Consultation Response

By email to smartmetering@decc.gsi.gov.uk

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12 October 2011

Smart Metering Implementation Programme
Department of Energy and Climate Change
3 Whitehall Place
London SW1A 2AW

Dear Sir/Madam

ELEXON's response to DECC's Smart Metering Implementation Programme: consultation on draft licence conditions and technical specifications for the roll-out of gas and electricity smart metering equipment (August 2011).

I welcome the opportunity to provide ELEXON Limited's views on the draft licence conditions and technical specifications for rollout.

We have answered the questions relevant to our expertise. Our responses are tabulated in the attached table. Having considered the consultation in its entirety we feel it is important to draw out the following points:

Compliance with Metering Requirements – SMETS and BSC Codes of Practice

A change to the BSC may be necessary to provide clarity with regards to metering compliance. The issue arises where a supplier elects to settle a non half hourly customer on a half hourly basis. Without a BSC change the metering system would be subject to the SMET and the BSC metering Code of Practice. We believe such duplication is unnecessary and could cause confusion.

To address this we suggest the Programme uses the Secretary of State's powers to modify Section L of the BSC to state that Smart Metering Equipment (as defined in the Electricity Supply Licence) needs to comply with the SME Technical Specification and that for such metering the requirements in the BSC CoPs do not apply. We will be discussing this issue shortly with BSC Parties but would be keen meet with you to explain the issue further and discuss the exact wording of any changes.

This is explained in more detail under question 24.

Assurance of the SMETS

We have previously shared with the Programme our experience of successfully managing and evolving a scalable assurance framework for overseeing the metering and settlement obligations for the electricity market and have shared our thoughts in relation to the specific questions regarding assurance of the SMETS. We would welcome the

opportunity to discuss further the principles and approach to the way assurance is currently being successfully managed for the industry and how this may apply, and indeed interact, with a smart assurance regime.

Consultation on draft licence conditions and technical specifications for the roll-out of gas and electricity smart metering equipment

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.

We agree that having a target date for completion allows industry to plan and manage their obligations. Setting and subsequently adhering to such a target is also vital for establishing the DCC's communications and data contracts, as without this certainty the overall costs of the roll out will increase. There is also clearly a need to meet EU obligations to complete the roll out by 2020. However setting a pre 2020 completion date will not of itself ensure the 2020 date is met.

We believe it is as important to identify and remove the barriers to a successful rollout. This can be achieved in part through learning from Foundation. Interim targets could emerge from plans submitted by Suppliers to help the Programme drive industry towards completion. However we recognise that it is more important to have a successful rollout that delivers the benefits rather than driving to meet a fixed timetable, particularly if issues with industry data quality emerge. It is also important to avoid introducing pressures that lead to Suppliers ignoring difficult installations to meet targets.

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.

Yes, but the Programme has yet to develop the detail relating to tracking and monitoring of the rollout and measuring the delivery of benefits. Having this in place would greatly increase confidence in achieving the target.

We have the following observation on the definition of Designated Premises:

The definition of Designated Premises refers to profile class 3 or 4 as defined in the BSC on [date]. With regards to future proofing these Licence conditions we highlight the ongoing work being carried out by the industry looking at mandating Half Hourly (HH) Settlement for all Metering Systems. If HH Settlement

becomes mandatory in the future then profiling will no longer be supported and the BSC references to profiling would be removed. Whilst this situation is covered by the inclusion of a specified [date] that relates the Licence definition to a version of the BSC at a specific point in time, this would enshrine a link to an archived document. In these circumstances it may be more appropriate to revise the definition of Designated premises in the Licence.

A second point we would like to raise in relation to this definition is that it refers to a Designated Premises rather than a Designated Metering Point. It could be possible for an individual premises to have several metering points which may fall within different profile classes e.g. some as profile class 3 or 4 and others as 5 to 8. Clarification as to which metering points the specific requirements for Designated Premises applies would avoid confusion.

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.

Yes, we can identify no reason why it would not.

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.

Yes. This would be the most practical approach to compliance and this is consistent with the way that the electricity industry treats metering requirements under the BSC.

It is important to clearly establish that any replacement meter must meet the version of the SMETS that is current at the time of the replacement.

There will also be circumstances in which part but not all of the metering equipment is replaced. This introduces the concepts of material and non material changes. Consideration should be made as to whether equipment should be required to meet updated versions of the SMETS in the event of a 'material change' to that equipment. From our experience it is important that the governance surrounding the SMETS allows for a determination to be made by an appropriate authority on a whether 'material change' applies.

