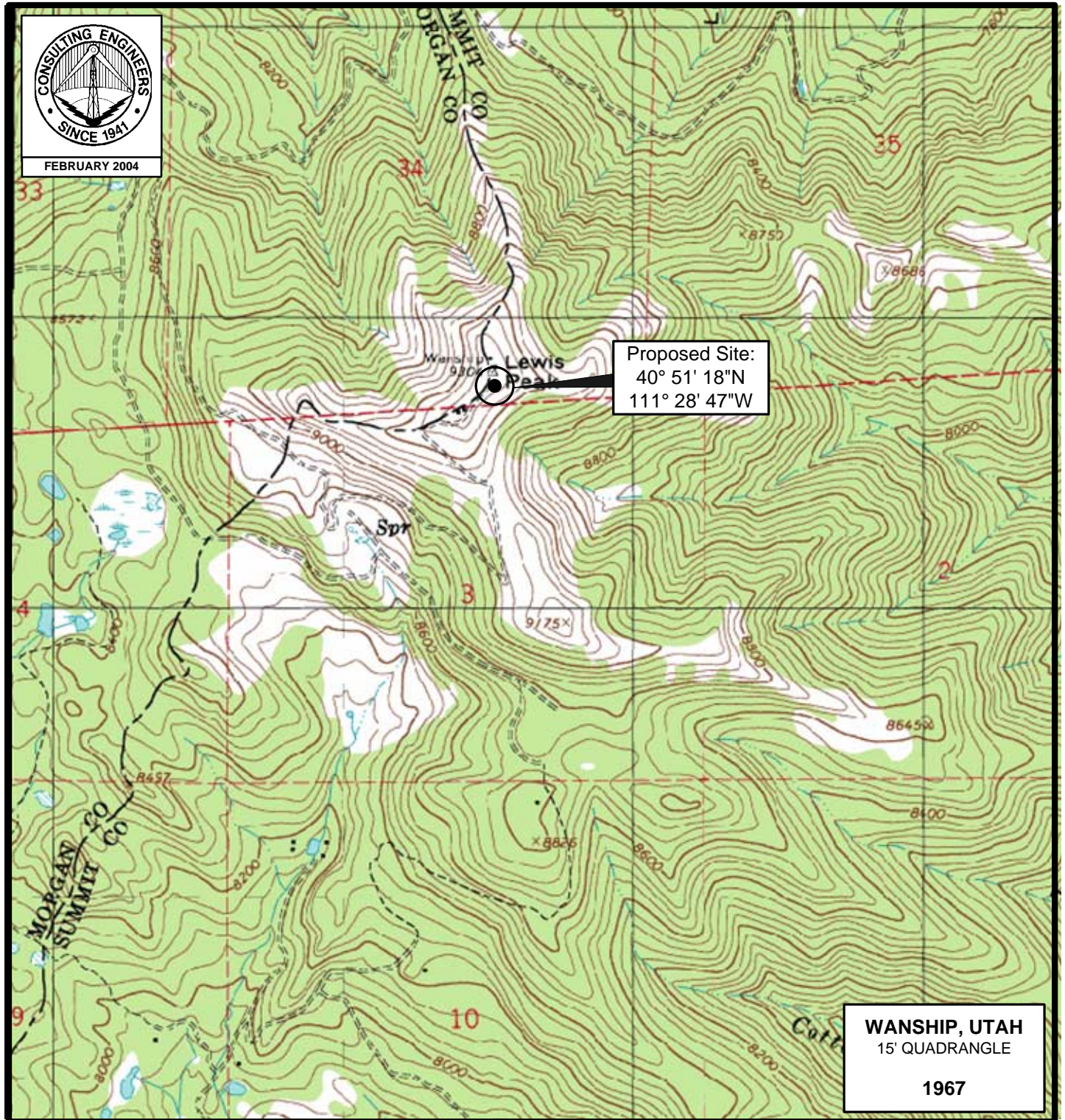
February 13, 2004

du Treil, Lundin & Rackley, Inc.  
201 Fletcher Avenue  
Sarasota, Florida 34237  
941.329.6000

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<sup>3</sup> The FCC maximum guideline for an FM broadcast radio station in an uncontrolled environment is 0.2 mW/cm<sup>2</sup>.

