



Department
of Energy &
Climate Change

Smart Metering Implementation Programme

A Consultation on New Smart Energy Code Content (Stage 2)

17 October 2013

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General information

Purpose of this consultation:

This consultation will help inform the content of the second stage of the Smart Energy Code, which sets out provisions that govern the end-to-end management of Smart Metering in Great Britain.

Issued: 17 October 2013

Respond by: 29 November 2013

Enquiries to:

Smart Metering Implementation Programme - Regulation
Department of Energy & Climate Change
Orchard 3, Lower Ground Floor

1 Victoria Street

London, SW1H 0ET

Telephone: 0300 068 5953

Email: smartmetering@decc.gsi.gov.uk

Territorial extent:

This consultation applies to the gas and electricity markets in Great Britain. Responsibility for energy markets in Northern Ireland lies with the Northern Ireland Executive's Department of Enterprise, Trade and Investment.

How to respond:

Your response will be most useful if it is framed in direct response to the questions posed, though further comments and evidence are also welcome.

Responses to this consultation should be sent to smartmetering@decc.gsi.gov.uk no later than 29 November 2013.

Additional copies:

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Other versions of the document in Braille, large print or audio-cassette are available on request. This includes a Welsh version. Please contact us under the above details to request alternative versions.

Confidentiality and data protection:

DECC intends to summarise all responses and place this summary on our website at www.decc.gov.uk/en/content/cms/consultations/. This summary will include a list of names or organisations that responded but not people's names, addresses or other contact details. In addition DECC intends to publish the individual responses on its website and you should therefore let us know if you are not content for the response or any part of it to be published. We will not publish people's personal names, addresses or other contact details. If you indicate that you do not want your response published we will not publish it automatically but it could still be subject to information requests as detailed below.

Further, information provided in response to this consultation, including personal information, may be subject to publication or disclosure in accordance with the access to information legislation (primarily the Freedom of Information Act 2000, the Data Protection Act 1998 and the Environmental Information Regulations 2004).

If you do not want your individual response to be published on the website, or to otherwise be treated as confidential please say so clearly in writing when you send your response to the consultation. For the purposes of considering access to information requests it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded by us as a confidentiality request.

Quality assurance:

This consultation has been carried out in accordance with the Government's Code of Practice on consultation, which can be found here:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/60937/Consultation-Principles.pdf

If you have any complaints about the consultation process (as opposed to comments about the issues which are the subject of the consultation) please address them to:

DECC Consultation Co-ordinator
3 Whitehall Place
London SW1A 2AW
Email: consultation.coordinator@decc.gsi.gov.uk

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1 Executive summary

1.1 A New Industry Code

- 1 Smart Meters are the next generation of gas and electricity meters. They will offer a range of intelligent functions and provide consumers with more accurate information, bringing an end to estimated billing. Consumers will have near-real time information on their energy consumption to help them control and manage their energy use, save money and reduce emissions.
- 2 On 23 September 2013, a new licensed entity, the Data and Communications Company (DCC), was established. Together with its sub-contractors, the Data Service Provider (DSP) and Communications Service Providers (CSPs), the DCC will provide a Smart Meter communications service. The DCC will offer a means by which Suppliers, Network Operators and others can communicate remotely with Smart Meters in domestic premises in Great Britain.
- 3 The Smart Energy Code (SEC) is a new industry code which has been created through, and comes into force under, the DCC Licence. It is a multiparty contract which sets out the terms for the provision of the DCC's Smart Meter communications service, and specifies other provisions to govern the end-to-end management of Smart Metering.
- 4 The DCC, Suppliers and Network Operators are required by licence to become a party to the SEC and comply with its provisions. Other bodies who wish to use the DCC's services, such as energy efficiency and energy service companies, must accede to the code to do so.
- 5 Consistent with other industry codes, the SEC is self-governed, enabling participants to raise change proposals, debate issues, and resolve disputes without the need for day-to-day regulatory intervention. It is managed by a Panel of experts with oversight where appropriate from Ofgem.

1.2 The Next Stage of the Code

- 6 SEC content is being introduced in stages, so that it is in place when the DCC and DCC Service Users need it. Stage One of the SEC (SEC1) was introduced to deal with matters that are required to support the initial operations of the DCC.
- 7 Stage Two of the SEC (SEC2) addresses a number of important areas required to aid design, build and test of systems in the run up to Systems Integration Testing (SIT). This consultation sets out the proposed legal text for this new content covering:
 - the establishment of a **Technical Sub-Committee** to provide the SEC Panel, Change Board and Working Groups with, amongst other things, support and advice in respect of modification proposals, and disputes related to the Technical Specifications and wider End-to-End Technical architecture;

- the design, development, and use of the interface between the DCC and those bodies providing **registration information** (Registration Data Providers);
- the connection to and use of the **DCC User Gateway**, by DCC Users;
- the rights DCC Users have to request, schedule and sequence services across the DCC User Gateway, in accordance with their entitlements to do so as set out in the **DCC User Gateway Services Schedule**;
- the steps that must be followed by the DCC and DCC Users to **process User Gateway service requests**, responses and alerts;
- the requirements for the DCC to provide **Parse and Correlate** software to enable DCC Users and other persons to understand certain communications sent to them by the DCC over the DCC User Gateway;
- the maintenance of a **Smart Metering Inventory** which will list all the devices that are enrolled, or are intended to be enrolled as part of a Smart Metering System with the DCC, or which have subsequently been withdrawn or decommissioned;
- processes and rules regarding **the enrolment of Smart Metering Systems, and decommissioning and withdrawal of devices**;
- the requirements of the interface between the Communications Hub and either the electricity meter or a hot shoe (**the Intimate Communications Hub Interface Specifications (ICHIS)**);
- the management of the DCC's IT systems, processes and procedures in order to underpin the delivery of services to DCC Users (**Service Management**);
- **incident management**, providing for the identification and management (by both the DCC and DCC Service Users) of any event which may hinder the provision of Services by the DCC under the SEC;
- the provision of a **Self-Service Interface**, a portal that enables DCC Service Users to search for information on DCC services, and access the incident management log;
- the provision of a **Service Desk**, a secondary communications channel for DCC Service Users should they be unable to resolve their query, or log an incident, via the Self Service Interface;
- reporting of **Code and Service Performance Measures and change management of Service Performance Measures**; and

- a set of controls that each party will be required to implement to protect the **security of the end-to-end Smart Metering System**.
- 8 In addition to the SEC2 content listed above the document consults on:
- the proposed policy for **charging arrangements relating to Communications Hubs**; and
 - SEC drafting that is designed to support **Communications Hub Financing**.
- 9 The final chapter of this document summarises the key aspects of the commercial model within which the DCC Licensee and its Service Provider contractors now operate. This information reflects arrangements that have been variously implemented in the SEC, DCC Licence and Service Provider contracts. It is brought together in this document for the convenience of the wider readership

1.3 Future SEC Development

- 10 Where we are consulting on legal text, further work will be undertaken with industry over the next couple of months to develop a timetable for its delivery into the regulatory framework. This will be set out in more detail in the New Year as part of the Government's response to this consultation.
- 11 Further consultations will follow setting out proposed text for outstanding content required in the SEC. An overview of future consultations and outstanding SEC content is set out in the introduction and Annex 2 of this document.

2 Introduction

2.1 The Regulatory Framework for Smart Meters

- 12 We aim for all homes and small businesses to have smart meters by 2020. In order to support this, we are utilising powers in the Energy Act (2008) to modify the rules set out in legislation, licence conditions and industry codes that determine how the gas and electricity markets operate.
- 13 We have recently introduced two important components of the regulatory framework for Smart Meters. The award and commencement of the DCC Licence introduced a new licensed entity into the energy market. Following this we designated Stage 1 of the Smart Energy Code (SEC). The SEC is the first 'dual fuel' code to be designated and apply from the outset to gas and electricity market participants. The commencement of the DCC Licence and designation of the SEC each mark a significant milestone in the rollout of Smart Meters.

The DCC Licence and Service Provider Contracts

- 14 On 20 September 2013 Smart DCC Ltd, a wholly owned subsidiary of Capita PLC, was awarded the Licence to provide smart metering communication services following a competitive process carried out under the Electricity and Gas (Competitive Tenders for Smart Meter Communication Licences) Regulations 2012¹.
- 15 The Licence commenced on 23 September 2013 and has been granted for a 12 year term (subject to any extension or revocation made under either Parts 1 or 2 of the Licence).
- 16 We have previously consulted on a draft of the DCC Licence, and published our conclusions in November 2012². The full Licence is available for reference³.
- 17 In addition to the award of the Licence, CGI IT UK Limited, Arqiva Limited and Telefónica UK Limited have signed contracts with Smart DCC to operate a data and communications infrastructure that will link Smart Meters in homes and businesses with the business systems of Suppliers, Network Operators and energy service companies.
- 18 CGI will fulfil the data service provider ('DSP') role for the DCC, whilst Arqiva (northern region) and Telefónica (central and southern regions) will provide communications service provider ('CSP') services across Great Britain.
- 19 The DCC can now start to develop its infrastructure and services, coordinating the activities of its Service Providers and engaging with future DCC Service Users in a major implementation phase leading up to the commencement of mass rollout, planned for late 2015.

¹ <https://www.gov.uk/government/news/award-of-smart-meters-dcc-licence>. The licence actually comprises a licence under the Electricity Act 1989, and a licence under the Gas Act 1986, with one set of shared conditions. For simplicity it is referred to in this document as a single licence.

² <https://www.gov.uk/government/consultations/smart-meter-data-and-communications-company-dcc-licence-conditions-and-licence-application-regulations-data-and-communications-company-dcc-licence-conditions-and-licence-application-regulations>

³ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/245391/smartdcc.pdf

- 20 With the grant of the DCC Licence, Smart DCC has become a licensed entity, regulated by the Gas and Electricity Markets Authority (otherwise referred to as 'Ofgem').
- 21 This means that enforcing compliance with licence conditions, the ex-post review of the DCC's costs and various other regulatory responsibilities will rest with Ofgem including, on an enduring basis, the ability to modify the conditions of the Licence.
- 22 In addition, the Secretary of State retains the power to modify the conditions of the DCC Licence until November 2018 using powers under Section 88 of the Energy Act (2008), subject to a statutory process of consultation and Parliamentary approval.
- 23 The Secretary of State also has a number of interim powers under the Licence, including the approval of the initial form of content of certain documents (for example the form of the DCC's charging statement) and the ability to determine changes to plans associated with implementation. However, these powers, like the Section 88 powers, fall away in November 2018 (or earlier, in the case of some of the powers).
- 24 At first, the DCC's activities and services will be limited to those functions that are necessary for the effective transfer of smart metering data, including secure communications, control of access to that data, retrieval of data from meters and the necessary data translation services.
- 25 It is envisaged that meter point and supply point registration responsibilities will be transferred to the DCC in due course, and that the DCC may extend its activities into non-energy value added services. The Licence provides for both of these. This staged approach is important to ensure that the services essential to the roll-out of smart metering are provided in the first instance, whilst maximising the benefits of smart metering in the longer term.
- 26 As set out in the November 2012 response, we continue to hold the view that a Special Administration Regime would be appropriate for the DCC. This would mitigate the negative consequences for DCC Service Users and energy consumers that could arise in the unlikely event that the DCC entered into administration, or where there were significant failings in the operation of the licensed business. We plan to bring forward legislation when Parliamentary time allows.

The Smart Energy Code

- 27 Following the award of the DCC Licence, the Government designated the first stage of the Smart Energy Code (SEC) and the DCC's charging methodology on 23 September 2013, both of which came into effect immediately.
- 28 At the same time the members of the first SEC Panel were confirmed, the Smart Energy Code Administrator and Secretariat (SECAS) was appointed and over 75 parties (Suppliers, Network Operators and others) acceded to the SEC.
- 29 Following its initial designation, the Smart Energy Code is being introduced in stages by the Secretary of State using powers under Section 88 of the Energy Act (2008). The content of each stage is prioritised according to the needs of the Smart Metering Implementation Programme (SMIP) and stakeholders.

- 30 Stage 1 of the Smart Energy Code (SEC1) contains the provisions necessary to support the operation of the DCC from the point at which its Licence came into force. These deal primarily with code governance, how parties to the code can propose and implement changes to it, and how the DCC calculates charges over time.
- 31 SEC1 provides a starting point for future content by setting out a general approach to contractual matters such as the limitations of liability, and treatment of disputes. Whilst fit for purpose at the time of designation, it is recognised that these provisions may have to be revisited to reflect the development of new content.
- 32 SEC2 builds on this by addressing a number of important areas required to aid design, build and test of systems in the run up to Systems Integration Testing (SIT) and User Integration Testing (UIT).
- 33 SEC2 will be followed by a SEC Stage 3 (SEC3) consultation on specific issues around security (the smart metering key infrastructure and certificate policy governance) as well as consultation on the legal obligations required to support the market testing period. These consultations all aim to address important topics ahead of SIT and UIT and ensure that the bodies that need to be established through the SEC are in place when they need to be.
- 34 While these consultations taken together are expected to account for a large proportion of the outstanding content required in the SEC, further stages are planned in advance of User Integration Testing (SEC4) and ahead of commencement of Initial Mass Rollout (SEC5). A full list of outstanding content anticipated to be delivered in future stages is set out in Annex 2.

SEC Subsidiary Documents

- 35 A number of subsidiary documents will be incorporated into the SEC over time. Some will be developed by the DCC; others will be developed by the SMIP, working together with stakeholders.
- 36 Schedule 5 of the DCC Licence places obligations on the DCC to prepare various documents that will be incorporated into the SEC by the Secretary of State. These include:
 - the Error Handling Strategy for communications across the DCC User Gateway;
 - the Incident Management Policy;
 - interface documentation for the DCC User Gateway, Self-Service Interface, and Registration Interface; and
 - the Intimate Communications Hub Interface Specification;
- 37 Schedule 5 of the DCC Licence sets out the required procedure for the development by the DCC of those documents listed in that Schedule. This includes a requirement on the DCC to consult appropriately with users on the proposed content. This will include, for example, seeking their views on any restrictions on operation that the DCC considers it necessary to include. Where disagreements arise, the DCC must seek to reach an agreed solution with consultees.

- 38 Having produced each document, the DCC must submit a draft to the Secretary of State by a date specified in the DCC Licence. The DCC must indicate whether it considers the draft fit for purpose, and set out any unresolved differences remaining from the consultation process. Section X5 of the SEC provides for these documents to be incorporated into the SEC by the Secretary of State.
- 39 Section X5 also provides for the incorporation of other technical specifications and supplementary provisions designated by the Secretary of State into the SEC.
- 40 Annex 3 of this consultation sets out the documentation that is currently anticipated to fall within the scope of the Technical Specifications, together with the current status of each. We continue to work with stakeholders to develop four of these documents:
- the second version of the Smart Metering Equipment Technical Specifications (SMETS 2);
 - the Great Britain Companion Specification (GBCS);
 - the Commercial Products Assurance Security Characteristics for GB Smart Metering; and
 - the Communications Hub Technical Specifications.

2.2 Content of this Consultation

Stage 2 of the SEC

- 41 This document sets out proposed legal text for SEC2.
- 42 As far as possible the consultation is structured to reflect the structure of the SEC itself. The key sections of new legal text in the SEC which are the subject of this consultation are set out in the table below, and described in chapters 3 to 6 of this document. As required, these chapters also reference any minor or consequential changes to SEC1 drafting which have been identified in the course of SEC2 preparation.

| SEC Section | Content |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E: Registration Data | E1 – E3: Further details supporting the process and procedure for exchanging data with reference to the Registration Interface Specification and Registration Interface Code of Connection. |
| F: Smart Metering System Requirements | F1: Provisions for the establishment of a Technical Sub-Committee. |
| G: Security | G1 to G6: General security obligations applicable to the DCC, DCC Service Users and Registration Data Providers |

| | |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>H: DCC Services</p> | <p>H1: Requirements associated with the need to create User IDs for the purpose of taking DCC services.</p> <p>H3: Updated provisions associated with connection to and use of the DCC User Gateway and associated with the DCC User Gateway Services Schedule (replacing SEC1 provisions on the User Gateway and Core Communication Services).</p> <p>H4: Requirements associated with the sending of service requests, commands service responses and alerts.</p> <p>H5: Provisions related to the enrolment of Smart Metering Systems, the installation and commissioning of devices and the use of the Smart Metering Inventory.</p> <p>H6: Provisions related to the decommissioning and withdrawal of devices.</p> <p>H8: Provisions related to Service Management, the Self-Service Interface and Service Desk.</p> <p>H9: Provisions related to Incident Management.</p> <p>H11: Obligations related to the provision of a Parsing and Correlation service by the DCC.</p> <p>H12: Provisions relating to the maintenance of the Intimate Communications Hub Interface Specifications.</p> <p>H13: Code Performance Measures and Service Provider Performance Measures.</p> |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

- 43 The chapters of this consultation relating to each of the above topics are split into four parts:
- the first part ('Description of the Issue') sets out the policy approach which provides the basis for the proposed legal text. We reference previous consultations where appropriate;
 - the second part ('Translation into Detailed Requirements') summarises how each policy approach has been translated into the proposed legal requirements to be included in SEC2 (and which themselves are the subject of this consultation);
 - the third part ('Legal Text') cross-references policy positions to the appropriate legal clauses in SEC2 for ease of use; and
 - the fourth part ('Consultation Questions') sets out the questions inviting a response. All chapters include a general question inviting views on the proposed text for the SEC. In addition, some chapters include additional questions seeking views on specific topics.
- 44 Annex 6 of this document sets out the legal text proposed in this consultation as it would look combined with the designation text of SEC1. Annex 7 shows the proposed legal text in change-marked form to show all the insertions, deletions and movements of text as compared to the designation text of SEC1.

- 45 The legal text in Annex 6 including all references to Smart Meters, Smart Metering Equipment, and Devices applies only to those that are SMETS 2 or CHTS compliant, as relevant. Arrangements for SMETS 1 meters will be the subject of a separate consultation exercise.
- 46 This consultation does not address how the proposed legal text will need to be expanded to address the role of Supplier Nominated Agents (SNAs), as currently defined in Section H2 of the SEC. We anticipate that the SEC3 consultation will address the role of SNAs further.
- 47 The legal drafting in Annexes 6 and 7 includes a small number of corrections and clarifications to SEC1 text identified as necessary since designation. A cross-reference has been added in Section C5.20, and the position of Working Groups with regard to expenses has been clarified in Section C8.3. Additionally the definition of UITMR Period in Section K11 has been adjusted to refer to User Integration Testing and Mass Rollout.
- 48 Every effort has been made to ensure that the explanatory text in the main body of this consultation document reflects the legal drafting included at Annex 6. However, whilst we have sought to ensure that the explanatory text provides a clear and simplified overview of our proposals, the legal drafting should be treated as the definitive text.
- 49 The proposed SEC 2 provisions require a number of new definitions as well as changes to some definitions set out in SEC1. These are set out in Section of the legal drafting included in Annexes 6 and 7.
- 50 Certain terms are capitalised throughout this document and a glossary is provided (Chapter 9) to describe what they mean.
- 51 During the course of this consultation we will engage with stakeholders to discuss the proposed text for the SEC as described in the explanatory text and set out in Annex 6.

Other topics in this consultation

- 52 In addition to the priority content listed above, this consultation provides information on:
 - Communications Hub financing and charging; and
 - the DCC Commercial Model.
- 53 The commercial model for the provision of Communications Hubs by the DCC requires a clear chain of obligation between those that fund them, and those that pay for them through monthly charges via the DCC. Chapter 7 sets out for consultation four proposed SEC provisions designed to support the delivery of cost-effective, viable and sustainable third party financing options for Communications Hubs.
- 54 Information on our proposed policy approach to Communications Hub Charging by the DCC is also set out for consultation in Chapter 7. This is provided to give stakeholders who are considering investment or wider commercial decisions early sight of our intended approach.
- 55 Having granted the DCC Licence as set out in Section 2.1, Chapter 8 of this document summarises the key aspects of the commercial model within which

the DCC Licensee and its Service Provider contractors now operate. This information reflects arrangements that have been variously implemented in the SEC, DCC Licence and Service Provider contracts. It is now brought together in one publication (this document) for the convenience of the wider readership.

2.3 Next Steps

Aligning SEC2 and the DCC's Service Provider Contracts

- 56 Many of the detailed requirements for the DCC's operational service provision have been developed through the procurement exercises undertaken to appoint the DCC's Service Providers. These requirements are now reflected in their contracts with the DCC.
- 57 The DCC must act in accordance with the SEC as a condition of its Licence, and the DCC backs off the delivery of many of its SEC obligations through the Service Provider contracts as appropriate. It is therefore important for the DCC that where relevant, the SEC, DCC Licence and Service Provider contracts align; any misalignment could cause the DCC to be in breach of the SEC or its Licence, and / or impose unnecessary costs on DCC Service Users if changes to the contracts need to be made.
- 58 On closure of this consultation, we will analyse all responses, and may conclude that changes need to be made to proposed SEC legal text, which has consequential impacts for provisions that are already 'backed-off' in the Service Provider contracts. In this scenario, the DCC is responsible for ensuring that its Service Provider contracts remain in line with the SEC, and with its Licence obligations.

Introducing licence changes to accompany SEC2

- 59 We recognise that changes to energy licences may need to accompany the introduction of SEC2 content into the regulatory framework, for example licence conditions relating to the enrolment of SMETS 2 compliant equipment at domestic premises with the DCC. We will consult on required changes in due course.

Incorporating SEC2 content into the regulatory framework

- 60 As discussed above the content of SEC2 includes material needed to inform the design of systems, processes to support operations and rules that will ultimately support the rest of the smart meters infrastructure.
- 61 For some SEC2 content, it will be appropriate that provisions are incorporated into the SEC at an early stage, as early as April next year. This may be required, for example, where arrangements under the SEC need to operate (such as the obligations relating to ICHIS).
- 62 In other cases, baselined draft legal text subject to robust version control and specific change management processes will provide a sufficient basis for industry to proceed. In these cases it may not be necessary or appropriate to incorporate associated provisions as part of the SEC at an early stage.
- 63 This latter approach allows for more flexibility in refining the finer details of the solutions as a result of the lessons learned in testing, before obligations are

included in the regulatory framework and become subject to the SEC modification provisions.

- 64 When SEC2 content is incorporated into the regulatory framework, some of it will be effective immediately, some will be 'switched off', and some will be effective subject to variations set out in Section X of the SEC.
- 65 Further work will be undertaken with industry over the next couple of months, to develop a detailed timetable for delivery of SEC2 content into the regulatory framework. This will be set out in more detail in the New Year as part of the Government's response to this consultation.

3 Technical Governance and Change Control

Description of the Issue

- 66 In our response to the SMETS 2 consultation⁴, we confirmed that the SEC Panel would be required to establish a Technical Sub-Committee⁵ (TSC), the key rationale being that it would provide the SEC Panel, Change Board and Working Groups with specialist knowledge to support their consideration of technical matters.
- 67 This specialist support was considered particularly important for the assessment of proposed modifications to technical requirements. In addition, the TSC would have a responsibility for reviewing the technical architecture of the end-to-end smart metering system, including the Technical Specifications⁶. We concluded that a standing sub-committee would offer continuity of technical expertise and retention of corporate memory that might not be possible through reliance on ad-hoc working groups.

Translation into Detailed Requirements

- 68 The SEC Panel will be required to establish the TSC as soon as it considers it appropriate to do so, in keeping with the sub-committee's remit; for example, to coincide with the incorporation of Technical Specifications in the SEC. The SEC Panel will decide on the membership of the TSC, based on the need to provide the appropriate level of technical expertise.
- 69 The relevant SEC Panel Working Group will be required to consult the TSC on proposed modifications to the Technical Specifications, and on any other SEC modification proposals which may have consequences for the Technical Specifications or the end-to-end system. The TSC will establish a process for the SECAS to monitor modification proposals in order to ensure that the TSC is made aware of any modification proposals that are likely to affect the end-to-end Technical Architecture⁷.
- 70 The TSC's role will also include supporting the SEC Panel on technical issues to be included in the Panel's annual report. In addition, the TSC will be required to review and report on the effectiveness of the end-to-end Technical Architecture (including the Technical Specifications) in meeting the SEC's objectives, at appropriate intervals as determined by the SEC Panel. The TSC's reports will include recommendations for any action that it considers appropriate.
- 71 To help promote understanding of the operation of the end-to-end Smart Metering System, the TSC will be required to maintain a Technical Architecture Document, describing the key elements of its technical architecture. The DCC

⁴ www.gov.uk/government/consultations/smart-metering-equipment-technical-specifications-second-version

⁵ Previously referred to as the Technical Specifications Sub-Committee (TSSC)

⁶ In the SMETS 2 Government Response only the SMETS and CHTS were noted as falling within the scope of this term. However, the definition is significantly expanded here (see Annex 3) to reflect the many technical documents that will form part of the SEC.

⁷ The DCC Systems and the Smart Metering Systems together, including as documented in the Technical Specifications.

will be required to provide the TSC with any reasonable information and assistance requested by the TSC, including its Solution Architecture⁸, to allow the TSC to fulfil this role.

