

TECHNICAL EXHIBIT
AMENDMENT TO PENDING
APPLICATION FOR DTV CONSTRUCTION PERMIT
IN SUPPORT OF ITS POST-TRANSITION FACILITY
STATION WOAI-DT
SAN ANTONIO, TEXAS
CH 48 725 KW 457 M

Technical Narrative

This Technical Exhibit supports an amendment to the pending application for digital television (DTV) station WOAI-DT for its final DTV at San Antonio, Texas.¹ This application requests a construction permit (CP) for a digital television operation on channel 48 at San Antonio with a non-directional effective radiated power of 725 kilowatts. The purpose of this amendment is to not increase its predicted noise-limited contour beyond its Appendix B allotment and therefore, avoid the need for Mexican Coordination.

Proposed Facilities

Station WOAI-DT proposes to operate DTV channel 48 from its NTSC transmitter site. The antenna height above average terrain for the channel 48 DTV operation is 457 meters. The proposed WOAI-DT effective radiated power does not exceed the Commission's *Appendix B* allocated maximum effective radiated power in any azimuthal

¹ See Application for Construction Permit, BPCDT-20080304AAH.

direction.² However, an allocation study was still completed to ensure no prohibited interference would occur.

The proposed DTV transmitter site will be located at its NTSC transmitter site. Therefore, the proposed site location is:

29° 16' 11" North Latitude
98° 15' 55" West Longitude

A sketch of antenna and pertinent elevations are included as Figure 2.

The Appendix contains the vertical plane radiation pattern for the proposed antenna system.

Figure 3 is a map showing the DTV predicted coverage contour and the associated analog Grade B coverage contour. The extent of the contour has been calculated using the normal FCC prediction method. The San Antonio city limits were derived from information contained in the 2000 U.S. Census of Population and Housing.

Population Served

The herein proposed WOAI-DT facility is predicted to serve 1,889,982 persons, post-transition based upon the 2000 Census. WOAI-DT's associated Appendix B facility is predicted to serve 1,894,000 persons. Therefore, the

² See Seventh Report And Order And Eighth Further Notice Of Proposed Rule Making in the Matter of Advanced Television Systems and their Impact Upon the Existing Television Broadcast Service, MB Docket 87-268, Released August 6, 2007; Adopted August 1, 2007.

herein proposed WOAI-DT facility would serve 99.8% of WOAI-DT's Appendix B population.

Allocation Considerations

The proposed WOAI-DT Channel 48 facility meets the requirements of Section 73.623 of the FCC Rules concerning predicted interference to other Appendix B DTV allotments. Longley-Rice interference analyses were conducted pursuant to the requirements of the FCC Rules; OET Bulletin No. 69; and published FCC guidelines for preparation of such interference analyses. The Longley-Rice interference analyses were conducted using the software developed by du Treil, Lundin & Rackley, Inc. based on the FCC published software routines.³ Stations selected for analysis were determined pursuant to the distance requirements outlined in the FCC DTV Processing Guidelines Public Notice. The results of the interference analyses for the proposed WOAI-DT facility are summarized herein at Figure 4. As indicated therein, the proposed facility will meet the 0.5% criterion outlined in the FCC Rules and published guidelines with respect to all considered stations.⁴

³ The duTreil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. A nominal grid size resolution of 1 km was employed with 0.5 km terrain increment.

⁴ Interference analysis results reflect the net change in interference to a given station considering the interference predicted to occur from all other stations (i.e. "masking") including the allotment facility

Radiofrequency Electromagnetic Field Exposure

The proposed WOAI-DT facilities were evaluated in terms of potential radiofrequency electromagnetic field exposure at ground level to workers and the general public. The radiation center for the proposed WOAI-DT antenna is located 459 meters above ground level. The maximum effective radiated power is 725 kilowatts. A "worst-case" relative field value of 0.25 is assumed for the antenna's downward radiation. The calculated power density at a point 2 meters above ground level is 0.007 mW/cm². This is less than 5 percent of the Commission's recommended limit of 0.45 mW/cm² for channel 48 for an "uncontrolled" environment.

Access to the transmitting site will be restricted and appropriately marked with warning signs. As this is a multi-user site, an agreement will control access to the site. In the event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down. The proposed WOAI-DT operation appears to be otherwise categorically excluded from environmental processing.

for WOAI-DT. This properly reflects the net interference change for determining compliance with the FCC 0.5% *de minimis* standard.

