

**ENGINEERING STATEMENT  
IN SUPPORT OF A REQUEST FOR  
SPECIAL TEMPORARY AUTHORIZATION  
FOR OPERATION WITH A TEMPORARY ANTENNA  
AT THE EMPIRE STATE BUILDING  
WABC-DT – NEW YORK, NEW YORK  
CHANNEL 45 – 234.2 KW – 312 M HAAT**

Permittee: American Broadcasting Companies, Inc

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CHANNEL 45 – 234.2 KW – 312 M HAAT**

Permittee: American Broadcasting Companies, Inc

I am a consulting engineer, an employee of the Carl. T. Jones Corporation, with offices in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission. I am a Registered Professional Engineer in the Commonwealth of Pennsylvania, Registration Number PE-027589E.

American Broadcasting Companies, Inc., permittee of DTV station WABC-DT, channel 45, New York, New York, (WABC) has authorized this office to prepare this statement, the FCC STA 'Tech Box,' and associated exhibits in support of a request for Special Temporary Authority to assure continuity of DTV service from the Empire State Building.

**Request for Special Temporary Authority**

Through this request, WABC-DT seeks Special Temporary Authority to establish and use a temporary antenna to assure continuity of DTV service with an ERP of 234.2 KW and an HAAT of 312 meters from the Empire State Building. This Special Temporary Authority is necessary to continue service while the present UHF DTV master antenna is replaced.

WABC-DT presently operates from the Empire State Building on channel 45, its initial DTV allotment, under automatic program test authority. On October 12, 2005, an application for license to cover Construction Permit BXPCDT-20040803ACD was filed. This application for license, which bears FCC File Number BXLCDT-20051012ACE, was accepted for filing on October 13, 2005 and remains in that status as of this writing. WABC-DT has been operating continuously with the parameters contained in the outstanding application for license since the date of filing.

The outstanding application for license specifies the present UHF DTV master antenna, the Harris model TAD-16UDASP-4/32 non-directional antenna that presently serves as the Empire State Building UHF DTV master antenna.

Because several stations will continue to operate from the UHF DTV master antenna in the post-transition era, and some stations will be changing channels for post-transition operation, the antenna's owner has decided to replace the antenna prior to the DTV transition with a design that is better suited for Post-Transition service. During the time the replacement antenna is being installed, WABC-DT will not be able to operate from the Harris main DTV antenna that is described outstanding construction permit and the pending application for license, BXLCDT-20051012ACE.

Through this STA request, WABC-DT seeks authority that is equivalent to the authority that a licensee or permittee would have under Section 73.1615(a)(2), which specifically defines the conditions under which temporary antennas can be employed when the station involved holds a valid construction permit. Each station that uses the Harris main DTV antenna is responsible to file a request for special temporary authority or to obtain other authority to operate from the proposed temporary antenna through the same channel combining equipment that is presently being used to feed the Harris main DTV antenna.

The non-directional master Harris main DTV antenna at the Empire State Building is being replaced under authority that is outlined in Section 73.1690(c)(1) which allows replacement of a non-directional antenna at the same HAAT without prior authorization from the Commission.

Because WABC-DT is operating with parameters that are contained in an application for license, this STA is necessary to provide WABC-DT a means to maintain continuity of DTV service while the antenna that is specified in the pending application for license is being replaced.

The proposed operation will meet the rules and policies for such operation, and it will meet the requirements of Section 73.1620(a)(2).

The figure that is labeled Exhibit 1 clearly shows the presently authorized 41 dBu F(50:90) contour in red and also shows that the predicted 41 dBu contour generated by the proposed temporary antenna is completely contained within the presently authorized 41 dBu contour.

The proposed temporary antenna is a Dielectric ESBTUA80. This antenna has a non-directional azimuth pattern and emits elliptically polarized signals. According to the manufacturer, if the maximum horizontally polarized component is 234.2 KW as proposed, the maximum vertically polarized component will not exceed half of the maximum horizontally polarized component, which is equal to 117.1 KW.

The figure that is labeled Exhibit 2 contains elevation pattern plots on its first two pages and a tabulation of the elevation pattern data on the third page. The proposed antenna generates 1.0 degrees of electrical beam tilt at channel 45.

### **The WABC Main License Expiration Date**

The WABC-DT/TV Main License bears an expiration date of June 1, 2007. A timely application for renewal of the WABC license was filed with the Commission and bears FCC File number BRCT-20070201BHD and was accepted for filing on February 9, 2007. The instant application is acceptable for filing pending a final determination by the Commission on the outstanding application for renewal of the WABC main license.