- 72 Other specific obligations will be placed on the TSC to advise the SEC Panel. These include:
- supporting Ofgem regarding any technical aspects of notifications to the European Commission regarding SEC modifications, where this is required under the Technical Standards and Regulations Directive;
 - provision of advice to the SEC Panel on disputes between SEC Parties on issues concerning Technical Specifications; and
 - a general requirement to provide advice to the SEC Panel on any other matter relating to Technical Specifications when requested to do so by the SEC Panel.
- 73 As the SEC Panel will have the discretion to decide upon the size and composition of the TSC, it is difficult to estimate its annual running costs but we estimate it could be around £0.5m per annum. The majority of the estimated costs reflect an allowance for the time devoted to the TSC by its members and any input from external experts that may be required. It also covers any associated administrative costs.

Legal Text

| Summary of new SEC Provisions | |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Changes to Section C | C2.3 places an additional duty on the Panel to periodically commission from the TSC a review of the effectiveness of the End-to-End Technical Architecture (including evaluating whether the Technical Specifications continue to meet the SEC Objectives). |
| Changes to Section D | D 6.8 requires Working Groups always to seek the Technical Sub-Committee's views on proposals to modify the Technical Specifications and (to the extent they consider necessary) seek their views on other proposed modifications that, if approved, may impact upon DCC Systems and Smart Metering Systems. |
| Changes to Section F | F1.1 to F1.3 require the SEC Panel to establish a Technical Sub-Committee having regard to the need to provide an appropriate level of technical expertise, that will otherwise be subject to the provisions governing sub-committees in Section C6 (which should be read alongside Section F1). F1.4 sets out the duties of the Technical Sub-Committee. F1.5 requires the Technical Sub-Committee to establish a process by which the Code Administrator will inform the Technical Sub-Committee of any modifications proposals that are likely to affect the End-to-End Technical Architecture. |

⁸ The overall technical architecture of the DCC's Solution (including its Service Providers), comprising a description of the individual components of the Solution (including all Systems, Hardware and Software) and interfaces with the Systems of other DCC Eco-System Entities.

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| | F1.6 requires the DCC to provide reasonable assistance and information to the Technical Sub-Committee to enable it to perform its duties. |
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Consultation Questions

Technical Governance and Change Control

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| Q1 | Do you agree with our proposed text for the SEC with respect to Technical Governance and Change Control? Please provide a rationale for your views. |
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4 Registration Data

Description of the Issue

- 74 Section E of SEC1 established high level obligations on different parties involved in registration data exchange. This included the list of data items that are required to be passed to the DCC, and the data that the DCC is required to pass to those bodies providing registration information for Network Operators – the registration data providers (RDPs).
- 75 The DCC use the registration data passed to them to determine whether or not a DCC Service User is the registered Supplier, their metering agent or the Network Operator for a Smart Metering System and therefore eligible to take specified services. This data will also be used by the DCC to calculate the charges it issues to DCC Service Users.
- 76 In addition to these high level requirements, SEC2 will need to contain more detailed information relating to the interface(s) for data exchange between the DCC and the RDPs, and the rights and obligations that will need to apply as data is passed. Specifically this includes:
- the nomination of RDPs by the Network Operators;
 - passing of registration data to the DCC from RDPs, including the frequency, format and method of transfer; and
 - exception handling, including raising and managing incidents, handling data refreshes, and resolving disputes.
- 77 We have discussed and refined the more detailed requirements for registration data exchange, both with the DCC and its Service Providers, and RDPs via industry working groups. As a result of this dialogue, we have decided that the DCC should be responsible for the design and development of the Registration Data Interface, in cooperation with RDPs.
- 78 The technical details of the Registration Data Interface, including how RDPs will connect to the DCC, will be set out in separate ‘Registration Interface Specification’ documents for gas and electricity. Each Interface Specification will have an associated ‘Registration Interface Code of Connection’ document detailing the operational aspects of the registration interface, setting out obligations for use of the interface. A separate Code of Connection will exist for each Registration Data Interface (one for Gas RDPs and one for Electricity RDPs). These documents will be collectively described in regulation as the ‘Registration Interface Documents’.
- 79 The DCC is required to produce the Registration Interface Documents under Schedule 5 of its Licence, in line with the process set out in paragraph 37 *et seq.* A summary of the anticipated contents of the Registration Interface Documents is set out in Annex 4.
- 80 Once designed and built, the Registration Data Interface will need to be tested prior to the commencement of live services. We have recently consulted separately on detailed arrangements to govern testing⁹, and responses to the

⁹ <https://www.gov.uk/government/consultations/smart-metering-system-and-equipment-testing>

consultation will inform our work in defining the testing arrangements within the regulatory framework. Testing related to registration data was included in that consultation, and is not therefore the subject of this SEC2 consultation.

Non-Domestic Electricity Meters

- 81 Registration data provided by RDPs also enables the DCC to charge its users appropriately, according to how many, and which type of meters are registered to each Supplier. For an initial period following Licence award, the DCC will rely on a proxy (the profile class of meters) to estimate the number of non-domestic electricity meters for each DCC Service User in calculating charges.
- 82 An alternative mechanism for establishing the number of non-domestic electricity meters is for Suppliers to provide this information to the DCC directly. The SEC currently includes this requirement in section E2.3 (although this is currently switched off through a variation in X2.4(c)).
- 83 However, we recognise that it is not ideal for the DCC to receive this information via a different route to registration data. Views from stakeholders would be welcome on whether, in calculating non-domestic electricity meters allocated to each supplier, the DCC should:
- utilise this information from Suppliers as set out in paragraph 82;
 - work with industry to create a new data item to accompany other electricity meter registration data that specifies where a site is a non-domestic site; or
 - continue to utilise profile class as a proxy for non-domestic sites until more comprehensive changes to industry registration data are introduced and the DCC takes responsibility for managing all registration data.

Translation into Detailed Requirements

- 84 The SEC will require each Network Operator to notify an RDP to the DCC, being the body that will provide the registration data listed under E2.1 or E2.2 as the case may be. It acknowledges that the same RDP may be used by more than one Network Operator.
- 85 The SEC will also require that each Network Operator ensures that its RDP complies with the applicable obligations set out in Registration Interface Documents, and with relevant security obligations set out in the SEC.
- 86 Further obligations are set out surrounding the frequency and format of data exchange, with the detail being set out in the Registration Interface Documents.
- 87 The SEC will also include a requirement for the DCC and RDPs to manage any incidents arising in the exchange of registration data. Specifically this requires the creation of an incident management policy in relation to this data (which is separate from the Incident Management Policy required to be produced under Section H of the SEC). The registration data policy must, as a minimum:
- define incidents relating to the passing of registration data (including where files are not received, do not conform to the required specification or where they are rejected or contain errors);
 - set out how incidents are raised, recorded and resolved;
 - set out steps to be taken before raising incidents to minimise the burden on RDPs; and

- include a process for minimising the recurrence of incidents.
- 88 Any disputes regarding compliance with SEC obligations regarding registration data will be heard by the SEC Panel, whose determination will be final and binding.
- 89 It is possible that instances may arise where registration data held on the DCC's and the RDPs' systems become misaligned. In such instances, the incident management policy will set out which version is to be treated as the 'master', pending resolution of the incident. It will be necessary for RDPs to provide 'data refreshes' when requested by the DCC, and the obligation to do so is included within the drafting.
- 90 The DCC service is designed to be available to users on a 24/7 basis, 365 days per year (subject to any maintenance activities), and it is possible that the DCC may become aware of the need for a data refresh outside standard working day operating hours. For this reason, it is proposed that the SEC should include a requirement for the RDPs to provide any potential data refresh to the DCC within a set number of calendar days, as opposed to a set number of working days.
- 91 RDPs and the DCC will take a leading role in determining the timescales to be used for provision of data refreshes, based on the evolving design of the interface. However, as a starting position we have set this as two calendar days in the SEC. Stakeholders' views would be welcome on this proposal, including the material impacts on industry participants of complying with this requirement.

Legal Text

| Summary of new SEC Provisions | |
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| Changes to Section E | <p>E2.6 to E2.8 have been revised to point towards the Registration Interface Documents as opposed to a generic 'subsidiary document. 'E2.9 to E2.11 sets out the requirements related to Registration Data Interfaces and the provision of data across them</p> <p>E2.9 sets out requirements for the provision of data refreshes by RDPs to the DCC</p> <p>E2.12 sets out the provisions of the Registration Data Incident Management Policy</p> <p>E2.14 set out the security obligations which each Electricity Distributor and Gas Transporter shall ensure that its Registration Data Provider shall comply with</p> <p>E2.15 allows for any disputes regarding compliance with Section E2 (other than disputes relating to the applicable security provisions set out in Section G) to be referred to the Panel for final and binding determination</p> |
| Changes to Section M | <p>M10.1 has been extended to include communications sent over the Registration Data Interface.</p> |

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| Changes to Section X | X2.4 (e to g) varies Section E, in particular setting out the requirements on the DCC to consult Parties and RDPs in producing a draft Registration Incident Management Policy. |
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Consultation Questions

| Registration Data | |
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| Q2 | Do you agree with our proposed text for the SEC with respect to Registration Data? Please provide a rationale for your views. |
| Q3 | The DCC currently uses profile class data as a proxy to estimate the number of non-domestic meter points registered to users. Should this be replaced with a new data item which accurately reflects non-domestic meter registration, or should the DCC continue to use profile calls as a proxy? If you think it should be replaced, should the DCC rely on Suppliers providing this information separately, or should a change be sought to electricity registration systems to collect this data? Please provide a rationale for your views. |
| Q4 | The SEC will include a requirement for RDPs to provide the DCC with a 'data refresh' on request, within a set number of days. Do you agree that it is sensible to measure in calendar days? If so, what is the impact of providing data refreshes to the DCC within two calendar days? If this has too significant an impact, what should the correct value be? Alternatively, do you believe it should be a set number of working days? If so, how long should this period be? |

5 DCC Services

92 This section introduces the legal drafting on the provision of DCC Services. This is a complex area, which is at the heart of the SEC. The drafting reflects the detail that has been produced in consultation with various stakeholder groups over a period of time.

5.1 DCC User Gateway

Description of the Issue

93 When requesting communication services or seeking to enrol or withdraw Smart Metering Systems, DCC Service Users will communicate with the DCC via a series of 'Service Requests', and the DCC will respond via a series of 'Service Responses'. In addition, DCC Service Users may receive 'Alerts' from the DCC.

94 All Service Requests, Service Responses and Alerts passing between the DCC Service User and the Smart Metering Device will transfer through the 'DCC User Gateway'¹⁰.

Translation into Detailed Requirements

95 The SEC will oblige the DCC to operate the DCC User Gateway for the use by itself and all eligible DCC Service Users.

96 The diversity of the DCC Service User population will give rise to differing requirements for connecting to the DCC User Gateway. Furthermore, the number and type of connections required by any one DCC Service User will be driven by the structure of the organisation and its take-up of the DCC's communication services.

97 Reflecting this, the DCC's DSP contract obliges the DSP to propose at least two different ways of connecting to the DCC User Gateway, and the solution that is offered will be reflected in the SEC by reference to a 'Means of Connection' - a technology solution which enables DCC Service Users to connect physically and securely to the DCC User Gateway. The availability of at least two solutions will provide DCC Service Users with the flexibility to use one, or more, which best meet their requirements.

98 The SEC will require each DCC Service User to notify the DCC of each separate connection required and the Means of Connection that they would like to use. A DCC Service User will only be able to enter the User Gateway testing element of the User Entry Processes once it has established at least one connection to the DCC User Gateway.

99 It is possible that the design of the DCC's User Gateway might require equipment to be located on the DCC Service User's premises, and the SEC has been drafted to accommodate this. The drafting sets out:

- the obligations in relation to the DCC's access to the equipment and in ensuring that it is operating appropriately;

¹⁰ The transmission media or path, supplied by the DSP, that connects the DCC Data Systems and DCC Service Users

- the right for the DCC Service User to ask the DCC remove the equipment from its premises once it decides to cease a connection to the DCC User Gateway, or immediately after it ceases to be a party to the SEC; and
 - the DCC Service User’s liability in relation to damage to the equipment.
- 100 If the final design for the DCC User Gateway does not require equipment to be located at the DCC Service User premises, this text will not be included within the SEC.
- 101 Two SEC Subsidiary Documents will govern the use of the DCC User Gateway:
- the DCC User Gateway Interface Specification (DUGIS); and
 - the DCC User Gateway Code of Connection (DUG CoCo).
- 102 The DUGIS will set out the technical specifications to allow DCC Service Users to connect securely to the DCC User Gateway, and the format of communications over this interface. The anticipated minimum requirements for the content of the DUGIS are set out in Annex 4.3 to this document.
- 103 The DUG CoCo will govern the ‘operational’ aspects of the DCC User Gateway by setting out any obligations on DCC Service Users and the DCC for its use, e.g. any usage limits or constraints.
- 104 As each Means of Connection may vary due to connection type and size, a separate DUG CoCo will be required for each Means of Connection available to DCC Service Users.
- 105 Each DUG CoCo will set out any capacity limits / restrictions and security requirements applicable to DCC Service Users. The anticipated minimum requirements for the content of a DUG CoCo are set out in in Annex 4.4 to this document.
- 106 The DCC is required to produce the User Gateway Interface Specification and Codes of Connection under Schedule 5 of its Licence, in line with the procedures set out in paragraph 37 *et seq.*

Legal Text

Summary of new SEC Provisions

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| Changes to Section H | H3.5-11 set out provisions relating to connections established between each DCC User and the DCC User Gateway H3.28 to H3.37 set out provisions relating to installation, use and removal of DCC User Gateway Equipment (if required) |
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Consultation Questions

DCC User Gateway

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| Q5 | Do you agree with our proposed text for the SEC with respect to the DCC User Gateway? Please provide a rationale for your views. |
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5.2 DCC User Gateway Services and Service Request Processing

Description of the Issue

- 107 A number of services will be available across the DCC User Gateway in relation to Smart Metering equipment. These include:
- enrolment services;
 - core communication services;
 - elective communication services; and
 - other enabling services (e.g. withdrawal or replacement of equipment, and 'local command' services where commands are sent to equipment via local devices rather than remotely across the SMWAN).
- 108 In line with this, the SEC1 section on Core Communication Services has been renamed DCC User Gateway Services.
- 109 The DCC User Gateway Services comprise two types of service:
- the services that a DCC Service User can request by sending a Service Request to the DCC; and
 - the services (e.g. Alerts) that will be automatically provided to DCC Service Users who have Devices comprising part of an enrolled Smart Metering System – i.e. without the need to submit a Service Request.
- 110 Parties will only be eligible to receive services that correspond to their User Role. Each User Role will have its own unique identification number (the User ID), the use of which will help to ensure that the DCC is delivering services on behalf of the appropriate DCC Service User. User IDs will also be used in the Smart Metering Key Infrastructure arrangements which will be consulted upon as part of SEC3.

Translation into Detailed Requirements

DCC User Gateway Services Schedule

- 111 The list of Services that together form the DCC User Gateway Services will be set out in a schedule in the SEC. This schedule replicates the services contained in the 'DCC User Gateway Catalogue' that has previously been produced by the SMIP.
- 112 The DCC User Gateway Services Schedule is provided at Annex 5 of this document. It includes:
- Services that result in sending of commands to Devices (e.g. data reads, tariff and security credential updates); and
 - Services that instruct the DCC directly to undertake an activity (e.g. inventory updates, service opt in / out).
- 113 Separately, an indicative list of Alerts, which may be generated by a Device, or by the DCC, is set out in Annex 5.3 for information.
- 114 The DCC will be obliged to provide DCC User Gateway Services to all DCC Service Users who are eligible to receive them. This eligibility is set out in the

SEC, and the DCC User Gateway Service Schedule will also identify which DCC Service User Roles will be eligible to send particular Service Requests.

- 115 The permitted User Roles will be determined by the Party's SEC participation role. For example, Parties must hold an electricity supply licence in order to obtain a User Role of 'Import Supplier' or 'Export Supplier'.
- 116 Each DCC Service User will have their own unique identification number, the User ID. The User ID must be EUI-64 compliant¹¹, and must be confirmed by the DCC prior to the DCC Service User's participation in the User Entry processes.
- 117 The DCC may act in a number of capacities which require separation of roles. All communications between these separate capacities must be uniquely identifiable. A DCC Service User may therefore have separate EUI-64 compliant identification numbers for each User Role they are operating.
- 118 The DCC User Gateway Services Schedule identifies some Service Requests as 'critical'. Critical Service Requests are those requesting services which can potentially:
- affect energy supply;
 - compromise the security and integrity of Smart Metering Equipment on consumer premises; or
 - lead to financial fraud.
- 119 Non-critical Service Requests are those which do not meet one or more of the above criteria. The security and processing requirements for critical and non-critical Service Requests in the SEC differ, as set out in the sections below.
- 120 The format of all Service Requests will be set out in the DUGIS.

New Service Request

- 121 A new¹² Service '6.24 Retrieve Device Security Credentials' has been introduced into the latest version of the DCC User Gateway Services Schedule. This Service enables a DCC Service User to retrieve a specified Device's public security credentials, and to use these to validate Service Responses received from that Device.

Scheduling of Services

- 122 In addition to individual Service Requests, DCC Service Users may also send Service Requests that require the DCC to establish and maintain a schedule to send a command on a regular, recurring basis to a specified device, without the need for the DCC Service User to submit a Service Request for each occurrence.
- 123 The Services that may be scheduled are identified in the DCC User Gateway Services Schedule.
- 124 On receipt of the appropriate Service Request from the DCC Service User, the SEC will require the DCC to create and maintain a schedule, and at each

¹¹ A 64-bit globally unique identifier governed by the Institute of Electrical and Electronics Engineers

¹² Introduced since the last version of the DCC User Gateway Services Schedule issued at DSP / CSP Invitation to Submit Final Tenders (April 2013)

execution date / time specified in the Service Request, to construct and process commands, for example, to retrieve the specified meter reading data. The DCC will then return the data to the DCC Service User that set up the Service Request, as part of a Service Response.

125 The following events will result in the removal of a schedule:

- where the DCC Service User requests that it is removed;
- where the DCC executes a Change of Tenancy Service Request for a MPxN, it will interrogate its schedules and remove those belonging to Other DCC Users as the permission of the customer can no longer be assumed;
- where a Smart Metering System of which the relevant Device forms part is withdrawn, or where the relevant Device is decommissioned; or
- where a DCC Service User's rights are suspended by the SEC Panel under Section M8 of the SEC.

Sequencing of Service Requests

126 Similarly, the DCC Service User may require that the DCC does not execute a Service Request until another Service Request has been successfully executed. An example of this is the application of prepayment configurations only if the change of mode to prepayment has been successful.

127 Where a DCC Service User identifies in a Service Request that it should only be executed when the preceding Service Request has completed, the DCC will be required to hold the latter until the former has returned a successful Service Response.

Service Request and Alert Response Times

128 The DCC User Gateway Services Schedule will set out the response times available in relation to each Service Request. They fall broadly into two categories:

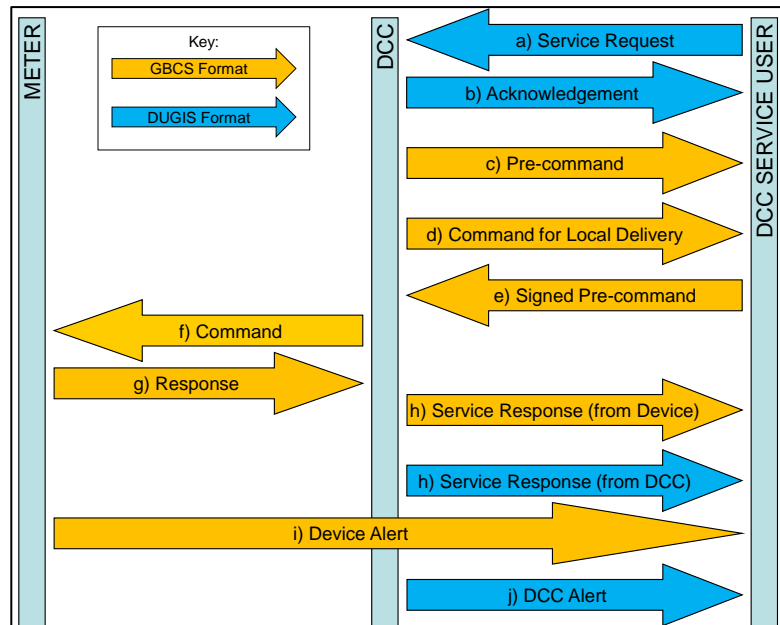
- available 'on demand' i.e. with a target response time within 30 seconds; or
- available as 'future dated' i.e. with a target response time within 24 hours from the date and time of execution specified in the Service Request.

129 Additionally Response Times for Alerts will be within 60 seconds of notification of the Alert at the Communications Hub Function. Section 5.10 sets out further information on performance standards and reporting.

Processing Service Requests, Responses and Alerts

130 The SEC sets out the steps that must be followed by the DCC and DCC Service Users in order successfully to process a Service Request, Service Response or Alert.

131 In addition to Service Requests, Service Responses and Alerts, a number of other communications types are utilised within the end-to-end Smart Metering System, as shown below.



- 132 The diagram above describes the different types of message that exist to support DCC User Gateway Service Requests, with the following meanings:
- Service Requests are listed in the DCC User Gateway Services Schedule (see Annex 5);
 - an Acknowledgement is sent by the DCC to the DCC Service User, via the DCC User Gateway, acknowledging receipt of a Service Request or Signed Pre-Command;
 - a Pre-Command is a Command prepared in response to a critical Service Request, which is sent from the DCC to the DCC Service User for digital signing (see paragraph 153 *et seq*);
 - a Command for Local Delivery is a Command sent to a DCC Service User via the DCC User Gateway, which is then applied locally to the Smart Metering Device (see paragraph 192 *et seq*);
 - a Signed Pre-Command is a Pre-Command that has been Digitally Signed by a DCC Service User in relation to a critical Service Request;
 - a Command is a communication sent by the DCC to a Device in the format required by the GBCS. Signed Pre-Commands become Commands once the DCC has applied a Message Authentication Code;
 - a Response is sent by the Smart Metering Device to the DCC in reply to a Command;
 - a Service Response is sent by the DCC to the DCC Service User, in response to a Service Request. Service Responses may be generated by Devices (in which case they will be in GBCS format), or generated by the DCC (in DUGIS format), depending on the type of response;
 - a Device Alert is a message forwarded by the DCC in response to a problem or the risk of a potential problem identified by a Device; and
 - a DCC Alert is a message generated in response to a problem or the risk of a potential problem (e.g. the receipt by the DCC of a power outage alert from a Communications Hub).
- 133 Service Requests, Service Responses and Alerts will only be treated as valid if they comply with the requirements of the DUGIS. The requirements for data

encryption are also to be set out in the DUGIS (for data within Service Requests and Pre-Commands), and in the GBCS for Commands.

- 134 The DCC will be required to check all Service Requests and signed Pre-Commands received from DCC Service Users against a number of criteria. These include, as appropriate:
- verification of the structure and content of the message against the DCC User Gateway Services Schedule and / or DUGIS;
 - confirmation that the User ID identified in the message is for a DCC Service User eligible to send such a Service Request or Pre-Command (and has not had rights to do so suspended);
 - confirmation that the Device has a status within the Smart Metering Inventory that enables the DCC Service User to send the particular Service Request;
 - in the case of non-critical Service Requests, a check against the Registration Data to confirm that the DCC Service User is eligible to send such a Service Request¹³;
 - checking the credentials used to send the Service Request or signed Pre-Command;
 - confirmation of the validity of the security certificate; and
 - application of anomaly detection¹⁴.
- 135 In the event that any of these checks fail, the DCC will be required to reject the communication in line with the Error Handling Strategy, and inform the DCC Service User (and in the case of anomaly detection, quarantine the message).
- 136 The DCC will receive Service Responses and Alerts from Devices, for onwards transmission to DCC Service Users. These will all be subject to anomaly detection, and quarantine if unsuccessful.
- 137 On receipt of a Service Response or Alert, the DCC will also check whether it is destined for a DCC Service User whose ID is held on the Device (for example the Supplier, Network Operator, or DCC function), or not. In the event that the recipient is one whose User ID is not held on the Device, the DCC will be required to carry out security checks and digitally sign the message prior to onwards transmission.
- 138 The DCC will only receive Device Alerts from Smart Metering Systems which are enrolled in line with the procedures set out in Section 5.3.
- 139 As noted in paragraph 112, some Service Requests will require the DCC to undertake an activity (c.f. issue a command to a Device), e.g. an inventory lookup, or a request to create a schedule. In such cases, the DCC will be required to perform only the following subset of the checks set out in paragraph 134, and if successful, execute the Service Request and return a Service Response to the DCC Service User:
- structure and content verification;
 - DCC Service User eligibility;

¹³ This is not required for critical Service Requests as 'eligible users' are held on the Device, which will reject critical commands if not from that DCC Service User.

