Wiley Rein LLP

1776 K STREET NW
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7925 JONES BRANCH DRIVE
McLEAN, VA 22102
PHONE 703.905.2800
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www.wileyrein.com

BMMC-20110201

STAMP & RETURN

US BANK/FCC FEB 01 2011

January 31, 2011

Mark Lipp
202.719.7503
mlipp@wileyrein.com

BY HAND DELIVERY

Federal Communications Commission
c/o U.S. Bank – Government Lockbox #979089
SL-MO-C2-GL
1005 Convention Plaza
St. Louis, MO 63101

Re: **Application for AM Broadcast Station License/**
Request for Program Test Authority
Susquehanna Radio Corp.
Station KTCK(AM), Dallas, Texas
Facility Identifier Number 8773
File Number BP-20091116ADS

Dear Ms. Dortch:

Transmitted herewith on behalf of Susquehanna Radio Corp., the licensee of Station KTCK(AM), are an original and two copies of its application for an AM broadcast station license to cover the construction authorized in construction permit BP-20091116ADS. This Permit authorizes operation on 1310 kHz with 25 kW of power during the day and 5 kW at night using directional antenna systems. The Technical Statement and Exhibits, prepared by R. Stuart Graham, include all of the technical details and show that the operating parameters of the daytime and nighttime directional antenna patterns were determined in compliance with Section 73.151(c) of the Commission's Rules.

If there are any questions about this Application, please contact undersigned counsel for Susquehanna Radio Corp.

Sincerely,

Mark Lipp

ML/dmk

Enclosure

13239132.1

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Sincerely,

Mark Lipp

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Enclosure

13239132.1

Federal Communications Commission
Washington, D. C. 20554

Approved by OMB
3060-0627
Expires 01/31/98

FOR FCC USE ONLY

2011 FEB -7 P 2:22

FCC 302-AM
APPLICATION FOR AM BROADCAST STATION LICENSE

(Please read instructions before filling out form.)

FOR COMMISSION USE ONLY
FILE N BMML-20110202AFX

SECTION I - APPLICANT FEE INFORMATION

1. PAYOR NAME (Last, First, Middle Initial)

Susquehanna Radio Corp.

MAILING ADDRESS (Line 1) (Maximum 35 characters)
3280 Peachtree Road, NW, Suite 2300

MAILING ADDRESS (Line 2) (Maximum 35 characters)

CITY	STATE OR COUNTRY (if foreign address)	ZIP CODE
Atlanta	**Georgia**	**30305**

TELEPHONE NUMBER (include area code)	CALL LETTERS	OTHER FCC IDENTIFIER (If applicable)
404.949.0700	**KTCK(AM)**	**8773**

2. A. Is a fee submitted with this application? ☑ Yes ☐ No

B. If No, indicate reason for fee exemption (see 47 C.F.R. Section

☐ Governmental Entity ☐ Noncommercial educational licensee ☐ Other (Please explain):

C. If Yes, provide the following information: 0003254562

Enter in Column (A) the correct Fee Type Code for the service you are applying for. Fee Type Codes may be found in the "Mass Media Services Fee Filing Guide." Column (B) lists the Fee Multiple applicable for this application. Enter fee amount due in Column (C).

(A) FEE TYPE CODE	(B) FEE MULTIPLE	(C) FEE DUE FOR FEE TYPE CODE IN COLUMN (A)	FOR FCC USE ONLY
M M R	0 0 0 1	$ 615.00	

To be used only when you are requesting concurrent actions which result in a requirement to list more than one Fee Type Code.

(A)	(B)	(C)	FOR FCC USE ONLY
M O R	0 0 0 1	$ 705.00	

ADD ALL AMOUNTS SHOWN IN COLUMN C, AND ENTER THE TOTAL HERE. THIS AMOUNT SHOULD EQUAL YOUR ENCLOSED REMITTANCE.	TOTAL AMOUNT REMITTED WITH THIS APPLICATION	FOR FCC USE ONLY
	$ 1,320.00	

SECTION II - APPLICANT INFORMATION		
1. NAME OF APPLICANT **Susquehanna Radio Corp.**		
MAILING ADDRESS **3280 Peachtree Road, NW, Suite 2300**		
CITY **Atlanta**	STATE **Georgia**	ZIP CODE **30305**

2. This application is for:

☑ Commercial ☐ Noncommercial

☑ AM Directional ☐ AM Non-Directional

Call letters	Community of License	Construction Permit File No.	Modification of Construction Permit File No(s).	Expiration Date of Last Construction Permit
KTCK(AM)	**Dallas, TX**	**BP-20091116ADS**		**3/11/2013**

3. Is the station now operating pursuant to automatic program test authority in accordance with 47 C.F.R. Section 73.1620? ☐ Yes ☑ No

If No, explain in an Exhibit. Exhibit No. **A**

4. Have all the terms, conditions, and obligations set forth in the above described construction permit been fully met? ☑ Yes ☐ No

If No, state exceptions in an Exhibit. Exhibit No.

5. Apart from the changes already reported, has any cause or circumstance arisen since the grant of the underlying construction permit which would result in any statement or representation contained in the construction permit application to be now incorrect? ☐ Yes ☑ No

If Yes, explain in an Exhibit. Exhibit No.

6. Has the permittee filed its Ownership Report (FCC Form 323) or ownership certification in accordance with 47 C.F.R. Section 73.3615(b)? ☐ Yes ☐ No ☑ Does not apply

If No, explain in an Exhibit. Exhibit No.

7. Has an adverse finding been made or an adverse final action been taken by any court or administrative body with respect to the applicant or parties to the application in a civil or criminal proceeding, brought under the provisions of any law relating to the following: any felony; mass media related antitrust or unfair competition; fraudulent statements to another governmental unit; or discrimination? ☐ Yes ☑ No

If the answer is Yes, attach as an Exhibit a full disclosure of the persons and matters involved, including an identification of the court or administrative body and the proceeding (by dates and file numbers), and the disposition of the litigation. Where the requisite information has been earlier disclosed in connection with another application or as required by 47 U.S.C. Section 1.65(c), the applicant need only provide: (i) an identification of that previous submission by reference to the file number in the case of an application, the call letters of the station regarding which the application or Section 1.65 information was filed, and the date of filing; and (ii) the disposition of the previously reported matter. Exhibit No.

8. Does the applicant, or any party to the application, have a petition on file to migrate to the expanded band (1605-1705 kHz) or a permit or license either in the existing band or expanded band that is held in combination (pursuant to the 5 year holding period allowed) with the AM facility proposed to be modified herein? ☐ Yes ☑ No

If Yes, provide particulars as an Exhibit. Exhibit No.

The APPLICANT hereby waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because use of the same, whether by license or otherwise, and requests and authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended).

The APPLICANT acknowledges that all the statements made in this application and attached exhibits are considered material representations and that all the exhibits are a material part hereof and are incorporated herein as set out in full in

CERTIFICATION

1. By checking Yes, the applicant certifies, that, in the case of an individual applicant, he or she is not subject to a denial of federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862, or, in the case of a non-individual applicant (e.g., corporation, partnership or other unincorporated association), no party to the application is subject to a denial of federal benefits that includes FCC benefits pursuant to that section. For the definition of a "party" for these purposes, see 47 C.F.R. Section 1.2002(b). ☑ Yes ☐ No

2. I certify that the statements in this application are true, complete, and correct to the best of my knowledge and belief, and are made in good faith.

Name	Signature	
Richard S. Denning		
Title	Date	Telephone Number
VP, Secretary and General Counsel	**1/31/11**	**404.949.0700**

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION

FCC NOTICE TO INDIVIDUALS REQUIRED BY THE PRIVACY ACT AND THE PAPERWORK REDUCTION ACT

The solicitation of personal information requested in this application is authorized by the Communications Act of 1934, as amended. The Commission will use the information provided in this form to determine whether grant of the application is in the public interest. In reaching that determination, or for law enforcement purposes, it may become necessary to refer personal information contained in this form to another government agency. In addition, all information provided in this form will be available for public inspection. If information requested on the form is not provided, the application may be returned without action having been taken upon it or its processing may be delayed while a request is made to provide the missing information. Your response is required to obtain the requested authorization.

Public reporting burden for this collection of information is estimated to average 639 hours and 53 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, can be sent to the Federal Communications Commission, Records Management Branch, Paperwork Reduction Project (3060-0627), Washington, D. C. 20554. Do NOT send completed forms to this address.

THE FOREGOING NOTICE IS REQUIRED BY THE PRIVACY ACT OF 1974, P.L. 93-579, DECEMBER 31, 1974, 5 U.S.C. 552a(e)(3), AND THE PAPERWORK REDUCTION ACT OF 1980, P.L. 96-511, DECEMBER 11, 1980, 44 U.S.C. 3507.

Exhibit A

The construction permit BP-20091116ADS which authorized an increase in the directional daytime power of Station KTCK(AM) from 9 to 25 kiloWatts contains Special Operting Condition #1 which requires a complete proof-of-performance of the daytime directional antenna system. This proof-of-performance must be evaluated before Program Test Authority is approved. As a result, KTCK(AM) is not eligible for automatic Program Test Authority. It should be noted that the licensed nighttime directional operation did not change.

SECTION III - LICENSE APPLICATION ENGINEERING DATA

Name of Applicant

Susquehanna Radio Corp.

PURPOSE OF AUTHORIZATION APPLIED FOR: (check one)

☒ Station License ☐ Direct Measurement of Power

1. Facilities authorized in construction permit

Call Sign	File No. of Construction Permit (if applicable)	Frequency (kHz)	Hours of Operation	Power in kilowatts	
				Night	Day
KTCK	BP-20091116ADS	1310	U	5.0	25.0

2. Station location

State	City or Town
Texas	Dallas

3. Transmitter location

State	County	City or Town	Street address (or other identification)
Texas	Dallas	Coddell	900 E. Ledbetter Dr.

4. Main studio location

State	County	City or Town	Street address (or other identification)
Texas	Dallas	Dallas	3500 Maple Ave., Suite 1310

5. Remote control point location (specify only if authorized directional antenna)

State	County	City or Town	Street address (or other identification)
Texas	Dallas	Dallas	3500 Maple Ave, Suite 1310

6. Has type-approved stereo generating equipment been installed? ☐ Yes ☒ No

7. Does the sampling system meet the requirements of 47 C.F.R. Section 73.68? ☒ Yes ☐ No ☐ Not Applicable

Attach as an Exhibit a detailed description of the sampling system as installed. Exhibit No. 6

8. Operating constants:

RF common point or antenna current (in amperes) without modulation for night system	RF common point or antenna current (in amperes) without modulation for day system
6.82	23.0
Measured antenna or common point resistance (in ohms) at operating frequency	**Measured antenna or common point reactance (in ohms) at operating frequency**
Night: 49.5 Day: 49.7	Night: +1.7 Day: +1.0

Antenna indications for directional operation

Towers	Antenna monitor Phase reading(s) in degrees		Antenna monitor sample current ratio(s)		Antenna base currents	
	Night	Day	Night	Day	Night	Day
1 (NE)	--	0.00	--	1.000		
2 (CE)	114.00	73.1	0.770	0.968		
3 (SE)	0.00	-61.2	1.000	0.879		
4 (W)	-62.9	-103.9	0.582	0.737		

Manufacturer and type of antenna monitor: Potomac Instruments AM-1901

9. Description of antenna system (If directional antenna is used, the information requested below should be given for each element of the array. Use separate sheets if necessary.)

Type Radiator	Overall height in meters of radiator above base insulator, or above base, if grounded.	Overall height in meters above ground (without obstruction lighting)	Overall height in meters above ground (include obstruction lighting)	If antenna is either top loaded or sectionalized, describe fully in an Exhibit.
Uniform cross-section, guyed steel towers	143.3	145.1	146.0	Exhibit No.

