



## **Arqiva response to Smart Metering Implementation Programme: Consultation on the second version of the Smart Metering Equipment Technical Specifications**

### **About Arqiva**

Arqiva is the communications infrastructure and media services company operating at the heart of the broadcast and mobile communications industry and at the forefront of network solutions and services in an increasingly digital world. Arqiva provides much of the infrastructure behind television, radio and wireless communications in the UK and has a growing presence in Ireland, mainland Europe and the USA.

The company supports cellular, wireless broadband, video, voice and data solutions for public and private sector customers.

Arqiva is providing a fit for purpose, utility-grade communications network for smart meters and grids that offers dedicated, secure, resilient and universal connectivity.

Arqiva is the leading company in SmartReach, a group of companies consisting of BT, BAE Systems Detica and Sensus. SmartReach has developed a solution for smart metering communications in Great Britain that is based on Long Range Radio (LRR) connectivity. It provides a high quality, secured wide area network (WAN) service connecting smart meters in homes across Great Britain, wherever they are located.

Arqiva is a founder member and shareholder of Freeview (Arqiva broadcasts all six Freeview multiplexes and is the licensed operator of two of them) and was a key launch technology partner for Freesat. We own Connect TV, the first company to launch a live IP streaming channel on Freeview. Arqiva is also the licensed operator of the Digital One national commercial DAB digital radio multiplex.

Arqiva operates shared radio sites throughout the UK and Ireland including masts, towers and rooftops from under 30 to over 300 metres tall as well as nine international satellite teleports. In Spectrum Interactive, we own one of the UK's largest WiFi hotspot providers that enable us to build a unique proposition for WiFi hotspot provision in the UK.

[ Redacted ]

Arqiva is owned by a consortium of long-term investors and has its headquarters in Hampshire, with other major UK offices in London, Buckinghamshire and Yorkshire.



## Response

**1. Do you have any comments on the criteria used in the evaluation of the application layer standards?**

No.

**2. Do you agree with the proposal to adopt ZigBee SEP / DLMS as the HAN application layer standards for GB?**

No. ZigBee SEP should be the HAN protocol between the gas/electric meter and IHD, but DLMS tunnelled over Zigbee should be used for both the gas and electric meters between the meter and headend. Using DLMS to the gas meter enables transactions to be encrypted and signed for both electric and gas meters. The IHD would access the gas data via the mirror in the hub where the data is stored as Zigbee SEP objects.

**3. Do you agree that equipment should be required to comply with SMETS and a GB Companion specification for ZigBee SEP / DLMS?**

Yes. CSP bidders should be participants in the development of the GB Companion Specification. This will ensure the communication hub is delivered in line with the HAN companion specification and in a timeframe suitable for service users

**4. Do you agree with the overall approach proposed in relation to the HAN physical layer? If not, please provide a rationale and evidence for your position.**

No. Arqiva does not agree with a market led approach. The HAN technology should be stable over the contract period, for both physical and application layers. Amendments to the HAN selection over the contract period would impact upon the costs and complexity of supplying and installing the communications hub. A modular approach would add costs to the communications hub.

[ Redacted

]

**5. Do you have any comments on the criteria used in the evaluation of the physical layer of the HAN?**

**6. What are your views on the compatibility of the reserved spectrum 870-876MHz with 868 MHz and the value of considering the use of this band?**



Arqiva has consistently supported the use of dedicated spectrum within the HAN for smart metering. The risk of interference in unlicensed bands is very high and may impact the smart metering solution. [ Redacted

]

**7. Do you consider that additional measures should be taken to encourage the development of an 868 MHz solution?**

Yes. In the absence of the dedicated spectrum for the HAN, an 868MHz solution should be developed.

**8. Do you agree with the approach to allow the market to determine the balance between 2.4 GHz and 868 MHz? If not, please provide rationale and evidence.**

Yes. A dual band approach should be used, to maximise the success rate at every installation.

**9. What are your views on the costs and benefits of the three options identified for deploying wireless solutions (i.e. 2.4 GHz as the default; dual-band communications hubs; or market led)?**

DECC should mandate a dual band communications hub (option 2) to support the majority of GB premises. [Please refer to question 4 above.]

**10. Do you agree with the proposal for a 'fit for purpose' installation obligation on suppliers?**

Yes. This would increase the likelihood that customers were satisfied and, therefore, engaged with the programme.

**11. Do you have any views on the proposed approach to developing a wired HAN solution?**

Yes. The programme needs a defined approach for high rise/multi-tenant residences.

**12. Do you agree with the proposed scope of functional requirements for a communications hub? Are there any other functions that should be included and what would be your rationale for including those functions (including estimated costs and benefits)?**

Arqiva has used the CHTS to produce a draft detailed specification for the purposes of obtaining pricing for the communications hub. Further work is needed to develop the companion standard but the CHTS as it stands in v.09 is sufficient for Arqiva to develop a hardware specification that will deliver the functionality outlined to date by the smart metering implementation programme. The software complexity will be driven by the companion specification and final selection of HAN standards. [ Redacted

]



**13. Do you have views on the specification for an 'intimate' interface between electricity meters and communications hubs?**

Yes. Supporting a wired interface between the electricity meter and the hub would mean that an independent mains power supply was not required for a separate communications hub. This would in turn reduce the manufacturing cost of the communications hub.

