Utilita Response to SMETS2 Consultation

Q1. Do you have any comments on the criteria used in the evaluation of the application layer standards?

Response: Utilita believe that the appropriate criteria have been used.

Q2. Do you agree with the proposal to adopt ZigBee SEP / DLMS as the HAN application layer standards for GB?

Response: No, the industry would then have to support 2 HAN protocols (ZigBee SEP and DLMS over ZigBee tunnel) supporting 2 protocols will increase support and maintenance cost. **If the industry coalesces around an external hub approach then the E-Meter by definition will have to support ZigBee SEP (without tunnelling DLMS commands) in order to communicate with the IHD or any other authorised device (mandated or procured by the consumer).** We do not support a 2 protocol approach for the HAN and consider ZigBee SEP to be suitable as a single protocol solution covering all authorised devices (including Gas meter and IHDs) and it makes little sense in adding a different protocol just for the electricity meter.

With reference to increased support and maintenance costs for DLMS over Zigbee tunnel, there is currently no certification authority for this solution . Zigbee Alliance would only certify the Zigbee tunnel but not the DLMS protocol. We therefore do not see any fundamental benefit in a tunnelling approach when a single solution (ZigBee SEP) is already, certifiable and deployable. The ZigBee Alliance already has work in progress to satisfy all SMETS functionality.

Significant work is being undertaken by Home Automation Profile (HAP) and ZigBee Alliance to update these within the Electrical Measurement (EM) cluster specification. This will add support for the

network features (reactive energy, voltage monitoring, etc.) with an estimated completion date of Q1 2013 - this specification has already reached a 0.9 revision.
Note: The EM cluster is a standalone cluster (similar to the OTA cluster) that can be supported in SEP or HAP devices

Q3. Do you agree that equipment should be required to comply with SMETS and a GB Companion specification for ZigBee SEP / DLMS?

Response: Yes, the products should be tested against a common companion standard to enable interoperability of minimum functionality. The Companion specification should be fully cross-referenced with SMETS

Q4. 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.

Response: Yes, for 2.4GHz, however, further trialling work needs to be performed for 868MHz to justify the increased cost. The 868MHz trial should also include data payload and channel provisioning and the assumptions of real data throughput, in particular with use cases of remote firmware upgrade over Zigbee network should be validated

Q5. Do you have any comments on the criteria used in the evaluation of the physical layer of the HAN?

Response: See answer to question 4.

Q6. 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?

Response: No Comment

Q7. Do you consider that additional measures should be taken to encourage the development of an 868 MHz solution?

Response: Utilita do not see a performance or cost justification for moving to 868Mhz, we have found our current solution at 2.4GHz to be adequate. Our view is that DECC should spend more resources on wired HAN solutions for tall buildings etc.

Q8. 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.

Response: Yes, Utilita agree with this approach.

Q9. What are your views on the three options identified for displaying wireless solutions (i.e. 2.4 GHz as the default; dual-band communications hubs; or market led)?

Response: Market led; however, our own experience with 2.4GHz shows it to be adequate.

Q10. Do you agree with the proposal for a 'fit for purpose' installation obligation on suppliers?

Response: Yes, but there must be well defined criteria against which the 'fit for purpose' can be judged so that a level playing field exists between all suppliers and their MoP's. This should form part of the SMICoP and include a process for challenging if a MoP decides to remove equipment unnecessarily. To achieve this, ownership of the communications hub should be with the Energy Supplier / Asset provider as the energy supplier cannot be responsible if the

communications hub is supplied by CSP's (or other 3rd party suppliers).

Q11. Do you have any views on the proposed approach to developing a wired HAN solution?

Response: Utilita support the proposal and believe that PLC trials should progress as soon as possible. It is expected that any wired HAN solution should work as a 'drop in' solution to Wireless HAN kits so that installers do not have to replace meters. Given that the requirement specifications will have a direct impact on overall product architecture; it is critical that the functional specification be announced soon. The 'wired HAN challenge' statement is a good step in this direction and technology providers should be asked to demonstrate their capability to meet the requirements.

Q12. 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)?

Response: Yes. Being the HAN network coordinator, the hub would need to have a reasonably intuitive user interface for allowing joining of other devices Given that the 'independent hub' will also be used by consumers to connect CAD devices; this will demand a reasonably easy to understand user interface. This problem is easily addressed in 'intimate hubs' as the meter's display and keys can be used for this purpose.

The hub has to act as the temporary store for all firmware downloads to the HAN devices.

Another important functionality of the hub would be to ensure security of the WAN and HAN junction.

Further, discussions in relation to the work ongoing with the Intimate Hub has identified the need for a correctly specified fuse for the Hub's power supply. This should be included in the requirements. In addition a box size should be specified including fixing points, IP rating, operational temperature range and minimum memory size which should be sufficient to support the gas mirror, diagnostic and firmware download and should have sufficient overhead to future-proof the device for its on-circuit life (e.g. the addition of the CAD etc.).

