



Federal Communications Commission  
Washington, D.C. 20554

January 29, 2020

Board of Trustees, Michigan State University  
Susanne Elkins  
Director of Broadcasting WKAR-AM/FM/TV  
404 Wilson Road  
Room 212  
East Lansing, MI 48824

WKAR-TV, East Lansing, MI  
Facility ID No. 6104  
File No. 0000096961

Dear Licensee:

This letter is in reference to the above captioned application for experimental authority filed by the Board of Trustees, Michigan State University (MSU), licensee of full power television station WKAR-TV, East Lansing, Michigan. Specifically, MSU requests a new Experimental Special Temporary Authority (experimental STA), that would allow WKAR-TV to shift its current experimental operations from channel 32 to channel 35.<sup>1</sup> For the reasons below, we grant MSU's request experimental authority to operate on channel 35 pursuant to section 5.205 of the Commission's experimental licensing rules.<sup>2</sup>

Pursuant to its original experimental STA,<sup>3</sup> MSU built the NextGen Media Innovation Lab (NMIL) in cooperation with the College of Communication Arts and Sciences at Michigan State University. MSU states that it has made significant progress in developing and testing ATSC 3.0 applications in the areas of education, public safety, connected vehicles, and agriculture. MSU has launched a major initiative on mobility, transforming its 5,200-acre campus into a live, connected ecosystem to drive mobility research and development using ATSC 3.0. For example, in the fall of 2019, the NMIL successfully used ATSC 3.0 technology to test mobile connectivity in a vehicle traveling at 70 miles per hour on a highway.

In total, MSU has spent over \$400,000 on equipment modifications and operated for a total of approximately 4,566 hours. The NMIL created a task force of researchers and experts from various fields – including engineering, education, health communication, game design, journalism, computer science, and human computer interaction – who have provided input on pilot projects for the testbed. According to MSU, the NMIL's work has allowed MSU to gain valuable experience that led to the recent announcement (with Gaian Solutions, Inc.) of the launch of a new NextGen TV accelerator platform called the Apollo PublicTV Platform. This program offers public broadcasters a suite of services, including NextGen TV master classes, ATSC 3.0 receiver and transmitter starter kits, access to NextGen TV broadcast chains, and the capability to conduct lab and field trials. Grant of the instant request will further enhance MSU's efforts and its ability to serve as a resource for public broadcasters across the

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<sup>1</sup> See LMS File No. 0000069316.

<sup>2</sup> 47 CFR § 5.205.

<sup>3</sup> See LMS File No. 0000053377.

country, thereby accelerating adoption and implementation of new and innovative services made possible by ATSC 3.0.

In its filing, MSU provides not only examples of its past work, but also details future efforts it seeks to undertake under the instant request for experimental authority. For example, if its application is granted, the NMIL plans to work with MSU Police to build a dashboard for viewing first responder body cams in real time, in addition to placing receivers in patrol cars. Additional tests will include accessing the campus camera network and providing targeted emergency and evacuation alerts across monitors in MSU buildings.

According to MSU, because of the low power at which the NMIL would operate on Channel 35, the proposed facility will not cause more than 0.5% new interference to any other surrounding co-channel or adjacent channel facilities. MSU provides an engineering statement in support of this claim, and Video Division staff has confirmed its analysis. MSU also states that it will comply with all Commission out-of-band emission requirements for full-service DTV stations through the use of a mask filter.

We conclude, based on the facts and circumstances presented, that the public interest would be served by the grant of MSU's requested experimental STA on channel 35. We find that the efforts being undertaken by MSU are experimental in nature and that requiring MSU to convert WKAR-TV to a licensed ATSC 3.0 facility, at this time, would not be conducive to furthering the goals with the NMIL. The goal of MSU is to operate the requested facility to conduct experiments involving new innovative non-traditional broadcast services and serve as a resource for public broadcasters across the country to help accelerate their adoption of ATSC 3.0. We agree that the information obtained from MSU's continued experimentation may be valuable to broadcasters, notably noncommercial broadcasters, by increasing understanding regarding how the ATSC 3.0 standard can be used for new and innovative broadcast services (video and non-video).

Accordingly, the experimental authority requested by MSU for an experimental broadcast station on channel 35 **IS GRANTED** for a period of six months from the date of this letter, subject to the provisions of Part 5, Subpart D, any commitments made by MSU in the application, and the following conditions.<sup>4</sup>

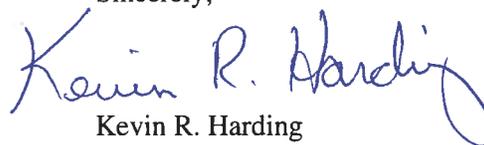
1. This experimental authorization expires six months from the date of this letter, subject to the terms and conditions set forth herein.
2. MSU is authorized to transmit a signal using the Next Generation TV transmission standard, as defined under 47 CFR § 73.682. Operation under this experimental authorization may not in any way impact the ATSC 1.0 operations of WKAR-TV, Lansing, MI, or the ability of existing viewers to obtain WKAR-TV's ATSC 1.0 over-the-air programming. MSU must also ensure that MVPD subscribers' access to WKAR-TV's programming is not interrupted, and MSU must continue to deliver a good quality ATSC 1.0 signal to all MVPDs.
3. MSU must notify the Video Division within thirty (30) days of plans to discontinue operation prior to the authorization's expiration date.
4. Within thirty (30) days of completing experimentation MSU must provide a report pursuant to the requirements laid out in 47 CFR § 5.207.

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<sup>4</sup> This action is being taken by the Video Division pursuant to the authority delegated to the Media Bureau under 47 CFR § 0.61.

5. Grant of the instant experimental authorization does not represent that WKAR-TV would be granted a license to transmit a signal pursuant to the ATSC 3.0 rules.<sup>5</sup> The Commission will consider that grant of such a license only if and when WKAR-TV chooses to convert its facility to ATSC 3.0.
6. Any other broadcast television station that would like to transmit an ATSC 3.0 signal as a guest station over WKAR-TV's experimental facility must file its own application for experimental authority. Any experimental authority granted to another station may be subject to the same terms and conditions, including expiration date, as those adopted herein.
7. Any broadcaster equipment or end-user devices must receive (as applicable) the necessary Commission equipment authorizations prior to use.
8. With ample time *before* commencing operation, MSU must make a good faith effort to identify and notify health care facilities (e.g., hospitals, nursing homes, *see* 47 CFR § 15.242(a)(1)) within the experimental station's service area that may potentially be affected by its operation.
9. This experimental authorization is granted on a non-interference basis (e.g., 47 CFR § 5.84) and may be immediately modified or terminated if the operation causes harmful interference to any other licensed user (e.g., licensed broadcast operations or licensed wireless microphones) or if MSU fails to comply with any conditions of grant. The Video Division, without the Consent of MSU, may modify the terms of or terminate this authorization for any other reason upon written notice to MSU.

Sincerely,



Kevin R. Harding  
Associate Chief, Video Division  
Media Bureau

Cc: Jonathan Cohen, Esq.

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<sup>5</sup> See 47 CFR § 73.3801 *et. seq.*