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Consultation reference: URN 12D/258

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4 October 2012

Dear Sir/Madam,

Energy Networks Association Response to the Second Version of DECC Smart Metering Equipment Technical Specification (Reference URN 12D/258)

Thank you for the opportunity to respond to your consultation on the proposals for the second version of SMETS.

As you are aware Energy Networks Association (ENA) is the industry body representing the UK's electricity and gas transmission and distribution network operators. The following comments are provided by ENA on behalf of its member companies in response to the DECC consultation which was published on 13 August 2012.

The majority of ENA member companies have responded individually to the consultation. The comments in the appendix accompanying this letter are submitted in support of the individual submissions provided by our member companies.

If you require further information or you wish to discuss any of the content of this reply please contact

Yours faithfully

APPENDIX

Energy Networks Association Response to:
DECC Smart Meter Implementation Programme Consultation: Second Version of the Smart Metering Technical Specifications (Reference URN 12D/258)

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

   We have no comment to make.

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

   Yes, unless it is practical in the timescale available to develop either ZigBee SEP or DLMS such that it can be used for both Gas and Electricity as this would probably simplify the development of the Companion Specification and its enduring governance. However on balance, DECC's adopted combination offers a lower risk in implementation to DECC's published timetable compared to re-starting UK development and interoperability work from scratch with any other combination.

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

   Specifying the smart meters robustly to ensure technical interoperability is important to DNOs as they will not be involved in the procurement of smart meters themselves. We therefore support the development of prescriptive specifications such as the proposed Companion Specification on the basis that it will prescribe the smart meter functionality to ensure interoperability.

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.*

   We have no comment to make.

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

   We have no comment to make.

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?*

   We have no comment to make.

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

Our members believe that significant emphasis should be given to the implications of selecting the HAN operating frequency for the consumer, as their 'buy in' not only to smart metering but in the longer term to smart grid applications is essential. Hence the programme should ensure that it is as easy as possible for the consumer to purchase and deploy smart products and appliances. Allowing the supplier to select the HAN operating frequency would add complexity and cost for the consumer. The 868MHz option would appear to be the enduring solution in that it minimises the number of premises where a wired solution would be required. To encourage the development of an 868MHz solution it might be possible to place an obligation on Suppliers to retrospectively replace a 2.4GHz communications hub with a dual band communications hub at the request of a consumer who is looking to install 868MHz devices. This would simplify matters for customers looking to connect additional smart products / appliances and incentivise Suppliers to encourage manufacturers to develop a 868MHz solution as soon as possible.

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.*

Whilst acknowledging both the (one-off) cost saving (£2.50 per meter est.) of not mandating a dual-band communication, and the proposed requirement on Suppliers to provide a 'fit for purpose' installation, a concern with this approach is that producing a definitive specification of 'fit for purpose' might be difficult.

This might then lead to different interpretations between Suppliers. Notwithstanding the additional cost, Option 2 (mandated dual band) remains attractive for the reasons stated in the consultation: in particular the maximisation of interoperability between smart metering equipment; facilitating simplicity for consumers; and facilitating a smart appliance market. We believe the latter is particularly important in the context of GB energy policy and The Carbon Plan as smart appliances are the key to consumers accessing the full benefit of future time-of use tariffs in order to maintain the affordability of future electricity bills.

If consumers are unable to make full use of time-of-use tariffs by utilising smart appliances, the energy cost implications are likely to far exceed the estimated £2.50 one-off saving.

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)?*

Please see our responses to Questions 7 and 8.

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

Please see our responses to Questions 7 and 8.

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

Our members agree that developing a wired HAN solution is essential. The most typical properties that will require a wired HAN solution will be high-rise residential buildings (flats); particularly those with communal meter positions. As mentioned previously, it is therefore important to select the wireless HAN technology to minimise the locations where a wired HAN needs to be used, as installing a wired HAN would be more disruptive for the consumer.

