

FOR
FCC
USE
ONLY

FCC 302-AM
APPLICATION FOR AM
BROADCAST STATION LICENSE

(Please read instructions before filling out form.)

FOR COMMISSION USE ONLY

FILE NO.

SECTION I - APPLICANT FEE INFORMATION

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

MAILING ADDRESS (Line 1) (Maximum 35 characters)

MAILING ADDRESS (Line 2) (Maximum 35 characters)

CITY

STATE OR COUNTRY (if foreign address)

ZIP CODE

TELEPHONE NUMBER (include area code)

CALL LETTERS

OTHER FCC IDENTIFIER (If applicable)

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):

Non-feeable application

C. If Yes, provide the following information:

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 |
|-------------------------|---------------------|--|------------------|
| | 0 0 0 1 | \$ | |

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 |
|-----|---------|-----|------------------|
| | 0 0 0 1 | \$ | |

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 |
|---|------------------|
| \$ | |

| | | |
|------------------------------------|-------|----------|
| SECTION II - APPLICANT INFORMATION | | |
| 1. NAME OF APPLICANT | | |
| MAILING ADDRESS | | |
| CITY | STATE | ZIP CODE |

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 |
|--------------|----------------------|------------------------------|---|---|

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.

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

If No, explain in an Exhibit.

Does not apply

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 |  | | |
| Title | Date | Telephone Number | |

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.

SECTION III - LICENSE APPLICATION ENGINEERING DATA

Name of Applicant

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 |
| 2. Station location | | | | | |
| State | | | City or Town | | |
| 3. Transmitter location | | | | | |
| State | County | | City or Town | Street address (or other identification) | |
| 4. Main studio location | | | | | |
| State | County | | City or Town | Street address (or other identification) | |
| 5. Remote control point location (specify only if authorized directional antenna) | | | | | |
| State | County | | City or Town | Street address (or other identification) | |

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.

| 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 | | | |
| Measured antenna or common point resistance (in ohms) at operating frequency | | | | Measured antenna or common point reactance (in ohms) at operating frequency | | | |
| Night | | Day | | Night | | Day | |
| 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 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Manufacturer and type of antenna monitor: | | | | | | | |

SECTION III - Page 2

9. Description of antenna system ((f 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. <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 0 auto;">Exhibit No.</div> |
|---------------|--|--|--|--|

Excitation Series Shunt

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 | ° ' " |
|----------------|-------|----------------|-------|

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?

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

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) <i>J. Michael Poff</i> |
| Address (include ZIP Code) | Date |
| | Telephone No. (Include Area Code) |

Technical Director

Registered Professional Engineer

Chief Operator

Technical Consultant

Other (specify)

Engineering Statement

in support of

FCC Form 302-AM

March, 2020

WIOL

Columbus, Georgia

licensed to:

Davis Broadcasting, Inc of Columbus

prepared by:

Michael Patton & Associates
Baton Rouge, Louisiana
www.michaelpatton.com



Engineering Statement in Support of Form 302-AM**Overview:**

Davis Broadcasting, Inc of Columbus, licensee of WIOL and WOKS, both licensed to Columbus, Georgia, is the holder of Construction Permit #BNPFT-20180323AAL, granting them authority to construct an FM translator, call sign W283DF, which will rebroadcast WIOL's programming. The antenna for this translator is side-mounted near the top of the tower for WIOL and WOKS, which are diplexed into one tower. This installation has been completed, but the addition to the FM antenna and associated isolation circuits caused an unavoidable change in base impedance and required that the diplexer and tuning unit be adjusted for optimum suppression and proper impedance matching to the transmitter. They contracted with my firm, Michael Patton & Associates, to retune the diplexer and to prepare the instant Form 302 and exhibits, notifying the Commission of the changed base impedance and requesting direct measurement of power. Concurrently with this filing, a separate Form 302 requesting direct measurement of power for WOKS is also being filed. All work has been completed; the details are discussed below.

Description of translator installation:

The translator's antenna is a 2-bay Shiveley, side-mounted near the top of the WIOL/WOKS tower, but it does not extend past the top of the tower. A 7/8" flexible coax carries the FM signal to the antenna, and an iso-coupler from Kintronics Laboratories is used to pass that signal across the base insulator. After the installation of this equipment, the diplexer filters were retuned for maximum isolation, the ATU networks were tuned for good coax impedance matching, and new base impedance measurements were made.

Intermodulation Product Measurements:

After the modifications were completed, field measurements were made on all second, third, and fifth order intermodulation products; all were found to be below the FCC limits for such emissions. These results are shown in this exhibit. No other intermod products were observed during a careful sweep of the entire relevant spectrum on both a car radio, a spectrum analyzer, and a Potomac FIM-41.

Conclusions:

The W283DF translator installation, and the retuning of the WIOL/WOKS diplexer, have been completed in a professional manner. All suppression requirements have been met. The instant application has been carefully prepared in all particulars and should be granted.

Respectfully Submitted,



George Michael Patton
Michael Patton & Associates
March 24, 2020

Engineering Statement in Support of Form 302-AM

Antenna Impedance & Currents:

| <u>Measurement Point:</u> | <u>Impedance:</u> | <u>Day Power:</u> | <u>Day Current:</u> | <u>Night Power:</u> | <u>Night Current:</u> |
|---------------------------|-------------------|-------------------|---------------------|---------------------|-----------------------|
| input to diplexer filter | 43 +j 40 Ohms | 2.1 kW | 7.00 A | 0.045 kW | 1.02 A |

Intermodulation measurements:

| <u>F1 (WOKS):</u> | <u>Signal level:</u> | <u>F2 (WIOL):</u> | <u>Signal level:</u> |
|-------------------|----------------------|-------------------|----------------------|
| 1340 kHz | 390 mV/m | 1580 kHz | 550 mV/m |

| <u>Product type:</u> | <u>Frequency:</u> | <u>Measured signal:</u> | <u>Calculated Suppression:</u> |
|----------------------|-------------------|-------------------------|--------------------------------|
| F1 - F2 | 240 kHz | -100 dBm | -76 dBc (see note 2) |
| F1 + F2 | 2920 kHz | 29 µV/m | -86 dBc |
| 2F1 - F2 | 1100 kHz | 72 µV/m | -78 dBc |
| 2F1 + F2 | 4260 kHz | 18 µV/m | -90 dBc |
| 2F2 - F1 | 1820 kHz | 70 µV/m | -78 dBc |
| 2F2 + F1 | 4500 kHz | 25 µV/m | -87 dBc |
| 3F1 - 2F2 | 860 kHz | 22 µV/m | -88 dBc |
| 3F2 - 2F1 | 2060 kHz | <10 µV/m | <-95 dBc |

Notes:

1. All measurements were made in accordance with Section 73.44(d) of the FCC Rules. Readings were taken at a distance of approximately 1 kilometer from the tower, with WOKS operating at its licensed power level of 1.0 kW and WIOL operating at its licensed daytime power level of 2.1 kW.
2. All signals were measured using a Potomac FIM-41, S/N 2208, except for the 240 kHz signal, which was measured with an Anritsu MS2712E spectrum analyzer with a broadband shielded loop antenna. The analyzer measured the WOKS carrier level at -24 dBm.
3. Calculated suppression levels are shown relative to the WIOL carrier. The required suppression for a 2.1 kW station is greater than 76 dB below carrier level, as per 73.44(b) of the FCC Rules. Calculating the suppression level relative to the WOKS carrier level also shows suppression ratios below the limit of -73 dBc for a 1 kW station.