

## T TESTING DURING TRANSITION

### T1. DEVICE SELECTION METHODOLOGY

#### Overview

T1.1 The Device Selection Methodology is the methodology for determining the Devices that are to be used by the DCC for the purposes of Systems Integration Testing, Interface Testing and User Entry Process Tests.

#### Use of Devices

T1.2 Systems Integration Testing, Interface Testing and User Entry Process Tests are to be undertaken using (to the extent reasonably practicable) actual Devices (rather than Test Stubs or other alternative arrangements).

#### Device Selection Methodology

T1.3 The DCC shall develop, publish (including on the DCC Website) and comply with a methodology (the “**Device Selection Methodology**”) concerning the selection and de-selection of Devices for the purposes of Systems Integration Testing, Interface Testing and User Entry Process Tests. The DCC shall consult with the other Parties and Manufacturers prior to finalising the Device Selection Methodology. The Device Selection Methodology shall include provision for the DCC to:

- (a) (save for Communications Hubs) select as many different Device Models as the DCC considers appropriate in order to demonstrate that the Testing Objectives have been achieved; provided that, when the DCC first selects Device Models, the DCC shall select at least the first two Gas Meter Device Models and at least the first two Electricity Meter Device Models offered in accordance with the Device Selection Methodology that meet the criteria set out in Sections T1.4 and T1.6 (as varied by Section T1.5);
- (b) (save for Communications Hubs) select the Device Models in accordance with the selection criteria described in Sections T1.4 and T1.6 (as varied by Section T1.5);
- (c) (save for Communications Hubs) publish an invitation to submit Device Models for selection (such publication to be in a manner likely to bring it to the attention of Parties and Manufacturers, including publication on the DCC Website), such invitation to require Devices to be offered for use on reasonable terms specified by the DCC and from a certain date;
- (d) de-select a Device Model (for the purposes of the then current phase of testing and any future phases of testing pursuant to this Section T) if that Device Model is subsequently found to not comply with the criteria set out in Section T1.4(a), with respect to which the methodology shall describe the process to be followed by the DCC in such circumstances and provide for an appeal by a Party or a Manufacturer to the Panel. The Panel’s decision on such matter may then be appealed to the Authority (or, where the Secretary of State so directs, to the Secretary of State or such other person as the Secretary of State directs) for final determination of disputes regarding whether or not a Device Model does comply with the requirements of Section T1.4(a); and
- (e) select Communications Hubs comprising Devices of the Device Models that the DCC first proposes to make available to Supplier Parties pursuant to the Communications Hub Services (which Device

Models need not, at the start of Systems Integration Testing, have CPA Certificates or (where the Secretary of State so directs) a ZigBee Alliance Assurance Certificate).

- T1.4 In selecting Devices (other than those comprising Communications Hubs), the DCC shall apply the following selection criteria:
- (a) that the Device Models selected are compliant with the Technical Specification that applies in respect of each such Device Model, provided that they need not (where the Secretary of State so directs) have a ZigBee Alliance Assurance Certificate or a DLMS Certificate and need not have a CPA Certificate until CPA Certificates are generally available for the relevant Physical Device Type (and the DCC need only switch to a Device Model with those Assurance Certificates where it is reasonably practicable for it to do so, having regard to the timely achievement of the Testing Objectives);
  - (b) that Gas Meter Device Models and Electricity Meter Device Models are selected so that, in respect of each Communications Hub Device Model that the DCC first proposes to make available pursuant to the Communications Hub Services, there are at least two Gas Meter Device Models and at least two Electricity Meter Device Models of a Manufacturer which is not the Manufacturer (or an Affiliate of the Manufacturer) of that Communications Hub Device Model; and
  - (c) that there will be sufficient Devices available for Systems Integration Testing, Interface Testing and User Entry Process Tests.
- T1.5 Where the DCC is not able to select Devices that meet all the criteria set out in Section T1.4, it may relax the requirements in accordance with the Device Selection Methodology.
- T1.6 The Device Selection Methodology must also include:
- (a) in addition to the selection criteria set out in Section T1.4, any other reasonable criteria that the DCC considers appropriate and that are consistent with those set out in Section T1.4;
  - (b) an explanation of the level of assurance the DCC needs regarding the achievement of the Testing Objectives and of how the Device Selection Methodology will ensure that level of assurance; and
  - (c) any amendments to the process referred to in Sections H14.37 to H14.45 (General: Testing Issue Resolution Process) for resolving Testing Issues which are to be applied by the DCC in respect of Testing Issues concerning Devices that arise during activities undertaken pursuant to this Section T.