Generally (though not exclusively) flats tend to be occupied by consumers in lower socio-economic groups and it is essential that such consumers are not disadvantaged in terms of being able to enjoy the full benefits of a fully functional smart metering solution, including prepayment facilities.

We recognise that a wired HAN solution could involve some form of power line carrier technology (PLC). However, it should be noted that a number of PLC applications are currently being utilised on DNO networks, including broadband internet provision, street lighting controls and various smart grid trials. Any in-home solution would therefore need to ensure that it did not interfere with existing DNO PLC applications. We would therefore stress the importance of testing levels of PLC signal leakage onto DNO networks as part of any further trials.

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)?*

The consultation document states (paragraph 63) that the communications hub should be capable of issuing alerts on detection of a power outage and on the restoration of supply. Our members agree that these functions should be provided by the smart metering system but are indifferent as to whether the functionality should be provided by the communications hub / infrastructure or the electricity meter. If provided from CSP equipment our members do require consistency between CSPs on how this is achieved, in particular the format of messages as some DNOs/GDNs have networks which cover more than one CSP area but a single internal system which will have to deal with these alarms.

We understand that the communications hub / upstream infrastructure might be best placed to initiate a power outage alert, but believe that issuing an alert on the restoration of power is probably best performed in the smart meter as the logic required to ensure that power outage reporting only relates to power outages lasting more than 3 minutes is probably better managed in the electricity meter.

The consultation document (paragraph 65) requires that the power source for a standalone communications hub should be taken from the unmetered terminals of the meter. We have no objection to this (providing that all parties understand that it will have an impact on DNO technical losses) but we would expect that the arrangements for achieving it will not compromise the safety of the installation (either when fitted or after such a device has been removed). The typical maximum level of power consumption of communications hubs (unmetered) should also be specified as this will be viewed as a system loss by the DNO unless it is accurately accounted for.

The following functions should be included in the communications hub:

- Support for multiple HANs (868MHz / 2.4GHz) or have replaceable and sealable HAN modules as determined most cost efficient;
- Support for a wired HAN solution;
- Capability to remain operational for a defined period following a power outage; to terminate in a reliable and safe manner any ongoing processes; and to be able to transmit a power failure alert following an elapsed period, to be defined e.g. three minutes;
- Capability to distinguish between a power failure of its own supply and a network power failure. This requires an interaction with the electricity meter and assumes the communications hub is not servicing a gas only installation (separate process required for these situations);
- Capability of being powered by a separate power source e.g. a battery pack, to enable it to service a smart gas meter(s) which cannot be connected to the HAN. This will provide a standard solution to mitigate any additional variant devices;
- A standard power connector that is tamper proof but enables replacement by authorised personnel. A defined protective device e.g. a fuse is required at the power source (normally the smart electricity meter). Cable sizes and protection should also be considered for the power lead so as minimise the risk of tamper or damage.

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

We have no particular views on the specification however we would highlight that any interface should be robust enough to minimise the risk of interference by a third party. The interface should be designed so as to eliminate any risk of electrocution, fire or the opportunity for theft.

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.*

All but one, of our members agree that the CSP-led model is the more appropriate of the two options. This removes any possibility of ambiguity relating to the obligation on CSPs to provide a 'fit for purpose' end-to-end two-way communications system.

In the majority of our members' view Suppliers have historically not had communications expertise and are not well placed to manage the development of multiple and complex communication hubs from a range of vendors and across multiple communications platforms. Our members' view is that CSPs are therefore best placed to ensure that communications hubs are manufactured to the required technical standards to optimise product life expectancy at an economic cost which exploit the attributes of the chosen communications platform.

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?*

We believe there are benefits in encouraging (though not mandating) opted-in arrangements for non-domestic sites. These include maintaining the benefits of interoperability for non-domestic consumers and making information from such sites available to DNOs for network and power outage management.

If there was no obligation for an opted-out non-domestic consumer to have a CHTS compliant communications hub power outage detection might not be available for such customers. This would reduce the smart meter benefits delivered to the non-domestic customer and reduce the amount of information available to the DNOs in a power outage scenario such that it could take longer to restore supplies to domestic and opted-in non-domestic customers.