¹⁴ The application of numeric thresholds above which transaction volumes will be considered anomalous and quarantined. The DCC will agree these with DCC Service Users during the development of the DCC CoCo.

- cryptographic protection and certificate validation; and
- anomaly detection.

Change of Supplier

- 140 All Smart Meters hold a security credential for the Registered Supplier. This credential allows the Device:
- to determine whether a critical command has originated from the Registered Supplier; and
 - to direct Alerts to the Registered Supplier.
- 141 On Change of Supplier, a process is required to change the security credential to that of the gaining Supplier. The command to do this (a CoS Service Request¹⁵) is a 'critical' command (see paragraph 115). Therefore, the Device will only accept it (and thus update the credential) if it has been signed by a party that:
- the Device holds a security credential for; and
 - has the authority to change the security credential.
- 142 The SEC will require the DCC to establish a 'CoS Party' as a separate function to the main DCC systems. The CoS Party is a trusted party, authorised to change a Registered Supplier's security credentials on a Device, as part of the Change of Supplier process.
- 143 On Change of Supplier, the gaining Supplier will be required to submit a CoS Service Request to replace the losing Supplier's security credentials on a Device with its own, on a specified date.
- 144 On receipt of a CoS Service Request, the DCC will be required to:
- perform the checks set out in paragraph 134;
 - check the Registration Data (see Section 4) to confirm that the DCC Service User submitting the CoS Service Request is (or is to become) the Registered Supplier for the relevant MPxN on the specified execution date; and
 - in the event that all checks are successful, send a CoS Service Request to the CoS Party, who will be required to reconfirm the validity of the request.
- 145 The CoS Party will conduct its own checks, and will then create an Update Security Credentials Service Request (see paragraph 121) which includes the gaining Supplier's credentials.
- 146 The Update Security Credentials Service Request is also categorised as critical, and requires both transformation by the DCC, and correlation and digital signing by the CoS Party, in line with the requirements set out in Section 5.3. Once complete, the CoS Party will return a signed Pre-Command to the DCC for onward routing to the specified Device, thus updating the Registered Supplier's security credentials to those of the gaining Supplier. If successful, an Alert will be sent to both the gaining and the losing Supplier.
- 147 The process described above is an interim one, and it is expected that this will change when the responsibility for Registration Data passes to the DCC.

¹⁵ 6.23, Update Security Credentials (COS) in the User Gateway Services Schedule set out in Annex 5.

Under the enduring arrangements thereafter, the losing Supplier will replace the role of the CoS Party, and will be responsible for updating the credentials on the Device to those of the gaining Supplier.

Error Handling Strategy

148 Any unsuccessful processing of Service Requests, Service Responses or Alerts will be handled in accordance with an Error Handling Strategy. A draft of this document will be produced by the DCC, and incorporated into the SEC, as set out in paragraph 37 *et seq.*

Legal Text

Summary of new SEC Provisions

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| <p>Changes to Section H</p> | <p>H1.3 to H1.7 and H1.10 set out provisions relating to User Roles, User IDs and DCC IDs.</p> <p>H3.2 to H3.4 set out the range of message types which can be sent using the DCC User Gateway.</p> <p>H3.12 to H3.16 set out provisions regarding a DCC User's eligibility for services.</p> <p>H3.17 to H3.19 describe Categories of Service.</p> <p>H3.20 to H3.21 set out Target Response Times.</p> <p>H3.22 sets out inherent restrictions to the services set out in the DCC User Services Schedule linked to functionality in SMETS 2/ CHTS.</p> <p>H3.23 to H3.27 deal with change of tenancy, cancellation of categories of service and compliance with the Error Handling Strategy.</p> <p>H4.2 to H4.8 set out obligations on Users in relation to processing of Service Requests, Commands, Service Responses and Alerts and in relation to communications received in error.</p> <p>H4.9 to H4.13 set out obligations on the DCC related to processing Service Requests.</p> <p>H4.18 and H4.19 deal with timing for the processing of Service Requests.</p> <p>H4.14 deals with CoS Update Security Credentials Service Requests.</p> <p>H4.15 to H4.17 set out obligations on the DCC related to processing pre-commands.</p> <p>H4.20 to H4.25 set out obligations on the DCC related to Service Responses and Alerts and non-device Service Requests.</p> |
| <p>Changes to Section I</p> | <p>I1.2 extends provisions for the DCC Service User to obtain Consumption Data to include that requested via Local Command Services.</p> |
| <p>Other</p> | <p>Consequential changes involving replacement of terms and extended cross</p> |

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| changes to SEC1 | references can be found in K7.5(b), M8.1(a), M8.6 (a,b,d), Schedule 2 and Schedule 3. |
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Consultation Questions

DCC User Gateway Services and Service Request Processing

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| Q6 | Do you agree with our proposed text for the SEC with respect to the DCC User Gateway Services and Service Request Processing? Please provide a rationale for your views. |
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5.3 Parsing and Correlation

Description of the Issue

- 149 When requesting DCC User Gateway Services, DCC Service Users will send standardised Service Requests to the DCC, and they will require Service Responses and Alerts from those Devices to be presented in an easily interpreted, standardised format.
- 150 Messages exchanged between the DCC and Devices will be in a 'HAN Ready' format (as defined in the GBCS) which can be executed (or will be created) by the target Device. To avoid the situation where each DCC Service User needs to understand the 'HAN ready' messages being used by Smart Metering Devices, Parse and Correlate Software will be provided to allow the DCC Service User to convert Service Responses and Alerts into a more easily readable format. It will also enable a DCC Service User to confirm the accuracy of the DCC's transformation of critical Service Requests (Pre-Commands) before applying its electronic signature, thereby confirming the validity of the Command to the specified Device.
- 151 The DCC is required to develop the Parse and Correlate Software under Schedule 5 of its Licence. The requirement for the DCC to provide the Parse and Correlate Software to DCC Service Users and to other persons will be set out in the SEC.
- 152 The DCC charging methodology will not be amended at this stage to include further charges related to the Parse and Correlate Software, given the range of uncertainty regarding the structure of the costs the DCC will incur, and an expectation that the costs are expected to be low compared with the other Service Providers (i.e. DSP / CSPs). However, as the DCC has a regulatory duty to review the charging methodology each year against the charging objectives, and proposing amendments as it believes are necessary, it should subsequently re-assess this position as further information is available.

Correlating Smart Meter Service Requests

- 153 All Service Requests submitted by DCC Service Users will be transformed into a standardised 'HAN Ready' format for the target Smart Metering Device by the DCC.

- 154 In the case of critical Service Requests, the DCC Service User is also required to undertake an additional step of digital signing. Digital signing is a cryptographic process for providing the Smart Metering Device with assurance that the critical command was issued by the DCC Service User (e.g. the Supplier) that it trusts to issue such commands.
- 155 The following steps are required to complete the above process:
- step 1: the DCC receives the Service Request from the originating DCC Service User and transforms it into the 'HAN Ready' format of the target Smart Metering Device;
 - step 2: the transformed Service Request – a Pre-Command - is returned, in 'HAN Ready' format, to the originating DCC Service User for digital signing; and
 - step 3: following successful correlation by the DCC Service User, the Pre-Command message, now signed by the DCC Service User, is returned to the DCC for onward delivery to the target Device.
- 156 As Pre-Commands are in a protocol that is not widely understood by DCC Service Users, a 'correlate' mechanism is required to enable the DCC Service User to check that the Pre-Command being returned by the DCC (step 2 above) has the same meaning as the original Service Request. The Correlate function will only be required by DCC Service Users sending critical commands (i.e. Suppliers and Network Operators).
- 157 The Correlate software must be developed by a party that is separate from that operating the 'Transform' capabilities provided by the DCC, to avoid replicating errors in both the transform service and the Correlate software. This separation also avoids any design collusion that could lead to accidental or malicious security breaches.

Parsing capability for Smart Meter Responses and Alerts

- 158 Smart Metering Devices will generate Service Responses and Alerts to be sent via the DCC to DCC Service Users. These will be sent in 'HAN Ready' format as specified in the GB Companion Specification (ZigBee or DLMS / COSEM). The DCC is not permitted to transform these messages back into a standardised format, as such action would undermine the ability of DCC Service Users to authenticate the source of the Service Responses and Alerts.
- 159 A 'Parse' capability will therefore be made available to all DCC Service Users to convert 'HAN Ready' ZigBee and DLMS messages into a standardised 'developer friendly' protocol. In a similar manner to the Correlate function, the Parse software will be distributed to DCC Service Users for them to operate as an integral part of their Smart Metering IT solutions.
- 160 A Message Mapping Catalogue will be prepared by the DCC and brought into the SEC in line with the process set out in paragraph 37 *et seq.* The Message Mapping Catalogue will specify the translation of messages from the 'HAN Ready' format to one which is developer friendly.

Translation into Detailed Requirements

- 161 Obligations will be set out in the SEC to require the DCC to provide Parse and Correlate Software to DCC Service Users, and any other person that wishes to

- use it. The software will be non-proprietary and royalty free, except where royalties are due for mandated standards (e.g. ZigBee and DLMS / COSEM).
- 162 In order for the Parse and Correlate Software to be developed as a single ‘product’ it should be built in a standard programming language for application servers which are in widespread use. Following consultation with relevant stakeholders, it is proposed that the Java programming language will be used. The DCC will be required to consult with DCC Service Users to agree two universally available application servers for which it will build the software and provide ongoing support (and to refer to the SEC Panel in the event that agreement cannot be reached on the two).
- 163 The DCC will be required to satisfy itself that the developed code has been subjected to independent third party review and has satisfied a number of tests prior to its release. The DCC must also provide suitable opportunities to allow any DCC Service User to participate in the User Acceptance Testing if the User wishes to do so.
- 164 The DCC will be required to establish a secure method for distributing the Parse and Correlate Software so that its recipients can be assured that the software is authentic and has not been tampered with. The DCC will be required to provide the software in both source code format and as an executable file. The executable file should be capable of being installed by the DCC Service User without adversely impacting on any other software operating in the same environment.
- 165 The DCC will be required to provide DCC Service Users with support materials, and address problems with the use of the Parse and Correlate Software as part of its Incident Management regime. Users may request additional support from the DCC, subject to any applicable charges set out in Section K of the SEC. This assistance might include, for example, support for other versions of Java, or for other application servers.
- 166 The DCC will be not be required to hold a copy of all Parse and Correlate Software assets in escrow as all users will receive a copy of the source code itself.

Legal Text

Summary of new SEC Provisions

Changes to Section H

H11.1 to 7 set out obligations on the DCC in relation to the provision, maintenance and development of the Parse and Correlate Software.

H11.8 to 12 set out requirements related to the provision by the DCC of support and assistance to users.

H11.13 requires that the DCC separates resources used in the development of the Parse and Correlate Software from those used in the development or provision of the Transform functionality.

H11.14 sets out the rights to use the Parse and Correlate Software.

Consultation Questions

Parsing and Correlation

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| Q7 | Do you agree with our proposed text for the SEC with respect to Parsing and Correlation? Please provide a rationale for your views. |
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5.4 Enrolment and the Smart Metering Inventory

Description of the Issue

- 167 The DCC will maintain a Smart Metering Inventory which will list all Devices that are enrolled, or intended to be enrolled, as part of a Smart Metering System with the DCC, or which have subsequently been withdrawn or replaced (decommissioned). Devices can be listed on the inventory with a status of pending, installed not commissioned, commissioned, withdrawn or decommissioned. It should be noted that this is the minimum set of status values and it is expected that more will evolve over time.
- 168 An enrolled Smart Metering System is one with which the DCC can communicate over the SMWAN¹⁶. To become enrolled, all Devices that form part of that Smart Metering System:
- must first be pre-notified and accepted by the DCC for inclusion on the Smart Metering Inventory (i.e. have met the requirements of the Certified Products List and appropriate information about the Device provided to DCC); and
 - must then be commissioned – i.e. configured such that DCC can communicate with them over the SMWAN.
- 169 The precise steps that need to be taken to commission a Device differ, depending on the Device type.
- 170 A Communications Hub Function¹⁷ may be set to the status of commissioned when its connection to the SMWAN is successful. Other Devices which are on the Smart Metering Inventory, and are to form part of a Smart Metering System with a particular Communications Hub Function, may then be joined to the HAN formed by that Communications Hub Function and commissioned by the successful execution of the relevant Service Request.
- 171 Devices other than the Communications Hub Function will only be capable of being commissioned after the relevant Smart Meter with which they are to be associated has been commissioned.
- 172 Two types of Device exist:
- Type 1 Devices are those connected to the HAN, allowed to issue or perform a range of HAN Interface Commands, and able to access the

¹⁶ Devices form part of a Smart Metering System, and are only enrolled as part of that system, not in their own right.

¹⁷ The Gas Proxy Device is physically and Communications Hub Function may be physically part of the same Device (the 'Communications Hub'). However, for these purposes they are considered to be two separate Devices (and are treated as such elsewhere in the SEC, for example for the purposes of sending any commands and receiving responses to commands).

information stored in gas meters, electricity meters, or a gas proxy Device e.g. a PPMID. When commissioned, Type 1 Devices will form part of a particular Smart Metering System and hence will be associated with a particular Smart Meter. They will be held on the Smart Metering Inventory, and searchable by DCC Service Users; and

- Type 2 Devices include IHDs or any other Device connected to the HAN that provides consumer access to the information stored in gas meters, electricity meters, or a gas proxy Device. Type 2 Devices may be added to the Device log of the Communications Hub Function, and consequently receive communications over the HAN. They may also be associated with a particular Smart Meter within the Smart Metering Inventory.

- 173 An electricity Smart Metering System is considered to be enrolled in the DCC when the status for both the electricity Smart Meter and the Communications Hub Function have been set to 'commissioned' in the Smart Metering Inventory.
- 174 A gas Smart Metering System is considered to be enrolled in the DCC when a gas Smart Meter, a Gas Proxy Function and a Communications Hub Function have all been set to a status of commissioned in the Smart Metering Inventory.
- 175 Withdrawal from the Smart Metering Inventory occurs when an authorised Supplier requests (via a Service Request) that a Device is removed from, and thus ceases to receive, DCC Services, e.g. following a change of Supplier to an opting out Supplier¹⁸.
- 176 Replacement occurs when a DCC Service User replaces a Device, and continues DCC Services. In practice, the replacement process comprises decommissioning (see below), followed by commissioning.
- 177 Decommissioning of Devices has the same effect as withdrawal, except that the Device is removed from both the DCC Services, and the premises. Decommissioned Devices may be installed by the same, or another, Supplier once all data has been removed and all configuration and security settings re-set.
- 178 Processes and rules regarding the enrolment of a Smart Metering System with the DCC will be set out in the SEC, and will need to cover the commissioning, decommissioning and withdrawal of Devices. These rules will provide for scenarios where the SMWAN is and is not available when the Devices are installed. They will also address the establishment and maintenance of the Smart Metering Inventory, recording any change in Device status.

Translation into Detailed Requirements

Smart Metering Inventory

- 179 The DCC will be required to establish the Smart Metering Inventory, and be responsible for keeping it up to date to reflect the total population of operational Smart Metering Systems, as directed by DCC Service Users.
- 180 A DCC Service User who wishes to update the status of any Device on the Smart Metering Inventory must submit the relevant Service Request, e.g. a Commission Device Service Request. The DCC will process the Service

¹⁸ Smart Meters may only be opted out of the DCC service where they are installed in non-domestic premises

Request and, if successful, update the Smart Metering Inventory to change the status of that Device.

- 181 Suppliers will be required to keep the information held on the Smart Metering Inventory relating to Type 1 Devices under review, and rectify any errors through the submission of appropriate Service Requests.

Notification and Commissioning of Devices

- 182 Before any Device can be commissioned (and hence become part of an enrolled Smart Metering System, and thus allow eligible DCC Service Users to send and receive communications via the SMWAN) it must first be notified to the DCC for inclusion in the Smart Metering Inventory. This notification will generally take place before the Device has been physically installed.
- 183 Such Devices will have a status of 'pending'. DCC Service Users will be able to add 'pending' Devices to the Inventory (but in the case of meters and other Type 1 Devices, only Suppliers will be able to do this).
- 184 Meters that have been installed (i.e. added to the Device Log of the Communications Hub) but not yet commissioned will have a status of 'Installed Not Commissioned'.
- 185 Communications Hub Functions are considered to be commissioned once the Communications Hub Function successfully connects to the SMWAN. Upon this event, the DCC is required to set the status of the Communications Hub Function in the Inventory to 'commissioned'.
- 186 Other Devices (i.e. Smart Meters, Gas Proxy Functions and Type 1 Devices) are considered to be commissioned when the DCC changes the status of the Device to 'commissioned' in the Smart Metering Inventory. The relevant supplier is sent a notification to this effect.

Circumstances in which DCC should not commission a Device

- 187 The DCC will not be obliged to commission a Device under the following circumstances:
- where the Device is not listed within the Smart Metering Inventory (a prerequisite for which is being on the Certified Products List (CPL));
 - the Device status is not either 'Pending' or 'Installed not Commissioned' in the inventory (this latter status being made available for assistance with 'install and leave' processes);
 - the Communications Hub Function with which a Device is to be associated (via the meter) is not commissioned;
 - in the case of commissioning a Smart Meter, there is already a (commissioned) Smart Meter associated with the MPxN in the Smart Metering Inventory; or
 - in the case of a Device other than a Smart Meter, the meter with which it is to be associated is not yet commissioned.

Communications Hub Device Logs

- 188 The DCC will also be required to store information relating to the Device Log of the Communications Hub Function. This will allow the re-establishment of the HAN in the event that the Communications Hub Function is replaced.

- 189 The Device IDs of any Devices that are present in or added to the HAN that Communications Hub controls will be retained, along with any credentials required for establishing communications between the Communications Hub and the Device.
- 190 In the event of the failure of a Communications Hub, the Lead Supplier will be able to request that the DCC sends its stored copy of the Communications Hub Device Log to the new Communications Hub once it is commissioned, allowing the re-establishment of the HAN.
- 191 The DCC will not store any data held by the Gas Proxy. The relevant Gas Supplier will need, where possible, to retrieve any data from the Gas Proxy prior to the Communications Hub replacement event. It will also need to re-establish the links between the Gas Proxy and the Gas Meter.

Local Command Services

- 192 Once a Service Request has been transformed by the DCC, by default a Command destined for a Device will be sent over the SMWAN to that Device.
- 193 Optionally, and in addition, or as an alternative, DCC Service Users will also be able to request that the Command is returned to them over the DCC User Gateway. This allows the Command, for instance, to be loaded onto a Hand Held Terminal for local delivery to the HAN.
- 194 Where such Commands have an impact on the DCC Inventory (e.g. changes the status of a device from ‘Pending’ to ‘Installed not Commissioned’), the DCC Service User is required to return the Service Response to the DCC so that inventory records can be updated.

Legal Text

| Summary of new SEC Provisions | |
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| Changes to Section H | <p>H5.1 to H5.4 set out when enrolment occurs, set out restrictions relating to the commissioning of devices and sets out that enrolment services do not have to be provided for areas where it is not required to do so by virtue of a statement of service exemptions.</p> <p>H5.5 to H5.13 deal with the establishment, maintenance and use of the Smart Metering Inventory.</p> <p>H5.14 to H5.16 set out provisions relating to the installation of devices.</p> <p>H5.17 to H5.27 set out provisions relating to commissioning of Communications Hub Functions, other devices and post-commissioning obligations.</p> <p>H5.28 to H5.32 set out provisions relating to reactivating decommissioned or withdrawn devices, and replacement of Communications Hub Functions.</p> <p>H6.1 to H6.6 set out provisions relating to the decommissioning of Devices.</p> <p>H6.7 to H6.9 set out provisions relating to the withdrawal of Devices.</p> |

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| | H6.10 requires that the DCC notifies the relevant network company as soon as reasonably practical of the decommissioning or withdrawal of a Smart Meter |
| Changes to Section K | K7.3 consequential amendment to the Explicit Charging Metrics to reflect User Gateway Services |

Consultation Questions

Enrolment in The Smart Metering Inventory

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| Q8 | Do you agree with our proposed text for the SEC with respect to Enrolment in the Smart Metering Inventory and other associated processes? Please provide a rationale for your views. |
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5.5 Communications Hub: Intimate Physical Interface

Description of the Issue

- 195 In Part 2 of our response to the SMETS 2 consultation¹⁹, we confirmed that the DCC would be required, through the CHTS, to provide Communications Hubs with an Intimate Physical Interface²⁰. This interface will be the means by which power is provided to the Communications Hub for its operation.
- 196 The provision of an Intimate Physical Interface on the Communications Hub is likely to introduce significant efficiencies for meter installation and maintenance, as this will allow the Communications Hub to be fitted directly to an electricity meter with a compatible interface (an intimate electricity meter²¹). Energy Suppliers have indicated that this is the type of installation they will seek to perform in the vast majority of premises.
- 197 For a small number of premises or in certain scenarios (for example where space in the meter box is limited or where a gas Supplier is installing Smart Metering equipment in advance of the electricity Supplier), it may not be possible to connect the Communications Hub directly to the electricity meter. In these instances a 'hot shoe'²² would be used to connect the Communications Hub (again via its Intimate Physical Interface) with the unmetered power supply in the premises.
- 198 The use of a standardised physical interface is essential to ensure the interoperability of equipment provided by the DCC and different Suppliers. Therefore, under Schedule 5 of its Licence, the DCC is required to develop a single specification for the Intimate Physical Interface between

¹⁹ <https://www.gov.uk/government/consultations/smart-metering-equipment-technical-specifications-second-version>

²⁰ Previously, the Intimate Communications Hub Interface

²¹ We do not envisage, at least in the short term that, that intimate Gas Smart Meters will be deployed

²² A hot shoe would provide an alternative means, to the intimate electricity meter, to provide an unmetered power feed to the communications hub

Communications Hubs, meters and hot shoes - the Intimate Communications Hub Interface Specification (ICHIS).

- 199 While Schedule 5 will not require that the ICHIS is incorporated in the SEC, we will require through the SEC that the DCC maintains the ICHIS and follows a prescribed process before making any amendments to it. This will ensure that SEC Parties are consulted on whether the ICHIS remains fit for purpose, and on the appropriateness of any proposed changes.
- 200 The Supplier installing the Communications Hub will be required also to provide the power supply, but will be free to determine whether this is via an intimate electricity meter or a hot shoe. In each case the physical interface with the Communications Hub must meet the DCC's design - i.e. comply with the requirements set out in the ICHIS.

Translation into Detailed Requirements

- 201 The SEC will set out the requirements that the ICHIS must meet, including that it describes the physical, electrical and data interface between the Communications Hub and either the electricity meter or hot shoe. The ICHIS must only use components and Intellectual Property Rights that are available on a reasonable and non-discriminatory basis
- 202 The SEC will also place an obligation on the DCC to continue to maintain the ICHIS. The DCC will be required to keep the ICHIS under review to ensure that it remains fit for purpose and will be required, from time to time or on the SEC Panel's instruction, also to consult SEC Parties on this matter.
- 203 Following each review, the DCC will publish a report on the outcome of the review setting out details including:
- how the review was undertaken;
 - whether the DCC proposed to amend the ICHIS;
 - summaries of consultation responses;
 - the rationale for the DCC's position;
 - costs that are expected to result from the DCC's proposals; and
 - the steps it has taken to ensure any proposed amendments are fit for purpose (for example, prototype testing).
- 204 SEC Parties will be given ten days to consider the report and to appeal to Ofgem if they feel that the consultation was not conducted as specified. If the appeal is upheld the DCC will be required to repeat the consultation. If Ofgem rejects the appeal or where there are no appeals, any amendments proposed will be applied.
- 205 The DCC will also be required to publish the ICHIS on its website and ensure that it can be used free of charge.

Legal Text

Summary of new SEC Provisions

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| Changes to Section H | H11.1 will require the DCC to maintain the ICHIS. H11.2 states that the ICHIS must describe the physical, electrical and data |
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| | <p>interface between the Communications Hub and either the electricity meter, gas meter or hot shoe.</p> <p>H11.3 requires the ICHIS to be able only to rely on components and Intellectual Property Rights that are available on a reasonable and non-discriminatory basis.</p> <p>H11.4 requires that the ICHIS is published on the DCC website and available to SEC Parties free of charge.</p> <p>H11.5 and H11.6 require the DCC to review and consult SEC Parties, at least annually, as to whether the ICHIS remains appropriate for the purposes of the SEC, and report to the Secretary of State (or Ofgem) against a set of criteria.</p> <p>H11.7 and H11.8 state that any amendments to the ICHIS which are set out in the review report will take effect unless the Secretary of State or Ofgem direct otherwise in a period of 20 days (or longer if the Secretary of State or Ofgem so directs) following publication of the report.</p> |
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Consultation Questions

Intimate Communications Hub Interface

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| Q9 | Do you agree with our proposed text for the SEC with respect to the Communications Hub: Intimate Physical Interface? Please provide a rationale for your views. |
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5.6 DCC Service Management

Description of the Issue

- 206 DCC Service Management refers to the DCC's management of its IT systems, processes and procedures, in order to underpin the delivery of Services to DCC Service Users.
- 207 The DCC will need to ensure its systems (and processes) continue to operate effectively and efficiently to support the delivery of its services to users. Consequently, the DCC will need to undertake maintenance activity on its systems from time to time. To minimise the impact on service delivery, maintenance activity should be undertaken at a time where it would have the least impact on services.

