British Gas response to the consultation on draft licence conditions and technical specifications for the roll-out of gas and electricity smart metering equipment

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Executive summary

1. British Gas is a strong advocate for the universal deployment of smart metering and we have ably demonstrated our commitment to do more than just talk. No supplier has made more progress or has more at stake: we will be installing one third of the smart meters that are deployed in the UK and have already deployed nearly 400,000 Smart Meters. We were the first supplier to develop and publish a meter specification using open standards and protocols. We have been the most active energy supplier in terms customer advocacy, investing in customer insight and research, and in-sourcing Metering to deliver a high-quality customer experience. We have positioned customers at the heart of our strategy and were the first energy supplier to develop and publish a Customer Charter.

2. The previous Government committed to a 2012 start and 2020 finish for the national rollout. This Government, with British Gas' full support, committed to accelerate progress. However, we believe the completion of roll-out by 2019 is now at significant risk, as is the delivery of benefits to consumers as set out within the Impact Assessment. I have set out below our key concerns and what we think Government needs to do to address them.

3. If the 2019 roll-out completion date is to be achieved we need a step change in the way that the industry and the DECC programme is approaching the Foundation phase. This includes more focus on critical path decisions and more consideration of supply chain readiness when finalising the technical design.

4. **Without a 2012 start, British Gas will not complete roll-out in 2019** without unacceptable increases in cost and degradation in quality arising. For example, without Foundation, the peak number of meter installers will be 2,600 higher across the industry at a premium cost of circa £120m per annum, notwithstanding the training capacity issues that could render timely rollout practically impossible. We believe that in all probability - given the complexity, slippage to date, and likely extension of DCC mobilisation and integration - the enduring solution may not "go-live" until 2015. In our view, this makes the Foundation phase even more critical

because, without significant volume of deployment, the 2019 deadline will not be met. Further, there is an increased risk that the enduring solution will buckle under steep ramp up pressure. These developments prove that the Government was right to remove the dependency on DCC being established before large volume deployment could progress. Suppliers who have not invested or who have less appetite for smart will seize on any delay as a reason to extend the roll-out period. With certain provisos, that should not be necessary.

5. Decisions on meter specification must be made in the next three months and if critical aspects of these decisions do not line up with existing manufacturer developments then those that have committed to it may withdraw, effectively postponing any meaningful deployment and learning until 2014.

6. However, we know that DECC may not be able to make some of these critical decisions for some time such as, for example, the choice of Home Area Network, the precise design and ownership of the Communications Module and any arrangements for adoption of this and Wide Area Network Contracts by the Data Communications Company. In addition functionality recently requested by network companies cannot be quickly accommodated by manufacturers and not withstanding that needs significant further analysis and justification. The benefits of additional network requirements are unclear as is how they will flow through to customers. Significant further analysis and transparency is required to justify these last minute requests for additional functions.

7. We know that interoperability is held up by some as a reason to resolve every individual design issue, no matter how trivial, prior to initiation of the Foundation phase. We do not believe that the impacts of interoperability are as significant as some suggest. We have described these in our response in more detail and how they can be mitigated. Ofgem has already developed a regulatory framework for Advanced Meters that can be extended to "compliant" smart meters in the Foundation phase and, in addition, we are aware of a growing presence in the market of interoperability facilitators that can provide pseudo-DCC services on a commercial basis.

8. DECC must therefore, provide an environment that gives installing suppliers comfort that their assets including the communications hub will not need to be replaced prior to the end of their operational life. DECC should specify now which design exceptions are acceptable. In setting out these exceptions it can improve market confidence and transparency whilst retaining control and confidence that sufficient functional richness is in place to deliver the Impact Assessment benefits.

British Gas is a willing partner in the deployment of smart metering throughout the UK, but we do need some support from Government in order to see through our ambition and deliver a transformational experience for our customers. Reducing the stranding risk of assets deployed up to and during Foundation, and providing a regulatory regime that supports rather than frustrates customer engagement, is essential to a timely and successful roll-out by British Gas. More detailed responses to your consultation questions are attached to this letter but should you require any further information please do not hesitate to

Question 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.

1.1. British Gas fully supports the need to construct appropriate regulatory and commercial incentives that will encourage the industry to build the capability for full deployment as early as possible.

1.2. We believe the completion of roll-out by 2019 can still be achieved but is now at significant risk as is the delivery of benefits to consumers, as set out within the Impact Assessment. If the 2019 roll-out completion date is to be achieved we need a step change in the way that the industry and the DECC programme is approaching the Foundation phase. This includes more focus on critical path decisions and more consideration of supply chain readiness when finalising the technical design.

1.3. **Without a 2012 start, British Gas will not complete roll-out in 2019** without unacceptable increases in cost and degradation in quality arising. For example, without Foundation, the peak number of meter installers will be

2,600 higher across the industry at a premium cost of circa £120m per annum, notwithstanding the training capacity issues that could render timely rollout practically impossible. We believe that in all probability - given the complexity, slippage to date, and likely extension of DCC mobilisation and integration - the enduring solution may not "go-live" until 2015. In our view, this makes the Foundation phase even more critical because, without significant volume of deployment, the 2019 deadline will not be met. Further, there is an increased risk that the enduring solution will buckle under steep ramp up pressure. These developments prove that the Government was right to remove the dependency on DCC being established before large volume deployment could progress. Suppliers who have not invested or who have less appetite for smart will seize on any delay as a reason to extend the roll-out period. With certain provisos, that should not be necessary..

1.4. Most critical of all to the completion of roll-out by 2019 is that suppliers start early and that there is no delay in the finalisation of the SMETS. Time lost in 2011 and 2012 cannot be recovered for a Programme that includes so little

contingency. Decisions on meter specification must be made in the next three months and if critical aspects of these decisions do not line up with existing manufacturer developments then those that have committed to it may withdraw, effectively postponing any meaningful deployment and learning until 2014. However, we know that DECC is not able to make some of these critical decisions for some time such as, for example,

a. the choice of Home Area Network;
b. the precise design and ownership of the Communications Module and any arrangements for adoption of this, and
c. Wide Area Network Contracts by the Data Communications Company.
d. Additional functionality recently requested by network companies that cannot be quickly accommodated by manufacturers and not withstanding that needs significant further analysis and justification.

