Response to DECC Consultation on Draft Licence Conditions and Technical Specification

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ENERGY RETAIL Association

Overview

This paper provides the Energy Retail Association response to the questions in the *"DECC – Smart Metering Implementation Programme – A Consultation on draft licence conditions and technical specifications for the roll-out of gas and electricity smart metering equipment"* document published on 18 August 2011. The response is due for submission to DECC by 13 October 2011.

We offer full support to the further development of the Smart Metering Equipment Technical Specifications and associated roll-out obligations and believe that use of this support is essential to the programme achieving solutions that will have buy in of the industry and can be successful. For example, we have developed a paper describing ways that HAN selection might be done and shared this with DECC.

We believe it will be of value to the programme for us to provide more input and facilitation to expedite progress of suitable options regarding application and translation end to end.

There is no explicit question in the consultation paper on the ownership of the WAN Communications Hub, therefore we have added a section on this at the end of this response. The ERA strongly advocates that the ownership of the Communications Hub should reside with the DCC in the enduring smart metering market.

Responses to Questions

1	The Government is seeking new evidence and views on the impacts of specifying a completion date that is in the earlier part of 2019.

There is a range of views from the ERA suppliers on the approach, triggers and timing for the delivery of the "mass rollout" of Smart Metering.

We note that the timescale of the end of 2019 is challenging, without slack in the plan. It assumes that many dependencies are achieved in time, including DCC being live and operational.

The proposals currently suggest completion (defined as: reasonable steps to ensure all meters installed are smart compliant) by a specified target date in 2019, and from a DCC Go-Live date currently envisaged to be in the second quarter of 2014.

We note that this time scale doesn't leave any room for additional constraints or unexpected delays and we could not advise bringing the target date forward from the end of 2019.

It must be acknowledged that the obligations are on the suppliers but that the suppliers have many dependencies to achieve the roll out. A focus on the conditions for the start of mass roll out, but also Foundation, would be a step towards making that acknowledgment reflected in the conditions.

Although there is a need to get industry buy-in to working towards targets, there also need to be opportunities to review dates along the way. There is a need to be realistic in acknowledging that unforeseen constraints may be discovered and that target dates should be reviewed as a result.

2	Do you think the licence conditions (AA1-2) as drafted effectively underpin the policy intention to complete roll out of Smart Metering Equipment by a specified date? Are there any areas where you consider further clarification is necessary? Please explain your reasoning.

The ERA members feel that the licence conditions do underpin the policy intention here but that some clarification is required:

Firstly, we refer to our answer to question one – the Suppliers' ability to roll out smart metering will be dependent on the DCC capacity, amongst other factors.

The licence condition is placed on the suppliers but must acknowledge these other factors

Secondly we feel that the proposed wording of "all reasonable steps" is unusual and excessive; the wording of reasonable steps would be adequate and preferable.

Finally, we note that the reasonable steps test will need to take in a number of factors outside the suppliers' control, such as unusual / difficult installations and the effect of churn on the portfolio.

3	Do you agree that licence conditions as drafted effectively underpin the policy intention to deliver Smart Metering Equipment with the functionality and interoperability required to meet the business case? Please explain your reasoning.

The licence conditions seem sufficient in this respect as far as they go. However, we note that the functionality and interoperability will not be adequately defined in the licence; instead there is a dependency on a raft of further documentation and industry process that actually define the functionality and interoperability

This will include: The technical definition of the equipment and communications, resolution of issues, and defined testing and trialling.

The definition of functionality and in particular the conditions for establishing and assuring interoperability have some way to go.

The SMETs itself and presumably an extended series of documents will need to be referred to (although this may be via references in the SMETs rather than the licence). For economy of maintenance it may be better to refer to a code that is responsible for the SMETs.

Paragraph 47 Defines smart metering apparatus:

- It must be identified in the SMETS;
- It must have the functionality set out in the SMETS;
- It must comply with any other requirements set out in the SMETS.

However, paragraph 48 notes that these conditions also build a platform for delivering interoperability: They require suppliers to install particular equipment based on an openly available set of requirements (the SMETS).

But these requirements only build a platform; they do not define all that is needed for interoperable equipment. The "other requirements" referred to in Paragraph 47 will need to include reference to a raft of further definition to ensure interoperability is workable and assured.

We note that more clarity will be needed on areas such as the treatment of pre SMETs meters and non-domestic meters where the supplier elects not to use the DCC.

Finally, the question of whether it defines the functionality and interoperability required to meet the business case is difficult to confirm. This would mean confirming the business case costs and benefits and that this condition supports each aspect of that case. The suppliers are not in the position to judge this and note that a range of other processes need to be in place for the suppliers to fulfil their part of the business case.

4	Do you agree that Smart Metering Equipment should be compliant with the SMETS extant at the time of installation and that it should continue to be compliant with that version of the SMETS through the operational life of the equipment? Please explain your reasoning.

The ERA agrees with this proposal – it is necessary for such a provision in order to deliver on-going interoperability.

It is not possible to ensure that equipment complies with an unknown future specification, so although upgrade paths may be desirable and should be considered where appropriate, it is only possible in general to require equipment to continue to comply with the conditions under which it was fitted.

We note that there is a need for strong change control processes with clear governance and that there is a need for adequate notice of changes – notice periods would need to appreciate the same whole supply chain concerns as for the introduction of the equipment in the first place and hence will need to be of similar periods.

5	Do you agree in some exceptional circumstances suppliers should be required to retrofit Smart Metering Equipment that has already been installed? Please explain your reasoning.

The ERA notes the exceptional circumstances and use of such powers in limited situations, but would like to see further clarity on the proposed option to allow retrofitting to existing Smart Metering Equipment.

If, as suggested, this would be restricted to issues such as security, privacy and protection for consumers, then we support this proposal. However, it would not be appropriate for this power to be used to deliver future policy requirements – such as might be required to support smart grid or other initiatives.

We also believe that most security threats would be of an electronic nature and could be addressed with software upgrades that would not need a physical hardware replacement. Whilst there is scope for replacement of some equipment such as WAN in line with technology changes, significant replacement of equipment should be an absolute last resort and it is difficult to envisage how this might be required.