Figure 1

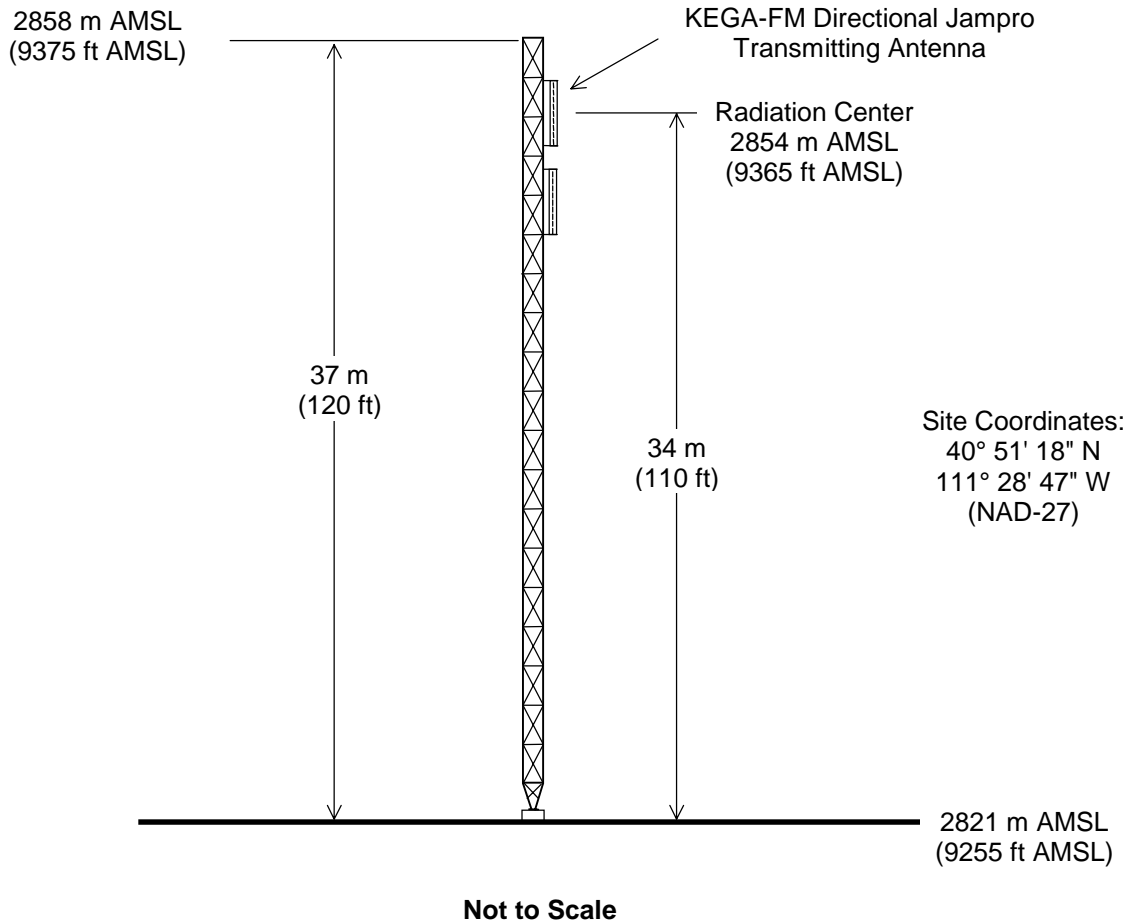
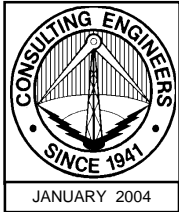


## PROPOSED TRANSMITTER SITE

RADIO STATION KEGA-FM BOOSTER  
PARK CITY, UTAH  
CH 268 3 KW (MAX-DA)

