

ENGINEERING REPORT

MINOR CONSTRUCTION PERMIT APPLICATION

for

WMFN(AM) – Zeeland, MI

BL-19941014AE

Frequency - 640 kHz

Facility ID No – 55089

Site Change and City of License
Change to Peotone, IL

September, 2014

Notice of §73.3517 Contingent Filing. WMFN.L – Zeeland, MI 640 kHz (Facility ID No. 55089) License BL-19941014AE and WWAM.C 640 kHz – Peotone, IL (Facility ID No. 136069) Construction Permit BMP-20120813ABI request simultaneous processing as §73.3517 contingent applications. The WMFN.L – Zeeland, MI (Facility ID No. 55089) proposal requests processing contingent on the surrendering and/or expiration of the WWAM.C Construction Permit. WMFN.L – Zeeland, MI will be relocated southwest and relicensed to Peotone, IL. A new four tower day and night array will be proposed. Technically no simultaneous WWAM.C Form 301-AM need be filed at this time. Rather, the applicant will surrender the WWAM.C (Facility ID No. 136069) Construction Permit at the time of Form 302-AM licensing for this WMFN.L city of license change proposal. Alternately, should the WWAM.C Construction Permit expire prior to the licensing of the WMFN.L city of license change proposal, then no further action need be taken with regard to this §73.3517 Contingent Filing Request.

The applicant would like to note that this §73.3517 Contingent Filing Request is a variation of previously granted WWAM.C Construction Permit BMP-20120813ABI and associated FCC Action DA 14-585 (Final FCC Letter issued May 1, 2014). Pursuant to BMP-20120813ABI and DA 14-585, the FCC authorized a city of license relocation of WWAM.C to Peotone, IL contingent on the future surrendering of the WMFN.L license. This current §73.3517 Contingent Filing requests a city of license relocation of WMFN.L to Peotone, IL contingent on the future surrendering of the WWAM.C Construction Permit. The final Peotone, IL daytime and nighttime parameters, as well as the net gain and loss area and Interference Reduction Agreement values, will remain nearly identical between the previously authorized Construction Permit BMP-20120813ABI (and associated FCC Action DA 14-585) and this proposal here-in.

Table of Contents

Table of Contents
Discussion of Report

Exhibit 13 - Broadcast Facility

Exhibit 13.1 – Description of Proposed Antenna System
Exhibit 13.2 – Vertical Plan of Proposed Antenna System
Exhibit 13.3 – Horizontal Plan of Proposed Antenna System
Exhibit 13.4 – Topographic Map of Proposed Site
Exhibit 13.5 – Photograph of Proposed Site
Exhibit 13.6 – Intentionally Left Blank for Future Copies of Antenna Structure Registrations
Exhibit 13.7 – Map of Present & Proposed Daytime Service Contours
Exhibit 13.8(a-b) – Map of Present & Proposed Nighttime Service Contours
Exhibit 13.9 – Map of Proposed 1.0 V/m “Blanket” Interference Contours

Exhibit 14 – Community Coverage (See Discussion)

Exhibit 15 – Main Studio Location (See Discussion)

Exhibit 16 – Main Interference Section (See Discussion)

Exhibit 17 – Groundwave Protections

Exhibit 17.1 – Map & Tabulation of Present Map M-3 Allocation
Exhibit 17.2 – Map & Tabulation of Proposed Map M-3 Allocation
Exhibit 17.3 – Map & Tabulation of Present Region 2 Allocation
Exhibit 17.4 – Map & Tabulation of Proposed Region 2 Allocation
Exhibit 17.5 – Plot of Proposed Daytime Directional Standard Pattern
Exhibit 17.6 – Tabulation of Proposed Daytime Directional Standard Pattern
Exhibit 17.7(a-f) – Supplemental Ground Conductivity Measurements on WOI.L – Ames, IA
Exhibit 17.8(a-e) – Supplemental Ground Conductivity Measurements on WSCR.L – Chicago, IL

Exhibit 18 – Skywave Protections

Exhibit 18.1 – Tabulation Nighttime Allocation
Exhibit 18.2 – Present & Proposed Nighttime RSS Limitations
Exhibit 18.3 – Plot of Proposed Nighttime Standard Pattern
Exhibit 18.4 – Tabulation of Proposed Nighttime Standard Pattern, 0° - 60°

Exhibit 19 – Critical Hours Study

Exhibit 19.1 – Critical Hours Study Toward U.S. & Canadian 640 kHz Class A Facilities

Exhibit 20 – RF Radiation Study

Exhibit 20.1 – RF Compliance Study

Exhibit 21 – Section 307(b) (Change in Community of License) Studies

Exhibit 21.1 – Summary of Section 307(b) Criteria
Exhibit 21.2 – Proposed Community Service Study
Exhibit 21.3 – Present & Proposed Urbanized Area Coverage Study
Exhibit 21.4 – Loss Area Service Floor Study
Exhibit 21.5 – Gain Area Service Floor Study

Discussion

This firm was retained to prepare this Minor Construction Permit Application for WMFN.L – Zeeland, MI (Facility ID: 55089). Presently WMFN(AM) is licensed under BL-19941014AE to operate on 640 kHz with 1.2 kW of daytime non-directional power and 0.23 kW of nighttime non-directional power. This proposal requests a new site location and new tower construction. Daytime operation will employ 4.4 kW of four tower directional power, while nighttime operation will employ 1.6 kW of four tower directional power. The daytime and nighttime operations will employ the same four towers, however individual sets of operating phasor parameters are proposed. The facility will serve the new community of Peotone, IL. The data and exhibit numbering contained herein is responsive to Section III-A of FCC Form 301.