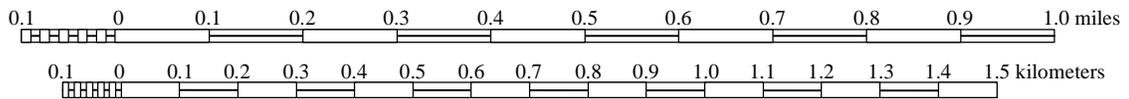
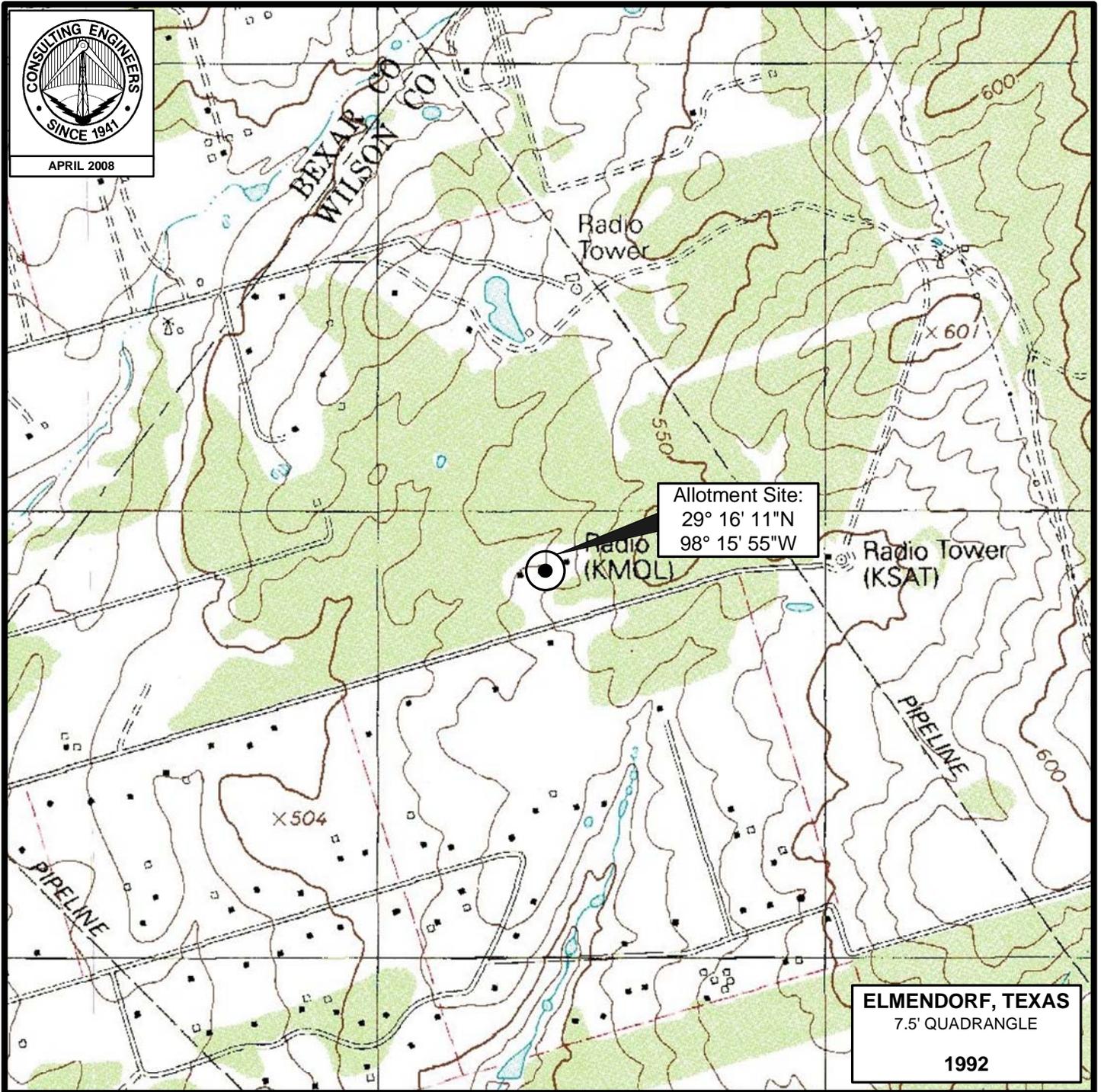
It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already have been provided to the FCC by the tower owner.