1.5. We know that interoperability is held up by some as a reason to resolve every individual design issue, no matter how trivial, prior to initiation of the Foundation phase. We do not believe that the impacts of interoperability are as significant as some suggest. Ofgem has already developed a regulatory framework for Advanced Meters that can be extended to "compliant" smart meters in the Foundation phase and, in addition, we are aware of a growing presence in the market of interoperability facilitators that can provide pseudo-DCC services on a commercial basis.

1.6. DECC must, therefore, provide an environment that gives installing suppliers comfort that their assets including the communications hub will not need to be replaced prior to the end of their operational life. DECC should specify now which design exceptions are acceptable. In setting out these exceptions it can improve market confidence and transparency whilst retaining control and confidence that sufficient functional richness is in place to deliver the Impact Assessment benefits.

1.7. British Gas has championed the need to make early progress and our learning from the hundreds of thousands of smart meters installed to date has forcibly demonstrated to us the enormity of the effort required to become

fully mobilised. We believe that some of our competitors may have underestimated the time required and the sooner the industry as a whole has a viable plan the better it will be for the UK. We remain concerned that labour inflation will be driven by suppliers catching up for time lost at the start and sincerely hope that there are no associated compromises on quality or safety. It is argued by some that deployment before a final design is agreed will increase asset costs. We believe that early development and testing reduces overall design risk and cost and, regardless of this, the relief on labour supply provided by meaningful early deployment outweighs any additional and temporary increase in asset costs. We support, therefore, the proposal that an ambitious target date for completion should be set that signals the Government's intent.

1.8. It is important that a decision to set an ambitious completion date is taken in full knowledge of the risks and that any sanctions that are applied fall on the relevant parties. As a supplier-led deployment, it is appropriate that the bulk of the accountability lies with them, exercised through licence conditions, and that they in turn exert strong control over the supply chain in order to discharge their responsibilities. We should, however, pay due regard to external factors that could influence the deployment through no fault of the supplier. Examples could be

a. a 'California-style' public backlash or media campaign that changes public attitudes;
b. a security failure could cause a rethink and some rework,
c. further definition of smart grid requirements could impose unanticipated local or national delays;
d. world events could severely constrain availability of an essential commodity;
e. the EU approval of the UK metering Specification may not go through in the timescales assumed.

1.9. None of these are likely but, equally, none are impossible. We would therefore, welcome some acknowledgement that if the industry (not individual parties) were subject to something equivalent to *force majeure*, that

Government would not automatically seek redress from Suppliers if the problem was beyond their control or influence.

1.10. We accept that suppliers should be responsible for demonstrating that 'reasonable steps' have been taken and that an accepted definition of reasonableness is likely to emerge over time. We agree that the existing uses of warrants of entry are adequate and that many hard-to-access meters may fall within the scope of warrant procedures by the end of the Programme.

1.11. We agree that it should not be necessary to set interim targets for suppliers. They have the obligation to complete by a date in 2019 and therefore have the required incentive to develop realistic plans and to share these with the DCC, who will need to build their capacity in line with (or ahead of) planned installations.

1.12. In summary, if Government does more to facilitate active participation in Foundation it will have increased the potential for completion of roll-out by 2019. Indeed this might be bettered by market forces. But without that active participation, it is increasingly unlikely that 2019 will be achieved without significant additional cost and risk to consumers.

Question 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.

2.1. Yes, we are satisfied that the draft conditions achieve the required purpose

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Question 3. Do you agree that the 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.

3.1. Yes, we agree that the draft licence conditions 'underpin the policy intention' but the delivery of the functionality and interoperability required to meet the business case is obviously dependent on the detail within the SMETS and numerous other critical areas, such as the DCC and process design activities.

Question 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.

4.1. Yes, it is a sensible principle that all installations should be compliant with the version of the SMETS that is current, but the industry needs certainty around how change to the SMETS will be managed. Specifically, we need to understand the conjunction between change releases and procurement lead-times. Manufacturers and purchasers of equipment that is compliant with the specification need to be confident that a policy change will not strand their investment before it has been installed. Therefore we may need a progressive change to a new version of the specification. The difficulty arises with hardware changes and updates that cannot be applied to 'warehouse stock'. Suppliers should not be penalised for using existing stock to add to the population of meters compliant with yesterday's specification simply because a new version is effective from today.

4.2. The assumption that updates to installed metering equipment will not be required as a matter of course is sensible and we welcome it. It is to be hoped that most SMETS releases will be amendments to software and firmware. That being the case, a managed programme of updates to installed meters may be appropriate if the business case can be made or interoperability is improved.

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

5.1. We note that the application of retrospective amendment to SMETS is regarded as a requirement but one that is to be applied only in exceptional circumstances. We recognise that this is sensible but, depending on the nature of the resolution and how far progressed we are with roll-out, this could be an action that penalises the suppliers who have made most efforts to progress the deployment and, conceivably, could compromise their ability to complete on time.

5.2. We would welcome an acknowledgment that in enforcing an amendment to installed smart metering equipment due regard is taken of any knock-on impacts for suppliers in delivering against their declared smart installation plans in the short-term (for DCC capacity planning) and long-term (programme completion).

Question 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.

6.1. Yes, we agree that the draft licence conditions underpin the policy intention. There is reference in the consultation to meters reaching the end of their operational or economic life, which we do not think is particularly relevant under the new policy. The draft licence conditions ignore the point however.

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

7.1. The obligation has been well-signposted – the whole industry knows it is coming and should be preparing – so the notice period will need to take most account of supply chain logistics.

7.2. Our view is that the obligation should be driven from suppliers' rollout plans, which will be a critical input to the DCC capacity planning. The Programme

completion date will force suppliers to exert pressure on the supply chain and should reduce the risk of commitment to plans that the metering equipment manufacturers cannot match. We would expect Government to consult with the manufacturing trade associations for confirmation but we would expect production capacity to be predictable at least six months in advance, probably more. We feel that a formal notice period of twelve months would be reasonable. We would welcome an earlier indication of the 'minded-to' date as this would reduce risk and allow a more managed transition from old world to new.

