



Department
of Energy &
Climate Change

Smart Metering Implementation Programme

Smart Metering System & Equipment Testing – Consultation Response

2 December 2013

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General information

Purpose of this consultation:

Over the four-week period commencing 27 August 2013, the Government consulted on its proposals for the testing of smart market systems and equipment under the Smart Energy Code. This document sets out the Government's response to that consultation and informs the definition of the testing arrangements within the regulatory framework, upon which Government plans to consult in due course.

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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.

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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).

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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:

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Table of Contents

1	Executive Summary	6
1.1	Background	6
1.2	Summary of Decisions	7
2	Introduction	12
3	Pre-Integration Test Phase	13
3.1	Background	13
3.2	Consultation Proposals	13
3.3	Summary of Responses	13
3.4	Analysis and Government Conclusions	14
4	Systems Integration Test Phase	15
4.1	Background	15
4.2	Consultation Proposals	15
4.3	Summary of Responses	16
4.4	Analysis and Government Conclusions	18
5	User Integration Test Phase	22
5.1	Background	22
5.2	Consultation Proposals	22
5.3	Summary of Responses	24
5.4	Analysis and Government Conclusions	25
6	User Entry Process Testing	28
6.1	Background	28
6.2	Consultation Proposals	28
6.3	Summary of Responses	29
6.4	Analysis and Government Conclusions	29
7	Equipment Certification and Testing	31
7.1	Background	31
7.2	Consultation Proposals	31
7.3	Summary of Responses	32
7.4	Analysis & Government Conclusions	32
8	Glossary	33

1 Executive Summary

1.1 Background

- 1 The Government's vision is for every home and smaller business in Great Britain to have smart energy meters. The roll-out of smart meters will play an important role in Britain's transition to a low-carbon economy and help to meet some of the long-term challenges in ensuring an affordable, secure and sustainable energy supply.
- 2 The Data and Communications Company (DCC) is responsible for establishing the shared infrastructure that is required to support the mass roll out of smart meters across Great Britain, in order to link 53 million smart electricity and gas meters in homes and small businesses with the systems of energy suppliers, network operators¹ and energy service companies.
- 3 The DCC will be responsible for testing that its systems work in their own right and can interoperate with users' systems. The DCC will also be required to provide the environment for DCC Users to: i) perform User Entry Process Testing using a set of Common Test Scenarios; ii) test that the metering equipment they intend to enrol with the DCC interoperates with the DCC's systems; and iii) test their end to end systems and processes, using test scenarios and equipment of their own choice on a voluntary basis.
- 4 Between 27 August 2013 and 24 September 2013, the Government consulted ("the August Consultation") on its proposals for a testing regime that will provide assurance that:
 - the DCC's systems and services meet the requirements that are set out in the Smart Energy Code (SEC);
 - Registration Data Providers can deliver their obligations relating to registration data provision;
 - prospective DCC Users are capable of using the services that are provided by the DCC and its Service Providers; and
 - the metering equipment that DCC Users intend to enrol with the DCC is interoperable² with the DCC's systems and compliant with the relevant technical specifications.
- 5 The consultation considered the testing of systems and processes in relation to SMETS2 compliant equipment and excluded SMETS1 compliant equipment, which will be considered as part of the individual Foundation enrolment projects³.

¹ The companies licensed by Ofgem to maintain and manage the electricity and gas networks in Great Britain.

² In the context of this document interoperability refers to the ability of the DCC and DCC Users to be able to send, process and receive messages in a manner that is compliant with the Smart Metering Equipment Technical Specification and the GB Companion Specification

³ SMETS1 meters can be enrolled into the DCC through Foundation enrolment projects, subject to meeting enrolment and adoption criteria, which are described in the Foundation Smart Market Consultation Response and Further Consultation Document (May 2013).

- 6 Twenty-four responses were received to the consultation from a broad mix of large and small energy suppliers, Meter Asset Providers, service providers, trade bodies, consumer bodies and other interested parties. These responses have helped to inform the definition of the testing arrangements within the regulatory framework. The legal text to support the policy positions that are included within this consultation response will be set out in the SEC3 consultation document in due course.

1.2 Summary of Decisions

- 7 A summary of the Government's conclusions is set out below.

Pre-Integration Testing

- 8 During Pre-Integration Testing (PIT) the Data Service Provider (DSP) and Communication Service Providers (CSPs) will be required to work independently to test their own communication processes and data systems.
- 9 The Government has concluded that the Transition Objective in the DCC Licence and SEC, along with commercial incentives on the DCC, provide sufficient assurance that the DCC will undertake its PIT activity in an effective manner, without the need for additional regulation.
- 10 The Government has also concluded that PIT can be undertaken using meter test stubs and communication hubs that have not been certified. However, the CSPs must provide protocol certified communication hubs for use in Systems Integration Testing (SIT), if they are available.

Systems Integration Testing

- 11 During Systems Integration Testing (SIT) the systems of the DCC, CSP, DSP and Registration Data Providers (RDPs) are brought together for integration testing in an environment that is provided by the DSP, so as to prove that:
- the DCC is capable of delivering its services as specified in the SEC;
 - SEC obligations in relation to the transmission of registration data can be met; and
 - the DCC's services are scalable to meet the projected operational service levels.
- 12 The Government confirms its decision to require the DCC to publish a SIT Test Approach⁴, including entry and exit criteria, at least three months before the start of SIT.
- 13 The DCC will be required to develop the SIT Test Approach in consultation with RDPs and the RDPs, through the network operators, will be required to participate in SIT and to comply with the SIT Test Approach. The RDPs will have the right of appeal on any decision by the SEC Panel to approve the SIT

⁴ The consultation document referred to the production of test plans for SIT and UIT. This term has been changed to test approach.

- Test Approach, as well as a right of appeal to the SEC Panel if the DCC determines that an RDP is not ready to start SIT.
- 14 We consider that the DCC should be required to consider the level of assurance that it needs to demonstrate during SIT and the manner in which this assurance can be achieved. Accordingly, we have concluded that the DCC should perform SIT with as many meters as it considers appropriate in order to demonstrate in its SIT exit report that its systems are stable and function in accordance with the design specification. As a minimum, the DCC should select the first two sets of equipment, for each fuel type, that are presented to it that meet the selection criteria.
- 15 The DCC will be required to publish, in the SIT Test Approach, its assessment of the number of meters that should be used during SIT. If the DCC decides not to use all available metering equipment that is presented to it, where more than two sets of metering equipment are available that meet the selection criteria, it should clearly set out the reasons why.
- 16 The Government confirms its decision that the DCC should define the metering equipment selection criteria, and that these should include the minimum criteria that were set out in the August Consultation. The DCC may use meters that most closely match the criteria in preference to meter test stubs in the event that no metering equipment is available which meets the selection criteria. We have decided to introduce a new requirement that will apply in both SIT and Interface Testing whereby the DCC must make a recommendation to the SEC Panel in its Test Approach documents regarding whether it is appropriate to use meter test stubs or meters that do not match the minimum criteria and the associated level of assurance that can be achieved.
- 17 We have reconsidered our proposal regarding the exit of the DCC from SIT and will introduce the following approach:
- the SEC Panel agrees the SIT exit criteria prior to the start of SIT (as part of its approval of the SIT Test Approach);
 - the DCC appoints an independent auditor to assess the attainment of the exit criteria;
 - the DCC exits from SIT if the exit criteria are met; and
 - the auditor's report is provided to the SEC Panel for information.

