JRC Response to the DECC Consultation on Smart Metering

JRC Ltd
Dean Bradley House
52 Horseferry Road
London SW1P 2AF
☎ 020 7706 5199
🖷 020 7222 4862
info@JRC.co.uk

To: Phil Nash

DECC Smart Metering team

Thank you for the opportunity to comment on the Consultation on Smart Metering.

The Joint Radio Company Ltd (JRC) is a radio spectrum management company mandated to manage radio spectrum used by the UK gas and electricity industry to communicate with front line maintenance and repair staff (Private Mobile Radio - PMR - systems); and the spectrum used by telemetry and telecontrol systems for the monitoring and control of transmission and distribution (SCADA) networks.

The comments below are derived from JRC's perspective as a provider of critical communications facilities to support network operations. JRC's individual member companies will provide their own independent comments.

JRC will restrict its comments to Q22 & Q23, the area within which JRC has competence.

A. TIME DOMAIN

Our concern is that insufficient attention has been paid to the time domain which is the defining demarcation between Smart Metering and Smart Grids.

In essence, Smart Metering is a non-real time operation - data can be recorded and stored at the meter for transmission at a time convenient for the communication network to minimise cost. Smart Grids require real-time communications with a premium on latency and resilience. Data volumes and geographic coverage for Smart Grids may also be significantly different to that required for Smart Metering.

Metering data can be aggregated for later transmission whereas for demand management timing is critical. Thus, Smart Metering is a component of an intelligent grid, not visa versa.

An analogy with financial management may illustrate the point: for a commercial organization, profitability is a long term objective; but without cash flow management, the organization will go bankrupt: the time domain is determining factor. The same factor applies for Smart Metering and Smart Grids, and this element must been given sufficient weight in assessing the alternative communications models.

The consultation does not give confidence that the real time nature of the communications requirements for Smart Grids have been adequately appraised.

If the communications networks to support Smart Metering are not designed for Smart Grids from the outset, it is likely that a separate communications network will have to be implemented for Smart Grids, a scenario which should be included in the Impact Assessment.

B. INVOLVEMENT OF DISTRIBUTION SECTOR

If the intelligent grid of the future is to incorporate embedded and distributed generation, it would require active network management in real time as identified above. It is difficult to conceive of how this could be achieved reliably without significant control residing in the distribution networks, whereas the consultation document gives the impression that the supply companies will be the dominant players.

Furthermore, if the network of the future is to be an active network rather than passive as at present, it will be the province of the transmission and distribution companies. Communications is an integral part of a smart grid, and its essential requirements must be dictated by operational factors rather than sales and marketing functions.

C. TECHNOLOGY TIMESCALES

It should be noted that the technology timescales for both Smart Meters and Smart Grids are measured in decades, rather than the months as in the domestic arena. Therefore, in selecting an appropriate communications technology, its availability and support must be guaranteed for at least a decade, and ideally 15 years. This is especially important in rapidly developing areas such as radio communications.

By way of illustration, looking back over a similar timescale for mobile telephony, one sees the rise and fall of the TACS analogue phone system, GSM and GPRS now dominant, but 3G having a significant presence and 4G technologies on the verge of deployment. This translates into refarming of the radio spectrum, such that 900 MHz TACS spectrum was converted into GSM spectrum, which is now being considered for upgrade to 3G. Thus, even if suppliers had guaranteed support for TACS hardware 15 years ago, there would no longer be any spectrum within which it could operate, a situation which is likely to occur again soon for 900MHz GSM, then 3G, and ultimately 4G as that technology is rolled out from 2012.

Adrian Grilli
Managing Director
Joint Radio Company Limited
Dean Bradley House
52 Horseferry Road,
LONDON SW1P 2AF

1 August 2009