7.3. We anticipate a need for DECC to consult on the implementation arrangements for the enduring solution as we think it inevitable that there will be a period, perhaps measured in years, in which Foundation and enduring solutions are operating simultaneously. It will be impractical commercially for suppliers to disregard the new and replacement obligations until the point at which they become effective and, therefore, we should anticipate large volumes of smart meter installations during Foundation. With that will come a need for industry-standard interim processes for change of supplier, and a carefully-managed migration from these to the DCC. Migration of metering points to the DCC will be progressive and require parties, therefore, to be capable of running dual processes for an unknown period.

7.4. There are commercial incentives that should ensure that interoperable equipment and processes will be deployed/established during Foundation but it is sensible that these should be reinforced through Licence conditions to avoid any risk of rollout being constrained by the readiness of the slowest large participant.

Question 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.

8.1. It is in no-one's interests to install metering equipment that cannot survive a change of supplier or which is at risk of replacement when one component is

exchanged. To some extent, therefore, the draft licence condition is superfluous. In the event of a failure of interoperability and the premature removal of functioning metering equipment there is likely to be a warranty claim and / or dispute involving supplier(s), Meter Asset Provider (MAP), and manufacturer(s). It is unclear what benefit there is in adding Licence breach to this mix.

8.2. We believe that there is evidence from the DECC SMIP that suppliers are willing to work together since, whilst fiercely competitive, no-one gains advantage from installing metering equipment that is not fully interoperable. There has been some evidence that suppliers' different attitudes to (and readiness for) implementation has influenced their appetite for rapid progress but, with those exceptions, contributions have been positive and collaboration strong.

8.3. Any supplier installing metering that is not interoperable is unquestionably disadvantaged through wasted investment if equipment they have installed is replaced before the end of its operational life. The competition comes from speed to market, quality of service and differentiation of product propositions. To be credible in the market those propositions must not be at all dependent on particular variants of the smart metering equipment installed.

8.4. We do see merit in an assurance framework and have no doubt that the MAPs will demand such a framework in order to minimise the risk of an interoperability failure. We have provided further comments on this subject against questions 54-57 below.

Question 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?

9.1. Despite our comments against question 8, yes, we think that the draft licence conditions do effectively underpin the policy intention. We welcome the

references to the Licence for the other fuel to ensure that interoperability is comprehensive where different energy suppliers are contracted at a single premises.

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

10.1. We agree that we should plan on the assumption that disputes between parties will arise. In the majority of cases we should expect these to be resolved under commercial contracts but we can envisage some scenarios where interoperability has failed and the allocation of responsibility may be subjective.

10.2. For example, there could be differing valid interpretations of a SMETS requirement that are only apparent under specific configurations, perhaps years after installation. It is also conceivable that a software or firmware release applied by one manufacturer exposes a previously invisible interoperability issue with equipment from another manufacturer. It is clear that a cobweb of commercial relationships could come into play so a formal dispute mechanism sounds sensible. The principal difficulty with it could be its scope, since it could be applied only to parties captured by the Smart Energy Code, when culpability may lie elsewhere. The only constants in this are the MAP, the manufacturer and the DCC – all other parties could change – and of these only the DCC will be covered by the SEC. Therefore the value of a disputes process is questionable until there is further definition.

10.3. As a guiding principle we would expect market forces and contracts to be the route through which disputes are generally resolved, with any formal disputes process being triggered as a last resort when normal channels have failed.

Question 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.

11.1. Yes. Due to the relatively small volumes of CT Meters within the smaller non-domestic sector, we are not expecting that it will be commercially viable for meter manufacturers to produce a DECC compliant Smart CT operated meter. We envisage that the existing advanced meters will provide adequate functionality for both customer and supplier requirements. Many of these types of meter will have been/will be installed as part of the existing supplier licence obligations to provide advanced meters for Profile Class 5-8 sites by 1 April 2014 and it would seem sensible to deliver a consistent approach to CT smart meter installations across the whole non-domestic sector.

11.2. We would also like to take this opportunity to re-raise the issue related to U16 (and above) gas meters. Currently there is no U16-sized smart meter commercially available nor much prospect of one. Whilst it has always been believed that as the market matures it is possible that a U16 smart meter may become available, it is still not a certainty and due to the relatively small volume it may prove difficult to develop and manufacture a cost-effective U16 smart meter. Regardless of any developments in the U16 meter market, we have absolutely no expectation that a smart meter solution will be available for meters sized U25 and above.

11.3. Unless an appropriate, cost effective U16 smart metering solution is developed we believe that meters sized U16 and above will also need to be considered as a valid technical exception. The provision of advanced metering arrangements should be required, akin to those already mandated for the larger non-domestic sector.

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

12.1. Yes. Please see our comments against Question 11.

Question 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.

13.1. It is essential that no avoidable dependencies are built into the roll-out planning. It should not be assumed that gas must or should follow electricity as this builds unnecessary constraints, dilutes accountability and risks back-loading the rollout. For British Gas, more than any other supplier, the independence of the gas installation from work carried out by another supplier is critical.

13.2. For other suppliers, particularly smaller companies, we recognise that the issue is less critical and understand the rational for allowing gas-only suppliers to choose to 'go second'. We would urge Government to keep this under review however, as we would not want gas to lag behind electricity and be a disproportionate element of the 'tail' that we anticipate in the latter stages of the Programme.

13.3. The proposal also introduces additional processes and potential distortion of costs.

a. There would be a requirement for any gas supplier opting to avoid the communications installation to establish whether the smart electricity meter had been installed and, if it had not, to be advised when the installation was completed. At that point any option to delay installation of the smart gas meter should lapse. At present there is no process through which this information is exchanged between suppliers

b. Single fuel electricity suppliers could be expected to install the lion's share of communications modules

13.4. Overall, we are unconvinced that the option for gas suppliers to 'wait' is required and fear that it may have unintended consequences. Specifically,

care needs to be taken to avoid any distortion of the competitive market. We are concerned about any restriction that could leave British Gas less able to deploy smart meters to its customers than its competitors are to theirs. Prohibition of Gas first installations could provide such a restriction and so must be avoided.

Question 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.

14.1. Yes, we do not believe that current industry Codes permit the MAM appointed by the gas installer to carry out work on the electricity supply. It is a different agent that will have been appointed by the electricity supplier and who is authorised (by the network owner) to carry out work.

