

TECHNICAL EXHIBIT  
DIGITAL FLASH-CUT APPLICATION FOR  
TV TRANSLATOR STATION K27GJ (FACILITY ID 32314)  
FARMINGTON, NEW MEXICO  
CH 27 2 KW

Technical Narrative

This Technical Exhibit supports a flash-cut application for TV translator station K27GJ. Station K27GJ is licensed (BLTT-20021217ABC) to operate on analog channel 27 with a Scala SL-8 antenna, a maximum (visual) effective radiated power (ERP) of 11.5 kW and an antenna height above mean sea level (RCAMSL) of 1802 meters. It also authorized by construction permit (BPTT-20060329AKE) to operate on channel 27 with an Andrew AL-8 maximum (visual) ERP of 10.4 kilowatts and an antenna RCAMSL of 1890 meters.

Proposed Facilities

This application proposes digital operation on the current channel (27), at the authorized CP site. The transmitter site coordinates will be (NAD27): 36-40-17 N, 108-13-53 W. An Andrew AL-8 non-directional antenna, with a maximum ERP of 2 kW and antenna RCAMSL of 1890 meters is proposed.

Figure 1 is a map showing the licensed 74 dBu (analog) and proposed 51 dBu (digital) coverage contours. As shown on the map the licensed analog contour is completely encompassed by the proposed digital contour.

Results of the FCC's TOWAIR Program indicate that the existing 60.4 meter (198 foot) structure does not require registration as it does not exceed 200 feet and it passes the FCC's TOWAIR slope test with respect to Four Corners Regional Airport at Farmington, New Mexico. Figure 2 shows the results of the FCC's TOWAIR Program.

Allocation Considerations

A study has been conducted to assure that the proposal will not create prohibited interference with other licensed, authorized or pending analog or digital TV, LPTV/translator and Class A TV stations. Using the procedures outlined in the FCC's OET-69 Bulletin, a 1 kilometer cell size resolution and 1990 U.S. Census, the proposal complies with the current FCC policy (i.e., less than 0.5% new interference caused to other pertinent assignments). If necessary, a waiver of the FCC rules is respectfully requested based on use of the procedures outlined in the FCC's OET-69 Bulletin to the remaining LPTV/translator stations.

The applicant recognizes the proposal is secondary to authorized full-service analog and DTV operations. The applicant understands that it must correct and/or eliminate prohibited interference that may result from its proposed operation.

Radiofrequency Electromagnetic Field Exposure

The K27GJ facilities were evaluated in terms of potential radiofrequency radiation exposure at 2 meters above ground level in accordance with OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation". This Bulletin provides assistance in determining whether FCC-regulated transmitting facilities, operations or devices comply with limits for human exposure to radiofrequency (RF) electromagnetic fields adopted by the Commission in 1996.<sup>1</sup>

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. Based on a worst case vertical relative field value of 0.15, a maximum ERP of 2.0 kilowatts, and an antenna center of radiation height above ground level of 52 meters, the calculated power

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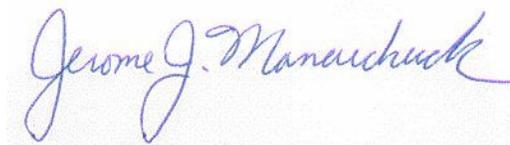
<sup>1</sup> See *Report and Order* in ET Docket 93-62, FCC 96-326, adopted August 1, 1996, 11 FCC Rcd 15123 (1997). See also *First Memorandum Opinion and Order*, ET Docket 93-62, FCC 96-487, adopted December 23, 1996, 11 FCC Rcd 17512 (1997), and *Second Memorandum Opinion and Order and Notice of Proposed Rulemaking*, ET Docket 93-62, FCC 97-303, adopted August 25, 1997.

density at two meters above ground level at the base of the tower is 0.0006 milliwatt per square centimeter ( $\text{mW}/\text{cm}^2$ ), or 0.16 percent of the Commission's recommended limit applicable to general population/uncontrolled exposure areas ( $0.37 \text{ mW}/\text{cm}^2$  for TV channel 27). Therefore, the facility complies with the FCC's RF emission rules.

Access to the transmitting site will be restricted and appropriately marked with warning signs. Furthermore, as this is a multi-user site, an agreement will be in effect to control access to the site. In the event that workers or other authorized personnel enter the restricted area appropriate measures shall be taken to limit RF energy exposure. Such measures include limiting the exposure time, wearing protective clothing, reducing power to an acceptable level or termination of transmitter output power all together until workers leave the restricted area.