Excitation ☒ Series ☐ Shunt

ASRN 1046214 1046216
1046215 1046217

Geographic coordinates to nearest second. For directional antenna give coordinates of center of array. For single vertical radiator give tower location.

North Latitude				West Longitude			
	32 °	56 '	41 "		96 °	56 '	25 "

If not fully described above, attach as an Exhibit further details and dimensions including any other antenna mounted on tower and associated isolation circuits. Exhibit No.

Also, if necessary for a complete description, attach as an Exhibit a sketch of the details and dimensions of ground system. Exhibit No.

10. In what respect, if any, does the apparatus constructed differ from that described in the application for construction permit or in the permit?

None

11. Give reasons for the change in antenna or common point resistance.

N/A

I certify that I represent the applicant in the capacity indicated below and that I have examined the foregoing statement of technical information and that it is true to the best of my knowledge and belief.

Name (Please Print or Type)	Signature (check appropriate box below)
R. Stuart Graham	
Address (include ZIP Code)	Date
Graham Brock, Inc. P. O. Box 24466 St. Simons Island, GA 31522-7466	January 27, 2011 Telephone No. (Include Area Code) 912-638-8028

☐ Technical Director

☐ Registered Professional Engineer

☐ Chief Operator

☒ Technical Consultant

☐ Other (specify)

APPLICATION FOR STATION LICENSE
SUSQUEHANNA RADIO CORP.
KTCK AM RADIO STATION
1310 kHz - 5.0/25.0 kW DA2
BP-20091116ADS
DALLAS, TEXAS
January 2011

Table of Contents

Exhibit	Description
	Technical Statement
1)	Analysis of Tower Impedance Measurements to Verify Method of Moments Model
2)	Derivation of Operating Parameters for Directional Antenna
3)	Method of Moments Model Details for Towers Driven Individually
4)	Method of Moments Model Details for Directional Antenna
5)	Direct Measurement of Power
6)	Sampling System and Measurements
7)	Reference Field Strength Measurements
8)	Antenna Monitor Calibration
9)	Post Construction Array Geometry Certification
10)	Polar Graph - KTCK Day Pattern
11)	Polar Graph - KTCK Night Pattern
12)	Affidavit of William Guyner
	Affidavit of Richard Graham

APPLICATION FOR STATION LICENSE
SUSQUEHANNA RADIO CORP.
KTCK AM RADIO STATION
1310 kHz - 5.0/25.0 kW DA2
BP-20091116ADS
DALLAS, TEXAS
January 2011

This Technical Statement was prepared on behalf of Susquehanna Radio Corp. ("SRC"), licensee of radio station KCTK, 1310 kHz, Dallas, Texas. SRC holds a valid construction permit (BP-20091116ADS) for increased directional daytime power, but with no changes to their licensed directional nighttime operation. BP-20091116ADS authorizes 25.0 kilowatts daytime and continued operation at 5.0 kilowatts nighttime. This application seeks program test authority and a station license with a computer analyzed directional operation under the provisions of Section 73.151(c). The calculations shown herein are for the daytime power of 25.0 kilowatts and the nighttime power of 5.0 kilowatts.

The towers are identified using the nighttime numbering sequence: Tower #1 (northeast), Tower #2 (center east), Tower #3 (southeast) and Tower #4 (west). The towers and ground system were constructed in accordance with the terms of the KCTK construction permit and specifications that were provided in the application for construction permit.

Information is provided herein to demonstrate the directional antenna parameters for the daytime and nighttime authorized patterns are in accordance with the requirements of Section

73.151(c) of the Commission's rules. The system has been adjusted to produce antenna monitor parameters within +/- 5 percent in ratio and +/- 3 degrees in phase of the modeled values, as required by the rules.

There are three special operating conditions and/or restrictions listed on the KTCK construction permit that must be met.

Condition #1 states:

> ***"The permittee must submit a proof of performance as set forth in either section 73.151(a) or 73.151(c)of the rules before program tests are authorized. A proof of performance based on field strength measurements, per Section 73.151(a), shall include a complete nondirectional proof of performance, in addition to a complete proof on the (day) directional antenna system. The nondirectional and directional field strength measurements must be made under similar environmental conditions. The proof(s) of performance submitted to the Commission must contain all of the data specified in Section 73.186 of the rules. Permittees who elect to submit a moment method proof of performance, as set forth in section 73.151(c),must use series-fed radiators. In addition, the sampling system must be constructed as described in Section 73.1515(c)(2)(I)."***

This application supports the application for station license using the Moment proof rules of 73.151(c).

Condition #2 states:

> ***"Permittee shall install a type accepted transmitter, or submit application (FCC Form 301) along with data subscribed in Secton 73.1660(b) should non-type accepted transmitter be proposed."***

The applicant has installed a Harris 3DX25, S/N JW30002037-001 which is type accepted in compliance with this condition.

Condition #3 states:

> *"Ground system consists of 120 equally spaced, buried, copper radials about the base of each tower, each 85.3 meters in length except where shortened at property boundary and between towers. Each tower has a 7.3 meter ground screen."*

The applicant verifies the ground system is as described and accepts this condition.

Field measurements were conducted along the specified monitor point radials for both daytime and nighttime operation and are detailed in Exhibit #7.

During nighttime operation Tower #1 of the array is not used in the directional pattern. By reference to Exhibit #4, Tower #1 has a reactive drive impedance of -j 373.63 Ohms during nighttime operation. Referencing the feed line inductive reactance of +j 32.6 Ohms or 3.96 uHy inductance (Exhibit #1A) a 41.4 uHy coil shunt inductance to ground equivalent to +j 341.0 Ohms equals a conjugate reactance of +j 373.6 Ohms to the drive impedance reactance at the tower in nighttime mode operation. The shunt reactance for this tower effectively de-tunes the towers from radiating any significant power and is included in the Moment analysis of the array.

We have tried to be as accurate as possible in the preparation of this application. All information contained in this application was extracted from the CDBS database. We assume no liability for omissions or errors in this source. Should there be any questions concerning the information contained herein, we welcome the opportunity to discuss the matter by phone at 912-638-8028 or by email at rsg@grahambrock.com.

APPLICATION FOR STATION LICENSE
SUSQUEHANNA RADIO CORP.
KTCK AM RADIO STATION
1310 kHz - 5.0/25.0 kW DA2
BP-20091116ADS
DALLAS, TEXAS
January 2011

EXHIBIT #1

Analysis of Tower Impedance Measurements to Verify Method of Moments Model

Tower base impedance measurements were made at the final J-plugs within the Antenna Tuning Units ("ATU's") using an Array Solutions, POWER AIM 120, Vector Impedance Analyzer in a calibrated measurement system. The other towers were short circuited at the same points where impedance measurements were made ("reference points"), in compliance with Section 73.151(c)(1).

The reference point in each ATU is followed by the feed-line that exits the ATU enclosure and is connected to the tower above the base insulator. Circuit calculations were performed to relate the Method of Moments modeled impedances of the tower feed points to the ATU output measurement (reference) points, as shown on the following pages. The XL shown for each tower, which was calculated for the assumed stray inductance, was less than 10 uH, in compliance with Section 73.151(c)(1)(vii).

The modeled and measured base impedances at the ATU output jacks, with the other towers short circuited at their ATU output jacks agree within +/- 2 ohms and +/- 4 percent for resistance, as required by Section 73.151(c)(2) of the FCC Rules.

APPLICATION FOR STATION LICENSE
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KTCK AM RADIO STATION
1310 kHz - 5.0/25.0 kW DA2
BP-20091116ADS
DALLAS, TEXAS
January 2011

EXHIBIT #1A

KTCK Dallas TX
1310

TOWER	L(uH) - series	X(L)	Z(tower-modeled)		Z(ATU-measured)		Z(tower-measured)	
1 (ne)	3.96	+j 32.6	36.4	-j 134.27	36.4	-j 101.71	36.4	-j 134.27
2 (ce)	5.00	+j 41.2	33.0	-j 146.59	33.0	-j 105.41	33.0	-j 146.59
3 (se)	2.00	+j 16.4	37.3	-j 126.18	37.3	-j 109.73	37.3	-j 126.18
4 (w)	4.69	+j 38.6	37.6	-j 144.76	37.6	-j 106.13	37.6	-j 144.76

From Moment Method Calculated Values
Tower Impedance Tolerance Resistance & Reactance +/- 2 Ohms and +/- 4%

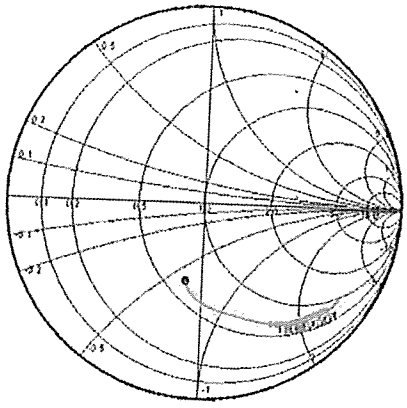
Tower	Resistance	(+/- ohms)	High	Low
1 (ne)	36.36	3.45	39.8	32.9
2 (ce)	32.98	3.32	36.3	29.7
3 (se)	37.30	3.49	40.8	33.8
4 (w)	37.63	3.51	41.1	34.1

	Reactance	(+/- ohms)	High	Low
1 (ne)	134.27	7.37	141.6	126.9
2 (ce)	146.59	7.86	154.5	138.7
3 (se)	126.18	7.05	133.2	119.1
4 (w)	144.76	7.79	152.6	137.0

APPLICATION FOR STATION LICENSE
SUSQUEHANNA RADIO CORP.
KTCK AM RADIO STATION
1310 kHz - 5.0/25.0 kW DA2
BP-20091116ADS
DALLAS, TEXAS
January 2011

EXHIBIT #1B

Tower #1 Impedance Measurements



Marker	Freq	Rs	Xs
[1]	1.280000	40.953	-128.594
[2]	1.285000	40.237	-124.120
[3]	1.290000	39.548	-119.553
[4]	1.295000	38.024	-114.972
[5]	1.300000	38.039	-110.443
[6]	1.305000	37.206	-106.015
[7]	1.310000	36.361	-101.713
[8]	1.315000	35.557	-97.547
[9]	1.320000	34.848	-93.508
[10]	1.325000	34.278	-89.571
[11]	1.330000	33.874	-85.706
[12]	1.335000	33.639	-81.870
[13]	1.340000	33.546	-78.025

APPLICATION FOR STATION LICENSE
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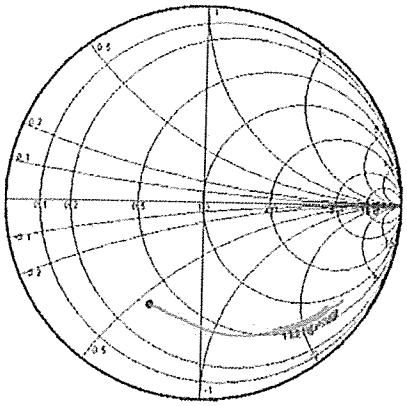
KTCK AM RADIO STATION
1310 kHz - 5.0/25.0 kW DA2
BP-20091116ADS
DALLAS, TEXAS
January 2011

EXHIBIT #1C

Tower #2 Impedance Measurements



Marker	Freq	Rs	Xs
[1]	1.280000	39.731	-127.603
[2]	1.285000	38.713	-124.388
[3]	1.290000	37.511	-121.042
[4]	1.295000	36.251	-117.476
[5]	1.300000	35.039	-113.666
[6]	1.305000	33.942	-109.630
[7]	1.310000	32.984	-105.413
[8]	1.315000	32.146	-101.079
[9]	1.320000	31.389	-96.701
[10]	1.325000	30.657	-92.343
[11]	1.330000	29.900	-88.063
[12]	1.335000	29.081	-83.895
[13]	1.340000	28.185	-79.850