Equipment must also meet any other relevant industry requirements that are defined in existing codes and

agreements.

Having managed these existing arrangements in the electricity market from pre NETA we would be happy to discuss our experiences with the SMIP.

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.

Yes. Although it would be sensible to describe what constitutes 'exceptional circumstances', even if this is just guidance.

For the enduring arrangements it is important that the governance surrounding the SMETS allows for a determination to be made by an appropriate authority that 'exceptional circumstances' apply.

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.

Yes. It forms the basis for compliant metering equipment to be installed from the given date.

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.

The obligation for interoperability is key to the success of the roll out. Without it commercial pressure will drive individual results that are likely to frustrate the long term goals for Smart Meters.

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?

Yes. They offer equal terms to an incoming supplier making it possible for the effective supplier transfer process.

Question 10

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

should such a mechanism have?

In terms of key features we believe that such matters should be dealt with under the Assurance framework that supports the Smart rollout (ideally captured under the Smart Energy Code). Initially the old and new Supplier should attempt to resolve the matter. However if there is a perception that equipment consistently does not meet the SMETS requirements then such equipment may need to be tested (using the same testing processes that are used for SMETS equipment approval). If the Assurance Framework has its own 'technical assurance' function the equipment can be investigated and the errant Supplier dealt with by the SEC Panel (or interim Governance body/Ofgem).

These processes work successfully now under the BSC and the BSC Panel have a range of corrective measures they can apply to deal with increasing levels of non compliance. However it will important to have clear records within registration of MPAN/MPRN to ensure the original 'installing Supplier' is known or whether material changes to equipment have been made.

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.

Yes. It is unlikely that a Smart Meter will bring any tangible benefit to these customers over an advanced meter.

Question 12

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

Yes, we can identify no reason why it would not.

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.

Yes, although this brings its own difficulties if the electricity and gas suppliers are not the same, however due to power constraints it would be most practical for the electricity meter to install first.

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.

Other than the need for possible re-visits by the gas supplier to commission and connect the gas Smart Meter to the Smart Metering System, we see no barriers.

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.

Providing that interoperability is not an issue then it would be reasonable to expect 'standard' products to be pre-installed in anticipation of the supplier.

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.

None identified.

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.

Yes.

Section L3.2 of the BSC sets out the requirement that all Metering Systems shall comply with the relevant Code of Practice (or where no Code of Practice applies, comply with Schedule 7 of the Act).

Different Codes of Practice (CoPs) apply to different types of Metering System. Currently where the maximum demand for a Metering System is greater than 100kW the consumption must be settled using a Half Hourly (HH) meter. The majority of smaller Metering Systems are settled Non Half Hourly (NHH), however Suppliers can choose to settle smaller premises in the HH market. CoPs 8, 9 and 10 are the relevant CoPs for those Metering Systems covered by the proposed licence conditions (Profile Classes 1 – 4).

CoP 8 'Metering of Import Active Energy via Low Voltage Circuits for Non Half Hourly Settlement Purposes'

CoP 9 'Metering of Import and Export Active Energy via Low Voltage Circuits for Non Half Hourly Settlement Purposes'

CoP 10 'Metering of Energy via Low Voltage Circuits for Settlement Purposes'

Those Metering Systems that elect to settle HH must comply with CoP 10 (or CoP 5 which has more stringent requirements for HH Metering Systems), whilst CoPs 8 and 9 apply to Metering Systems being used for NHH settlement.

CoP 8, 9 and 10 all refer to the requirements in Schedule 7 of the Electricity Act 1989 in relation to the accuracy of data. However there are additional requirements in CoP 10 which are currently required for HH settlement e.g. specific password protection. It is our view that the requirements in the SME Technical Specification will be more onerous than the current CoP 10 requirements and therefore we will not need Metering Systems to comply with any requirements over and above those in the SME Technical Specification to meet BSC obligations.

To allow Suppliers and meter manufacturers to have a clear view on which requirements they need to comply with, we believe that a reference should be added to Section L of the BSC stating that Smart Metering Equipment (as defined in the Electricity Supply Licence) should comply with the SME Technical Specification and that in these circumstance the requirements in the CoPs do not apply.

