

**KEGA-FM3**  
**Salt Lake City, UT**  
Proposed Minor Modification  
of Licensed Booster Facility

**Application Overview:**

The Applicant proposes to modify BLFTB20050601AJU using the following parameters:

**Tech Box:**

Channel:	268
Antenna Coordinates:	N40-48-29, W111-53-23 (NAD 27)
ASRN:	Applied at FAA
Tower Site Base AMSL:	1810 m
Overall Tower Height AGL:	21.3 m
COR AGL:	17 m
ERP:	2.1 kW
Directional Antenna:	Yes - See Exhibit 4 (Rotated 130 degrees)

**Primary Station and Booster Protected Contour Relationship:**

Exhibit 1 demonstrates that the proposed booster facility's protected contour is completely encompassed by the protected contour of the primary station being rebroadcast.

**Interference Study:**

Exhibit 2 is a contour overlap study demonstrating that the proposed antenna site provides requisite contour protection towards all applications, authorizations, and permits pursuant to Section 74.1204.

**Proposed Booster to Combine into a Shared Antenna:**

The signal of the proposed booster is to be combined into an antenna contemporaneously proposed for use by the following station(s):

- KYLZ (New) Salt Lake City, UT (see Contemporaneously Proposed)
- KYMV-FM2 Salt Lake City, UT (see Contemporaneously Proposed)
- KZZQ-FM4 Salt Lake City, UT (see Contemporaneously Proposed)
- KJQN-FM2 Salt Lake City, UT (see Contemporaneously Proposed)
- KBMG-FM2 Salt Lake City, UT (see Contemporaneously Proposed)

Therefore, the applicant agrees to make sufficient measurements to establish that the operation of the booster is in compliance with the spurious emissions requirements of 47 C.F.R. Sections 73.317(b) through 73.317(d). All measurements will be made with all stations simultaneously into the combined antenna and will be submitted to the Commission along with the FCC Form 350 application for license.

**Proposed Booster Located Below Other Directional Antennas:**

Since the proposed booster antenna is located below the contemporaneously proposed facilities of KDUT-FM2 facilities on the tower, it will have no effect on the antenna pattern of KDUT-FM2 and the instantly proposed facility has taken into account the KDUT-FM2 feedline passing through its aperture in creating the instantly proposed antenna azimuth pattern.

### **Downward Radiation Study (Measure Upon Construction)**

Due to the fact that several existing and proposed emitters are located at or near the site, the applicant agrees to conduct a Radiofrequency Electromagnetic Field survey at the site upon construction of the proposed facility to ensure that any areas at ground level that exceed the Commission's exposure guideline values are appropriately marked and fenced. The results of the survey will be provided with the application for license.

Even though the site will fully comply with the Uncontrolled Site Standards, 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.

