



This letter is to state NorthWestern Energy's intention to support the WirelessMAN working group in IEEE's adoption of the proposed 802.16s standard.

The utility industry is facing unique and challenging requirements that call for increasing both, security of its networks for power delivery, as well as, security of command and control and monitoring communications networks. Private licensed wireless communication networks are being deployed to meet this need without a specific standard that satisfies the utilities' unique needs of closed loop network continuity and the ability to isolate completely from any portion of the publicly accessible networks.

Utilities are purchasing licensed spectrum in order to build the non-dependent and isolatable networks they need, however, the wireless systems currently available for this licensed spectrum are proprietary and largely non-standard. This creates hardware sustainability risk for utilities as well as making it difficult, and in many cases impossible, for geographically adjacent utilities to connect to edge assets because of competing wireless systems' inherent operational incompatibility and the resulting interference.

The proposed standard from the working group specifies WirelessMAN-OFDMA TDD operation in exclusively-licensed spectrum with channel bandwidths up to 1.25 MHz, including 100 kHz and 1 MHz explicitly. The standard amends Clause 12 of IEEE Std 802.16, adding a new system profile and amending other clauses as required to support the narrower channel widths and is named IEEE 802.16s.

There is a clear market requirement and interest in adopting this standard. Over 100 utilities have deployed 802.16 to support their grid operations. FCC regulatory changes to the 3.65 GHz band have left utilities looking for other options for licensed spectrum. One option is the 700 MHz upper A block which has been purchased by some utilities, but the 1 MHz channel width is not currently supported by any standard. The sub 1 GHz spectrum is optimal relative to coverage and infrastructure requirements, but licenses available to utilities are segmented at 1 MHz or smaller. As a result of these realities, a group of 23 people, from four utilities, five equipment vendors, and several other organizations have attended the working group to develop this standard.

There is currently no standard that specifically answers the operational requirements of utilities. This IEEE 802.16s standard has been designed with a clear focus on how utilities need to manage data flow and coverage capabilities. IEEE 802.16s is the only standard that provides utilities with the flexibility and scalability required for growth and planning.



NorthWestern Energy believes that the proposed IEEE 802.16s standard should be adopted as soon as possible. This standard will give both utilities and manufacturing partners the organized and sustainable platform needed for hardware development and cohesive long term network planning and deployment.

Sincerely,

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