We will be raising this issue with industry participants to ensure we have taken their views into account. In the meantime we would ask that consideration be given to the Secretary of State designating this amendment to the BSC to ensure that appropriate changes are made to coincide with the Licence changes. We would be keen to discuss the exact wording of the changes with DECC at your convenience.

Question 24

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

In the longer term it may be appropriate to include all metering technical requirements under a single Code and Governance. The SEC, of which the SMETS should be a supporting document, seems a logical home for Gas and Electricity metering requirements related to smart.

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.

Requirement PC.7 states that 'the Smart Metering System shall store data used for billing and settlement purposes for at least 3 months'. We believe this would benefit from clarification. Non Half Hourly Settlement uses the readings from one or more cumulative registers, which cannot be cleared down. If the intention is to retain the final cumulative register readings on superseded meter configurations (for example, following a concurrent change of Supplier and configuration change), then it would seem a reasonable requirement to allow 3 months for these readings to be retrieved.

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.

Yes, the SEC is the logical home for SMETS and provides governance. This ensures there is no further proliferation of industry Codes and governance structures. The SMETS can be an appendix or 'SEC subsidiary document'. This process works well for existing industry Codes where the overarching Code states the obligations (the what) and the subsidiary documents contain the technical or process detail (the how). However there will need to be careful consideration for the change mgmt processes associated with these (e.g. restriction on changing security requirements).

In the interim the SMETS could be adopted under an early SEC alongside any other additional documentation that may emerge from the Programme to support obligations or smart requirements prior to Mandated rollout. The Programme, Ofgem or existing code managers can quickly provide an existing framework for governance.

Question 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).

Introducing separate network registers (and thereby decoupling the consumption data used for network charging purposes from that used for customer billing and settlement) would represent a significant change to the contractual relationship between Suppliers and Distributors, and the overall design of the retail electricity market. The consequential effects would need to be carefully considered, as licences and codes are currently

drafted on the assumption that settlement data is the authoritative record of consumption, and should also be provided to Distributors for network charging purposes:

> The BSC includes provisions for providing consumption data (for individual Metering Systems in the Half Hourly market, or aggregated data in the Non Half Hourly market) to relevant Distributors. This includes the Distributor to whose network the customer is connected, but also any 'upstream' Distributors whose networks are used to convey power to the customer.
> The Distribution Connection and Use of System Agreement (DCUSA) requires Suppliers to provide consumption data to Distributors, and Distributors to use that data for charging purposes.
> Settlement data provided under the BSC and the DCUSA is used as the basis for loss reporting by Distributors (and the calculation of Line Loss Factors for settlement and charging purposes).

These arrangements would require significant change to allow Distribution Use of System (DUoS) charges to be levied using network register data (collected and processed separately from the Supplier tariff registers used for settlement and customer billing). The new arrangements would need to include safeguards to ensure that Suppliers could challenge the data used in DUoS billing (in the event that data processing errors led to erroneous charges).

An alternative approach to providing this functionality would be to move towards Half Hourly settlement (either for all customers, or for those where the Distributor has a particular need to influence demand load). This approach would improve the accuracy of settlement, while allowing Distributors to be provided with the aggregated data required for charging purposes. The Profiling and Settlement Review Group (PSRG) is a working group established under BSC governance to investigate the impact of advances in metering technology (including smart metering) on settlement, and has recently consulted parties on the costs and benefits of Half Hourly metering for smart metered customers.

Question 54

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

Yes – We believe that an assurance framework is extremely important, particularly to ensure the delivery of the required functionality, interconnectivity, interoperability and security of Smart Metering Equipment. In addition, settlement under the BSC is reliant on the metered data collected from the Smart Metering System. Therefore the accuracy of this data is key to the accuracy of settlement. The BSC would need to place reliance on any assurance carried out in relation to Smart Metering Equipment, for example meter testing or audit

processes.

In order to determine the level of assurance required, we believe a risk based approach should be used. A risk based approach was introduced into the BSC in 2008 and has enabled us to focus Performance Assurance Techniques in areas which present the most risk to industry. In order to assess the risks, all potential risks should be documented and given an impact and probability rating to determine their gross significance. Controls that are built in to the process can then be applied in order to produce the net significance of each risk. Controls which may be relevant in this case may include Measurement Instrument Directive (MID) as all Metering Systems with a maximum demand of less than 100kW are required to undergo MID testing.