User Integration Testing & Enduring Testing

- 18 User Integration Testing comprises two stages:
- 1) **Interface Testing** enables the DCC, along with its Service Providers and RDPs, to prove that they can interoperate with DCC Users. It is the first occasion upon which User Entry Process Tests can be executed.
 - 2) **End to End Testing** enables DCC Users, if they so choose, to test their own end-to-end systems and processes using test scenarios and SMETS2 compliant equipment of their choice.

- 19 The Enduring Test Phase provides a test environment within which User Entry Process Tests and End to End Testing can be undertaken on an enduring basis.
- 20 The Government confirms that the DCC will be required to produce an Interface Testing Test Approach in consultation with SEC parties and the SEC Panel, including Interface Testing objectives and entry/exit criteria. The Test Approach will be presented to the SEC Panel for approval and published at least six months in advance of the start of Interface Testing. Participating SEC Parties must comply with this approach and will have a right of appeal concerning the requirements set out in the Test Approach and the process by which the Test Approach was developed.
- 21 The DCC will be responsible for assessing whether those parties that are required to participate in Interface Testing have met the relevant entry criteria. These parties will have a right of appeal where the DCC determines that they have not met the entry criteria.
- 22 Large Supplier Parties will be required to be ready to participate at the start of Interface Testing and we require that these parties will notify the SEC Panel and the DCC if their ability to be ready is at risk. We do not currently consider that there is a case for other parties to be required to be ready to participate from the start of Interface Testing. We will keep this position under review and may reconsider the requirement to extend the mandate at a later stage, if it is considered necessary to ensure that our expectations regarding operational readiness are met.
- 23 We confirm our decision that the DCC should have the capability to test concurrently with all test participants in Interface Testing. In the event of unforeseen problems in this regard, it must define in its Interface Testing Test Approach a fair, equitable and transparent process for scheduling users, scheduling energy suppliers' testing ahead of other prospective users.
- 24 The Government confirms that Interface Testing should use the protocol certified metering equipment that was successfully used during SIT, where this is available.
- 25 The Interface Testing exit criteria will require that the DCC has successfully exited SIT in all regions before it can exit Interface Testing; and that a minimum of two Large Supplier Parties must have completed User Entry Process Testing during Interface Testing before the DCC can exit Interface Testing. Furthermore, the DCC will be required to publish a report demonstrating that it has met the Interface Testing exit criteria, for approval by the SEC Panel.
- 26 We have decided that the DCC should make a recommendation to the SEC Panel prior to the start of Interface Testing regarding the risks and benefits of sequential or parallel running of Interface Testing and End-to-End testing. If the DCC can provide sufficient assurance to the SEC Panel that the two test stages can overlap without putting delivery of the DCC's systems at risk, then the test stages may overlap. However, if sufficient assurance is not provided, the default position will be that the stages are kept sequential.
- 27 We have carefully considered the purpose of End to End Testing, and have concluded that there is no material difference between End to End Testing

and Enduring Testing and that the term Enduring Testing should be used to encompass both test stages. On this basis, we have concluded that there is no requirement on the DCC to produce an End to End Test Approach document.

Cost of Testing Incurred by DCC

- 28 We have concluded that the costs of testing incurred by the DCC should be socialised across all SEC Parties in accordance with the charging mechanism set out in Section K of the SEC.
- 29 In addition, provision will be made in the SEC for the DCC to levy explicit charges for bespoke support on testing, for example, as may be required by Device manufacturers. Such charging will reflect the reasonable costs incurred by the DCC in providing bespoke support.

User Entry Process Testing

- 30 The Government confirms that SEC Parties must complete User Entry Process Testing and that this will be undertaken against a set of Common Test Scenarios that are applicable to each DCC User role. The Common Test Scenarios will be developed by the DCC in consultation with SEC parties and published a minimum of six months in advance of the start of Interface Testing. The SEC Parties will be required to produce test scripts and demonstrate traceability to the Common Test Scenarios.
- 31 The DCC will be responsible for determining the readiness of SEC Parties to commence User Entry Process Testing and will determine whether a prospective DCC User has satisfactorily completed User Entry Process Testing. SEC Parties may appeal against this determination.
- 32 We have decided that SEC Parties should be required to complete all entry process tests that are applicable to their User Role, rather than a minimum subset.
- 33 User Entry Process Testing will be undertaken against metering equipment that is selected by the DCC and used successfully in SIT. This equipment will be hosted in a test lab provided by the DCC. The DCC may substitute this test metering equipment from time to time, for example to reflect future changes in the Smart Metering Equipment Technical Specification (SMETS) and the Communications Hub Technical Specification (CHTS), or where sufficient compliant metering equipment was previously unavailable.

Responsibility for Equipment Testing

- 34 The Government confirms its position that suppliers and the DCC (with regard to the communications hubs) should be responsible for carrying out testing to ensure that their equipment is compliant with the relevant technical specification and that their chosen equipment is interoperable with the DCC. Suppliers and the DCC should retain evidence of this testing.
- 35 We confirm that meter manufacturers will be able to use the test environment provided by the DCC without the sponsorship of a supplier, but will be

charged by the DCC for the costs of any bespoke support that they require from the DCC.

2 Introduction

- 36 The Government requires assurance that the systems and services that are established by the DCC meet the requirements that are set out in the SEC and that the DCC can interoperate with its Users. We also consider that prospective DCC Users should be required to demonstrate that they are capable of using the services that are provided by the DCC and can meet their SEC obligations in this regard. Furthermore DCC Users should demonstrate that the equipment that they intend to enrol with the DCC is interoperable with the DCC's systems and compliant with the relevant technical specifications.
- 37 The August Consultation set out the Government's proposals for a testing regime to provide this assurance and also proposed that the DCC should provide a test environment to enable DCC Users to test their own end to end processes on a voluntary basis.
- 38 This consultation response document confirms the Government's policy on testing the DCC's central systems and on the testing that must be undertaken by SEC Parties and DCC Users. These policy positions have been incorporated into draft legal text which will be consulted upon as part of the SEC3 consultation in due course.
- 39 The Government will also require assurance that the Smart Metering Key Infrastructure (SMKI) systems and processes operate in accordance with the requirements set out in the SEC. A testing regime for the SMKI systems has therefore been developed and this will be consulted upon as part of the SEC3 consultation.
- 40 The Government notes the need for an issue resolution process to be introduced which would apply during testing. Proposals for this process, including rights of appeal, will also be detailed in the SEC3 Consultation.