Translation into Detailed Requirements

- 208 The SEC will require that the DCC will undertake Service Management in line with the principles of the IT Infrastructure Library® (ITIL)²³, as this provides a practical framework for identifying, planning, delivering and supporting IT

²³ The Information Technology Infrastructure Library – a registered Trade Mark of the Cabinet Office; it provides a framework of Best Practice guidance for IT Service Management which includes Incident Management, Business Continuity and Disaster Recovery. For further information: <http://www.itil-officialsite.com/home/home.aspx>

services to the business of an organisation. The SEC Panel can approve the use of alternative methodologies.

- 209 Broadly speaking, DCC system changes will be driven by either SEC modifications, or by the DCC's need to update or maintain its internal systems. Periodically, it may be necessary to combine system changes arising from each source for implementation as a single 'Release'.
- 210 Changes resulting from SEC modifications will be dealt with as part of the SEC modification process. The SEC Panel will be required to prepare a Panel Release Management Policy, which will govern the implementation of any releases which include changes arising from the modifications process.
- 211 The SEC Panel will be required to consult with DCC Service Users in preparing the Panel Release Management Policy. The Policy will include a mechanism for setting priorities for different types of releases, define periods of change-freeze during which no releases can be implemented, and define notice periods to DCC Service Users of any release.
- 212 Other 'internal' DCC system changes and maintenance activities will be undertaken at the discretion of the DCC, subject to specified rules in the SEC, under the auspices of the DCC Release Management Policy.
- 213 The DCC must minimise the downtime required for planned maintenance of its systems and ensure that it takes place at times least disruptive to DCC Service Users' businesses. The DCC must publish a schedule of maintenance for any month in advance of that month. Panel agreement is required if the DCC needs to undertake maintenance resulting in more than four hours of service disruption per month, or undertake such maintenance within specified hours.
- 214 The DCC may make changes to its internal systems without consulting DCC Service Users where the change is considered non-disruptive.
- 215 Where a proposed change to the DCC's internal systems may pose a material risk of disruption to DCC Service Users, the DCC must:
- inform the DCC Service Users and the Technical Sub-Committee;
 - provide the opportunity for DCC Service Users to be involved in testing; and
 - provide advance notice of the implementation of the proposed change.
- 216 The DCC Release Management Policy forms part of the Technical Specifications (see Annex 3), and will be developed in accordance with the procedures set out in paragraph 37 *et seq.*

Legal Text

Summary of new SEC Provisions

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| Changes to Section D | D6.8(c) extends consideration of the implementation timetable for any Modification Proposal during the Refinement Process to include consistency with the Release Management Policy D10.7 to 9 sets the scope and requirements associated with the Release Management Policy. |
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| Changes to Section H | <p>H8.2 to H8.6 set out provisions relating to Maintenance of the DCC Systems.</p> <p>H8.7 sets out provisions relating to DCC Internal Systems Changes.</p> <p>H8.8-11 set out provisions relating to Release Management.</p> |
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Consultation Questions

DCC Service Management

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| Q10 | Do you agree with our proposed text for the SEC with respect to DCC Service Management? Please provide a rationale for your views. |
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5.7 Incident Management

Description of the Issue

- 217 On commencement of the provision of DCC Services to DCC Service Users, a process will need to be in place to manage any event which is not part of the standard operation of a service and which causes, or may cause, an interruption to or a reduction in, the quality of those services.
- 218 An event such as this is defined as an ‘incident’. An incident management framework must be put in place to identify, raise, allocate responsibility for, close and track incidents relating to the Services the DCC is obliged to provide, so as to restore normal services to the DCC, DCC Service Users and consumers.
- 219 The ultimate objective of the incident management process is to reduce the risk of, and manage any lack of continuity in service. Preventing disruption to service will be necessary to ensure the delivery of the net benefits outlined in the SMIP business case.
- 220 High level incident management obligations are captured in the DCC Licence. However, these will not be binding on DCC Service Users, including Suppliers who in particular will play a pivotal role regarding incident management. Provisions are therefore required in the SEC which set out detailed requirements for both the DCC and its Service Users to ensure the timely resolution of incidents.

Translation into Detailed Requirements

- 221 Section H9 of the SEC defines an incident management framework for the DCC and DCC Service Users, which reflects SMIP policy relating to roles and responsibilities, and the end-to-end architecture.
- 222 The proposed SEC framework sets out parameters for creating and maintaining an Incident Management approach, boundaries of responsibility, and parameters for managing major service and security incidents. It is proposed that the principles of ITIL® will be adopted as the basis for incident management, and the DCC and DCC Service Users will be required to adopt

these in their approach. However, DCC Service Users' staff will not be required to be ITIL[®] practitioners.

Establishing an Incident Management approach

223 Under Schedule 5 of its Licence, the DCC will be obliged to draft an initial Incident Management Policy²⁴. This will be produced and incorporated into the SEC in line with the approach set out in paragraph 37 *et seq.*

224 Together with the associated procedures and key performance indicators, the Incident Management Policy must cover areas such as:

- categorisation, prioritisation and allocation of incidents;
- who is a responsible or an interested party in each category/Incident;
- keeping interested and responsible parties informed;
- how soon different incidents should be resolved; and
- rules for Major Incidents (described further below).

225 The DCC will be obliged to provide, maintain and keep up to date a central Incident Management Log on the DCC User Self Service Interface, in which DCC Service Users can log incidents. Where an incident has been allocated to a DCC Service User for investigation, that User will be required to keep the Incident Management Log updated with a record of all activity carried out to investigate the incident and any diagnostic data received.

226 Appropriate access rights to the Incident Management Log for DCC Service Users (such as ability of Users to update incident records) will be set out in the Incident Management Policy. DCC Service Users wishing to log or update incidents will first be required to attempt to diagnose and resolve incidents using the DCC's remote diagnostic tools.

227 If an incident cannot be diagnosed or resolved using the remote diagnostic tools, then the DCC Service User will raise an incident. When it receives the incident, the DCC can inform interested and responsible parties, or allocate responsibility to the registered Supplier where appropriate. It is expected that the incident management approach will be highly automated, to minimise staffing and resource costs to all parties, whilst ensuring speed and efficiency.

Boundaries of Incident Management responsibility

228 The SEC will set out how responsibility for resolving incidents is split between different SEC Parties. The DCC will be responsible for the closure of incidents relating to:

- the communications network (i.e. the Communications Hub and SMWAN);
- the data services outside of the home;
- ongoing remote operational maintenance of the Communications Hub; and
- Communications Hub remote upgrades.

229 The Supplier will be responsible for the closure of incidents relating to:

- a Smart Meter;

²⁴ Formally documented expectations and intentions used to direct decisions and to ensure consistent and appropriate development and implementation of processes, standards, roles, activities, IT infrastructure and so on: http://www.itil-officialsite.com/InternationalActivities/ITILGlossaries_2.aspx

- an IHD (as per licence obligations);
 - premises HAN; and
 - circumstances where the Supplier is required to make a visit to the premises (this would include any incidents affecting of the Communications Hub that could not be resolved remotely, including the gas-proxy function).
- 230 Where communications equipment is not shared, then the Supplier whose meter is served by that equipment would take responsibility for resolving an incident.
- 231 However, it is acknowledged that in many circumstances, there may be more than one Supplier sharing communications equipment in the home. In such circumstances, and based on the general policy principles already established for the SMIP, it is proposed that the lead Supplier assumes responsibility for resolving incidents relating to shared equipment where there is a need to make a visit to a premises. Where there are different energy import suppliers, the electricity import supplier takes responsibility for shared communications equipment over a gas supplier. Import suppliers would assume the lead over export suppliers, where they are different.
- 232 It will be necessary to ensure that where one Supplier is required to resolve an incident affecting shared communications equipment, that Supplier should not delay in addressing it, given that other Suppliers depend on that communications equipment.

Major Incidents

- 233 ITIL[®] describes a Major Incident as an incident which causes serious interruption to business activities and must be solved with greater urgency²⁵. Characteristics could include a higher cost implication or reputational damage, for example a systems database becoming corrupted. The SEC requires the rules for the declaration and resolution of Major Incidents to be included in the Incident Management Policy.
- 234 Given the serious nature of Major Incidents, ITIL[®] includes the principle of Major Incident Managers. This is where the party responsible for a Major Incident will nominate an appropriate employee as the Major Incident Manager, responsible for co-ordinating efforts to resolve and close it. In a Major Incident, the DCC will be required to nominate a DCC employee as the DCC Major Incident Manager, and notify affected parties. The DCC Major Incident Manager will work with the responsible party's Major Incident Manager (as applicable) to commission investigative, diagnostic, recovery and resolution efforts.
- 235 Following resolution of the Major Incident, the responsible party will be required to conduct a review, and produce a report for the SEC Panel and Ofgem within two working days. The review, and the resulting report, should identify the nature, cause and impact of the Major Incident, what actions were taken to remedy or minimise the expected consequences, and review the controls and mitigation in place against such incidents and their effectiveness. It should also identify weaknesses and outline how they will be addressed to minimise the risk

²⁵ ITIL[®] - English Glossary and Abbreviations 2011 (http://www.itil-officialsite.com/InternationalActivities/ITILGlossaries_2.aspx)

of a repeat occurrence, for example any proposed changes to the Incident Policies or regulatory framework that are felt to be necessary.

Governance

- 236 As set out above, the DCC Incident Management Policy will be developed in consultation with SEC Parties and be incorporated into the SEC in line with the processes set out in paragraph 37 *et seq*. This will ensure the needs of the DCC and the DCC Service Users are both taken into account, and will prevent any disproportionate resource or other implications being unilaterally imposed on DCC Service Users.
- 237 Section H13.1 of the SEC includes performance measures which set out target and minimum service levels for the resolution of incidents, which must be published by the DCC. These Service Levels set out the percentage of incidents which have been resolved within defined target time for different categories of incident. The target times for resolving incidents will be set out in the Incident Management Policy which is created by the DCC in consultation with SEC Parties.

Legal Text

Summary of new SEC Provisions

Changes to Section H

H9.1 and H9.2 set out the required content of the Incident Management Policy that must be created by the DCC, and also the principles for the allocation of responsibility for incidents.

H9.3 to H9.7 set out the requirements for the establishment, maintenance and access to an Incident Management Log, including how incidents are added and responsibilities for resolving incidents.

H9.8 to H9.11 describe the concept of a Major Incident, and procedures to follow if they arise.

H9.12 sets out that the SEC Panel will determine any dispute relating to incident management under section H10.

Consultation Questions

Incident Management

- Q11 Do you agree with our proposed text for the SEC with respect to Incident Management? Please provide a rationale for your views.

5.8 Self-Service Interface

Description of the Issue

- 238 The DCC Licence requires the DCC to provide a number of enabling services as defined by the SEC. One of these services is the provision of a self-service interface ('the SSI').
- 239 The SSI will be a portal that enables DCC Service Users to search for information on DCC services, and to enter details of updates that facilitate their engagement with the DCC. The interface will also serve as a means for DCC Service Users to access information / materials, e.g. FAQs and guides.
- 240 The SSI will only be available to DCC Service Users following the successful completion of User Entry Processes. SEC Parties that have not completed User Entry Processes will not be able to use the SSI.
- 241 Facilities may be provided to allow the DCC Service User to run query reports via the SSI - for example, to determine all the meters of a particular type installed within the User's portfolio.
- 242 The SSI should be the DCC Service Users' first point of contact for general queries, and is intended to help reduce the volume of queries raised directly with the DCC Service Desk. It will be developed in accordance with the SSI Design Specification, which will set out the format and structure of the interface.
- 243 To ensure that the SSI is sufficiently secure, the SSI Design Specification must include, as a minimum, a mechanism to support mutual authentication across the SSI, enabling:
- each DCC Service User to confirm the authenticity of the information responses received from the DCC; and
 - each DCC Service User to confirm the authenticity of information requests from each DCC Service User personnel.
- 244 The SSI Code of Connection will describe how DCC Service Users may access the SSI, and set out any constraints on usage.
- 245 The DCC is required to develop both the SSI Design Specification, and the SSI Code of Connection, under Schedule 5 of its licence. Both documents will then be incorporated into the SEC as set out in paragraph 37 *et seq.* An indicative contents list for both documents is provided in Annex 4.5 (the SSI Specification) and Annex 4.6 (the SSI Code of Connection).

Translation into Detailed Requirements

- 246 The DCC will be required to provide an SSI in line with the SSI Interface Specification, and to make it available on a 24/7 basis, 365 days per annum, subject to permitted planned maintenance as set out in paragraph 213.
- 247 DCC Service Users will be required to take all reasonable steps to resolve any queries and incidents through the SSI, before contacting the DCC Service Desk. The DCC will be required to provide a mechanism which allows DCC Service Users to feed back on SSI information content.
- 248 The DCC will be required to provide specific information that would be of benefit to DCC Service Users, for example:

- access to data contained within the DCC Inventory;
- the ability to download forms;
- SMWAN coverage status information by full postcode, to inform the registered Supplier's installation process;
- Service Request details, to enable the DCC Service User to raise queries in relation the Service Requests that have been sent across the DCC User Gateway. Such information should be available on the SSI for three months, with archived information being available for a minimum of seven years;
- the provision to log incidents as set out in Incident Management (paragraph 225): and
- for Suppliers, facilities to support the forecasting and ordering of Communications Hubs and auxiliary equipment.

249 Beyond this requirement, the DCC will also have the ability to present additional information on the SSI which would be deemed useful to the DCC Service Users.

250 Certain information available over the SSI will be specific to individual DCC Service Users. Access arrangements will therefore be required which enable DCC Service Users to access only the information they are entitled to view. These arrangements will be set out in the SSI Code of Connection.

251 The DCC will provide technical access credentials to the DCC Service Users, and these will determine the eligibility requirements for SSI use. These credentials will include, for example, password requirements and minimum browser specifications.

252 As with any interface that seeks to support a number of users, it may be necessary for the number of concurrent users from a single DCC Service User to be limited to ensure all DCC Service Users gain equivalent access to the interface.

Legal Text

Summary of new SEC Provisions

| | |
|-----------------------------|--------------------------------------------------------------------------------------------------|
| Changes to Section H | H8.14 to H8.17 set out provisions relating to maintenance and use of the Self Service-Interface. |
| Changes to Section M | M10.1 has been extended to include communications sent over the Self-Service Interface. |

Consultation Questions

Self-Service Interface

| | |
|-----|----------------------------------------------------------------------------------------------------------------------------------------|
| Q12 | Do you agree with our proposed text for the SEC with respect to the Self-Service Interface? Please provide a rationale for your views. |
|-----|----------------------------------------------------------------------------------------------------------------------------------------|

5.9 DCC Service Desk

Description of the Issue

253 The DCC will be required under the SEC to provide a Service Desk. This is intended as a secondary communications channel for DCC Service Users should they be unable to resolve their query, or log an incident, via the Self Service Interface (see paragraph 225).

254 The DCC Service Desk will form the primary communications channel for SEC Parties who are not DCC Service Users. SEC Parties will be able to raise general queries. However, specific incidents are directly associated with Service Requests, and can therefore only be raised by DCC Service Users.

Translation into Detailed Requirements

255 The SEC will oblige the DCC to ensure that the Service Desk:

- can be accessed by all DCC Service Users and SEC Parties via telephone, email or via the Self Service interface;
- is available on a 24/7 basis, 365 days per annum.

Legal Text

Summary of new SEC Provisions

| | |
|-----------------------------|-------------------------------------------------------------------------|
| Changes to Section H | H8.18 sets out provisions relating to availability of the Service Desk. |
|-----------------------------|-------------------------------------------------------------------------|

Consultation Questions

DCC Service Desk

| | |
|-----|----------------------------------------------------------------------------------------------------------------------------------|
| Q13 | Do you agree with our proposed text for the SEC with respect to the DCC Service Desk? Please provide a rationale for your views. |
|-----|----------------------------------------------------------------------------------------------------------------------------------|

5.10 DCC Service Level Performance

Description of the Issue

256 The Service Provider contracts include provisions that allow the DCC to monitor service performance, and also provide for reductions in payments to the Service Providers to reflect the level of service received via a service credit regime. The envisaged monitoring of service performance is at a system-wide level rather than by DCC Service User. Therefore, the service credits accruing to the DCC will be reflected in the DCC's price control, and lead to lower fixed per meter charges for DCC Service Users in subsequent regulatory years.

257 The inclusion of service performance monitoring coupled with financial incentives is a standard feature of technology-related contracts, to ensure an

appropriate level of service. The DCC also has licence obligations related to the monitoring of service performance.

- 258 At some level these provisions need to be reflected in the SEC, to ensure there is appropriate reporting of service performance to DCC Service Users and maintenance of performance standards. A mechanism is also needed that enables the DCC to manage specific elements of its Service Providers' performance flexibly, while ensuring DCC Service Users have a say over the overall performance levels required.

Translation into Detailed Requirements

- 259 The SEC will require the DCC to meet the Target Response Times for Service Request and Alerts as set out in paragraph 128. Additionally the DCC will be required to report on the extent to which this has actually happened in practice, in percentage terms over a month.
- 260 The SEC sets out a series of 'Code Performance Measures' against which the DCC must report. If the DCC manages to achieve greater than the Minimum Service Level, but less than the Target Service Level for the actual Response Times, it is required to explain the cause of this.
- 261 Where the DCC fails to achieve the Minimum Service Level, it must additionally report on the steps it is taking to ensure that the degradation in performance is rectified.
- 262 These performance measures and supporting response times are consistent with combined measures set out in Service Provider Contracts at the time of contract award, summarised in the table below.

| Number | DCC Performance Measure | DCC Target Service Level | DCC Minimum Service Level |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------|
| 1 | Percentage of On-Demand Service Responses delivered within the applicable Target Response Time | 99% | 96% |
| 2 | Percentage of Future-Dated Service Responses delivered within the applicable Target Response Time. | 99% | 96% |
| 3 | Percentage of Alerts delivered within the applicable Target Response Time. | 99% | 96% |
| 4 | Percentage of Incidents within either Incident Category 1 or Incident Category 2 that are resolved in accordance with the Incident Management Policy within the Target Resolution Time. | 99% | 85% |
| 5 | Percentage of Incidents within one of Incident Category 3, Incident Category 4 or Incident Category 5 that are resolved in accordance with the Incident Management Policy within the Target Resolution Time. | 90% | 80% |

- 263 The SEC will also oblige the DCC to publish the service levels thresholds specified within the Service Providers' contracts, and to consult with

stakeholders prior to implementing any adjustment to those service levels thresholds.

- 264 Thus the DCC will have the flexibility to adjust the detailed performance measures of its Service Providers following consultation, but if it wants to change the aggregate performance levels against which it reports, it must raise a modification under the SEC to change the code performance measures. DCC Service Users may also raise modifications to propose changes to these code performance measures.
- 265 In tandem with these obligations, the DCC will be required to report monthly on the level of service received by the DSP and each CSP as per a range of service measures that are set out in each Service Provider's contract. These service measures are typical for technology related contracts covering a range of matters e.g. network connectivity and availability, transaction times; helpdesk support and testing.
- 266 This DCC reporting related to the DSP and each CSP will also highlight the anticipated size of the reduction in costs charged to the DCC as a result of service credits accruing to the DCC, to be passed onto service users under the price control regime (via lower service charges in a future charging statement). Consequently the provisions in the Section K of the SEC allowing for the allocation of service credits to specific users (as opposed to a general reduction in fixed charges) has been deleted.

Legal Text

Summary of new SEC Provisions

| | |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Changes to Section H | H.13.1 sets out Code Performance Measures. H.13.2 to 5 deals with Service Provider Performance Measures and change management. |
| Changes to Section K | K9.6 has been deleted as a consequence of the introduction of the Section H provisions. |

Consultation Questions

Service Level Agreements for Testing

| | |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Q14 | Do you agree with our proposed text for the SEC with respect to the Service Level Agreements for Testing? Please provide a rationale for your views. |
| Q15 | Does the inclusion of DCC aggregate performance measures in the SEC, and the consequential reduction in future service charges, appropriately balance the need for the DCC to manage its Service Providers flexibly with the need for DCC Service Users to have a say regarding performance targets? Please give reasons for your answer. |

5.11 Managing Demand

Description of the Issue

- 267 In order to inform the procurement process, we engaged with Suppliers and Network Operators to obtain aggregate demand estimates for Services. Based on the information available, the procurement was against a maximum monthly capability which assumes a very high demand scenario. Thus, the DSP and CSPs are contracted with the DCC to provide a finite monthly capability to process Service Requests.
- 268 Given the limit on procured capability, we have identified a specific subset of User Gateway Services where unfettered demand could breach the DCC's total monthly capability related to the processing of frequent small messages (half hourly profile data) and high capacity messages (firmware updates).
- 269 Allocations have been made to Suppliers and Network Operators (as appropriate, depending upon the type of Service) for this subset of Services. The allocations were based on an annual limit, which are now converted into monthly limits.
- 270 We consider that forecasting and reporting of usage by DCC Service Users is required (both for aggregate levels of Service and against the specific subset of Services identified), to enable the DCC to manage the demand for Services over time, and to enable visibility of behaviour to identify whether any individual DCC Service User is using more than its monthly allocation.

Translation into Detailed Requirements

- 271 Monthly limits (or 'thresholds') will be set out in the User Gateway Services Schedule in the SEC for a limited number of Services within that Schedule. In order to support the DCC's management of the service capability, every DCC User will be required to provide the DCC with a six month forward forecast of their monthly consumption of Service Requests.
- 272 Each month, the DCC will be required to report on usage by Service Request to each DCC Service User (including a comparison against forecast) and also publish aggregate usage of Service Requests on the DCC Website. The DCC shall report to the SEC Panel and all SEC Parties where any DCC Service User's monthly usage for any Service Request is greater than or equal to 110% of either their monthly forecast, or their monthly threshold.
- 273 Over time, the need for a more detailed process for managing demand may emerge. The SEC will therefore oblige the DCC to bring forward a SEC modification that will implement traffic management rules to apply at times of system stress, as soon as it considers it necessary.

Legal Text

Summary of new SEC Provisions

| | |
|-----------------------------|--------------------------------------------------------------------------|
| Changes to Section H | H3.38 to H3.43 address the managing of demand for User Gateway Services. |
|-----------------------------|--------------------------------------------------------------------------|

Consultation Questions

Managing Demand

| | |
|-----|-----------------------------------------------------------------------------------------------------------------------------|
| Q16 | Do you agree with our proposed text for the SEC with respect to Managing Demand? Please provide a rationale for your views. |
|-----|-----------------------------------------------------------------------------------------------------------------------------|

6 Security Requirements

Description of the Issue

- 274 The security of the End-to-End Smart Metering System is essential for the reliable delivery of communication to and from Smart Meters. As previously described in the SMETS 2 consultation²⁶, we have worked with stakeholders through the Security and Technical Expert Group (STEG) and other routes to derive security requirements, designed to protect the security the End-to-End Smart Metering System.
- 275 In addition to the detailed work with security experts through the STEG, we have briefed and involved wider stakeholders on the security architecture and security assurance proposals which take the security requirements into account. The wider stakeholders have included the Solutions Design Advisory Group (SDAG), and the Small Supplier's Forum. We have also held discussions with stakeholders, including RDPs and Non-Domestic Suppliers, on specific areas of interest.
- 276 The security requirements are, where appropriate, linked to industry good practice disciplines. They are divided into requirements for the DCC and different groups of DCC Service Users (i.e. Suppliers, Network Operators, Other DCC Service Users) and RDPs. The requirements reflect the fact that the level of security controls required depends on each party's rights and capabilities and the role they each play in protecting the security of the End-to-End Smart Metering System²⁷.
- 277 Once the security requirements stabilised, they have subsequently been translated into SEC security obligations. Comments are invited on the security obligations or the way they are expressed. Our stakeholder engagement during the consultation will also provide opportunities for industry groups to discuss the security requirements and their translation into the SEC.
- 278 Comments are also invited on the appropriateness and / or proportionality of the security obligations to the rights and capabilities of particular types of DCC Service Users to their role.
- 279 It is proposed that the security obligations will take effect from the time the changes to the SEC are designated. However it should be noted that while DCC Service User obligations in respect of the development of their systems will take effect from that time, any obligations in respect of the operation of their systems may actually become effective from the time of user integration testing with the DCC. The proposed arrangements will be kept under review in light of further consideration of testing and trialling arrangements and the definitions of DCC Service User and RDP systems.