APPLICATION FOR STATION LICENSE
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KTCK AM RADIO STATION
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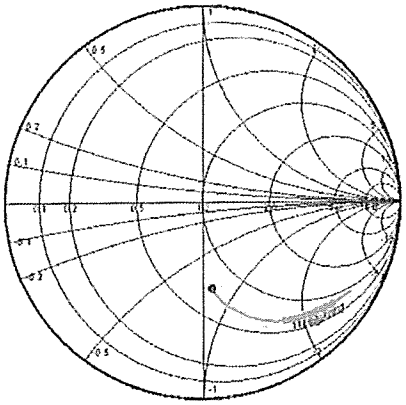
DALLAS, TEXAS
January 2011

EXHIBIT #1D

Tower #3 Impedance Measurements



Marker	Freq	Rs	Xs
[1]	1.280000	40.914	-132.986
[2]	1.285000	40.250	-129.493
[3]	1.290000	39.668	-125.873
[4]	1.295000	39.104	-122.077
[5]	1.300000	38.534	-118.100
[6]	1.305000	37.934	-113.970
[7]	1.310000	37.296	-109.732
[8]	1.315000	36.624	-105.438
[9]	1.320000	35.933	-101.140
[10]	1.325000	35.247	-96.881
[11]	1.330000	34.594	-92.692
[12]	1.335000	34.006	-88.591
[13]	1.340000	33.509	-84.578

APPLICATION FOR STATION LICENSE
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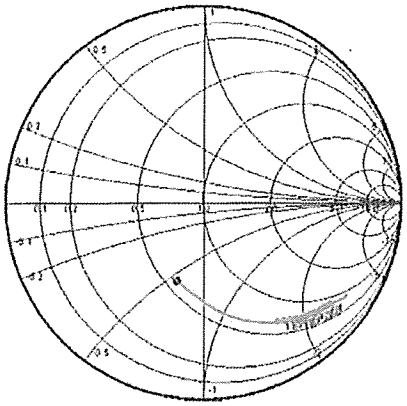
1310 kHz - 5.0/25.0 kW DA2
BP-20091116ADS
DALLAS, TEXAS
January 2011

EXHIBIT #1E

Tower #4 Impedance Measurements



Marker	Freq	Rs	Xs
[1]	1.280000	42.055	-130.661
[2]	1.285000	42.161	-126.776
[3]	1.290000	41.324	-122.841
[4]	1.295000	40.402	-118.810
[5]	1.300000	39.452	-114.690
[6]	1.305000	38.518	-110.456
[7]	1.310000	37.627	-106.131
[8]	1.315000	36.793	-101.741
[9]	1.320000	36.013	-97.314
[10]	1.325000	35.282	-92.884
[11]	1.330000	34.589	-88.478
[12]	1.335000	33.925	-84.119
[13]	1.340000	33.289	-79.816

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SUSQUEHANNA RADIO CORP.
KTCK AM RADIO STATION
1310 kHz - 5.0/25.0 kW DA2
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DALLAS, TEXAS
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EXHIBIT #2

Derivation of Operating Parameters for Directional Antenna

The Method of Moments model of the array, following verification with the measured individual short circuited base impedances, was utilized for directional antenna calculations. Calculations were made to determine the complex voltage values for sources located at ground level under each tower of the array to produce current moment sums for the towers that, when normalized, equated to the theoretical field parameters of the authorized directional antenna pattern. With these voltage sources, the tower currents were calculated. Twenty-four segments were used for each tower, so that the modeled current pulse at the base of the tower would correspond to the toroid pick-up at the output of the ATU. As the tower structures, sampling pickups, and sampling lines are identical, the antenna monitor ratios and phases corresponding to the theoretical parameters were calculated directly from the modeled tower currents.

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EXHIBIT #2A

Daytime Directional Operating Parameters

DAYTIME - REFERENCE TOWER #1

Tower	Current Magnitude (amperes)	Current Phase (degrees	Moment Method Calculations of Antenna Monitor Values		Antenna Monitor As Adjusted Antenna Monitor Values	
			Ratio	Phase	Ratio	Phase
1 (ne)	17.08	-73.06	1.000	0.0	1.000	0.0
2 (ce)	16.54	0.00	0.968	73.1	0.965	72.3
3 (se)	15.02	-134.23	0.879	-61.2	0.883	-61.2
4 (w)	12.58	-176.94	0.737	-103.9	0.735	-103.0

Daytime Operating Parameter Tolerances

Tower	Ratio (5%)		Phase (3°)	
	(+)	(-)	(+)	(-)
1 (ne)	1.000	1.000	0.00	0.00
2 (cc)	1.017	0.920	76.06	70.06
3 (se)	0.923	0.835	-58.17	-64.17
4 (w)	0.773	0.700	-100.88	-106.88

Nighttime Directonal Operating Parameters

NIGHTTIME - REFERENCE TOWER #3

Tower	Current Magnitude (amperes)	Current Phase (degrees	Moment Method Calculations of Antenna Monitor Values		Antenna Monitor As Adjusted Antenna Monitor Values	
			Ratio	Phase	Ratio	Phase
1 (ne)	0.15	-101.27	0.021	12.7	--	--
2 (ce)	5.47	0.00	0.770	114.0	0.789	112.5
3 (se)	7.1	-113.98	1.000	0.0	1.000	0.0
4 (w)	4.13	-176.89	0.582	-62.9	0.589	-63.0

Nighttime Operating Parameter Tolerances

Tower	Ratio (5%)		Phase (3°)	
	(+)	(-)	(+)	(-)
1 (ne)	--	--	--	--
2 (cc)	0.809	0.732	116.98	110.98
3 (se)	1.000	1.000	0.00	0.00
4 (w)	0.611	0.553	-59.91	-65.91

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EXHIBIT #3

Method of Moments Model Details for Towers Driven Individually

The array of towers was modeled using Westberg Engineering PhasorPro 2.1.1.12. One wire was used to represent each tower. The electrical length of each tower was specified using degrees at the operating frequency of 1310 kHz (1.31 MHz), as taken from the theoretical directional antenna specifications. Each tower was modeled using twenty-four segments. As the towers are 225.4 degrees in electrical height, the segment length is 9.8 electrical degrees, in compliance with Section 73.151(c)(1)(iii).

The individual tower characteristics were adjusted to provide a match of their modeled impedances, when presented to a circuit model, that included branches representing the stray feed-line hookup inductances at the tower bases, with the base impedances that were measured at the output jacks of the ATU's, while the other towers of the array were short circuited. The Method of Moments model assumed loads at ground level having the reactance that was calculated for them using the base circuit models for the open circuited towers of the array.

Each tower's modeled height, relative to its physical height, falls within the required range of 75% to 125%, in compliance with Section 73.151(c)(1)(v). Each tower's modeled

radius falls within the range of 80% to 150% of the radius of a circle having a circumference equal to the sum of the widths of the tower sides, which is in compliance with Section 73.151(c)(1)(i). The array consists of identical, uniform cross section towers having a face of 36 inches.

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EXHIBIT #3A

KTCK Dallas TX
1310

Tower	Physical Height (degrees)	Velocity Factor Adjustment	Modeled Height (degrees)	Modeled Percent of Height	Physical Equivalent Radius (inches)	Modeled Radius (inches)	Percent of Equivalent Radius
1 (ne)	225.4	0.96295	234.07	103.8%	16.628	16.628	100.0%
2 (ce)	225.4	0.97758	230.57	102.3%	16.628	16.628	100.0%
3 (se)	225.4	0.95465	236.11	104.8%	16.628	16.628	100.0%
4 (w)	225.4	0.97435	231.33	102.6%	16.628	16.628	100.0%

	Tower Height Tolerance >75% <125%			Tower Radius Tolerance >80% <150%		
Tower	Height	Minimum	Maximum	Actual	Minimum	Maximum
1 (ne)	225.4	169.1	281.8	16.628	13.302	24.942
2 (ce)	225.4	169.1	281.8	16.628	13.302	24.942
3 (se)	225.4	169.1	281.8	16.628	13.302	24.942
4 (w)	225.4	169.1	281.8	16.628	13.302	24.942

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EXHIBIT #4

Method of Moments Model Details for Directional Antenna Pattern(s)

The array of towers was modeled using Westberg Engineering PhasorPro 2.1.1.12 with the individual tower characteristics that were verified by the individual tower impedance measurements. Calculations were made to determine the complex voltage values for sources located at ground level under each tower of the array to produce current moment sums for the tower that, when normalized, equated to the theoretical field parameters of the authorized directional antenna pattern. The following pages contain details of the method of moments model of the directional antenna patterns.

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EXHIBIT #4A

STATION INFORMATION		
Call Letters	No. Towers	Frequency
KTCK	4	1.3100

TOWER INFORMATION						
	Tower Height (°)	Spacing (°)	Orientation	Face Width (in.)	Radius (in.)	Velocity Factor
Tower 1	225.4000	90.0000	0.0000	36.0000 / 36.0000	16.6277 / 16.6277	0.962950
Tower 2	225.4000	0.0000	0.0000	36.0000 / 36.0000	16.6277 / 16.6277	0.977580
Tower 3	225.4000	90.0000	180.0000	36.0000 / 36.0000	16.6277 / 16.6277	0.954650
Tower 4	225.4000	90.0000	290.0000	36.0000 / 36.0000	16.6277 / 16.6277	0.974350

MATRIX INFORMATION		
	Impedance (other towers open)	Impedance (other towers shorted)
Tower 1	40.38 - j129.27	36.36 - j134.27
Tower 2	38.12 - j134.41	32.98 - j146.59
Tower 3	41.56 - j123.59	37.30 - j126.18
Tower 4	43.02 - j138.66	37.63 - j144.76

DETUNED TOWER CURRENTS
Tower 1
0.000000 > 0.000000 - 225.40° above ground
1.084705 > 70.503670 - 215.60° above ground
1.850476 > 70.539553 - 205.80° above ground
2.480974 > 70.597736 - 196.00° above ground
2.969477 > 70.695262 - 186.20° above ground
3.310204 > 70.849939 - 176.40° above ground
3.497084 > 71.082885 - 166.60° above ground
3.526902 > 71.422022 - 156.80° above ground
3.400378 > 71.908992 - 147.00° above ground
3.122664 > 72.614138 - 137.20° above ground
2.703540 > 73.673737 - 127.40° above ground
2.157504 > 75.402209 - 117.60° above ground
1.504439 > 78.746444 - 107.80° above ground
0.776334 > 88.487268 - 98.00° above ground
0.263259 > 177.693502 - 88.20° above ground
0.965433 > -124.258332 - 78.40° above ground
1.814568 > -116.391863 - 68.60° above ground
2.658561 > -112.984049 - 58.80° above ground
3.463759 > -110.694288 - 49.00° above ground
4.204506 > -108.745210 - 39.20° above ground
4.859974 > -106.831772 - 29.40° above ground
5.416100 > -104.763681 - 19.60° above ground
5.865360 > -102.406237 - 9.80° above ground
6.337162 > -98.356584 - -0.00° above ground

Tower 2
0.000000 > 0.000000 - 225.40° above ground
1.058660 > 71.224016 - 215.60° above ground
1.799386 > 71.284017 - 205.80° above ground
2.405394 > 71.367314 - 196.00° above ground
2.871423 > 71.489183 - 186.20° above ground
3.193232 > 71.665107 - 176.40° above ground
3.366141 > 71.913791 - 166.60° above ground
3.388072 > 72.260549 - 156.80° above ground
3.260544 > 72.743858 - 147.00° above ground
2.989120 > 73.429500 - 137.20° above ground
2.583562 > 74.445787 - 127.40° above ground
2.057888 > 76.090106 - 117.60° above ground
1.430905 > 79.262769 - 107.80° above ground
0.731998 > 88.570952 - 98.00° above ground
0.239262 > -178.914950 - 88.20° above ground
0.924236 > -122.302343 - 78.40° above ground
1.737729 > -114.961834 - 68.60° above ground
2.545977 > -111.788765 - 58.80° above ground
3.318357 > -109.665648 - 49.00° above ground
4.031144 > -107.868431 - 39.20° above ground
4.665001 > -106.114277 - 29.40° above ground
5.206952 > -104.228611 - 19.60° above ground
5.649754 > -102.091199 - 9.80° above ground
6.125098 > -98.429836 - -0.00° above ground