3 Pre-Integration Test Phase

3.1 Background

- 41 The Service Provider contracts require that the CSPs and DSP work independently to test their own communication processes and data systems during Pre-Integration Testing (PIT). The DCC is expected to receive progress reports from its Service Providers during this initial test phase and may choose to coordinate test activities

3.2 Consultation Proposals

- 42 The Government proposed that:
- (a) PIT may be undertaken using meter test stubs. However, the Government considered that there would be an advantage in using actual equipment in preference to stubs, and expected that testing would be undertaken with early versions of meters (i.e. meters that have not necessarily been protocol certified, but which have been manufactured in accordance with the certification requirements) where these are available.
 - (b) The CSPs will be required to deliver communications hubs to support their own PIT testing and will be required to ensure that these hubs are protocol certified in advance of Systems Integration Testing (SIT).
 - (c) The Transition Objective⁵ in the DCC Licence and SEC⁶, and commercial incentives on the DCC, provide sufficient assurance that the DCC would undertake its PIT activity in an effective manner, without the need for additional regulation.

3.3 Summary of Responses

- 43 Sixteen of the twenty-one respondents answering this question agreed with the proposals relating to PIT. However, some respondents noted that the use of test stubs could increase the requirement for regression testing if the final 'production' Smart Metering System (SMS) devices behave in a different manner to the test stubs.
- 44 One meter manufacturer expressed concern that many of the elements of the overall smart metering system were interdependent and that developing and testing these elements in isolation during PIT could increase the overall cost of the centralised services and extend the Systems Integration Test (SIT) phase.

⁵ The Transition Objective enables the Secretary of State to 'make appropriate provision under the Licence and the Smart Energy Code (SEC) for the purpose of facilitating the achievement of an efficient, economical, co-ordinated, timely, and secure process of transition to the Completion of Implementation.'

⁶ The SEC has a Transition Objective and a general objective for all parties, including the DCC to take all reasonable steps to do all such things as are within its power and necessary or expedient in order to facilitate the efficient, economical, coordinated, timely and secure process of transition to the Completion of Implementation.

- 45 Two Large Energy Suppliers favoured progress reporting via the Implementation Manager's Forum (IMF) rather than to the DCC.

3.4 Analysis and Government Conclusions

- 46 The Government considers that it is unlikely that protocol certified metering equipment and communications hubs will be available in advance of PIT and that PIT can be undertaken using meter test stubs. The DCC is expected to ensure that these test stubs reflect the requirements that are set out in the Smart Metering Equipment Technical Specification (SMETS) and GB Companion Specification (GBCS) in order to minimise the extent of regression testing that may be required during SIT. The CSPs will be required to develop communications hubs to support their own PIT testing. Protocol certified communication hubs should be used during SIT where available⁷.
- 47 The Government concludes that the Transition Objective in the DCC Licence and SEC, and commercial incentives on the DCC, provide sufficient assurance that the DCC will undertake its PIT activity in an effective manner, without the need for additional regulation.

⁷ The DCC may commence SIT with Communication Hubs that have not been protocol certified, but cannot exit SIT without protocol certified Communications Hubs, unless otherwise directed by the Secretary of State.

4 Systems Integration Test Phase

4.1 Background

48 The Systems Integration Test Phase (SIT) brings together the systems of the DCC, CSP and DSP for Integration Testing in an environment that is provided by the DSP. SIT will also include the Registration Data Providers (RDPs).

49 The objectives of SIT are to prove that:

- the DCC is capable of delivering its services as specified in the SEC;
- both the DCC and RDPs (through the network operators⁸) are capable of meeting their SEC obligations in relation to the transmission of registration data; and
- the DCC's services are scalable and the Service Providers are able to meet their projected operational service levels.

4.2 Consultation Proposals

50 The consultation made the following proposals, relating to three broad aspects of SIT.

Participation during SIT

51 DCC should publish a SIT test plan, including entry and exit criteria, three months before the start of SIT.

52 RDPs (through the network operators) should be required to participate in SIT and comply with this test plan, and should have a right of appeal against the plan.

53 DCC should be required to publish a report setting out how it met the SIT exit criteria.

Use of metering equipment during SIT

54 As a minimum requirement, the DCC should be obliged to use at least two sets of metering equipment for each fuel type during SIT.

55 Where more than two sets of metering equipment are available, and where the DCC decides to use only the minimum set, it should select the first two sets that are presented to it which meet pre-defined selection criteria.

56 The DCC should define the selection criteria and these should be incorporated into the SEC.

57 As a minimum, the selection criteria will include the following requirements: sufficient SMETS2 compliant metering equipment is available to support SIT;

⁸ The requirements that are stated in this document with regard to the RDPs will be brought into effect by placing obligations/rights on network operators within the SEC.

the equipment must be selected from at least two different manufacturers for each fuel type; the equipment must be provided by a manufacturer that is different from the manufacturer of the Communications Hub; and the meters should be protocol certified.

Exit from SIT

- 58 The DCC should assess the SIT test results against the SIT objectives and exit criteria. It will produce a SIT test exit report and authorise its own exit from SIT, if the objectives and test exit criteria have been met.

4.3 Summary of Responses

Participation during SIT

- 59 A large majority of respondents agreed with the proposals regarding participation during SIT; only three respondents did not agree with aspects of the proposals.
- 60 Several respondents stressed the importance of publishing the SIT test plan and entry/exit criteria at least three months prior to the start of SIT. A number of respondents felt that the test plan should be produced in consultation with prospective DCC users, rather than just with the RDPs. Respondents also stated that:
- a) three months provides little time for any appeals or disputes to be settled; and
 - b) the test plan should be developed and published prior to parties entering PIT rather than SIT as this will ensure that its design best supports the objectives of PIT.
- 61 While there was broad support for the proposal that the RDPs should be required to participate in SIT, two respondents suggested that there could be disadvantages in requiring all RDPs to participate as this would require consensus between them and the DCC about their role, which could result in a lengthy process. One respondent considered that any appeals should be heard and concluded before the PIT phase begins.
- 62 All respondents to question 2.c) agreed that the DCC should be required to publish a report setting out how it met the SIT exit criteria. Two respondents thought this process should also include progress and assurance reports from the DCC, while three other respondents called for a stated timeframe for publication of the report following the end of SIT.