14.2. The DCUSA sets out the arrangements between suppliers and distributors for connection to the network at a specific connection point. These arrangements specify that the supplier has to have a qualified Meter Operator appointed. The DCUSA also sets out the liability arrangements between distributors and suppliers (capped at £1m). To allow 'gas-first' installations to proceed, we need the ability for a third party meter operator to be able to de-energise and carry out work on the installation.

14.3. The DCUSA, BSC and MRA all specify that a supplier will appoint an approved meter operator to a metering point. On this basis, the supplier accepts the obligations contained in these Codes, as they are in control of their agent through a commercial agreement. We expect the distributors to want to maintain the single liability relationship for a connection point with a supplier. This would require agreements with all suppliers to provide / allocate indemnities to cover the work done by the third party meter operator.

14.4. We believe that this issue would be resolved most effectively through a licence condition which could then be used to drive the required review and

amendment of industry Codes. We propose the following:

> Where the licensee is the Relevant Gas Supplier but is not the Relevant Electricity Supplier to the premises, and intends to install a gas Smart Metering System, the licensee shall;
>
> a. warrant that the installer of the gas Smart Metering System is a Competent Person [as defined in Schedule 5 in DCUSA]
>
> b. only authorise such activities required to install a gas Smart Metering System [de energisation and subsequent re energisation to allow communications hub installation and activation]
>
> c. indemnify the Relevant Electricity Supplier up to a limit of [£] for the loss the Relevant Electricity Supplier suffers in respect of any third party claims it receives for physical damage to a third party's property resulting from the Relevant Gas Supplier's installation of a gas Smart Metering System
>
> d. provide written notification (which shall also include notification by fax, email or data flows) to the Registered Electricity Supplier of works carried out

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Question 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 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.

15.1. We agree that it is sensible to ensure that the effect of the new and replacement obligations is comprehensive and that new developments should be captured within their scope.

15.2. For gas, obligations could be put on the IGT to ensure that any meter installed by them is a SMETS smart meter that can be operated by any incoming supplier. In practice new housing developers are demanding that smart meters are installed as this assists their compliance with the Code for Sustainable Homes. The developer is required to accumulate a number of 'carbon credits' and is able to claim two credits by installing an energy display device that provides current electricity and primary heating fuel

consumption data in a display to occupants. The developer can purchase an independent device or request their energy supplier to install smart meters with In-Home Displays. Inevitably, the developer demands the smart meter option as this allows him to avoid the direct cost of providing a display.

15.3. From the IGT perspective, there is also a clear incentive to install smart metering since their business is based on asset ownership for both network and meters and new housing developers are their key customers. In our opinion, obligations should be put on the IGT to ensure that any meter installed by them is a SMETS-compliant smart meter. Also, the gas new connection process on IGTs should be changed to ensure the smart meter is not installed until a supplier is registered to the site. It is a widely-held view, and one that we support, that Xoserve should take over registration services from IGTs as it will eliminate most significant process issues. It is our view that the current IGT registration process will not support DCC access control and is therefore a barrier to smart installations.

15.4. Today, the IGTs notify the supplier they have been nominated as the energy provider for the site and the meter asset data is provided some time after the meter has been installed. It would be preferable to move to a more formal process with an amended sequence of events:

a. IGT notifies the supplier they have been nominated as the energy supplier for the new housing site.
b. The supplier accepts the nomination and specifies that a SMETS-compliant meter should be installed (during Foundation the supplier may wish to notify the IGT which Smart meter type will be required to be installed).
c. The IGT confirms they are able to install the required smart meter and the Supplier registers the supply. (If the IGT is not able to install, the supplier is notified and makes alternative arrangements for meter installation).
d. Where the IGT is able to install the supplier-preferred meter, the supplier notifies the IGT when the supply is registered, giving the IGT the green light to install the meter (IGT cannot install meter until supplier has notified that registration is complete)
e. The IGT installs the smart meter and provides relevant meter asset data

15.5. In order to achieve this, additional data flows would be required. However, the customer impact could/should be minimal due the length of time between the supplier being nominated and the meter being installed. There are around 100,000 new IGT connections each year, a figure we can expect to grow at around 5% per annum.

Question 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.

16.1. Inevitably, there are implications for emergency metering services and those providing them will need to establish the meter stock and technical skills to replace metering equipment on a like-for-like basis. Given the emergency nature of this work the primary objective should be safety, followed by restoration of supply.

16.2. One impact should be a reduced reliance on emergency metering services. Firstly, we will be able to make use of remote diagnostics before requesting an emergency call out. The use of non-disconnect periods for meters in pre-payment mode will significantly reduce the number of out-of-hours issues with pre-payment metering, as will the removal of issues associated with lost, faulty or corrupted payment devices. Where they arise, suppliers will be able to resolve them by applying additional credit or emergency credit remotely, at significantly lower cost than a call-out. Finally, during the roll-out period we expect meter installers to be working well outside normal office hours so that also could reduce the call on emergency meter services.

16.3. We do not think it is reasonable to expect service providers to replace dumb meters with smart but we would not accept the replacement of smart metering equipment with dumb. Therefore, a like-for-like replacement should be specified. However, as the rollout progresses, we can predict that the availability of dumb meters could become quite limited. One solution might be to assign a stock of removed pre-payment meters to providers of

emergency metering services, each pre-configured to operate without a payment device but provide a fixed amount of energy (e.g. two weeks) so that arrangements can be made for the installation of smart metering equipment during normal working hours.

16.4. As regards the replacement of a smart metering component out-of-hours, further work will be required to ensure the correct configurations can be applied at any time or whether a default 'supply-on' set-up can be used until normal working hours commence.

Question 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.

17.1. Suppliers who install smart metering equipment ahead of the new and replacement obligation taking effect will do so by choice and will be expecting to provide an IHD as part of that installation. Aside from the market drivers, it is a requirement within the Smart Metering Installation Code of Practice which we expect most suppliers to adopt during 2011. Once the SMETS is finalised it would be a perverse decision for a supplier to continue to procure smart metering equipment that was not compliant with that standard. The question then becomes one of the lead-time required by the manufacturers to put compliant products into volume production.

17.2. Our expectation is that this will be under one year so would suggest that 12 months' notice would be adequate and that the obligation should take effect one year on from the finalisation of the SMETS.