DETUNED TOWER CURRENTS	
Tower 3	Tower 4
0.000000 > 0.000000 - 225.40° above ground	0.000000 > 0.000000 - 225.40° above ground
0.846300 > -6.699737 - 215.60° above ground	1.009487 > 59.577456 - 215.60° above ground
1.429461 > -6.262700 - 205.80° above ground	1.713473 > 59.671698 - 205.80° above ground
1.896519 > -5.831926 - 196.00° above ground	2.286950 > 59.784945 - 196.00° above ground
2.244606 > -5.381083 - 186.20° above ground	2.725185 > 59.932087 - 186.20° above ground
2.471889 > -4.892869 - 176.40° above ground	3.024463 > 60.127614 - 176.40° above ground
2.576591 > -4.345929 - 166.60° above ground	3.180731 > 60.389409 - 166.60° above ground
2.559340 > -3.710168 - 156.80° above ground	3.192493 > 60.742018 - 156.80° above ground
2.423896 > -2.937721 - 147.00° above ground	3.061755 > 61.223099 - 147.00° above ground
2.177421 > -1.942752 - 137.20° above ground	2.794444 > 61.897557 - 137.20° above ground
1.830522 > -0.547844 - 127.40° above ground	2.400534 > 62.893374 - 127.40° above ground
1.397310 > 1.693448 - 117.60° above ground	1.894085 > 64.512428 - 117.60° above ground
0.896342 > 6.337695 - 107.80° above ground	1.293714 > 67.698164 - 107.80° above ground
0.364220 > 24.621998 - 98.00° above ground	0.628576 > 77.673396 - 98.00° above ground
0.327789 > 143.272645 - 88.20° above ground	0.241966 > -174.963030 - 88.20° above ground
0.899145 > 165.293344 - 78.40° above ground	0.927381 > -131.916339 - 78.40° above ground
1.488844 > 170.518756 - 68.60° above ground	1.689878 > -125.679274 - 68.60° above ground
2.052778 > 173.170541 - 58.80° above ground	2.439458 > -122.860058 - 58.80° above ground
2.568520 > 175.033045 - 49.00° above ground	3.148063 > -120.938065 - 49.00° above ground
3.017527 > 176.617571 - 39.20° above ground	3.793014 > -119.297197 - 39.20° above ground
3.384270 > 178.150912 - 29.40° above ground	4.355532 > -117.688515 - 29.40° above ground
3.656614 > 179.791210 - 19.60° above ground	4.822294 > -115.952088 - 19.60° above ground
3.826511 > -178.325091 - 9.80° above ground	5.185249 > -113.969924 - 9.80° above ground
3.896443 > -174.946520 - -0.00° above ground	5.534503 > -110.523539 - -0.00° above ground

ZMatrix			
40.38 - j129.27	25.74 + j0.29	5.43 - j10.00	23.11 - j3.26
25.74 + j0.29	38.12 - j134.41	28.01 - j1.56	26.12 + j3.53
5.43 - j10.00	28.01 - j1.56	41.56 - j123.59	14.29 - j9.50
23.11 - j3.26	26.12 + j3.53	14.29 - j9.50	43.02 - j138.66

YMatrix			
0.001879 + j0.006939	0.000866 - j0.000660	-0.000396 - j0.000721	0.000718 - j0.000789
0.000866 - j0.000660	0.001461 + j0.006493	0.000968 - j0.000776	0.000816 - j0.000539
-0.000396 - j0.000721	0.000968 - j0.000776	0.002155 + j0.007288	0.000101 - j0.000872
0.000718 - j0.000789	0.000816 - j0.000539	0.000101 - j0.000872	0.001682 + j0.006471

HMatrix - [I] = [H] X [F]			
-0.018081 + j0.007493	0.002902 + j0.004508	0.002783 - j0.000863	0.003271 + j0.003447
0.002549 + j0.004251	-0.017615 + j0.007997	0.002623 + j0.004130	0.002539 + j0.004485
0.003008 - j0.000946	0.003176 + j0.004558	-0.018433 + j0.007278	0.003954 + j0.000727
0.003057 + j0.003274	0.002732 + j0.004529	0.003452 + j0.000735	-0.017219 + j0.007714

HMatrix-inverse - $[F] = [H]^{-1} X [I]$			
-41.528423 - j18.570143	7.209836 - j11.692677	-1.018614 - j3.082646	4.501654 - j10.421446
7.033676 - j10.614818	-36.899638 - j16.674223	5.923280 - j11.939023	9.181103 - j11.057273
-1.226529 - j3.405282	6.236271 - j13.931210	-42.714397 - j19.386304	-0.499967 - j7.800466
4.359620 - j9.808113	9.043054 - j11.530092	-0.175258 - j6.863687	-41.507716 - j20.512601

TOWER CURRENTS	
Mode 1	
Tower 1	Tower 2
0.000000 > 0.000000 - 225.40° above ground	0.000000 > 0.000000 - 225.40° above ground
3.731782 > 112.359630 - 215.60° above ground	4.123323 > -172.710522 - 215.60° above ground
6.513849 > 112.768844 - 205.80° above ground	7.270913 > -172.493635 - 205.80° above ground
8.949817 > 113.194030 - 196.00° above ground	10.098091 > -172.286784 - 196.00° above ground
11.010167 > 113.656662 - 186.20° above ground	12.565503 > -172.082736 - 186.20° above ground
12.666488 > 114.170944 - 176.40° above ground	14.633958 > -171.878733 - 176.40° above ground
13.886857 > 114.754080 - 166.60° above ground	16.258862 > -171.671072 - 166.60° above ground
14.646140 > 115.428707 - 156.80° above ground	17.401791 > -171.454511 - 156.80° above ground
14.929697 > 116.226562 - 147.00° above ground	18.034802 > -171.221479 - 147.00° above ground
14.735351 > 117.194582 - 137.20° above ground	18.142843 > -170.960842 - 137.20° above ground
14.074449 > 118.406101 - 127.40° above ground	17.725019 > -170.655697 - 127.40° above ground
12.972462 > 119.983153 - 117.60° above ground	16.795077 > -170.279206 - 117.60° above ground
11.469656 > 122.145319 - 107.80° above ground	15.381294 > -169.786152 - 107.80° above ground
9.623029 > 125.330283 - 98.00° above ground	13.525873 > -169.094204 - 98.00° above ground
7.513617 > 130.541937 - 88.20° above ground	11.284131 > -168.036680 - 88.20° above ground
5.277753 > 140.582138 - 78.40° above ground	8.724194 > -166.219787 - 78.40° above ground
3.275697 > 165.087350 - 68.60° above ground	5.930868 > -162.449355 - 68.60° above ground
2.784356 > -141.217623 - 58.80° above ground	3.046060 > -150.853829 - 58.80° above ground
4.480174 > -104.419341 - 49.00° above ground	1.254283 > -69.834308 - 49.00° above ground
6.875122 > -90.191905 - 39.20° above ground	3.657209 > -13.984467 - 39.20° above ground
9.357574 > -83.320320 - 29.40° above ground	6.652904 > -5.308425 - 29.40° above ground
11.768747 > -79.174188 - 19.60° above ground	9.630868 > -2.277838 - 19.60° above ground
14.049517 > -76.251487 - 9.80° above ground	12.524982 > -0.884675 - 9.80° above ground
17.080741 > -73.064886 - -0.00° above ground	16.539366 > 0.000000 - -0.00° above ground

TOWER CURRENTS
Mode 1
Tower 3
0.000000 > 0.000000 - 225.40° above ground
3.274269 > 46.325883 - 215.60° above ground
5.724649 > 46.746287 - 205.80° above ground
7.872726 > 47.179822 - 196.00° above ground
9.688831 > 47.648479 - 186.20° above ground
11.144171 > 48.166460 - 176.40° above ground
12.207370 > 48.750674 - 166.60° above ground
12.853725 > 49.423137 - 156.80° above ground
13.068647 > 50.214601 - 147.00° above ground
12.849524 > 51.170673 - 137.20° above ground
12.206690 > 52.363268 - 127.40° above ground
11.163922 > 53.914043 - 117.60° above ground
9.758907 > 56.047614 - 107.80° above ground
8.044776 > 59.229916 - 98.00° above ground
6.096782 > 64.601015 - 88.20° above ground
4.045313 > 75.726975 - 78.40° above ground
2.300009 > 107.327007 - 68.60° above ground
2.408212 > 170.909566 - 58.80° above ground
4.290162 > -159.865817 - 49.00° above ground
6.501744 > -149.194389 - 39.20° above ground
8.685327 > -143.731570 - 29.40° above ground
10.740450 > -140.184808 - 19.60° above ground
12.623545 > -137.474719 - 9.80° above ground
15.016669 > -134.225502 - -0.00° above ground

Tower 4
0.000000 > 0.000000 - 225.40° above ground
2.806235 > -0.495317 - 215.60° above ground
4.879582 > -0.259098 - 205.80° above ground
6.679640 > -0.016449 - 196.00° above ground
8.183786 > 0.245374 - 186.20° above ground
9.370527 > 0.534304 - 176.40° above ground
10.215900 > 0.859523 - 166.60° above ground
10.701507 > 1.232737 - 156.80° above ground
10.817398 > 1.670106 - 147.00° above ground
10.563563 > 2.195523 - 137.20° above ground
9.950581 > 2.846911 - 127.40° above ground
8.999723 > 3.689568 - 117.60° above ground
7.742698 > 4.848063 - 107.80° above ground
6.221370 > 6.596113 - 98.00° above ground
4.488649 > 9.679780 - 88.20° above ground
2.618822 > 17.088266 - 78.40° above ground
0.891262 > 57.816100 - 68.60° above ground
1.747603 > 156.213695 - 58.80° above ground
3.708691 > 170.415633 - 49.00° above ground
5.661393 > 175.044033 - 39.20° above ground
7.504644 > 177.582136 - 29.40° above ground
9.195936 > 179.406933 - 19.60° above ground
10.710287 > -179.039954 - 9.80° above ground
12.584846 > -176.943707 - -0.00° above ground