Charles Cooper

du Treil, Lundin & Rackley, Inc.
201 Fletcher Avenue
Sarasota, Florida 32437
941.329.6000

April 24, 2008

Figure 1

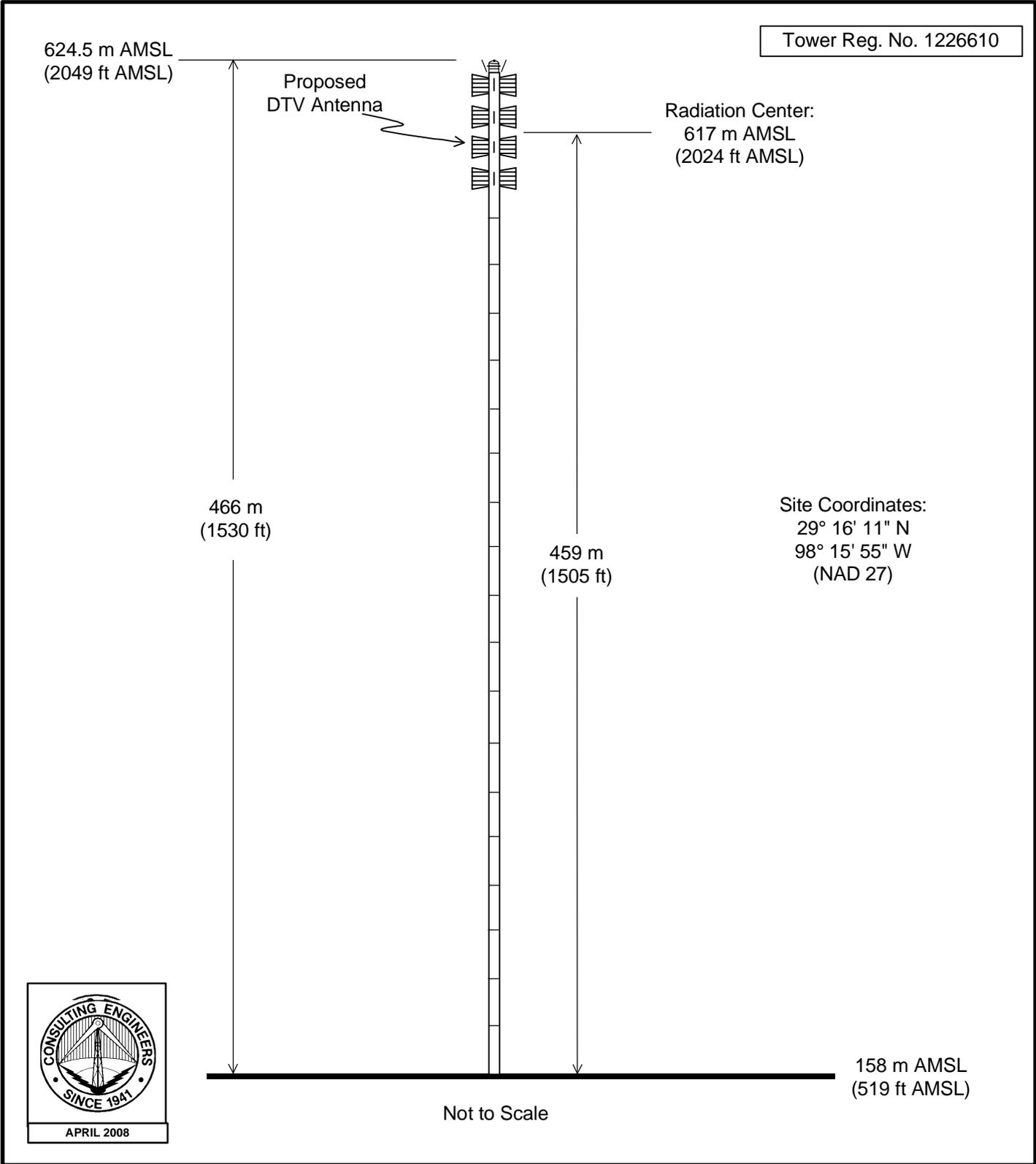


EXISTING TRANSMITTER SITE

DTV STATION WOAI-DT
SAN ANTONIO, TEXAS
CH 48 725 KW 457 M

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

Figure 2



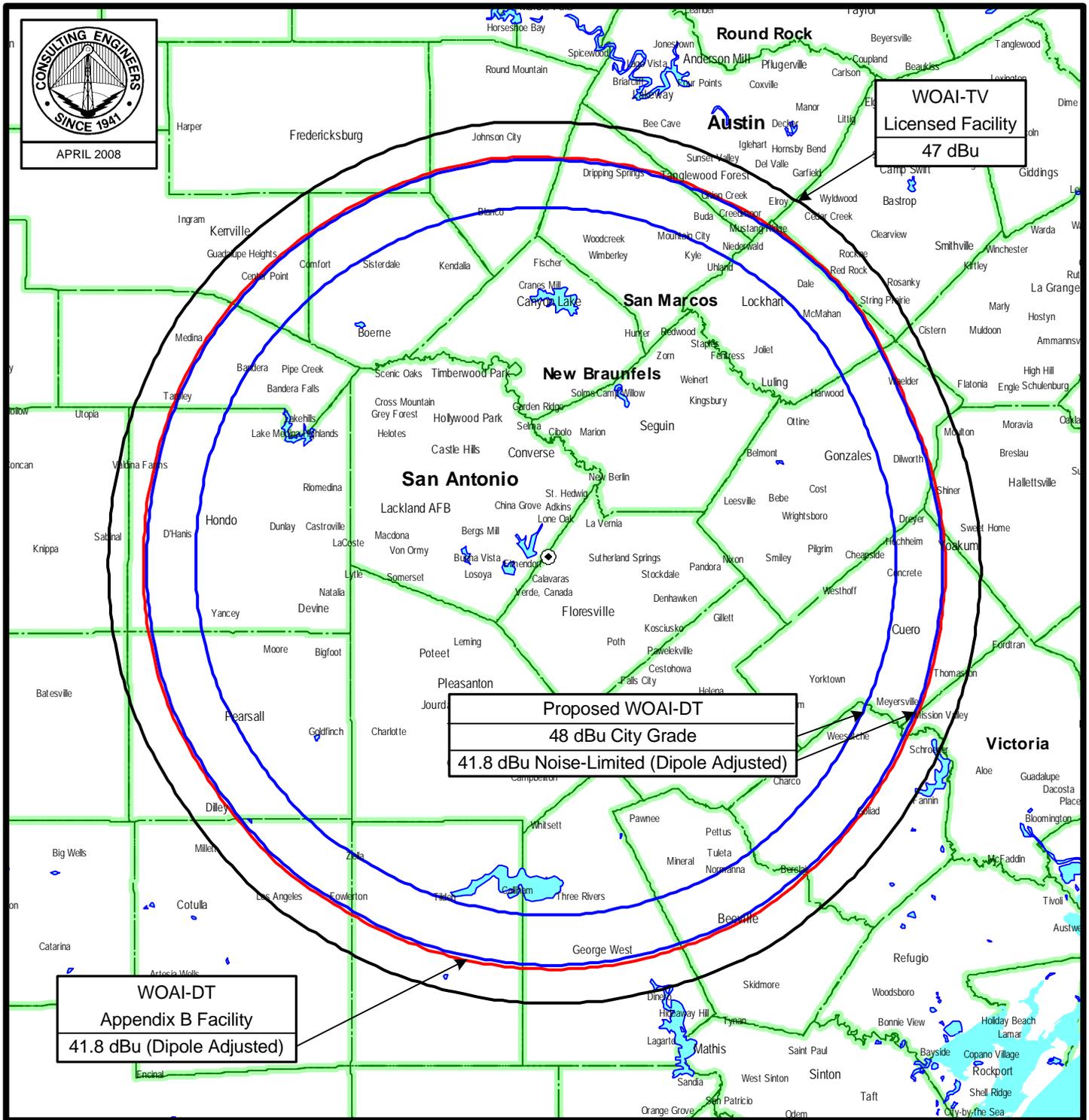
PROPOSED ANTENNA AND SUPPORTING STRUCTURE

TELEVISION STATION WOAI-DT
SAN ANTONIO, TEXAS

CH 48 725 KW 457 M

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

Figure 3



PREDICTED COVERAGE CONTOURS

STATION WOAI-DT

SAN ANTONIO, TEXAS

CH 48 725 KW 457 M

du Treil, Lundin & Rackley, Inc Sarasota, Florida

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Post-Transition OET-69 Interference Analysis

Census data selected 2000

Post Transition Data Base Selected
 /export/home/cdbs/tvdb.sff_G
 TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 04-24-2008 Time: 09:22:17

Record Selected for Analysis

WOAI USERRECORD-01 SAN ANTONIO TX US
 Channel 48 ERP 725. kW HAAT 458. m RCAMSL 00617 m
 Latitude 029-16-10 Longitude 0098-15-55
 Status APP Zone 2 Border
 Last update Cutoff date Docket
 Comments
 Applicant

Cell Size for Service Analysis 1.0 km/side

Distance Increments for Longley-Rice Analysis 0.50 km

Facility does not meet maximum height/power limits
 Channel 48 ERP = 725.00 HAAT = 458.