Q13. Do you have views on the specification for an 'intimate' interface between electricity meters and communications hubs?

Response: Whether 'intimate' or 'independent'; the hub should be powered from a current limited low voltage output of the electricity meter to obviate the need for an external separately fused power supply. This approach is cost effective and could also reduce the vulnerability of the meter to tampering. Besides the unmetered power supply, the intimate interface should have a serial communications port and 'power outage indication'. A standard low cost pin connection arrangement should be specified.

Q14. 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.

Response: No, Utilita fundamentally disagree with this approach, as we feel that a supplier led model will provide more flexibility and enable innovation within the communications networks. Customers are contracted to the energy supplier, any 3rd party not performing to SLA's will reflect badly on the energy supplier, not the equipment vendor / CSP. A separate supply chain for the hubs will also further complicate procurement and installation logistics.

Q15: 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?

Response: Yes, non-domestic supplies should be able to opt out.
Utilita would like to see a competitive market with all energy suppliers having the option of using the DCC or their own systems to provide the infrastructure for meter asset maintenance, data retrieval etc.

Q16. 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?

Response: Yes.

Q17. Do you agree that the design and implementation of outage reporting functionality should be assigned to CSPs, documented in the communications hub technical specification?

Response: Yes, the outage reporting functionality should be assigned to data retrieval agents whether that be the CSP or energy supplier. Utilita believes that the functionality will have to be covered jointly by the CSP and CHTS for most cost effective performance. CHTS must cover the requirement for each hub to be able to send an outage notification – so that even a single customer outage is immediately notified. The CSP requirement must cover the need to assimilate all incoming outage notifications and filter out 'spurious outage signals' (less than 3 minutes in duration).

Q18. 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

Response: Utilita would like to see all domestic metering having the facility of outage reporting. The rationale is that Outage detection is an important element of customer service and all domestic customers must be provided with this benefit from the investments in smart metering.

Q19. 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.

Response: There does not seem to be any benefit to the energy supplier for providing this additional functionality at the domestic meter level. Feeder and substation demand can be calculated from the half-hourly data. This could be aggregated at substation / feeder level and supplied to the relevant DNO.

Q20. 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?

Response: As per Q19, there does not seem to be any benefit for providing this additional functionality at the domestic meter level.

Q21. 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.

Response: In the event that multiple disablement sources are allowed in future, the logic for authentication, arbitration, prioritizing and sequencing such

requests for remote disablement / enablement should reside with the DCC. Bearing in mind that remote disconnect is potentially a high security risk function; a single command arbitration logic source would be almost mandatory.

The safety risk mentioned in Section 113 of the consultation document applies to remote commands in general; whether issued by a DNO or a Supplier. Besides safety, a customer must not be inconvenienced because of non availability / failure of WAN when a remote reconnect is being issued. It is imperative therefore that the meter support the logic for UTRN based remote reconnect so that the suppliers can facilitate a reconnect over phone using simple UTRN codes. There is no additional cost implication in the smart meters for doing this.
Unless the DNO is going to set up a call centre to deal with the complaints, and be subjected to all of the regulatory controls, they should NOT be interrupting the supply for a specific customer remotely.

Q22. 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.

Response: Yes, the variant smart meters should be specified in SMETS 2 as they constitute a reasonable population of meters. The variants require additional parameters to be transported over the communications media and specifying them now would allow the command sets to be developed at the same time to support the additional functions that would be required when these meters are eventually rolled out.

Based on our discussion with meter manufacturers, we expect the cost uplift to be of the same order of magnitude as traditional meters.

Q23. 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.

Response: Yes.

Q24. 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.

Response: Both options have their pros and cons. The simplest solution would appear to be Option 2.

Q25. 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?

Response: No, Utilita does not support energy supplier's unbounded responsibility to handle pairing requests for adding CAD devices.

Q26. Do you consider that other CAD installation options should be pursued? If yes, please explain the approach you favour and your reasons.

Response: Utilita believes that CAD installation option should be pursued. However installation of CAD devices should not require Supplier's mandated involvement. As mentioned in response to Q24 above; the security should be guaranteed by the definition of a virtual security layer within HAN protocols and device joining should require simple eyeball verification of install codes by the user. .

Q27. Do you agree with the proposal to include in SMETS 2 a specification for a PPMID, connected via the HAN, as described above?

Response: Utilita feels that since SMETS requires each smart meter to be configurable as 'credit' or 'prepayment' meter; the prepayment functionality should be built into each IHD. In the absence of such an arrangement; customer acquisition and switching to a prepayment tariff will not be a smooth process that the smart metering investment demands. Utilita believes that the cost impact of adding this feature to an IHD is insignificant compared to the benefit. In contrast the provisioning of a separate PPMID device to customers on a selective basis has a significant cost overhead.