Use of metering equipment during SIT

- 63 There was broad support for the proposals among respondents. However, there was some disagreement to various aspects of the proposed approach.
- 64 In response to the proposal that the DCC should be required to use at least two sets of metering equipment, one respondent felt that this may not be sufficient to provide the necessary assurance that the systems work correctly

and if further sets of metering equipment that meet the selection criteria are presented they should also be included.

- 65 One respondent noted the risk that an unfair commercial advantage is conferred on those metering equipment manufacturers whose equipment is selected for use in SIT as they can resolve any integration issues in advance of other manufacturers. The respondent recommended that the DCC should publish such issues in order that other manufacturers can evaluate if their equipment would exhibit the same problem.
- 66 One respondent considered that specifying a minimum set of metering equipment would be at odds with SIT objectives; it felt that using 'as many as ready' would provide stronger, more robust testing of the DCCs infrastructure. Two respondents felt that three sets of metering equipment should be used as a minimum, as this was consistent with best practice and would support issue resolution as it is possible that the two selected meter types may return inconsistent test results. Introducing a third meter type increases the possibility that consistent interface test results are obtained between two of the selected set, supporting issue resolution.
- 67 In response to the question regarding the selection approach to be used when more than two eligible metering sets are presented to the DCC, one respondent considered that the establishment of 'golden units'⁹ are a more important consideration than whether the meter is the first to meet the specified criteria. Two respondents were of the view that meters which are close to meeting SMETS2 should be preferred over other metering types. One respondent considered that a tender process for selection of metering equipment during SIT would provide a level playing field, limit the risk of over-promising (by meter manufacturers) and default to test stubs, and provide SEC Parties with an open assessment of likely SMETS2 availability. One respondent considered that the selection process should be based on actual functionality of the meters at the time of submission to DCC, not future functionality.
- 68 Several respondents felt that the SEC Panel should approve the selection criteria, in the event that more selection criteria are defined by the DCC, and these should not be defined and approved by the DCC in isolation.
- 69 Views expressed in relation to the proposed minimum selection criteria included:
- a) The criteria should also include a sufficient level of security testing and certification.
 - b) The SMETS2 criterion needs redrafting as SMETS2 compliance implies CPA certification, which is not yet available.
 - c) Selection criteria should include key meter features which are important to DNOs (voltage measurements, network alert/event recording).

⁹ A golden unit is a device against which all later devices are tested and/or judged. The term "golden" conveys the precision of the device in relation to standard specifications.

Exit from SIT

- 70 The majority of respondents to the consultation did not agree with the proposed approach and instead considered that the SEC Panel should authorise the DCC's exit from SIT. The reasons given included:
- a) The DCC authorising its own exit from SIT lacks the control of an independent quality check;
 - b) The DCC has financial incentives to achieve the SIT test milestone and whilst this will encourage completion of SIT it may lead to a bias in the results;
 - c) As completion of SIT triggers payments to the DCC from DCC Users, the SEC Panel should have a role in assessing suitability to exit this stage;
 - d) The outcomes of SIT will have implications for the User Integration Testing phase, hence the SEC Panel should have the opportunity to assure itself that issues are not being left unresolved until later; and
 - e) Key milestones such as exit from SIT should include a level of stakeholder consultation, which the proposed option does not appear to provide.
- 71 Respondents who agreed with the proposal for the DCC to authorise its own exit from SIT considered that this may be the most efficient option. Several respondents stressed the importance of a role for the SEC Panel in approving the exit criteria, and the need for clearly defined processes to ensure that the exit criteria had been met.
- 72 No respondents argued in favour of the Secretary of State authorising the DCC's exit from SIT.

4.4 Analysis and Government Conclusions

Participation during SIT

- 73 The Government confirms its decision to require the DCC to publish a SIT Test Approach¹⁰, including entry and exit criteria, at least three months before the start of SIT. We consider that this provides adequate time for the RDPs to prepare for SIT and expect that the DCC will engage with RDP's in advance of this point in time such that the SIT Test Approach can be agreed and published within this timescale with minimum risk of appeal.
- 74 We confirm that the DCC will be required to develop the SIT Test Approach in consultation with RDPs. We do not consider that the DCC should be required to consult other SEC parties on the Test Approach as the SIT phase is limited to the activities of the DCC, its service providers and RDPs. However, we recognise that the design of SIT will have implications for future testing stages

¹⁰ The consultation document referred to the production of test plans for SIT and UIT. This term has been changed to test approach.

and therefore the SEC Panel will be expected to assess whether the SIT Test Approach provides a suitable basis for supporting Interface Testing. If the Test Approach is not approved, the DCC must produce an alternative and submit this to the SEC Panel for approval.

- 75 The Government confirms its decision that RDPs (through the network operators) will be required to participate in SIT and to comply with the SIT Test Approach. The DCC will assess RDPs' readiness to start SIT and RDPs will be required to provide supporting evidence to the DCC on request. RDPs will have a right of appeal on any decision by the SEC Panel to approve the SIT Test Approach, as well as a right of appeal to the SEC Panel if the DCC determines that an RDP is not ready to start SIT.

Use of Metering Equipment during SIT

- 76 The Government has carefully considered the concerns that have been expressed regarding the specification of the minimum number of meters that should be used during SIT. We consider that using a minimum of two sets of metering equipment for each fuel type strikes the right balance between gaining assurance that the DCC's systems function correctly, whilst at the same time not introducing unnecessary delay into the testing process by requiring the DCC to test with all variants of metering equipment that are available.
- 77 However, in response to concerns that have been raised, the Government has considered whether an alternative approach would provide further reassurance about the use of metering equipment during SIT. In considering alternative options, the Government has taken into account the overall objectives of SIT, which do not include testing the interoperability of equipment with the DCC's systems. Rather, a test environment will be provided during End to End Testing (and on an enduring basis) which will support interoperability testing of all metering equipment variants.
- 78 The Government recognises that placing a requirement on the DCC to use all available equipment during SIT risks adding unnecessary complexity, delay and cost to the testing process. It might also imply that the DCC has responsibility for ensuring that equipment interoperates with the DCC, rather than it being the responsibility of energy suppliers to ensure that equipment that they procure is interoperable.
- 79 The Government is also cognisant that, at this point in time, it is difficult to state the nature of issues that will be encountered during SIT, the number of metering equipment variants that will be available at the start of SIT and the level of assurance that will be required.
- 80 We have therefore decided that the DCC should be required consider the level of assurance that it needs to demonstrate during SIT and the manner in which this assurance can be achieved and include this in its SIT Test Approach.
- 81 The DCC should perform SIT with as many meters as it considers appropriate in order to demonstrate in its SIT exit report that its systems are stable and function in accordance with the design specification, and that the required level of assurance has been met. As a minimum, the DCC should select the