Azimuth (Deg)	ERP (kW)	HAAT (m)	41.0 dBu F(50,90) (km)
0.0	725.000	446.4	107.0
45.0	725.000	445.0	106.9
90.0	725.000	440.5	106.5
135.0	725.000	468.4	108.9
180.0	725.000	480.6	109.9
225.0	725.000	467.1	108.8
270.0	725.000	459.8	108.2
315.0	725.000	457.1	107.9

Evaluation toward Class A Stations

No Spacing violations or contour overlap to Class A stations

Class A Evaluation Complete

Proposed facility OK to FCC Monitoring Stations

Proposed facility OK toward West Virginia quite zone

Proposed facility OK toward Table Mountain

Proposed facility is beyond the Canadian coordination distance

Proposed facility is within the Mexican coordination distance
 Distance to border = 215.5km

Figure 4

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Proposed station is OK toward AM broadcast stations
*****
                          Start of Interference Analysis

Channel      Proposed Station
            Call      City/State      ARN
48           WOAI      SAN ANTONIO TX  USERRECORD01

Stations Potentially Affected by Proposed Station

Chan  Call      City/State      Dist(km) Status Application Ref. No.
48    KTMD      GALVESTON TX   268.8  LIC    BLCDT    -20040325AEO
48    KSTR-TV   IRVING TX      384.6  LIC    BLCDT    -20020909AAM
49    KNVA      AUSTIN TX      125.7  CP     BPCDT    -19991025ADB
*****

Analysis of Interference to Affected Station  1

Analysis of current record
Channel      Call      City/State      Application Ref. No.
48           KTMD      GALVESTON TX   BLCDT    -20040325AEO

Stations Potentially Affecting This Station

Chan  Call      City/State      Dist(km) Status Application Ref. No.
47    KNWS-TV  KATY TX         0.0    CP     BFRCT    -20050307ACD
48    KSTR-TV  IRVING TX       358.0  LIC    BLCDT    -20020909AAM
48    WOAI     SAN ANTONIO TX  268.8  APP    USERRECORD-01

Total scenarios =  1

Result key:  1
Scenario  1  Affected station  1
Before Analysis

Results for: 48A TX GALVESTON      BLCDT    20040325AEO  LIC
HAAT  597.0 m, ATV ERP 1000.0 kW
                POPULATION  AREA (sq km)
within Noise Limited Contour  4838457  39988.3
not affected by terrain losses  4838060  39903.9
lost to NTSC IX  0  0.0
lost to additional IX by ATV  0  0.0
lost to ATV IX only  0  0.0
lost to all IX  0  0.0

Potential Interfering Stations Included in above Scenario  1

After Analysis

Results for: 48A TX GALVESTON      BLCDT    20040325AEO  LIC
HAAT  597.0 m, ATV ERP 1000.0 kW
                POPULATION  AREA (sq km)
within Noise Limited Contour  4838457  39988.3
not affected by terrain losses  4838060  39903.9
lost to NTSC IX  0  0.0
lost to additional IX by ATV  1170  105.0
lost to ATV IX only  1170  105.0
lost to all IX  1170  105.0

Potential Interfering Stations Included in above Scenario  1

48A TX SAN ANTONIO      USERRECORD01      APP

Percent new IX =  0.0242%

Worst case new IX  0.0242% Scenario  1
*****

Analysis of Interference to Affected Station  2

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Figure 4

Analysis of current record
 Channel Call City/State Application Ref. No.
 48 KSTR-TV IRVING TX BLCDT -20020909AAM

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
48	KTMD	GALVESTON TX	358.0	LIC	BLCDT -20040325AEO
48	WOAI	SAN ANTONIO TX	384.6	APP	USERRECORD-01

Proposal causes no interference

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Analysis of Interference to Affected Station 3

Analysis of current record
 Channel Call City/State Application Ref. No.
 49 KNVA AUSTIN TX BPCDT -19991025ADB