TOWER CURRENTS	
Mode 2	
Tower 1	Tower 2
0.000000 > 0.000000 - 225.40° above ground	0.000000 > 0.000000 - 225.40° above ground
0.024409 > -134.160495 - 215.60° above ground	1.359967 > -175.007907 - 215.60° above ground
0.036560 > -131.567692 - 205.80° above ground	2.393924 > -174.864319 - 205.80° above ground
0.042399 > -128.566375 - 196.00° above ground	3.318909 > -174.729483 - 196.00° above ground
0.042783 > -124.864382 - 186.20° above ground	4.122201 > -174.598842 - 186.20° above ground
0.038666 > -119.982236 - 176.40° above ground	4.791186 > -174.470864 - 176.40° above ground
0.031068 > -112.738563 - 166.60° above ground	5.311539 > -174.343413 - 166.60° above ground
0.021316 > -99.382225 - 156.80° above ground	5.671046 > -174.213377 - 156.80° above ground
0.012400 > -64.348162 - 147.00° above ground	5.861025 > -174.076170 - 147.00° above ground
0.013698 > 1.026423 - 137.20° above ground	5.877108 > -173.924946 - 137.20° above ground
0.024260 > 30.980471 - 127.40° above ground	5.719644 > -173.749164 - 127.40° above ground
0.035960 > 43.435032 - 117.60° above ground	5.393832 > -173.531826 - 117.60° above ground
0.046438 > 50.983815 - 107.80° above ground	4.909647 > -173.243779 - 107.80° above ground
0.054604 > 56.749208 - 98.00° above ground	4.281583 > -172.830731 - 98.00° above ground
0.059669 > 61.807037 - 88.20° above ground	3.528268 > -172.179382 - 88.20° above ground
0.060989 > 66.690006 - 78.40° above ground	2.672062 > -171.009424 - 78.40° above ground
0.058042 > 71.831335 - 68.60° above ground	1.739241 > -168.395630 - 68.60° above ground
0.050436 > 77.896140 - 58.80° above ground	0.767708 > -158.584697 - 58.80° above ground
0.037988 > 86.694186 - 49.00° above ground	0.368713 > -35.175453 - 49.00° above ground
0.021448 > 107.191758 - 39.20° above ground	1.327752 > -6.467902 - 39.20° above ground
0.014674 > -166.419931 - 29.40° above ground	2.319100 > -2.346552 - 29.40° above ground
0.040387 > -121.130563 - 19.60° above ground	3.282712 > -0.894498 - 19.60° above ground
0.077832 > -109.204537 - 9.80° above ground	4.206855 > -0.279455 - 9.80° above ground
0.146199 > -101.276854 - -0.00° above ground	5.470438 > 0.000000 - -0.00° above ground

TOWER CURRENTS	
Mode 2	
Tower 3	Tower 4
0.000000 > 0.000000 - 225.40° above ground	0.000000 > 0.000000 - 225.40° above ground
1.590479 > 68.308935 - 215.60° above ground	0.927502 > 3.155362 - 215.60° above ground
2.774242 > 68.685172 - 205.80° above ground	1.620083 > 3.611360 - 205.80° above ground
3.806912 > 69.074054 - 196.00° above ground	2.228064 > 4.071846 - 196.00° above ground
4.675334 > 69.495790 - 186.20° above ground	2.743507 > 4.558140 - 186.20° above ground
5.366867 > 69.963773 - 176.40° above ground	3.158751 > 5.082237 - 176.40° above ground
5.867629 > 70.494084 - 166.60° above ground	3.465215 > 5.658298 - 166.60° above ground
6.166942 > 71.107788 - 156.80° above ground	3.656036 > 6.304672 - 156.80° above ground
6.258925 > 71.834453 - 147.00° above ground	3.727034 > 7.046830 - 147.00° above ground
6.143344 > 72.718112 - 137.20° above ground	3.677235 > 7.922164 - 137.20° above ground
5.826028 > 73.828449 - 127.40° above ground	3.509130 > 8.988867 - 127.40° above ground
5.319060 > 75.283740 - 117.60° above ground	3.228796 > 10.343789 - 117.60° above ground
4.640945 > 77.303092 - 107.80° above ground	2.845951 > 12.162169 - 107.80° above ground
3.817263 > 80.342865 - 98.00° above ground	2.374159 > 14.798159 - 98.00° above ground
2.883660 > 85.526513 - 88.20° above ground	1.831860 > 19.088470 - 88.20° above ground
1.901015 > 96.411605 - 78.40° above ground	1.247593 > 27.538435 - 78.40° above ground
1.062182 > 128.181409 - 68.60° above ground	0.695516 > 50.826036 - 68.60° above ground
1.122992 > -166.755022 - 58.80° above ground	0.546599 > 117.222136 - 58.80° above ground
2.028226 > -138.003102 - 49.00° above ground	1.030659 > 156.097915 - 49.00° above ground
3.080052 > -127.749712 - 39.20° above ground	1.652788 > 168.336212 - 39.20° above ground
4.114685 > -122.586452 - 29.40° above ground	2.275160 > 174.047566 - 29.40° above ground
5.086394 > -119.300761 - 19.60° above ground	2.867035 > 177.556578 - 19.60° above ground
5.975058 > -116.847892 - 9.80° above ground	3.416204 > -179.868710 - 9.80° above ground
7.100797 > -113.983961 - -0.00° above ground	4.130626 > -176.884900 - -0.00° above ground

FIELD INFORMATION - DAY		
	Field Ratio	Field Phase
Tower 1	0.6770	-63.0000
Tower 2	1.0000	0.0000
Tower 3	0.5530	-131.0000
Tower 4	0.4120	173.0000

FIELD INFORMATION - NIGHT		
	Field Ratio	Field Phase
Tower 2	1.0000	0.0000
Tower 3	0.8500	-105.0000
Tower 4	0.5200	188.0000

TOWER DRIVE INFORMATION - DAY					
	Field Ratios	Field Phase	Drive Imped. (Ω)	Current	Power (W)
Tower 1	0.6770	-63.0000	35.57 - j129.72	17.08 ∠ -73.06	10376.8338
Tower 2	1.0000	0.0000	7.69 - j180.73	16.54 ∠ 0.00	2103.7284
Tower 3	0.5530	-131.0000	37.61 - j114.33	15.02 ∠ -134.23	8481.8062
Tower 4	0.4120	173.0000	25.49 - j106.71	12.58 ∠ -176.94	4037.6317

TOWER DRIVE INFORMATION - NIGHT					
	Field Ratios	Field Phase	Drive Imped. (Ω)	Current	Power (W)
Tower 1	0.0000	0.0000	65.21 - j373.63	0.15 ∠ -101.27	1.3937
Tower 2	1.0000	0.0000	1.82 - j171.21	5.47 ∠ 0.00	54.3168
Tower 3	0.8500	-105.0000	32.91 - j113.48	7.10 ∠ -113.98	1659.3342
Tower 4	0.5200	188.0000	34.28 - j126.25	4.13 ∠ -176.89	584.9553

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EXHIBIT #5

Direct Measurement of Power

KCTK will operate with a directional daytime power of 25.0 kilowatts and a common point impedance of 49.7 +/-J 1.0 ohms and a nighttime power of 5.0 kilowatts and a common point impedance of 49.5 +/- J 1.7 ohms.

Daytime

Due to the daytime directional antenna operation, the common point input powers are adjusted with reference to the transmitted power, in accordance with Section 73.51(b)(2)[1].

Adjusting the input power by 1.053 results in the following:

25,000 Watts X 1.053 = 26,325 Watts

Common Point Resistance = 49.7 Ohms

Manipulating $I^2R = P$

Where I = Common Point Current R = Common Point Resistance P = Power in Watts

$I = (26{,}325/49.7)^{.5} = 23.0$ Amps at Common Point

The daytime directional power will be monitored at the common point.

---

1) Section 73.51 Determining operating power. (b) The authorized antenna input power for each station shall be equal to the nominal power for such station, with the following exceptions: (2) For stations with nomimal powers in excess of 5 kilowatts, the authorized antenna input power to directional antennas shall exceed the nominal power by 5.3 percent.

Nighttime

The nighttime directional antenna is licensed with an Antenna Input Power of 2.3 kilowatts of power to achieve a nominal power of 5.0 kilowatts in accordance with the outstanding station license (BZ-20031016ACJ).

2,300 Watts

Common Point Resistance = 49.5 Ohms

Manipulating $I^2R = P$

Where I = Common Point Current R = Common Point Resistance P = Power in Watts

$I = (2{,}300/49.5)^{\wedge.5} = 6.82$ Amps at Common Point

The nighttime directional power will be monitored at the common point.

Common point impedance was measured utilizing an Array Solutions, POWER AIM 120, Vector Impedance Analyzer in a calibrated measurement system.

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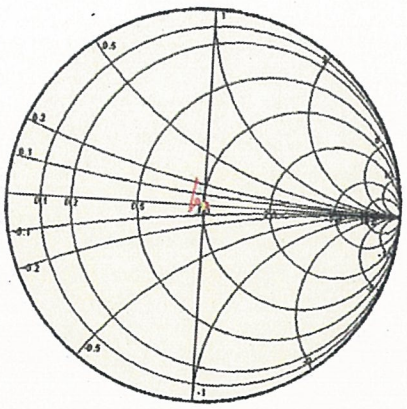
EXHIBIT #5A

Daytime Common Point Measurements / Impedance



Marker	Freq	Rs	Xs
[1]	1.295000	45.438	-0.631
[2]	1.300000	47.309	1.515
[3]	1.305000	48.568	0.215
[4]	1.310000	49.701	-0.960
[5]	1.315000	50.151	-0.733
[6]	1.320000	50.620	-0.420
[7]	1.325000	51.190	0.330

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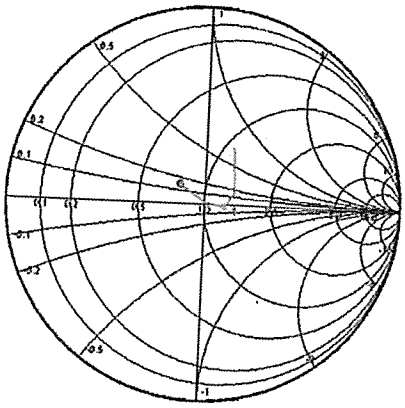
EXHIBIT #5B

Nighttime Common Point Measurements / Impedance



Marker	Freq	Rs	Xs
[1]	1.295000	64.072	3.134
[2]	1.300000	60.710	-1.299
[3]	1.305000	55.130	0.159
[4]	1.310000	49.506	1.715
[5]	1.315000	43.621	5.300
[6]	1.320000	37.869	8.096
[7]	1.325000	33.707	11.101

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EXHIBIT #6

Sampling System And Measurements

The sample system for KCTK consists of electrical equal lengths of Andrew LDF4-50A phase stabilized coaxial transmission lines terminated into Delta TCT-3 toroid sample transformers. A tabulation of the sample line lengths and characteristic impedances are included in Exhibit #6A.

Impedance measurements of the antenna monitor sampling lines with the toroid sample transformers attached were made using an Array Solutions, POWER AIM 120, Vector Impedance Analyzer in a calibrated measurement system. The impedance at the input to the sample lines, terminated by the toroid sample transformers, was measured and tabulated in Exhibits #6B, #6C, #6D and #6E.

Impedance measurements of the antenna monitor sampling lines were made using an Array Solutions, POWER AIM 120, Vector Impedance Analyzer in a calibrated measurement system. The measurements were made looking into the antenna monitor ends of the sampling lines without the sampling lines connected to the toroid samples under open-circuited conditions. Exhibits #6F, #6G, #6H and #6I detail the sample transmission line measurements with

frequencies above and below carrier frequency where resonance (zero reactance corresponding with low resistance) was found. As the length of a distortionless transmission line is 180 electrical degrees at the difference frequency between adjacent frequencies of resonance and frequencies of resonance occurring at odd multiples of 90 degrees electrical length. The sampling line length calculated from the resonant frequency closest to the carrier frequency was found to be between 336.9 and 337.1 electrical degrees, within the 1.0 degree variance, as specified by Section 73.151(c)(2)(i).

In order to determine the characteristic impedance values of the sampling lines, open-circuit measurements were made with frequencies offset to produce +/- 45 degrees of electrical length from resonance. The characteristic impedance was calculated using the following formula where $R_1 + jX_1$ and $R_2 + jX_2$ are the measured impedances at the +45 and -45 degree offset frequencies, respectively:

$$Z0 = ((R_1^2 + X_1^2)^{1/2} * (R_2^2 + X_2^2)^{1/2})^{1/2}$$

The sampling line characteristic impedance was found to be between 50.7 and 50.9 Ohms, within the 2.0 ohm variance, as specified by Section 73.151(c)(2)(i).

Toroid current transformer calibration was checked by placing each transformer in line at the transmitter output connected to a dummy load. The transformers were connected to the station's antenna monitor with short equal length transmission line jumpers. The relative ratio and phase of all transformers was found to compare identically to each other, within the manufacturer' specifications.

