

**SUPPORTING STATEMENT
REQUEST FOR EXPERIMENTAL STA
WKAR-TV, East Lansing, MI (Facility ID 6104)**

The Board of Trustees of Michigan State University (“Licensee”), licensee of noncommercial educational television station WKAR-TV, East Lansing, MI (Facility ID 6014) (“WKAR-TV”), pursuant to Part 5 of the Commission’s rules, respectfully requests that the Commission grant Experimental Special Temporary Authority (“Experimental STA”) to allow WKAR-TV to conduct experimental operation of a testbed ATSC 3.0 facility on vacant Channel 35 in East Lansing, Michigan.¹ As demonstrated below, the public interest will be served by allowing WKAR-TV, in cooperation with the College of Communication Arts and Sciences at Michigan State University (“MSU”) to operate pursuant to the requested special temporary authority. As set forth in more detail below, the Experimental STA will also allow other noncommercial educational television stations that are part of the Public Media Venture Group (“PMVG”), as well as public media program producers and other Public Broadcasting Service member stations, to test ATSC 3.0 applications for noncommercial television stations on this platform.²

WKAR-TV and MSU are in the process of setting up a NextGen Media Innovation Lab (“NMIL”). A core component of this lab is an ATSC 3.0 testbed for applications in education, health, farming, local news, emergency preparedness and connected vehicles.

Capitalizing on MSU’s expertise in early childhood education, one of the first projects planned for NMIL will focus on the use of ATSC 3.0 to improve childhood education. By employing second-screen interactive games on tablets that reinforce television programming, we plan to test new models of intervention for elementary math, education, and literacy. Toward this end, we have developed a partnership with the Lansing School District and have provided all kindergartners with a tablet loaded with PBS KIDS games.

¹ WKAR-TV is in the process of transitioning early to its post-auction channel (Channel 33) pursuant to the authority granted by the Commission on October 30, 2017 in FCC LMS File No. 0000030442. The STA operations requested herein will not affect WKAR-TV’s Channel 33 operations.

² PMVG is a coalition of 24 public media television licensees representing 81 stations reaching 188 million Americans that are committed to working together and investing collaboratively in “Next Generation TV” for the benefit of the American people.

The tablet partnership is just one example of the type of project we plan to pursue as a PBS station. Other ideas under consideration are telehealth and distance education to underserved and rural communities with limited broadband penetration. Using a combination of broadband and broadcasting, we will develop methods for delivering rich, interactive media using a thin back channel.

WKAR-TV's proximity to Detroit and the ongoing collaborations between MSU's engineering faculty and automakers offer potential avenues for research on potential application of ATSC 3.0 technology in the future of connected and autonomous automobiles. MSU's status as one of the original Land Grant Universities, its highly ranked College of Agriculture and Natural Resources, and its statewide Extension service will allow the NMIL to test NextGen applications that support agriculture and the family farm. Automated remote control of irrigation systems depending on hyper-local weather conditions is an example of one possible application. With a community of students, faculty and staff that approaches 70,000 people, and an athletic stadium of 75,000 seats, emergency communications to MSU's staff and visitors is the highest priority. The NMIL will allow MSU to test prototype systems that augment communications with first responders on campus and with the University community and that may be deployed at MSU, other universities, and public first responder departments in Michigan and elsewhere. The NMIL will explore the potential of ATSC 3.0 to expand the availability and impact of local information. The NMIL will serve as a platform for developing and testing areas such as on-demand access to local content, interactivity, geographic targeting, potential applications for local government agencies and area NGOs. These efforts will be enhanced by the deep experience and expertise both in research and in practice of the faculty at MSU's top-ranked School of Journalism and Communications Arts and Sciences Department.

As a testbed, the NMIL will work with PMVG to offer other noncommercial educational television stations, as well as researchers from other universities, the opportunity to explore other innovative applications of ATSC 3.0. Discussions with other members of PMVG have already taken place, and there is much interest in employing this testbed for researching innovative uses of the ATSC 3.0 technology by public television stations. The NMIL will collaborate with, and draw on the work of, researchers from MSU and other universities, and plans to seek funding through NIH, NSF, CDC, USDA and foundations such as the Robert Wood Johnson Foundation for innovative projects that can be developed using our testbed.

NMIL is an institutional priority at MSU and startup funds already have been set aside for technology and personnel. Intellectual leadership will be provided by a task force of researchers and experts who have proposed pilot projects for the testbed, from various fields including engineering, education, health communication, game design, journalism, computer science and human computer interaction.

The Commission has authorized experimental ATSC 3.0 operations in response to similar requests by other licensees. In the main, those requests were motivated by a desire to advance innovative new broadcast business models, such as micro-targeted advertising. The instant request differs from those in that the NMIL will use this authority to focus on ATSC 3.0 applications that are central to the core values of noncommercial television licensees – education and the betterment of our communities. As demonstrated in the accompanying Engineering Statement, the facility proposed for operation under the Experimental STA is not predicted to cause more than 0.5% new interference to any other surrounding co-channel or adjacent channel facilities, or more than 2% new interference to any low power television facilities.³

In light of the foregoing, Licensee respectfully requests that the Commission promptly grant the Experimental STA to WKAR-TV.

³ Licensee intends to use the requested authority to operate on Channel 35 only until the start of the testing phase of Transition Phase 3 (4/19/2019). Licensee will either apply to use an alternative channel after that date or will cease operations completely to avoid interference with WAQP (Saginaw, MI), which has been assigned to transition to Channel 36 in Phase 3.