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
50	KBTX-TV	BRYAN TX	171.4	CP MOD	BMPCDT -20020604AAT
48	WOAI	SAN ANTONIO TX	125.7	APP	USERRECORD-01

Total scenarios = 1

Result key: 2
 Scenario 1 Affected station 3
 Before Analysis

Results for: 49A TX AUSTIN BPCDT 19991025ADB CP
 HAAT 396.0 m, ATV ERP 500.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	1674067	27671.8
not affected by terrain losses	1656281	27029.3
lost to NTSC IX	0	0.0
lost to additional IX by ATV	132	44.0
lost to ATV IX only	132	44.0
lost to all IX	132	44.0

Potential Interfering Stations Included in above Scenario 1

50A TX BRYAN BMPCDT 20020604AAT CP

After Analysis

Results for: 49A TX AUSTIN BPCDT 19991025ADB CP
 HAAT 396.0 m, ATV ERP 500.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	1674067	27671.8
not affected by terrain losses	1656281	27029.3
lost to NTSC IX	0	0.0
lost to additional IX by ATV	53153	742.6
lost to ATV IX only	53153	742.6
lost to all IX	53153	742.6

Potential Interfering Stations Included in above Scenario 1

50A TX BRYAN BMPCDT 20020604AAT CP
 48A TX SAN ANTONIO USERRECORD01 APP

The following station failed the de minimis interference criteria.

48D TX SAN ANTONIO USERRECORD01
 ERP 725.00 kW HAAT 458.0 m RCAMSL 617.0 m
 Antenna none

Due to interference to the following station and scenario: 1

49D TX AUSTIN BPCDT 19991025ADB
 ERP 500.00 kW HAAT 396.0 m RCAMSL 613.0 m
 Antenna CDB 00000000028952

Percent Service lost without proposal: 0.0 to BPCDT 19991025ADB
 Percent Service lost with proposal: 3.2 to BPCDT 19991025ADB

Figure 4

Worst case new IX 3.2015% Scenario 1

<NOTE, THE WOAI ALLOTMENT CAUSES 3.4420% WITH SAME INPUT PARAMETERS.
THEREFORE, NO INCREASE IS PREDICTED.>

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Analysis of Interference to Affected Station 4

Analysis of current record

Channel	Call	City/State	Application Ref. No.
48	WOAI	SAN ANTONIO TX	USERRECORD-01

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application Ref. No.
48	KTMD	GALVESTON TX	268.8	LIC	BLCDT -20040325AEO
48	KSTR-TV	IRVING TX	384.6	LIC	BLCDT -20020909AAM
49	KNVA	AUSTIN TX	125.7	CP	BPCDT -19991025ADB

Total scenarios = 1

Result key: 3
Scenario 1 Affected station 4
Before Analysis

Results for: 48A TX SAN ANTONIO USERRECORD01 APP
HAAT 458.0 m, ATV ERP 725.0 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	1920859	35407.7
not affected by terrain losses	1912024	34865.1
lost to NTSC IX	0	0.0
lost to additional IX by ATV	22042	555.4
lost to ATV IX only	22042	555.4
lost to all IX	22042	555.4