- first two sets of equipment, for each fuel type, that are presented to it that meet the selection criteria. However, in the event that meters are not available, the DCC must set out in its SIT Test Approach how that level of assurance will be gained from the use of alternatives, including meter test stubs.
- 82 The Government confirms its decision that the DCC should define the metering equipment selection criteria and that these should include the minimum criteria set out in the August Consultation.
- 83 The DCC will be required to publish a ‘methodology’ document setting out the selection criteria and its assessment of the meters that should be used. The Government confirms that if the DCC decides not to use all available metering equipment where more than two sets of metering equipment that meet the selection criteria are available, it should clearly set out the reasons.
- 84 In reaching its decision it must ensure that it gives equal opportunity to all meter manufacturers to present their equipment for use and, where it decides to use the minimum of two sets of metering equipment, these must be from a manufacturer (and manufacturing group) different from (and not affiliated with) the communications hub manufacturer. Such a restriction will not be imposed upon any additional equipment that the DCC may determine is necessary to meet its required level of assurance in meeting the SIT testing objective.
- 85 A right of appeal will be provided, in the event that any party is concerned that the methodology fails to meet the associated requirements in the SEC. We expect that the DCC will define its selection criteria in a collaborative manner, taking into account the views of suppliers and network operators.
- 86 We also expect that, where the DCC encounters integration issues with the selected meters, the DCC should publish details of such issues on its website in order that other manufacturers can evaluate if their equipment would exhibit the same problem. The DCC will be able to de-select and stop using metering equipment where that equipment proves not fit for purpose, and to switch to alternate equipment or test stubs

Exit from Systems Integration Testing

- 87 As proposed in the consultation, the DCC will be required to provide evidence, via a SIT Exit Report, that the exit criteria have been met.
- 88 Having considered the views of respondents, the Government has decided not to implement the preferred option set out in the consultation document (where the DCC would authorise its own exit from SIT). Instead, the Government has decided to introduce an alternative approach whereby:
- a) the SEC Panel agrees the SIT exit criteria, as part of its SIT Test Approach, prior to the start of SIT;
 - b) the DCC appoints an independent auditor to assess attainment of the exit criteria;
 - c) the DCC exits from SIT if the exit criteria have been met; and
 - d) the auditor's report is provided to the SEC Panel for information.

- 89 The Government considers that this approach provides SEC Parties with an appropriate level of assurance. The establishment of SIT exit criteria in the SIT Test Approach, agreed by the SEC Panel, will protect against the risk that exit from SIT is based on subjective decisions and the Government considers that an independent audit will mitigate any risk of a conflict of interest arising in determining the DCC's exit from SIT.

5 User Integration Test Phase

5.1 Background

- 90 The consultation document set out that the User Integration Test Phase (UIT) would comprise two stages, with associated entry and exit criteria, during which the DCC will provide a test environment and test labs¹¹ for testing of metering equipment (including communication hubs). It is a transitional test phase which is a precursor to enduring testing arrangements.
- 91 The stages of UIT as set out in the consultation document are:
- i. **Interface Testing Stage:** This enables the DCC, along with its Service Providers and RDPs, to prove that they can interoperate with DCC Users; and
 - ii. **End-to-End Testing Stage:** This enables DCC Users to test their own end-to-end systems and processes using test scenarios and SMETS2 compliant equipment of their choice.
- 92 SEC Parties who wish to become DCC Users are required to complete the User Entry Process Requirements, which are described in Section H of the SEC. UIT will provide these prospective DCC Users with access to a test environment, which will enable them to satisfy two of the four User Entry Process Requirements by undertaking User Entry Process Testing¹² (described under 'User Entry Processes' in this document). User Entry Process Testing may be undertaken in either the Interface Testing Stage or the End-to-End Testing Stage, or at a later point in time under the enduring testing arrangements.
- 93 The Joint Industry Plan¹³ assumes that it is possible that the start of the Interface Testing Stage will overlap with the completion of SIT.

5.2 Consultation Proposals

- 94 With regard to **Interface Testing**, the Government proposed:
- a) The DCC should produce an Interface Testing test plan in consultation with SEC parties, including Interface Testing objectives and entry/exit criteria.
 - b) SEC Parties should have a right of appeal against this plan.

¹¹ The CSPs will each provide a Test Lab facility, which will enable the testing of Smart Metering Equipment with the DCC. The facility will be used in SIT by the DCC to prove the integration of the Communications Hub with the wider DCC solution and will have the capability of testing 25 meter sets in SIT per CSP and 50 meter sets in UIT per CSP (a meter set may include Communication Hub, Electricity Meter, Gas Meter, In-Home Display, and PPMID or Auxiliary Load Control Switches). In addition the CSP Test Lab capability is scalable, should the DCC need to increase the number of meter sets.

¹² The Government proposes that two of the entry process requirements should be combined to form Entry Process Testing as described under the 'User Entry Processes' section in this document. The other two Entry Process Requirements relate to Security Requirements and provision of Credit Cover.

¹³ The industry wide smart metering programme plan which has been developed in conjunction with industry.

- c) The Interface Testing test plan should be published six months in advance of the start of UIT.
- d) A set of Interface Testing objectives.
- e) The DCC should assess the readiness of SEC Parties to commence Interface Testing against the test entry criteria.
- f) Individual SEC Parties should have a right of appeal against the DCC's assessment of their readiness to participate.
- g) Large Supplier Parties should be ready to participate at the start of Interface Testing, but that this requirement should not be extended to encompass other SEC Parties.
- h) The DCC should have the capability to test concurrently with all test participants in Interface Testing.
- i) In the event of an unforeseen problem, the DCC should be required to schedule users in a fair, equitable and transparent manner, scheduling energy suppliers ahead of other types of prospective DCC User.
- j) Interface Testing should use the certified metering equipment that was successfully used in SIT.
- k) If certified metering equipment is not available, Interface Testing can be undertaken using other metering equipment or meter test stubs, but only if the DCC can demonstrate that sufficient assurance can be gained using this approach.
- l) The Interface Testing exit criteria should require that the DCC has successfully exited SIT before it can exit Interface Testing; and a minimum of two Large Supplier Parties must have completed the User Entry Process Testing during Interface Testing.
- m) The DCC will publish a UIT test exit report and make a recommendation to the SEC Panel to exit UIT. The SEC Panel will make its own assessment as to whether the objectives and exit criteria have been met, and may require the DCC to undertake further testing if they have not been met.

95 With regard to **End to End Testing**, the Government proposed:

- a) The DCC should produce an End-to-End Testing test plan in consultation with SEC parties, which should be published six months before the start of End-to-End testing.
- b) SEC Parties should be obliged to comply with this approach, to the extent that they decide to participate in End-to-End Testing.
- c) The DCC must have completed Interface Testing before End-to-End Testing can commence.
- d) The SEC Panel should review and approve the DCC's recommendation to close the End-to End Testing stage.

