

TECHNICAL EXHIBIT
DIGITAL FLASH-CUT APPLICATION FOR
TV TRANSLATOR STATION K40DI (FACILITY ID 32320)
RATON, NEW MEXICO
CH 40 0.23 KW

Technical Narrative

This Technical Exhibit supports a flash-cut application for TV translator station K40DI. Station K40DI is licensed (BLTT-19951005IE) to operate on analog channel 40 with an Andrew AL-8 non-directional maximum (visual) effective radiated power (ERP) of 1.15 kW and an antenna height above mean sea level (RCAMSL) of 3420 meters.

Proposed Facilities

This application proposes digital operation on the current channel (40), at the current transmitter site and with the same antenna. The transmitter site coordinates remain (NAD27): 36-33-36 N, 105-11-40 W. An Andrew AL-8 antenna, with a maximum ERP of 0.23 kW and antenna RCAMSL of 3420 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 21 meter (69 feet) structure does not require registration as it does not exceed 200 feet and there are no airports within 8 kilometers of the existing site. 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 K40DI 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 1996.¹

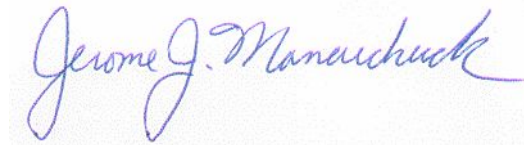
The calculated power density at 2 meters above ground level at the base of the tower was calculated using the appropriate equation contained in the Bulletin. As shown on Figure 3 (antenna vertical relative pattern), the maximum vertical relative field for depression angles towards the tower base (-60° to -90°) is less than 0.25. Therefore, using a vertical relative field value of 0.25, a maximum ERP of 0.23 kilowatts, and an antenna center of radiation height above ground level of 17 meters, the calculated power density at two meters above ground level at the base of the tower is 0.0021 milliwatt per square centimeter (mW/cm^2), or 0.5 percent of the Commission's recommended limit applicable to general population/uncontrolled exposure areas ($0.42 \text{ mW}/\text{cm}^2$ for TV channel 40). Therefore, the facility complies with the FCC's RF emission rules.

¹ 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*

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.

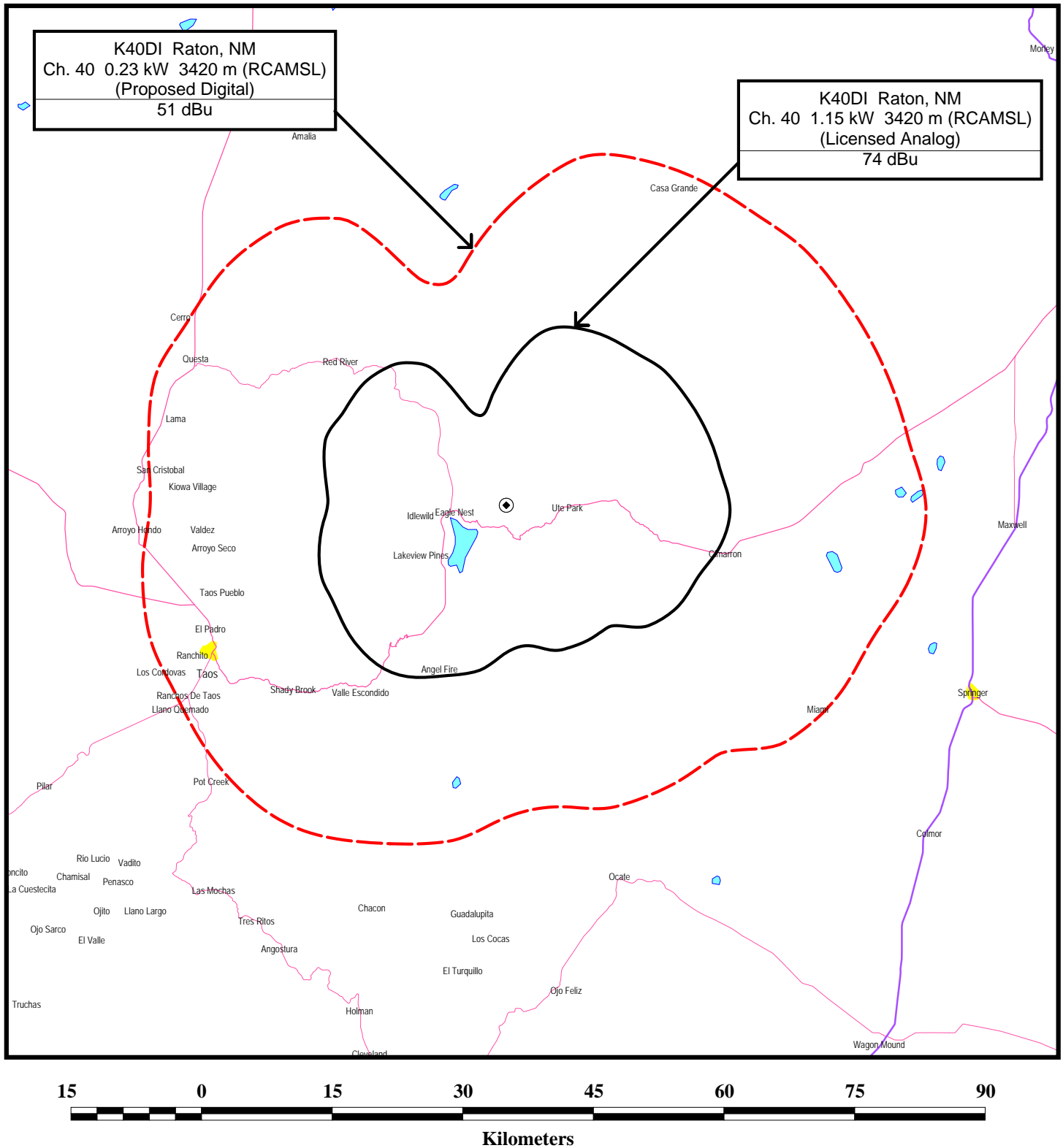
If there are questions concerning the technical portion of this application, please contact the office of the undersigned.



