

ENGINEERING REPORT

MONTIOR POINT ANALYSIS

WHON(AM) - Centerville, IN
Facility ID No. 6746

**47 C.F.R. §1.30002(f) - Tower Construction
or Modification Near AM Stations.**

Associated with the licensing of

W237AT.C - Richmond, IN (Facility ID: 65509)
Construction Permit File No. BMPFT-20160824AAT
&

W269BP.C - Richmond, IN (Facility ID: 148424)
Construction Permit File No. BMPFT-20160824AAX

August, 2016

CERTIFICATION OF ENGINEERS

The firm of Munn-Reese, Inc., Broadcast Engineering Consultants, with offices at 385 Airport Drive, Coldwater, Michigan, has been retained for the purpose of preparing the technical data forming this report. The data utilized in this report was taken from the FCC Secondary Database and data on file. While this information is believed accurate, errors or omissions in the database and file data are possible. This firm may not be held liable for damages as a result of such data errors or omissions.

The report has been prepared by properly trained electronics specialists under the direction of the undersigned whose qualifications are a matter of record before the Federal Communications Commission. I declare under penalty of the laws of perjury that the contents of this report are true and accurate to the best of my knowledge and belief.

August 26, 2016

MUNN-REESE, INC.

By 
Wayne S. Reese, President

By 
Justin W. Asher, Project Engineer

Engineering Statement

The firm of Munn-Reese, Inc., was retained to prepare this report detailing a Monitor Point Analysis on AM Radio Station WHON(AM) - Centerville, IN (Facility ID No. 6746), License No. BML-20101228ACQ, as required by 47 C.F.R. §1.30002(f) for a significant modification to a tower near an AM station. In this instance, the antennas and feedlines for W237AT.C - Richmond, IN (Facility ID: 65509) Construction Permit File No. BMPFT-20160824AAT and W269BP.C - Richmond, IN (Facility ID: 148424) Construction Permit File No. BMPFT-20160824AAX have been added to Antenna Structure Registration tower #1029152. ASR #1029152 is presently detuned for the WHON(AM) frequency of 930 kHz and located at the WHON(AM) array site.

WHON(AM) - Centerville, IN currently operates on 930 kHz with 0.500 kW of daytime directional power using a four tower parallelogram array and 0.114 kW of nighttime authorized directional power using the same four tower parallelogram array. The nighttime operation employs the daytime directional pattern at a reduced power. As identical phasor parameters are employed between daytime and nighttime operations, only one daytime monitor point analysis has been supplied here-in.

The W237AT.C - Richmond, IN analog FM Translator (Facility ID: 65509) operates on CH237D (95.3 MHz) with 0.085 kW ERP circular polarization (H&V). The proposed operation will broadcast from an antenna COR mounted 114 meters above ground level (AGL). The facility will operate with a one bay, Nicom BKG77/1L antenna employing an "Opposed V Dipole" or EPA Type 2 element.

The W269BP.C - Richmond, IN analog FM Translator (Facility ID: 148424) operates on CH269D (101.7 MHz) with 0.145 kW ERP circular polarization (H&V). The proposed operation will broadcast from an antenna COR mounted 118 meters above ground level (AGL). The facility will operate with a one bay, Nicom BKG77/1L antenna employing an "Opposed V Dipole" or EPA Type 2 element.

"Before" Monitor Point measurements were conducted by Mr. Tim Elstro, a subcontracted engineer in the employ of Brewer Broadcasting Corp. Mr. Elstro made his measurements using Potomac Instruments Field Intensity Meter, Model #FIM-41, Serial Number 1040, last calibrated March 13, 1981. "After" Monitor Point measurements were conducted by Mr. Richard Funk and Mr. James Everhart, subcontracted engineers in the employ of Brewer Broadcasting Corp. Mr. Funk and Mr. Everhart made their measurements using Potomac Instruments Field Intensity Meter, Model #FIM 41, Serial Number 1040, last calibrated March 13, 1981 and Potomac Instruments Field Intensity Meter, Model #FIM-41, Serial Number 1149, was last calibrated May 4, 2016. The older meter was compared against the newer meter and found to be in good working order.

Monitor Point measurements were taken at the four (4) daytime monitor point locations as authorized in WHON(AM) License BML-20101228ACQ, thus meeting the requirements of 47 C.F.R. §1.30002(f) of the FCC Rules. All Monitor Point measurements were taken on the dates as provided in **Exhibit 1.0**. The tabulation sheet shows the distance from the transmitter site to each Monitor Point number in kilometers as reported on the current license. The Monitor Point locations were derived from the descriptions/directions as taken from BML-20101228ACQ in conjunction with GPS assistance.

The antenna resistance/common point reactance impedance measurement(s) for the daytime directional operation remains unchanged at $50 \pm 0 j$ ohms. Antenna monitor values remain with licensed tolerances ($\pm 3.0^\circ$ phase; $\pm 5\%$ field) as well.

In light of the measurements taken and results obtained, the recent addition of W237AT.C - Richmond, IN (Facility ID: 65509) Construction Permit File No. BMPFT-20160824AAT and W269BP.C - Richmond, IN (Facility ID: 148424) Construction Permit File No. BMPFT-20160824AAX near the AM array is believed to have had a negligible effect on the WHON(AM) daytime directional operation. Therefore no further action is required on behalf of WHON(AM) at this time.

Exhibit 1.0 Tabulation of Daytime Parameters

Daytime Monitor Point Values:

Monitor Point Radial	Distance to Monitor Point	Monitor Point Licensed Limit BML-20100228ACQ	Monitor Point "Before" Value 08/05/2013	Monitor Point "After" Value 08/17/2016
015.0°T	1.34 km	131.45 mV/m	75.00 mV/m	89.00 mV/m
045.0°T	3.25 km	9.60 mV/m	5.00 mV/m	4.90 mV/m
124.0°T	0.93 km	160.00 mV/m	145.00 mV/m	142.00 mV/m
300.0°T	4.22 km	5.60 mV/m	5.20 mV/m	2.10 mV/m

Daytime Operating Constants:

	Licensed Value(s) BML-20101228ACQ	Final Measured Value(s) 08/17/2016
Transmitter Power	500 watts (nom.) 540 watts (input)	500 watts (nom.) 540 watts (input)
Common Point	3.29 amperes	3.29 amperes
Antenna Monitor	Current	Current
Field #1(N)	1.000	1.000
Field #2(EC)	0.720	0.720
Field #3(WC)	0.820	0.820
Field #4(S)	0.680	0.665
Antenna Phase	Degrees	Degrees
Phase #1(N)	0.0°	0.0°
Phase #2(EC)	-25.0°	-24.8°
Phase #3(WC)	-110.5°	-109.5°
Phase #4(S)	-138.0°	-137.0°
Antenna Monitor	Potomac Instruments AM-19(204)	Potomac Instruments AM-19(204)