It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already have been addressed by the tower owner.

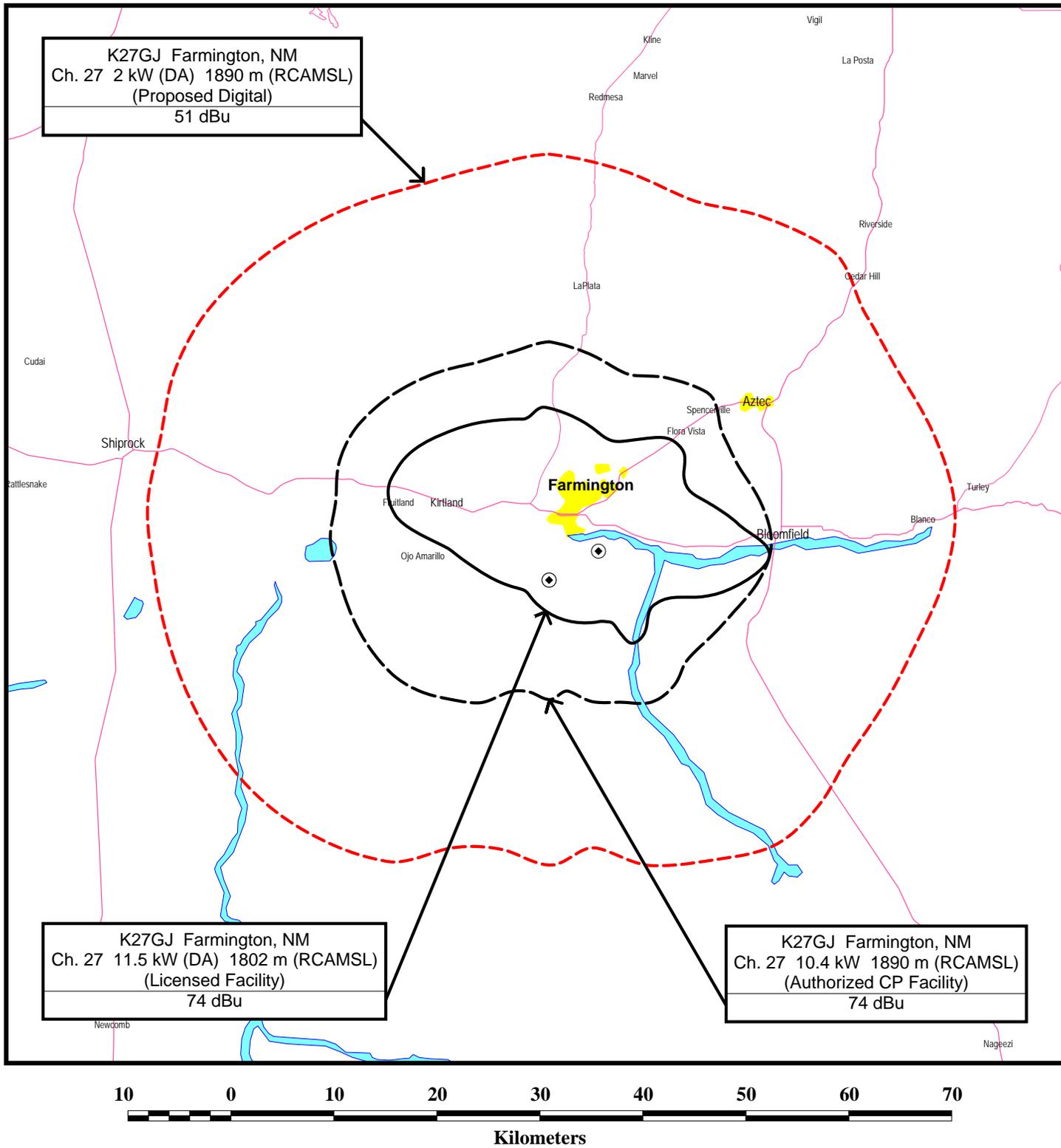
If there are questions concerning the technical portion of this application, please contact the office of the undersigned.



Jerome J. Manarchuck

du Treil, Lundin & Rackley, Inc.  
201 Fletcher Avenue  
Sarasota, Florida 34237  
(941) 329-6000

September 18, 2007



## FCC PREDICTED COVERAGE CONTOURS

TV TRANSLATOR STATION K27GJ  
FARMINGTON, NEW MEXICO

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

## TOWAIR Determination Results

A routine check of the coordinates, heights, and structure type you provided indicates that this structure does not require registration.