### **Compliance with Radiofrequency Energy Exposure Limits**

The proposed operation will comply with the FCC's rules and guidelines pertaining to human exposure to electromagnetic energy. The Empire State Building has established policies and procedures and has defined certain areas as controlled areas where access is restricted by all persons unless certain facilities cease operation, change antennas or reduce power. A procedure to notify tenants of a required shutdown has been developed. As a lessee, WABC-DT is subject to the Empire State Building's RF Safety Program which is currently being revised as modification of facilities occurs. The RF Safety Program is being revised as a collaborative effort between the broadcaster tenants and the building management.

The RF Safety Procedures at the Empire State Building include restricted access to areas where calculation or measurement indicate levels of radiofrequency energy in excess of those defined in Section 1.1310 of the Rules may be present during normal broadcast operations. The RF Safety Procedures include restricted access to the tower structure above the mooring mast area during normal broadcast operations, the use of on-site personnel to verify continuing shutdown of those operations that contribute to fields in areas where workers must be present while work is being done.

Remote control operation is disabled to prevent accidental exposure of personnel from inadvertent activation of transmitters. Each facility is observed to be compliant with procedures to shut-down or operate at reduced power as required by the location of work. These RF Safety Procedures also define the requirement for personnel to use personal RF exposure monitors and participate in appropriate RF safety awareness training. As new licensees begin or change operations on the Empire State Building, the RF Safety Procedures are updated to reflect the current RF exposure levels and define the areas which are restricted to prevent accidental exposure of personnel.

Calculations by others indicate that the expected contribution from the proposed operation will not cause any worker or member of the general public to be exposed to fields in excess of the limits in Section 1.1310. Because of the many sources of radiofrequency energy which are present on the Empire State Building, measurements are made to confirm the locations which meet the requirements for controlled areas and uncontrolled areas. Access to any area where calculations or measurements indicate that fields in excess of the limits in Section 1.1310 may be found, the RF Safety Program defines procedures that require reduction in operating power or cessation of operation and the area is confirmed to be safe before any person is admitted to the area.

WABC-DT will continue to comply with the requirements of the Empire State Building RF Safety Program. The site as presently operating and as proposed meets the requirements of the Commission's Rules with respect to workers and the general public.

### **Conclusion**

The instant request for Special Temporary Authority to use a temporary antenna to assure continuity of service for WABC DTV viewers while the UHF DTV Empire State Building Master Antenna is being replaced will foster an efficient transition to digital television. This request for Special Temporary Authority complies with all the policies, rules and regulations of the Federal Communications Commission, and a grant of this request would be in the public interest.

WABC-DT, New York  
Request for Special Temporary Authority  
June 2008, Page 5 of 5

This statement, the FCC 'Tech Box' entries and the associated exhibits were prepared by me or under my direct supervision and are believed to be true and correct to the best of my knowledge and belief.



Signed: \_\_\_\_\_

Alfred E. Resnick, P. E.