²⁶ <https://www.gov.uk/government/consultations/smart-metering-equipment-technical-specifications-second-version>

²⁷ <https://www.gov.uk/government/consultations/smart-metering-equipment-technical-specifications-second-version>

Future consultations concerning security

280 Further consultation will be undertaken later this year to gather views on specific matters, including:

- the general obligations concerning the governance and management of the security arrangements (including the Smart Metering Key Infrastructure (SMKI)) via the proposed SEC Security Sub-Committee and SMKI Policy Management Authority. (Note that the policy intent for governance and maintenance of the security arrangements was originally considered and concluded as part of the SMETS 2 consultation²⁸);
- the detailed arrangements and obligations for the operation of the SMKI service and the certificate policies that will underpin it;
- the security recertification arrangements for smart metering equipment that fall within the scope of CESG Commercial Product Assurance (CPA) certification²⁹;
- any restrictions that need to be placed on the geographical location of system controls, and testing and trialling arrangements. These may contribute to further consideration of the definition of DCC Service User and RDP systems that are subject to the security obligations; and
- an overarching licence condition for Suppliers, to reinforce the importance of security, supplementing the SEC obligations that will be placed upon them (and replacing their existing licence condition). This will also cater for Suppliers operating Smart Meters outside of the DCC.

Translation into Detailed Requirements**System, Organisation and Information Security - General Obligations on the DCC, DCC Service Users and RDPs**

281 Consumers are dependent on the secure operation of the DCC and DCC Service Users. Obligations will therefore be placed on the DCC and DCC Service Users to ensure the overall security of their systems. The DCC must not provide services to SEC parties who have not successfully completed a User Entry Process, which amongst other things requires DCC Service Users to demonstrate compliance with their security obligations.

282 The SEC will require the DCC to put in place a set of controls designed to protect the security of its systems and the data held on them. DCC Service Users will also have obligations in respect of the security of their systems. Given their role in protecting the security of the End-to-End Smart Metering System, Suppliers and Network Operators will have greater responsibilities with regards to the protective monitoring of their systems than Authorised Third Parties.

283 The DCC will be required to ensure the reliability of its personnel dealing with data and systems. The SEC will also place specific obligations on Suppliers and Network Operators in relation to organisational security to reflect their rights and capabilities.

²⁸ <https://www.gov.uk/government/consultations/smart-metering-equipment-technical-specifications-second-version>

²⁹ as set out in the Government Response to the SMETS 2 Consultation (above)

- 284 The DCC and all DCC Service Users will have an obligation to establish a robust process for security risk identification and management. This obligation will extend to RDPs given the importance of registration data in the routing of DCC Service User’s Service Requests to and from Smart Meters.
- 285 The SEC will also place obligations on the DCC, all DCC Service Users and RDPs in respect of information security management. However the breadth of these obligations will depend on the role they each play in protecting the security of the End-to-End Smart Metering System.

Sanctions, Liabilities and Disputes

- 286 SEC 1 contains provisions for sanctions, liabilities and disputes. While we consider that the sanctions and liabilities provisions adequately address security breaches, disputes in relation to SEC Parties' compliance with the security obligations are likely to require detailed 'expert' knowledge of the SEC obligations. We therefore consider that they should be determined by the SEC Panel, with the support of the Security Sub-Committee, subject to appeal to arbitration.

Legal Text

| Summary of new SEC Provisions | | | |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------------------|
| Changes to Section G | G1 sets out how Section G should be interpreted | | |
| | G2 sets out DCC obligations in respect of the security of its systems and the data held on them, while DCC Service User obligations in respect of the security of their systems are at G3. | | |
| | The obligations and their respective SEC references are tabulated below: | | |
| | Security obligations | DCC | DCC Service User |
| | Guarding against unauthorised activities on systems and taking appropriate remedial action if the systems have been compromised | G2.1 to G2.9 | G3.1 to G3.3 (All DCC Service Users) |
| | Management of security incidents and reporting Major Security Incidents to Security Sub-Committee | G2.10 to G2.11 | G3.4 to G3.5 (All DCC Service Users) |
| | Design and operation of systems in accordance with industry good practice | G2.12 | G3.6 (All DCC Service Users) |

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------|
| <p>Operation of the time and event based vulnerability monitoring of systems in accordance with industry good practice. Reporting material vulnerabilities or failures to the Security Sub-Committee</p> | <p>G2.13 to G2.15</p> | <p>G3.7 to G3.9 (Suppliers and Network Operators)</p> |
| <p>Secure management of data</p> | <p>G2.16 to G2.18</p> | <p>G3.10 (All DCC Service Users)</p> |
| <p>Separation of certain components of its systems from each other</p> | <p>G2.19 to G2.20</p> | <p>G3.11 (All DCC Service Users)</p> |
| <p>Protective monitoring of systems in accordance with industry good practice</p> | <p>G2.21 to G2.25</p> | <p>G3.12 to G3.13 (Suppliers)</p> |
| <p>Notification of vulnerabilities to and by manufacturers</p> | <p>G2.26 to G2.29</p> | <p>G3.14 to G3.17 (All DCC Service Users)</p> |

G4 sets out obligations on the DCC, Suppliers and Network Operators in respect of organisational security:

- G4.1 to G4.2 require Suppliers and Network Operators to screen their personnel who have access to their systems and data; and
- G4.3 to G4.6 require the DCC to screen its personnel with access to data in accordance with the assigned level of privileges and ensure separation of duties between certain personnel.

G5 sets out obligations on the DCC and DCC Service Users in relation to information security³⁰:

- G5.1 to G5.2 require the DCC and DCC Service Users to carry out time and event based risk assessments of their respective systems in accordance with industry good practice. RDP obligations are in E2.14; and
- G5.3 to G5.12, G5.13 to G5.19 and E2.14 require the DCC, DCC Service Users and RDPs (respectively) to comply with industry good practice in respect of information security. The DCC and DCC Service Users are required to establish an Information Security

³⁰ As set out in the two bullet points, respective RDP obligations are in E2.14

| | |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Management System (ISMS). The minimum scope of the ISMS is described in the SEC and includes the establishment of information security policies and procedures. For example, it must include an access control policy and incident management procedures. |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Consultation Questions

Security Requirements

| | |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Q17 | Do you have any comments on the security obligations set out in Section G of the SEC drafting or the way they are expressed? |
| Q18 | Do you have any comments on the appropriateness and / or the proportionality of the security obligations in relation to particular types of DCC Service Users and their role? |

7 Communications Hub Financing and Charging

- 287 In the Roll-out Consultation Response Document³¹, we announced that for SMETS 2 meters, we would require the Communications Hub to be physically separate to, or detachable from, the meter. The Communications Hub forms the interface between the SMWAN, which will be the responsibility of the DCC (via the CSPs), and devices in consumer premises which will be the responsibility of Suppliers. The Communications Hub is therefore vital to the delivery of both industry and consumer benefits.
- 288 In Part 1 of our response to the SMETS 2 Consultation³², we set out the Government's decision that we would adopt a CSP-led model for provision of Communications Hubs. Under the CSP-led model, the DCC will be required by its Licence to procure Communications Hubs that comply with the Communications Hub Technical Specifications (CHTS). The DCC will deliver this requirement via its contracts with the CSPs.
- 289 The costs of Communications Hubs will be funded by CSPs in advance, and then recovered over the course of their operational lifetime via charges on the DCC and from the DCC to monthly charges on DCC Service Users. This chapter sets out proposed SEC drafting to support the financing of Communications Hubs.
- 290 The specific charges associated with the provision of Communications Hubs will be the subject of charging arrangements under the SEC. This chapter also sets out for consultation the proposed charging arrangements. Further information on Communications Hub processes including forecasting, ordering, installation and returns will follow in a future SEC consultation.

7.1 Communications Hub Financing

Description of the Issue

- 291 CSPs will use their expertise in communications technology to design and source Communications Hubs and then furnish these to the DCC who will in turn provide them to Suppliers to install and maintain within the premises of energy consumers.
- 292 Through the CSP procurement process, we established that all remaining bidders were able and willing to supply Communications Hubs as part of their solutions. Having evaluated proposals from bidders at the Invitation to Submit Detailed Solutions Stage, we developed further the commercial model for the provision of Communications Hubs at the Final Tender stage with a view to increasing competition and improving value for money.
- 293 This model required bidders to provide firm prices for an initial tranche of Communications Hubs representing 15% of the total ultimately required. It also

³¹ <https://www.gov.uk/government/consultations/smart-metering-implementation-programme-draft-licence-conditions-and-technical-specifications-for-the-roll-out-of-gas-and-electricity-smart-metering-equipment>

- required bidders to identify strategies for providing future tranches of Communications Hubs in a way that secured best overall value for money once the asset class was proven operationally, and it was viewed as less risky to fund.
- 294 Bidders responded to this requirement with a range of solutions for the first and subsequent tranches offering improved value for money. These encompassed approaches financed directly by the CSP, as well as approaches employing third party finance to fund the purchase of these assets.
- 295 The DCC will be responsible for determining the size and timing of subsequent tranches of Communications Hubs according to the requirements of DCC Service Users, and for ensuring that these continue to offer value for money using the mechanisms provided in the CSP contracts with Telefónica and Arqiva.
- 296 We now propose introducing provisions in the SEC that support the delivery of viable and sustainable third party financing options for Communications Hubs in order to ensure:
- the successful delivery of the initial tranches; and
 - that the full range of financing options are available for subsequent tranches at the lowest possible financing rates.
- 297 The four proposed provisions within the overall charging arrangements are designed to ensure a clear chain of obligation between the asset funders and the DCC Service Users paying for the use of the Communications Hubs via the DCC. This will minimise credit risk and allow the most economic financing rates to be obtained for the first and future tranches of Communications Hubs, to the benefit of DCC Service Users and ultimately energy consumers.

Translation into Detailed Requirements

- 298 As a first provision, the proposed SEC drafting provides for the payment to the DCC of the Monthly Communications Hub Charges from DCC Service Users into a separate bank account to ensure the availability of monies due to third party financiers, rather than pooling this money with the wider CSP service charges.
- 299 This reduces financing risk by allowing financiers to price the aggregate credit risk of DCC Service Users, rather than the CSP or the DCC. This will result in a second invoice per month for DCC Service Users.
- 300 The second proposed provision in the SEC permits the DCC to recover monies from SEC Parties due to third party financiers in the event that DCC Service Users fail to make timely payments of the Monthly Communications Hub Charges, and financiers call down the outstanding balance of Monthly Communications Hub Charges.
- 301 This provides for preferential recovery of the monies due to third party financiers following any wide scale default by DCC Service Users. In practice this is very unlikely given the credit worthiness of Suppliers and Network Operators, and the wider SEC provisions to ensure timely payment of charges levied by the DCC and ultimately to socialise bad debt.

- 302 As a third provision, the proposed SEC drafting would place an obligation on the DCC to ensure that the separate bank accounts are maintained with sufficient working capital to ensure the payment of the regular Monthly Communications Hub Charges.
- 303 This will be achieved by requiring the DCC to consider explicitly the funding of a three month float for payments to third party financiers as part of its prudent budgeting process. This will require DCC Service Users to make initial overpayments in order to establish the float, but will further reduce the risk of inadvertent non-payment triggering the second provision described above.
- 304 The fourth proposed provision provides a contingency in the event of Suppliers failing to pay the DCC and the DCC failing to recover or socialise the bad debt. In these circumstances a third party financier, or its authorised agent, would be permitted to exercise narrowly defined Third Party Rights to pursue Suppliers for the outstanding monies. This would only be in circumstances where a default had already caused an accelerated repayment to be called under the second provision, and in the event that the DCC itself was ultimately unable or unwilling to pursue these liabilities. We consider that Ofgem would be best placed to determine whether the DCC had been unable or unwilling to fulfil its role. However, there may be other options available to govern this process.
- 305 Again we view such a scenario as very unlikely to arise, but the mechanism is necessary to ensure the continuity of the claim in these circumstances.
- 306 We recognise that the first and third provisions will have limited practical implications for users. With the first proposed change users will need to make payments as appropriate to different bank accounts, whilst with the third change some pre-payments will be required in order to minimise against the risk of default and a consequential call down on the outstanding balance.
- 307 The second and fourth provisions should have a minimal impact on users. The second provision makes clear the application of the existing debt socialisation process with respect to Communications Hub financing costs whilst the fourth provision allows third party financiers to pursue outstanding debt directly in limited circumstances – but does not change the amounts owed.
- 308 However, our analysis is that the financial benefit of permitting these financing routes to users and ultimately consumers is substantial.

Legal Text

Summary of new SEC Provisions

| | |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Changes to Section J | New text in J1.2 requires the DCC to set out the Communications Hub Finance Charges owed by a particular Party in a given month whilst J1.6 allows for the DCC to specify a different account (or accounts) into which those charges should be paid. |
| Changes to Section K | A new K3.13 makes it clear that the DCC, in support of the third provision described in paragraph 303, can provide for a contingency fund to cover its estimates of 3 months' of Communications Hub Finance Costs. A new K9.7 defines a Communications Hub Finance Acceleration Event as |

| | |
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| | a Liability Event under the SEC and provides the methodology by which the resulting Liability Sum will be socialised across SEC Users. |
| Section M | M11.5 sets out the right of an Approved Finance Party to pursue third party rights under the SEC, following a determination by Ofgem that the DCC has been either unwilling or unable to directly enforce these rights itself. |

Consultation Questions

Communications Hub Financing

| | |
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| Q19 | Do you agree that the four additional provisions are proportionate responses to providing reliable and economic third party financing options for Communications Hubs? |
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7.2 Communications Hub Charging

Description of the Issue

- 309 The DCC will be required by its Licence to procure Communications Hubs and will deliver this requirement via its contracts with the CSPs. CSPs will supply Communications Hubs to Suppliers for installation, operating under a general principle of 'costs lie where they fall', in order to avoid, where possible, complex recharging arrangements for installation and maintenance. This will place responsibility for integration of the HAN and the SMWAN with the parties that are considered best placed to manage this task. In Part 2 of our response to the SMETS 2 Consultation³³, we provided more information on the 'costs lie where they fall' principle and what constituted a 'type fault' for Communications Hubs.
- 310 There is a need to amend the DCC's existing charging methodology (as set out in the SEC) to enable charging for the provision of Communications Hubs. Charging for Communications Hubs by the DCC should be considered in the context of the existing DCC charging regime, and this charging should be consistent with existing charging principles, which are set out in the DCC Licence and SEC. For example, the charging principles require a uniform charge related to domestic premises, which means that the charging methodology set out in the SEC should average the cost for all CSP-provided Communications Hubs across the regions.
- 311 Costs exist at a number of stages in the Communications Hub lifecycle. Under the 'costs lie where they fall' principle, Suppliers will be responsible for site visit costs in relation to installation, maintenance and removal, whereas the DCC will be responsible for site visit costs in relation to type and batch faults and for early replacements due to a technology refresh.

³³ <https://www.gov.uk/government/consultations/smart-metering-equipment-technical-specifications-second-version>

312 The remainder of this chapter outlines specific costs associated with Communications Hub provision and the proposed SEC charging arrangements. The associated legal drafting will follow in a later consultation.

Part A: Communications Hub Asset Charge

Monthly Communications Hub Charge (from delivery to installation of Communications Hub)

- 313 The DCC (via its CSPs) will be responsible for the delivery of the Communications Hubs to the Supplier. The Supplier will then be responsible for installing them.
- 314 From the point of delivery, the CSP contracts allow for the CSP to levy an amortised charge to the DCC for each Communications Hub asset, known as the Monthly Asset Charge. This charge will recover the costs of the Communications Hub asset over a period of 10 years, or the remaining contract life if less than 10 years.
- 315 We are minded to reflect the Monthly Asset Charges as an Explicit Charge in the SEC which the Supplier is required to pay to the DCC on a monthly basis from the point they take delivery of each Communications Hub. Until the Communications Hub is installed, we propose targeting this Monthly Communications Hub Charge on the supplier who is in receipt of the Communications Hub, in order to ensure that Suppliers have the appropriate set of incentives in relation to installation and minimising surplus stock.
- 316 The alternative would be to smear this Monthly Communications Hub Charge within the DCC's fixed cost base and allocate across all DCC Service Users. This approach would be consistent with the existing approach for DCC Services. However, it creates an advantage for early movers, and could encourage stock piling of assets.

Monthly Communications Hub Charge (from installation of the Communications Hub)

- 317 Following installation of the Communications Hub, the Monthly Communications Hub Charge could be recovered by the DCC via one of the following models:
- smeared within a fixed cost base – the charges could be allocated across Suppliers on a market share basis (irrespective of enrolment). The disadvantage of this approach is that it is not cost reflective, and it creates an advantage for early movers;
 - smeared based on a market share – the charges could be allocated across all Suppliers on an enrolled Smart Metering System market share basis. This option is more cost reflective, ensuring that Suppliers who are utilising Communications Hubs bear the costs; or
 - the exact costs recharged to each registered Supplier – the registered Supplier pays an explicit charge directly associated with each Smart Metering System associated with the commissioned Communications Hub Function. This option is the most complex to implement and, in the light of the range of possible Communications Hub configurations, would require a range of explicit cost reflective charges in the SEC.

- 318 Following Communications Hub installation, we are minded to smear the Monthly Communications Hub Charges across Suppliers, based on a market share of enrolled Smart Metering Systems. This option is more cost reflective as costs are targeted where Communications Hubs are being utilised and it also avoids overly complex charging arrangements.
- 319 The smeared asset charge would apply until the Communications Hub has been removed or the asset cost has been paid off.

HAN Variant Pricing

- 320 The SMETS 2 consultation³⁴ indicated that (if and when they become available) dual band Communications Hubs are likely to be more expensive as a result of an additional HAN module, and that Communications Hubs with a HAN module variant³⁵ might be slightly more expensive if deployed only at low volumes. Thus the DCC may charge a different price based on HAN module orders requested by the installing Supplier in advance of installation.
- 321 Charging options include:
- smear the HAN variant cost so there is one charge for all Communications Hub variations. This is not cost reflective, and also would not provide an incentive on Suppliers to choose the most cost effective HAN solution for each premise; or
 - the installing Supplier pays a differential HAN variant cost – this would require splitting the Monthly Communications Hub Charge into the amortised Monthly Communications Hub Charge, and an additional HAN variant cost which the installing Supplier pays as an explicit charge upon receiving the Communications Hub. This option is cost reflective, and provides a commercial incentive for Suppliers to install the most cost effective HAN variant.
- 322 We are minded to require that the installing Supplier pays a differential HAN variant charge, in order to provide Suppliers with the appropriate set of incentives related to HAN variants. The DCC will need to capture the relevant information from within the ordering / delivery logging regime.
- 323 In Part 2 of our response to the SMETS 2 consultation, we noted that we would consider if a different HAN variant charging approach was needed for split fuel premises; i.e. premises where the electricity and gas is provided by different Suppliers. In these premises, the Supplier that is the first to install a Smart Meter will also install the Communications Hub and so will choose its HAN variant, including whether this should be dual band.
- 324 As explained in our SMETS 2 response, it may be possible in certain premises that the 2.4 GHz HAN variant will form communications links with the electricity meter and the IHD, but not the gas meter. Therefore, the first installer could install a Communications Hub that meets their needs but would not serve the other Supplier's meter. Requiring the Supplier who installed the Communications Hub to pay any differential HAN variant charge may

³⁴ <https://www.gov.uk/government/consultations/smart-metering-equipment-technical-specifications-second-version>

³⁵ HAN solutions other than 2.4 GHz, for example 868 MHz or wired solution

encourage this behaviour, as they may not immediately benefit from the installation of a more expensive HAN variant.

325 An alternative approach would be to provide a rebate of any differential costs to the Communications Hub installer where the Communications Hub is installed in a split fuel household. This is likely to be administratively burdensome, and may not be necessary in the light of the expected cost differential between HAN variants. There should also be a number of natural incentives in place to prohibit the first Supplier from choosing an overall suboptimal Communications Hub variant, for example:

- total Communications Hub costs: as all Suppliers will pay the outstanding charges on no fault removals of Communications Hubs in split fuel premises (see paragraph 343 *et seq* below), it is in their interests to install a Communications Hub that will serve both Suppliers in the premises;
- consumer experience: installing a Communications Hub that may need to be replaced, or the installation of a separate device could have a negative impact on the consumer experience.

326 On this basis, we do not intend to introduce a rebate within the charging regime.

SMWAN Variant pricing

327 The Communications Hub devices will combine both a SMWAN module and HAN module. There may be differing SMWAN technologies within the Communications Hubs, depending on the technology deployed by each CSP within a region to provide the required coverage level. However, the costs of these will be internalised by the CSPs. This gives CSPs an incentive to efficiently provide SMWAN technology, and thus Suppliers will pay the same price for different SMWAN variants.

Part B: Communications Hub Maintenance Charge

Monthly Maintenance Charge following Communications Hub Function commissioning

328 We propose that a Monthly Maintenance Charge should apply for Communications Hubs from the point of commissioning the Communications Hub Function. The Monthly Maintenance Charge covers other costs associated with supporting the provision of the asset, in addition to the Communications Hub asset cost described above. Further information on commissioning is available in Section 5.4.

329 As with the Monthly Asset Charge above, the Monthly Maintenance Charge could be allocated by one of the following models:

- smeared within a fixed cost base – the charges could be allocated across Suppliers on a market share basis (irrespective of enrolment). The disadvantage of this approach is that it would not be cost reflective, and it creates an advantage for early movers;
- smeared based on a market share of the number of enrolled Smart Metering Systems – the charges could be allocated across all Suppliers on a market share basis. This option is more cost reflective, ensuring that Suppliers who are utilising Communications Hubs bear the costs; or

- the exact costs recharged to each registered Supplier – the registered Supplier pays an explicit charge directly associated each Smart Metering System associated with a commissioned Communications Hub Function. This option is the most complex to implement, and in the light of the range of possible Communications Hub configurations, would require a range of explicit cost reflective charges in the SEC.

330 We are minded to smear the Monthly Maintenance Charge across Suppliers based on a market share of enrolled Smart Metering Systems. This option is more cost reflective, as costs are targeted where Communications Hubs are being utilised, and it also avoids overly complex charging arrangements.

Part C: Removing Communications Hubs

331 Communications Hubs could be removed from a premise for a variety of reasons, including replacement as a consequence of a fault. Under the SEC, responsibility for Communications Hub faults will either be allocated to the DCC (a 'DCC Service Fault') or to the relevant Supplier (a 'DCC User Fault'). The allocation of responsibility for faults is important as it determines whether Suppliers will receive compensation from the DCC, and if so, how much that compensation will be. A fault investigation process is likely to be put in place to determine the fault responsibility. Further detail on this process will follow in a future SEC consultation.

332 The allocation of fault responsibility is reflected in the Communications Hub charging regime. The rest of this section describes the proposed charging arrangements for different types of removal.

Responsibility for faults

333 In the case of a DCC User Fault, the Supplier would be responsible for:

- physical damage to the Communications Hub post-delivery including any fault caused by the Supplier or the customer;
- faults that are a consequence of non-compliance with Communications Hub Handover, Installation and Maintenance Support Materials. Further information on support materials will be set out in a future SEC consultation;
- 'no fault found' Communications Hubs returned to the CSP. This includes where a Communications Hub has been removed completely from a property but the device is not faulty (for example if a meter is moved and a different Communications Hub type is required). In the CSP contracts, the CSP is only able to recover 80% of the remaining asset value for no fault removals. To recover all their costs, CSPs are therefore incentivised to recondition Communications hubs where this is economically viable; and
- lost or stolen Communications Hubs.

334 In the case of a DCC Service Fault, the DCC would be responsible for faulty equipment where, for example, equipment fails to meet the requirements set out in the CHTS. The DCC would discharge these obligations through the CSP contracts. The CSPs are contractually obliged to provide a free of charge replacement for all Communications Hubs which require replacement where the cause is a DCC Service Fault.

- 335 A DCC Service Fault would also cover instances where an existing Communications Hub needs to be replaced in order to improve local SMWAN coverage. One of the CSPs plans to supply Communications Hub with two types of SMWAN variant – single mode cellular and dual mode cellular / mesh. Mesh is required in areas where the single mode cellular Communications Hub cannot connect to the SMWAN; instead the cellular / mesh Communications Hubs will connect together to establish a local mesh network. This mesh network will connect to the SMWAN through a nearby dual mode cellular / mesh Communications Hub that has a strong cellular connection to the SMWAN.
- 336 The CSP will be providing cellular / mesh Communications Hubs and will be planning distribution to optimise the likelihood of connection, communicating this to Suppliers through a coverage database.
- 337 It is possible, however, that a cellular Communications Hub will need to be replaced with a dual mode mesh / cellular Communications Hub in order to enable one or more mesh Communications Hubs to connect to the SMWAN. Where the CSP requests that a Supplier replaces a working single mode cellular Communications Hub with a cellular / mesh Communications Hub for this purpose, the fault responsibility will be assigned to the DCC and so the type fault arrangements described below apply.