5.3 Summary of Responses

- 96 The majority of respondents agreed that the SEC Panel should approve the Interface Test Plan including entry and exit criteria and that a right of appeal should be provided against the plan. Only one Large Supplier Party disagreed that the plan should be produced by the DCC in consultation with SEC Parties, instead preferring that a joint development initiative between the DCC and industry should be followed.
- 97 The majority of respondents agreed that the Interface Test Plan should be published six months in advance of the start of Interface Testing, with 20% expressing a preference for an earlier publication date.
- 98 The vast majority of respondents agreed with the Interface Testing Objectives and that Large Supplier Parties should be mandated to be ready to participate at the start of Interface Testing. However, one Large Supplier Party and one meter manufacturer felt that this was not necessary. Concern was expressed that requiring all Large Energy Suppliers to be ready at the same time could delay the start of Interface Testing if one (or more) Large Energy Suppliers were 'late' for whatever reason.
- 99 One respondent considered that network operators should be encouraged to participate in UIT and that Interface Testing should not complete until at least one network operator had completed User Entry Process Testing.
- 100 All Large Supplier Parties supported the requirement for the DCC to test concurrently with as many test participants as required. Furthermore seventeen respondents, including all Large Supplier Parties agreed that Interface Testing should be undertaken with the meters that were used successfully in SIT.
- 101 Approximately 50% of respondents considered that an inadequate level of assurance would be provided if the Interface Testing is undertaken using meter test stubs. One respondent noted that Interface Testing could start with Meter Test Stubs but should only complete with actual metering equipment. Another respondent felt that test stubs could provide a useful reference set of the functionality associated with a specification, but that these were not an adequate substitute for actual metering equipment that would be deployed into live operation.
- 102 All respondents agreed that Interface Testing exit criteria should require that the DCC has successfully exited SIT before it can exit Interface Testing and 95% of respondents agreed that a minimum of two Large Supplier Parties must have completed User Entry Process Testing during the Interface Testing Process. However one respondent considered that the critical path through testing should include at least two suppliers and one network operator and the essential business processes included in User Entry Process Testing should not be confined to the suppliers.
- 103 One Large Supplier Party considered that if parties were ready to commence End to End testing before the completion of Interface Testing they should be able to do so, subject to risk and cost assessments. There was unanimous agreement that the SEC Panel should review and approve the DCC's recommendation to close the End to End Testing Phase.

- 104 Many respondents felt that the costs of testing should be allocated in accordance with the DCC's Charging Methodology. This approach is consistent with the approach to allocation of testing charges in other industry codes, the rationale is that testing is of benefit to all parties and that upfront costs relating to testing could become a barrier to entry for new parties and a disincentive to re-test for existing parties.
- 105 However, other respondents considered that the variable costs associated with testing should be allocated to those who incurred them.

5.4 Analysis and Government Conclusions

Interface Testing

- 106 The Government confirms its proposed approach for Interface Testing whereby the DCC will produce an Interface Testing Test Approach¹⁴ document in consultation with SEC Parties and the SEC Panel, including Interface Testing objectives and entry/exit criteria. The Test Approach will be presented to the SEC Panel for approval and published at least six months in advance of the start of the UIT phase. Participating SEC Parties must comply with this approach and will have a right of appeal concerning the SEC Panel's decision to approve the Interface Testing Test Approach.
- 107 The Government further confirms that the DCC will be required to assess whether those parties that are required to participate in Interface Testing have met the entry criteria for the relevant user role. Parties will have a right of appeal where the DCC determines that they have not met the entry criteria.
- 108 Large Supplier Parties will be required to be ready to participate at the start of Interface Testing and we require that these test participants will notify the SEC Panel and DCC if their ability to be ready is at risk. If one or more Large Supplier Parties are not ready to participate at the start of Interface Testing, this will not prevent those Large Supplier Parties who are ready to participate from commencing Interface Testing.
- 109 We do not currently consider that there is a case for other parties to be required to participate from the start of Interface Testing. However, we will keep this position under review and may reconsider the requirement to extend the mandate at a later stage, if it is considered necessary to ensure that our expectations regarding operational readiness in autumn 2015 are met. For the avoidance of any doubt, other parties must be allowed to participate from the start of Interface Testing if they wish to do so and if they meet the relevant entry criteria that are associated with their 'role'.
- 110 We confirm our decision that the DCC should have the capability to test concurrently with all test participants in Interface Testing. In the event of unforeseen problems in this regard, the DCC should propose in the Interface Testing Test Approach how it will schedule test participants in a fair, equitable

¹⁴ The consultation document referred to the production of test plans for SIT and UIT. This term has been changed to test approach.

and transparent manner, scheduling energy suppliers' testing ahead of other prospective users.

Basis of Interface Testing

- 111 The Government confirms that Interface Testing should use the certified metering equipment that was successfully used during SIT. Having carefully considered consultation responses on this issue, the Government proposes to strengthen the requirements on the DCC to provide assurance to users regarding use of meter test stubs.
- 112 The consultation proposed that if certified equipment is not available, testing can be undertaken using other metering equipment or meter test stubs if the DCC can demonstrate to the SEC Panel, in its Interface Testing Test Approach, that sufficient assurance can be gained. We have decided to introduce a new requirement that will apply in both SIT and Interface Testing phases, whereby the DCC must make a recommendation to the SEC Panel regarding whether it is appropriate to use meter test stubs and the level of assurance that can be achieved.

Exit from Interface Testing

- 113 The Government confirms its decision that the Interface Testing exit criteria will require that: the DCC has successfully exited SIT in all regions before it can exit Interface Testing; and that a minimum of two Large Supplier Parties must have completed User Entry Process Testing during Interface Testing before the DCC can exit Interface Testing. This will provide the necessary assurance that the DCC can meet the SEC requirements relating to the provision of services to DCC users, and will require the testing of all User Gateway Services that can be executed by suppliers, including those relating to change of supplier.
- 114 The Government confirms that the DCC will be required to publish an Interface Test exit report demonstrating that it has met the Interface Testing exit criteria, and that the SEC Panel will review and approve this report. The SEC Panel may decide the form this review and approval will take but must not delay the approval of the report without adequate grounds. If the SEC Panel determine that the Interface Testing objectives or exit criteria have not been met it may require additional testing to be undertaken. SEC parties, including the DCC will have a right to appeal the SEC Panel's assessment of the Interface Testing exit report.