Dated: June 5, 2008

Writer's direct line: 703 569-7704



**PREDICTED COVERAGE CONTOURS**

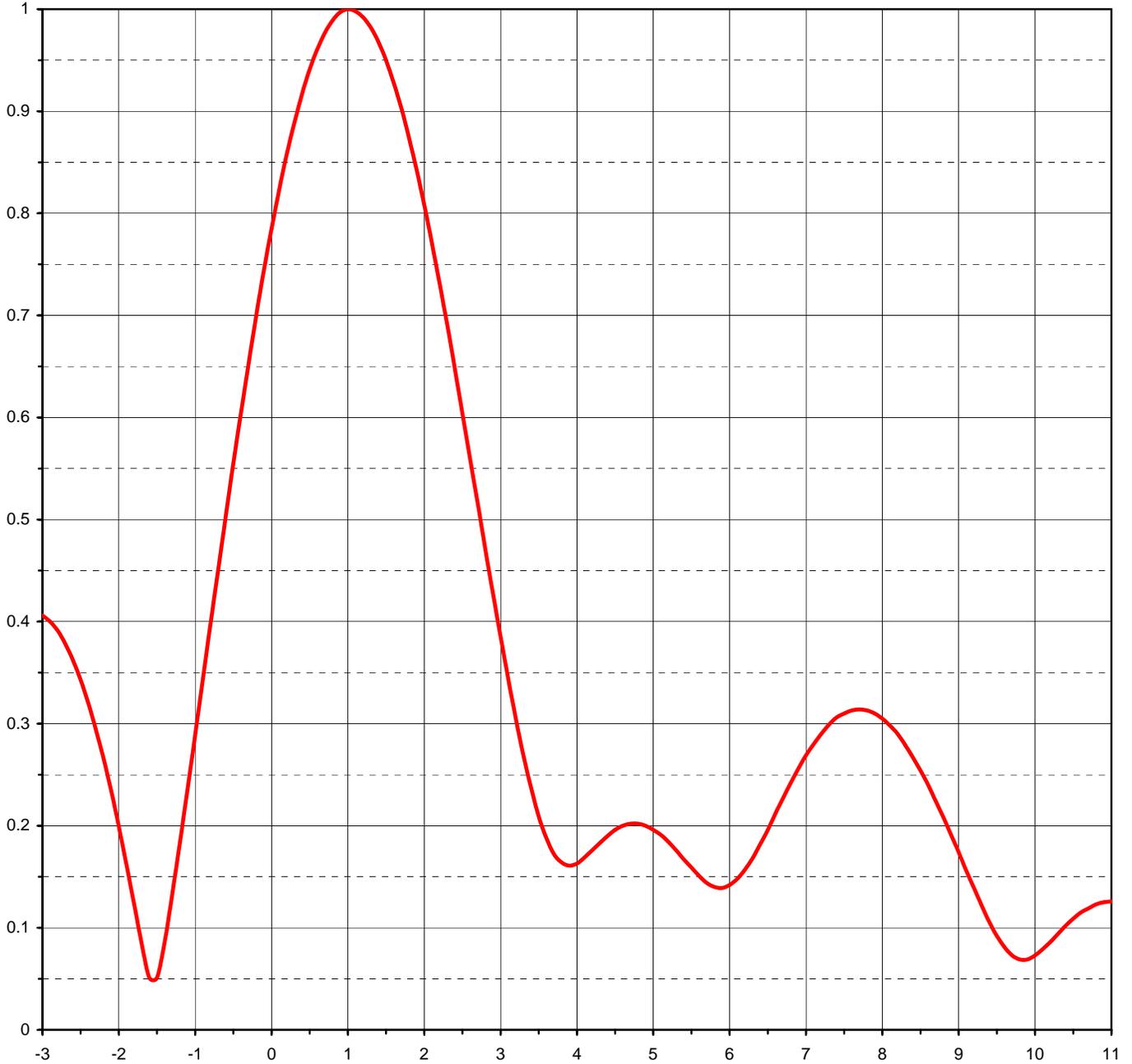
WABC-DT CH45, NEW YORK, NY (BXLCDT-20051012ACE)  
219 kW, 397 mHAAT, 410.5 mRCAMSL, NON D-ANT  
Predicted Noise Limited Coverage Contour  
F(50,90) 41 dBu

WABC-DT CH45, NEW YORK, NY (STA)  
234.2 kW, 312 mHAAT, 325.5 mRCAMSL, NON D-ANT  
Predicted Noise Limited Coverage Contour  
F(50,90) 41 dBu

MAY 2008

### ELEVATION PATTERN

RMS Gain at Main Lobe	<b>16.50 ( 12.17 dB )</b>	Beam Tilt	<b>1.00 deg</b>
RMS Gain at Horizontal	<b>10.20 ( 10.09 dB )</b>	Frequency	<b>659.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>08U165100</b>