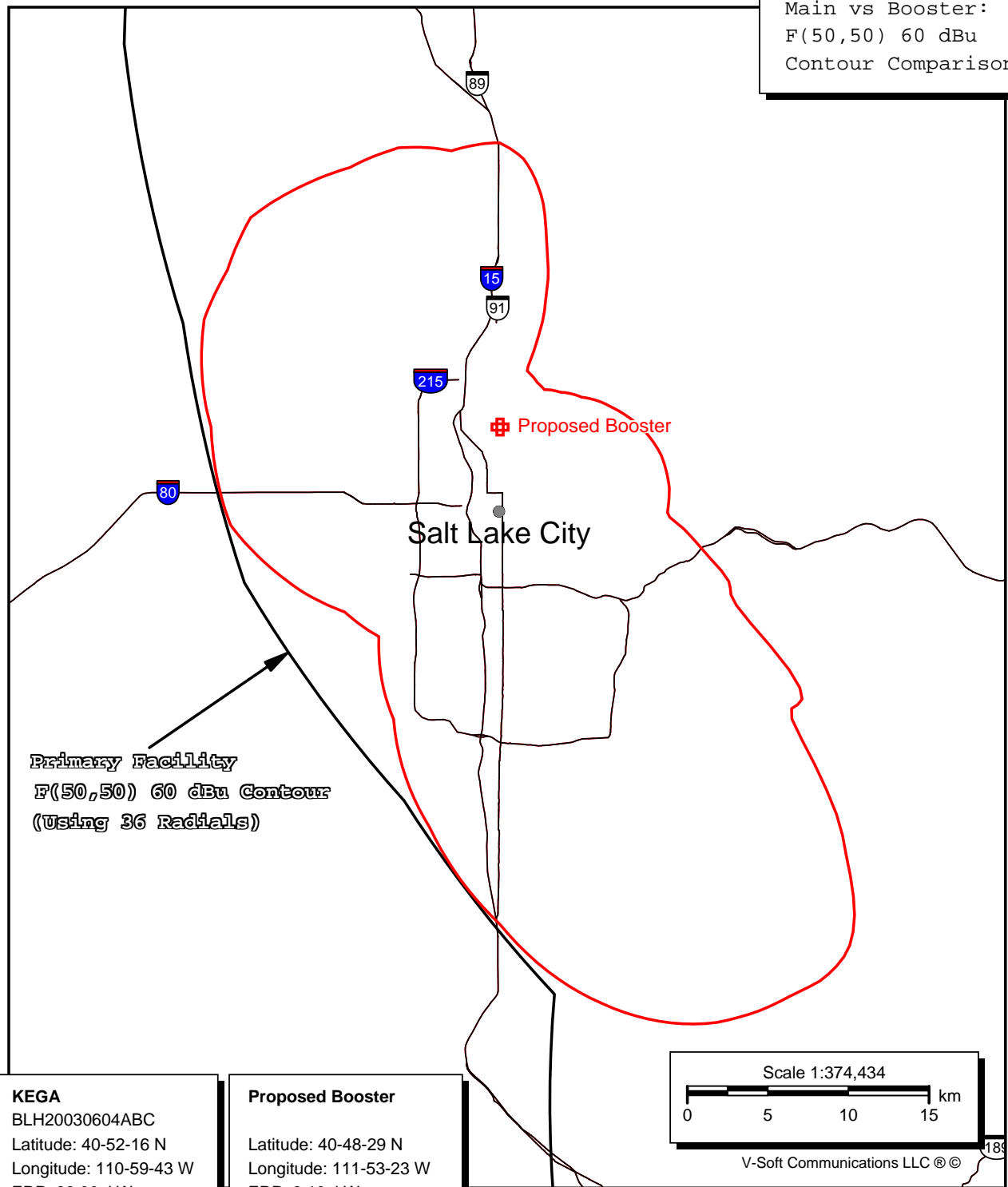
### **Existing Tower:**

The proposed facility is exempt from environmental processing because the facility is not located at a location specified in Section 1.1307(a)(1)-(8) of the Commission's Rules and since the tower in question already exists.

# **Exhibit 1**

**Primary Station Protected Contour  
vs.  
Proposed Booster Protected Contour**

Main vs Booster:  
F(50,50) 60 dBu  
Contour Comparison



**KEGA**

BLH20030604ABC  
Latitude: 40-52-16 N  
Longitude: 110-59-43 W  
ERP: 89.00 kW  
HAAT: 647.0 m  
Channel: 268 C  
Frequency: 101.5 MHz  
AMSL Height: 3330.0 m  
Elevation: 3283.0 m  
Horiz. Pattern: Omni  
Vert. Pattern: No  
Prop Model: None

**Proposed Booster**

Latitude: 40-48-29 N  
Longitude: 111-53-23 W  
ERP: 2.10 kW  
HAAT: 284.09 m  
Channel: 268 D  
Frequency: 101.5 MHz  
AMSL Height: 1827.0 m  
Elevation: 1810.0 m  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: None

Scale 1:374,434

0 5 10 15 km

V-Soft Communications LLC ©

## **Exhibit 2**

### **Section 74.1204 Interference Tabulations**

KEGA-FM3 Proposed Booster

Section 74.1204 Antenna Site Channel Study

REFERENCE  
40 48 29.0 N.  
111 53 23.0 W.

