



(REFERENCE COPY - Not for submission)

Request to Extend a DTV Experimental STA Application

File Number: **0000160325** | Submit Date: **09/24/2021** | Call Sign: **WKAR-TV** | Facility ID: **6104** | FRN: **0007619026** | State: **Michigan** | City: **EAST LANSING**
Service: **DTV** | Purpose: **STA Extension** | Status: **Pending** | Status Date: **09/24/2021** | Filing Status: **Active**

General Information

Section	Question	Response
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Fees, Waivers, and Exemptions

Section	Question	Response
Waivers	Does this filing request a waiver of the Commission's rule(s)?	No
	Total number of rule sections involved in this waiver request:	

Applicant Information

Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
BOARD OF TRUSTEES, MICHIGAN STATE UNIVERSITY Doing Business As: BOARD OF TRUSTEES, MICHIGAN STATE UNIVERSITY	Susanne Elkins, Director of Broadcasting WKAR-AM/FM/TV 404 WILSON RD, ROOM 212 EAST LANSING, MI 48824 United States	+1 (517) 884-4700	susi@wkar. org	Private Not-for-Profit Educational Institution

Authorization Holder Name

Check box if the Authorization Holder name is being updated because of the sale (or transfer of control) of the Authorization(s) to another party and for which proper Commission approval has not been received or proper notification provided.

**Contact
Representatives
(2)**

Contact Name	Address	Phone	Email	Contact Type
Jonathan Cohen Wilkinson Barker Knauer LLP	1800 M Street, NW Suite 800N Washington, DC 20036 United States	+1 (202) 383- 3416	joncohen@wbklaw. com	Legal Representative
Susanne Elkins <i>Director of Broadcasting</i> WKAR Michigan State University	Susanne Elkins, Director of Broadcasting 404 Wilson Rd. Room 212 East Lansing, MI 48824 United States	+1 (517) 884- 4770	susi@wkar.org	Director of Broadcasting

Channel and Facility Information

Section	Question	Response
Proposed Community of License	Facility ID	6104
	State	Michigan
	City	EAST LANSING
	DTV Channel	35
	Designated Market Area	LANSING
Facility Type	Facility Type	Noncommercial Educational
	Station Type	Main
Zone	Zone	1

Primary station proposed to be rebroadcast:

Facility Id	Call Sign	City	State
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Antenna Location Data

Section	Question	Response
Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	Yes
	ASR Number	1265362
Coordinates (NAD83)	Latitude	42° 42' 06.9" N+
	Longitude	084° 24' 47.8" W-
	Structure Type	TOWER-A free standing or guyed struct
	Overall Structure Height	313.3 meters
	Support Structure Height	297.8 meters
	Ground Elevation (AMSL)	259.1 meters
Antenna Data	Height of Radiation Center Above Ground Level	152.4 meters
	Height of Radiation Center Above Average Terrain	144 meters
	Height of Radiation Center Above Mean Sea Level	411.5 meters
	Effective Radiated Power	5.5 kW

**Antenna
Technical Data**

Section	Question	Response
Antenna Type	Antenna Type	Directional Custom
	Do you have an Antenna ID?	Yes
	Antenna ID	1003205
Antenna Manufacturer and Model	Manufacturer:	ERI
	Model	I230ECW-2-23
	Rotation	230.0 degrees
	Electrical Beam Tilt	1.0
	Mechanical Beam Tilt	Not Applicable
	toward azimuth	
	Polarization	Elliptical
DTV and DTS: Elevation Pattern	Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt?	No
	Uploaded file for elevation antenna (or radiation) pattern data	

Directional Antenna Relative Field Values (Pre-rotated Pattern)

Degree	Value	Degree	Value	Degree	Value	Degree	Value
0	.87	90	.79	180	.24	270	.79
10	.94	100	.66	190	.19	280	.84
20	1	110	.5	200	.14	290	.86
30	.98	120	.27	210	.11	300	.89
40	.94	130	.11	220	.09	310	.92
50	.92	140	.09	230	.11	320	.94
60	.89	150	.11	240	.27	330	.98
70	.86	160	.14	250	.5	340	1
80	.84	170	.19	260	.66	350	.94

