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Smart Metering Implementation Programme -
Regulation
Department of Energy & Climate Change
Orchard 3
Lower Ground Floor
1 Victoria Street
London
SW1H 0ET

Our Ref:CJA

Your Ref:

February 14, 2014

Dear Sirs

Consultation on New Smart Energy Code Content (Stage 3)

Northern Powergrid is the electricity distribution (DNO) business for the Northeast, Yorkshire and parts of northern Lincolnshire, operating through its two licensed subsidiaries, Northern Powergrid (Northeast) Ltd and Northern Powergrid (Yorkshire) plc.

We are grateful to the Department of Energy and Climate Change (DECC) for the opportunity to comment on its consultation on New Smart Energy Code (SEC) Content (Stage 3). Our responses to the specific questions raised in the consultation are contained in Appendix 1 to this letter along with the rational that supports our views where appropriate.

Northern Powergrid remains committed to supporting the evolution of the SEC, the technical development of the DCC arrangements and the smart Meter Implementation Programme as a whole.

Thank you for the opportunity to respond to this consultation.

Yours faithfully

Appendix 1: Northern Powergrid's responses to the consultation New Smart Energy Code Content (Stage 3)

Question 1	Do you agree with our proposed approach and text for the SEC with respect to the Policy Management Authority? Please provide a rationale for your views. (the PMA is the SKMI Policy Management authority)
	Yes, we agree.
Question 2	Do you agree with our proposed approach to securing the timely appointment of PMA members? Please provide a rationale for your views. Proposal includes a Public Key Infrastructure (PKI) specialist.
	Yes, we agree.
Question 3	Do you agree with our proposed approach and text for the SEC with respect to provision of the SMKI Service? Please provide a rationale for your views.
	Yes, we agree, however it would be helpful if clarification could be provided regarding which users will be required to have a Hardware Security Module.
Question 4	Do you agree with our proposed approach and text for the SEC with respect to SMKI Assurance? Please provide a rationale for your views.
	Yes, we agree.
Question 5	Do you agree with our proposed approach and text for the SEC with respect to the Device Certificate Policy? Please provide a rationale for your views.(and appendix document)
	Yes, we agree.
Question 6	Do you agree with our proposed approach and text for the SEC with respect to the Organisation Certificate Policy? Please provide a rationale for your views. (and appendix document)
	Yes, we agree. The Organisation Certificate Policy is a reasonable approach that is consistent with the suite of proposals being put forward.
Question 7	Do you agree with our proposed approach to parties using the SMKI service, including by Opted Out Non-Domestic Suppliers? Please give a rationale for your views.
	Yes, we agree with the proposed approach as it is in line with industry standards and covers the scalable nature of the user landscape.
Question 8	Do you agree with our proposed approach for the SEC with respect to Liabilities, Warranties and Indemnities? Please provide a rationale for your views.
	Yes, we agree. It would be helpful, however, to clarify whether any physical damage to a meter, loss of data, or compromising of an Organisation Certificate, that takes place either as a result of the DCC communications infrastructure or the meter equipment not operating as designed/specified would be

	considered to be an event that triggers the activation of the liability clauses. Specifically, would any failure of the DCC security model, or hardware systems, that allows commands to be executed (following either deliberate or unintentional actions) by Service User parties who, according to the overall security model ought not to be able to execute said commands, count as a qualifying SEC breach event?
Question 9	Do you agree with our proposed approach and text for the SEC with respect to the SMKI Repository? Please provide a rationale for your views.
	Yes, we agree with the approach as it forms part of a logical approach to key management.
Question 10	Do you agree with our proposed approach and text for the SEC with respect to SMKI Recovery Processes? Please provide a rationale for your views.
	Yes, we agree and consider that the SMKI recovery process that has been proposed and discussed is in line with normal practise for key management. We look forward to providing a more substantive comment in due course once the detail of the recovery process is published.
Question 11	Do you agree with our proposed approach and text for the SEC with respect to SMKI and Repository Testing? Please provide a rationale for your views.
	We would recommend that in order for 'real-world' multi-party access to be tested, more than one DCC Service User role should be involved in the End-to-End/Enduring testing. In ENA/DECC discussions held on 29 October 2013 in advance of the publication of the Government's response to its testing consultation, the ENA members raised the issue of whether one user's access to a meter that occurs concurrently to the activity of other users on the same meter might give rise to interference between users. Views were also expressed by ENA members that multi-user concurrent meter access is a scenario that should be tested by DCC, and that they would welcome visibility of the DCC's Testing Plan so that it can be ascertained if there are simultaneous multi-user scenarios being considered for inclusion in the plan. DECC took an action from this meeting to consider this issue and how it might be helpful to include these scenarios in testing plans.
Question 12	Where appropriate, when do you consider your organisation will first need to obtain live Device and Organisation certificates to be placed on Devices ordered from manufacturers? This will help to determine when the SMKI Service and SMKI Repository should Go Live. Please provide a rationale for your views.
	We have a requirement to receive Device and Organisation certificates prior to the notification from the DCC of a device's connection to the physical electricity distribution network, i.e. at installation by the