End-to-End Testing & Enduring Testing

- 115 We have noted respondents' concerns that the requirement for the DCC to complete Interface Testing before End-to-End Testing can commence could delay parties' ability to conduct testing with their own metering equipment. We have therefore reconsidered the scheduling of these test phases and whilst we do not wish to put testing of the DCC's systems at risk, we agree that early testing of metering equipment may help support the ability of industry to roll-out SMETS2 meters at or shortly after the start of live operations in autumn 2015.

- 116 We have therefore decided that the DCC should make a recommendation to the SEC Panel prior to the start of UIT regarding the risks and benefits of sequential or parallel running of Interface Testing and End-to-End Testing. If the DCC can provide sufficient assurance to the SEC Panel that the two test phases can overlap without putting delivery of the DCC's systems at risk, then the test stages may overlap. If sufficient assurance is not provided, the default position will be that the stages are kept sequential.
- 117 In making this decision we have taken into account the requirement on the DCC, via the Service Provider contracts, to provide the number of test environments that are required to support all stages of testing, including a sandpit environment¹⁵ during the enduring test phase.
- 118 We have also carefully considered the purpose of End to End Testing, which the August Consultation proposed would be a time based test stage that enables test participants to bring forward their own variants of metering equipment. We have concluded that, as the DCC is required to provide a test environment on an enduring basis, there is no material difference between End to End Testing and Enduring Testing and that the term Enduring Testing should be used to encompass both test stages.

Costs of Testing Incurred by DCC

- 119 We invited respondents to provide views on the manner in which the costs of testing should be allocated in the UIT and Enduring Test Phases. We have reviewed the consultation responses that were provided and we have concluded that the DCC's costs of testing should be socialised across all SEC Parties in accordance with the charging mechanism that is set out in Section K of the SEC.
- 120 In reaching this conclusion we have been mindful that there is a common good in the testing of systems and equipment, that future test participants should not be discriminated against and that the costs of testing should not act as a barrier to market entry.
- 121 In addition, provision will be made in the SEC for the DCC to levy explicit charges for bespoke support on testing, for example, as may be required by Device manufacturers. Such charging will reflect the reasonable costs incurred by the DCC in providing bespoke support.

¹⁵ The Sandpit environment will allow user to test sending messages of the DCC User Gateway ahead of performing User Entry Process Tests

6 User Entry Process Testing

6.1 Background

- 122 Section H1.6 of the SEC¹⁶ provides that a SEC Party is required to complete the following steps ("User Entry Processes") before it becomes a DCC User and is therefore eligible to receive DCC communication services and, in the case of energy suppliers, to enrol smart metering systems with the DCC:
- i. to have successfully demonstrated that its systems can communicate with the DCC User Gateway;
 - ii. to satisfy pre-determined entry tests;
 - iii. to meet applicable security requirements; and
 - iv. to provide adequate credit cover.

6.2 Consultation Proposals

- 123 The Government proposed that:
- a) Section H1.6 i) and ii) ¹⁷ in the SEC should be combined to form User Entry Process Testing.
 - b) SEC Parties must complete, amongst other things, User Entry Process Testing before they can become DCC Users and take services from the DCC.
 - c) User Entry Process Testing should be undertaken against a set of Common Test Scenarios.
 - d) The Common Test Scenarios should be developed by the DCC in consultation with SEC Parties and incorporated into the SEC.
 - e) SEC Parties should complete Common Test Scenarios that are applicable to their role and that, if these scenarios are based on a minimum set of messages for each role, the additional services cannot be taken from the DCC until the SEC Party has proven that it can process the relevant DCC User Gateway Catalogue (DUGC) Commands.
 - f) The User Entry Process Testing should be undertaken against metering equipment that is selected by the DCC and hosted in a test lab.
 - g) The DCC should be responsible for assessing the readiness of SEC Parties to commence User Entry Process Testing.

¹⁶ For clarity, it is noted that in Stage 2 of the SEC content, which was released for consultation on 17 October 2013 ("SEC2"), this obligation is found at H1.11.

¹⁷ H1.11(b) and (d) of SEC2.

- h) The DCC should be responsible for determining whether a prospective DCC User has satisfactorily completed User Entry Process Testing.

6.3 Summary of Responses

- 124 Over 95% of respondents supported the user entry processes proposals. One respondent noted that the production of some Common Test Scenarios would require the derivation of standard message sequences from the Business Process Models and that these document should be published and maintained.
- 125 Some non- domestic suppliers have stated that they should not be required to perform tests against all Common Test Scenarios on the basis that they may choose to opt out of the DCC. Some small suppliers have requested the ability to manage their interactions with the DCC through a nominated third party.

6.4 Analysis and Government Conclusions

- 126 The Government confirms the following approach to User Entry Process Testing, as set out in the consultation document:
 - a) the H1.6 i) and H1.6 ii) of the SEC will be redrafted to reflect the concept of User Entry Process Testing;
 - b) SEC Parties must complete the User Entry Process Testing that is relevant to their DCC 'role' (e.g. Supplier, Network Operator, Other User) before they can take service from the DCC;
 - c) User Entry Process Testing will be undertaken against a set of Common Test Scenarios that are applicable to each DCC User role;
 - d) the DCC will be responsible for determining the readiness of SEC Parties to commence User Entry Process Testing and will determine whether a prospective DCC User has satisfactorily completed User Entry Process Testing; and
 - e) SEC Parties may appeal against this determination.
- 127 We have concluded that the Common Test Scenarios will be developed by the DCC in consultation with SEC parties, that these will be published a minimum of six months in advance of the start of UIT and that they will be incorporated into the SEC.
- 128 While we consider that the scope and format of the Common Test Scenarios should be set out in the SEC (or relevant subsidiary document), the manner in which DCC User Gateway Catalogue commands may be sequenced during the testing should not be specified except where the sequencing is required by a common business process model. We expect the DCC to publish and maintain any common business process model that requires the sequencing of these DCC User Gateway Catalogue commands in order to support the creation of test scripts by test participants.
- 129 We confirm that User Entry Process Testing will be undertaken against metering equipment that is selected by the DCC and used successfully in SIT.

This equipment will be hosted in a test lab that is provided by the DCC. Having considered this issue in more detail we believe that the DCC should be able to substitute this test metering equipment from time to time, for example to reflect future changes in the SMETS and CHTS.

- 130 We have considered whether the test participants should be required to execute Common Test Scenarios that cover all DCC User Gateway Catalogue commands that are associated with their role in order to become a DCC User, or if they can become a DCC User with a minimum subset of commands. We have decided that SEC Parties should be required to complete all entry process tests that are applicable to their role, rather than a minimum subset. These tests do not require the test participant to demonstrate that they can generate or process the commands within their internal systems. We therefore do not believe that this testing requirement is onerous and note that services cannot be taken from the DCC until a SEC Party has demonstrated that it can process the relevant DCC User Gateway Catalogue commands.
- 131 This approach is also expected to help facilitate the DCC's timely exit from Interface Testing because at least two Large Supplier Parties must complete all Common Test Scenarios associated with the supplier role before this stage is completed.