Potential Interfering Stations Included in above Scenario 1

48A TX GALVESTON	BLCDT	20040325AEO	LIC
49A TX AUSTIN	BPCDT	19991025ADB	CP

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FINISHED FINISHED FINISHED FINISHED FINISHED FINISHED

APPENDIX

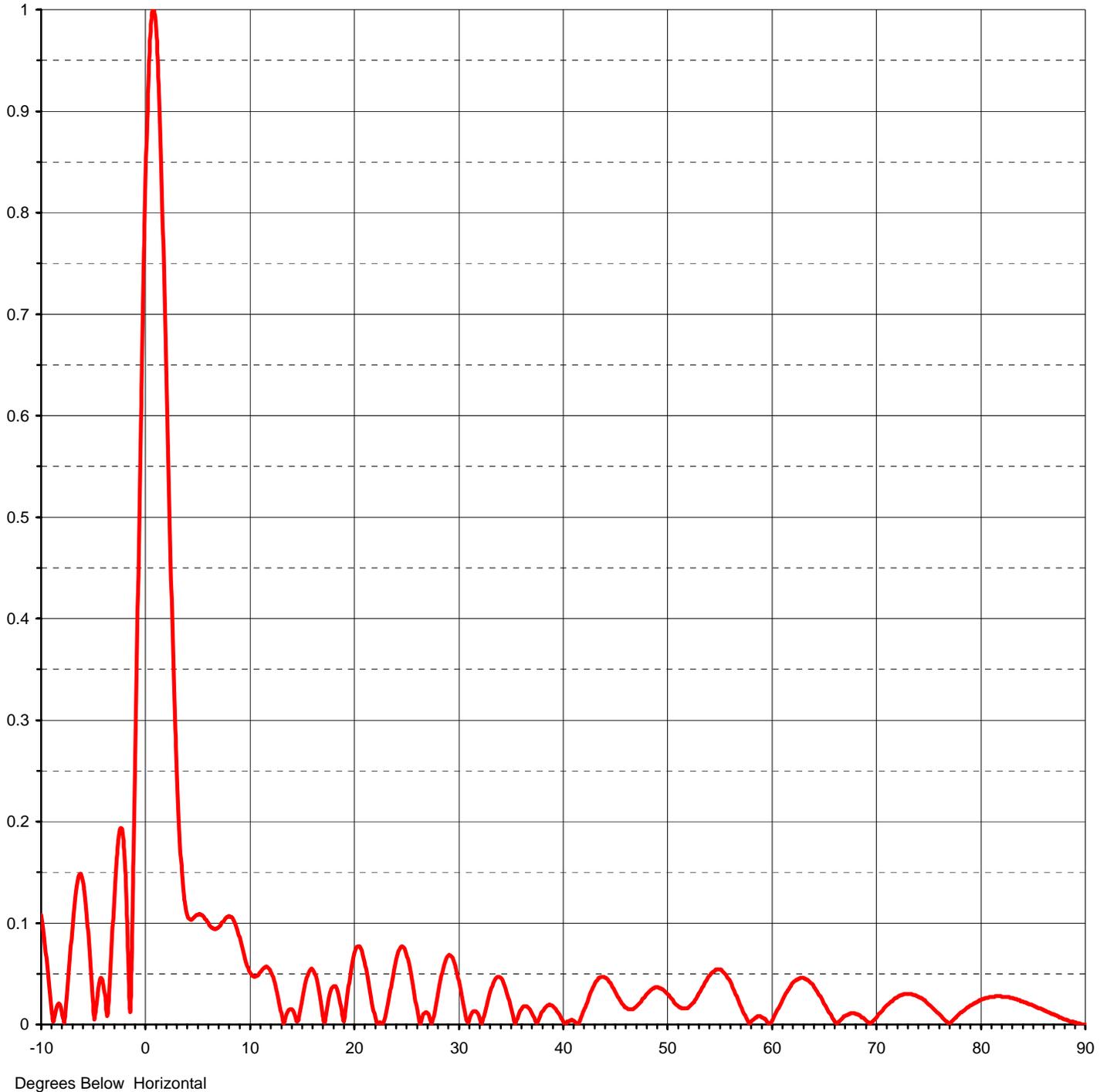
TRANSMITTING ANTENNA
VERTICAL PLANE PATTERN



Proposal Number **C-00674**
Date **26-Sep-06**
Call Letters **WOAI-DT** Channel **48**
Location **San Antonio, TX**
Customer
Antenna Type **TFU-30GTH-R O4**

ELEVATION PATTERN

RMS Gain at Main Lobe	27.00 (14.31 dB)	Beam Tilt	0.75 deg
RMS Gain at Horizontal	18.70 (12.72 dB)	Frequency	677.00 MHz
Calculated / Measured	Calculated	Drawing #	30G270075-90





Proposal Number **C-00674**
 Date **26-Sep-06**
 Call Letters **WOAI-DT** Channel **48**
 Location **San Antonio, TX**
 Customer
 Antenna Type **TFU-30GTH-R 04**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **30G270075-90**