	Supplier's Nominated Agent. The live device and organisation certificates would be required prior to installation and enrolment upon the system so that the chances of compromising the device are reduced during the commissioning activity.
Question 13	Do you agree that Large Supplier Parties should be obliged under the SEC to be ready to participate in SMKI and Repository Testing? Please provide a rationale for your views.
	Yes, in order to gain sufficient confidence in the satisfactory secure operations of the SMKI to provide assurance to the SMIP as a whole, it would seem prudent that all Large Supplier Parties should be compelled to be ready to participate in SMKI testing.
Question 14	Do you agree that it is sufficient for only one large Supplier to complete SMKI and repository testing for the SMKI Service and repository to have been proved? Please provide a rationale for your views.
	No, we believe that the critical path through testing should involve at least two large suppliers and one network operator. Our reasons for holding this view are that: 1) SMKI is a critical element of the smart metering infrastructure without which Service Requests and Responses cannot be sent. 2) Testing therefore needs to reflect the 'real-world' functionality and be able to ensure multi-party access of the smart metering system. 3) The previous Testing Consultation, consulted on the sufficiency of just two Large Supplier Parties completing the User Entry Process Testing during the Interface Testing stage. The ENA response to the consultation advised the following: "While our members agree that a minimum of two Large Supplier Parties must have completed the User Entry Process Testing during the Interface Testing stage, they do not believe this was enough as a minimum requirement in general. In addition, we expect that parties from other stakeholder groups should also have completed User Entry Process Testing during the Interface Testing stage. The critical path through testing should involve at least two large suppliers and one network operator and the 'essential' business processes included in User Entry Processes should not be confined to suppliers." Our view is the same as that articulated by the ENA in 2013. In particular, we believe that the participation of only one Large Supplier is likely to be insufficient for the SMKI to have been proven. At least two large Suppliers and one network operator are necessary since we need to be able to assure ourselves that the SMKI arrangements can support not just 'sunny day' activities (i.e. update activities on meters involving one Supplier etc.) but 'rainy day' activities (such as those involving a change of Supplier etc.) as well.

Question 15	Do you agree that the SMKI entry processes should be aligned with the User Entry Process Testing in relation to the DCC User Gateway and Self Service Interface? Please provide a rationale for your views.
	Yes, we agree that SMKI entry processes should be aligned to User Entry Process Testing. This is because the critical dependency on certification services makes it vital to ensure this element is successfully tested during User Entry Process Testing, i.e. at the outset of access to the DCC User Gateway. Furthermore, given that SMKI processes will be required to work in the 'real-world' in concert with User Gateway activities, the entry processes should be aligned such that once basic User Gateway testing has taken place this can then be tested with the SMKI wrapper applied. This should allow these critical dependencies to be validated at the earliest possible opportunity.
Question 16	Do you agree with our proposed approach and text for the SEC with respect to the Location of System Controls? Please provide a rationale for your views.
	Yes, we agree that supply-affecting operational activities should be based within the UK. It would be helpful however if the text of the SEC could be enhanced to specify the energy control systems' functions and boundaries as explicitly as possible. The reason for our additional comment, above, is that we believe that the SEC3 text as currently written has the potential to be misinterpreted. Specifically section 187 of SEC3 states, "this should not affect the corporate billing systems or the customer support and call centre systems but should be limited to discrete functions that send a supply-affecting Service Request". The widespread use of IT outsourcing means that in our view there is the potential for commands to be initiated and error-handling to be completed in 'back-end systems' overseas, with service requests being queued and generated in the 'discrete system' based in the UK and then issued without any validation or verification. We believes this interpretation would comply with the legal form of the SEC 3 wording but not the spirit of what was intended; i.e. that control of the supply of energy would be managed from premises within the UK, with personnel initiating and ensuring the successful execution of the requests also being based in the UK.
Question 17	Do you agree with our proposed approach and text for the SEC with respect to the Obligations for Cryptographic Material? Please provide a rationale for your views.
	We agree with the proposed approach; however we believe it may need to be modified slightly in order to be more reflective of the involvement of different service users. In particular, we note that in section 190 of SEC3 under the heading 'Storage of Cryptographic Material' only large and small Suppliers are