CH# 268D - 101.5 MHz, Pwr= 2.1 kW, HAAT= 0.0 M, COR= 1827 M  
Average Protected F(50-50)= 12.1 km

DISPLAY DATES  
DATA 09-09-08  
SEARCH 10-06-08

CH CITY	CALL	TYPE STATE	ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
268C Oakley	KEGA	LIC UT	HX UT	84.4 265.0	75.76 BLH20030604ABC	40 52 16.0 110 59 43.0	89.000 647	200.1 3330	93.6 Simmons-slc, Ls, Llc	-132.15*	-43.93*
268D Sandy	KEGA-FM8	CP UT	DC UT	169.8 349.8	23.82 BNPFTB20050620AD	40 35 49.0 111 50 23.0	0.850	55.3 1484	17.5 Simmons-slc, Ls, Llc	-67.87*	-92.87
268D No. Salt Lake	KEGA-FM10	LIC UT	DV UT	323.2 143.1	3.98 BLFTB20061109AAJ	40 50 12.0 111 55 05.0	0.500	28.0 1368	8.4 Simmons-slc, Ls, Llc	-43.19*	-68.67*
270C Ogden	KENZ	LIC UT	CX UT	237.9 57.7	31.07 BLH20030508AAI	40 39 34.0 112 12 05.0	25.000 1140	10.0 2803	95.3 Citadel Broadcasting Compa	4.40	-64.57*
266C Ogden	KBER	LIC UT	CX UT	237.9 57.7	31.07 BMLH20021203ACC	40 39 34.0 112 12 05.0	25.000 1140	10.0 2803	95.3 Citadel Broadcasting Compa	4.40	-64.57*
268D Salt Lake City	KEGA-FM3	LIC UT	DC UT	228.5 48.5	0.09 BLFTB20050601AJU	40 48 27.0 111 53 26.0	0.560	10.1 1835	3.1 Simmons-slc, Ls, Llc	-25.80*	-58.73*
268D Park City	KEGA-FM7	LIC UT	DC UT	81.3 261.5	34.98 BLFTB20051011ACR	40 51 18.0 111 28 47.0	3.000	85.7 2855	28.1 Simmons-slc, Ls, Llc	-58.02*	-17.48
268D Provo	KEGA-FM5	LIC UT	DC UT	159.7 339.9	60.14 BLFTB20050518AFW	40 18 00.0 111 38 38.0	0.600	29.5 1642	8.8 Simmons-slc, Ls, Llc	-8.66	-52.64
268D Bountiful	KEGA-FM6	LIC UT	DC UT	32.2 212.2	3.50 BLFTB20031103ABN	40 50 05.0 111 52 03.0	1.200	49.4 1828	14.1 Simmons-slc, Ls, Llc	-49.62*	-22.56*
268D Ogden	KEGA-FM1	LIC UT	C UT	350.5 170.5	60.15 BLFTB20041222GDO	41 20 32.0 112 00 30.0	0.500	74.0 1596	25.3 Simmons-slc, Ls, Llc	-31.26*	-24.65
268D Park City	KEGA-FM7	CP UT	V UT	114.1 294.4	33.97 BPFTB20070719AAO	40 40 58.0 111 31 22.0	0.200	22.4 2272	6.7 Simmons-slc, Ls, Llc	0.09	-15.03
215C Salt Lake City	KRCL	LIC UT	CX UT	237.9 57.7	31.07 BLED20030310AOH	40 39 34.0 112 12 05.0	25.000 1140	28.6 2803	8.5 Listeners Community Radio	28.5R	2.6M
265D Park City, Etc.	K265BX	LIC UT	HN UT	114.1 294.4	33.97 BLFT19841211TB	40 40 58.0 111 31 22.0	0.019 -4	0.3 2273	3.7 Bonneville Holding Company	22.20	28.67
267D Wellsville	K267AU	LIC UT	DV UT	357.4 177.3	82.61 BLFT20051115ABR	41 33 04.0 111 56 07.0	0.250	5.1 2185	3.0 Sun Valley Radio, Inc.	59.88	53.08