Q28. 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.

Response: We believe that devices connected through wire or wirelessly can be used to 'enable a gas meter valve' in a safe manner. Utilita has used Smart Metering products for a number of years. Its smart gas prepayment metering system that uses a wireless IHD has been assessed to Safety Integrity Level 2 (SIL 2). The process requires the interaction of the customer with the IHD / PPMID to begin the process and requires a second interaction to confirm the process.
In Utilita's opinion this is a safe way of restoring the supply as customer is inside the house with the appliances rather than at a possibly remote location such as a garage or outdoor meter box.

Q29. 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?

Response: Yes, the communications hub should support one or more micro-generation / EV meters.

Q30. 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.

Response: Yes, if a HHT is required it should provide the same degree of functionality across all Smart Metering products and variants. Utilita believes that with a properly designed Smart Metering solution that a HHT is not required for installation purposes.

Q31. 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.

Response: Yes, meanwhile, the lack of security clarification in the market has a potential to delay the programme and Utilita urge the DECC team to address this issue as quickly as possible.

Q32. 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.

Response: Utilita would prefer to review the regulatory framework before commenting.

Q33. 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.

Response: Yes, Utilita would prefer to see a framework established to control firmware and functionality of the Smart Metering system and

interoperability in the market. If the system is approved and no changes have been identified Utilita see no need for re-approval or retesting. If a new firmware version is introduced to extend functionality then this should be fully validated before release.

Q34. 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?

Response: An independent security certification scheme would provide a level playing field for the certification process. However, it could introduce the risk of a bottleneck depending on the size certification body particularly if there was a global update that affected a large number of products/variants. The timescales and possible delays to the introduction of SMET2 devices are certainly seen as a risk by Utilita.

Q35. 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?

Response: Agree, but the roles and responsibilities of those providing security certification and accreditation must also be defined in terms of liability should any sanction prove unjustified.

Q36. 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.

Response: Agree

Q37. 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.

Response: Interoperability is crucial to the development of a smart metering solution. However, we refer back to our response to Question 2, that we do not see a requirement for a 2 protocol approach to the HAN.

We are also concerned of the use of the word 'capable' in the DDS's as we do not see how independent body can certify against capability?

Q38. 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?

Response: Yes.

Q39. 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.

Response: Protocol certification will not provide adequate assurance that products will meet interoperability requirements; only end-to-end functional testing will provide this essential assurance.

Q40. 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.

Response: Utilita support this approach.

Q41. What are your views on the Government's proposals to require energy suppliers to operate specific aspects of smart meter equipment functionality for micro-business, but not other non-domestic, customers?

Response: Utilita support this approach

Q42. Do you agree that the licence conditions as drafted effectively underpin the Government's policy intentions for consumer operational requirements?

Response: Yes

Q43. 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?

Response: Utilita fully support this proposal

Q44. Do you agree with the Government's proposals for the timing of the introduction of operational requirements? Please explain your reasoning.

Response: Utilita support this approach in that DCC should be capable of providing these operational requirements for enrolled smart systems to appropriately authorised parties

Q45. 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?

Response: No, Utilita fundamentally disagrees with this approach. Utilita believes that a supplier led model will provide more flexibility and enable innovation within the communications networks. Customers are contracted to the energy supplier, any 3rd party not performing to their SLA's will reflect badly on the energy supplier, not the equipment vendor or CSP.

Q46. Do you agree that the equipment development and availability timelines are realistic? Please give evidence.

Response: The timelines are only realistic provided the full specifications and DDS's are released in a timely manner to allow equipment manufacturers to develop compliant products.

Utilita's main concern is that the implementation of security systems, does not give adequate time for equipment development or end-to-end system testing.

Q47. 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?

Response: While there is definitely a need to ensure specifications and companion standards are complete before rollout, it must be noted that unless the end date is extended any further delays will condense the rollout into an unrealistic timescale and may impact equipment manufacturers who are unable to manufacture equipment until the specifications are fixed.

Q48. What are your views on when responsibility for the SMETS modifications process should transfer from the Government to the SEC?

Response: Utilita agree with the proposal of a phased transfer in conjunction with government milestones

Q49. Which of the options (standing sub-committee or non-standing sub-committee) would you prefer in relation to modifications to the SMETS?

Response: Experience in the production of standards and specifications have shown that standing sub-committees are by far the best option.

Q50. Are there any particular areas of expertise that the sub-committee will need to fulfil its role, in terms of membership composition?

Response: It is Utilita's opinion that industry bodies, trade and retail associations, security experts should be the core members of the sub-committee.