We are also concerned that any significant requirement for retrofitting could compromise the completion target, there would be potential for this to completely undermine the business case.

6	Do you think that the licence conditions (AA3-6) as drafted effectively underpin the policy intention for the new and replacement installation of Smart Metering Equipment? Please explain your reasoning

Generally the licence conditions start to support the intentions however we note that there is a need for greater clarity as to the use of the terms Smart Metering Equipment and the separate components that collectively make the smart metering equipment – these terms are not interchangeable. It is necessary to be clear as to whether clauses refer to the meter, the communications device, the display device or at different points sets of these. It is critical that it is always clear which device or devices are referred to.

The licence is a supplier's obligation – the licence conditions refer to "Relevant Electricity Supplier" and "Relevant Gas Supplier" – these terms need definition. Currently, in some situations meters are installed without the involvement of the supplier, we believe that such situations need to be eliminated.

This needs to apply to all metering fitted, including that fitted under emergency arrangements or in new builds in advance of arrangements with suppliers. On this basis, there will be a need for consequential amendments to other licences as highlighted in our response to Question 15 below.

There is a need to consider the difficult to install situations – including those where cooperation between multiple parties is needed and that there may a need to take into account that certain situations will require equipment that has a longer lead-time.

7	What period of notice do you think would be appropriate before the new and replacement obligation comes into effect? Please explain your reasoning.

The ERA recognises the benefits of earliest installation of metering equipment, but also that ambition should be tempered by an appropriate measure of caution.

It is critical that the market reaches stable and working specifications early – so there is need for intense work on trial installations. There is also a need for the suppliers' implementations to be at full speed at the start of the mass roll out rollout – so already able to be at full implementation speed by the time DCC is available.

In terms of the consequential amendments to other licences as discussed in Question 15, consideration will also need to be given in relation to any notice period on all affected licensees.

There is also an element of collectivism in this area – the ERA members are competing organisations and will seek to develop and deploy smart metering individually to offer the best options to consumers, but we acknowledge that bringing new products to market is challenging. This is particularly the case when these products are expected to work effectively for a life of at least 15 years.

Throughout the development of the Programme, the manufacturers have proposed a 12 month product delivery timescale. Whilst they are working on compliant equipment now, there are important software and testing considerations still to be resolved, and alongside product delivery there is the matter of high volume meter procurement by suppliers to consider, training of installation staff, and preparation of the supporting systems and processes – all of these processes will take significant time and cross-dependencies mean that the critical path is not always obvious. Any notice period needs to take into account the preconditions before it can start, and life cycle of the supply chain described above, so a notice period here needs to be ambitious but realistically appreciate the stress to the supply chain.

8	What contribution do you think the interoperability licence condition as drafted could play in ensuring that suppliers work together to ensure Smart Metering Equipment is interoperable? Please explain your reasoning.

We consider that this may not be appropriate to define here at all, as interoperability is delivered by other conditions by reference to governed interoperability of appropriate codes. If there were a problem in these codes then making it the cause of an additional licence breach would not help solve the problem.

9	Do you think the licence conditions as drafted effectively underpin the policy intention to ensure Smart Metering Equipment is interoperable? Please explain your reasoning.

As with the previous question, we believe that interoperability will need to be defined in appropriate documentation which should be referenced here. If the licence says too much on interoperable equipment then there is the danger of ambiguity between the licence and the code.

10	What role could a dispute resolution mechanism have a role in ensuring interoperability? What key features should such a mechanism have?

The ERA believes that it will be necessary for an appropriate dispute resolution mechanism to be in place to ensure that any interoperability issues are dealt with quickly and efficiently to ensure that consumers have a seamless experience during the change of supplier process where smart metering equipment is installed.

Although it should be noted that a dispute mechanism should not be a substitute for proper specification in the first place and dispute resolution is potentially extraordinarily complex and should be considered a last resort, it is undesirable to add complexities and barriers to the existing Change of Supplier process. Whilst the new regulatory obligations placed on suppliers and other licensed parties, coupled with additional obligations on un-licensed parties under the Smart Energy Code will provide a sound regulatory framework to deliver interoperability, there will inevitably be instances where an incoming supplier, or other 3rd party wanting to interact with the installed smart metering system believes there may be incompatibility issues.

Any mechanism that is put in place needs the following key features:-

- The mechanism needs to be available to all parties that need interaction with smart metering systems to deliver a service to consumers
- The mechanism needs to be transparent to those involved
- The mechanism should be a 'last resort' service, and should only be used where it has not been possible for the parties concerned to resolve the issue/s of concern
- The over-arching feature of any mechanism should be that it is efficient to operate. This will require the mechanism to have clear rules of operation with appropriate guidance for all parties concerned, have a clear remit in terms of decision making, and most importantly, be operated by a body or group of elected members who have the appropriate technical expertise
- Where interoperability issues are identified via this mechanism, any outcome should be reflected in either clarification, or changes to the SMETS through the appropriate SMETS governance process
- Finally, there needs to be an appropriate cost recovery process so that the party who is responsible for the failure to deliver interoperability pays the costs of the raised dispute

Whilst a dispute mechanism may well be needed, the ERA does recognise that due to the complexities of the technology involved, some of the issues that industry faces in terms of interoperability could also be similarly complex. With the Smart Metering System/s installed at a typical premises comprising of a Communications hub, smart electricity meter, smart gas meter and an IHD, and in many cases, some of these components being owned and managed by different parties, the actions of one party, albeit legitimate or not, could have adverse knock-on interoperability issues on other parties' equipment. For example, if one party installs a new firmware upgrade, and as a result, other devices are no longer able to operate as intended, resolving the issues of responsibility for the disruption to interoperability within the

premises could be extremely complex, and has the potential to involve many parties i.e. the supplier initiating the firmware upgrade, the manufacturer of the devices providing the firmware upgrade and so on. It may be the case that in any such instances, the only route for resolution will be tied up in a complex supply chain of commercial contracts between many parties.

11	For the smaller non-domestic sector do you agree that where there is a Current Transformer meter then suppliers should be required to install an advanced rather than Smart Metering Equipment? Please explain your reasoning.