	referred to. Similarly under the heading of 'Key Storage and Protection' the DSP Interface Code of Connection documents advise that 'The latest Smart Energy Code v3 proposals indicate that for larger Energy Suppliers that this will be within a Secure Hardware Security Module (HSM) certified to FIPS 140-2 level 3.' Network operators are not mentioned within these portions of either document and so we would welcome clarification on the applicability of these obligations to DNOs.
Question 18	Do you think that it is important that MOPs / MAMs are able to access DCC services directly? Please provide a rationale for your views.
	No comment.
Question 19:	Do you have any views on the possible options identified for MOPs / MAMs to access DCC services? Please provide a rationale for your views.
	We have no specific comments on the options, however if MOPs / MAMs are to have direct access - the issue of liabilities will obviously need to be addressed. Given the proposed position outlined in the SEC3 draft regarding SMKI liabilities etc., as a general principle it would seem appropriate for every user of DCC services to be individually identifiable and therefore capable of being held accountable for the its service use and the execution of commands. The individual identification of service users and the application of the proposed liability obligations may mean that every user should have to have acceded to the SEC in its own right. Other approaches, particularly if nominated agents act for more than one supplier, could run the risk of there being significant differences of opinion between associated parties regarding the responsibility for any potential SEC breaches initiated by an SNA. We accept that there should be a way of managing liabilities via the SEC party that has provided access to DCC services for the SNA in question, but in practice the allocation of responsibilities and accountabilities where shared access is taking place might be difficult to pin down.
Question 20	Are there other options which should be considered for MOPs/MAMs to access DCC services? (relates to supplier nominated agents)
	No comment.
Question 21	Do you agree with our proposed text for the SEC with respect to Test Phasing, consistent with our decisions on testing arrangements detailed in our recent consultation response? Please provide a rationale for your views.
	Yes, we agree. The approach outlined in the testing consultation response is consistent with the approach laid down in the SEC.

	Furthermore the phasing approach being proposed is logical since it starts by first testing 'core' activities, being DSP and CSP interactions, and then gradually extending out from this core to bring in other activities / entities in the order in which they would be expected to interact with this DSP/CSP 'backbone'.
Question 22	Do you agree that the term 'Enduring Testing' should be used to encompass both the End-to-End and Enduring Test stages in order to assist comprehension and simplicity? Would the consequential removal of the terms 'End-to-End Testing' and 'User Integration Testing' cause confusion or be undesirable, such that we should reinstate this terminology? Please provide a rationale for your views.
	We believe there is a possible implication to changing the terminology used, in that 'Enduring Testing' does not imply multi-party concurrent testing, in the same way that the term 'End-to-End Testing' does. Any change and subsequent reinstatement could cause confusion and be undesirable; noting that Enduring means 'long-lasting', whereas end-to-end means covering the 'start to the finish'. Furthermore, in the context of the testing consultation response, end-to-end testing is described as involving multi parties and, crucially, extends into Service Users' own systems. Enduring testing implies a permanent testing facility, but doesn't give any insight into how many parties may be included or how actively such parties may be involved. I.e. an enduring testing system may be provided by a third party that passively provides the test system but does little more than that. In our view, the two terms if consolidated could cause unnecessary confusion and uncertainty and therefore would not be welcome.
Question 23	Do you agree with the proposed approach to include the Projected Operational Service Levels within the SEC? Please provide a rationale for your views.
	We welcome visibility of the contracted services, i.e. the range of transaction volumes at different profiles, and would welcome a formal modification process in consultation with DCC Service Users. However we need further detail before we are able to make a fully informed response as to whether the optimum way of demonstrating test objectives have been met is to capture operational service levels within the SEC itself. We also recognise that care would need to be exercised with regards to the articulation and establishment of these service levels such that SEC parties could clearly understand the projected levels of performance that are set out. Furthermore, if service levels were included in the SEC, it follows that the SEC may also need to include details of how the mechanism for recording testing performance against such service levels will be established, and how such information will be published. In addition, it would also be necessary to articulate the details of the escalation that would be followed should actual tested service levels not meet the projected performance. This last point is fundamentally important because, from a Service User