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EXHIBIT #6A

KTCK Dallas TX
1310 kHz

Sample Line - Andrew Phase Stabilized LDF4-50J

Sample Line and Sample Transformer Combined Impedance at 1310 kHz

Tower Sample System	Sample Transformer Make / Type / Serial #	Resistance (ohms)	Reactance (ohms)	Supporting Exhibit
1 (ne)	Delta / TCT-3 / 17845	51.01	-1.30	6B
2 (ce)	Delta / TCT-3 / 17847	50.96	-1.19	6C
3 (se)	Delta / TCT-3 / 17830	50.89	-1.21	6D
4 (w)	Delta / TCT-3 / 17825	50.93	-1.29	6E

Sample Line Length and Impedance Calculations

Tower Sample Line	Open Circuit Resonance (kHz)	Calculated Electrical Length at 1410 kHz (degrees)	Measured Characteristic Impedance	Supporting Exhibit
1 (ne)	1.049608	337.0	50.9	6F
2 (ce)	1.049288	337.1	50.8	6G
3 (se)	1.049927	336.9	50.7	6H
4 (w)	1.049928	336.9	50.8	6I

Sample Line Lengths : +/- 0.10 Degrees : Limit +/- 0.5°

Characteristic Impedance : +/- 0.10 Ohms : Limit +/- 1.0 Ohms

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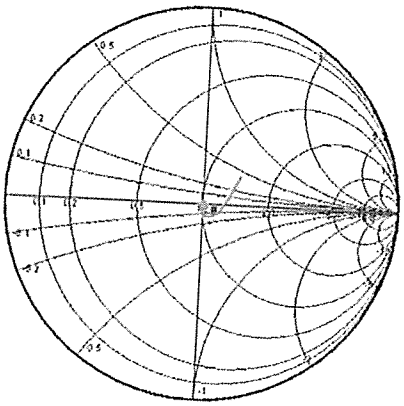
EXHIBIT #6B

Tower #1 Sample and Toroid



Marker	Freq	Rs	Xs
[1]	1.280000	51.053	-1.303
[2]	1.290000	51.041	-1.307
[3]	1.300000	51.027	-1.306
[4]	1.310000	51.012	-1.300
[5]	1.320000	50.996	-1.289
[6]	1.330000	50.979	-1.274
[7]	1.340000	50.961	-1.255

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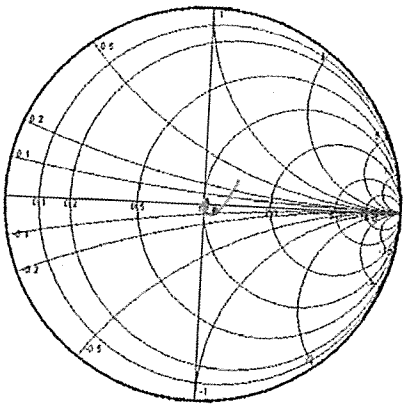
EXHIBIT #6C

Tower #2 Sample and Toroid



Marker	Freq	Rs	Xs
[1]	1.280000	50.994	-1.187
[2]	1.290000	50.984	-1.191
[3]	1.300000	50.973	-1.198
[4]	1.310000	50.962	-1.185
[5]	1.320000	50.949	-1.176
[6]	1.330000	50.935	-1.162
[7]	1.340000	50.921	-1.145

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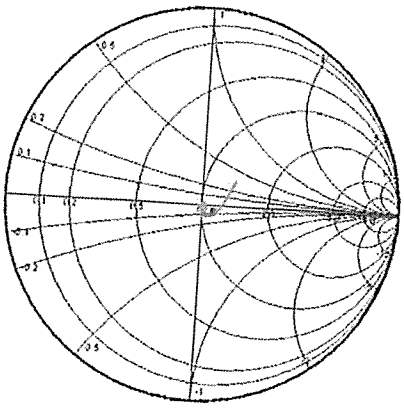
EXHIBIT #6D

Tower #3 Sample and Toroid



Marker	Freq	Rs	Xs
[1]	1.280000	50.924	-1.211
[2]	1.290000	50.914	-1.214
[3]	1.300000	50.903	-1.213
[4]	1.310000	50.891	-1.207
[5]	1.320000	50.878	-1.198
[6]	1.330000	50.864	-1.184
[7]	1.340000	50.849	-1.167

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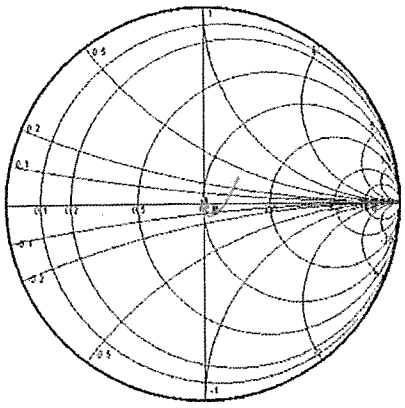
EXHIBIT #6E

Tower #4 Sample and Toroid



Marker	Freq	Rs	Xs
[1]	1.290000	50.965	-1.297
[2]	1.295000	50.954	-1.300
[3]	1.300000	50.941	-1.300
[4]	1.310000	50.928	-1.294
[5]	1.320000	50.914	-1.285
[6]	1.330000	50.899	-1.271
[7]	1.340000	50.883	-1.253

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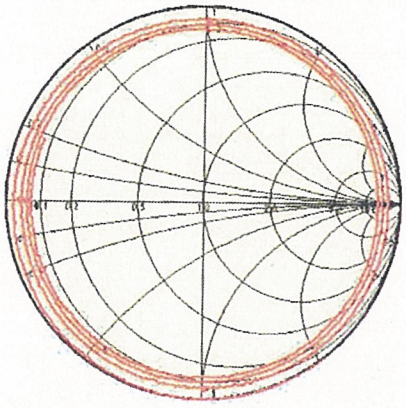
EXHIBIT #6F

KCTK Sample Line - Tower #1



Marker	Freq	Rs	Xs
[1]	0.874673	3.217	-50.931
[2]	1.049608	1.968	0.000
[3]	1.224543	5.073	50.402
[4]	1.752982	2.693	-0.000

Station Freq (MHz)
1.31

Resonant Freq (MHz)
1.049608

Resonant Freq (MHz)
1.752982

Closest To Station Freq
1.049608

Line Velocity Factor From Mfg. (%)
88

Length of Line ° @ Station Freq
337.0

Calculated Physical Length
618.7 feet

Impedance at Offset Freq

-45° Offset (MHz)
0.874673

Resistance
3.217

Reactance
-50.931

Line Characteristic Impedance (Ohms)
50.9

+45° Offset (MHz)
1.224543

5.391

50.579

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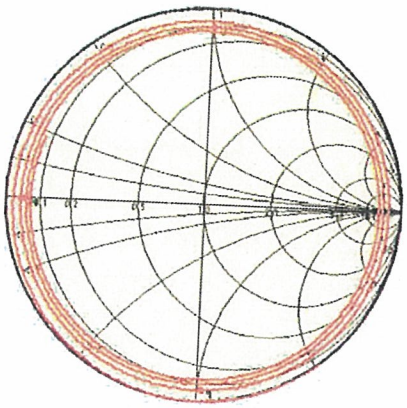
EXHIBIT #6G

KCTK Sample Line - Tower #2



Marker	Freq	Rs	Xs
[1]	0.874407	3.203	-50.930
[2]	1.049288	2.042	0.000
[3]	1.224169	5.265	50.291
[4]	1.752901	2.728	0.000

Station Freq (MHz)
1.31

Resonant Freq (MHz)
1.049288

Resonant Freq (MHz)
1.752901

Closest To Station Freq
1.049288

Line Velocity Factor From Mfg. (%)
88

Length of Line ° @ Station Freq
337.1

Calculated Physical Length
618.9 feet

-45° Offset (MHz)
0.874407

Resistance
3.203

Impedance at Offset Freq
Reactance
-50.930

Line Characteristic Impedance (Ohms)
50.8

+45° Offset (MHz)
1.224169

5.265

50.291

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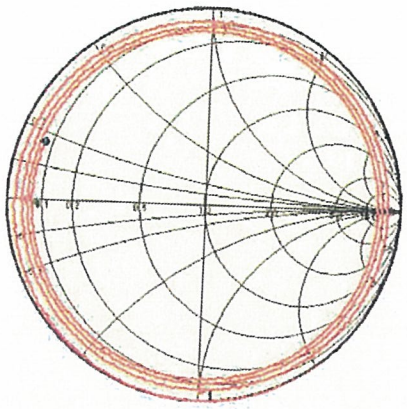
EXHIBIT #6H

KCTK Sample Line - Tower #3



Marker	Freq	Rs	Xs
[1]	0.874939	3.158	-50.735
[2]	1.049927	2.074	0.000
[3]	1.224915	5.013	50.395
[4]	1.753824	2.711	-0.000

Station Freq (MHz)
1.31

Resonant Freq (MHz)
1.049927

Resonant Freq (MHz)
1.753824

Closest To Station Freq
1.049927

Line Velocity Factor From Mfg. (%)
88

Length of Line ° @ Station Freq
336.9

Calculated Physical Length
618.6 feet

-45° Offset (MHz)
0.874939

Resistance
3.158

Impedance at Offset Freq
Reactance
-50.735

Line Characteristic Impedance (Ohms)
50.7

+45° Offset (MHz)
1.224915

5.013

50.395

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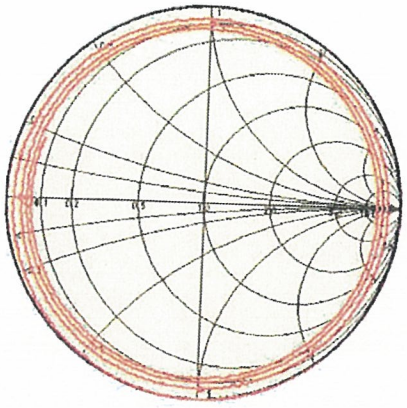
EXHIBIT #6I

KCTK Sample Line - Tower #4



Marker	Freq
[1]	0.874940
[2]	1.049928
[3]	1.224916
[4]	1.753796

Rs	Xs
3.111	-50.826
1.965	0.000
5.029	50.349
2.690	0.000

Station Freq (MHz)
1.31

Resonant Freq (MHz)
1.049928

Resonant Freq (MHz)
1.753796

Closest To Station Freq
1.049928

Line Velocity Factor From Mfg. (%)
88

Length of Line ° @ Station Freq
336.9

Calculated Physical Length
618.6 feet

-45° Offset (MHz)
0.874940

Resistance
3.111

Impedance at Offset Freq
Reactance
-50.826

Line Characteristic Impedance (Ohms)
50.8

+45° Offset (MHz)
1.224916

5.029

50.349

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EXHIBIT #7

Reference Field Strength Measurements

Reference field strength measurements were made at three locations along radials on the station monitor point azimuths as specified in the construction permit for the daytime array. In addition three locations were measured in the station's daytime major lobe of 256.5°. Reference field strength measurements were made at three locations along radials on the station monitor point radials as specified in the station license for the nighttime array. In addition three locations were measured in the station's nighttime major lobe of 247.5°. The tabulated measured field strengths, descriptions and GPS coordinates for the reference measurement points during nighttime operation are attached as Exhibit 7A. The GPS unit used was a Delorme LT-40 with Delorme Street Atlas 2008 system with WAAS activated, Datum NAD '83, CONUS and coordinate format DD-MM-SS.s.