Additional Azimuths

Degree	V _A
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Certification

Section	Question	Response
<p>General Certification Statements</p>	<p>The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by authorization or otherwise, and requests an Authorization in accordance with this application (See Section 304 of the Communications Act of 1934, as amended.).</p>	
	<p>The Applicant certifies that neither the Applicant nor any other party to the application is subject to a denial of Federal benefits pursuant to §5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. §862, because of a conviction for possession or distribution of a controlled substance. This certification does not apply to applications filed in services exempted under §1.2002(c) of the rules, 47 CFR . See §1.2002(b) of the rules, 47 CFR §1.2002(b), for the definition of "party to the application" as used in this certification §1.2002 (c). The Applicant certifies that all statements made in this application and in the exhibits, attachments, or documents incorporated by reference are material, are part of this application, and are true, complete, correct, and made in good faith.</p>	
<p>Authorized Party to Sign</p>	<p>FAILURE TO SIGN THIS APPLICATION MAY RESULT IN DISMISSAL OF THE APPLICATION AND FORFEITURE OF ANY FEES PAID</p> <p>Upon grant of this application, the Authorization Holder may be subject to certain construction or coverage requirements. Failure to meet the construction or coverage requirements will result in automatic cancellation of the Authorization. Consult appropriate FCC regulations to determine the construction or coverage requirements that apply to the type of Authorization requested in this application.</p> <p>WILLFUL FALSE STATEMENTS MADE ON THIS FORM OR ANY ATTACHMENTS ARE PUNISHABLE BY FINE AND /OR IMPRISONMENT (U.S. Code, Title 18, §1001) AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, §312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, §503).</p>	
	<p>I certify that this application includes all required and relevant attachments.</p>	<p>Yes</p>
	<p>I declare, under penalty of perjury, that I am an authorized representative of the above-named applicant for the Authorization(s) specified above.</p>	<p>Jacquelynn Kittel <i>Assistant General Counsel</i></p> <p>09/24/2021</p>

Attachments

File Name	Uploaded By	Attachment Type	Description
<u>Supporting Statement for WKAR Application for Experimental STA Extension (24Sep2021) - 4839-3371-8780.1.docx</u>	Applicant	General Information	Supporting Statement

**SUPPORTING STATEMENT
APPLICATION FOR EXTENSION OF 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”), respectfully requests that the Commission extend for an additional year the Experimental Special Temporary Authority (“Experimental STA”) granted September 25, 2020.¹ Over the past year, WKAR has continued to experiment with a variety of ATSC 3.0 applications in the NextGen Media Innovation Lab (“NMIL”) despite the challenges posed by the ongoing pandemic. We have seen encouraging results and have made significant developments in the areas of education, emergency alerting, COVID data collection and reporting, and other public service engagements, as described below. The work of the NMIL has helped to accelerate public television’s adoption of ATSC 3.0. We need additional time under the Experimental STA to continue this important work, and respectfully ask that the Commission extend this authorization for another year.

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As WKAR gained experience building the actual applications in the lab, it became clear how fundamentally different a NextGen TV production and distribution environment is. We’re now using internet technologies within the broadcast for personalization, app and streaming integration, interactivity, and data collection. This has been a focus of the NMIL: to help empower local stations to innovate in their own communities through a robust app environment, and give them a platform for engaging with businesses, tech partners and others across local markets, statewide and across the country.

We have found that public television stations need easy-to-use production and distribution tools and on-ramps they can deploy to enable audiences to interact with them seamlessly. We are focused on the experience layer, where the real community impact is seen. And our ability to serve our local communities and fulfill public television’s mission is greatly enhanced when we engage in partnerships and collaborations. The NMIL is engaged in the unfinished work of developing techniques for stations to more easily harness their data capabilities and put them to work, ideally by creating the same digital experience for OTA and OTT audiences.

Educational Work. The approach outlined above has driven the development of interactive education applications in the NMIL. Using WKAR’s locally produced program, *Curious Crew*, work over the past 12 months has included infusing interactive content with dynamic data to create custom interactive experiences for the show. A pop quiz is presented to the viewers, and through this application, answers are recorded, results aggregated, and analytics are collected, all in real time. Secondary engagements are then triggered based on the results.