**14. Do you agree with the Government's marginal preference for the CSP-led model for communications hub responsibilities, or do you prefer the supplier-led model? Please provide clear rationale for the advantages and risks associated with your preferred option.**

Arqiva shares the Government's view that there are advantages and disadvantages in the supplier-led and CSP led models. We recognise the benefits of one party delivering an effective HAN and recognise that this would lead to a supplier led model. However in the event that the CSPs remain responsible for detailed specification of the communications hubs, they should be involved in the creation of the GB companion standard to ensure that communications hubs will be compatible with meters and available in time to support the planned roll out.

**15. Do you agree with the proposal that a CHTS-compliant communications hub should not be mandated for opted out non-domestic sites and that suppliers should be free to use whatever type of communications equipment best supports their processes and WAN service?**

Yes. [ Redacted

]

**16. Do you agree that the gaining supplier should bear the costs of installing an appropriate communications hub if they decide to switch between opted in and opted out?**

Arqiva has no comment to make on this question.

**17. Do you agree that the design and implementation of outage reporting functionality should be assigned to CSPs, documented in the communications hub technical specification?**

Yes. The CSP should maintain the outage management detection responsibility, either in a supplier-led or CSP led model. Outage detection forms a significant part of the business case benefits in other countries, such as the United States and Canada, reducing the time to fix customer service interruptions and improving efficiencies in local field force fault finding and resolution.

**18. Do you agree that it would be inappropriate to require meters operated outside DCC to be required to implement outage reporting? Please provide rationale to support your views.**



Arqiva has no comment to make on this question.

- 19. Do you agree that maximum demand registers should be included in SMETS? Please provide evidence to support your position and provide evidence on the cost implications of delivering this functionality via back office systems or via the meter.**

Arqiva has no comment to make on this question.

- 20. Do you agree with the proposal not to include the capability to generate additional voltage alerts based on counter thresholds in SMETS 2? Do you have any evidence that could justify including this functionality in SMETS 2?**

Arqiva has no comment to make on this question.

- 21. If DNOs were permitted to access remote disablement functions, should control logic be built into DCC systems or meters? If the logic should be built into meters, should the logic be specified in SMETS 2? Please provide rationale to support your position including estimates of the cost of delivering this functionality under the different options being considered and any evidence relating to safety issues associated with each option.**

Arqiva has no comment to make on this question.

- 22. Do you agree that variant smart electricity meters should be specified in SMETS 2 and that the cost uplift for variant smart meters is similar to that for variant traditional meters? Please provide evidence of costs to support your views on cost uplifts.**

Arqiva has no comment to make on this question.

- 23. Do you agree that randomisation offset capability should be included for auxiliary load control switches and registers as described above? Do you have views on the proposed range of the randomisation offset (i.e. 0 – 1799 seconds)? Please provide evidence on the cost of introducing this functionality.**

Arqiva has no comment to make on this question.

- 24. Do you support Option 1 or Option 2 for ‘pairing’ a CAD to the HAN? Please present the rationale for your choice and your views on the implications that these options have for the technical design of the solution.**

Yes. Option 2 should be adopted because it can be made secure and reduces the number of components on the communications hub (button/pairing key). Option 1 is less secure because once the passcode is known by the consumer; any device can be paired with the communications hub. Option 1 also requires a pairing button (key) on the communications hub which adds cost, complexity and the risk of failure.



- 25. If Option 2 were adopted, do you agree that obligations should be placed on energy suppliers to support this process by submitting 'pairing requests' to the DCC on request from their consumers?**

Yes. The obligation should be placed on energy suppliers. This appears the most secure option.

- 26. Do you consider that other CAD installation options should be pursued? If yes, please explain the approach you favour and your reasons.**

Arqiva has no comment to make on this question.

- 27. Do you agree with the proposal to include in SMETS 2 a specification for a PPMID, connected via the HAN, as described above?**

Arqiva has no comment to make on this question.

- 28. Would including the capability to enable gas and electricity supply through a PPMID connected via (a) a wireless HAN or (b) a wired HAN meet GB safety requirements? What impact would including this capability have on the cost of smart metering equipment? Please provide evidence to support your answers.**

Arqiva has no comment to make on this question.

- 29. Do you agree with the proposal that the communications hub should be specified such that it can support multiple smart electricity meters? How many smart electricity meters should be supported by each communications hub?**

Yes, in situations where the meters belong to one customer. We envisage that this would be available for three smart electricity meters – main supply, generation and electric vehicle charging.