Angle	Field										
-10.0	0.108	2.4	0.458	10.6	0.047	30.5	0.022	51.0	0.019	71.5	0.023
-9.5	0.066	2.6	0.378	10.8	0.048	31.0	0.002	51.5	0.016	72.0	0.027
-9.0	0.015	2.8	0.307	11.0	0.051	31.5	0.013	52.0	0.016	72.5	0.029
-8.5	0.018	3.0	0.247	11.5	0.056	32.0	0.009	52.5	0.021	73.0	0.030
-8.0	0.012	3.2	0.198	12.0	0.054	32.5	0.008	53.0	0.029	73.5	0.029
-7.5	0.033	3.4	0.161	12.5	0.040	33.0	0.028	53.5	0.038	74.0	0.027
-7.0	0.096	3.6	0.135	13.0	0.016	33.5	0.043	54.0	0.047	74.5	0.024
-6.5	0.141	3.8	0.118	13.5	0.007	34.0	0.047	54.5	0.052	75.0	0.020
-6.0	0.141	4.0	0.108	14.0	0.015	34.5	0.038	55.0	0.054	75.5	0.015
-5.5	0.091	4.2	0.104	14.5	0.006	35.0	0.020	55.5	0.051	76.0	0.010
-5.0	0.017	4.4	0.103	15.0	0.019	35.5	0.001	56.0	0.044	76.5	0.005
-4.5	0.038	4.6	0.105	15.5	0.044	36.0	0.014	56.5	0.033	77.0	0.001
-4.0	0.037	4.8	0.107	16.0	0.055	36.5	0.018	57.0	0.020	77.5	0.006
-3.5	0.029	5.0	0.108	16.5	0.044	37.0	0.013	57.5	0.009	78.0	0.011
-3.0	0.124	5.2	0.109	17.0	0.015	37.5	0.002	58.0	0.001	78.5	0.015
-2.8	0.158	5.4	0.108	17.5	0.017	38.0	0.011	58.5	0.007	79.0	0.019
-2.6	0.182	5.6	0.106	18.0	0.037	38.5	0.018	59.0	0.008	79.5	0.022
-2.4	0.193	5.8	0.103	18.5	0.033	39.0	0.019	59.5	0.005	80.0	0.024
-2.2	0.188	6.0	0.100	19.0	0.005	39.5	0.013	60.0	0.002	80.5	0.026
-2.0	0.162	6.2	0.097	19.5	0.034	40.0	0.005	60.5	0.012	81.0	0.027
-1.8	0.116	6.4	0.095	20.0	0.066	40.5	0.003	61.0	0.022	81.5	0.028
-1.6	0.050	6.6	0.094	20.5	0.077	41.0	0.004	61.5	0.032	82.0	0.027
-1.4	0.038	6.8	0.095	21.0	0.065	41.5	0.001	62.0	0.040	82.5	0.027
-1.2	0.140	7.0	0.096	21.5	0.038	42.0	0.012	62.5	0.044	83.0	0.026
-1.0	0.255	7.2	0.098	22.0	0.011	42.5	0.025	63.0	0.046	83.5	0.024
-0.8	0.378	7.4	0.101	22.5	0.002	43.0	0.038	63.5	0.044	84.0	0.023
-0.6	0.503	7.6	0.104	23.0	0.006	43.5	0.046	64.0	0.039	84.5	0.021
-0.4	0.624	7.8	0.106	23.5	0.031	44.0	0.047	64.5	0.029	85.0	0.019
-0.2	0.735	8.0	0.107	24.0	0.059	44.5	0.042	65.0	0.020	85.5	0.016
0.0	0.832	8.2	0.106	24.5	0.076	45.0	0.034	65.5	0.011	86.0	0.014
0.2	0.909	8.4	0.103	25.0	0.072	45.5	0.024	66.0	0.003	86.5	0.012
0.4	0.964	8.6	0.099	25.5	0.051	46.0	0.017	66.5	0.004	87.0	0.010
0.6	0.994	8.8	0.093	26.0	0.020	46.5	0.015	67.0	0.008	87.5	0.007
0.8	1.000	9.0	0.086	26.5	0.004	47.0	0.017	67.5	0.011	88.0	0.005
1.0	0.981	9.2	0.078	27.0	0.012	47.5	0.022	68.0	0.010	88.5	0.003
1.2	0.941	9.4	0.070	27.5	0.001	48.0	0.029	68.5	0.008	89.0	0.002
1.4	0.882	9.6	0.062	28.0	0.024	48.5	0.034	69.0	0.004	89.5	0.001
1.6	0.808	9.8	0.059	28.5	0.051	49.0	0.037	69.5	0.002	90.0	0.000
1.8	0.724	10.0	0.053	29.0	0.067	49.5	0.035	70.0	0.007		
2.0	0.635	10.2	0.050	29.5	0.066	50.0	0.031	70.5	0.013		
2.2	0.545	10.4	0.048	30.0	0.048	50.5	0.025	71.0	0.019		