The ERA does not cover the non-domestic market, but we do support this proposal. The ERA SRSM project has been working with a similar assumption for CT metering since 2006 and we see no reason to change that assumption. We share the view of the Government that the very small number of domestic CT metered properties are likely to have advanced rather than smart metering.

12	Do you think that the licence conditions as drafted effectively underpin the policy intention for Current Transformer meters? Please explain your reasoning.

The issue is valid but the ERA members do not see the need for distinguishing the non domestic sector here.

We would also note that similar issues may arise in Gas metering larger than U6 hence corresponding conditions may be needed.

13	Do you think under the new and replacement obligation gas suppliers should be given the option to wait for the installation of electricity Smart Metering Equipment before installing the gas Smart Metering Equipment? Please explain your reasoning.

The ERA members believe the option may well be useful for technical reasons. It may be that to require ALL new and replacement fittings for gas to be smart even when preceding electricity installation would add a constraint that could contribute additional cost to the overall programme. Although the option is useful, it should only be an option; it is important that gas only or gas first installations are facilitated so as to avoid the reverse constraint where gas has to wait for electricity – this constraint could be equally or more damaging to the programme.

It is suggested that the option of waiting to install the other fuel could apply to electricity first installations also. It is easy to see that there are situations where fitting part of a smart metering system could attract disproportionate expense compared with fitting the set of equipment in a single visit.

We do note however that any such option cannot be open ended or it could lead to the accumulation of a tail of issues.

14	Do you think there are any other barriers to gas Smart Metering Equipment being installed before electricity Smart Metering Equipment? Please explain your reasoning.

There is a desire amongst the ERA members that issues are addressed so that barriers may be removed.

Currently the electricity supplier is responsible for the maintenance of the electricity metering equipment, including connection to the electrical cut-out, and must appoint agents authorised by the Network to carry out work. The accountability and permissions will need modification to recognise the connection activities associated with a communications hub which, in the case of gas-first installation, could be carried out by the gas supplier's agent. He must be competent, authorised to work on the network, but would not be appointed by the electricity supplier and has no permission (currently) to work on the electricity installation. DCUSA and MOCOPA will need modification to allow gas-first installations to proceed.

Additionally, there needs to be resolution within DCUSA of the issue of the unmetered energy used by a gas metering system's communications hub taken from the electricity system. These issues will need to be overcome and we expect this to be addressed as part of programme development.

15	What do you think the implications would be of extending the new and replacement obligations to the licences of other relevant parties in relation to the installing Smart Metering Equipment in new developments without the involvement of a supplier? Do you think mechanisms other than licence conditions should be considered to achieve the policy objective? Please explain your reasoning.

We strongly believe that there should be no instances where metering is installed without the involvement of the supplier.

At the point where smart metering is to be universally applied then exception will be simply causing an additional cost.

At some point, smart meters should be the cost effective solution in any case, but this point can be brought forward by avoiding the situations where meters are fitted without the involvement of a supplier.

Generally, there are issues with IGT's that need to be resolved. The current practice is that an IGT will install metering as part of building the new gas network. This situation needs to be understood in terms of metering and, as previously mentioned, the set of components that make up the Smart Metering equipment. Potentially this could involve multiple visits to fit metering and meet obligations to provide and demonstrate IHDs.

16	Do you think the roll-out of Smart Metering Equipment has any specific implications for the provision of emergency metering services? Please explain your reasoning.

We refer also the responses to other questions relating to consequential changes to existing legislation and codes.

The ERA supports and promotes the intention for interoperability in Smart Metering Equipment. This interoperability should result in 'plug and play' capability for any metering product that may fail or be affected by emergency circumstances.

By 2019, almost every metering system in the country will be advanced or smart and the existing provisions for emergency metering will have to be updated to reflect this – particularly the responsibility for standalone Communications Hubs. We would not expect Smart Metering Equipment to be replaced with 'dumb' metering, except in very limited circumstances.

We envisage a requirement for the industry to collectively discuss, under the Roll Out workstream, and implement some smart metering, emergency metering working instructions to cover different scenarios such as;

- Replacement of failed/damaged electricity meter only
- Replacement of failed/damaged gas meter only
- Replacement of both meters
- Emergency responsibilities relating to Communications Hubs

The implementation of smart metering should resolve the credit or prepayment issue that currently occurs, as all smart meters are capable of operating in either mode, and with an operating WAN Communications link, can restore customers to their 'pre-emergency' position via remote configuration. There will be a need for a procedural code to establish the rules and roles for commissioning, emergency configuration and notification. In the long run there may be improvement in the Emergency Service and better targeted service by the use of some diagnostic analysis prior to the visit.

We can appreciate some measure of flexibility on the obligations during the early stages of roll out as emergency service providers adapt to Smart Metering Equipment, and appreciate that these organisations need access into the same supply chain as the suppliers, as stated above, we would seek 'smart for smart' replacement to become the norm.

We would prefer not to see customers being adversely affected by having their smart metering services interrupted or affected as a result of a 'smart to dumb' exchange, requiring the inconvenience and expense of a second installation visit.

However, we also acknowledge that every emergency situation has particular circumstances, and the primary concern will be making supply safe.

17	What period of notice do you think would be appropriate before the obligation to provide an IHD comes into effect? Please explain your reasoning.

In general the answer to this is subject to the same concerns as the other components of the set of smart metering equipment. So, as with question 7, subject to the preconditions having been achieved: a transparent process having led to a sufficiently clear specification and clear governance, then similar timescales of 12 months plus should allow sufficient time for the supply chain described (manufacture, procurement, test and training).

18	Would the consumer changing their supplier raise any particular issues with regard to the approach set out for the provision of IHDs? Please explain your reasoning.

The ERA has been actively taking part in the IHD and Rollout Working Groups.

We believe that many issues have already been dealt with via the dedicated working groups. However, there are still a few issues remain that need further consideration. For example information on the device and its warranty is problematic. The handling of this information and the different processes for foundation and post DCC need to be clarified.

19	Do you think the licence conditions as drafted effectively underpin the policy intentions set out for the provision of IHDs to domestic customers? Please explain your reasoning.