Supplier Led Faults

- 338 For DCC User Faults, as described above, following removal of a Communications Hub, there may be a remaining asset charge if the total Monthly Communications Hub Charge has not fully funded the asset cost by the point of removal.
- 339 The remaining asset cost could either be targeted to the removing Supplier, or smeared within a fixed cost base. We are minded to target the remaining asset cost payment to the Supplier removing the Communications Hub. This approach is cost reflective, and is straight forward to implement, consistent with current metering arrangements. It also provides Suppliers with an incentive to safeguard devices and deliver quality installations.
- 340 There are three exceptions where we are minded to propose alternative requirements. The exceptions all relate to types of ‘no fault removal’ – which as described above are included in the scope of DCC User Faults. They are non-domestic opt out, split fuel and early technology refresh, described below.

Exception 1: No Fault Removals – Non-Domestic Opt out

- 341 In Part 2 of our response to the SMETS 2 consultation³⁶, we concluded that Suppliers should not be required to install CHTS-compliant Communications Hubs for opted out non-domestic consumers. Where a CHTS-compliant Communications Hub has been installed, and the Supplier subsequently decides to opt out of the DCC, we are minded to propose that the Communications Hub costs (i.e. the remaining asset cost) are smeared across the non-domestic sector enrolled in the DCC.

³⁶ <https://www.gov.uk/government/consultations/smart-metering-equipment-technical-specifications-second-version>

342 This approach does not incentivise opt in or opt out, and is in line with current practice in the competitive non-domestic metering market. Alternatives include placing an opt-out charge directly on either the previous or gaining Supplier, or smearing the costs within a fixed cost base which would also cover the domestic sector.

Exception 2: No Fault Removals – Split Fuel Premise

343 Paragraph 325 *et seq* explain our intended approach to HAN Variant charging in split fuel households. They note that there are a number of incentives on the first installer in these premises to install a Communications Hub that will serve both Suppliers. However, it is possible that the first Supplier would install a Communications Hub that would not serve the other Supplier's meter – for example, if they erroneously assessed that a 2.4 GHz Communications Hub could serve the gas meter.

344 The second Supplier may choose to replace the existing Communications Hub with a dual band Communications Hub that can provide HAN coverage to both the gas and electricity meters. In these instances we do not feel it is appropriate to charge the second Supplier the remaining asset cost for the removed Communications Hub as it discourages a potentially more cost effective solution, i.e. replacing the existing Communications Hub rather than installing an additional Communications Hub.

345 Similarly, it may not be appropriate to charge the first installing Supplier as they may not have had perfect information on the suitability of a particular HAN variant for the second Supplier at the premises at the point of installation. This may result in them choosing to minimise their risk by always installing a dual band Communications Hub (which may result in unnecessary costs) or alternatively facing charges when they installed a solution they thought would serve both Suppliers.

346 Should the second Supplier remove a Communications Hub that will not serve its Smart Meter in order to install a dual band Communications Hub, we propose that the remaining asset cost of that Communications Hub should be smeared across a market share of commissioned Communications Hub Functions. Where a Communications Hub is removed, there are incentives on the CSPs to reuse it where possible.

Exception 3: No Fault Removals - Early Technology Refresh

347 In this circumstance, the DCC approves a system-wide replacement of Communications Hubs before the end of their asset life. The CSP would need to undertake a cost benefit appraisal related to this decision. Any costs for additional site visits could be paid either by the Supplier, or by the CSP. We propose that the CSP is responsible for covering site visit costs in this circumstance, in order to incentivise the CSP to make a cost benefit assessment and correctly account for site visit costs in its decision to progress with early replacement.

Fault Removals - Type Fault Compensation

- 348 In Part 2 of our response to the SMETS 2 consultation³⁷, we provided further detail on the 'costs lie where they fall principle' and what constitutes a type fault. A type fault describes the circumstances where substantial numbers of Communications Hubs are deemed not fit for purpose.
- 349 We concluded that there would be a fault threshold, measured as an annual percentage of DCC Service Faults (as described above). Below the fault threshold, Suppliers will not be able to recover any of their field service costs. However, where the DCC Service Faults exceed the fault threshold, a 'type fault' will be deemed to have occurred.
- 350 The CSP contracts have been structured such that the CSP is required to pay liquidated damages to the DCC for DCC Service faults above the type fault threshold. The DCC will then allocate these funds across affected Suppliers based on each Supplier's aggregate fault rates.
- 351 A competitive procurement process for the CSPs sought to optimise the cost of the Communications Hub. CSPs were required to propose Communications Hubs costs against a range of contractual requirements which included commercial provisions for liquidated damages above a fault threshold for type faults.
- 352 In addition, in March 2013, we issued a letter to Suppliers (including both smaller and larger supply companies) requesting information on the estimated field service costs of replacing faulty Communications Hubs. Responses to this letter formed the basis for determining the level of liquidated damages. This exercise acknowledged the uncertainty inherent in any information provided, seeing that there is very little, if any, real world experience of Communications Hub replacements, and that a number of issues which might impact the time required for a replacement are still under development.
- 353 On the basis of the evidence received, a level of liquidated damage of £50 for each fault above the threshold has been specified in the CSP contracts. The level of liquidated damage has been set at a single figure to facilitate administrative ease and to disincentivise inefficient replacement processes. Should real world experience indicate that the level is not reflective of Supplier costs, SEC Parties would be able to raise a modification to amend this figure under the usual SEC Modifications Process.
- 354 Through the completion of the competitive procurement process for CSP contracts, we have concluded that the fault threshold should be set at 0.5% of all successfully installed Communications Hubs with this type fault threshold measured on an annual basis. This fault threshold reflects the expected failure rate for this kind of device and is consistent with, or more onerous than, anecdotal evidence of Smart Meter failure rates during foundation to date. CSP bidder responses also suggested that a lower fault rate threshold would have led to a higher price for all Communications Hubs due to the additional commercial risk that CSPs would consequently be exposed to under the liquidated damages mechanism.

³⁷ <https://www.gov.uk/government/consultations/smart-metering-equipment-technical-specifications-second-version>

Fault Removals - Batch Fault Compensation

- 355 In addition to the approach to type faults, in Part 2 of our response to the SMETS 2 consultation³⁸, we also outlined a proposal to include a process for compensation for batch faults, where a high percentage of Communications Hubs are faulty in a single delivery, but the volume of such failures is not sufficient to exceed the type fault threshold on a regional level. In such cases, a batch fault process would ensure that Suppliers receive compensation even if the type fault threshold has not been breached, to ensure that they are not unfairly disadvantaged.
- 356 Through the CSP contract process, we have determined that the batch fault should be set at 10% of all Communications Hubs delivered in a single order failing within a year of their successful installation in consumer premises. The batch fault rate takes into account the point at which the impact of a faulty batch on an individual Supplier would be most clearly felt. As with type faults, the liquidated damage will be £50 for each fault above the batch fault threshold. The DCC will play a role in collecting the liquidated damages and providing these to affected Suppliers.

Consultation Questions

| Communications Hub Services | |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Q20 | Views are invited on the proposals in relation to Communications Hub asset charges and maintenance charges. This includes: <ul style="list-style-type: none"> • Monthly Communications Hub Charge • HAN Variant Pricing • Monthly Maintenance Charge |
| Q21 | Views are invited on the proposals in relation to charges following removal of a Communications Hub. In particular, views are invited on the proposals for no fault removals in split fuel households. Do you agree that any outstanding asset costs should be smeared across all users rather than being charged to the installing or removing Supplier when Communications Hubs that do not serve the second installer's equipment are removed from split fuel households? Please provide a rationale for your views. |

³⁸ <https://www.gov.uk/government/consultations/smart-metering-equipment-technical-specifications-second-version>

8 The DCC Commercial Model

Objectives of the overall Programme commercial model

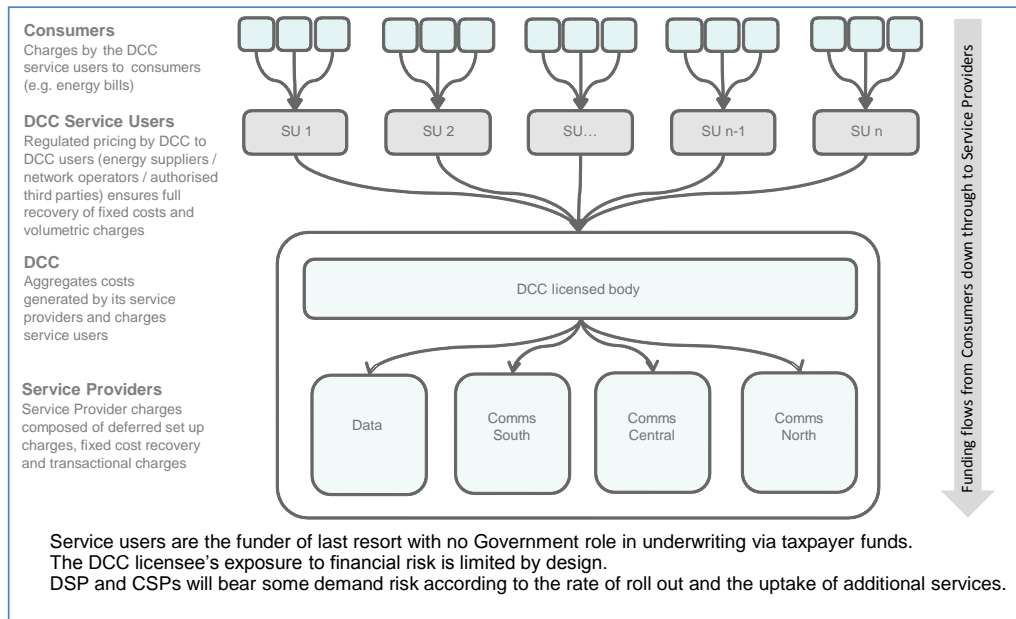
- 357 Following the conclusion of the DCC licence award process, this section summarises for ease of reference the commercial model for the DCC licensee and its data and communication Service Providers.
- 358 The SMIP adopted the strategy of separating the DCC, the DSP and CSPs in conjunction with energy industry stakeholders in order to:
- secure best of breed service providers for each function;
 - define contracts at a scale that promotes competition in the short and medium term;
 - prevent lock-in from any one party to sustain future competition;
 - place risk with the bodies best placed to manage it; and
 - establish coherent scope and boundaries for each participant.
- 359 The commercial model for the DCC licensee has aimed to:
- award a licence for an appropriate length to balance stability for DCC Service Users and payback for the DCC licensee whilst maintaining competition in the medium term;
 - achieve an appropriate balance between risk and reward for the DCC licensee by limiting excessive risk, incentivising high performance and preventing exploitation of market power to deliver excessive profit; and
 - establish boundaries and incentives to ensure collegiate behaviour by the DCC and its DSP and CSP subcontractors for the benefit of DCC Service Users, and ultimately energy consumers.
- 360 The commercial model for the DCC licensee is based on the principles of:
- financial resilience so that the commercial system is not put at risk by exposing the DCC to unmanageable financial risk;
 - cost and margin transparency so that the DCC is ensured a fair return but DCC Service Users, Ofgem and consumers are confident that the licensee is not exploiting its market position to increase internal costs without justification or to charge inappropriately high margins;
 - alignment of incentives so that the DCC licensee is incentivised to deliver that for which it is accountable and to meet its responsibilities relating to the DSP and CSP(s); and
 - progression such that the roles, incentives and rewards can change over the implementation and operational phases of Smart Metering roll-out.

Financial resilience

Origin and flow of funds

- 361 A primary objective is to avoid the DCC licensee being exposed to inappropriate and disproportionate levels of financial risk, thus avoiding the creation of unsustainable premiums and situations where any subsequent financial failure would result in unmanageable system-wide consequences.

362 All revenue to fund the DCC, DSP and CSPs will ultimately be derived from charges to energy consumers normally via Suppliers, Network Operators or other DCC Service Users. The Government does not intend to employ taxation to fund or underwrite the DCC. This is illustrated in the following diagram:



363 The DCC will charge DCC Service Users against the charging methodology set out in the SEC, and its Charging Statement, apportioning charges to Service User classes and allocating charges within each Service User class. These charges will be based on:

- aggregating pass through costs charged by the DSP and CSP(s), adjusted for any performance incentives;
- adding the DCC licensee's own costs and direct margin, adjusted for any performance incentives; and
- adding pass through costs for Ofgem fees, the SECCo and SECAS.

364 The DCC will invoice DCC Service Users for these charges promptly in arrears early each month and receive prompt payments from DCC Service Users before paying its DSP and CSP subcontractors at the end of the month.

365 The DCC is subject to ring-fencing and debt-limitation obligations as set out in the Licence.

Commencement of charges

366 During establishment the DCC will be able to begin recovering its costs and margin from the date of licence award, but the DSP and CSPs will not be able to recover their costs until their systems are accepted jointly by the DCC, as set out in their respective Service Provider contracts. They will then charge deferred set-up costs to recover the development costs once certain milestones have been achieved.

Debt management

367 The SEC puts into place a number of provisions to ensure adequate cash flow from service users to the DCC licensee and then to its service providers.

- 368 Adherence to financial standards and credit ratings form part of the accession requirements to the SEC designed to ensure that the DCC licensee is not exposed to bad debt from service users.
- 369 SEC Parties will be required to pay first and dispute later except in the circumstances of manifest error. Subject to adequate credit control efforts by the DCC, unrecoverable bad debt will ultimately be socialised across other DCC Service Users.
- 370 The DCC will have recourse to emergency funding from DCC Service Users in certain circumstances achieved through increasing charges as allowed under Condition 19 of its licence and Section K9 of the SEC.

Obtaining and sustaining value for money

- 371 The SMIP's approach to ensure value for money from the DCC is based on:
- the process of the licence application competition and Service Provider procurements: having sought transparent information on costs and margin from applicants and having benchmarked and tested cost and margin proposals against each other and external benchmarks through the competitive process, accepting that different solutions may justify different costs and margins according to the capabilities deployed, confidence they engender, and the risk borne;
 - mechanisms to provide benchmarks for costs of change: recognising that the nature of the DCC's service will necessarily evolve with changing DCC Service User needs for this new service such that shorter term costs are more predictable than longer term costs, and requiring resource flexibility such that, for example, the DCC licensee does not staff continually to the maximum to meet periodic spikes; and
 - the on-going role of the regulator in operating the licence price-control mechanisms: the applicants were required to submit a pricing model to identify and categorise the cost of delivering their proposals over time, and to propose appropriate margins for each category of activity related to its complexity, value and risk. This pricing model for the successful applicant provides a baseline against which Ofgem will employ the price control conditions described in the licence (which includes a gain share incentive to reduce overall system cost).

Alignment of liabilities and incentives

- 372 It is essential to effective service delivery that the DCC licensee, DSP and CSP(s) act collegiately to deliver responsive and integrated services and that their incentives and liabilities are properly aligned.

Liabilities

- 373 By design, the DCC is not intended to be exposed to the liabilities of its Service Providers. When the Service Providers incur service credits or damages, these will be administered by the DCC licensee and 'passed-through' to DCC Service Users, but they will not be applied to the DCC licensee's own revenue stream.
- 374 However, the DCC will be subject to incentives and damages relating to its own direct areas of accountability and responsibility in line with the liability arrangements set out in the Licence and the SEC.

375 Equally the DCC licensee will not be permitted to add margin to the pass through revenue of monies payable to the DSP and CSPs for administering the service charges and paying the DSP and CSPs, but will be permitted to charge margin on its own costs of administering these processes.

Progressive application of incentives on the DCC: implementation phase

376 The DCC licensee will be subject both to individual incentives on specific areas of its responsibility as well as collective incentives in conjunction with the DSP and CSPs. The individual incentives on the DCC licensee will develop over time. For the initial period of mobilisation and early operational delivery the DCC will, with some exceptions, operate on a cost pass-through basis such that the majority of its internal and external costs will be simply charged as incurred and passed through to DCC Service Users, subject to Ofgem being satisfied that the costs have been efficiently and economically incurred.

377 This cost pass-through arrangement is supplemented with milestone incentives aimed at incentivising the DCC to contribute to timely 'go-live' of its own services and those of its Service Providers. These milestone incentives have been validated against the implementation plans submitted by the successful DSP and CSP contractors, and have been reflected in Schedule 3 of the DCC licence.

378 The non-achievement of milestone target dates results in service credits being applied to the DCC licensee's charges, with a sliding scale of progressively larger credits for longer delays (up to the point where the delay leads to a full credit of the amount at risk to that milestone).

379 The performance mechanism also incentivises the recovery of delays. The DCC licensee has the opportunity to recover a proportion of service credits on interim milestones where progress is satisfactorily recovered against subsequent milestones. The total amount at risk for the DCC in meeting these milestones is its margin for the implementation period, as set out in Condition 36 of the DCC licence. The amount at risk for individual milestones is detailed in Schedule 3 of the licence.

380 In addition, the DCC will manage a mechanism to reward Service Providers for successful on-time delivery of designated implementation milestones through collective action between the DSP and CSP. The Service Providers will be eligible to receive bonuses from a joint bonus pool (sized at 1% of their proposed aggregated implementation costs) for achieving jointly three common implementation milestones. To protect its impartiality, the DCC will not be subject to, or share in, this incentive payment. The three incentive payment milestones will be:

- Overall Design;
- Ready for Solution Testing; and
- Ready for User Acceptance Testing.

Progressive application of incentives: operation of services

381 Other incentive arrangements are included in the licence price control conditions, which will adjust the level of revenue according to the DCC licensee's performance in the operational phase. These incentives will however initially be 'switched off' in the implementation phase, and will require

- determination by Ofgem to activate them. Ofgem will determine the timing of the activation considering, for example, the performance of the DCC and the development of suitable performance information and metrics.
- 382 The incentive regime will evolve over the term of the licence to reflect the progression of DCC services into a 'steady state' operation, and the associated change in focus from establishing services to developing and enhancing services and continuous improvement.
- 383 As a result of the DCC licence application competition, it has been agreed to adopt a 'balanced scorecard' approach for the operational performance mechanism which reflects the DCC's need to meet service user needs, deliver services effectively, provide value for money and develop and improve DCC services. The framework for this mechanism is set out in Schedule 4 of the DCC licence. The detail will follow in a direction from Ofgem, following consultation with the DCC, the DCC Service Users and other relevant stakeholders.
- 384 Service credits will be accumulated through the regulatory year and applied as part of the 'K' factor adjustment to the DCC's Allowable Revenue in the subsequent regulatory year. As a result, the DCC licensee will not face any short-term cash-flow risk, consistent with the commercial model for the DCC as a thinly capitalised business. As with the implementation milestones, the DCC's margin for a given year will be at risk if it fails to meet the appropriate levels for the measures in the operational performance mechanism.
- 385 The extent to which the DCC licensee is successfully managing its Service Providers to avoid any persistent service failure will be one operational service measure. Service Providers are subject to a range of service credits and liquidated damages in relation to the operational delivery of their respective services. The DCC will be granted relief from the persistent service failure measure where it can show that it has carried out its obligations as defined in Service Provider contracts, specifically the remedial plan and enhanced scrutiny and step-in processes.
- 386 A collective gain sharing mechanism is in place across the DCC, DSP and CSPs, whereby each party would retain a proportion of net savings generated across the DCC system for the benefit of DCC Service Users.
- 387 In addition to the collective gain sharing mechanism, there will be a 'collaborative incentives fund' for each Service Provider contract. This is designed to reward one Service Provider when it acts in the interests of the overall service to offset problems facing the other Service Provider(s). It will for the DCC, at its discretion, to reward the Service Provider for collaborative behaviour each year.
- 388 Use of the 'collaborative incentives fund' will be subject to the ex-post price control test of whether it was expenditure economically or efficiently incurred, and if it is not used it would be returned through the inter-year adjustment mechanism in the DCC licence price control conditions. This 'collaborative incentives fund' will be capped at 1% of the annual contract costs.

9 Glossary

This section provides a glossary of the principal terms used in this document.

A complete set of definitions and interpretations of terms used in the SEC can be found in Section A of that document.

The definitions in this glossary are not intended to be legally precise, but instead to assist in understanding the consultation document.

Alert

A message from a Device or from DCC and sent to a DCC Service User across the User Gateway.

Command

A message sent by DCC to a Device over the SMWAN (or to a DCC Service User over the User Gateway to be executed locally) in order to instruct the Device to carry out an action.

Commissioned

A Device status recorded in the Smart Metering Inventory. The steps a Device must go through to be Commissioned vary by Device type, but essentially this status is achieved when: the Device has been added to the Smart Metering Inventory; it has been demonstrated that DCC can communicate with it (and vice versa) over the SMWAN; and its relationship with either the Communications Hub Function or a Smart Meter has been established.

Communications Hub

A device which complies with the requirements of CHTS and which contains two, logically separate Devices; the Communications Hub Function and the Gas Proxy Function.

Communications Hub Function

A Device forming part of each Smart Metering System which sends and receives communications to and from the DCC over the SMWAN, and to and from Devices over the HAN.

Communications Hub Technical Specifications (CHTS)

A document (which is to form part of the SEC) which sets out the minimum physical, functional, interface and data requirements that will apply to a Communications Hub.

Communications Service Provider (CSP)

Bodies awarded a contract to be a service provider of communications services to DCC as part of DCC's Relevant Services Capability. Arqiva Limited and Telefónica UK Limited have been appointed to provide these services.

Core Communication Services

Services set out in the DCC User Gateway Services Schedule that are provided in a manner that involves communication via the SMWAN, but excluding the Enrolment Services.

Correlate

A check, to be carried out by DCC Users, to ensure that the Pre-Command created by the DCC after transforming a Critical Service Request is substantively identical to the original Service Request.

CoS Party

A separate part of the DCC, responsible for signing critical commands to update a Supplier's Security Credentials on a Device following the submission of a 'CoS Update Security Credentials' Service Request by an incoming supplier to the DCC.

Data and Communications Company (DCC)

The holder of the smart meter communication licence, Smart DCC Ltd.

Data Service Provider (DSP)

The company awarded a contract to be a service provider of data services to DCC as part of DCC's Relevant Services Capability. CGI IT UK Limited has been appointed to provide these services.

DCC Service Providers

Companies or persons from whom DCC procures Relevant Services Capability; principally the DSP and the CSPs.

DCC Service User

A SEC Party who has completed the User Entry Processes and is therefore able to use DCC Services in a particular User Role.

DCC Systems

The systems used by the DCC and its DCC Service Providers in relation to the Services and / or the SEC, including the SMWAN but excluding the Communications Hub Functions.

DCC Total System

All DCC Systems and Communications Hub Functions.

DCC User Gateway

The communications interface designed to allow appropriate Smart Metering communications to be sent between DCC Service Users and the DCC.

Device

One of the following: (a) an Electricity Smart Meter; (b) a Gas Smart Meter; (c) a Communications Hub Function; (d) a Gas Proxy Function; (e) a Pre-Payment Interface; (f) an Auxiliary Load Control; or (g) any Type 2 Device (e.g. IHD).

Distribution Network Operators (DNOs)

Holders of electricity Distribution Licences.

Elective Communications Services

The provision of communication services that are (or are to be) defined in a Bilateral Agreement (rather than the DCC User Gateway Services Schedule) in a manner that

involves communication via the SMWAN (provided that such Service Requests must relate solely to the Supply of Energy or its use).

Electricity Smart Meter

A Device meeting the requirements placed on Electricity Smart Metering Equipment in SMETS 2.

Eligible User

A DCC Service User who, acting in a particular User Role, is eligible to receive particular DCC services, including in relation to a particular Device.

End-to-End Smart Metering System

Any DCC System, Smart Metering System, User System or RDP System.

Enrolled

The status of a Smart Metering System when the Devices which form part of it have all been Commissioned.

Enrolment Services

Services that are requested for the purpose of commissioning Devices in the Smart Metering Inventory, and establishing their inter-relationships, and which ultimately result in the Enrolment of Smart Metering Systems ready for communication via DCC over the SMWAN.

Foundation stage

The period prior to the start of the Mass roll-out stage.

Gas Proxy Device

A Device which stores and communicates gas-related metering information, required in order to reduce the necessary battery life of Gas Meters, and which forms part of the Communications Hub. The Gas Proxy Device is treated as a separate logical Device for the purposes of Smart Meter communications.

Gas Smart Meter

A Device meeting the requirements placed on Gas Smart Metering Equipment in SMETS 2.

GB Companion Specification

A document setting out amongst other things, the detailed arrangements for communications between the DCC and Devices and the behaviour required of Devices in processing such communications.

Hand Held Terminal (HHT)

A HAN-connected Device used for meter installation and maintenance purposes.

Home Area Network (HAN)

The means by which communication between Devices forming part of a Smart Metering System takes place within a premises and which is created by the Communications Hub Function.

In-Home Display (IHD)

An electronic device, linked to smart meter, which provides information on a consumer's energy consumption and ambient feedback.

Mass roll-out stage

The period between the date at which the DCC starts providing Core Communications Services and the fulfilment of the roll-out obligation as specified in the roll-out licence conditions.

MPAN

The Meter Point Administration Number, being a unique reference number for each metering point on the electricity distribution network and allocated under the Master Registration Agreement.

MPRN

The Meter Point Reference Number, being a unique reference number for each metering point on the gas distribution network and allocated under the Uniform Network Codes.

MPxN

A collective reference to the MPAN and MPRN.