### \*\*\* NOTICE \*\*\*

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

#### DETERMINATION Results

##### **PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 7352.69 MTRS (7.35269 KM) AWAY**

Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	36-44-14.00N	108-14-29.00W	FOUR CORNERS	SAN JUAN FARMINGTON, RGNL NM	1667.8	2043.4000000000001

##### **PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 7745.88 MTRS (7.74589 KM) AWAY**

Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	36-44-28.00N	108-14-24.00W	FOUR CORNERS	SAN JUAN FARMINGTON, RGNL NM	1667.8	2043.4000000000001

##### **PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 8035.74 MTRS (8.03570 KM) AWAY**

Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	36-44-37.00N	108-13-31.00W	FOUR CORNERS	SAN JUAN FARMINGTON, RGNL NM	1667.8	2043.4000000000001

#### Your Specifications

##### **NAD83 Coordinates**

Latitude	36-40-17.0 north
Longitude	108-13-55.0 west

##### **Measurements (Meters)**

Overall Structure Height (AGL)	60.4
Support Structure Height (AGL)	59.4

Site Elevation (AMSL) 1838

**Structure Type**

TOWER - Free standing or Guyed Structure used for Communications Purposes

**Tower Construction Notification**

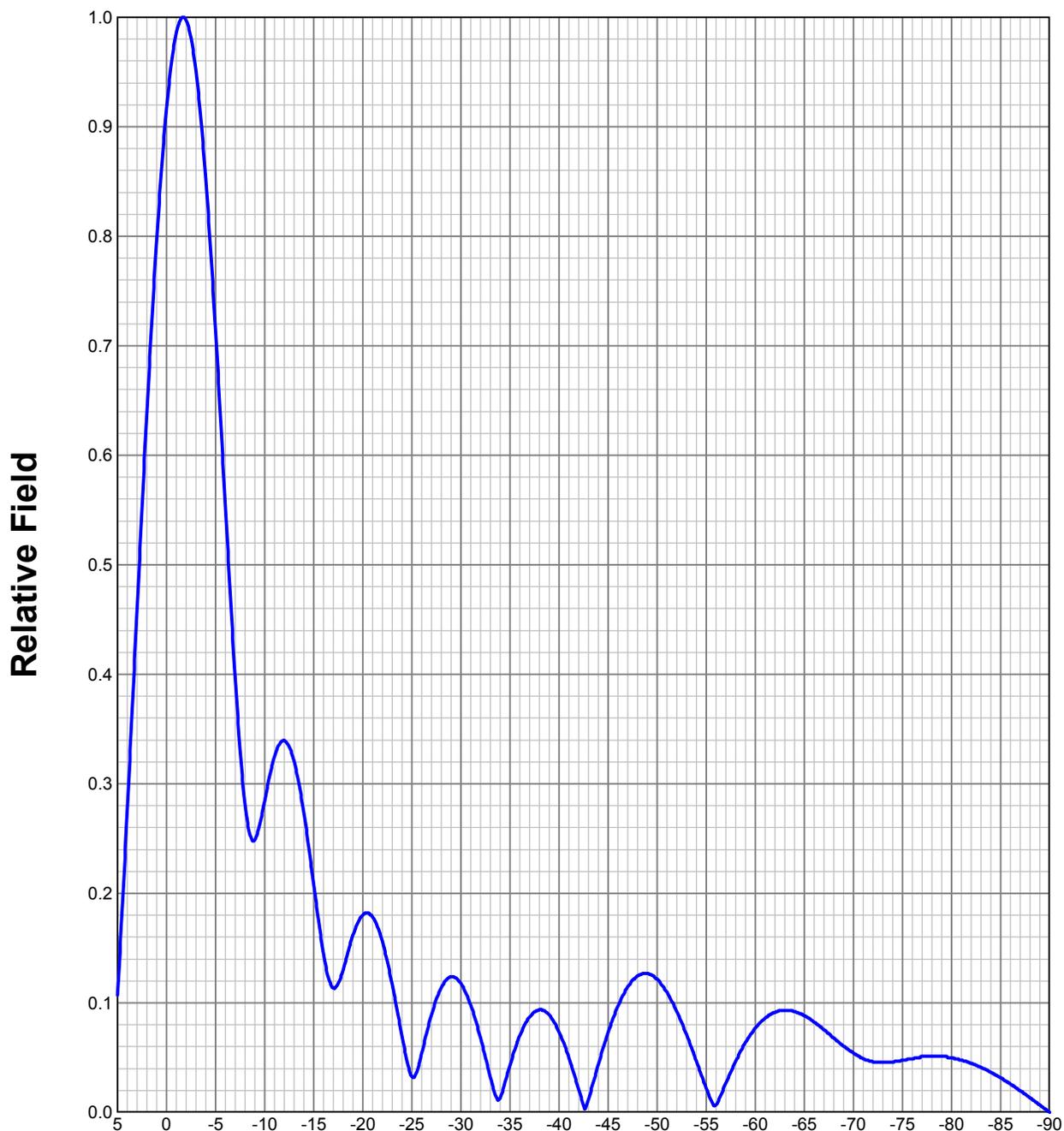
Notify Tribes and Historic Preservation Officers of your plans to build a tower.