There is work needed to clarify the business processes relating to the IHD and change of supplier and we understand that these may be significantly different in foundation and the enduring arrangements. Without clarification of this and terms such as “accurate information” and “reasonable steps” it is too uncertain to support the licence condition

20	Do you agree that the Standard Licence Conditions identified above require consequential changes in light of the roll-out licence conditions? Do you agree with the Government’s proposed approach? Please explain your reasoning

Yes, the ERA agrees that the SLC’s identified require consequential amendment. The proposed amendments will provide appropriate clarity, particularly in relation to Designated Premises. It must, however, be recognised that the proposed change to the Designated Premises definition may require future change in the event of changes or reform in the electricity settlement arrangements that are

currently being considered. We believe that work is needed to clarify the amendments related to domestic and non-domestic arrangements.

21	Do you think there are any other consequential changes to existing licence conditions needed in order to make the proposed roll-out obligations work as intended? Please explain your reasoning.

The ERA supports the work of DCCG Working Group 1 in this area. We will continue to contribute to their work on identifying where consequential changes are required to existing licence conditions, existing legislation and other industry codes and agreements and would not wish to prejudge the outcome of this work.

22	Do you think there are any consequential changes to existing legislation needed in order to make the proposed roll-out obligations work correctly? Please explain your reasoning.

See Q21.

23	Do you think there are any consequential changes to existing codes needed in order to make the proposed roll-out obligations work correctly? Please explain your reasoning.

Yes, there will be a need for consequential changes to existing industry codes and agreements in order to make the proposed roll-out obligations work correctly. We have, and will continue to support the work of DCCG Working Group 1 on this area.

We believe that all codes and modifications to those codes will require review and it would be prudent to consider that most are likely to need at least a level of change.

An early estimate of codes that must be reviewed and should be considered likely to need at least some changes are:

- Balancing & Settlements
- Master Registration Agreement
- Data Transfer Services Agreement
- UK link
- SPAA
- UNC
- IGT UNC
- Radio Teleswitch Agreement

24	Do you think there are other requirements that the Government should adopt in the SMETS? Please explain your reasoning.

We would consider that whilst reasonably complete, the IDTS cannot be viewed as a definitive basis for the SMETS. Too many policy considerations described in the consultation, and in the other consultations, and in the areas yet to be consulted upon remain unclear all could have an impact on the functional and non-functional requirements on the physical Smart Metering Equipment.

Again, we are committed to support work to take this forward. As a vehicle for delivering interoperability, the SMETS should be a viable option for specifying technical detail on elements such as HAN, networks, security encryption etc. but all would be contingent on decisions being made on these subjects.

The SMETS alone though will not deliver interoperability. Even if the SMETS were developed to a perfect state, it could not guarantee interoperability. For example DCC itself provides part of interoperability and the DCC will need to comply with relevant parts of the SMETS. These end to end requirements need to be clarified and adopted in governance, acknowledging the key role that DCC has in achieving the end to end coherence.

25	Do you agree that all the requirements documented in the IDTS should be adopted by the Government in the SMETS? Please explain your reasoning.

It is the view of the ERA that the final version of the IDTS, once agreed by industry, should be reflected in SMETS.

However, at the moment, there are a number of requirements where uncertainty on the cost, benefit or practicality of the requirement or functionality remains unclear and the impact on the IA needs to be clarified. These are generally covered in the issues already highlighted and addressed below – last gasp, network register, account balance, etc.

The Government position on these issues should be resolved, and that resolution reflected, in an updated version of the IDTS, or in a draft of the SMETS.

We are concerned that there are some areas of the IDTS that need updating to be technically accurate – some inaccuracies seem to have been introduced in the technical authoring process.

26	Do you agree that the security requirements recommended in the IDTS are proportionate to the level of risk that the End-to-end Smart Metering System faces? Please explain your reasoning.

The ERA notes that the IDTS and Security Requirements remain works in progress and we anticipate considerable development of both over the coming months, not least in response to this consultation.

We are concerned that parallel, or subsequent development of security requirements for other elements of the smart metering infrastructure, could have a consequential impact on the security requirements for Smart Metering Equipment and therefore the specification and procurement of compliant assets. This could have serious repercussions on the availability and interoperability of equipment unless the impacts are thoroughly considered. Once the baseline for equipment has been established, it should only be altered in very exceptional circumstances to avoid further delays in implementation as a result of product availability and to ensure that stranding risks are minimised.

We note that security needs to apply end to end and to apply to all stakeholders involved.

We note there are serious risks in this area: of liabilities out of proportion with cause of breach and adverse effects on customer trust if security is not suitably integrated.

27	Do you agree that the process outlined above is a suitable way forward to develop the SMETS? Please explain your reasoning.

We note our response to Q7, amongst others on notice periods.

We would support any proposal from the Government which provides clarity on the specification of smart metering at the earliest opportunity without compromising the required level of interoperability and economic justification.

The proposals described in the consultation are at a very high level, and whilst the IDTS provides a great deal of information, there is still considerable effort required from industry experts to resolve the gaps and issues. We would require detailed information on the type and level of work the Programme anticipates so that we can continue to support it in the most effective way possible. So, whilst we acknowledge that the high level points appear practical, without detail of what, how and who will do the actual work within a detailed plan, we remain concerned that there could be further delay in the publication of the SMETS and subsequent milestone activities that are dependent on that publication.

We note that the IDTS is uneven and some technical inaccuracies have been introduced after industry involvement so believe that it is essential to involve industry in further development.

28	Do you think that the SMETS should ultimately be governed as part of the Smart Energy Code? What alternative arrangements could be adopted for the on-going governance of the SMETS? Please explain your reasoning.

The ERA's members have a consensus view that governance of the SMETS should be part of the arrangements under the Smart Energy Code and that there is a need to get governance in place as early as possible.

29	What unit manufacturing cost reduction do you think could be achieved for Smart Metering Equipment over the next 20 years? Please explain your reasoning. Please provide any other comments (accompanied by evidence) on the estimated costs of the Smart Metering Equipment as set out in the Impact Assessment.

As a trade association we are not in a position to provide a detailed assessment of costs.

30	Do you agree that the Government should include a requirement for a Communications Hub in the SMETS? Please explain your reasoning.