- 30. Do you agree that a specification for a HHT interface to the HAN should be defined? If yes, please identify the functions that this interface would need to support and the scenarios in which such functionality could be required.**

[ Redacted

]

- 31. Do you agree with the proposed approach to the governance of security requirements? If you propose alternative arrangements please provide evidence to support your views.**

Arqiva has no comment to make on this question.



- 32. Do you agree with the proposal to establish independent assurance procedures for DCC and DCC users? Please explain your views and provide evidence, including cost estimates where applicable, to support your position. Comments would also be welcome in relation to the impacts and benefits of the proposed approach with regard to small suppliers.**

Arqiva has no comment to make on this question.

- 33. Do you agree with the proposal that re-testing should occur at least at set intervals and more frequently when significant changes to systems or security requirements are introduced? Please explain your views.**

Arqiva has no comment to make on this question.

- 34. Do you agree with the proposal to establish an independent security certification scheme for smart metering equipment? Do you have any views on the proposed approach to establishing a certification scheme or evidence of the costs or timelines for setting up such a scheme or submitting products for certification?**

Arqiva has no comment to make on this question.

- 35. Do you agree that sanctions for non-compliance with security requirements should be included in the SEC? Do you have views on the nature of the sanctions that might be imposed?**

Arqiva has no comment to make on this question.

- 36. Do you agree with the proposal to, in effect, extend the arrangements already proposed for SMETS installations prior to DCC operation, to all installations being operated outside DCC? Please provide evidence of the costs that might be incurred and the impact of this approach on small suppliers.**

Arqiva has no comment to make on this question.

- 37. Do you agree that interoperability is central to the development of a successful smart metering solution and that activities related to the assurance of SMETS equipment should be governed by SEC? Please provide views on the governance arrangements that would be appropriate for assuring interoperability of smart metering equipment.**

Yes. Interoperability is central to the success of the smart metering programme. A single entity should be responsible for the interoperability / compatibility testing and assurance of smart metering equipment and the communications hub detailed specification. Such a single entity should also be responsible for procuring and delivering a test and assurance facility, to certify equipment interoperability.





- 38. Do you agree with the creation of an ‘approved products’ list and the requirement on suppliers and CSPs to obtain, retain and provide evidence of appropriate certification should apply regardless of whether they intend to enrol the equipment in DCC?**

Yes. An ‘approved products’ list would be beneficial to the programme because it would ensure that only products that had been tested for interoperability were available on the market.

- 39. Do you agree that protocol certification (against a GB Companion Specification) should provide adequate assurance that a product will meet interoperability requirements? Please explain your views and identify any additional assurance testing that you consider to be necessary and the rationale for including such testing.**

No. To guarantee interoperability, all possible use cases (planned and unplanned) should be tested. Retesting should be required after any hardware or software modifications have been made. In Arqiva’s experience incompatibilities between devices only manifest themselves under certain conditions – for example, power loss during a firmware download or an unusual sequence of messages.

- 40. Do you agree with the Government’s proposals to require energy suppliers to operate specific aspects of smart metering equipment functionality for domestic consumers? Please provide rationale to support your position.**

Arqiva has no comment to make on this question.

- 41. What are your views on the Government’s proposals to require energy suppliers to operate specific aspects of smart meter equipment functionality for microbusiness, but not other non-domestic, customers?**

Arqiva has no comment to make on this question.

- 42. Do you agree that the licence conditions as drafted effectively underpin the Government’s policy intentions for consumer operational requirements?**

Arqiva has no comment to make on this question.

- 43. What are your views on the Government’s proposals for obligations to be included in the SEC for information to be made available to Network Operators and ESCOs via the DCC?**

Arqiva has no comment to make on this question.

- 44. Do you agree with the Government’s proposals for the timing of the introduction of operational requirements? Please explain your reasoning.**

Arqiva has no comment to make on this question.





- 45. Do you agree with the proposed changes to the smart metering regulatory framework to reflect the CSP-led model for communications hub responsibilities? Are any other changes necessary?**

Arqiva has no comment to make on this question.

- 46. Do you agree that the equipment development and availability timelines are realistic? Please give evidence.**

No. Unless the CSP is actively involved and driving the development of the GB companion standard ahead of delivery, currently estimated for Q3 2013, there is a significant risk of slippage to the programme. The GB companion standard is an essential document required for the development of the software for the communications hub and also required to achieve interoperability between smart metering components.

- 47. Do you agree that SMETS 2 should only be designated when the Government has confidence that equipment to satisfy the new requirements is available at scale? Should a further period of notice be applied to ensure suppliers can manage their transition from SMETS 1 to SMETS 2 meters?**

Arqiva has no comment to make on this question.

- 48. What are your views on when responsibility for the SMETS modifications process should transfer from the Government to the SEC?**

Arqiva has no comment to make on this question.

- 49. Which of the options (standing sub-committee or non-standing sub-committee) would you prefer in relation to modifications to the SMETS?**

Arqiva has no comment to make on this question.

- 50. Are there any particular areas of expertise that the sub-committee will need to fulfil its role, in terms of membership composition?**

Arqiva has no comment to make on this question.