Question 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.

18.1. There are no insurmountable difficulties created by the change of supplier process.

18.2. Current suppliers will pick up liability for replacement of faulty IHDs that they did not provide. A reciprocal arrangement to re-allocate costs for this could be devised but this will depend on volumes. Our expectation is that most IHDs will be reliable for longer than one year and chasing liability between suppliers and manufacturers is likely to be more costly to administer than could be justified by the sums involved.

18.3. A new data item will be required to show the date of IHD provision or refusal and this will need to be held in registration systems or transfer at change of supplier and be recorded in supplier systems.

18.4. IHD design and functionality is expected to become a service differentiator for suppliers so it is likely that customers requiring a replacement device after a change of supplier may be unable to obtain an identical model. Some customers may express a preference that a new supplier cannot satisfy, even though the alternative offered is compliant with the specification.

18.5. If an enhanced IHD requires replacement within the 12 months the new supplier may replace it with a standard model, or charge for the replacement. This is likely to be unpopular with customers. We would expect market forces to apply here in encouraging suppliers to find an outcome that is acceptable to customers.

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

19.1. Yes

Question 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.

20.1. Yes, we agree with the proposed amendments and the rationale provided.

Question 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.

21.1. No, we are not aware of any other consequential changes to existing Supply licence conditions but, as we explained in our answer to Question 14, we believe that a new licence condition is needed to make the proposed roll-out obligations work as intended. The smart metering equipment architecture has been specified to support a gas-first installation but the industry rules (principally DCUSA) do not support this approach. Please refer to our answer to Q14 for more details.

21.2. We think it is important that clear standards of service are established for those installations that require work by networks before they can be completed. The Energy Networks Association has made progress here with its categorisation of 'old chestnuts' into three levels of seriousness and speed of response. Consideration should be given to formalising the communication arrangements and performance monitoring for jobs that fall into one of the three categories.

21.3. Once the smart metering roll-out is complete or well-advanced we would expect there to be a review of Licence Conditions relating to metering, site access, debt, disconnection and vulnerability.

Question 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.

22.1. We have not identified any requirement for legislative changes.

Question 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.

23.1. Yes, we believe that changes to existing Codes are required in order to satisfy the objective of allowing gas-first installations to proceed. Please refer to our answer under Question 14. In addition, it is clear that new data items will be necessary to enable suppliers clearly to identify where a smart meter has been acquired.

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

24.1. We agree that the IDTS should be the basis for the SMETS but there is a gap in that currently no standards for HAN have been set. We consider this omission further in our response to question 38. British Gas supports the SSWG initiative and believes that this could eventually be developed into specifications for HAN and WAN protocols. We strongly advise against instigating a new work item to develop a HAN/WAN specification for the enduring solution that differs from the work SSWG has completed to date. British Gas made a decision in 2009 to use Zigbee/DLMS protocols and yet the protocol definition work will not be completed until 2012. To begin the process again would be a waste of time and resources.

24.2. Once the SMETS has been finalised we suggest that it will not be truly complete without the development of a companion test specification that details how each item detailed in the functional specification will be delivered, and how end-to-end system capabilities should be met. We consider this point further in our response to Question 56.

24.3. More work is required to agree a specification for the HHT interface with the communications hub. Design assumptions will be required to allow suppliers and their agents to provide interoperable HHT solutions.

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

25.1. It is important for the Foundation phase at least that critical aspects of these decisions line up with existing manufacturer developments to maintain the commitment to the Foundation phase that exists today. However, we believe that DECC may not be able to make some of these critical decisions for some time such as, for example, the choice of Home Area Network, the precise design and ownership of the Communications Module and any arrangements for adoption of this and Wide Area Network Contracts by the Data Communications Company.

25.2. DECC must, therefore, provide an environment that gives installing suppliers comfort that their assets, including the communications hub, will not need to be replaced prior to the end of their operational life. DECC should specify now which design exceptions are acceptable. In setting out these exceptions, DECC can improve market confidence and transparency whilst retaining control and confidence that sufficient functional richness is in place to deliver the Impact Assessment benefits.

25.3. We believe that there are a number of items where there may be insufficient information for Government to make a decision with regard to the enduring design. These include the HAN and some design decisions that may be affected by the WAN selection.

25.4. DECC may therefore need to defer design decisions such as those described above until later. The regulatory framework and, therefore, SMETs needs to be able to cope with this uncertainty. It must be possible for DECC to specify

functionality for Foundation that can be built upon for the enduring solution in a way that increases rather than reduces Foundation certainty.

25.5. Much of the functionality set out in the IDTS is appropriate, but there are still specific areas that require further evaluation and cost benefit analysis:

a. OP.3 Network outage functionality, considered further in our response to Question 31
b. DNO network registers; see Question 44
c. Network voltage monitoring (ES.10);
d. The Communications hub and associated architecture including WAN protocols.
e. Excessive pre-payment requirements

25.6. These items add additional cost to what is in the IA and will delay Foundation should they be included in the SMETS. We are disappointed by the potential introduction of additional network functionality at this advanced stage of the Programme. The functional requirements have been consulted on repeatedly and these eleventh hour additions include opaque benefits and have no self-evident justification.

25.7. We require DECC, not later than the end of 2011, to provide suppliers with clarity over the metering systems that can be installed during the Foundation phase, and confidence that these metering systems including the communications hub shall not be prematurely replaced.

Question 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.

26.1. We are comfortable that the input from the security experts from various sectors under the STEG working group has identified threats, impacts and risks, with advice from CESG and CPNI. We believe the STEG is well-informed in its assessments of risk against functionality. However, there are

substantive issues we have with some of the requirements that we feel are over-and-above the level of threat and risk we foresee. We would welcome the opportunity to discuss these detailed points further you but have summarised below.

26.2. Authentication of critical commands by the gas meter will cause issues with the life of the gas meter battery (SP.6.) This is particularly concerning where this has been extended in the Version 0.4 STEG requirements to include all commands.

26.3. We do not believe that resistance to EMI (SP.9) is a proportionate requirement. We would like to understand better how and why this threat has been identified.