Note: Notification does NOT replace [Section 106 Consultation](#).

CLOSE WINDOW

### ELEVATION PATTERN

Type:	AL8		Channel:	27
Directivity:	Numeric	dBd	Location:	
Main Lobe:	8.68	9.39	Beam Tilt:	-1.75
Horizontal:	7.30	8.63	Polarization:	Horizontal



Preliminary, subject to final design and review.

## TABULATED DATA FOR ELEVATION PATTERN

Type: AL8

Polarization: Horizontal

ANGLEFIELD	dB	ANGLEFIELD	dB	ANGLEFIELD	dB	ANGLEFIELD	dB	ANGLEFIELD	dB					
5.00	0.107	-19.41	-6.75	0.433	-7.27	-27.00	0.089	-21.01	-50.50	0.116	-18.71	-74.00	0.046	-26.74
4.75	0.147	-16.65	-7.00	0.396	-8.05	-27.50	0.104	-19.66	-51.00	0.110	-19.17	-74.50	0.047	-26.56
4.50	0.189	-14.47	-7.25	0.361	-8.84	-28.00	0.114	-18.86	-51.50	0.101	-19.91	-75.00	0.048	-26.38
4.25	0.232	-12.69	-7.50	0.330	-9.63	-28.50	0.121	-18.34	-52.00	0.092	-20.72	-75.50	0.049	-26.20
4.00	0.277	-11.15	-7.75	0.303	-10.37	-29.00	0.124	-18.13	-52.50	0.082	-21.72	-76.00	0.049	-26.20
3.75	0.322	-9.84	-8.00	0.281	-11.03	-29.50	0.123	-18.20	-53.00	0.071	-22.97	-76.50	0.050	-26.02
3.50	0.368	-8.68	-8.25	0.264	-11.57	-30.00	0.118	-18.56	-53.50	0.059	-24.58	-77.00	0.051	-25.85
3.25	0.413	-7.67	-8.50	0.253	-11.94	-30.50	0.109	-19.25	-54.00	0.047	-26.56	-77.50	0.051	-25.85
3.00	0.460	-6.74	-8.75	0.248	-12.09	-31.00	0.098	-20.18	-54.50	0.034	-29.37	-78.00	0.051	-25.85
2.75	0.506	-5.92	-9.00	0.249	-12.08	-31.50	0.084	-21.51	-55.00	0.022	-33.15	-78.50	0.051	-25.85
2.50	0.551	-5.18	-9.25	0.255	-11.89	-32.00	0.068	-23.35	-55.50	0.011	-39.17	-79.00	0.051	-25.85
2.25	0.596	-4.50	-9.50	0.263	-11.60	-32.50	0.050	-26.02	-56.00	0.007	-43.10	-79.50	0.051	-25.85
2.00	0.639	-3.89	-9.75	0.273	-11.28	-33.00	0.032	-29.90	-56.50	0.016	-35.92	-80.00	0.050	-26.02
1.75	0.681	-3.33	-10.00	0.284	-10.93	-33.50	0.016	-35.92	-57.00	0.027	-31.37	-80.50	0.049	-26.20
1.50	0.722	-2.83	-10.50	0.307	-10.26	-34.00	0.013	-37.72	-57.50	0.037	-28.64	-81.00	0.048	-26.38
1.25	0.760	-2.38	-11.00	0.325	-9.76	-34.50	0.028	-31.06	-58.00	0.047	-26.56	-81.50	0.047	-26.56
1.00	0.797	-1.97	-11.50	0.336	-9.47	-35.00	0.043	-27.33	-58.50	0.056	-25.04	-82.00	0.045	-26.94
0.75	0.831	-1.61	-12.00	0.340	-9.37	-35.50	0.057	-24.88	-59.00	0.064	-23.88	-82.50	0.043	-27.33
0.50	0.862	-1.29	-12.50	0.334	-9.53	-36.00	0.070	-23.10	-59.50	0.071	-22.97	-83.00	0.041	-27.74
0.25	0.891	-1.00	-13.00	0.321	-9.87	-36.50	0.080	-21.94	-60.00	0.077	-22.27	-83.50	0.039	-28.18