We therefore believe it is important not to create unnecessary barriers to initially opted-out sites subsequently becoming opted-in and we therefore support the arguments for a mandated CHTS-compliant communications hub for opted-out sites.

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?*

Yes, but the question does not arise if our proposal under 15 above is adopted

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?*

There is a distinction to be made between Power Outage reporting and Power Outage Detection.

Power outage reporting, as required for regulatory purposes, can be provided by the electricity meter. This simply requires the meter to time stamp when the incoming supply is lost and subsequently restored. If the time difference between the two events is greater than 3 minutes, an alert should be sent to the DNO to indicate that power has been restored, together with the associated event time stamps.

It is the power outage detection (Last Gasp) functionality which creates the need for some form of power supply to be included to enable an alert to be sent to the DNO when the outage persists for more than 3 minutes. It is this second requirement which we recognise could be best provided by the communications hub / wider communications infrastructure as determined by the CSP.

The costs of providing the functionality within the smart meter to trigger an outage alert is dependent on the communications technology adopted. Some technologies (notably GPRS) would require a battery to provide the 'last gasp' capability whereas others (such as long range radio) would require only a supercapacitor.

We have no objection to (and can see some advantages in) the responsibility for power outage detection (Last Gasp) resting with the CSP but it will be essential to ensure that the obligation is precisely defined in terms of the quality and speed (latency) of information provided. The benefits arising from outage reporting are dependent on each individual smart metering installation (and hence postal address) being identifiable.

This applies both to the functionality for the smart metering system to trigger an alert more or less immediately (e.g. within 30 seconds) following an outage of greater than 3 minutes, and also to the facility for DNOs to poll individual smart meter installations in order to check energisation status.

Proposed solutions that provide a less-granular (or markedly slower) system of communication would undermine the benefits to consumers of outage reporting.

Our members agree that power outage detection (Last Gasp) is a significant benefit for consumers arising from the roll out of smart meters.

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*

We acknowledge that requiring meters operated outside DCC to implement outage reporting could lead to complex communications arrangements, although as indicated in our response to question 15 this would reduce the usefulness of Last Gasp information received by DNOs. It should therefore be explained to consumers who are offered opted-out solutions that they will not benefit from the power outage functionality. This might be a concern to businesses customers who, by their nature, might particularly benefit from an outage occurring outside normal business hours being visible to the network operator.

If Power Outage reporting (as described in our response to question 17) was provided in the electricity meter, then it would be reasonable for this information to be sent to the DNO via the supplier as the information would only be required in reporting timescales. In order to maximise the wider smart meter benefits, arrangements would need to be in place between Suppliers and the DNO to exchange other smart meter data such as power flow and voltage data. The provision of outage reporting information could form part of such a data exchange.

As mentioned in our answer to 15 above, we therefore believe that no unnecessary barriers to opting-in arrangements should be permitted and that opted-in arrangements should be encouraged.

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.*

Maximum demand registers provide the facility for network operators to gain an 'early warning' of emerging load growth and hence potential network problems. This might become particularly important as increasing levels of electric vehicles and electric heating displace conventional fossil-fuelled transport and heating systems.

Whilst such information can be derived through aggregated half-hourly consumption data, the ability to record maximum demands for selected groups of consumers / networks (i.e. where relatively high network loading is suspected) over a configurable period would impose a much reduced requirement on communications systems in terms of data traffic volumes and data processing.

With due regard to security-critical data flows, as identified through the recent CESG security review undertaken on behalf of DECC, the availability of maximum demand registers would also significantly reduce the volume of messages associated with half-hourly consumption data and hence have the desired effect of reducing 'rogue message' risk.

It is important however to understand that this additional functionality does not displace the requirement for half-hourly data. The approach would typically be that once a potential issue had been identified, as a result of analysis of maximum demand readings, the network operator would then initiate measurements and aggregation of half-hourly data in order for a more accurate assessment of network loadings and voltage levels to be undertaken.