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

Figure 2



## **PROPOSED ANTENNA AND SUPPORTING STRUCTURE**

**RADIO STATION KEGA-FM BOOSTER**

**PARK CITY, UTAH**

**CH 268 3 KW (MAX-DA)**

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

Figure 3



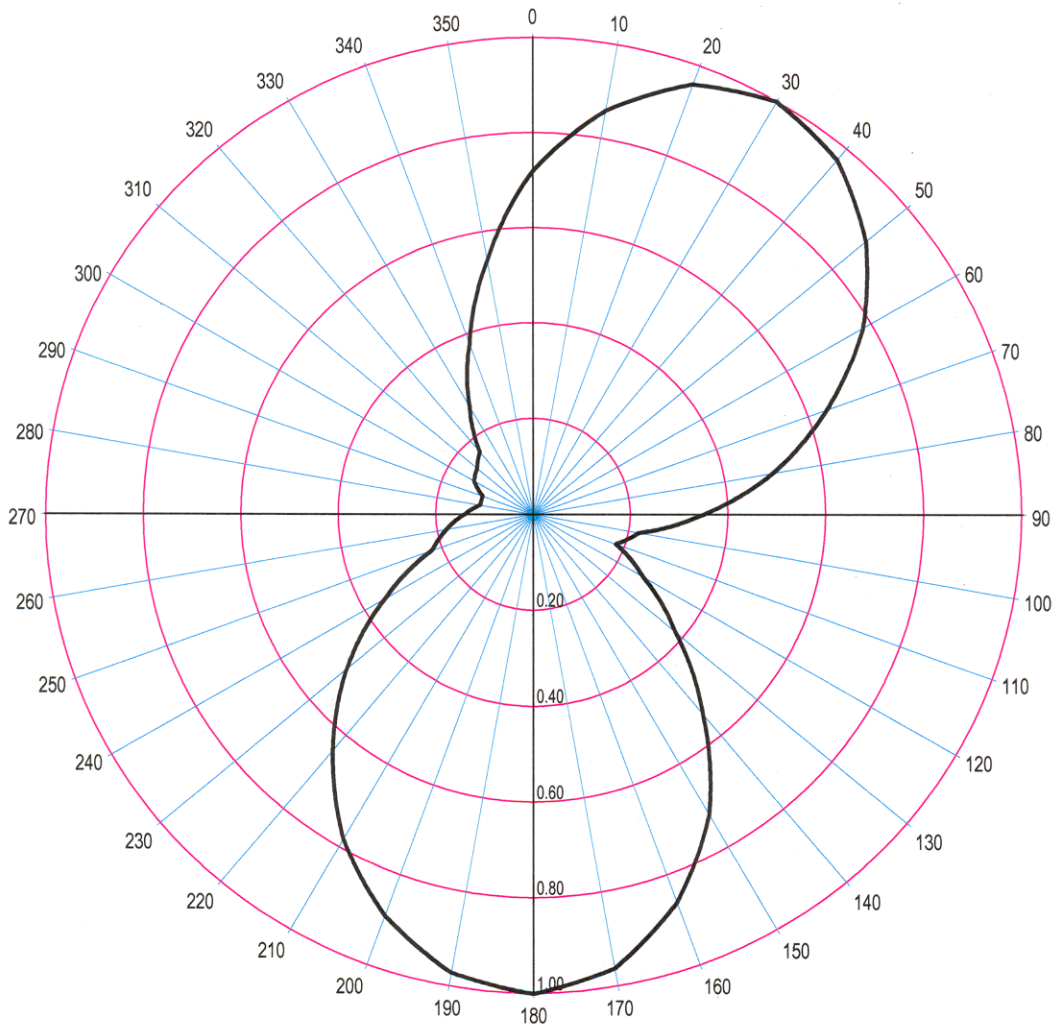
## FCC PREDICTED COVERAGE CONTOURS

RADIO STATION KEGA-FM BOOSTER  
 PARK CITY, UTAH  
 CH 268 3 KW (MAX-DA)

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

## APPENDIX A

### MANUFACTURER DIRECTIONAL ANTENNA SPECIFICATIONS



Azim	Rel.FS	ERP [kW]	dBk
0.0	0.720	1.141	0.571
5.0	0.790	1.373	1.377
10.0	0.860	1.627	2.114
15.0	0.910	1.822	2.605
20.0	0.960	2.028	3.070
25.0	0.980	2.113	3.249
30.0	1.000	2.200	3.424
35.0	0.985	2.135	3.293
40.0	0.970	2.070	3.160
45.0	0.930	1.903	2.794
50.0	0.890	1.743	2.412
55.0	0.835	1.534	1.858
60.0	0.780	1.339	1.266
65.0	0.710	1.109	0.450
70.0	0.640	0.901	-0.452
75.0	0.570	0.715	-1.458
80.0	0.500	0.550	-2.596
85.0	0.425	0.397	-4.008