KTCK Dallas TX Daytime Array Field Measurements
1310

Radial (°T)	Point #	N. Latitude	W. Longitude	Dist (mi)	Dist (km)	mv/m	Time (24 hr)	Date	Description
Monitor Point Radial Specified on Construction Permit									
59.0	1	32-57-39.1	96-54-26.8	2.17	3.49	135.00	1056	1/24/2011	Driveway of 1613 Denton Dr.
59.0	2	32-58-17.4	96-53-10.2	3.63	5.84	120.00	1023	1/24/2011	West Bound Keller Springs, North Side of Street on Bridge over Hutton Branch
59.0	3	32-58-41.6	96-52-23.3	4.52	7.28	80.00	1014	1/24/2011	Sidewalk - 2239 Souther Circle - 20 ft from Kelly Blvd.
Monitor Point Radial Specified on Construction Permit									
179.5	1	32-54-11.4	96-56-18.5	2.86	4.61	105.00	1520	1/24/2011	Sidewalk - 430 La Villeta Blvd.
179.5	2	32-53-09.5	96-56-22.0	3.40	5.47	80.00	1500	1/24/2011	Sidewalk - Building 3, Suite 112
179.5	3	30-39-42.2	88-03-43.0	3.12	5.02	31.00	1320	1/24/2011	Dallas Communications Complex North side Customer Way by Fire Plug beside Nieman Marcus Direct Mail Center
Monitor Point Radial Specified on Construction Permit									
350.0	1	32-57-57.3	96-56-43.4	1.51	2.44	350.00	1135	1/24/2011	1601 Sandy Lake Rd by "Posted" sign
350.0	2	32-59-37.9	96-57-02.1	3.48	5.60	80.00	1107	1/24/2011	Driveway Hank Haney Golf Ranch
350.0	3	33-00-33.2	96-57-34.8	4.63	7.44	27.00	1528	1/26/2011	Intersection of drive to adjacent property Parking Lot DCT Hebron Station

Geographic Coordinates Datum: NAD '83 CONUS
Latitude and Longitude Format: DD-MM-SS.s
FIM: Potomac : FIM-41 : SN 571 : Calibrated 07/02/97

GPS: Delorme LT-40 with Delorme Street Atlas 2008 : WAAS Enabled

Field Measurements: Bill Guyger

EXHIBIT #7A
APPLICATION FOR STATION LICENSE
SUSQUEHANNA RADIO CORP.
KTCK AM RADIO STATION
1310 kHz - 5.0/25.0 kW DA2
BP-20091116ADS
DALLAS, TEXAS
January 2011

Major lobe Radial - Daytime

256.5	1	32-56-01.1	96-59-38.4	3.23	5.20	238.00	1155	1/24/2011	1405 Beltline @ South end of Lot
256.5	2	32-55-41.9	97-01-11.4	4.78	7.69	192.00	1304	1/24/2011	Entry Drive near small creek On Berm in Front of 8710 N. Royal Lane
256.5	3	32-55-32.8	97-01-56.2	5.52	8.89	175.00	1311	1/24/2011	North Shoulder of West Bound North Airfield Drive

Geographic Coordinates Datum: NAD '83 CONUS
Latitude and Longitude Format: DD-MM-SS.s
FIM: Potomac : FIM-41 : SN 571 : Calibrated 07/02/97

GPS: Delorme LT-40 with Delorme Street Atlas 2008 : WAAS Enabled

Field Measurements: Bill Guyger

EXHIBIT #7B
APPLICATION FOR STATION LICENSE
SUSQUEHANNA RADIO CORP.
KTCK AM RADIO STATION
1310 kHz - 5.0/25.0 kW DA2
BP-20091116ADS
DALLAS, TEXAS
January 2011

KTCK Dallas TX Nighttime Array Field Measurements
1310

Radial (°T)	Point #	N. Latitude	W. Longitude	Dist (mi)	Dist (km)	mv/m	Time (24 hr)	Date	Description
Monitor Point Radial Specified on Station License									
62.5	1	32-57-31.9	96-54-24.9	2.15	3.46	12.00	1518	1/26/2011	Cotton Street at Entrance of 1st Driveway off Denton Drive, S. Side of Cotton
62.5	2	32-57-58.4	96-53-23.3	3.23	5.19	10.00	1507	1/26/2011	East Side of Josey Ln at Private Entrance Drive of Akzonobel Paint Plant
62.5	3	32-58-18.3	96-52-39.3	4.07	6.55	5.00	1500	1/26/2011	2204 Kelly Blvd. on Water Meter
Monitor Point Radial Specified on Station License									
191.0	1	32-55-2.1	96-56-45.6	1.92	3.09	150.00	1700	1/26/2011	SW Corner of Ranch View High School Parking Lot
191.0	2	32-54-15.9	96-56-55.4	2.82	4.53	118.00	1710	1/26/2011	Top of Storm Drain East Bound La Villita Rd.
191.0	3	32-53-47.7	96-57-03.7	3.37	5.42	76.00	1720	1/26/2011	NE Corner of Royal Ln. & Las Colinas Blvd corner of Citi Financial Parking Lot
Monitor Point Radial Specified on Station License									
220.0	1	32-55-08.3	96-57-54.8	2.31	3.71	221.00	1650	1/26/2011	NE Corner of Market Place Blvd & Walton Blvd. parking lot for PetSmart & Office Depot.
220.0	2	32-54-10.8	96-58-52.3	3.74	6.02	150.00	1635	1/26/2011	South End of Bridge on North Bound Royal Ln.
220.0	3	32-53-37.5	96-59-26.0	4.58	7.36	110.00	1627	1/26/2011	Berm on Gateway Drive. 75 ft East of Beltline fron of 6220 Beltline Suite 110.
Monitor Point Radial Specified on Station License									
355.5	1	32-57-54.7	96-56-30.9	1.45	2.33	22.80	1128	1/26/2011	Driveway Elm Fork Nature Preserve leading to Picnic Area / Soccor Field. South Side of Sandy Lake Road to left off main entry.
355.5	2	32-59-28.9	96-56-48.0	3.27	5.27	13.20	1115	1/26/2011	SE Corner of Parking lot of 3301 I-35East.
355.5	3	33-00-58.3	96-56-56.5	4.97	8.00	22.20	1540	1/26/2011	3697 Stockton Dr

Geographic Coordinates Datum: NAD '83 CONUS
Latitude and Longitude Format: DD-MM-SS.s
FIM: Potomac : FIM-41 : SN 571 : Calibrated 07/02/97

GPS: Delorme LT-40 with Delorme Street Atlas 2008 : WAAS Enabled

Field Measurements: Bill Guyger

EXHIBIT #7C
APPLICATION FOR STATION LICENSE
SUSQUEHANNA RADIO CORP.
KTCK AM RADIO STATION
1310 kHz - 5.0/25.0 kW DA2
BP-20091116ADS
DALLAS, TEXAS
January 2011

Major lobe Radial - Nighttime

247.5	1	32-55-33.5	96-59-34.9	3.35	5.40	122.00	1202	1/26/2011	Abandoned Drive - Hackberry Drive, East of Beltline Road, 50 ft North Of Hackberry
247.5	2	32-55-15.3	97-00-27.5	4.26	6.86	85.00	1242	1/26/2011	NE Corner of Royal Ln. & Esters Rd. parking lot at 8300 Esters
247.5	3	32-55-01.0	97-01-09.4	4.99	8.03	107.00	1255	1/26/2011	North shoulder of North Airfield Drive adjacent to FedEX facility.

Geographic Coordinates Datum: NAD '83 CONUS
Latitude and Longitude Format: DD-MM-SS.s
FIM: Potomac : FIM-41 : SN 571 : Calibrated 07/02/97

GPS: Delorme LT-40 with Delorme Street Atlas 2008 : WAAS Enabled

Field Measurements: Bill Guyger

EXHIBIT #7D
APPLICATION FOR STATION LICENSE
SUSQUEHANNA RADIO CORP.
KTCK AM RADIO STATION
1310 kHz - 5.0/25.0 kW DA2
BP-20091116ADS
DALLAS, TEXAS
January 2011

APPLICATION FOR STATION LICENSE
SUSQUEHANNA RADIO CORP.
KTCK AM RADIO STATION
1310 kHz - 5.0/25.0 kW DA2
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DALLAS, TEXAS
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EXHIBIT #8

Antenna Monitor Calibration

The antenna monitor at the site is a Potomac Instruments AM-1901, SN 109 and was calibrated on site according to the manufacturer's specifications.

APPLICATION FOR STATION LICENSE
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January 2011

EXHIBIT #9

Summary of Post-Construction Certified Array Geometry

The tower relative distances, provided in feet on the Certified Survey, are converted to electrical degrees at 1310 kHz and used, along with the survey tower azimuths relative to True North, to calculate the distances in electrical degrees from the location specified in the theoretical directional antenna pattern array geometry. Below is a tabulation showing those distances and other data that is relevant to their determination.

Tower	Specified Array Geometry			Post-Construction Certification*		From Specified Base	
	Spacing (degrees)	Spacing (feet)	Azimuth (degrees true)	Spacing (feet)	Azimuth (degrees true)	(feet)	(degrees)
1 (ne)	90.00	187.83	0.00	189.26	359.77	1.43	0.23
2 (ce)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3 (se)	90.00	187.83	180.00	189.54	179.57	1.71	0.43
4 (w)	90.00	187.83	290.00	189.35	289.77	1.52	0.23

Tolerance - Distance from Specified Base - 1.5°
Survey Variance in Feet / Degrees @ 1310 kHz

Tower	Feet	° @ 1310 kHz
1	1.62	0.78
2	0.00	0.00
3	2.21	1.06
4	1.69	0.81

The "as built" tower displacements from their specified locations expressed in electrical degrees at carrier frequency, which corresponds to space phasing differences in the far-field radiation pattern of the array, are well below the +/- 3 degree operating phase range specified for antenna monitor parameters by the FCC Rules.

EXHIBIT #9A
APPLICATION FOR STATION LICENSE
SUSQUEHANNA RADIO CORP.
KTCK AM RADIO STATION
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BP-20091116ADS
DALLAS, TEXAS
January 2011

HALFF

January 25, 2011
AVO 27523 SG01

Cumulus Media Partners
900 E. Ledbetter Drive
Coppell, TX 75019

Attn: Mr. Bill Guyger

Re: Geodetic location of four radio towers for KTCK radio station located at 900 E. Ledbetter Drive in Coppell, Texas.

Bill:

As requested, please find below the results of our calculations showing the geodetic location of and positioning, by azimuth from north and distance of towers 1, 3, and 4 from tower 2 for the four radio towers located at the referenced site.