¹ See Letter to Board of Trustees, Michigan State University from Kevin R. Harding of FCC, dated Sep. 25, 2020 (FCC LMS File No. 0000118359).

Interactivity tools are most effective when easy mechanisms exist to aggregate and distill user feedback. The application seeks to entice viewers to actively participate in the program, since interactivity is ineffective if the viewer decides to ignore it. Even worse, a poorly timed interactive engagement can drive away viewers rather than attract them. To ensure correct timing, we schedule specific actions using viewer response, all based on the content. This is called Context Aware Triggering, where a message board is triggered to appear after more than 50% of viewers respond with a thumbs up.

The NMIL is constantly working on ways to refine the interactive experience. Tools like the Context Aware Triggering system with dynamic targeting abilities are essential. Ideally, the interactivity experience is dynamic, where the content and interactivity can be uniquely designed for everyone who experiences it. As a next step, the NMIL plans to distribute receivers to Curious Crew viewers, which will allow us to test the application and will provide us with feedback to guide further development. The NMIL plans to share its findings.

COVID/Public Service Work. Also in development is a timely COVID-related application. In this application, stations can source the feed from a Michigan government website, datacast information into an NextGen TV App, customize the data and dashboard behavior by geo-specific information, and then provide users with easy ways to interact with the dashboard, all while collecting analytics from the user behavior.

The dashboard presents live data at the county level. A QR code option would enable users to book a test or a vaccine appointment, and the NextGen TV app on a smartphone then takes you to the website to book an appointment. The dashboard then reflects the user interaction.

The best part of tooling and automation is that we can use any kind of feed to create a similar dashboard and a digital engagement around it. The NMIL is developing similar applications for emergency alerting and other public service engagements as well.

Creation of Online Course. Because of the pandemic, we have been unable to invite colleagues to visit the lab in person as planned. Instead, we created an online course designed to share developments from the NMIL. As the possibilities of NextGen TV unfold, this course is helping stations prepare for the transition with a solid understanding of the benefits of the new standard, and the role convergence will play in our ability to super-serve audiences and build spectrum-based business plans.

Created in partnership with NETA's Public Media Learns Platform, over 80 station leaders are registered and participating monthly. Topics explored include deep dives into the applications being developed in the NMIL, as well as updates on the rollout, regulatory considerations, staff training, and more. Feedback has been positive, particularly from those station leaders who find themselves in a market where they have an opportunity to participate in channel sharing agreements.

Benefits from a Further Extension of the Experimental STA. The NMIL has been instrumental to WKAR's ability to serve as a resource for public broadcasters across the country and, as envisioned, is helping to accelerate public media adoption of ATSC 3.0. Though much has been

accomplished, there remains a critical need to deploy and test the NMIL applications in the field. It has been a challenge to work through API complexities with multiple vendors who are building to the standard in real time. This is to be expected, as the NMIL is advancing the work of not just WKAR, but all those who want and need to better understand how the technology will be used in real-world situations and services. This iterative process is key to overall deployment and adoption of the standard and takes time – particularly amid COVID-related challenges. We ask that the FCC extend the Experimental STA to allow the critical work of the NMIL to continue.

Continued operation of the NMIL would facilitate a developing partnership with the Pearl Group to test applications on its platform in markets that have already transitioned. The results of these trials would benefit all broadcasters (commercial and non-commercial) in understanding of how to create services that audiences/consumers will want.

The requested extension also would allow WKAR to complete an existing proposal to provide a trial NextGen TV platform experience for educators and students in the Lansing School District, which would support at home learning and development of a longer-term hybrid school environment.

Additionally, now that the Michigan State campus is returning to some normalcy, the NMIL will be able to test its emergency alerting use case, which has been extremely difficult to do given the restrictions that have been in place for the past year.

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In light of the progress the NMIL has made over the past, but recognizing the work that still needs to occur, Licensee respectfully requests that the Commission approve an additional one-year extension of the Experimental STA.