Terrain database is NGDC 30 SEC Distance + R = FCC Required Spacings in KM, Distance + M = Margin in KM  
ERP and HAAT on direct-line with reference station.  
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
"\*"affixed to 'IN' or 'OUT' values = site inside protected contour.

## **Exhibit 4**

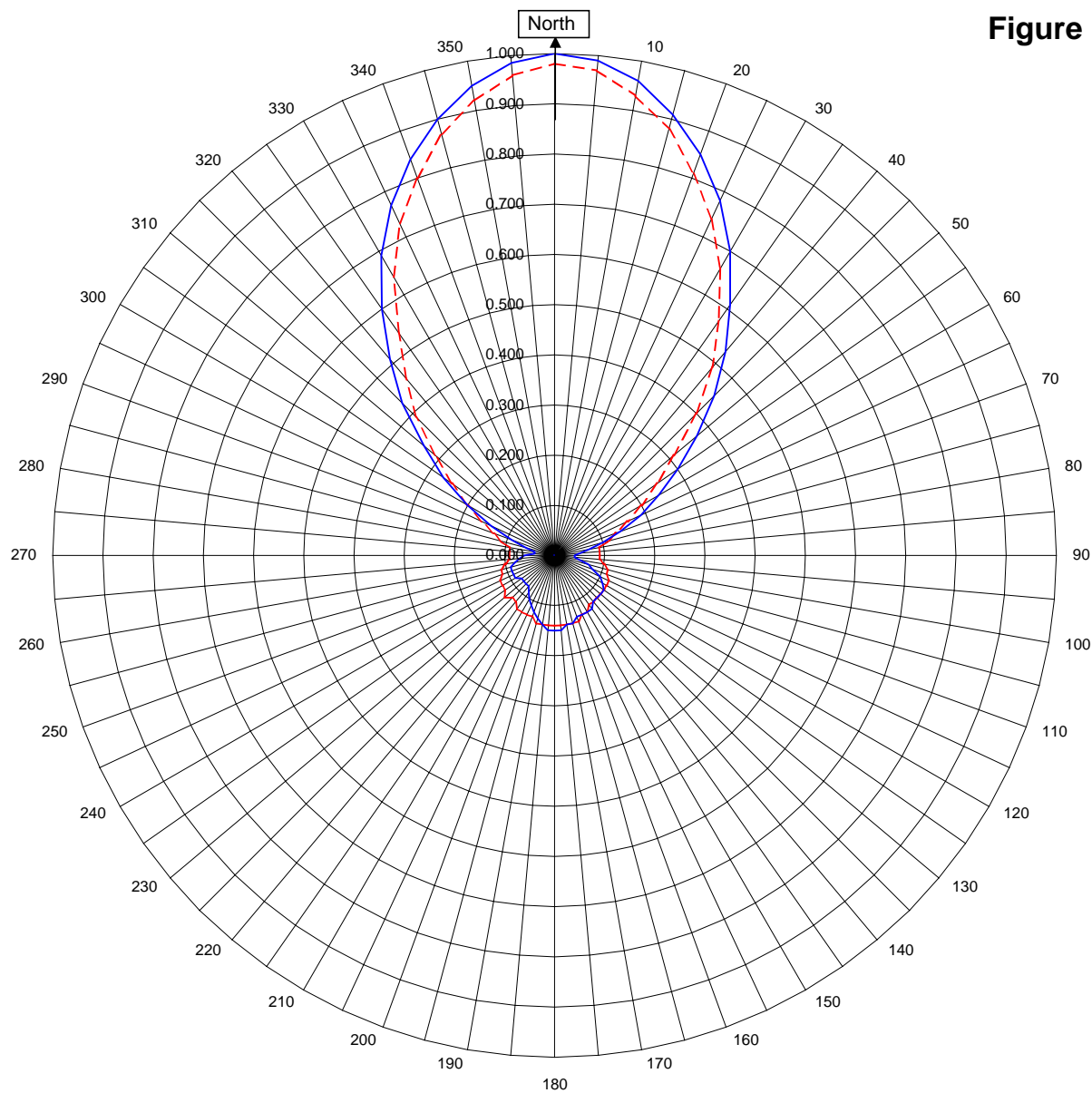
### **Proposed Directional Pattern Azimuth Tabulations**