The ENA has presented to DECC a cost-benefit analysis showing the relative costs and benefits of including and not including maximum demand registers; the analysis demonstrates a positive case for including DNO configurable maximum demand registers.

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?*

The ENA has been engaged in close discussion with DECC over the merits of refined functionality such that voltage alerts would be transmitted only after a given configurable threshold (i.e. in terms of no. alerts over a given period of time) had been exceeded.

This functionality would avoid the generation of spurious alerts and the need for network operators' systems to be able to differentiate between occasional (or even one-off) and repetitive / frequently occurring voltage issues. Such differentiation is important in order for the network operator to determine whether, and how urgently, the matter should be investigated and corrective action taken.

However, the ENA's discussions with meter manufacturers have to date been inconclusive in terms of the potential costs and production delays that might be incurred by including the requested 'counting' functionality within the meter itself. It is acknowledged that the counting functionality might be facilitated by means other than by the meter itself (for example by the metering system head-end) and we therefore agree with the decision not to include this capability in SMETS2 with the proviso that the programme should continue to seek to provide the required functionality within the overall smart metering system.

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.*

The consultation correctly acknowledges that circumstances could arise in future whereby DNOs might need access to disablement functions as part of their efficient, coordinated and economic management of their electricity distribution systems. A scenario (not cited in the consultation) which the ENA has put forward is that with increasing levels of electric vehicles, heat pumps and micro-generation connecting to low voltage distribution networks, there will be a need in future to more intelligently manage supply restoration following either a planned or network fault outage.

This need is expected to arise partly due to the loss of diversity following a prolonged (i.e. an hour or more duration) supply failure, meaning that (depending on the time of day and year) heat pumps, electric vehicles, immersion heaters and other 'conventional' appliances might all begin to consume electricity simultaneously at the moment supply is restored, and continue to do so until normal 'cycling' (for example thermostatically controlled heating and refrigeration etc.) is resumed. This 'cold load pick-up' phenomenon is well known, but the effect will be much more pronounced once the above-mentioned low carbon technologies become established.

A further contributory factor to cold load pick-up is micro-generation. During supply outages, micro-generation, which is normally offsetting demand supplied by the network, will necessarily cease to operate. It follows that on supply restoration following an outage, this additional (so called) 'latent demand' will be presented to the network exacerbating the cold load pick up impact until such time that the micro-generating reconnects and begins again to offset network demand.

It is therefore envisaged that DNOs might at some stage in the future use the disablement function in order to manage a staged restoration of supplies – i.e. allowing diversity of demand to re-establish and micro-generation to reconnect before subsequent stages of restoration are initiated.

(In practice, supplies would need to be restored in order to power-up the communications module and hence allow the disablement function to be initiated but, due to the inherent thermal inertia of electricity network assets, provided disablement is initiated immediately following restoration, the cold load pick-up phenomenon would be sufficiently mitigated). The alternative to this is that DNOs might need to invest in increased network capacity purely to deal with cold load pick-up, which would clearly be undesirable.

We agree that logic would need to be incorporated in the overall smart metering system in order to ensure that disablement / enablement actions initiated by Suppliers and DNOs would not be in conflict. We acknowledge the argument that there might be economic merit in incorporating this logic within the DCC system rather than at each meter, but we are aware that there is as yet no available information as to how the DCC system might provide this logic. A concern therefore arises in that if the functionality is not included in SMETS 2, and difficulties then arise in incorporating the necessary logic with the DCC system, the opportunity might be lost.