Network Operators

A collective term for holders of electricity distribution licences and gas transportation licences.

Outage detection

The ability for an electricity supply interruption to be identified and communicated to the SMWAN.

Parse

The conversion of Service Responses and Alerts received from the DCC over the User Gateway into a more user-friendly format.

Parse and Correlate Software

Software to be provided by the DCC which enables users to carry out the Parse and Correlate activities.

Pre-Command

A message generated as part of the process of converting Service Requests into Commands, i.e. after Transformation by DCC. For Critical Service Requests Pre-Commands are returned to the DCC Service User for correlation and signing after DCC has transformed the Service Request.

RDP System

The systems used by, or on behalf of a Network Operator for the collection storage, back-up, processing, or communication of Registration Data prior to being sent to DCC.

Registration Data Provider

A person nominated by a Network Operator to provide Registration Data to DCC under the SEC.

Release Management

The process adopted for planning, scheduling and controlling the build, test and deployment of releases of IT updates procedures and processes.

Relevant Services Capability

The internal and external resources which the DCC relies upon in order to provide services to DCC Service Users.

Smart Meter

A Gas Smart Meter or an Electricity Smart Meter.

SECAS

The company appointed and contracted to SECCo to carry out the functions of the Code Administrator and the Code Secretariat - Gemserv.

SECCo

A company established under the SEC, owned by SEC Parties and which acts as a contracting body for the SEC Panel.

SEC Subsidiary Documents

Documents that are referenced by and form part of the SEC, and thus subject to the SEC Modifications Process

Service Request

A communication to the DCC over the User Gateway (and in a form set out in the User Gateway Interface Specification) that requests one of the Services identified in the User Gateway Services Schedule (or, in future an Elective Communications Service).

Service Response

A message sent from DCC to a DCC Service User over the User Gateway (and in a form set out in the User Gateway Interface Specification) in response to a Service Request.

Smart Energy Code (SEC)

The Code designated by the Secretary of State pursuant to Condition 22 of the DCC licence and setting out, amongst other things, the contractual arrangements by which DCC provides services to users as part of its Authorised Business.

Smart Metering Inventory

An inventory of Devices which comprise Smart Metering Systems which are (or are to be or were) Enrolled with the DCC. The Smart Metering Inventory also holds information about Devices and their inter-relationships.

Smart Metering Equipment Technical Specifications version 2 (SMETS 2)

A specification (which is to form part of the SEC) of the minimum technical requirements of smart metering equipment (other than Communications Hubs which are separately dealt with in CHTS).

Smart Metering System (SMS)

A particular collection of Commissioned Devices installed in a premises.

A Gas SMS comprises a Communications Hub Function, a Gas Smart Meter, a Gas Proxy Device and any additional Type 1 Devices.

An Electricity SMS comprises a Communications Hub Function, an Electricity Smart Meter and any additional Type 1 Devices.

Smart Metering Wide Area Network (SMWAN)

The network that is used for two way communication between Communications Hub Functions and the DCC.

Solution Architecture

The overall technical architecture of the DCC's Solution (including its Service Providers), comprising a description of the individual components of the Solution (including all Systems, Hardware and Software) and interfaces with external systems

Supplier

The holder of a gas supply licence or an electricity supply licence.

Technical Architecture

The DCC Systems and the Smart Metering Systems together, including as documented in the Technical Specifications.

Transformation

The conversion, by the DCC, of a Service Request into the format required in order for the command to be executed by a Device.

User Role

One of a number of different capacities in which a DCC Service User may (if appropriately authorised and having gone through the necessary User Entry Processes) act, including: Import Supplier; Export Supplier; Gas Supplier, Electricity Distributor, Gas Transporter or Other User.

User System

The systems used by a User for the collection storage, back-up, processing, or communication of data prior, to of for the purposes of, its sending or receipt to or from DCC.

Annex 1: Consultation Questions

Technical Governance and Change Control

Q1 Do you agree with our proposed text for the SEC with respect to Technical Governance and Change Control? Please provide a rationale for your views.

Registration Data

Q2 Do you agree with our proposed text for the SEC with respect to Registration Data? Please provide a rationale for your views.

Q3 The DCC currently uses profile class data as a proxy to estimate the number of non-domestic meter points registered to users. Should this be replaced with a new data item which accurately reflects non-domestic meter registration, or should the DCC continue to use profile calls as a proxy? If you think it should be replaced, should the DCC rely on Suppliers providing this information separately, or should a change be sought to electricity registration systems to collect this data? Please provide a rationale for your views.

Q4 The SEC will include a requirement for RDPs to provide the DCC with a 'data refresh' on request, within a set number of days. Do you agree that it is sensible to measure in calendar days? If so, what is the impact of providing data refreshes to the DCC within two calendar days? If this has too significant an impact, what should the correct value be? Alternatively, do you believe it should be a set number of working days? If so, how long should this period be?

DCC User Gateway

Q5 Do you agree with our proposed text for the SEC with respect to the DCC User Gateway? Please provide a rationale for your views.

DCC User Gateway Services and Service Request Processing

Q6 Do you agree with our proposed text for the SEC with respect to the DCC User Gateway Services and Service Request Processing? Please provide a rationale for your views.

Parsing and Correlation

Q7 Do you agree with our proposed text for the SEC with respect to Parsing and Correlation? Please provide a rationale for your views.

Enrolment in The Smart Metering Inventory

Q8 Do you agree with our proposed text for the SEC with respect to Enrolment in the Smart Metering Inventory and other associated processes? Please provide a rationale for your views.

Intimate Communications Hub Interface

Q9 Do you agree with our proposed text for the SEC with respect to the Communications Hub: Intimate Physical Interface? Please provide a rationale for your views.

DCC Service Management

Q10 Do you agree with our proposed text for the SEC with respect to DCC Service Management? Please provide a rationale for your views.

Incident Management

Q11 Do you agree with our proposed text for the SEC with respect to Incident Management? Please provide a rationale for your views.

Self-Service Interface

Q12 Do you agree with our proposed text for the SEC with respect to the Self-Service Interface? Please provide a rationale for your views.

DCC Service Desk

Q13 Do you agree with our proposed text for the SEC with respect to the DCC Service Desk? Please provide a rationale for your views

Service Level Agreements for Testing

Q14 Do you agree with our proposed text for the SEC with respect to the Service Level Agreements for Testing? Please provide a rationale for your views

Q15 Does the inclusion of DCC aggregate performance measures in the SEC, and the consequential reduction in future service charges, appropriately balance the need for the DCC to manage its Service Providers flexibly with the need for DCC Service Users to have a say regarding performance targets? Please give reasons for your answer.

Managing Demand

Q16 Do you agree with our proposed text for the SEC with respect to Managing Demand? Please provide a rationale for your views

Security Requirements

Q17 Do you have any comments on the security obligations set out in Section G of the SEC drafting or the way they are expressed?

Q18 Do you have any comments on the appropriateness and / or the proportionality of the security obligations in relation to particular types of DCC Service Users and their role?

Communications Hub Financing

| | |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Q19 | Do you agree that the four additional provisions are proportionate responses to providing reliable and economic third party financing options for Communications Hubs? |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Communications Hub Services

| | |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Q20 | <p>Views are invited on the proposals in relation to Communications Hub asset charges and maintenance charges. This includes:</p> <ul style="list-style-type: none">• Monthly Communications Hub Charge• HAN Variant Pricing• Monthly Maintenance Charge |
| Q21 | <p>Views are invited on the proposals in relation to charges following removal of a Communications Hub. In particular, views are invited on the proposals for no fault removals in split fuel households. Do you agree that any outstanding asset costs should be smeared across all users rather than being charged to the installing or removing Supplier when Communications Hubs that do not serve the second installer's equipment are removed from split fuel households? Please provide a rationale for your views.</p> |

Annex 2: Planned Further Changes to the SEC

Table 2.1 sets out the anticipated content of the SEC that will be outstanding following SEC2. This excludes subsidiary documents.

Table 2.1: Anticipated SEC content outstanding after SEC2

| SEC Section | Content |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| D: Modification Process | <ul style="list-style-type: none"> • Role of the Security Sub Committee in modifications process • Modification of the Certificate Policies |
| F: Smart Metering System Requirements | <ul style="list-style-type: none"> • Compliance with SMETS 2 and interoperability with the DCC • Certified Devices List • Deployed Devices List • Operational functionality of smart metering equipment and access for DCC • DCC Requirements to provide testing facilities |
| G: Security | <ul style="list-style-type: none"> • Provisions setting out the objectives, powers, composition and procedures of the Policy Management Authority • Provisions relating to the Smart Metering Key Infrastructure • Provisions relating to Certificate Policies for Devices and Organisations • Provisions relating to Subscriber and Relying Party Agreements • Provisions setting out the objectives, duties, composition and procedures of the Security Sub-Committee • Provisions setting out the assurance arrangements required to demonstrate compliance with the security requirements for DCC and for DCC Service Users (both at user entry and subsequently) |
| H: DCC Services | <ul style="list-style-type: none"> • Updated arrangements relating to User Entry Processes (User Gateway testing and Security Assurance) • Updated arrangements relating to Supplier Nominated Agents (SNAs) to reflect, for example, the Smart Metering Key Infrastructure • Communications Hub Services • Business Continuity and Disaster Recovery • Provisions relating to Consumer Access Devices • Performance Assurance (DCC and Users) |
| I: Data Privacy and Access to Data | <ul style="list-style-type: none"> • Privacy Audits |
| K: Charging Methodology | <ul style="list-style-type: none"> • Charging for costs of security bodies • Communications Hub Charging • Allocation of Liquidated damages for WAN coverage at the end of rollout • Charging arrangements relating to adoption of SMETS 1 |

| | |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | foundation meters and adopted communications contracts |
| M: General | <ul style="list-style-type: none"> • Additional provisions for related to limitations of liability and disputes (if required) |
| X: Transition | <ul style="list-style-type: none"> • System Integrating Testing and User Integration Testing • Commencement of Communications Hub Ordering process • Provision of first installation support materials/installer training for Communications Hubs • Any steps to be taken prior to designation of Completion of Implementation • Any steps to be taken to support operational go-live |
| Y: Foundation meters | <ul style="list-style-type: none"> • Enrolment of Foundation Meters and adoption of communications contracts |

Annex 3: Technical Specifications

| Document | Description | Current Status |
|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Smart Metering Equipment Technical Specifications (SMETS) | The document that describes the minimum physical, functional, interface and data, testing and certification requirements of Electricity Smart Metering Equipment, Gas Smart Metering Equipment, In Home Display, Prepayment Interface Device and HAN Controlled Auxiliary Load Control Switch. | The first version of the SMETS was designated in December 2012. The second version of SMETS is currently being developed by Government and will enter into force and be incorporated into SEC at the earliest possible date. A base-lined version of the second version of SMETS has been shared with stakeholders. |
| Great Britain Companion Specification | The document, subsidiary to the SMETS and CHTS, that describes the nature of Communications Links that ESME, GSME, HCALCS, IHD and PPMID must be capable of forming via their HAN Interfaces | These documents are currently being developed by Government and will enter into force and be incorporated into SEC at the earliest possible date. Base-lined versions of the documents have been shared with stakeholders. |
| Commercial Products Assurance Security Characteristics for GB Smart Metering | The document, subsidiary to the SMETS and CHTS, forming that describes the requirements for evaluation and certification of the ESME, GSME, Communications Hub, HCALCS, IHD and PPMID under CESG's Commercial Products Assurance scheme. | |
| Communications Hub Technical Specifications (CHTS) | The document that describes the minimum physical, functional, interface and data, testing and certification requirements of Communications Hubs. | |
| DCC User Gateway Interface Specifications | The technical specifications for the DCC User Gateway Interface. | The DCC is required to produce these documents during the Design Phase of the SMIP ³⁹ , pursuant to Schedule 5 of its Licence. Schedule 5 of the DCC Licence sets out the required procedure for document development by the DCC. This includes a requirement on the DCC to consult appropriately with users on the proposed content, including seeking their views on any restrictions on operation that DCC |
| DCC User Gateway Codes of Connections | The document describing how SEC Parties will be able to use the DCC User Gateway Interface. | |
| DCC Self-Service Interface Design Specifications | The technical specifications for the DCC Self-Service Interface. | |
| DCC Self-Service Codes of Connections | The document describing how SEC Parties will be able to use the DCC Self-Service Interface. | |
| Electricity Registration Data Interface Documents | The technical specifications and codes of connection for the Electricity Registration Data Interface. | |
| Gas Registration Data Interface Documents | The technical specifications and codes of connection for the Gas Registration Data Interface. | |

³⁹ Scheduled to complete during Q1 2014

| Document | Description | Current Status |
|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Error Handling Strategy <i>(see note 1 at foot of table)</i> | The document that describes how any messaging errors which arise on the above interfaces will be addressed by the different parties | considers it necessary to include. Where disagreements arise, the DCC must seek to reach an agreed solution with consultees. |
| Message Mapping Catalogue | The document that describes the format into which all messages sent across the DCC User Gateway to SEC Parties will be converted by the Parse and Correlate software | |
| Incident Management Policy <i>(see note 1 at foot of table)</i> | The document that describes provisions for incident management, including responsibilities for their recording, resolution and escalation as required | Having produced each document, the DCC must submit a draft to the Secretary of State by a date specified in the DCC Licence. The DCC must indicate whether it considers the draft fit for purpose, and set out any unresolved differences remaining from the consultation process. |
| Registration Data Incident Management Policy | As above, but with specific reference to Registration Data | |
| SEC Panel Release Management Policy and DCC Release Management Policy <i>(see notes 1 and 3 at foot of table)</i> | The documents that describe provisions for the implementation of new releases in relation to the Smart Metering Systems (and including, as appropriate, the associated Release Schedule), respectively for any systems covered by the Technical Specifications, and the DCC's internal systems | |
| Communications Hub Handover Support Materials <i>(see note 2 at foot of table)</i> | The document that describes the process for the delivery and handover of Communications Hubs by the DCC to the relevant DCC Service Users (CSP responsibility) | Section X5 of the SEC provides for these documents to be incorporated into the SEC by the Secretary of State |
| Communications Hub Installation Support Process Materials <i>(see note 2 at foot of table)</i> | The document that describes the process to be followed by DCC Service Users in relation to the installation of Communications Hubs at consumer premises and their connection to the SMWAN (CSP responsibility) | |
| Communications Hub Maintenance Support Materials <i>(see note 2 at foot of table)</i> | The document that describes the maintenance procedures to be followed by DCC Service Users in relation to Communications Hubs installed at consumer premises (CSP responsibility) | |

Note 1: as currently defined in the Service Provider contracts, a number of the above documents cover all aspects of the DCC's responsibilities in these areas (including those internal to its operations with the Service Providers). The Technical Specifications are likely only to include those elements of each document applicable to DCC Service Users.

Note 2: not the subject of SEC2. Provisions to develop and include these documents in the SEC will be subject to a future consultation.

Note 3: the Release Management Policies will be created in line with the process set out in paragraph 37 *et seq.* However (and unlike other documents within the Technical Specifications), they will not be regarded as SEC Subsidiary Documents, and therefore be capable of change outside the SEC Modifications Process

Annex 4: Technical Documentation Contents

4.1: Registration Interface Specifications for Electricity and Gas

389 The Registration Interface Specifications for Electricity and Gas are expected to include, as a minimum:

- the technical definition of the registration Interface and its purpose;
- details of the technical solution specified;
- a Connection Overview / general instructions in relation to how to use the interface;
- the technical requirements for the RDPs when connecting to the Registration Interface;
- technical details describing how the messaging interface operates including the:
 - format and content of communications sent and received across the Registration Interface;
 - technical standards, including applicable protocols, to be used for message exchanges;
 - structure and permissible content of all communications, including the specific data items to be contained within each of the defined communications;
 - definition of how users should generate digital signatures for all communications;
 - description of how credentials are checked for all communication to and from the DCC;
 - impact of quarantining of service requests upon User Gateway processing and performance times;
 - content specific considerations for the interface; and
 - details on the use of sequence numbers for data transfer between the RDPs and the DCC to ensure data consistency and accuracy.
- details of any validation rules applied to communications sent over the DCC User Gateway;
- details of how any errors in the interface will be identified and any subsequent actions will be taken by the DCC;
- references (where applicable) to the Error Handling Strategy including how details of incorrect or missing files are managed and communicated;
- version control showing a history of changes to the interface specification over time; and
- the relevant security policies, including:
 - information assurance responsibilities;
 - security standards to be adopted;
 - security requirements - certificate / key requirements;
 - mutually authenticating the User Gateway Interface:
 - enabling the sender of a communication to ensure the authenticity and Integrity of the communication sent; and

- enabling the recipient of a communication to confirm the authenticity and Integrity of the communication received.

4.2: Registration Interface Codes of Connection

390 The Registration Interface Codes of Connection (CoCos) for Electricity and for Gas are expected to include, as a minimum:

- a definition of the code of connection and its purpose, and how the RDPs and the DCC shall use the Registration Interface;
- an overview and general use instructions in relation to the code of connection;
- details relating to data profiles and volumes including (but not limited to):
 - capacity and / or bandwidth limits / restrictions;
 - details of the RDP's expected communication profile over time including expected volumes / volume limits (by direction and time period);
 - expected and allowable message rates over defined time periods;
 - any applicable communication throughput controls to be applied;
 - average and peak load limits;
 - peak duration limits;
 - the extent to which messages will be batched or not; and
 - any smoothing of communications that may be required and the associated rules.
- Details of any limits or restrictions on RDPs or the DCC in the use of the Registration Interface;
- any applicable security policies, including:
 - information assurance responsibilities;
 - security standards to be adopted; and
 - security requirements to be monitored.
- version control showing a history of changes to the code of connection over time.

4.3: DCC User Gateway Interface Specification

391 The DCC User Gateway Interface Specification (DUGIS) will include, as a minimum:

- the technical definition of the Interface and its purpose;
- the technical requirements for connecting to the User Gateway;
- technical details describing how the messaging interface operates including the:
 - format and content of Service Requests, Service Responses and Alerts sent and received across the User Gateway;
 - technical standards, including applicable protocols, to be used for message exchanges;
 - structure and permissible content of all communications including the specific data items to be contained within each of the defined Service Requests, Service Responses, Alerts and Notifications to Users as listed in the DCC User Gateway Catalogue;

- identification of any data items within a Service Request that are classified as sensitive and should be encrypted by DCC Service Users;
 - details of any content-specific considerations for specific Service Request types;
 - definition of how users of the User Gateway should use unique message identifiers for each communication across the DCC User Gateway in line with the GBCS definition;
 - definition of how users should generate digital signatures for all communications;
 - description of how credentials are checked for all communication to and from the DCC;
 - definition of the responsibility start and finish points for performance measures in relation to communications between the DCC and its users; and
 - impact of quarantining of service requests upon User Gateway processing and performance times.
- details of any validation rules applied to communications sent over the DCC User Gateway;
 - details of how any errors in the interface will be identified and any subsequent actions taken by the DCC;
 - references (where applicable) to the Error Handling Strategy including how unfulfilled Service Requests are managed and communicated; and
 - version control showing a history of changes to the Interface specification over time.
- 392 To ensure that it is sufficiently secure, the DUGIS will set out the detailed security requirements associated with the DCC User Gateway. As a minimum these will include the relevant security policies which meet the requirements for confidentiality, authenticity, integrity and non-repudiation, including:
- information assurance responsibilities;
 - security standards to be adopted; and
 - all applicable security requirements, including cryptographic certificate / key requirements.
- 393 The DUGIS will require that any cryptographic algorithms, and any random number generation function used for cryptographic operations either:
- feature on the National Security Agency Suite B list of approved algorithms;
 - are approved by the National Institute of Standards and Technology Cryptographic Algorithm Validation Programme; or
 - are approved for use by CESG for the intended purpose
- 394 Preliminary designs for the DCC User Gateway do not require a physical endpoint to be located within the User's premises. However, in the event that this changes, indicative SEC obligations have been drafted to cover this requirement.

4.4: DCC User Gateway Code of Connection

- 395 The DCC User Gateway Code of Connection (DUG CoCo) will include as a minimum:

- a definition and description of CoCo and its intended purpose;
- an overview / general use instructions in relation to the CoCo including how the Service User will use the DCC User Gateway;
- details regarding the provision of at least two different Means of Connection to the DCC User Gateway to facilitate each DCC Service User's choice of connection to the DCC User Gateway;
- details relating to the DCC User Gateway Interface profiles and volumes associated with the Users DCC User Gateway connection including but not limited to:
 - capacity and /or bandwidth limits/ restrictions;
 - details of the users expected communication profile over time including expected volumes / volume limits (by direction and time period);
 - expected and allowable message rates over defined time periods;
 - any applicable communication throughput controls to be applied (anomaly detection);
 - average load, and peak load limits;
 - peak duration limits;
 - the extent to which messages will be drip fed;
 - any smoothing of communications that may be required and the associated rules; and
 - details relating to suppression of 'alert storms'.
- details of any limits / restrictions on DCC Service Users in the use of the DCC User Gateway;
- any applicable Security Policies, including:
 - information assurance responsibilities;
 - security standards to be adopted; and
 - security requirements to be monitored.
- version control showing a history of changes to the CoCo over time.

4.5: Self-Service Interface Design Specification

396 The SSI Design Specification will include, as a minimum:

- the technical definition of the SSI and its purpose;
- the technical requirements for connecting to the SSI;
- technical details describing how the SSI operates including the:
 - technical standards to be used for the SSI;
 - functionality to be provided via the SSI;
 - details of how single sign on capabilities are provided for DCC Service Users; and
 - details of any content-specific considerations.
- details of any validation rules applied to the SSI;
- details of how the SSI will deal with any validation errors; and
- version control showing a history of changes to the SSI specification over time.

397 To ensure that it is sufficiently secure, the SSI Design Specification will set out the detailed security requirements associated with the interface. As a minimum these will include the relevant security policies which meet the

requirements for confidentiality, authenticity, integrity and non-repudiation, including:

- information assurance responsibilities;
- security standards to be adopted; and
- all applicable security requirements, including mutual authentication requirements.

4.6: Self-Service Interface Code of Connection

398 The Self Service Interface Code of Connection (SSI CoCo) will include as a minimum:

- a definition and description of SSI CoCo and its intended purpose;
- an overview / general use instructions in relation to the SSI CoCo including how the DCC Service User will use the Self Service Interface;
- details relating to the SSI profiles and volumes associated with the DCC Service User's SSI connection including but not limited to:
 - capacity and /or bandwidth limits/ restrictions;
 - any applicable communication throughput controls to be applied; and
 - any applicable average load, and peak load limits.
- obligations and expectations on DCC Service Users regarding the management of their DCC provided 'Administrator User' accounts
- details on how subsequent User accounts are set up by each 'Administrator User' account
- obligations on DCC Service Users for the management of any subsequently created User accounts for the SSI including regular review of all users to ensure that the accounts are still required;
- the application of access controls to each set of functionality for each type of DCC Service User;
- details of any limits / restrictions on DCC Service Users in the use of the SSI;
- any applicable Security Policies, including:
 - information assurance responsibilities;
 - security standards to be adopted; and
 - security requirements to be monitored.
- version control showing a history of changes to the SSI CoCo over time.

Annex 5: User Gateway Services Schedule

399 The following interpretation applies to the Services that are available across the DCC User Gateway:

- when a User sends in a Service Request for any of the Services listed in the Schedule, H4 of the SEC describes the steps that the DCC must follow and the Service Response that is provided to the DCC Service User;
- the ‘specified Device’ or ‘specified meter’ is identified by specifying a Device ID contained in the Service Request;
- ‘meter’ means the Gas Smart Meter or Electricity Smart Meter as applicable;
- N/A means that the category of service is not available;
- where not defined in Section A of the SEC, capitalised terms are defined either in SMETS or the GBCS;
- where the table below includes ‘✓’ in the Critical Service Request column this indicates that the Service Request associated with the User Gateway Service is a Critical Service Request. Where it contains “x”, this indicates that the associated Service Request is not a Critical Service Request;
- where the table below includes ‘N/A’ this indicates that the category of Service is not available; and
- where a time value (e.g. 24hrs, 30secs) is included in the table below, this represents the ‘Target Response Time’ for the relevant activity associated with the processing of the Service Request or Service Response as set out in H3.20.

400 All Services listed in this Schedule (including Alerts) will attract an Explicit Charge pursuant to K7.5(b).

401 The list of Services now follows and this is in two parts:

- Table 5.1: those Services that result in a Command being sent to a Device (‘Device Services’); and
- Table 5.2: those Services that require the DCC to undertake an activity (‘Non-Device Services’).

402 Table 5.3 provides the Monthly Service Metrics and associated Monthly Service Thresholds in relation to certain Service Request Types.