The ERA has supported the proposal for a Communications Hub throughout the last 12 months of Programme activity. We are continuing to contribute to detailed design discussions on this key element of the infrastructure.

We believe a Communications Hub provides a platform for interoperability, flexibility for innovation in WAN communications hardware and critical support for 'gas first' or 'gas only' installations. It also offers the most commercially viable option for providing a WAN connection to all premises. There remains a need for clarity as to where functionality may sit.

We reference the recent ERA paper SRSM Position on WAN Communications Hub Hardware on this subject.

31	Do you agree with the estimated costs and benefits for outage detection and the Government proposal to require the Communications Hub to include the equipment necessary to provide electricity outage detection? Please explain your reasoning.

We are not convinced of the business case or that based on the ENA figures the case is supported. Such a solution may require bursts of bandwidth in excess of that required for the remainder of the solution. We believe that a clarification of the business case and explanation of how the benefits would be realised and seen through the supply chain is needed and without this clarification it is difficult to support the case with any objectivity.

32	Do you agree that the DCC Communication Service Providers should specify the requirements for outage detection as part of their general role in specifying the WAN technology? Please explain your reasoning.

We do not agree that service providers should specify requirements.

Of course a service provider can play a role in specifying "how" a function may be provided. They may specify how requirements are met but should not specify those requirements.

Indeed if the functional requirements are sufficiently well defined and there are sufficient incentive to deliver / penalties for failure to deliver then there isn't a need to specify how a function is delivered!

However this is not realistic since the service providers are not permanent. The requirements for outage detection are largely, functional (detection) and performance (reliability and speed of delivery of notification). It would be unhealthy for a service provider to unduly influence these requirements.

Functional requirements have to be specified by, or agreed with, the immediate beneficiary of the function (the distributors).

Some of the non-functional requirements have to be specified by the beneficiary, for example, the performance and reliability are surely essential to achieving the benefit. Other non-functional requirements also need to be in keeping with more overarching requirements, such as security requirements.

However, the means by which these requirements are delivered may quite reasonably involve the stakeholders responsible for delivering those requirements.

33	Do you think that the Communications Hub should also have the functionality to send a communication to the DCC when power is restored? Please explain your reasoning.

Again, the business case and functionality needs to be clarified with the distributors and the principles of cost recovery reflected in that business case.

34	Do you agree with the Government's proposal that fully integrated electricity meters and Communications Hubs will not comply with the SMETS? Please explain your reasoning.

The ERA agrees with the Government proposal on fully integrated electricity meters and Communications Hubs. Please see our response to Question 30.

35	Do you think the Smart Metering Implementation Programme objectives would be better met by : a) Using the SMETS to mandate a separate Communications Hub with a fixed WAN transceiver? Or b) Giving suppliers flexibility over options for the configuration of the Communications Hub?

	Please explain your reasoning.

The ERA has proposed, and continues to support, the proposal for WAN transceivers to be fixed within the Communications Hub.

Again we reference the recent paper "SRSM Position on WAN Communications Hub Hardware".

We support option a). Please reference our answers to Q30 and Q34. We are assuming that the DCC will be responsible for the specification of the Communications Hub; therefore we cannot see how option b) would work.

We have proposed detailed discussions on the specification and development of the Communications Hub, as we would contend that it has not been considered by an appropriate audience to date. This is the piece of hardware linking metering to the DCC, and all parties to smart metering should be involved in determining how it will be specified.

36	Do you agree there should be no restrictions on HAN standards adopted by suppliers, provided they are available as a European (CEN, CENELEC or ETSI) or International (IEC or ISO) standard? Please provide evidence to support your position.

The ERA has supported the SMDG work looking at HAN options, and supports the recommendations of the HAN Working Group. We specifically support the recommendation to carry out further testing of candidate technologies, and to evaluate solutions using the criteria agreed by the industry to determine the most appropriate solution(s) for the HAN.

We believe that it is crucial that there is a route to selection of appropriate solution(s) for HAN and that that route provides confidence it will achieve a sound selection in appropriate timescales. The ERA is keen to support this process as much as it can. The ERA is preparing a paper giving our view of HAN selection process options and we refer to that paper rather than pre-empting its content here.

37	The IDTS has recommended that all standards should be in the process of being recognised by 31 December 2014; do you agree with this recommendation? Please explain your reasoning.

The ERA agrees that all solutions for technical interoperability for smart metering should be based on appropriate standards.

The ERA would seek for earlier guidance on available or preferred HAN standards prior to this date to support the earliest implementation of key interoperability. Allowing technologies until the end of 2014 will perpetuate the current indecision within the industry and Government on HAN solutions – a 'better' option always seems to be just about to arrive. We would recommend that DECC require that there be a credible plan presented by the technology providers for recognition as a standard by December 2014. Even

clarification of a preferred list of technologies would help to lessen the uncertainty discussed in Q36. There is potential for stranding risk where the specification is based on standards not yet agreed.

Although this is not an ideal statement by any means, we understand the reasons for including it.

38	Do you think that regulatory obligations are needed to underpin a systematic approach to testing of HAN standards during the Foundation phase? Please explain your reasoning.

We refer to our response to Q36.

It remains the view of the ERA that evidence collection on HAN standards can be undertaken now in order to make progress on HAN selection.

If the Government determines that evidence collected on HAN standards during (or before) the Foundation phase must be provided to Government, this has to be on the back of a commitment that there will be a decision on HAN selection. In that case regulation could be appropriate.

We would also seek clarification for the arrangements for metering equipment installed with HAN solution technology which does not meet the final requirements. Suppliers and customers could be disadvantaged as a result of being part of a Government trial to collect evidence, and understanding the arrangements and obligations will be critical to gaining sign up from Suppliers and their customers.

39	Do you agree with the industry's recommendation that DLMS should be adopted as the application layer for communications with the DCC? Do you believe there are any consumer, economic or technical issues with the solution which could be circumvented by an alternative approach? Do you have any economic, technical or consumer evidence to assist Government in evaluating industry's proposal?

We note that questions 39, 40, 48 and 49 are linked in describing the communications architecture and need to be addressed together.

The ERA members do not have a consensus on this; the individual members have differences at different levels of detail and will provide their own answers.