A pragmatic way forward might therefore be to not include the logic in SMETS 2 with the reasonable expectation that DCC system approach might prove more economic, but with the caveat that should it subsequently prove impractical to incorporate the logic within the DCC system, a revision to SMETS 2 (i.e. SMETS 3) would then be drafted with the expectation that any smart meter installed from that point in time would incorporate the required logic. Whilst this result in SMETS 2 (and earlier) meters being unable to provide the functionality, it would be reasonable to assume that the population of SMETS 2 and earlier meters already rolled out would be relatively small compared with the overall population of smart meters. Hence, notwithstanding that there might be clusters of SMETS 2 and earlier meters in some locations, in the general case there should ultimately be sufficient numbers of SMETS 3 (or later) meters able to provide a disablement function for DNOs.

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.*

The consultation adequately summarises why it will be essential to ensure that the smart meter portfolio is able to broadly mirror the non-smart meter variants currently in commission. We would envisage the cost uplift to be no greater (and possibly less in some cases) than that applicable to non-smart meter variants.

The continuing provision of the current radio tele-switch (RTS) service is at risk over the medium to longer term and therefore premises serviced via RTS equipment may require priority in converting to a smart metering alternative. Our members therefore support the inclusion of variant smart meters in SMETS2 to replace the functionality associated with the RTS system.

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.*

Both for the reasons stated in the consultation and for similar reasons to those cited in our response to Question 21 above, it will be essential to ensure that randomisation offset capability is included in auxiliary load control switches. As with smart meter variants we would not expect the cost uplift to be any greater (and again, possibly less) than that applicable to conventional metering equipment and auxiliary load switches.

Failure to incorporate this functionality could lead to serious step-changes in both system voltage and frequency and hence lead to destabilisation of the national system.

Clearly it will be important to ensure that switching between registers is synchronised with switching of load switches in order that consumers are charged the appropriate tariff rate for electricity consumed by controlled appliances (such as space and water heating, but also electric vehicle charging circuits in future).

The degree of offset needs to be sufficient to avoid unacceptable step voltage and frequency changes, but at the same time not so excessive as to distort the optimised timing of use of electricity. In that context, a 30 minute bandwidth would seem to satisfy both requirements (i.e. +/- 15 mins either side of a nominal switching time). We would however caution against reducing this bandwidth to any value lower than 30 minutes as this might prove insufficient to ensure an adequate degree of randomisation, especially given that new types of demand (such as electric vehicle charging) will impose a need for greater levels of assurance of offsetting than is the case currently.

The joint paper by Eurelectric and the ENTSO-E, 'Deterministic frequency deviations root causes and proposals for potential solutions', states that *"In the last few years practically all synchronous areas of ENTSO-E (similar to a number of other synchronous systems in the world) have been experiencing increasing frequency variations, amplitude and duration, at hour boundaries multiple times per day mainly during the ramping periods in the morning and the evening" and that "Increasing control reserves does not seem to substantially improve the situation; rather it increases system operation costs considerably."* The European situation is caused by cross border schedule changes whereas the UK would be impacted by settlement period changes but the impact of smart meters without randomisation would be similar. Retaining the current randomisation in the market (as proposed) would have the effect and benefit of mitigating these challenges as seen on the continent.

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.*

We have no comment to make

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?*

We have no comment to make

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

We have no comment to make

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

Our members agree that there would be customer benefits associated with the provision of a PPMID for use when access to the meter is not easy, as they could reduce the instances when it was necessary to relocate a service termination. Relocating a service termination introduces cost to the supplier and inconvenience to the consumer.

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.*

When a gas smart meter is installed in an inaccessible location the ability to be able to interact with the meter, both for the credit of gas and the re-opening of the valve would clearly be beneficial. However, the solution needs to be designed carefully so that the re-opening of the valve can be undertaken at the press of the button or very shortly afterwards (within several minutes) as there is a risk that a consumer could leave the premises between the re-opening command from the PPMID and the meter opening the valve at its next wake-up. Mention has been made that the meter will wake up more frequently (every 3 minutes) when the valve has been closed (due to lack of credit) but this operation is only to be performed for a 48 hour window – in most cases this would be sufficient but there will be situations where a consumer has been absent for some time and this period has expired and the meter is in usual wake-up mode (every 30 minutes). One possible way of resolving these issues is by specifying a safe opening valve or process that performs checks upon opening to ensure that there is a minimal flow of gas upon

opening, where a flow over a set rate is detected the valve would close. The user would be instructed to check appliances are off and to repeat the opening process.