403 Table 5.4 provides an indicative list of Smart Meter Alerts.

| Role Reference Key | | | | | | | |
|--------------------|-----------------------------|-----------------------------|---------------------|--------------------------|------------------------------|----------------------|------------|
| Role Reference | EIS | EES | GIS | SNA | ENO | GNO | OU |
| Description | Electricity Import Supplier | Electricity Export Supplier | Gas Import Supplier | Supplier Nominated Agent | Electricity Network Operator | Gas Network Operator | Other User |

Table 5.1: Service Requests that send commands to Devices

| Service Ref | Service Name | User Gateway Service | Critical Service Request | Categories of Service Available | | User Role |
|-------------|---------------------------------------|-------------------------------------------------------------|--------------------------|---------------------------------|-----------|------------|
| | | | | Future dated | On Demand | |
| 1.1 | Update Import Tariff(prepayment) | Update the import tariff on a specified meter. | ✓ | 24hrs | 30secs | EIS GIS |
| 1.1 | Update Import Tariff (credit) | Update the import tariff on a specified meter. | ✗ | 24hrs | 30secs | EIS GIS |
| 1.2 | Update Price(prepayment) | Update the import price on a specified meter. | ✓ | 24hrs | N/A | EIS GIS |
| 1.2 | Update Price (credit) | Update the import price on a specified meter. | ✗ | 24hrs | N/A | EIS GIS |
| 1.5 | Adjust Meter Balance | Adjust the meter balance on a specified meter. | ✓ | 24hrs | 30secs | EIS GIS |
| 1.6 | Update Payment Mode | Update the payment mode on a specified meter. | ✓ | 24hrs | 30secs | EIS GIS |
| 1.7 | Reset Tariff Block Counter Matrix | Reset the Tariff Block Counter Matrix on a specified meter. | ✓ | 24hrs | 30secs | EIS |
| 2.1 | Update Prepay configuration | Update the prepayment configuration on a specified meter. | ✓ | 24hrs | 30secs | EIS GIS |
| 2.2 | Top Up Device | Add prepayment credit to a specified meter. | ✗ | N/A | 30secs | EIS GIS |
| 2.3 | Update debt | Update debt values on a specified meter. | ✓ | 24hrs | 30secs | EIS GIS |
| 2.5 | Activate emergency credit | Activate emergency credit on a specified meter. | ✓ | 24hrs | 30secs | EIS GIS |
| 3.1 | Display Message | Display a message on a specified meter. | ✗ | 24hrs | 30secs | EIS GIS |
| 3.2 | Restrict Access For Change Of Tenancy | Set the Restrict Data flag on a specified Device. | ✗ | 24hrs | 30secs | EIS GIS |

| Service Ref | Service Name | User Gateway Service | Critical Service Request | Categories of Service Available | | User Role |
|-------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------------|-----------|---------------------------------------|
| | | | | Future dated | On Demand | |
| 3.3 | Clear Event Log | Clear the event log on a specified Device. | x | N/A | 30secs | EIS GIS ENO GNO |
| 3.4 | Update Supplier Name | Update the Supplier name on a specified meter. | x | 24hrs | N/A | EIS GIS |
| 3.5 | Reset Customer PIN | Reset the customer's PIN on a specified meter. | x | N/A | 30secs | EIS GIS |
| 4.1 | Read Instantaneous Import Registers | Read the specified import register or matrix on a specified meter as soon as the Command is received by the meter. | x | N/A | 30secs | EIS GIS ENO GNO |
| 4.2 | Read Instantaneous Export Registers | Read the specified registers on a specified meter as soon as the Command is received by the meter. | x | N/A | 30secs | EES ENO |
| 4.3 | Read Instantaneous Prepay Values | Read the specified prepayment registers on a specified meter as soon as the Command is received by the meter. | x | N/A | 30secs | EIS GIS |
| 4.4 | Retrieve Billing Data Log | Return the specified billing data log entry on a specified meter. | x | 24hrs | 30secs | EIS GIS |
| 4.6 | Retrieve Daily Read Log | Return the specified daily read log entry for a specified meter. | x | 24hrs | 30secs | EIS GIS |
| 4.8 | Read Profile Data | Return the specified date range of profile data from the profile data log for a specified meter. | x | 24hrs | 30secs | EIS EES GIS ENO GNO OU |
| 4.10 | Read Network Data | Retrieve stored power quality data from a Device for a specified Device ID. | x | 24hrs | 30secs | EIS GIS ENO GNO |
| 4.11 | Read Tariff | Read the current tariff settings (including price, time of use matrix and time of use blocks) that are in use on a specified meter, in addition to the payment mode status. | x | N/A | 30secs | EIS GIS OU |

| Service Ref | Service Name | User Gateway Service | Critical Service Request | Categories of Service Available | | User Role |
|-------------|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------------|-----------|----------------------------------------------|
| | | | | Future dated | On Demand | |
| 4.12 | Read Maximum Demand Registers | Retrieve the maximum demand register values recorded on a specified meter. | ✘ | 24hrs | N/A | EIS EES ENO |
| 4.13 | Read Prepayment Configuration | Read the specified meter's prepayment configuration settings | ✘ | 24hrs | 30secs | EIS GIS |
| 4.14 | Read Prepayment Daily Read Log | Retrieve the specified Daily Read Log entry on the specified meter. | ✘ | 24hrs | 30secs | EIS GIS |
| 4.15 | Read Load Limit Counter | Retrieve the specified Load Limit Counter data on the specified meter. | ✘ | 24hrs | N/A | EIS ENO |
| 4.16 | Read Active Power Import | Retrieve the specified Active Power Import values on the specified meter. | ✘ | 24hrs | 30secs | EIS ENO |
| 4.17 | Retrieve Daily Consumption Log | Retrieve the specified Daily Consumption Log entry(s) on the specified meter. | ✘ | 24hrs | 30secs | EIS GIS OU |
| 6.2 | Read Device Configuration | Retrieve the configuration data values for a specified meter. | ✘ | N/A | 30secs | EIS EES GIS SNA ENO GNO OU |
| 6.4 | Update Device Configuration (Load Limiting) | Configure the load limiting functionality on a specified meter, including, where specified, reset of the Load Limit Counter. | ✓ | 24hrs | 30secs | EIS |
| 6.5 | Update Device Configuration (Voltage) | Configure the voltage thresholds on a specified meter. | ✘ | 24hrs | 30secs | ENO |
| 6.6 | Update Device Configuration (Gas Conversion) | Configure the gas conversion values on a specified meter. | ✓ | 24hrs | N/A | GIS |
| 6.7 | Update Device Configuration (Gas Flow) | Configure the behaviour of the valve within a specified meter under specified conditions. | ✓ | 24hrs | N/A | GIS |

| Service Ref | Service Name | User Gateway Service | Critical Service Request | Categories of Service Available | | User Role |
|-------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------------|---------------------------------|---------------------------------|
| | | | | Future dated | On Demand | |
| 6.8 | Update Device Configuration (Billing Calendar) | Configure the billing calendar for a specified meter and to subsequently provide the billing data in accordance with the billing calendar that has been set up. | ✘ | 24hrs for billing data | 30secs for Device configuration | EIS GIS |
| 6.11 | Synchronise Clock | Synchronise a specified meter's clock with the time used by the Associated Communication Hub Function. | ✓ | 24hrs | 30secs | EIS GIS |
| 6.12 | Update Device Configuration (Instantaneous Power Threshold) | Configure the ambient power thresholds on a specified meter for display on an IHD. | ✘ | 24hrs | 30secs | EIS |
| 6.13 | Read Event Or Security Log | Retrieve the Event and/or Security logs for a specified meter. | ✘ | N/A | 30secs | EIS GIS ENO DNO SNA |
| 6.14 | Update Device Configuration (Auxiliary Load Control) | Configure the Auxiliary Load Control calendar and/or description for a specified Device. | ✓ | 24hrs | N/A | EIS |
| 6.15 | Update Security Credentials | Replace the Security Credentials held on the specified Device with the credentials contained with the Service Request. | ✓ | 24hrs | 30secs | EIS GIS ENO GNO |
| 6.17 | Issue Security Credentials | Instruct a specified Device to generate a new Key Pair and issue a corresponding Certificate Signing Request | ✓ | 24hrs | N/A | EIS GIS |
| 6.18 | Set Maximum Demand Registers | To set the maximum demand register value(s) and timeframe on a specified meter. | ✘ | 24hrs | N/A | ENO |
| 6.19 | Set Device Configuration(Local Time Change Calendar) | Configure the Local Time Change Calendar for a specified meter. | ✘ | 24hrs | 30secs | EIS GIS |
| 6.20 | Set Device Configuration(MPxN) | Configure the MPxN value for display on the specified meter. | ✘ | 24hrs | 30secs | EIS EES GIS |

| Service Ref | Service Name | User Gateway Service | Critical Service Request | Categories of Service Available | | User Role |
|-------------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------------|-----------|----------------------------------------|
| | | | | Future dated | On Demand | |
| 6.21 | Request Handover of DCC controlled Device | To replace the DCC's Security Credentials on a specified Device with the Security Credentials contained within the Service Request. | ✓ | 24hrs | 30secs | EIS GIS |
| 6.22 | Configure Event Behaviour | Configure the way in which a specified meter will handle certain events. | ✗ | 24hrs | 30secs | EIS GIS ENO GNO |
| 6.23 | Update Security Credentials (CoS) | To replace the supplier Security Credentials on a specified Device with the Security Credentials contained within the Service Request. | ✓ | 24hrs | 30secs | EIS GIS |
| 6.24 | Retrieve Device Security Credentials | Retrieve the public Security Credentials from a specified Device. | ✗ | 24hrs | 30secs | EIS GIS ENO GNO |
| 7.1 | Enable Supply | Enable electricity supply through a specified meter. | ✓ | 24hrs | 30secs | EIS |
| 7.2 | Disable Supply | Disable electricity/gas supply through a specified meter. | ✓ | N/A | 30secs | EIS GIS |
| 7.3 | Arm Supply | Arm the supply on a specified meter such that it can be enabled by local interaction through that meter. | ✓ | N/A | 30secs | EIS GIS |
| 7.4 | Read Supply Status | Return the current supply status at a specified meter. | ✗ | N/A | 30secs | EIS EES GIS SNA ENO GNO |
| 7.5 | Activate Auxiliary Load | Activate the specified Auxiliary Load Control Switch (ALCS) for a specified Device. | ✓ | N/A | 30secs | EIS |
| 7.6 | Deactivate Auxiliary Load | Deactivate the specified Auxiliary Load Control Switch (ALCS) for a specified Device. | ✓ | N/A | 30secs | EIS |
| 7.7 | Read Auxiliary Load Control Switch Configuration | Retrieve the configuration information of a specified Auxiliary Load Control Switch (ALCS) for a specified Device. | ✗ | 24hrs | 30secs | EIS |

| Service Ref | Service Name | User Gateway Service | Critical Service Request | Categories of Service Available | | User Role |
|-------------|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------------|-----------|------------------|
| | | | | Future dated | On Demand | |
| 7.8 | Reset Auxiliary Load | To reset the specified Auxiliary Load Control Switch for a specified Device. | ✓ | N/A | 30secs | EIS |
| 7.9 | Add Auxiliary Load To Boost Button | Place the Auxiliary Load Control Switch under the control of the Boost button on a specified meter | ✗ | 24hrs | N/A | EIS |
| 7.10 | Remove Auxiliary Load From Boost Button | Remove the specified Auxiliary Load Control Switch from the control of the Boost Button on a specified meter | ✗ | 24hrs | 30secs | EIS |
| 7.11 | Read Boost Button Details | Retrieve the details of the Boost Button on a specified Device. | ✗ | 24hrs | 30secs | EIS ENO OU |
| 7.12 | Set Randomised Offset Limit | Set the Randomised Offset limit on a specified meter | ✓ | 24hrs | N/A | EIS |
| 8.1 | Commission Device | Where relevant set time and display MPxN on a Device and, in any event, send commissioning message to the specified Device | ✓ | N/A | 30secs | EIS GIS |
| 8.5 | Service Opt Out | To replace the Security Credentials held on the Device with the Security Credentials contained within the Service Request and Withdraw the Device. | ✓ | 24hrs | N/A | EIS GIS |
| 8.7 | Join Service (Type 1 Devices) | To allow specified Devices to communicate with each other via the Home Area Network (HAN) | ✓ | 24hrs | 30secs | EIS GIS |
| 8.7 | Join Service (Type 2 Devices) | To allow a Type 2 device to receive data via the Home Area Network (HAN) ⁴⁰ . | ✗ | 24hrs | 30secs | EIS GIS OU |
| 8.8 | Un Join Service | To instruct specified Devices to cease communicating with each other via the Home Area Network (HAN). | ✓ | 24hrs | 30secs | EIS GIS |
| 8.8 | Un Join Service (Type 2 Devices) | To stop a Type 2 Device receiving data via the HAN ⁴¹ | ✗ | 24hrs | 30secs | EIS GIS OU |

⁴⁰ To be reviewed once the rules on Consumer Access Devices have been further developed.

⁴¹ To be reviewed once the rules on Consumer Access Devices have been further developed.

| Service Ref | Service Name | User Gateway Service | Critical Service Request | Categories of Service Available | | User Role |
|-------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------------|-----------|----------------------------------------------|
| | | | | Future dated | On Demand | |
| 8.9 | Read Device Log | To retrieve Device IDs and Security Credentials for specified Devices on the Home Area Network (HAN) | x | 24hrs | 30secs | EIS GIS OU |
| 8.11 | Update HAN Device Log | To update the Communications Hub Function Device Log with details of Devices to either be added or removed from it. | x | 24hrs | 30secs | EIS EES GIS |
| 8.12 | Restore HAN Device Log | To replace the Device log of a specified CHF with the Device Log of a specified CHF. | ✓ | 24hrs | 30secs | EIS EES GIS |
| 9.1 | Request Customer Identification Number | To generate and send a Customer Identification Number (CIN) to a specified meter and return the generated CIN to the sender of the Service Request. | x | N/A | 30secs | OU |
| 11.1 | Update Firmware | To send a firmware image to a specified Device for storage on the Device. | x | 5 days | N/A | EIS GIS |
| 11.2 | Read Firmware Version | To retrieve the firmware details that currently exist on a specified Device. | x | 24hrs | 30secs | EIS EES GIS SNA ENO GNO OU |
| 11.3 | Activate Firmware | Activate the specified firmware image stored on a specified Device | ✓ | 24hrs | 30secs | EIS GIS |
| 14.1 | Record Network Data (GAS) | Record on a specified Device the gas consumption data at 6 minute intervals over a four hour period. | x | N/A | 30secs | GNO |
| A1 | Device Alert | To send the details of an event generated by a Device to a defined Known Remote Party in the message. | x | N/A | 60secs | EIS GIS ENO GNO |
| A2 | DCC Alert | To send the details of an event in relation to one or more CHF's generated by the DCC to the relevant User. | x | N/A | 60secs | EIS EES GIS ENO DNO |

Notes:

404 Scheduled Services:

- 4.8, 4.10, 4.12, 4.15, 4.16, 4.17 can also be requested as a Scheduled Service but where so requested, have a Target Response Time of 24 hours from the scheduled time of execution.

405 Type 2 Devices: Only the following Services are available in relation to Type 2 Devices:

- 8.7 Join Service (Type 2);
- 8.8 Unjoin Service (Type 2); and
- 8.11 Update HAN Device Log.

406 Local Command Services:

- where Devices have a status in the Smart Metering Inventory of “Pending”, “Installed Not Commissioned” or “Commissioned” all Services, available to the EIS, EES or GIS can be requested such that the resulting Command(s) is sent to the requestor via the DCC User Gateway (‘Local Command Services’); and
- where Devices have a status of “Installed Not Commissioned” or “Commissioned” in the Smart Metering Inventory, all Services available to the ENO, GNO or OU can be requested such that the resulting Command(s) is sent to the requestor via the DCC User Gateway (‘Local Command Services’).

Table 5.2: Service Requests that instruct the DCC to undertake an activity

| UGC Ref | Activity | User Gateway Service Description | Categories of Service | | Eligible User |
|---------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------|----------------------------------------------|
| | | | Future dated | On Demand | |
| 5.1 | Create Schedule | To create a schedule to provide the specified Service on a recurring basis where the Service is identified as available as a Scheduled Service. | N/A | 24hrs | EIS EES GIS ENO GNO OU |
| 5.2 | Read Schedule | To return details of the requester's schedule held by the DCC for a specified meter. | N/A | 24hrs | EIS EES GIS ENO GNO OU |
| 5.3 | Delete Schedule | To delete all of the details stored by the DCC for the specified schedule to prevent any future recurring commands to the specified Device. | N/A | 24hrs | EIS EES GIS ENO GNO OU |
| 8.2 | Read Inventory | To obtain Device details held within the DCC inventory by reference to: <ul style="list-style-type: none"> the Device ID, in which case the User should be able to extract all information held in the inventory in relation to (I) that Device, (II) any other Device Associated with the first Device, (III) any device associated with any other such Device; and (IV) any Device with which any of the Devices in (I), (II) or (III) is Associated; the MPAN or MPRN, in which case the User should be able to extract all information held in the inventory in relation to the Smart Meter to which that MPAN or MPRN relates, or in relation to any Device Associated with that Smart Meter or with which it is Associated; post code and premises number or name, in which case the User should be able to extract all information held in the inventory in relation to the Smart Meters for the MPAN(s) and / or MPRN linked to that postcode and premises number or name, or in relation to any Device Associated with those Smart Meters or with which they are Associated; the UPRN (where this has been provided as part of the Registration | N/A | 30secs | EIS EES GIS SNA ENO GNO OU |

| UGC Ref | Activity | User Gateway Service Description | Categories of Service | | Eligible User |
|---------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------|--------------------------|
| | | | Future dated | On Demand | |
| | | Data), in which case the User should be able to extract all information held in the inventory in relation to the Smart Meters for the MPAN(s) and/or MPRN linked by that UPRN, or in relation to any Device Associated with those Smart Meters or with which they are Associated; provided that there is no requirement for the DCC to provide information held on the inventory in respect of Type 2 Devices. | | | |
| 8.3 | Decommission Device | To update the SMI status of a specified Device to 'Decommissioned'. | N/A | 30secs | EIS EES GIS |
| 8.4 | Update Inventory | To update the SMI status of a specified Device held within the SMI to a new status as specified within the Service Request | N/A | 30secs | EIS EES GIS OU |
| 8.6 | Service Opt In | To provide the DCC Security Credentials to the requestor. | 24hrs | N/A | EIS GIS |
| 8.13 | Return Local Command Response | To return to the DCC the response from a Device obtained as a result of a locally executed Command. | 24hrs | 30secs | EIS EES GIS |
| 12.1 | Request WAN Matrix | To obtain details stored in the DCC about Wide Area Network (WAN) technology availability for a specified area/address | N/A | 30secs | EIS EES GIS SNA |
| 12.2 | Device Pre-notification | To provide the DCC with details of Devices that are intended to be installed and commissioned which are stored in the DCC Inventory with a status of Pending | N/A | 30secs | EIS EES GIS |

Table 5.3: Monthly Service Metrics

407 The following table sets out the Monthly Service Metrics and associated Monthly Service Thresholds in relation to certain Services.

| Eligible User | Service Ref | Monthly Service Metric (measurement for each User and determined in relation to each month, m) | Monthly Service Threshold (Service Requests and Responses sent per smart metering system) |
|-------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| EIS GIS | 3.1 Display Message | The total over month m and the previous eleven months of the number of Service Requests*; divided by the User $ASMS_m$. | 24 |
| EIS EES GIS | 4.8 Read Profile Data | The number of Service Requests* in month m, divided by the number of Smart Metering Systems Enrolled by that User on 15th day of month m. | Number of calendar days in the month |
| EIS GIS | 11.1 Send Firmware | The total over month m and the previous eleven months of the number of Service Requests*; divided by the User $ASMS_m$. | 6 |
| ENO GNO | 4.8 Read Profile Data | The number of Service Requests* in month m divided the numbers of Enrolled Smart Metering Systems on 15th day of month m for which the User is the Electricity Distributor or Gas Transporter (as the case may be). | $10^{-3} \times 48 \times$ number of calendar days in month m |
| ENO GNO | 4.8 Read Profile Data | The total over month m and the previous eleven months of the number of Service Requests*; divided by the User $ASMS_m$. | 4 |
| ENO | 4.10 Read Network Data | The number of Service Requests* in month m divided the numbers of Enrolled Smart Metering Systems on 15th day of month m for which the User is the Electricity Distributor or Gas Transporter (as the case may be). | $10^{-3} \times$ number of Calendar days in month m |
| ENO | 4.10 Read Network Data | The total over month m and the previous eleven months of the number of Service Requests*; divided by the User $ASMS_m$. | 4 |

* In each case, Service Requests of the relevant type sent by that User.

408 The User $ASMS_m$ is determined in relation to each relevant month m as:

- for each Supplier, the mean of the numbers of Smart Metering Systems Enrolled by that Supplier on 15th day of month m and each of the previous 11 months; and

- for each Network Operator Party, the mean of the numbers of Enrolled Smart Metering Systems on 15th day of month m and each of the previous 11 months for which it is the Electricity Distributor or Gas Transporter (as the case may be).
- 409 For each User, the First Service Month shall be the month following the month in which that User first sends a Service Request (of any type).
- 410 No Monthly Service Metric shall be determined for a User in relation to any month prior to that User's First Service Month.
- 411 Where a Monthly Service Metric is to be determined for a User which includes a requirement to determine the number of Service Requests of a particular type sent over a time period which includes any time prior to that User's First Service Month then:
- the Monthly Service Metric for that User shall be the value determined in accordance with the table above, multiplied by twelve and divided by number of month in that time period prior to the First Service Month; and
 - for the purposes of determining $ASMS_m$ any months prior to the First Service Month shall be disregarded.

Table 5.4: Indicative list of Smart Meter Alerts

| Alert Code | Alerts | GSME issued? | ESME issued? | Issued by both? |
|------------|------------------------------------------------------------------------|-----------------------------------|--------------|-----------------|
| A1 | Unauthorised Physical Access | Yes | Yes | Yes |
| A2 | Trusted Source Authentication Failure | Yes | Yes | Yes |
| A3 | Not intended recipient of Command | Yes | Yes | Yes |
| A4 | Source Does not have Permission for Command | Yes | Yes | Yes |
| A5 | Low Battery Capacity | Yes | | |
| A6 | Active Power Import above Load Limit Threshold | | Yes | |
| A7 | Supply Disabled then Armed - Load Limit triggered | | Yes | |
| A8 | Supply Enabled | | | |
| A9 | Emergency Credit Available | Yes | Yes | Yes |
| A10 | Credit Below Low Credit Threshold (prepayment mode) | Yes | Yes | Yes |
| A11 | Credit Below Disablement Threshold (prepayment mode) - Supply Disabled | Yes | Yes | Yes |
| A12 | Disablement of Supply Suspended | Yes | Yes | Yes |
| A13 | Billing Data Log Updated | | Yes | |
| A14 | Unauthorised Communication Access attempted | Yes | Yes | Yes |
| A15 | Average RMS Voltage above Over Voltage Threshold | | Yes | |
| A16 | Average RMS Voltage below Under Voltage Threshold | | Yes | |
| A17 | RMS above Extreme Over Voltage Threshold | | Yes | |
| A18 | RMS below Extreme Under Voltage Threshold | | Yes | |
| A19 | RMS above Voltage Swell Threshold | | Yes | |
| A20 | RMS below Voltage Sag Threshold | | Yes | |
| A21 | Power Loss | Issued from CSP Solution | | |
| A22 | Restoration of Supply Outage | | | |
| A23 | Credit Added | | | |
| A24 | Supply Outage Restored | Issued from CH as defined in CHTS | | |

| | | | | |
|-----|---------------------------------------------------------------------------------|-----------------------------------|-----|-----|
| A25 | Supply Outage Restored - Outage \geq 3 minutes | Issued from CH as defined in CHTS | | |
| A26 | Outcome of Ad hoc Change to HAN connected Auxiliary Load Control switch | | Yes | |
| A27 | Outcome of Calendar Based Change to HAN connected Auxiliary Load Control switch | | Yes | |
| A28 | Supply Armed | Yes | Yes | Yes |
| A29 | Supply Outage on Phase N Restored | | Yes | |
| A30 | Average RMS Voltage above Over Voltage Threshold on Phase N | | Yes | |
| A31 | Average RMS Voltage below Under Voltage Threshold on Phase N | | Yes | |
| A32 | RMS above Extreme Over Voltage Threshold on Phase N | | Yes | |
| A33 | RMS below Extreme Under Voltage Threshold on Phase N | | Yes | |
| A34 | RMS above Voltage Swell Threshold on Phase N | | Yes | |
| A35 | RMS below Voltage Sag Threshold on Phase N | | Yes | |

Annex 6: SEC Drafting

The legal text proposed in this consultation is published together with the designated text of SEC1 as a separate document alongside this publication and is available from: <http://www.gov.uk/government/consultations/new-smart-energy-code-content-stage-2>

Annex 7: SEC Drafting (change marked)

The legal text proposed in this consultation is published in change marked form against the designated text of SEC1 as a separate document alongside this publication and is available from: <http://www.gov.uk/government/consultations/new-smart-energy-code-content-stage-2>

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Department of Energy & Climate Change
3 Whitehall Place
London SW1A 2AW

www.decc.gov.uk

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