However we note there is a weight of opinion that translation in the communications hub is highly undesirable and that effort should be spent exploring options that avoid this being necessary. Central translation at the DCC is considered significantly more efficient than distributed translation in every communications hub, approximately 30 million devices.

We are fully committed to supporting further work in this area including further end to end analysis to fully inform the answer.

40	Do you agree with industry's recommendation that DLMS and ZigBee SEP 1.x should be adopted as the application layer for communications within the consumer premises, provided they install the necessary translation equipment? Do you believe there are any consumer, economic or technical issues with this solution which could be resolved by an alternative approach? Do you have any economic, technical or consumer evidence to assist Government in evaluating industry's proposal?

Please refer to our comment on Q39

The ERA members believe these look to be suitable standards for the application layer within the premises however, there is not a consensus as to how these should be taken forward and used. Again, we recommend the individual member responses.

41	Do you think the Smart Metering Implementation Programme objectives would be best met by the proposed approach above? Or should a single, network-layer technology standard such as IPv6 be mandated? Please explain your reasoning

The ERA supports any proposals that can improve the interoperability of the overall end to end smart metering system, and considers that the proposal to use a single network layer address appears a sensible one. In 2007, the ERA Smart Metering Operational Framework proposed the use of IP as a suitable network layer protocol for the WAN.

However, this was prior to the introduction of the DCC and several other detailed requirements, particularly for security.

In the absence of evidence or outputs from Programme activity in this area, we would support the position described by the Government, and would prefer to see no detailed specification of a particular solution in this area.

42	Is the provision of a single network-layer address for each Communications Hub a reasonable and sufficient functional requirement for the Smart Meter WAN? Will this requirement limit potential future capability or present challenges, for example, in multi-occupancy buildings

Please see our response to Q41. The ERA could ascertain some potential benefit from providing a specification here, but we would prefer to see this proposal – and solution options – discussed in detail. The requirements should be clarified rather than allowing Communications Service Providers to impose 'best fit' solutions that might cause interoperability problems, particularly at a change of Communications Service Provider.

43	Do you think that maximum and minimum demand functionality should be included in the SMETS? Please provide supporting evidence for your response

The ERA members do not have a requirement for maximum and minimum demand functionality. As for other network requirements (and has been provided for all supplier requirements), we would require robust economic assessment of the proposal before it is considered for inclusion in the SMETS. There must be a positive overall cost benefit case for this as an incremental requirement and the appropriate cost recovery regimes in place to recover the costs from the drivers of the requirement (e.g. DNOs).

44	Do you think that network registers should be included in the SMETS? Please provide supporting evidence for your response (including the cost implications for Smart Metering Equipment, and any alternative approaches that would provide this functionality).

Please see our response to Q43 – the ERA position is the same for network registers as for maximum demand functionality.

45	Do you think that the prepayment meter contactor switch should be utilised to protect consumer premises from 'floating neutral' network faults? Please provide evidence on the costs and benefits to support your reasoning

The ERA believes that without further evidence being presented, then the use of the prepayment contactor switch for any purpose beyond that which it is expressly designed for is not appropriate. This is not a customer or supplier issue, but a network issue – and networks should present evidence of a suitable business case for this proposal. We note in particular the statements in paragraph 166 that the use of a contactor for this purpose might actually cause safety issues.

It would not be appropriate to increase the cost of metering equipment for all homes and customers to address this issue without convincing evidence of the prevalence of the issue and the material damage it is causing to consumer equipment – however if there is a risk to consumers and their property that smart meters could mitigate, then suppliers could support a suitable proposal that is commercially justifiable.

We look forward to the presentation of the study from the network operators, and the opportunity to further discuss the proposals.

46	Do you agree with the proposed approach for consumers to access data and transfer it from the HAN via a separate 'bridging device'? Please explain your reasoning

The ERA notes that discussions on the options for architectures within the home continue, and that we are participating in this activity. We also refer to our answers to earlier questions (Q30, Q34 etc.), and to our responses to the Data Access and Privacy Call for Evidence.

Subject to decisions elsewhere – if consumers are to access consumption data locally using the HAN, then the ERA prefers option A – use of a bridging device to deliver this requirement.

It is our view that the most important consideration here will be prevalence of use, and making the data available to customers in the most convenient manner. How many customers will want to access thirteen months of half hourly data, and how often will they do so? How many would choose to use a physical device they may have to purchase, rather than use an online service?

If less than a majority are believed to want to access this data locally, then Options B and C must be disregarded, as they would result in increased hardware costs for everyone. For customers who do choose to access their data locally, rather than using an online service, then it is appropriate for them to bear the relatively low cost of purchasing a piece of equipment to do so.

We envisage this functionality being a potential feature of enhanced In Home Displays, alongside it being something achieved by single purpose hardware, such as a dongle.

We would also seek for this activity to be part of the on-going security risk assessment process being conducted by the security work stream, as these types of devices may require specific classification within the SMETS to ensure they do not introduce an increased risk of inappropriate access to smart metering data and functionality.

47	Do you have any views on the options presented to ensure that electrical contractors can work safely and efficiently between the electricity meter and the consumer unit/fuse box? Please provide evidence to support your reasoning

The ERA acknowledges the current issue, but also notes that this is not directly a smart metering issue, and we are concerned at the prospect of using a smart meter, as described in options 1 and 2, to deliver a safety feature. There is some support or preference for option 2 but while at face value, this may appear to be a 'sensible' suggestion to address a current issue, more substantial evidence than anecdotal is needed if the proposal is to be supported. We concur with the government that more evidence is required from the proposers, including the cost of incorporating such a feature in each electricity metering system, and indeed a detailed technical specification of the requirement and how it is expected to be implemented.

We are particularly concerned at the potential opportunity for consumer confusion or abuse – smart meters will feature buttons for interacting with the system, and including an additional button, however it is marked, will increase the risk that customers switch off their supply inadvertently, or have it switched off deliberately and possibly maliciously if their meter is located in a public space. There is definitely a potential for an increased volume of calls to suppliers or network operators.