We believe that prior to the DCC go live the main area of risk is the Metering System itself i.e. that the Metering System is compliant with the Technical Specification and therefore delivers the required accuracy and reliability, interconnectivity, interoperability and security. Other areas of risk relate to the relationship between the Metering System and the current market players. Risks relating to these communications are already covered under current industry codes and therefore SMIP should be able to place reliance of some of the activities already carried out e.g. technical assurance and audit under the BSC.

Question 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.

Yes – The Technical Specifications have been produced to ensure that all Smart Metering Systems deliver the required functionality and they meet the requirements for interoperability and security. As this functionality has been developed in order to address key risks in the Smart Metering Implementation Programme, it is important that all Smart Meters meet the requirements and demonstrate the required functionality. Under the BSC all Metering Systems are required to comply with, or exceed the requirements set out in the relevant Code of Practice. In order to demonstrate this compliance all new HH Meter types are required to undergo compliance testing (as set out in BSCP601 'Metering Protocol Approval and Compliance Testing'). Compliance testing is carried out for HH Meters only which covers approximately 45% of the energy consumption being measured. Compliance testing is not carried out for NHH meters as these are subject to MID testing outside of the BSC. The BSC therefore places reliance on the MID testing as this goes further than the BSC minimum requirements.

Once it has been determined that a Meter type is compliant with the relevant CoP it can be used for settlement purposes. On installation the Metering System undergoes commissioning tests as set out in CoP 4 'The

Calibration, Testing and Commissioning Requirements of Metering Equipment for Settlement Purposes'. Proving tests are also carried out for HH Metering Systems to confirm that the meter can be read via the communications link. We would expect similar testing to be carried out for Smart Metering Systems both during foundation and the enduring phases to ensure that data can be sent both from and to the Smart Metering System.

In addition to the specific testing of the Metering Systems functionality; the BSC also provides for Qualification testing of industry participants to ensure that they can meet the requirements of the BSC and carry out the processes defined under the BSCP. As part of our delivery of the BSC we will be considering what, if any, changes need to be made to the qualification self assessment document and testing to ensure that new market participants can meet their BSC requirements. This may require re qualification in certain situations. However the expectation is that any changes would be minimal. In relation to the enduring process; SMIP may want to consider whether specific qualification testing is required for market participants wishing to communicate with the DCC. This could help to mitigate risks relating to the security of the overall communications systems.

Question 56

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

The consultation document refers to three different options: market led; mandatory industry code and body; or certification/accreditation. We firmly believe that a testing regime is a key part of the required assurance regime and that this should be mandated by the relevant industry code. This will ensure that assurance is governed independently and is set at an appropriate level based on the associated risks. Our view is that the SEC would be the ideal place to include provisions around this testing regime. In addition we note that a central assurance regime may reduce the need for individual parties to carry out their own testing or audit processes, which could have particular benefits for small parties.

In order to deliver a central regime, tests are carried out by the industry participant and witnessed by the appropriate assurance body. This is the approach which we recently introduced under the BSC within the Unmetered Supplies market to ensure that Central Management Systems (CMS) are meeting the requirements within the system specification. A CMS is a new technology recently introduced to allow individual street lamps to be remotely switched on and off. The information from the CMS can therefore be used to more accurately represent the consumption used by individual street lamps on a HH basis. ELEXON works closely with CMS manufacturers to ensure their systems are fit for purpose and any non compliances are resolved before the

system is used to provide data into settlements.

A centrally governed testing regime may also include an element of certification/ accreditation. For example the delivery of the testing regime may use approved bodies or test houses to certify that the meters are compliant with the requirements. This is similar to the arrangements under the BSC where meters undergo compliance testing by approved test houses and ELEXON independently verify the results and provide a certificate of compliance for approved meter types.

Question 57

Do you think that a different approach to assurance is necessary for the Foundation and enduring phases? Please explain your answer.

We believe that the same approach to assurance is required for the foundation and enduring phases i.e. a risk based approach considering the impacts and probability of instances occurring. However it is likely that the delivery of the assurance regime will differ between foundation and the enduring phase as there will be different issues in the market. For example during foundation additional checks may be required to assess the interoperability of Metering Systems. However during the enduring process the key risks may focus on the DCC and the relationship between this central body and the relevant Suppliers and Metering Systems using its services.

The BSC assurance framework is reviewed each year, which gives flexibility as the settlement arrangements, risks, risk appetite and necessary controls change over time. We therefore change the deployment of relevant mitigating techniques accordingly to maintain an efficient assurance delivery.