November 27, 2013

Marlene H. Dortch, Secretary
Federal Communications Commission
Office of the Secretary
445 12th Street, SW
Washington, DC 20554

Attn: Media Bureau, Audio Division

Re: Experimental Permit – 20130618ABV

Dear Ms. Dortch:

WNCT License Limited Partnership ("WLLP"), licensee of AM station WNCT(AM), Facility ID Number 57841, Greenville, North Carolina, hereby submits this report regarding the research and experimentation that the station conducted, and the results that were obtained, pursuant to the above-referenced experimental authority.

The experimental testing, conducted by WLLP in conjunction with the National Association of Broadcasters' NAB Labs organization, involved operation of the AM broadcast station in an all-digital AM transmission mode. Preliminary results found that the all-digital operation resulted in high quality reception, particularly mobile reception, that created an improved AM listening experience.

This experimental operation allowed for the collection of valuable information regarding broadcast by an AM station in all-digital mode. Some of the details of the research, experimentation and results of this testing include the following:

- For these tests, WNCT(AM) was operated at 25 kW (daytime) and 10 kW (nighttime);
- A total of eight (8) radial test routes were run during experimental operation, for both daytime and nighttime all-digital transmissions. For each route, reception was observed in a vehicle equipped with an original equipment manufacturer (OEM) radio receiver, using late-model Ford vehicles that were rented from airport car rental locations;
- Three (3) test vehicles were operated simultaneously so as to reduce the length of time needed to collect the test data, thereby reducing the time that the station was required to transmit the all-digital AM signal. Data was collected in each vehicle using an NAB Labs-developed data collection system incorporating software written by iBiquity Digital Corporation, developers of the all-digital AM system under test;
- A constant 25-Hz (audio) tone was combined with the digital audio signal used to modulate the all-digital AM subcarriers to provide a means for distinguishing between periods of silence in the audio and loss of digital reception. This is necessary because of the fact that the all-digital AM receiver mutes when the signal is lost and consequently, without the presence of the 25-Hz tone it would be difficult to distinguish between silence in the audio program and loss of reception;

- A special, experimental version of the AM exciter software, modified to accommodate the all-digital "MA3" mode of operation, was utilized at the transmit site. This was necessary because typically, digital radio exciter manufacturers do not enable all-digital transmission modes since these are not authorized by the FCC (except experimentally). Not enabling these modes helps to ensure that broadcasters who are transmitting hybrid digital signals do not accidentally select an unauthorized all-digital mode of operation;

- Subsequent to the collection of all-digital AM test data, audio recordings of the WNCT(AM) analog AM signal were obtained at or near locations where all-digital signal reception was lost. These analog recordings demonstrate various levels of impairment to the analog signal and can be contrasted with the unimpaired digital audio receivable at or near these same locations;

- Mobile all-digital AM reception results obtained are still being evaluated and it is anticipated that these will be included in a technical paper to be presented at the 2014 NAB Broadcast Engineering Conference in Las Vegas, Nevada (being held from April 5-10, 2014).

WLLP appreciates the FCC's cooperation in granting the Experimental Authorization under which these tests were conducted, and under which WLLP has been able to help increase the knowledge and understanding of the all-digital AM mode of operation. Should there be any questions regarding this matter, please contact the undersigned.

Respectfully submitted,

Mike Cooney DPC

Mike Cooney
Chief Technology Officer
Beasley Broadcast Group, Inc.

cc (by email): S. Crawford, Audio Division, FCC
P. Doyle, Audio Division, FCC
D. Layer, NAB Technology department