We are also concerned that customers may adopt a practice of using the meter to isolate their circuits, rather than any purpose-designed provision on their consumer unit – either for ease of access or lack of knowledge, with the potential for shortening the life of this contactor. Without further detail on the proposed protections and capabilities of an 'in meter' switch, it is not possible to determine if this could cause metering or customer service issues.

48	Do you agree with industry's proposals for an overall architecture of an application layer standard with translation through a Communications Hub to a HAN? Do you believe there are any consumer, economic or technical issues

Please refer to our comment on Q39

The ERA members do not have a consensus position on these proposals and we refer you to the members' own responses. We note there is a weight of opinion that translation in the communications hub is highly undesirable and that effort should be spent exploring options that avoid this being necessary. Central translation at the DCC is considered significantly more efficient than distributed translation in every communications hub, approximately 30 million devices.

49	Where do you believe that translation is best managed: a) At the Communications Hub; or b) At the DCC? Do you have any economic, technical or consumer evidence to assist the Government in evaluating the options?

Please refer to our comment on Q39

The ERA members do not have a consensus position on these proposals and we refer you to the members own responses.

We note there is a weight of opinion that translation in the communications hub is highly undesirable and that effort should be spent exploring options that avoid this being necessary. Central translation at the DCC is considered significantly more efficient than distributed translation in every communications hub, approximately 30 million devices.

50	Do you agree that the IHD should only be required to display ambient feedback based on energy usage? Please explain your answer

The ERA took part in the IHD working group which developed the IHD specification proposals and agrees with this requirement.

Display of ambient feedback based on energy usage has been recognised as useful in many trials, including the EDRP trial, which states: "A "traffic lights" visual signal of consumption level, was often the most positively rated feature"[1].

This shows that this requirement is proven to be extremely useful for the customers and is sufficient to make the necessary impact on energy consumption savings.

Anything above this requirement should be offered as an advanced IHD as apart from rating it as one of the best features, so far there has been little evidence that customers would prefer ambient feedback based on other measures. In addition, requiring the IHD to display additional ambient feedback based on other measures could potentially make the IHD more confusing for the customer due to the amount of the information displayed. It would also potentially make the IHD more expensive without providing additional benefit.

[1]http://www.ofgem.gov.uk/Sustainability/EDRP/Documents1/Energy%20Demand%20Research%20Project%20Final%20Analysis.pdf

51	Do you agree that Smart Metering Equipment should be designed to display an account balance (over-and-above those arising from display of information on cumulative cost of consumption) for credit customers on their IHD?

The ERA agrees with the proposals to enable this requirement within Smart Metering Equipment while not mandating suppliers to display the account balance for credit customers.

The ERA has provided its position on the display of account balance for credit customers to DECC and Ofgem in July 2011. We would like to highlight once again the reasons why the suppliers should not be mandated to display account balance for credit customers at this stage:

1. *Cause for customer confusion and frustration – due to potential misalignments of the account balance on the IHD and customer bills. This will generate high volume of calls and increase costs of smart metering.*

2. *Lack of evidence – there is currently no evidence that this requirement would deliver customer benefits. The benefits for energy saving within the impact assessment have been attributed to the provision of consumption information (in terms of kWh & £), as supported by the EDRP trials, rather than the provision of account balance, not measured by the EDRP trials.*

3. *New technical challenges and costs associated with the implementation of the requirement – this requirement has not been tested in any international roll-out and would need a sufficient testing and costs/benefit analysis. Option 1 and 5 (see Table A) will cause additional development, processing and back office support costs that would eventually have to be passed to the customers.*

4. *Other solutions available – there are other more efficient and cost effective solutions available to manage customer accounts (e.g. on-line, paper, text, calls) and these can be targeted to customers who really need it (e.g. vulnerable customers). The market should deliver targeted good practice customer service and it should not mandate what may be a sub-optimal solution to all as part of any minimum standard. Future flexibility is likely to be compromised.*

5. *Extra costs are likely for the implementation of the requirement over and above those in the impact assessment without an associated increase in benefits.*

52	What do you think the costs and benefits are of mandating suppliers to display an account balance (over and above those arising from display of information on cumulative cost of consumption) for credit customers on their IHD?

The ERA has provided DECC and Ofgem with the potential cost estimates associated with the provision of the account balance with the ERA position paper sent in July 2011.

Generally, while this functionality might be useful for the customer to manage their bills, the ERA does not see this requirement playing a role in reduction of energy consumption, especially considering that the cost of consumption will already be displayed on the device. It is our view that at this stage the cost of the requirement is considerably higher than the benefit.

53	Do you agree with or have any comments on the Government's proposals for the outstanding issues from the Response? Please explain your reasoning

The ERA has participated fully in the working groups and we support the conclusions in the IDTS and supporting documents. Therefore we support the decisions described in paragraphs 202, 203, 204, 206, and 210.

As discussed elsewhere, it is very important for there to be a clear plan of discussion, documentation and decision on all issues, and where relevant for the matters covered by this question, we are not yet aware of the next steps.

54	Do you think that an assurance framework, underpinned by regulatory obligations, is needed to support the delivery of the required functionality, interconnectivity, and security of Smart Metering Equipment? Please explain your reasoning

A working group within the programme has been dedicated to assessing the interoperability aspects of this; it would be generally prudent to take on their advice and to extend this appropriately.

There may be a number of viable options but on balance this group recommended a mandatory code providing assurance that components demonstrate interoperability and that this code should also be included within the governance regime.

Of course there is a need to strive for an assurance regime to be effective in terms of time and cost and in keeping with the risks; the demonstration of this efficiency review should be captured within the framework.

In advance of any assurance framework being developed and agreed, commercial incentives to manage risk will ensure that fit-for-purpose market-led testing is implemented by the relevant stakeholders. But the assurance that is agreed should be put in place as soon as formal governance is in place.

55	Do you agree that as part of any assurance framework adopted, there should be a testing regime in place to support the delivery of the required functionality, interoperability and security? Please explain your reasoning

There are many ways that compliance can be assured and it is likely that most, or all, of the mechanisms described in the consultation will be used to different extents.

Testing is an essential part of providing assurance. The output from the interoperability testing group describes how testing can operate effectively within an Industry Code regime. Within this framework a governance board would establish a baseline for the test regime and manage changes to that baseline.