0.00	0.917	-0.75	-13.50	0.300	-10.46	-37.00	0.087	-21.21	-60.50	0.082	-21.72	-84.00	0.037	-28.64
-0.25	0.939	-0.55	-14.00	0.273	-11.28	-37.50	0.092	-20.72	-61.00	0.086	-21.31	-84.50	0.034	-29.37
-0.50	0.958	-0.37	-14.50	0.242	-12.32	-38.00	0.094	-20.54	-61.50	0.089	-21.01	-85.00	0.032	-29.90
-0.75	0.974	-0.23	-15.00	0.208	-13.64	-38.50	0.093	-20.63	-62.00	0.091	-20.82	-85.50	0.029	-30.75
-1.00	0.986	-0.12	-15.50	0.175	-15.14	-39.00	0.089	-21.01	-62.50	0.093	-20.63	-86.00	0.026	-31.70
-1.25	0.994	-0.05	-16.00	0.145	-16.77	-39.50	0.082	-21.72	-63.00	0.093	-20.63	-86.50	0.023	-32.77
-1.50	0.999	-0.01	-16.50	0.123	-18.20	-40.00	0.073	-22.73	-63.50	0.093	-20.63	-87.00	0.020	-33.98
-1.75	1.000	0.00	-17.00	0.114	-18.86	-40.50	0.063	-24.01	-64.00	0.092	-20.72	-87.50	0.017	-35.39
-2.00	0.997	-0.03	-17.50	0.118	-18.56	-41.00	0.050	-26.02	-64.50	0.090	-20.92	-88.00	0.013	-37.72
-2.25	0.990	-0.08	-18.00	0.130	-17.72	-41.50	0.036	-28.87	-65.00	0.088	-21.11	-88.50	0.010	-40.00
-2.50	0.981	-0.17	-18.50	0.147	-16.65	-42.00	0.021	-33.56	-65.50	0.086	-21.31	-89.00	0.007	-43.10
-2.75	0.967	-0.29	-19.00	0.162	-15.81	-42.50	0.006	-44.44	-66.00	0.082	-21.72	-89.50	0.003	-50.46
-3.00	0.951	-0.44	-19.50	0.173	-15.24	-43.00	0.012	-38.42	-66.50	0.079	-22.05	-90.00	0.000	-40.00
-3.25	0.931	-0.63	-20.00	0.180	-14.89	-43.50	0.028	-31.06	-67.00	0.075	-22.50			
-3.50	0.907	-0.85	-20.50	0.182	-14.80	-44.00	0.044	-27.13	-67.50	0.072	-22.85			
-3.75	0.881	-1.11	-21.00	0.178	-14.99	-44.50	0.059	-24.58	-68.00	0.068	-23.35			
-4.00	0.852	-1.39	-21.50	0.169	-15.44	-45.00	0.073	-22.73	-68.50	0.064	-23.88			
-4.25	0.820	-1.72	-22.00	0.156	-16.14	-45.50	0.086	-21.31	-69.00	0.060	-24.44			
-4.50	0.786	-2.09	-22.50	0.138	-17.20	-46.00	0.097	-20.26	-69.50	0.057	-24.88			
-4.75	0.750	-2.49	-23.00	0.117	-18.64	-46.50	0.107	-19.41	-70.00	0.054	-25.35			
-5.00	0.713	-2.94	-23.50	0.093	-20.63	-47.00	0.115	-18.79	-70.50	0.051	-25.85			
-5.25	0.674	-3.43	-24.00	0.069	-23.22	-47.50	0.121	-18.34	-71.00	0.049	-26.20			
-5.50	0.634	-3.96	-24.50	0.047	-26.56	-48.00	0.125	-18.06	-71.50	0.048	-26.38			
-5.75	0.593	-4.54	-25.00	0.033	-29.63	-48.50	0.127	-17.92	-72.00	0.046	-26.74			
-6.00	0.552	-5.16	-25.50	0.037	-28.64	-49.00	0.127	-17.92	-72.50	0.046	-26.74			
-6.25	0.512	-5.81	-26.00	0.054	-25.35	-49.50	0.125	-18.06	-73.00	0.046	-26.74			
-6.50	0.472	-6.52	-26.50	0.072	-22.85	-50.00	0.122	-18.27	-73.50	0.046	-26.74			

Preliminary, subject to final design and review.