July 13, 2023 GMAC Meeting Public Comments

Written Comments Submitted in Advance to MA-GMAC@mass.gov

Submitted Comments

1. Greg Hunt, ZPE Energy (ghunt@zpeenergy.com) - Received 7/12/23
2. Rich Creegan, Anterix - Received 7/12/13

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Regarding:

- Overly Impacted and Rarely Heard. Stakeholder Working Group convened by the Attorney General's Office. May 2023.
- Fostering Equity through Community-Led Clean Energy Strategies.
- EDCs' ESMP

The Overly Impacted and Rarely Heard Stakeholder Working Group report was great to read. Clearly a lot of work and effort to put together a very robust document. Thank you.

My only comment is, that how something is measured drives how it gets done, and results should be visible. In order to get stakeholder input from communities that don't normally have a voice there needs to be a clear showing that not only can they participate meaningfully, but that their input can actually have an impact.

My comment is that a reporting requirement be included for each of the above that contains the following ideas.

- What was the initial plan.
- What very specifically was changed as a result of feedback from that community, in great detail.
- What very specific feedback resulted in the change.
- Specifically who the feedback came from that resulted in a change.

July 13, 2023

Via email to <MA-GMAC@mass.gov>

The Honorable Commissioner Elizabeth Mahony
Grid Modernization Advisory Council Chair
Department of Energy Resources
100 Cambridge Street
Suite 1020
Boston, MA 02114

Re: Comments of Anterix

Dear Chair Mahony:

Anterix, a utility solutions developer enabling private, secure wireless broadband to power the evolution of our Nation's grid in support of the integration of distributed energy resources, enhanced cyber and physical security, greater resilience, and energy equity, respectfully submits the following comments in response to the invitation for public comment posted on the Grid Modernization Advisory Council's (GMAC) website.

Created by the team that founded Nextel and brought push-to-talk communications to the utility industry, Anterix provides foundational spectrum that enables risk mitigation and meets the evolving business needs of electric utilities. The premise of our offering to the utility sector is that "a modern grid requires modern communications." As explained in these comments, utility-controlled, private wireless broadband networks such as those enabled by Anterix are critical to meeting the challenge described in Sec. 53 of "An Act Driving Clean Energy and Offshore Wind" (the "Act"), which created the GMAC.

In its efforts to address climate change while ensuring reliability, the Commonwealth has established greenhouse gas emissions limits and required "electric-sector modernization plans" (ESMPs) to "proactively upgrade the distribution and, where applicable, transmission systems." To meet those emissions limits, the grid will need to accommodate broad electrification of multiple sectors of the economy, and the massive integration of renewable distributed energy resources (DERs) and energy storage, as acknowledged in the Act. But tellingly, in the Act's list of six key ESMP purposes, the first is that the ESMP proactive upgrades must be to "improve grid reliability, communications and resiliency." That makes sense: electrification and a shift to DERs—indeed, adequately serving the electric customer of the future—cannot succeed without grid reliability, communications, and resiliency. And of those three, communications is the foundation. The modern grid, with two-way energy flow and massive DER integration, requires modern communications capabilities to operate safely, efficiently, and reliably.

Realizing the Act's vision of a "distribution grid that enable[s] interconnection of, and communication with, distributed energy resources and transmission-scale renewable energy resources" will require advanced communications networks that have coverage to all corners of the

Commonwealth with the ability to: 1) monitor the data from all energy utilities, including consumer resources behind the meter; and 2) manage certain loads, storage and dispatchable generation. The ability to monitor the grid will provide the insight and the ability required to manage resources to optimize grid operations. Anterix believes that a private, non-proprietary LTE network is the best way to ensure security and avoid proprietary network restrictions. Once a secure advanced communications network is supporting grid operations, it will provide the flexibility to adjust priorities and operations to meet potential emergencies or long-term goals. Just like we have experienced in our daily lives as citizens, employees, and consumers, a utility-focused broadband network will become a platform for innovation. Anterix has created a utility solutions ecosystem involving more than 100 of the Nation's leading technology and service companies to enable such an innovative future.

Optimization of tomorrow's grid will require a much higher level of system awareness and the ability to productively modify resource behavior. Utilities must be able to invest in a communications network that is "utility-grade" so it is up and running during a disaster, supporting the power recovery efforts that are the backbone of grid resiliency, including mutual aid. They and their customers require a network with extremely low latency so a utility can monitor and react to disturbances before they create problems—as in the cases of voltage regulation or the line galloping that can occur during a storm. Above all, utilities need to be able to invest in secure private networks separate and apart from the public internet as delineated in the number one recommendation of the President's National Infrastructure Advisory Council.[1]

Historically, utility telecom networks were purpose-built, relying upon existing narrowband technologies and resources. Now, many of those networks are aging out and are in need of replacement as commercial carriers abandon 3G service or are using increasingly congested unlicensed spectrum. Running fiber to every grid device beyond utility substations is not a viable option for utilities. Investment in private wireless broadband networks—a new option made generally available to utilities only a few years ago—offers the robust, secure connectivity needed to fulfill the twin goals of insight and optimization, both of which provide customer benefits in the form of reliable, cost-effective electric service. Five utilities that provide service across 14 states, have already begun the process of deploying a private wireless broadband network.