56	What are your views on the options outlined for a testing regime? Are there other options that should be considered?

The assessment of Market led, mandatory industry code and body and certification or accreditation scheme seems to have identified the key considerations. Although there are different variations of these, they are the key options.

It is appropriate to note that they are not exclusive; all three are likely to be used for different aspects.

There will always be market led testing – this might naturally focus on functional testing but any party would want to use an industry test to confirm compliance rather than to test it. An industry code could include a process for "certification" by independent approval bodies.

The question is more of striking the right balance to make the industry code and approvals process effective.

It is essential that such processes are robust enough for the "stamp of approval" to be trusted. Whilst a testing regime that is expensive or causes delays is undesirable, one that fails cannot be trusted can lose

credibility for the whole programme. The effect of devices failing is sufficiently severe that it is worth a cautious approach.

57	Do you think that a different approach to assurance is necessary for the foundation and enduring phases

The introduction of the enduring phase may change the nature of what is assured but, in principle, the approach shouldn't really change. Functional testing is likely to be conducted by test houses under either a market-led approach or an assurance framework. The enduring phase will introduce new stakeholders and we see a role for a more strongly-governed approach for testing that involves DCC processes.

Rather than a different approach for foundation and enduring phases, the approach taken to assurance needs to build in processes whereby lessons are learnt and better processes put into practice quickly and whereby there are frequent demonstrable reviews within assurance of its own effectiveness.

58	Do you think that the activities outlined above are a suitable way for achieving interoperability across Smart Metering Equipment cryptographic functionality? How else could this be achieved

The ERA participates and supports the Security work stream in the Programme and continues to attend the STEG meetings. We support the proposal to include relevant security requirements within the SMETS as the best way of achieving interoperability for Smart Metering Equipment – in abstract security requirements are no different from other key interoperability requirements.

The ERA notes that paragraph 221. lists a number of areas for security requirements within the SMETS, the majority of which have yet to be discussed in any detail by STEG – access control, device security roles, tamper monitoring. We fully support discussion and documentation of requirements in this area as key facilitation to achieving overall interoperability.

The ERA would be concerned if the division of security requirements into functional areas (Meter Equipment, DCC, DCC User etc.) resulted in a potential risk to a consistent approach, or to shifting baselines for Metering Equipment. The way forward for a consistent end to end set of security requirements should be published by the Programme to help increase confidence of external observers, and to manage the scope of discussions for participants in developments.

59	Do you agree that cryptographic/key management is necessary to secure the end-to-end Smart Metering System?

The ERA supports the documented outputs of the STEG – which continue to develop through the period of this consultation, and will continue to support activities within that work stream. The protection of smart meter data and functionality from malicious intent is an absolute priority for suppliers and their customers, but solutions need to be suitable and practical for the metering environment.

The ERA have assumed a requirement for encryption and key management activities since the inception of the SRSM Project in 2006, and are pleased to see the Programme developing detailed evidence and proposals in this area.

60	Do you agree with the Government's assessment of the advantages and disadvantages of the cryptographic solutions identified above? What other options should Government consider? Please explain your reasoning

The ERA supports the documented outputs of the STEG – which continue to develop through the period of this consultation, and will continue to support activities within that work stream. The protection of smart meter data and functionality from malicious intent is an absolute priority for suppliers and their customers, but solutions need to be suitable and practical for the metering environment.

Further technical detail on the different approaches should be collected and assessed by the Programme and the Expert Group. Specifications for other implementations of smart metering, and analogous projects should also be considered.

The ERA shares the initial views of the Programme that a hybrid approach appears to offer the optimal balance between security, cost and on-going practicality, but the members reserve the right to reconsider this position as more evidence is presented.

In the absence of appropriate SMDG activity, this should include an assessment of the capability of proposed candidate application and transport layer solutions. It would not be appropriate for security recommendations to effectively exclude all solution options, or introduce additional delays for the availability of compliant standards.

61	Do you think it would be appropriate for the DCC to be responsible for cryptographic key management for the End-to-End Smart Metering System? What other options should the Government consider? Please explain your reasoning

The ERA supports the position established and discussed within the STEG workstream for the DCC to be responsible for cryptographic key management. The DCC provides the optimal coverage to meet the end to end requirement, except for customers who have opted out of DCC communications services (as discussed in Q.62 below).

Cryptographic key management is, however, simply a functional element, and this does not necessarily need to be provided by the DCC – other organisations could provide a service to the smart metering market, and be outside of a DCC 'umbrella' without it affecting the service provided or the users of that service.

The requirements for key management should be documented clearly, and then options for DCC and non-DCC approaches considered for the optimal balance of risk, cost and service.

62	How do you believe the security approach should be applied to opted-out non-domestic consumers? Do you see any issues with the approach? Please explain your reasoning

The ERA does not cover non-domestic customers or suppliers, however we would be concerned if a security risk assessment process found there to be an increased level of risk with accommodating particular arrangements for opted out non-domestic customers.

We would also be concerned with any increased risk or additional processing requirements caused by customers moved between opted-in and opted-out status at the choice of suppliers.

The Programme should conduct discussions with appropriate expertise and contributors, and document any findings and recommendations from a formal security risk assessment of any proposals for opted-out non-domestic customers.

Communications Hub Ownership

There is no question that addresses the uncertainty surrounding the ownership of the Communications Hub in the enduring smart metering market. The DCC communications service provider will have to provide the network interface cards or equivalent for their own WAN solution(s) and this is the key component of the communications hub, therefore we believe that the DCC communications service provider should be the owner of the Communications Hub. This is consistent with our response to the prospectus consultation and subsequently. There is other functionality and equipment that is included in the Communications Hub, but we believe that certainty can be given to this within the DCC communications service provider timescales to enable this equipment to be mobilised after contract award. Key dependencies are any additional functionality that may reside in the Communications Hub and
the HAN technology to be deployed. We believe that the SMETS should define what is required for both of these elements and we are proposing a 2 stage EU notification process to DECC that will allow the HAN to be selected later in 2012, but still in time for DCC communications service provider award and therefore mobilisation of the supply chain to deliver Communications Hubs by the communications provider.