Jerome J. Manarchuck
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201 Fletcher Avenue
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(941) 329-6000

March 6, 2009

Figure 1



COVERAGE COMPARISON

TV TRANSLATOR STATION K40DI
RATON, NEW MEXICO

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

TOWAIR Determination Results

*** 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

Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.

Your Specifications

NAD83 Coordinates

Latitude	36-33-36.0 north
Longitude	105-11-42.0 west

Measurements (Meters)

Overall Structure Height (AGL)	21
Support Structure Height (AGL)	20
Site Elevation (AMSL)	3403

Structure Type

TOWER - Free standing or Guyed Structure used for Communications Purposes

[Tower Construction Notification](#)

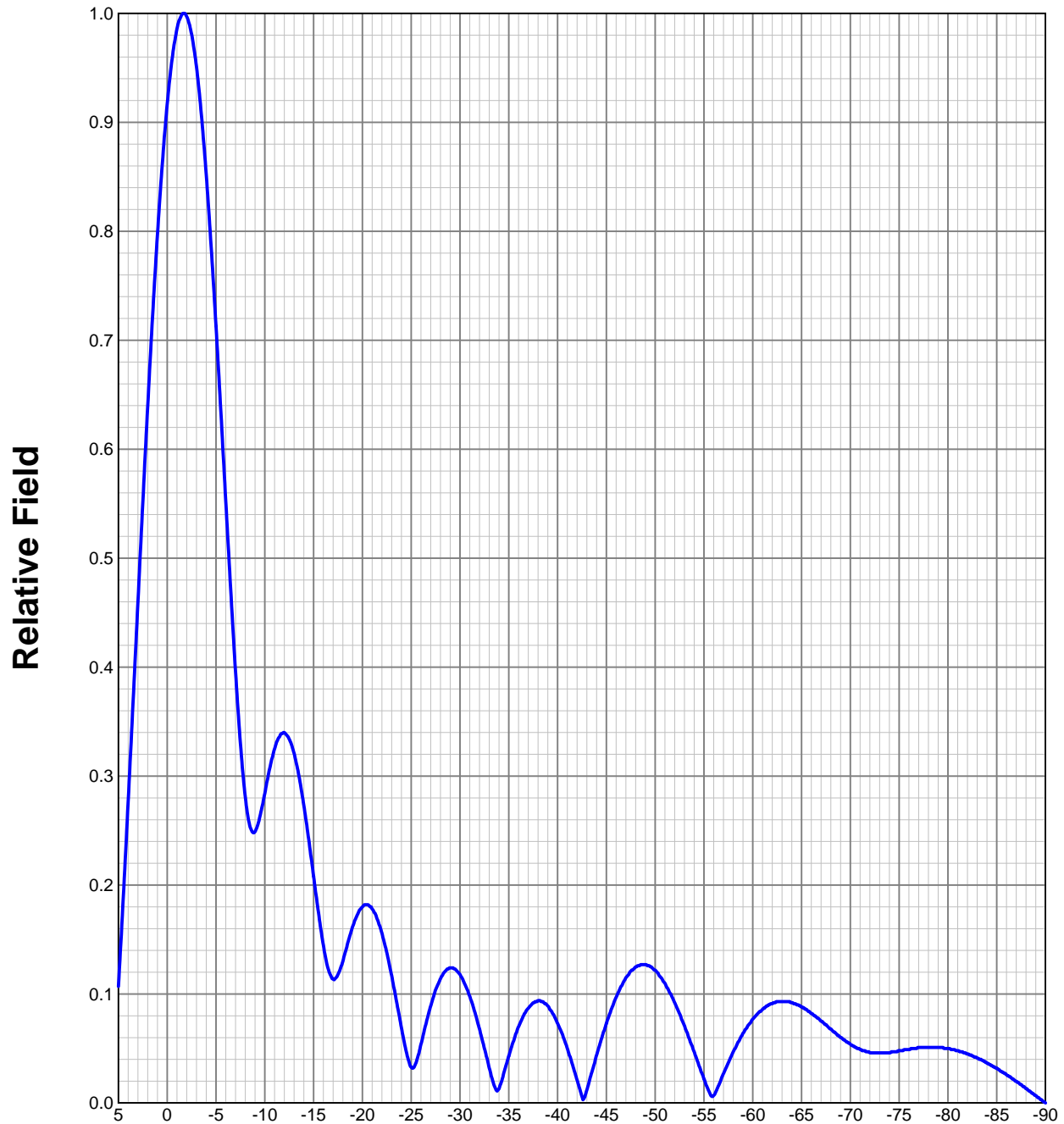
Notify Tribes and Historic Preservation Officers of your plans to build a tower.

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

CLOSE WINDOW

ELEVATION PATTERN

Type:	AL8		Channel:	40
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

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	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	0.362	-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	0.414	-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	0.249	-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	0.682	-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	0.761	-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	0.991	-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	0.751	-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.