7 Equipment Certification and Testing

7.1 Background

- 132 The testing that is undertaken in PIT, SIT and UIT provides assurance that the systems and processes that are operated by the DCC work as intended. However, the metering equipment that will be used also forms an important component of the end-to-end smart metering solution. This equipment will be assured through protocol and CPA certification and via testing obligations that will be placed on suppliers¹⁸ and the DCC¹⁹. These certification requirements have already been set out in the Response to the SMETS 2 Consultation document (July 2013²⁰). The proposals for additional equipment testing are set out below.
- 133 The energy suppliers' roll out licence obligations and DCC licence will require that equipment complies with the SMETS and CHTS. During industry working group discussions on the SMIP Test Strategy, energy suppliers (in particular) have indicated that they can see merits in a consolidated certification regime that would verify that metering equipment and communications hubs:
- meet the functional requirements defined in SMETS2 and CHTS; and
 - will be interchangeable²¹ with equipment that is installed by other suppliers.
- 134 Protocol certification will provide assurance that the certified equipment is capable of sending and receiving messages in a manner that conforms/complies with the ZigBee and DLMS protocol standards. However, interoperability will only be assured when the suppliers' metering equipment and the CSPs' communication hubs are shown to operate as part of the end-to-end system with the DCC.

7.2 Consultation Proposals

- 135 The Government proposed that energy suppliers and the DCC (in relation to communications hubs) should be required to:
- a) Undertake testing to ensure that their equipment is compliant with the relevant technical specifications;

¹⁸ For SMETS2 compliant metering equipment

¹⁹ For CHTS compliant communications hubs

²⁰

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/209840/SMIP_E2E_SMETS2_govt_consultation_response_part_2_final.pdf

²¹ "Interchangeability" refers to the ability to remove and replace smart metering equipment on the Home Area Network (HAN), for example, following change of supply when the gaining supplier may wish to offer the consumer a new IHD or additional smart metering equipment which was not originally installed, e.g. to match a consumers payment method and or fuel type(s)

- b) Undertake testing to ensure that their chosen equipment is interoperable with the DCC; and
- c) Retain evidence of this testing and provide it to the SEC Panel or Ofgem on request.

7.3 Summary of Responses

- 136 There was broad support for the Government's proposal to placing an obligation on suppliers to test that their selected metering equipment is compliant with SMETS and on the DCC (in relation to communication hubs) to test that its selected equipment is compliant with CHTS.
- 137 One Large Supplier Party did not agree with the proposal that the suppliers are responsible for testing that the metering equipment is interoperable with the DCC on the basis that the market for metering equipment may be adversely impacted. It felt that a new entrant to the metering market will need to gain sponsorship from a supplier in order to prove that its equipment is interoperable.
- 138 A substantial majority of respondents agreed that suppliers should retain the results of testing. However, one Large Supplier Party noted that the form of compliance statement and the length of time for which the evidence is retained should be specified.

7.4 Analysis & Government Conclusions

- 139 The Government confirms its position that suppliers and the DCC (with regard to the communications hubs) will be responsible for carrying out testing to ensure that their equipment is compliant with the relevant technical specification and that their chosen equipment is interoperable with the DCC systems.
- 140 We also confirm that suppliers must retain evidence of this testing and make it available to the DCC upon request. This evidence should be retained for the operational lifetime of the meter such that it can be provided to Ofgem or SEC Panel in relation to any disputes that may arise.
- 141 We have considered the concerns that have been noted regarding the opportunity of meter manufacturers to test the interoperability of their own metering equipment with the DCC. In response, we confirm that meter manufacturers will be able to use the test environment provided by the DCC without the sponsorship of a supplier, but will be charged by the DCC for the costs of any bespoke support that they require from the DCC.

8 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.

Communications Hub

A Device located at the consumer's premises with the capability to communicate and transfer data, which complies with the requirements of the CHTS and which contains two, logically separate Devices; the Communications Hub Function and the Gas Proxy Function.

Communications Hub Technical Specification (CHTS)

The document designated by the Secretary of State to describe the minimum capabilities of communications hubs.

Communications Service Provider (CSP)

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

Data and Communications Company (DCC)

The holder of the Smart Meter Communication Licence, Smart DCC Limited.

Data Service Provider (DSP)

Body awarded the contract to deliver systems integration, application management and IT hosting services to the DCC. CGI IT UK Limited has been appointed to provide these services.

DCC 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 User Gateway Commands

Smart metering commands sent via the communications interface between DCC Service Users and the DCC.

Large Supplier Parties

A Supplier Party which supplies electricity and/or gas to more than 250,000 Domestic Premises.

Network Operators

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

Ofgem

Office of Gas and Electricity Markets. In this document, references to Ofgem are to be taken as references to the Gas and Electricity Markets Authority which is the governing body for Ofgem. The Gas and Electricity Markets Authority has objectives and powers under the Gas Act 1986, the Electricity Act 1989, the Utilities Act 2000, the Competition Act 1998 and the Enterprise Act 2002.

SEC Panel

Panel established to oversee the Smart Energy Code with powers and duties as set out in Section C of the SEC.

SECAS

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

Supplier

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

Smart Energy Code (SEC)

The SEC, as designated by the Secretary of State under Condition 22 of the DCC Licence, will be a new multiparty agreement which will set out the terms for the provision of the DCC's smart meter communications service and specify other provisions to govern the end-to-end management of smart metering. The SEC needs to be read alongside the DCC Licence, which sets out the high-level obligations for this new licensed entity. The DCC, energy suppliers and network operators will be required through new conditions in their licences to become parties to the SEC.

Smart Meter

A meter which, in addition to traditional metering functionality (measuring and registering the amount of energy which passes through it), is capable of providing additional functionality; for example, two-way communication allowing it to transmit meter readings and receive data remotely.

Smart Metering Equipment Technical Specification (SMETS)

The document designated by the Secretary of State and forming part of the SEC which describes the minimum technical requirements of smart metering equipment (other than Communications Hubs which are separately dealt with in CHTS).

Smart Metering Equipment Technical Specification version 1 (SMETS1)

The first version of the Smart Metering Equipment Technical Specification which was designated by the Secretary of State on 18 December 2012.

Smart Metering Equipment Technical Specification version 2 (SMETS2)

The second version of the Smart Metering Equipment Technical Specification which will be designated by the Secretary of State at a later time.

Smart Metering Implementation Programme (SMIP, or the Programme)

The overall programme to deliver smart metering in Great Britain put in place following the Government's December 2009 response to consultation. The SMIP is overseen by DECC.

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