Although we appreciate that there are issues that need addressing in relation to smart gas meters we believe that there are no comparable issues associated with restoring electricity smart meters. Custom and practice is for electricity supplies to be restored by the DNO following outages without confirmation from the consumer.

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?*

We strongly support this proposal. Given DECC's latest projections for micro-generation - in particular solar PV - it will become increasingly important to measure (rather than estimate) the electrical energy generated by each micro-generator. Whilst this will be important to ensure that consumers are properly remunerated under the FIT our main concern as network operators is that we are able to monitor the development of 'latent' demand which micro-generation will give rise to.

Latent demand is the additional demand that would be presented to the network should the micro-generator cease to operate or disconnect. In the absence of micro-generator metering it will not be apparent to network operators how much latent demand exists. Cessation of generation will occur under any network fault scenario which gives rise to a loss of infeed to a network with micro-generation connected, or in the event of an upstream event (including any major loss of transmission or transmission connected generation) which gives rise to either a significant voltage reduction or drop in frequency.

Should latent demand grow to the extent that demand presented to the network on restoration of supplies following a network or upstream event were to exceed network capacity, then network operators could face significant difficulties in terms of being able to sustain supply restorations. Such a scenario could lead to extensive delays in securing supply restorations to consumers.

Whilst the consultation advocates this being an elective service, given the importance of this information to network operators in terms of their statutory obligation to develop, maintain and operate efficient, coordinated and economical systems for the distribution of electricity, we would suggest that the service (to network operators) could be legitimately regarded as core.

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.*

We have no comment to make

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.*

We support the proposal for a technical subcommittee reporting to the SEC Panel. Given the importance both from a data privacy and system security perspective, it is imperative that security experts are commissioned to oversee the governance of the smart metering system from a security perspective.

Also, we agree that the sub-committee should draw upon risk assessments produced by SEC members but would like to clarify that this must include risk assessments produced by Government. As part of drawing upon these inputs, the Government risk assessment on smart metering should be shared with the technical sub-committee members just as they have been shared with the STEG members to date.

One aspect of maintaining the security requirements which has not been discussed is the security 'risks-to-requirements' mapping. To ensure that security requirements chosen are fit for purpose and sufficient to mitigate the risks identified, an analysis exercise is required to map the security requirements against the risks they mitigate. By sharing this mapping with the members of the technical sub-committee, they will be better informed as to whether the security requirements adequately mitigate the risks.

Currently any such mapping between risks identified in the Smart Metering IS1 Risk Assessment and the requirements within the Smart Metering Security Requirements v0.5 has not yet been shared with the STEG members. Our members are subject to potential risk brought about by the introduction of smart metering in the UK, in particular, the use of an enablement/disablement switch or valve in meters which is remotely controllable allowing for the possibility of widespread shut-off of electricity and/or gas supplies to domestic premises. Any such events have the potential to impact on system security and we are reliant on the Smart Metering Implementation Programme at DECC to ensure that the necessary controls are in place to mitigate these risks.

ENA and its members would welcome the opportunity to discuss with DECC the mapping between the security risks and requirements to ensure the risks have been fully identified with appropriate mitigating actions.

Smart meters provide an enormous opportunity to the UK, in an increasingly technical and automated world; security must be paramount for both the end customers and system security. The whole system design from the end consumer up to the transmission level needs careful consideration to ensure that knock-on effects are foreseen, considered and managed otherwise some of the value intended for smart meters to deliver could be eroded and system security put at risk.

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.*

Whilst the difference between a risk-based and role-based approach seems to be a little obscure (since either approach will necessarily involve risk assessments) we agree that independent assurance procedures are necessary. Whilst we see merits in risk assessments being tailored towards the role codes of DCC users it will be important to ensure that any potential conflict (or interdependence) between DCC users' requirements are identified and addressed holistically.