26.4. SP.15 would demand that we encrypt all data on the communications hub. We understand the sensitivity of the interval data but disagree with the materiality of the threat of holding this information unencrypted on the metering devices. We believe this will substantially impact the requirements of the device hardware.

26.5. We would like to clarify the requirement to revoke security credentials to ensure this does not include the credentials written to the devices at manufacture (SP.17).

26.6. We would like to discuss the role of other non-core devices. This requirement will drive cost into the various metering devices without a clear roadmap and shape to the non-core devices access and use. This takes in requirements SP.38, 39, 41, 56 and 57.

26.7. We would like to explore further the rationale and detail of the security roles described in SP.55

26.8. We are aware that the SSWG has prepared a 'White Paper' on security and suggest that this should also be taken into account.

26.9. We agree that cryptographic algorithms should be 'FIPS-approved or equivalent'.

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

27.1. The conversion of the metering equipment specification into a legally precise document is a challenging but essential task. The anguish endured in reaching acceptable language and terminology for the IDTS is indicative of the difficulty. Despite the effort that went into this, scope remains for different but valid interpretations of the requirements described. It is therefore appropriate that the content is reviewed and wording tightened without alteration of the meaning. It is important that the work undertaken by the industry groups is not re-opened for debate other than to settle ambiguities.

27.2. It is unclear what review process will be available during or at the conclusion of this activity. In undertaking the task it is likely that those responsible for creation of the SMETS will encounter ambiguities and either not notice them, make an assumption of the intent or seek guidance from someone involved in the authorship. In paragraph 91 the consultation describes the Government's intent to establish governance for the management and evolution of the SMETS. We welcome this but believe that the need to put such a framework in place cannot be deferred as manufacturers (in particular) will need an authority with whom to query and confirm details of the SMETS that may not become apparent until technical specification and design work is underway.

Question 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 ongoing governance of the SMETS? Please explain your reasoning.

28.1. Yes, we agree that governance under the SEC is sensible and provides the appropriate enforcement route for SMETS.

28.2. The parallel drawn with the Balancing and Settlement Code for enforcement of Metering Codes of Practice is a useful one. There is no 'kite-marking' or accreditation scheme for meters to prove compliance with the Codes of Practice and yet compliance has become a pre-requisite of any procurement of meters for that market sector. This should increase confidence that in the absence of, or prior to the establishment of, an interoperability assurance regime, market forces will deliver a workable solution.

28.3. The significant drawback of placing governance under the SEC is that it is unlikely to be live until about a year after the publication of the SMETS, a period in which the need for strong governance and clarity of ownership is likely to be intense. It is inappropriate to use governance through any of the existing single fuel Industry Codes as an interim step so it is our view that a transitional version of the SEC is required to cover the gap. There are precedents of transitional arrangements being put in place (e.g. Master Registration Agreement) to oversee and prepare the ground for major structural change to the industry.

28.4. An alternative approach would be for DECC to retain full ownership for the SMETS from publication until the SEC takes effect. This could be an acceptable arrangement provided it is managed with full transparency.

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

29.1. We believe that BEAMA and SBGI members are better placed to answer this question.

29.2. We will continue to exert commercial pressure on our suppliers to reduce costs but it should be noted that the assumptions used in the IA are unrepresentative of current prices, understating the cost of a smart metering set (two meters and communications hub) by about a third. Any forecast of how costs will fall is impossible to prove but our planning assumptions are that the IA cost will be achieved within about four years.

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

30.1. Yes, we agree that a communications hub is an essential component of the SMETS. It is widely-accepted that separation extends the life of metering assets for which technology change has generally been less rapid than that for communications devices. It is also important to minimise the battery drain on the gas meter, which this achieves, and it is essential that a gas-only supplier is not dependent on a competitor for the service that he can deliver to his customer. By removing that constraint, suppliers are better-placed to manage the rollout in the most efficient and least costly way. Even for electricity-only premises, the flexibility to position the communications hub away from the meter will provide opportunities to select a position with improved or optimal signal reception strength. The physical separation from the electricity meter also provides additional flexibility in allocation of ownership and maintenance responsibilities, if required.

30.2. We are aware of suggestions that the communications hub should be specified in a standard form and, indeed, that electricity meters could be designed to accommodate the communications hub within their casing. British Gas supports the evolution of a standardised connection – for ease of installation and replacement – but we do not see a benefit in specifying external dimensions. We know that this is a field in which technology change is rapid and it is reasonable to expect miniaturisation to continue. Any aperture standardised today could look ridiculous in a few years. The process for agreeing any standard form would not, in our view, be a good use of industry time and, as is acknowledged in paragraph 127, unlikely to

be concluded quickly. More importantly, it is unnecessary. The current proposed approach to use a fused fly-lead cable to supply a hub with 230 volts is suitable for smart metering installations during Foundation

30.3. We note in Table 4 that a cost of £1 has been added to the hub for outage detection. This is an additional function since the IA in March so should not be included in the cost comparison of different architectures.

Question 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.

31.1. We do not agree that outage detection at metering point level is an essential requirement and question the positive business case set out in the Impact Assessment. We welcome the predicted improvements in customer service and will rely on Ofgem to ensure that these are delivered and that the predicted efficiency savings in networks are passed through to suppliers. However, the DNOs have previously acknowledged that the benefits case was weak and, whilst we have heard opinions from consumer groups, we have seen no consumer insight to say this function is valued. We are not convinced that the 26% reduction in call volumes will materialise (as we expect customers still to enquire when power will be restored) and the costs of only £1 seem optimistic for the requirement as defined. The first/last gasp message also introduces a commercial liability that suppliers will be charged for increased WAN traffic in the event of poor network management.

31.2. The requirement has developed from being simply to detect a loss of electricity supply to a significantly more costly definition for the benefit of DNOs. As currently drafted, the DNO requirement is for a three minute delay after conditions of lower than 180 Volts are detected. This is a new measurement requirement for the communications hub that adds cost into the solution. For GPRS communications technology, we believe that a rechargeable battery set (at a cost of $10 - $15 / £7 - £10) would be

required to satisfy IDTS requirement OP.3 (powering the communications hub for 3 – 3.5 minutes).

