

Margaret Coaster
Smart Metering Team, Ofgem E-Serve
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Dear Ms. Coaster:

The Wi-Fi Alliance is pleased to respond to the initial questions in the Smart Metering Implementation Programme prospectus. We also intend to submit additional responses to subsequent questions by the October 28 deadline.

For the initial set of questions (the "September 28 questions"), we are at this time submitting responses only to Question 6 of the Prospectus, and to Question 2 of the Statement of Design Requirements.

We are also attaching, for your reference, a white paper from the Wi-Fi Alliance entitled "Wi-Fi for the Smart Grid". This document presents the role that Wi-Fi can play not only as the HAN but also in WAN applications. This document will provide useful background information for our forthcoming responses to the October 28 questions.

Thank you very much,

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www.wi-fi.org

Question 6 (Smart Metering Implementation Programme Prospectus)

Do you have any comments on the functional requirements for the smart metering system we have set out in the Functional Requirements Catalogue?

Response:

Many electric utilities are also responsible for natural gas and water delivery to the end customer. Accordingly, there is a need to collect the usage information from gas and water meters in addition to electric meters. The same communications infrastructure being deployed in an electric utilities service territory can be used to collect gas and water usage information. Leveraging Smart Grid assets for these purposes will reduce the capital and operational expense of an integrated utility responsible for gas and electric delivery to the consumer. In cases in which different utilities provide gas, water, and electricity, infrastructure-sharing can improve efficiency and cost of deployment.

Gas and water meters do not typically have access to a power source. Low-power battery-operated endpoints are critical for mass adoption of wireless communications in these meters. Until recently, Wi-Fi enabled devices have not met the 15 to 20 year battery life requirements of such devices as it relates to lower power consumption. However, several new Wi-Fi chip sets have sub uA leakage and are capable of working in systems where the total current in low-power mode is far less than 1 uA. In such a state, battery life can be radically extended. While a low-power host micro-controller maintains the application in the meter, the Wi-Fi radio can be kept in an off position. Information can then be cached and burst through the Neighborhood Area Network periodically. Using the latest low-power technology from Wi-Fi solution providers, this can result in 10 or more years of battery life.

Question 2 (Smart Metering Implementation Programme Statement of Design Requirements)
Are suitable HAN technologies available that meet the functional requirements?

Response:

Wi-Fi is quite suitable for the Home Area Network of the Smart Grid. Wi-Fi is based on very mature technology and has a large installed base in home networking (estimated at more than 100 million households worldwide). The latest generation, Wi-Fi CERTIFIED n, is capable of distributing high definition video throughout the home, but Wi-Fi devices are also capable of supporting low data rate/low power applications as well. Wi-Fi is being included in a very wide range of portable and stationary consumer electronics devices, and its home market share will only increase.

Wi-Fi operates in unlicensed spectrum and so is subject to interference. However, Wi-Fi is designed to operate in this uncontrolled spectrum and is resilient to many types of interference. Wi-Fi coexists very well with other technologies that share these bands.

Wi-Fi has a mature ecosystem, with widely-demonstrated interoperability, more than one billion devices shipped to date, and a continued growth rate expected to continue in double-digits for the foreseeable future. The Wi-Fi Alliance's certification program is the benchmark for all other wireless technologies. Hundreds of vendors deploy the technology in a wide range of devices. Ongoing innovations in power management are bringing tremendous improvements to Wi-Fi power dissipation profiles. Already the network of choice in millions of homes, Wi-Fi is ready to be the Home Area Network standard for Smart Grid.

About the Wi-Fi Alliance

The Wi-Fi Alliance is a global non-profit industry association of hundreds of leading companies devoted to the proliferation of Wi-Fi technology across devices and market segments. With technology development, market building, and regulatory programs, the Wi-Fi Alliance has enabled widespread adoption of Wi-Fi worldwide.

The Wi-Fi CERTIFIED™ program was launched in March 2000. It provides a widely-recognized designation of interoperability and quality, and it helps to ensure that Wi-Fi enabled products deliver the best user experience. The Wi-Fi Alliance has completed more than 7,000 product certifications to date, encouraging the expanded use of Wi-Fi products and services in new and established markets.

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