# Shively Labs

Shively Labs, a division of Howell Laboratories, Inc. Bridgton, ME (207)647-3327

Figure 1a



## SLC Boosters

52869

October 6, 2008

Horizontal RMS	0.420
Vertical RMS	0.404
H/V Composite RMS	0.423

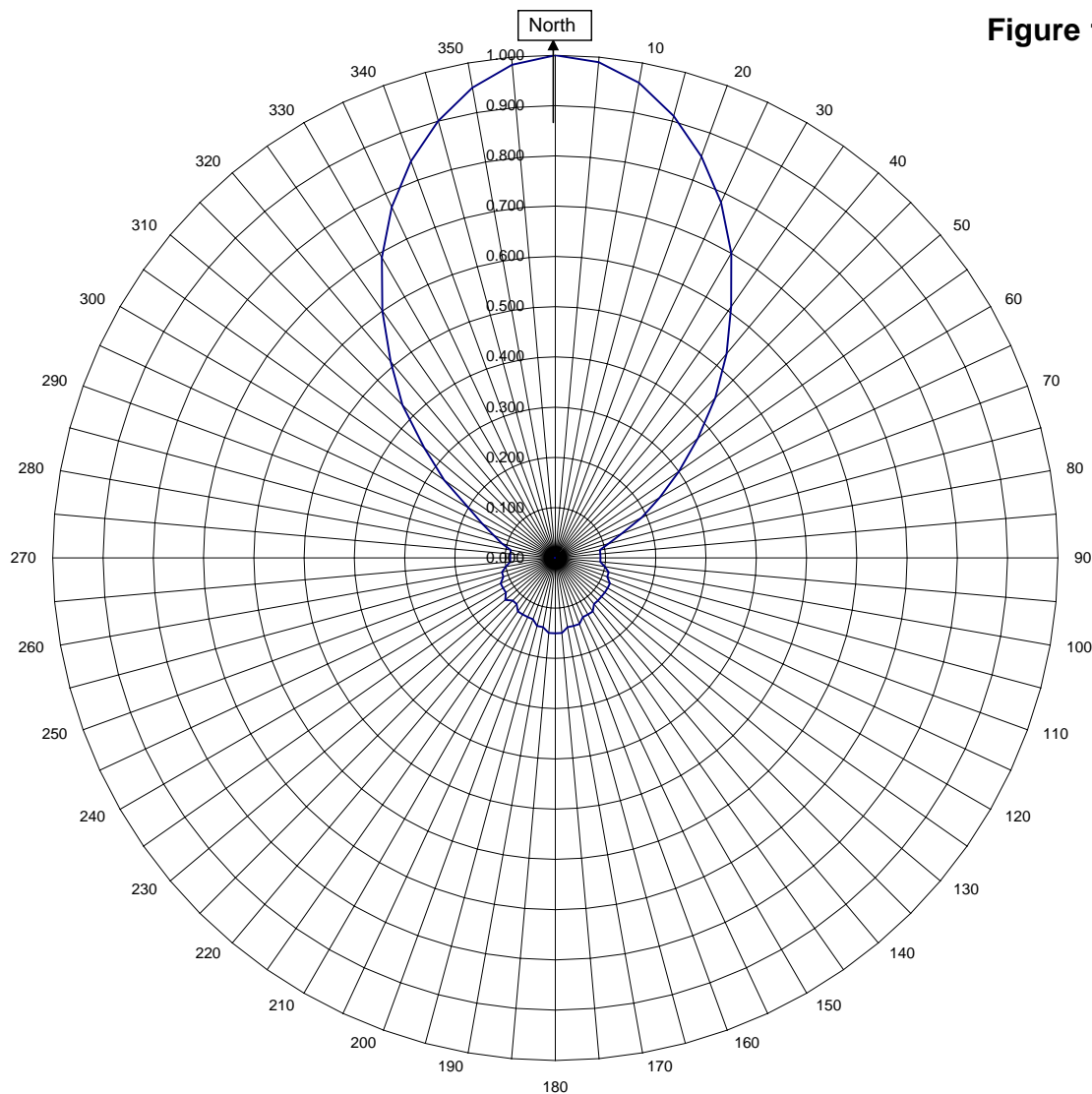
Frequency	FM / #VALUE! mHz
Plot	Relative Field
Scale	4.5 : 1
See Figure 2 for Mechanical Details	