31.3. We strongly believe that DECC should critically review the requirements with a view to reducing the costs, so that the £1 cost in the IA can be achieved. The requirement has been drafted to allow DNOs to rely on the data to show when a 'network outage' has occurred. We believe the focus should be on the consumer benefit of notifying the supplier and network when power has been lost, and not measurement of a network outage (3 minute delay). It is this delay, and additional measurement of drop of voltage to 180 volts, that adds to the cost of the available solutions for an unproven benefit questioned even by the DNOs. The DNO requirements could be satisfied by fitting a three-phase smart meter to every low voltage feeder for load monitoring and to measure phase imbalance, voltage and power quality. The DCC or smart grid operator could then be alerted to any issues or failures.

31.4. If progressed, a more efficient 'last gasp' set of requirements would be as follows:

a. OP.3.1 The Smart Metering System shall support 'last gasp' communications to notify loss of energy supply.
b. OP.3.2 The Smart Metering System shall log the loss of electricity supply event, and send a time and date stamped alert to the DCC
c. OP.3.3 The Smart Metering System shall, once supply has been restored after an outage, send an alert to the DCC
d. OP.3.4 On restoration of supply after an outage, the Smart Metering System shall meet the requirements in IM.4.
e. OP.3.5 Any batteries or back up power source used to support OP.3 shall be suitable for the life of the Smart Metering System (e.g. a minimum of fifteen years) assuming one outage event per year, and batteries shall be field replaceable meeting the requirements of IM.7 and IM.9.
f. OP.3.6 An Authorised Party (via DCC) shall be able to send a command to each Smart Metering System to establish if the electricity meter is on supply and has an effective communications signal.

g. OP.3.7 The last gasp functionality shall be located within the same unit as the WAN transceiver.

31.5. A further option would be to assign the requirement to the Communications Service Provider, and include power provision during an outage within the requirements for the WAN transceiver that suppliers can then integrate into the communications hub. The cost of the provision of this service could then be included in the DCC / Communications Service Provider commercial offering.

31.6. We agree that the communications hub is the optimal component of the metering equipment in which to include the function.

Question 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

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32.1. For this to be viable it is critical that the appropriate incentives are in place to drive the solution that delivers the greatest value. Since we are not wholly persuaded by the estimated benefits this is likely to be the lowest cost. In principle, the requirement should be specified by the beneficiary (not the provider), who would normally also be the procurer. The separation of these two roles has already led to the over-engineering of the requirement in our view (see our answer to Question 31 above). The service provider has a stake in this and should be contractually incentivised to deliver the least cost solution.

32.2. We welcome the acknowledgement that communications hubs installed during Foundation should be exempted from the requirement. As we stated in our answer to Question 17 on IHDs, in order to manage the supply chain efficiently we would like a reasonable period of notice before an obligation to install communications hubs with outage detection took effect. Our suggestion would be twelve months.

32.3. This preferred approach is dependent on what primary technology is used by the DCC Communications Service Providers but should include the provision to power such a requirement. Whilst some providers offer last gasp solutions, they do not cater for the DNO outage requirements in OP.3 in the IDTS (inclusive of the three minute delay) and would require a communications hub to supply the power before sending an outage alert. This back-up power supply could be delivered as part of the WAN transceiver and then built into the communications hub. This approach would discourage Communications Service Providers from over-engineering last gasp solutions and provide incentives to produce elegant and efficient solutions.

32.4. The message, and the application that supports it, should be a standard approach from an agreed WAN application specification.

Question 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.

33.1. If confirmation of success is required there is an alternative monitoring method available through the DCC which, as part of business-as-usual, may be lower cost. We would like to see an exploration of the alternatives and benefits before this requirement is concluded

33.2. If progressed through the hub, it should be configurable to send an alert to the DCC when power is restored. The WAN network should be capable of dealing with all end points attempting to connect to notify the DCC when supply has resumed, and should also be prepared to cater for suitable retry mechanisms to allow for busy, or capacity-filled time during initial network restoration. This data should be available to be collected in a scheduled read, as this will provide all data on intermittent issues.

33.3. An alternative solution would be to 'ping' or 'wake-up' a communications hub in a known outage area to establish whether it is powered. This approach

would ease WAN capacity issues and keep running costs low.

Question 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.

34.1. Yes, we agree that this would be short-sighted and that the longevity of smart metering equipment is best-served by stipulating that the functions of the communications hubs cannot be fully-integrated into the electricity meter. To simplify installation, we see benefits in allowing a communications hub to be a modular attachment to the electricity meter where there is a dual fuel installation, or the electricity smart metering is installed first, or the premises is electricity-only. It is important that any such 'modular' approach should be external to the meter for the reasons described in our answer to Question 30. Communication should be via the HAN, as if it were fully-separated.

34.2. Given that there are substantial numbers of meters installed with integrated communications hubs, particularly in non-domestic premises, we think it is important that the DCC should offer terms to support meters of this type, which will ultimately be described as advanced meters.

Question 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 configuration of the Communications Hub?

Please explain your reasoning.

35.1. We agree with the criteria set out in the IA for assessment of the options and consequently also agree with the conclusion that the separate communications hub with a fixed WAN transceiver provides the best balance of risk, cost, support for Foundation and flexibility for suppliers (including gas first). A

'sub-module' within the communications hub would bring unacceptable delay, be technically challenging, add new security risks and testing overheads, put Foundation at risk and has no supporting business case.

35.2. Risk of delay: A separate WAN Communications module within the already modular communications hub would bring significant delay to the programme. No such solution could be delivered for the Foundation phase as we are advised (by BEAMA) that the technical effort required would have resulted in a much as two years' delay to the programme. This is because a new definition of interface points (between WAN module and the rest of the hub) would be required to determine what functions should exist on either side of that interface. This would include data, power, physical dimensions, security (both logical and physical) and communications. The definition of a high level protocol would not suffice; this would not be simply about building "a connector"

35.3. The technical challenge: From a design perspective, the extra level of modularity would necessitate a precise demarcation between the WAN and Non-WAN communications elements of the hub. WAN communications stacks are usually optimised around native technology solutions (allowing specific optimisations such as where data is buffered, memory caches, error recovery protocols, etc.). This is especially important from performance and reliability perspectives, so that the data processing applications can work with the technology being employed. It is likely that the optimum set up for different WAN communications solutions will vary and a generic hub that can cope with any technology would be sub-optimal for at least some of those technologies. We have been addressing these very issues as part of our programme, and our experience shows that with just a single technology this is highly challenging and requires significant development time.