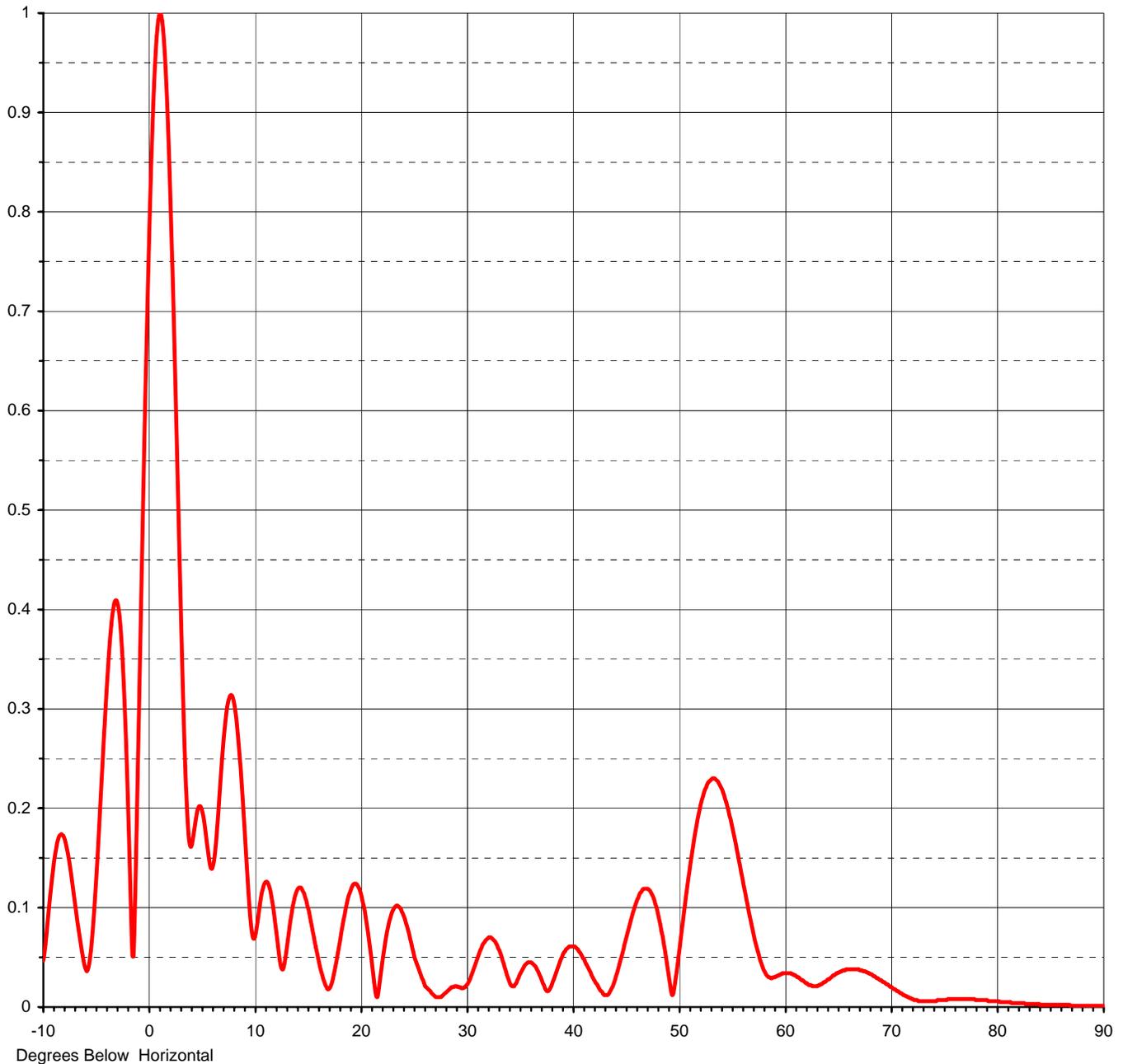
Degrees Below Horizontal



Proposal Number **C-01590 Exhibit 2, Page 2**  
Date **28-Jun-07**  
Call Letters **WABC-DT** Channel **45**  
Location **New York, NY**  
Customer **ESB**  
Antenna Type

### ELEVATION PATTERN

RMS Gain at Main Lobe	<b>16.50 ( 12.17 dB )</b>	Beam Tilt	<b>1.00 deg</b>
RMS Gain at Horizontal	<b>10.20 ( 10.09 dB )</b>	Frequency	<b>659.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>08U165100-90</b>



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Proposal Number **C-01590**      **Exhibit 2, Page 3**  
 Date **28-Jun-07**  
 Call Letters **WABC-DT**      Channel **45**  
 Location **New York, NY**  
 Customer **ESB**  
 Antenna Type

### TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **08U165100-90**

Angle	Field										
-10.0	0.047	2.4	0.648	10.6	0.109	30.5	0.033	51.0	0.135	71.5	0.010
-9.5	0.096	2.6	0.560	10.8	0.119	31.0	0.048	51.5	0.171	72.0	0.008
-9.0	0.146	2.8	0.471	11.0	0.125	31.5	0.062	52.0	0.199	72.5	0.006
-8.5	0.172	3.0	0.385	11.5	0.117	32.0	0.069	52.5	0.219	73.0	0.006
-8.0	0.169	3.2	0.305	12.0	0.081	32.5	0.068	53.0	0.228	73.5	0.006
-7.5	0.142	3.4	0.237	12.5	0.041	33.0	0.059	53.5	0.229	74.0	0.006
-7.0	0.103	3.6	0.188	13.0	0.055	33.5	0.044	54.0	0.221	74.5	0.007
-6.5	0.065	3.8	0.164	13.5	0.093	34.0	0.027	54.5	0.206	75.0	0.007
-6.0	0.038	4.0	0.163	14.0	0.117	34.5	0.021	55.0	0.184	75.5	0.008
-5.5	0.059	4.2	0.176	14.5	0.118	35.0	0.032	55.5	0.158	76.0	0.008
-5.0	0.132	4.4	0.190	15.0	0.102	35.5	0.042	56.0	0.131	76.5	0.008
-4.5	0.229	4.6	0.200	15.5	0.076	36.0	0.045	56.5	0.103	77.0	0.008
-4.0	0.326	4.8	0.202	16.0	0.050	36.5	0.041	57.0	0.077	77.5	0.008
-3.5	0.394	5.0	0.196	16.5	0.028	37.0	0.030	57.5	0.055	78.0	0.007
-3.0	0.406	5.2	0.184	17.0	0.018	37.5	0.017	58.0	0.038	78.5	0.007
-2.8	0.391	5.4	0.167	17.5	0.033	38.0	0.021	58.5	0.030	79.0	0.007
-2.6	0.362	5.6	0.151	18.0	0.062	38.5	0.036	59.0	0.030	79.5	0.006
-2.4	0.320	5.8	0.140	18.5	0.092	39.0	0.050	59.5	0.032	80.0	0.006
-2.2	0.266	6.0	0.142	19.0	0.115	39.5	0.059	60.0	0.034	80.5	0.005
-2.0	0.199	6.2	0.157	19.5	0.124	40.0	0.061	60.5	0.034	81.0	0.005
-1.8	0.123	6.4	0.182	20.0	0.116	40.5	0.058	61.0	0.032	81.5	0.004
-1.6	0.051	6.6	0.212	20.5	0.090	41.0	0.049	61.5	0.028	82.0	0.004
-1.4	0.086	6.8	0.242	21.0	0.052	41.5	0.039	62.0	0.024	82.5	0.004
-1.2	0.183	7.0	0.269	21.5	0.011	42.0	0.028	62.5	0.022	83.0	0.003
-1.0	0.289	7.2	0.290	22.0	0.040	42.5	0.019	63.0	0.021	83.5	0.003
-0.8	0.397	7.4	0.306	22.5	0.075	43.0	0.012	63.5	0.023	84.0	0.002
-0.6	0.503	7.6	0.313	23.0	0.096	43.5	0.015	64.0	0.027	84.5	0.002
-0.4	0.605	7.8	0.313	23.5	0.102	44.0	0.027	64.5	0.032	85.0	0.002
-0.2	0.700	8.0	0.305	24.0	0.094	44.5	0.046	65.0	0.035	85.5	0.002
0.0	0.785	8.2	0.290	24.5	0.077	45.0	0.067	65.5	0.037	86.0	0.002
0.2	0.858	8.4	0.267	25.0	0.055	45.5	0.087	66.0	0.038	86.5	0.002
0.4	0.917	8.6	0.240	25.5	0.038	46.0	0.105	66.5	0.038	87.0	0.001
0.6	0.961	8.8	0.208	26.0	0.024	46.5	0.116	67.0	0.037	87.5	0.001
0.8	0.989	9.0	0.174	26.5	0.017	47.0	0.119	67.5	0.036	88.0	0.001
1.0	1.000	9.2	0.139	27.0	0.011	47.5	0.113	68.0	0.033	88.5	0.001
1.2	0.992	9.4	0.106	27.5	0.010	48.0	0.097	68.5	0.030	89.0	0.001
1.4	0.968	9.6	0.081	28.0	0.014	48.5	0.071	69.0	0.027	89.5	0.001
1.6	0.928	9.8	0.073	28.5	0.019	49.0	0.037	69.5	0.023	90.0	0.001
1.8	0.874	10.0	0.069	29.0	0.021	49.5	0.013	70.0	0.020		
2.0	0.808	10.2	0.079	29.5	0.019	50.0	0.051	70.5	0.016		
2.2	0.732	10.4	0.094	30.0	0.022	50.5	0.094	71.0	0.013		

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