



Federal Communications Commission  
Washington, D.C. 20554

September 25, 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. 0000118359

Dear Licensee:

This letter is in reference to the above captioned application for an extension of 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 an extension of its current Experimental Special Temporary Authority (experimental STA) to conduct experimental operations on channel 35.<sup>1</sup> For the reasons discussed below, we grant MSU's request and extend its experimental authority to operate on channel 35 pursuant to section 5.205 of the Commission's experimental licensing rules for an additional year.<sup>2</sup>

*Background.* In August 2018 MSU established the NextGen Media Innovation Lab (NMIL) in cooperation with the College of Communication Arts and Sciences at Michigan State University. Since the facility became fully operational in January 2019, MSU has made significant progress in developing and testing ATSC 3.0 applications in the areas of education, public safety, connected vehicles, and agriculture.<sup>3</sup> The Commission initially granted WKAR-TV an experimental STA in June 2018 to operate on Channel 36.<sup>4</sup> The post-incentive auction transition made it necessary for these operations to shift to Channel 32 in early 2019,<sup>5</sup> and then to Channel 35 in January 2020.<sup>6</sup> As MSU notes, the facts presented in its instant request remain largely unchanged from its statements and proposal set forth in the Station's request for experimental authority that was granted in January 2020.<sup>7</sup> According to MSU, the COVID-19 pandemic "delayed for several months the station's ability to bring in the contractors necessary to convert

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<sup>1</sup> LMS File No. 0000118359 (Experimental Request). MSU's request seeks an extension of its experimental STA for a period of six months. Following a subsequent phone conversation with counsel for MSU and in recognition of the uncertainties presented by the COVID-19 pandemic that may result in future delays and interruptions, we will grant MSU's extension request for a period of one year.

<sup>2</sup> 47 CFR § 5.205.

<sup>3</sup> Experimental Request at 1.

<sup>4</sup> See LMS File No. 0000053377.

<sup>5</sup> See LMS File No. 0000069316.

<sup>6</sup> See LMS File No. 0000096961

<sup>7</sup> Experimental Request at 1.

the ATSC 3.0 lab to low power operation on Channel 35.”<sup>8</sup> Specifically, MSU states that the necessary work was not completed until mid-July, just a few weeks prior to expiration of its prior experimental authorization.<sup>9</sup> Now that all the equipment is installed, MSU asserts that it is prepared to proceed with its experimentation on Chanel 35.<sup>10</sup>

In its request, MSU not only provides examples of its past work, but also details future efforts it seeks to undertake if granted the instant request for experimental authority.<sup>11</sup> As it has described in previous requests, 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.<sup>12</sup> Moreover, MSU describes how the NMIL has been exploring the potential role of ATSC 3.0 in virtual classrooms and using ATSC 3.0 to deliver diverse content to multiple devices, work that MSU emphasizes is particularly in the public interest during the COVID-19 pandemic. Using a modified gateway device, the NMIL has been able to circumvent traditional barriers to remote distance learning for those without a broadband connection by using broadcast signals to provide supplemental educational content in addition to traditional educational video programming. MSU has established a partnership with the Lansing School District, through which 3,000 PBS Playtime Pads tablets have been distributed to kindergarteners. MSU is building on this partnership by developing an ATSC 3.0 app that will enable the Playtime Pads to serve as a platform to test companion screen applications. Information gained will allow the Lansing School District to evaluate the effectiveness of these distance learning practices, allow teachers to engage with students, and provide students with tailored and equitable learning experiences. MSU also discusses its plan to continue collaborating with the University of North Carolina, in furtherance of developing an Advanced Warning and Response Network (AWARN),<sup>13</sup> as well as its work with the MSU Police to provide live streaming video and targeted emergency and evacuation alerts across monitors in all MSU buildings.<sup>14</sup> MSU states that grant of the instant request will “further enhance WKAR-TV’s ability to serve as a resource for public broadcasters across the country that will accelerate their adoption of ATSC 3.0.”<sup>15</sup>

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<sup>8</sup> *Id.* at 2.

<sup>9</sup> *Id.*

<sup>10</sup> *Id.* at 4.

<sup>11</sup> *Id.* at 2-4.

<sup>12</sup> *Id.* at 2. Among its efforts, 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. The NMIL has also tested ATSC 3.0 applications designed to make roadways smarter and safer through the use of ATSC 3.0 signals that carry real-time traffic information to road signs that can alert motorists to things like speed limit changes due to hazardous road conditions or accidents. *Id.* at 2-3. MSU has also partnered with Gaian Solutions, Inc. to launch a NextGen TV accelerator platform called the Apollo PublicTV Platform. The Apollo PublicTV Platform 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. *Id.* at 4.

<sup>13</sup> Instead of relying on mobile phone networks, which can become overburdened and unusable during an emergency, AWARN uses ATSC 3.0 and terrestrial broadcasting to deliver rich-media, geo-targeted content, such as emergency alerts, evacuation routes and additional information. *Id.* at 3.

<sup>14</sup> *Id.* at 3-4

<sup>15</sup> *Id.* at 4.

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.

*Discussion.* We find, 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. Specifically, MSU seeks to conduct its experiments involving new, innovative, non-traditional broadcast services and to serve as a resource for public broadcasters across the country, thereby helping accelerate their adoption of ATSC 3.0. We recognize the unique nature of the work that MSU is doing and 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), and that these findings may prove particularly valuable in the context of the COVID-19 pandemic, most notably in the context of remote learning. Moreover, maintaining WKAR-TV's current programming and traditional ATSC 1.0 video offerings in their entirety is especially important in light of the COVID-19 pandemic and remote learning efforts in which WKAR-TV is actively engaged with the Lansing School District.

Accordingly, the experimental authority requested by MSU for an experimental broadcast station on channel 35 **IS GRANTED** for a period of one year from the date of this letter (September 24, 2021), subject to the provisions of Part 5, Subpart D, any commitments made by MSU in the application, and the following conditions.<sup>16</sup>

1. This experimental authorization expires one year from the date of this letter, subject to the terms and conditions set forth herein. There is no expectation of renewal.
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. Further, a detailed summary of all new experimentation conducted, findings, and conclusions must be included with any request for extension of the instant experimental authority.
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>17</sup> The Commission will

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<sup>16</sup> This action is being taken by the Video Division pursuant to the authority delegated to the Media Bureau under 47 CFR § 0.61.

<sup>17</sup> See 47 CFR § 73.3801 *et. seq.*

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.

Sincerely,

/s/

Kevin R. Harding  
Associate Chief, Video Division  
Media Bureau

Cc: Jonathan Cohen, Esq. (Counsel for MSU)