The applicant would like to note the existence of a §73.3517 Contingent Filing request. WMFN.L – Zeeland, MI 640 kHz (Facility ID No. 55089) License BL-19941014AE and WWAM.C 640 kHz – Peotone, IL (Facility ID No. 136069) Construction Permit BMP-20120813ABI request simultaneous processing as §73.3517 contingent applications. The WMFN.L – Zeeland, MI (Facility ID No. 55089) proposal requests processing contingent on the surrendering and/or expiration of the WWAM.C Construction Permit. WMFN.L – Zeeland, MI will be relocated southwest and relicensed to Peotone, IL. A new four tower day and night array will be proposed. Technically no simultaneous WWAM.C Form 301-AM need be filed at this time. Rather, the applicant will surrender the WWAM.C (Facility ID No. 136069) Construction Permit at the time of Form 302-AM licensing for this WMFN.L city of license change proposal. Alternately, should the WWAM.C Construction Permit expire prior to the licensing of the WMFN.L city of license change proposal, then no further action need be taken with regard to this §73.3517 Contingent Filing Request.

The applicant would like to note that this §73.3517 Contingent Filing Request is a variation of previously granted WWAM.C Construction Permit BMP-20120813ABI and associated FCC Action DA 14-585 (Final FCC Letter issued May 1, 2014). Pursuant to BMP-20120813ABI and DA 14-585, the FCC authorized a city of license relocation of WWAM.C to Peotone, IL contingent on the future surrendering of the WMFN.L license. This current §73.3517 Contingent Filing requests a city of license relocation of WMFN.L to Peotone, IL contingent on the future surrendering of the WWAM.C Construction Permit. The final Peotone, IL daytime and nighttime parameters, as well as the net gain and loss area and Interference Reduction Agreement values, will remain nearly identical between the previously authorized Construction Permit BMP-20120813ABI (and associated FCC Action DA 14-585) and this proposal here-in.

Broadcast Facility. The broadcast facility remains in compliance with all applicable rules contained in *C.F.R. Chapter 47, Part 73, Subpart A*. As stated before, the proposed antenna system will consist of four common towers. Daytime power will be 4.4 kW. Nighttime power will be 1.6 kW. Details of the proposed antenna system are located in **Exhibit(s) 13.1-5**. As new tower construction is proposed, the FAA has been notified. Antenna Structure Registration(s) will be submitted upon receipt of FAA Determinations of No Hazard. A map depicting the present and proposed daytime service contours has been included as **Exhibit 13.7**. The present and proposed nighttime service contours have been included in **Exhibit 13.8(a-b)**. The 1.0 V/m “Blanket” interference contours for the proposed daytime and nighttime operations have been included in **Exhibit 13.9**.

Community Coverage. Community coverage will remain in compliance with the requirements of §73.24(i). The new community of Peotone, IL will receive daytime primary service as seen in **Exhibit 13.7**. The new community of Peotone, IL will receive nighttime primary service as seen in **Exhibit 13.8b**.

Main Studio Location. The main studio location will remain in compliance with the requirements of §73.1125. The main studio for this facility has not been chosen yet.

Discussion (continued)

Groundwave Interference. The proposed allocation remains in compliance with the requirements of §73.37. **Exhibit(s) 17.1** and **17.2** contain the relevant domestic Map M-3 allocation studies for the present and proposed operation. No prohibited contour overlap is predicted to occur to any domestic facility when domestic supplemental measured conductivity information is employed and/or existing contour overlaps will be reduced or eliminated. **Exhibit(s) 17.3** and **17.4** contain the relevant Region 2 international allocation studies for the proposed operation. No prohibited contour overlap is predicted to occur to any Canadian facility as noted in the supplied exhibits. Information concerning the daytime directional pattern has been included in **Exhibit(s) 17.5** to **17.6**. Concerning ground conductivity measurements, supplemental measured conductivity information on WOI(AM) – Ames, IA has been included in **Exhibit 17.7**. Supplemental measured conductivity information on WSCR(AM) – Chicago, IL has been included in **Exhibit 17.8**.

Skywave Interference. The proposed allocation will comply with the requirements of §73.182. **Exhibit 18.1** is a nighttime allocation study for the proposed operation. In response to FCC attempts to streamline the application process, nighttime protections in which the proposed operation will have a negligible effect have been omitted. A complete list of all protections will be supplied upon request. Analysis of the complete study has concluded the proposed operation will not interfere with any protected operation, however individual studies will be supplied for any station upon request. A tabulation of the proposed limitations has been supplied as well. The proposed nighttime operation meets the minimum 250 watt and 141 mV/m RMS protection threshold, therefore, the proposal is protected from other full-time stations. The nighttime directional radiation plot and field tabulations have been included in **Exhibit(s) 18.3-4**.

Critical Hours Interference. The proposed allocation is in compliance with the requirements of §73.187. Full protection will be afforded all U.S. and Canadian Class A, 640 kHz facilities. Protection tabulations toward U.S. Class A facilities KFI(AM) – Los Angeles, CA and KYUK(AM) – Bethel, AK as well as Canadian Class A facilities CBN(AM) – St. John's, NF, Canada (Facilities 1 and 2) have been included in **Exhibit 19.1**.

Environmental Protection Act. The proposed allocation is in compliance with OET Bulletin No. 65. Full protection is afforded by the proposal. An RF Radiation study has been included in **Exhibit 20.1**.

Section 307(b) Criteria. 307(b) showings have been provided in **Exhibit 21.1** to **21.5** as a city of license change from Zeeland, MI to Peotone, IL is proposed.