Tower No.	Latitude	Longitude	Ground Elevation
1	32 56 41.83 N	96 56 23.46 W	434 ft
2	32 56 39.96 N	96 56 23.46 W	434 ft
3	32 56 38.08 N	96 56 23.46 W	435 ft
4	32 56 40.60 N	96 56 25.55 W	434 ft

From the reference Tower #2

To Tower 1: 189.26 feet on a bearing (Azimuth) from True North of 359.7654 degrees
To Tower 3: 189.54 feet on a bearing (Azimuth) from True North of 179.5733 degrees
To Tower 4: 189.35 feet on a bearing (Azimuth) from True North of 289.7739 degrees

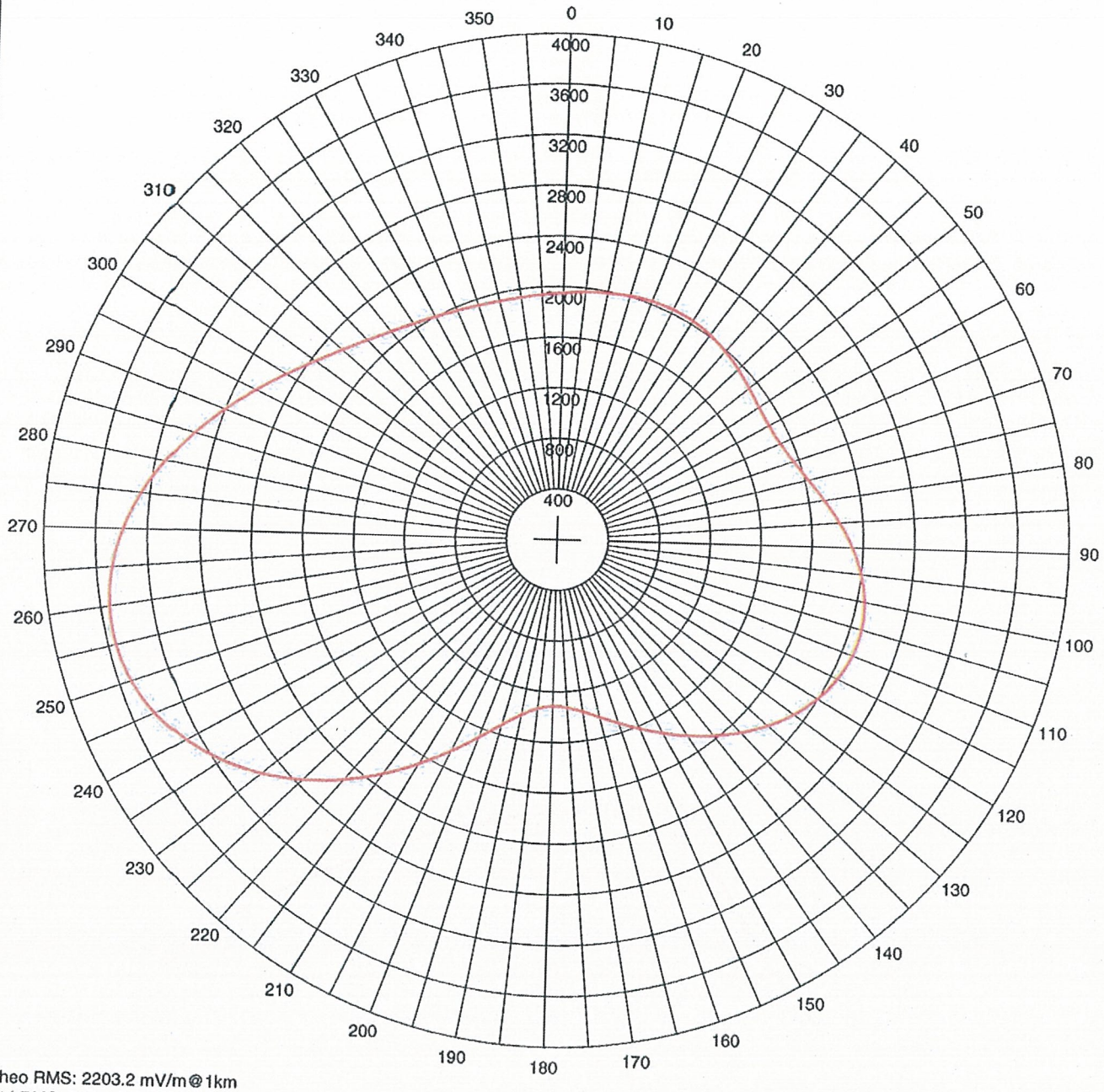
The geodetic values are North American Datum of 1927 (NAD27) using GPS surveying technology. GPS data was obtained using Real Time Kinematic (RTK) surveying from a Virtual Reference Station (VRS) network maintained by Western Data Systems. Three Texas Department of Transportation GPS satellite stations were located and tied into for a horizontal check. Elevations are GPS derived and are relative to the North American Vertical Datum of 1988 (NAVD88).

Sincerely,

HALFF ASSOCIATES, INC.

Andrew J. Shafer, RPLS
Survey Department Manager

HALFF ASSOCIATES, INC.
1201 NORTH BOWSER ROAD
RICHARDSON, TX 75081-2275
TEL (214) 346-6200
FAX (214) 739-0095
WWW.HALFF.COM



Theo RMS: 2203.2 mV/m@1km
Std RMS: 2314.449 mV/m@1km
Q: 67.623 mV/m@1km

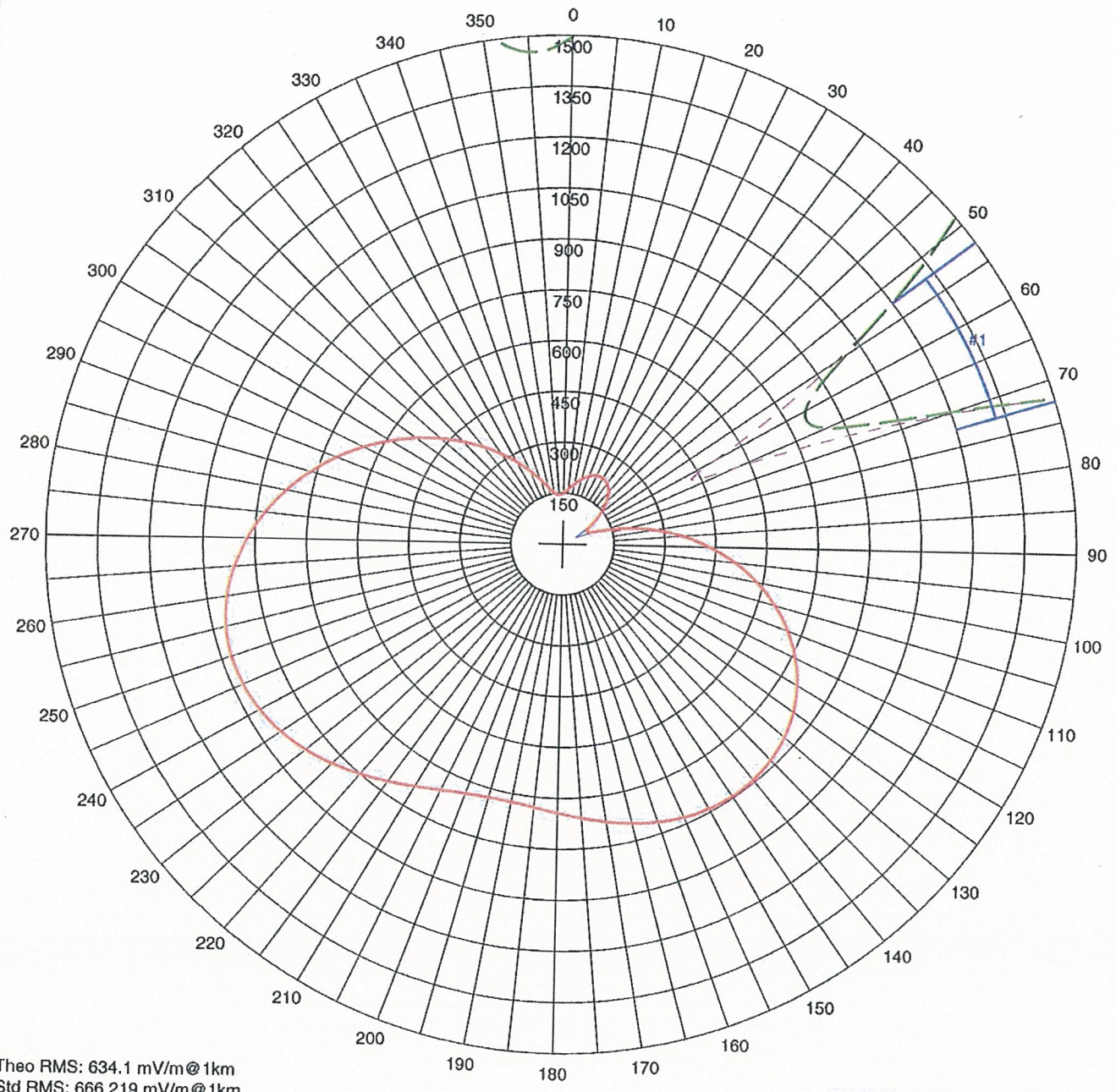
Standard Horizontal Plane Pattern

Pattern (mV/m @ 1km)
Pattern X10

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch	TL Swtch	A (deg)	B (deg)	C (deg)	D (deg)
1	0.677	-63.0	90.0	0.0	225.4	0	0	0.0	0.0	0.0	0.0
2	1.000	0.0	0.0	0.0	225.4	0	0	0.0	0.0	0.0	0.0
3	0.553	-131.0	90.0	180.0	225.4	0	0	0.0	0.0	0.0	0.0
4	0.412	173.0	90.0	290.0	225.4	0	0	0.0	0.0	0.0	0.0

Call: KTCK
Freq: 1310 kHz
DALLAS, TX, US
Hours: D
Lat: 32-56-41 N
Lng: 096-56-25 W
Power: 25.0 kW
Theo RMS: 2203.20 mV/m@1km
@ 25.0 kW

EXHIBIT #10



Theo RMS: 634.1 mV/m@1km
Std RMS: 666.219 mV/m@1km
Aug RMS: 666.317 mV/m@1km
Q: 22.361 mV/m@1km

Modified Standard Horizontal Plane Pattern

Aug Pattern (mV/m@1km)
Std Pattern (mV/m@1km)
Aug Pattern X10
Std Pattern X10

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch
1	1.000	0.0	0.0	0.0	225.4	0
2	0.850	-105.0	90.0	180.0	225.4	0
3	0.520	188.0	90.0	290.0	228.4	0

#	Azimuth (deg)	Radiation (mV/m@1km)	Span (deg)
1	62.50	80.47	20.0

Call: KTCK
Freq: 1310 kHz
DALLAS, TX, US
Hours: N
Lat: 32-56-41 N
Lng: 096-56-25 W
Power: 5.0 kW
Theo RMS: 634.10 mV/m@1km
@ 5.0 kW
# of Augmentations: 1

EXHIBIT #11

The State of Texas
The County of Dallas

William M. Guyger Jr., having been duly sworn, states the following:

That he is employed by Cumulus Media Partners, Inc. to conduct Antenna System, Sample System, and Field Measurements on Radio Station KTCK. 1310 kHz.

That he is familiar with the operation of the test equipment used as well as the proper Methods and procedures used to conduct antenna system measurements, sample system measurements, and field strength measurements on AM Radio Stations.

That he personally conducted field intensity measurements between January 24 and January 26 of 2011, on Radio Station KTCK; and that he personally conducted measurements on the Antenna and Sampling System and Transmission System of Radio Station KTCK between December 9 and December 29 of 2010.

That the equipment used in conducting these measurements used in conducting these measurements was as follows:

Potomac Instruments FIM-41 S/N 365 last calibrated 07/02/97
Delta Electronics OIB-3 S/N 571 last calibrated 09/24/98
Array Solutions PA120 S/N 1145

That all data relating to these measurements is true and correct to the best of his knowledge;

This the 26th day of January, 2011

William M. Guyger
Signature

Anna Berger
Notary Public, State of Texas
My Commission Expires:
July 6, 2013

Sworn to and subscribed before me
This 26 day of Jan 2011

Notary Public

EXHIBIT #12
APPLICATION FOR STATION LICENSE
SUSQUEHANNA RADIO CORP.
KTCK AM RADIO STATION
1310 kHz - 5.0/25.0 kW DA2
BP-20091116ADS
DALLAS, TEXAS
January 2011

AFFIDAVIT AND QUALIFICATIONS OF CONSULTANT

State of Georgia)
St. Simons Island) ss:
County of Glynn)

R. Stuart Graham, being duly sworn, deposes and says that he is an officer of Graham Brock, Inc. Graham Brock has been engaged by Susquehanna Radio Corp., to prepare the attached Technical Exhibit.

His qualifications are a matter of record before the Federal Communications Commission. He has been active in Broadcast Engineering since 1979.

The attached report was either prepared by him or under his direction and all material and exhibits attached hereto are believed to be true and correct.

This the 27th day of January 2011.

R. Stuart Graham
Affiant

Sworn to and subscribed before me
this the 27th day of January 2011

Notary Public, State of Georgia
My Commission Expires: June 16, 2012