Antenna Model	6016-1/1 Special
Pattern Type	Directional Azimuth

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Figure 1b



## SLC Boosters

52869  
October 6, 2008

 H/V Composite RMS	0.423
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Frequency	FM / #VALUE! MHz
Plot	Relative Field
Scale	4.5 : 1
See Figure 2 for Mechanical Details	

Antenna Model	6016-1/1 Special
Pattern Type	Directional H/V Composite

Figure 1a

Tabulation of Horizontal Azimuth Pattern  
SLC Boosters

Azimuth	Rel Field	Azimuth	Rel Field
0	1.000	180	0.150
10	0.960	190	0.140
20	0.850	200	0.120
30	0.700	210	0.100
40	0.530	220	0.080
45	0.450	225	0.080
50	0.370	230	0.080
60	0.240	240	0.090
70	0.140	250	0.090
80	0.070	260	0.080
90	0.040	270	0.060
100	0.050	280	0.040
110	0.080	290	0.090
120	0.110	300	0.200
130	0.120	310	0.340
135	0.120	315	0.430
140	0.120	320	0.510
150	0.130	330	0.690
160	0.130	340	0.840
170	0.140	350	0.950

Figure 1b

Tabulation of Vertical Azimuth Pattern  
SLC Boosters

Azimuth	Rel Field	Azimuth	Rel Field
0	0.980	180	0.140
10	0.930	190	0.140
20	0.810	200	0.130
30	0.660	210	0.130
40	0.490	220	0.120
45	0.400	225	0.120
50	0.310	230	0.130
60	0.200	240	0.120
70	0.130	250	0.110
80	0.090	260	0.100
90	0.090	270	0.090
100	0.100	280	0.090
110	0.110	290	0.130
120	0.120	300	0.200
130	0.120	310	0.310
135	0.120	315	0.390
140	0.120	320	0.460
150	0.130	330	0.640
160	0.140	340	0.800
170	0.140	350	0.920

Figure 1c

Tabulation of Composite Azimuth Pattern  
SLC Boosters

Azimuth	Rel Field	Azimuth	Rel Field
0	1.000	180	0.150
10	0.960	190	0.140
20	0.850	200	0.130
30	0.700	210	0.130
40	0.530	220	0.120
45	0.450	225	0.120
50	0.370	230	0.130
60	0.240	240	0.120
70	0.140	250	0.110
80	0.090	260	0.100
90	0.090	270	0.090
100	0.100	280	0.090
110	0.110	290	0.130
120	0.120	300	0.200
130	0.120	310	0.340
135	0.120	315	0.430
140	0.120	320	0.510
150	0.130	330	0.690
160	0.140	340	0.840
170	0.140	350	0.950