

Statement A

Attachment to for WYMP-LD

APPLICATION FOR STATION LICENSE

Covering FCC Construction Permit 0000118070

WYMP-LD Bruce, MS - Facility ID 7359

5GTV, LLC

Prepared by

Robert J. Clinton

CAVELL, MERTZ & ASSOCIATES, INC.

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Introduction and Summary

This Statement has been prepared on behalf of **5GTV, LLC**, (“5GTV”), licensee of Station WYMP-LD, Bruce, NE. 5GTV holds a Construction Permit, FCC File Number 0000118070, authorizing the modification of LPTV Station WYMP-LD to move to a new location and to use Channel 14 as a displacement channel. The construction authorized in the Construction Permit (“CP”) has now been completed. A Full Service emission mask has been installed according to the requirements of the CP. Installation and adjustment of the antenna systems necessary to operate with the authorized new facility has been accomplished. As such, this facility is now able to operate in compliance with the terms and conditions of its CP and all applicable FCC Rules and policies.

Satisfaction of CP Conditions

The WYMP-LD Construction Permit is subject to two **Special Operating Conditions**, which are discussed in the following paragraphs. *All of these Conditions have been complied with as of the filing of this Application. Therefore, program test authority is requested.* Specifically:

FCC Special Operating Condition 1 stipulates that:

“This authorization is subject to the condition that low power television is a secondary service, and that low power television and television translator stations must not cause interference to the reception of existing or future full service television stations on either allotted NTSC or DTV channels, and must accept interference from such stations.”

5GTV understands that as a secondary service, it will accept interference from full service stations, and will not cause interference to current or future full service NTSC or DTV television stations.

FCC Special Operating Condition 2 stipulates that:

“During equipment tests, authorized by Section 73.1610 of the Commissions Rules, the permittee shall take adequate measures to identify and substantially eliminate objectionable interference which may be caused to existing land mobile radio facilities in the 460 to 470 MHz band. Documentation that objectionable interference will not be caused to existing land mobile radio facilities shall be submitted along with the request for Program Test Authority. Program tests shall not be commenced under Section 73.1620(a) of the Commissions Rules and may only be started after specific authority is granted by the Commission. An application for a license must be filed within 10 days after the start of program tests.”

As specified in the Condition, steps have been taken to identify and remediate, where necessary, any interference caused by the WYMP-LD Channel 14 operation. A query of the FCC’s ULS database was performed, and a list of Land Mobile Licenses was derived whose operational area intersected with potential interference from the authorized

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facility. **Table I** provides a listing of pertinent active Land Mobile licenses authorized to use frequencies between 460 and 470 MHz. The guidelines of §73.687(e)(4)(ii) will be followed to identify and resolve reported interference.

Analysis

The WYMP-LD transmitting antenna is side-mounted on the registered structure identified by ASRN 1212398. As noted, **Table I** provides a listing of nearby licenses whose frequencies fall within 460 to 470 MHz, and whose fixed site or area of operation intersects or falls within 10 km¹ of the authorized facility. For WYMP-LD operation with the authorized full service emission mask, the attenuation requirement at 470 MHz (the channel edge) is -47.0 dB. The station's assigned power on Channel 14 is 3 kW ERP (4.77 dBk or 64.77 dBm). The total channel power within the 6 MHz DTV bandwidth needs to be adjusted to provide the equivalent channel power within the 12.5 kHz channel bandwidth used by the LMR station; the adjustment factor to provide the signal power in a 12.5 kHz bandwidth is $10 * \text{Log}(6000/12.5) = 26.8$ dB. Based on this adjustment factor, the assigned digital ERP and the mask attenuation requirement shown herein, the worst-case out-of-band transmitter noise generated by the digital station within the receiver bandwidth at the highest land mobile receive frequency (469.250 MHz) is: $(64.77 \text{ dBm} - 26.8 \text{ dB} - 47.0 \text{ dB}) = -9.03 \text{ dBm}$. This spurious energy would appear at the front end of the LMR receivers as broadband noise.

The nearest 460-470 MHz band fixed receive antenna is collocated on the same tower as the WYMP-LD CP facility (WQUB568, 461.55 MHz). Tests have already been performed with regard to interference to this facility, and no interference issues have been reported. The nearest fixed receive antenna between 467 and 470 MHz is WPNY554 (467.95 MHz). The free space loss between the Channel 14 antenna and the WPNY554 fixed receive antenna is 124.4 dB for the 88.9 kilometer path distance. Assuming an ERP of -9.03 dBm for the Channel 14 station based on the out-of-band transmitter noise calculation shown above, the calculated interfering signal power level at the nearest fixed receive antenna is -133.43 dBm or lower. The noise floor for a typical UHF Land Mobile base station operating in 12.5 kHz narrow band analog or digital mode is approximately, -125 dBm. Since the predicted interference level of the authorized WYMP-LD facility at the receive antenna is below the noise floor, it should not be a source of interference to the nearest fixed point Land Mobile facility.

Nevertheless, the listed Licensees are being sent letters informing them that a new Channel 14 LPTV station is performing equipment testing, and informing them who to contact in the event that objectionable interference is experienced. In the event that objectionable interference is reported, *5GTV* will attempt to identify the source of the

¹ Section 74.709(d)(3) specifies the 76 dBμ interfering contour as a limit for protection to Land Mobile facilities on adjacent channels. 10 km was chosen as a worst-case distance to the predicted 76 dBμ F(50,10) contour as a reasonable starting point.

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interference and remedy it if the interference is caused by the Channel 14 facility or, in the event of intermodulation beyond the control of WYMP-LD, provide technical assistance to eliminate the source of intermodulation.

Conclusion

The above calculations demonstrate that the interfering signal level from WYMP-LP would be below the noise floor of the nearest fixed LMR station in the 467 to 470 MHz band, and thus interference to these LMR stations is highly unlikely. This was a worst-case analysis, which assumed:

- 1) protection of the nearest 467 to 470 MHz band Land Mobile frequency in use in the area;
- 2) protection of the nearest fixed 460 to 470 MHz band Land Mobile site in the area; and
- 3) assuming that WYMP-LD would have its main lobe pointed at the LMR site.

Many of the Land Mobile licenses also include mobile units which operate at significant distances from their associated fixed stations. *5GTV* commits to working with any existing Land Mobile licensees in the 460 to 470 MHz band who may be impacted by operation of WYMP-LD, to determine whether the facility does in fact cause any interference, and to determine what measures can be taken to resolve interference reports.

Therefore, as noted above, program test authority is requested and appropriately issued.

Certification

These application materials have been prepared on behalf of *5GTV, LLC* by the undersigned or under his direction and are true and correct to the best of his information, knowledge and belief. Mr. Clinton's qualifications are a matter of record before the FCC.

Respectfully submitted,



Robert J. Clinton September 18, 2020
Cavell, Mertz & Associates, Inc.
7724 Donegan Drive, Manassas, Virginia 20109
703.392.9090; Facsimile 703.392.9559
E-Mail: bclinton@cavellmertz.com