Spectrum—the radio waves that wireless networks use to carry communications signals—is the foundation of private wireless broadband networks for critical grid communications, and thus also the foundation upon which grid modernization technologies depend. As the primary holder of licenses for broadband-capable spectrum in the 900 MHz band across the country, Anterix understands how access to the right spectrum empowers the modernization of critical infrastructure by enabling private broadband connectivity. Its foundational spectrum enables risk mitigation and meets evolving business needs of electric utilities, with greater cybersecurity, resiliency, and control. These comments, including the document attached hereto and incorporated by reference (Enhancing Utility Connectivity Through Secure Wireless Broadband Networks), expand our description of the importance of wireless broadband networks to the future of Massachusetts utilities and their customers.

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[1] In its August 2017 report, the President's National Infrastructure Advisory Council recommended the Administration "Establish SEPARATE, SECURE COMMUNICATIONS NETWORKS specifically designated for the most critical cyber networks" (emphasis in original). It went on to state, "Industrial control systems connected to business IT systems and the Internet constitute a systemic cyber risk among critical infrastructure." (*Available at* <https://www.hsdl.org/?abstract&did=803545>).

As the GMAC considers the technology future of the Commonwealth's grid, Anterix respectfully requests that the need for private wireless broadband communications networks as a foundational element be part of that consideration.

Respectfully submitted,

Richard Creegan
Senior Vice President, Utility Partner Engagement

Attachment

Anterix, "Enhancing Utility Connectivity Through Secure Wireless Broadband Networks"

Anterix™

Enhancing Utility Connectivity Through Secure Wireless Broadband Networks.

For a utility looking to modernize its grid, "A modern grid requires modern communications" is a good starting premise. Beyond that, a modern communications platform unlocks numerous additional opportunities to address a wide range of issues facing today's utilities.

DER Integration:

The decarbonization driven proliferation of renewable energy generation resources is changing the paradigm for electric utilities. A home with a rooftop solar installation, for example, exhibits a kind of "prosumer" (producer-consumer) behavior. To safely and efficiently integrate DERs into the grid—whether they be owned by the utility or a third party—utility operators must have greatly improved grid visibility, control, and automation capabilities. The sensors, smart devices and applications that will provide utilities these enhanced capabilities depend upon connectivity via a private broadband data network.

Cyber & Physical Security:

With the greater reliance upon data for grid control—and with cyber attackers growing more sophisticated, security of any new data communications network is of critical importance. LTE offers a particularly robust, up-to-date set of security features. LTE provides more granular control of the network and the connections between discrete network elements. In a private deployment, the utility has the control to implement any or all of LTE's advanced, optional security features, as well as any additional utility specific cyber or physical security management functionalities.

EVs/VPPs:

When they are being charged (grid-to-vehicle, or G2V), electric vehicles (EVs) represent load to the utility; when their batteries are used as storage for power that can be supplied back into the grid (V2G), they are stored power distributed energy resources (DERs) for the utility. EV charging data would be useful to utilities that want to manage charging times in order to mitigate peak load conditions. Looking further into the future, utilities could treat EVs like any other DER, relying upon secure broadband connectivity to manage the time and amount of V2G power the EV provides. And with appropriate communications, a utility could even establish a virtual power plant from a multitude of EVs, saving the cost and environmental impact of firing up a peaking power plant to meet short-term spikes.

Wildfire Mitigation:

To reduce the threat of wildfires and other risks of having downed wires, utilities are planning to deploy a technology from Schweitzer Engineering Laboratories (SEL) called Falling Conductor Protection (FCP) that, when enabled by a low-latency, high-bandwidth broadband network, can identify a power line when it breaks and, as it falls, cut its power before it hits the ground.

SCAN ME

anterix.com

SECURITY
Maximum cyber security protection

RESILIENCY
Real-time visibility to support a proactive posture, quick response time, and ability to meet capacity demands

OPERATIONAL IMPROVEMENTS
Accessible data exchanged in real-time (without going into the field)

CLEAN ENERGY TARGETS
Support and proactively advance strategic electrification efforts

CUSTOMER IMPROVEMENT
Predict and prevent public safety threats, improve utility security and enable smart city technologies

900 MHz Private LTE is the Foundation for the Future

A communications infrastructure built on utility-grade 900 MHz Private LTE is a smart, long-term solution that enables utilities to achieve their goals—STARTING NOW.

ANTERIX ACTIVE ECOSYSTEM AND ANTERIX SECURITY COLLECTIVE:

The Anterix Active Ecosystem brings one hundred leading technology companies together that are supporting 900 MHz Private LTE (PLTE) networks and shaping the future of private wireless broadband. Members enjoy technical assistance, collaborative tools and marketing support to develop products and services for 900 MHz PLTE networks enabling utilities and the critical infrastructure sector.

Anterix formed the seven-member Security Collective within the Anterix Active Ecosystem Program, to assemble cyber-physical solutions providers to deliver sector-specific knowledge and collaborations. Each Anterix Security Collective member is committed to collaborating with utilities and within the Collective to contribute to the broader effort of finding and implementing comprehensive solutions.