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.*

We agree that any significant changes to systems or security requirements should be subject to a thorough prior evaluation of risk. However, we are less convinced by the need for interval testing in the longer term; such regimes are now widely regarded as inferior to risk or duty-based testing regimes. Unless a significant system or change or new security requirement is to be introduced there would seem little reason not to believe that any interval test would simply replicate the findings of any earlier test. However, until confidence is established, we agree that a pragmatic approach might be to include an element of interval testing in the shorter term, but with the proviso that the intervals (or the need for ongoing interval testing) should be kept under review in light of experience.

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?*

We agree that there is a need to establish an independent certification scheme for smart metering equipment. It will be important that all stakeholders (including all DCC users) have a legitimate input to determining the certification criteria. Network operators in particular will need to be assured that security certification criteria are adequate in terms of maintaining appropriate levels of cyber security.

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?*

We would regard sanctions for breaches of security requirements being a necessary provision within the SEC. Such sanctions should be commensurate with the degree of non-compliance and the potential impact on other DCC users and the overall integrity of the smart metering system.

There should also be provision for escalation of sanctions in the event of repeated non-compliances or in cases where negligence is apparent.

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.*

We agree that there should be broadly equivalent security requirements for metering systems operated outside DCC but appropriate to the level of risk imposed on other parties (including consumers) from an independent (from DCC) smart metering system.

Network operators in particular would need to be assured of adequate provisions for security in considering any opportunities for interfacing with non-DCC systems in order to provide information relevant to their networks (for example data relating to voltage, power outage, maximum demand, or consumption).

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.*

We believe that both technical and commercial interoperability are critical to the success of the smart metering solution and that SEC (and the technical subcommittee) should assume responsibility for governance arrangements for assurance of interoperability.
From a network operator point of view it is essential that each smart meter behaves in the same way to a network related configuration / command and that data received is in a consistent structure. There needs to be a common structure for all information being exchanged between the network operator and smart metering system; this needs to be prescribed in detail. It is our expectation that this degree of detail is included in a GB Companion Specification and that an Assurance Certification process would be required to ensure that equipment conforms to the specification.

The remit for assurance should include all aspects of interoperability including compatible functionality, protocols, communications systems and interfaces, and even extending to physical dimensions. Put simply, smart meters should be entirely interchangeable, and there should be no technical or systemic obstacle to a seamless COS procedure.

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?*

Whilst it will be essential to interoperability for products to be fully compliant with defined standards and subject to certification, some of our members foresee difficulties in maintaining an approved products listing. The obligation to maintain such a listing could be prohibitive in terms of the governance required and given the continual product development that might be anticipated. Moreover, there is a danger that such a listing might preclude products which are fully compatible and capable of offering superior quality and/or value for money. These members see neither a precedent nor a requirement for such an approach; instead these members' view is that it should be sufficient for the products to be certified as compatible with the required standards.

Additionally, from an electrical safety perspective all smart metering system components directly connected into a Distributor's service cable termination equipment located on a consumer's premises will need to comply with section 24 of the Electricity Safety, Quality, and Continuity Regulations 2002. Having defined standards and certification will help ensure this requirement is met providing all products are assessed for compliance with the above regulations.

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.*

Protocol certification would certainly be an essential aspect of interoperability assurance. However, as we state in our response to Question 37 above, there are other important considerations that would need to be covered.

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.*

If the full benefits of the smart metering programme are to be realised, and if the wider objective of ensuring a secure, environmentally sustainable and affordable energy policy is to be realised, then it is essential that domestic consumers have the means to leverage the full potential of the smart metering system to help them manage their energy usage. This includes, inter alia, being able to take full advantage of more flexible tariffs and potential 'demand-side' service offerings and commercial opportunities (for example remuneration for provision of ancillary services through demand response).