35.4. Security: Current security risk models are based on a communications hub with an integrated WAN communications module. A complete review of the security risk assessment would be required in order to assure the security of a modular approach. It is conceivable that a tiered authentication model may be required and this could introduce new levels of complexity into an already

challenging domain.

35.5. Testing: Development, integration and testing needs to be undertaken but this cannot be progressed prior to the selection and appointment of those parties with whom we need to work to do this. A whole new programme of conformance and interoperability testing, including regression testing to all currently deployed hub architectures, would need to be introduced to minimise the risk of existing installations being destabilised by in-the-field WAN module replacement. We believe such development would take as long as two years, given our experience to date, and that multiple candidate technologies must be incorporated and optimised. A requirement for a universal communications hub could not be accommodated without delay to the Programme.

35.6. Economic analysis: The economic analysis has not fully considered the relatively short life of the communications hub itself or the cost and practicalities of visits to consumers' premises. Our expectation is that a communications hub will have a ten year life because of the speed with which technological developments progress and the likely need for additional processing capacity over time. Clearly a limited communications hub life has a fundamental impact on the level of avoided stranding costs associated with its avoided replacement. Whilst the inclusion of a modular WAN transceiver would increase R&D costs today, the avoided communications hub replacement costs would only materialise if a module needed to be replaced before the end of its economic life and, even then, would be limited to the value of its residual life. Further, the labour costs of an additional call out to replace a communications hub as it reaches the end of its natural life (after having previously replaced the WAN communications module) make it highly likely that industry will routinely replace the whole communications hub rather than the WAN communications module alone. It is exactly these economics that today drive the industry to replace the whole gas meter rather than just batteries.

35.7. In summary, it is clear to us that a universal communications hub is not a realistic prospect until some time after the implementation of the enduring

solution in 2014, and that provision of a universal communications hub in Foundation is an impossibility.

35.8. Whilst in most cases we would always argue that flexibility and choice is a good thing for suppliers and customers, we do not think that is appropriate when specifying the architecture of the smart metering equipment. It is futile and limiting to deliver differentiation through metering hardware (with the possible exception of the IHD). It would also frustrate competition and confuse customers. When a component requires replacement, or a single fuel has been installed, the missing or faulty components should have a defined functionality to enable consistent interconnectivity to prevail. Standardisation should also allow manufacturers to have a single-minded focus on driving down costs against a prescribed set of requirements.

Question 36. Do you agree there should be no restrictions on the 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.

36.1. The thorough work undertaken by the SMDG Working Groups confirmed that there is currently no HAN technology that fully satisfies the requirements of the UK for smart metering. Therefore, whilst the principle of adopting only internationally-recognised standards is sound, it is an inadequate qualification if none of those currently approved deliver the defined requirements for SMETS. The most important criterion should be that the standard is capable of development to meet the defined requirements, and that this can be achieved through an open, non-proprietary process. Recognition through the standards bodies listed in the question is important for longevity, and interoperability (and all the reasons covered in paragraph 137) and we accept that it is essential that the UK extensions that we know are required are adopted by one of the bodies mentioned. The HAN chosen by suppliers might not necessarily be a European Standard in 2011, but will be a work item for the Technical committees to enter into the M/441 standardisation

approach.

36.2. It is well-known that British Gas has invested substantial amounts of time and resources in reaching a decision on what HAN standard we should adopt for our smart metering equipment. Our conclusion was not reached quickly or decided on grounds of expediency; we believe that Zigbee is the only standard that delivers the requirements for security, openness, scalability, power consumption and cost. From the analysis we had done we would have been astonished if the HAN Working Group had reached a different conclusion.

36.3. Whilst we have confidence in Zigbee as a HAN solution for the majority of homes we do understand the difficulty that DECC is facing in making a final decision in support of a HAN standard. We do not believe that DECC can now make a decision without further consultation and analysis, given the position that it has adopted in this consultation. We also do not believe that industry can make a quick decision, for the following reasons:

a. The industry needs a clear mandate from either Government or Ofgem in order to be able to make such decisions without risking breach of competition law. This would require some form of Licence Condition that would take several months to enable.

b. There is no dual fuel industry body with associated governance and voting rights in place. It would be unacceptable to use a single fuel governance body because the decision would exceed the *vires* of that organisation and could result in bias or prejudice in favour of or against certain parties.

c. To set up and mobilise a governance body would take around 15 months in our view. We support the analysis undertaken by the ERA in this area.

d. It is clear that individual energy suppliers have differing approaches to implementation which will increase the difficulty in agreeing standards and finalising decisions. This is because each supplier will naturally want

to align the DECC Programme timeframe with their own internal plans. Therefore a supplier that does not want to start installing smart meters until later may seek decisions later. This is a natural dynamic of a competitive market such that one party may seek to prevent another from gaining competitive advantage through the early deployment of smart meters. This dynamic could also potentially see attempts by one or more energy suppliers to undermine, for competitive reasons, the technology choices that have been made by others.

e. Finally, British Gas would have reservations about the level of influence afforded to it over such critical design decisions. Since British Gas will be responsible for deploying around one third of all smart meters in the UK we would expect a level of influence commensurate with that share of the delivery.

36.4. For the reasons above, we do not believe that either industry or Government is able to make a decision in sufficient time for there to be a prescribed HAN solution for Foundation.

36.5. British Gas agrees, therefore, that the Foundation period should be used to inform the selection of HAN. In practice we believe that market incentives will lead suppliers to choose the most appropriate HAN. Energy suppliers will not want to invest in or deploy technology that is unlikely to work and manufacturers would not want to make it. If alternative technologies to those that the supply chain is already capable of delivering are sufficiently attractive, then the market would invest in proving their capability.

36.6. For the reasons explained above (paragraph 36.3.d) some energy suppliers may want to frustrate the ability of others to deploy smart meters in the Foundation phase. In terms of HAN, we can predict that interoperability will be cited as an issue. However;

a. To date, only two energy suppliers have committed to significant volumes of smart meter deployments in the foundation phase, British Gas and E.on. These two suppliers represent over 50% of UK customers and presently