	perspective, operational performance is likely to be a matter of great interest since the value of some alerts and alarms will be significantly diminished if operational performance is materially degraded compared to expectations. The presence of an escalation mechanism that can ensure that test (and by association, live) operational service levels can be met is therefore crucial.
Question 24	Do you agree with the need for an issue resolution process in testing? Does the proposed process meet that need? Please provide a rationale for your views.
	Yes, the visibility of outstanding test issues enables efficient assignment of test resources and more informed decision making regarding system defect resolution. An escalation process also provides visibility of Service User issues and priorities, where not sufficiently understood.
Question 25	Do you agree with our proposed text for the SEC with respect to Issue Resolution? Please provide a rationale for your views.
	No, we believe that an escalation route is required for Category 1 and 2 appeals. The arrangements as proposed suggest that we would not be able to influence the initial priority or severity classification of an issue and then have just one opportunity to appeal, with no ability to escalate. We are concerned if our understanding of the proposed arrangements is correct. In our experience priority classifications are best set via a dialogue between the party lodging an issue and the party trying to resolve it; however we occasionally find situations can arise when the party lodging the issue has to insist on a particular level of priority being allocated. If different priority classifications have different target resolution timescales, there is a risk that resolution performance can be influenced via parties trying to 'manage' their performance statistics, rather than by addressing the most serious issues first. We believe that service users must be able to influence the priority classification - hence the need for an escalation mechanism following a category 1 appeal. The absence of an escalation route for category 1 and 2 appeals appears to run the risk that more resolutions could be appealed via the category 3 route (which seems to be intended for only the most serious issues) than would otherwise have been the case had they been capable of being resolved via a category 1 or 2 escalation. In addition, we note that the SEC states that the DCC must ensure that information on testing issues is made available to all users via publication on its website. In the context of the requirement to ensure that all aspects of the smart metering communications service are secure and that messages to and from smart metering equipment are protected through the use of public key cryptography, we would welcome visibility of whether the DCC intends to publish this information on a publicly accessible website. We would be wary of placing this information into the public domain since

	it could provide clues about smart metering security arrangements that might prove useful to those wishing to hack or otherwise compromise or interfere with the smart metering systems. We recognise that it may be useful to share some testing related information amongst Service Users. In these circumstances we would prefer it to be shared via a secure mechanism. In addition, in the event that some obligations to share information on the DCC's website cannot be avoided; for example, the independent auditor's System Integration Testing 'exit criteria' report. We would support such a report either, containing the auditor's opinion only (i.e. being silent on the tests that the auditor has undertaken), or having two versions; one for public dissemination and one for industry stakeholders only.
Question 26	Do you agree with our proposed text for the SEC with respect to Equipment Testing, and configuration of enrolled Smart Metering Systems? Please provide a rationale for your views.
	No, we believe that notification is required prior to the certification of any equipment expiring and prior to the 'suspended' status in the Smart Metering Inventory being assigned, rather than being informed subsequently. We would be concerned that data being stored within registers and logs on the meter could be lost without prior warning of the termination of the service. The approach being proposed appears to be a little severe as it provides the relevant parties with no advance warning of the course of action being proposed and limited means of recognising that they need to take urgent action in advance of a prescribed deadline. Furthermore, this could unnecessarily disadvantage customers or Service Users, for example access to last gasp messages, voltage alerts, alerts regarding credit status for pre-payment meters, attempts at unauthorised physical access etc., would not be available.