Azim	Rel.FS	ERP [kW]	dBk
90.0	0.350	0.270	-5.694
95.0	0.285	0.179	-7.479
100.0	0.220	0.106	-9.727
105.0	0.200	0.088	-10.555
110.0	0.180	0.071	-11.470
115.0	0.220	0.106	-9.727
120.0	0.260	0.149	-8.276
125.0	0.320	0.225	-6.473
130.0	0.380	0.318	-4.980
135.0	0.460	0.466	-3.321
140.0	0.540	0.642	-1.928
145.0	0.630	0.873	-0.589
150.0	0.720	1.141	0.571
155.0	0.790	1.373	1.377
160.0	0.860	1.627	2.114
165.0	0.910	1.822	2.605
170.0	0.960	2.028	3.070
175.0	0.980	2.113	3.249

Azim	Rel.FS	ERP [kW]	dBk
180.0	1.000	2.200	3.424
185.0	0.985	2.135	3.293
190.0	0.970	2.070	3.160
195.0	0.930	1.903	2.794
200.0	0.890	1.743	2.412
205.0	0.835	1.534	1.858
210.0	0.780	1.339	1.266
215.0	0.710	1.109	0.450
220.0	0.640	0.901	-0.452
225.0	0.570	0.715	-1.458
230.0	0.500	0.550	-2.596
235.0	0.425	0.397	-4.008
240.0	0.350	0.270	-5.694
245.0	0.285	0.179	-7.479
250.0	0.220	0.106	-9.727
255.0	0.200	0.088	-10.555
260.0	0.180	0.071	-11.470
265.0	0.160	0.056	-12.493

Azim	Rel.FS	ERP [kW]	dBk
270.0	0.140	0.043	-13.653
275.0	0.125	0.034	-14.637
280.0	0.110	0.027	-15.748
285.0	0.110	0.027	-15.748
290.0	0.110	0.027	-15.748
295.0	0.125	0.034	-14.637
300.0	0.140	0.043	-13.653
305.0	0.145	0.046	-13.348
310.0	0.150	0.050	-13.054
315.0	0.160	0.056	-12.493
320.0	0.170	0.064	-11.967
325.0	0.215	0.102	-9.927
330.0	0.260	0.149	-8.276
335.0	0.320	0.225	-6.473
340.0	0.380	0.318	-4.980
345.0	0.460	0.466	-3.321
350.0	0.540	0.642	-1.928
355.0	0.630	0.873	-0.589

## APPENDIX B

### MANUFACTURER CERTIFICATION OF NON-ADVERSE IMPACT TO OTHER CO-LOCATED ANTENNAS



6340 Sky Creek Dr.  
Sacramento, CA 95826  
Ph: 916-383-1177  
Fx: 916-383-1182

February 17, 2004

Scot Mathews  
Simmons Media Group  
57 West S. Temple, Ste. 700  
Salt Lake City, UT 84101

Re: Lewis Peak

Dear Scot:

We have reviewed the information describing how the Jampro FM JCPD panel antenna (KEGA) will be mounted vertically close to another Jampro FM JCPD panel (KXRK) and a Scala antenna (KZBN). The Scala being mounted on the same tower but lower than the two FM panel antennas should have negligible effects if any on the directional azimuth pattern.

Furthermore, the two JCPD panel antennas should not affect the pattern of either since there is a vertical separation from each other. While we expect negligible effects Jampro cannot warrant or guarantee that such effects might not occur.

In addition, Jampro recommends the use of band pass filters in each transmission system to guarantee there are no spurious emissions being generated from this site.

Regards,

Greg Montano  
Domestic Sales  
Jampro Antennas, Inc.  
[greg@jampro.com](mailto:greg@jampro.com)

**Over 45 Years of putting your signal in its place!**  
[www.jampro.com](http://www.jampro.com)