Whilst it is acknowledged that, initially, relatively few domestic consumers might feel sufficiently knowledgeable or confident to take full advantage of such opportunities (and indeed it will take time for market players to develop appropriate products and service offerings) we would certainly see significant developments occurring during the lifetime of the smart metering equipment and indeed even during the roll-out programme.

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?*

Whilst larger businesses might be better placed to use their discretion in considering options for interaction with smart metering information we would suggest that the needs of micro-businesses are generally comparable with those of domestic consumers. We therefore support the Government's proposals.

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

We have no comment to make.

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?*

Delivery of the network benefits from smart metering is dependent upon the DNO being able to access information from smart meters. Such an obligation is therefore an essential prerequisite to the successful deployment by network operators of smart metering system functionality to support them in fulfilling their statutory obligations (see our responses to Questions 29 and 31 above). It would also seem reasonable that these obligations are applied to all domestic smart metering systems that have not been enrolled with the DCC by the end of 2019. Since network operators regard the services (which SMETS defined functionality gives rise to) as 'core' services, it follows that an obligation on Suppliers to make available the information is essential.

In addition to requiring the DCC to deliver information to the Network Operator, there should be a requirement for the DCC to provide the services to the Network Operator e.g. to configure the smart meter and respond to commands / instructions (subject to the appropriate governance).

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

As mentioned above, in order to deliver the network benefits, access to agreed smart meter data is essential. However we recognise that different arrangements will be made to facilitate providing such network related information from non-enrolled meters. Accessing such data as soon as it becomes available would be the optimum arrangement however given the relatively small numbers of non-enrolled meters, and the need to set up separate systems, potentially deferring providing this information until 2019 is sensible.

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?*

The proposed changes appear appropriate and pragmatic, given the proposed timing of licence and contract awards and the envisaged availability of communications hubs and SMETS2 compliant meters.

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

We have no comment to make.

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?*

In determining the proposed transition period it will be important to strive to achieve an optimum balance between, on the one hand, ideally ensuring that only SMETS2 (in preference to SMETS1) compliant meters are installed as soon as they become available and, on the other hand, not creating either a risk of a potential deceleration of the programme while Suppliers scale down their procurement of SMETS1 compliant meters (in anticipation of SMETS2 meters becoming imminently available) or, alternatively, a risk that Suppliers will incur a stranded asset risk in respect of stock-piled SMETS1 meters.

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

We agree that the proposal to transfer responsibility from Government to the SEC (at the appropriate time) is consistent with how the industry generally ensures governance. The ability of such arrangements to provide adequate governance are proven and the proposed transfer should not therefore give rise to concerns; indeed it should increase confidence.

Rather than explicitly link this stage to major policy decisions, we believe that it would be better to link the transfer to the point in the process where there is no longer a need for the significant level of technical discussion that is currently taking place. Over recent years significant technical expertise has been developed; this expertise should be retained until no longer needed as part of the programme unless arrangements are made for this expertise to be managed under the auspices of the SEC. At the moment there still seems to be a significant amount of detailed technical work that needs to be completed by the programme.

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

Initially, until there is a feel for the workload of the committee, it would seem reasonable for it to be set up as a standing sub-committee (option 1). This would ensure a degree of continuity that isn't always achieved with non-standing sub-committees. We would then advocate a transition from option 1 to option 2 once the industry has gained sufficient confidence in the robustness of SMETS2 and the communications hub solutions, and in terms of smart meter system interoperability.

We would see no reason for SEC not to be responsible for determining when and how the transition should take place.

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

The subcommittee membership will need to be carefully specified and selected in order to ensure the requisite breadth and depth of expertise commensurate with providing assurance of security and interoperability.

Expertise in data privacy, cyber security and systems integration will be essential as will representation by DCC users who will be reliant on services to fulfil their regulatory and/or statutory duties. For example, from a network operator's perspective, there is a requirement for a representative on the sub-committee that understands the network operators' interaction with smart metering. This interaction includes use of data for network planning and operational purposes and for commercial / metering purposes.