### **Appeal of Methodology**

- T1.7 Within the 14 days after publication of the Device Selection Methodology under Section T1.3, any person that is a Party and/or a Manufacturer may refer the methodology to the Authority (or, where the Secretary of State so directs, to the Secretary of State or such other person as the Secretary of State directs) to determine whether the methodology meets the requirements of this Section T1 (which determination shall be final and binding for the purposes of this Code).
- T1.8 Following a referral in accordance with Section T1.7, the DCC shall comply with any directions of the person making the determination thereunder to reconsider and/or amend the Device Selection Methodology. The DCC shall republish (including on the DCC Website) the methodology as so amended and the provisions of Section T1.7 and this Section T1.8 shall apply to any such amended methodology.

## Compliance with Methodology

- T1.9 Following its decision on which Device Models (or alternative arrangements) to select pursuant to the Device Selection Methodology, the DCC shall publish its decision on the DCC Website. The DCC shall not publish details of the Device Models (if any) which were proposed for selection but not selected. The DCC shall notify the Secretary of State, the Authority and the person which proposed any Device Models which were not selected of the DCC's decision (together with its reasons for selecting the Device Models (or other arrangements) that were selected, and for not selecting that person's proposed Device Models).
- T1.10 Where any Party and/or Manufacturer believes that the DCC has not complied with the Device Selection Methodology as published from time to time in accordance with this Section T1, then such person may refer the matter to be determined by the Panel. The Panel's decision on such matter may be appealed to the Authority (or, where the Secretary of State so directs, to the Secretary of State or such other person as the Secretary of State directs), whose decision shall be final and binding for the purposes of this Code.

## T2. SYSTEMS INTEGRATION TESTING

### Overview

- T2.1 Systems Integration Testing tests the capability of the DCC and the component parts of the DCC Systems together with the Communications Hubs selected pursuant to Section T1 to interoperate with each other and with the RDP Systems.

### SIT Objective

- T2.2 The objective of Systems Integration Testing (the "SIT Objective") is to demonstrate that the DCC and the component parts of the DCC Systems together with the Communications Hubs selected pursuant to Section T1 interoperate with each other and with the RDP Systems to the extent necessary in order that:
- (a) the DCC is capable of complying with its obligations under Sections E (Registration Data), G (Security) and H (DCC Services); and
  - (b) the Registration Data Providers are capable of complying with the obligations under Section E (Registration Data) with which the Network Parties are obliged to procure that the Registration Data Providers comply,
- in each case at levels of activity commensurate with the relevant Volume Scenarios.
- T2.3 For the purposes of Section T2.2, the Sections referred to in that Section shall be construed by reference to:
- (a) the decision or consultation document concerning the intended future content of those Sections most recently published by the Secretary of State prior to 14 April 2016 (regardless of whether the content of those documents has yet been incorporated into this Code or whether those Sections yet have effect), but taking into account any variations to this Code pursuant to Section X (Transition) that apply (or are due to apply on the Section or a relevant Subsidiary Document coming into effect) and that will continue to apply on Communication Services first becoming available); and

- (b) to the extent not inconsistent with any document referred to in (a), any document regarding technical or procedural requirements which support those Sections which is published from time to time by the Secretary of State for the purposes of this Section T2.3.

T2.4 Systems Integration Testing is to be undertaken on a Region-by-Region basis and an RDP-System-by-RDP-System basis; such that the SIT Objective is to be achieved in respect of each Region and each RDP System separately.

### **SIT Approach Document**

T2.5 The DCC shall develop a document (the “**SIT Approach Document**”) which sets out:

- (a) the reasonable entry criteria to be satisfied with respect to each Registration Data Provider prior to commencement of Systems Integration Testing in respect of that Registration Data Provider;
- (b) the manner in which Systems Integration Testing is to be undertaken, including the respective obligations of the DCC, and each Registration Data Provider and the Volume Scenarios to be used;
- (c) a reasonable timetable for undertaking and completing Systems Integration Testing;
- (d) the frequency and content of progress reports concerning Systems Integration Testing to be provided by the DCC to the Panel (which the Panel shall make available to the Secretary of State, the Authority and Testing Participants), which reports must include details of Testing Issues identified and resolved and of any problems and solutions encountered with respect to Devices (the details of such Testing Issues to be anonymised and redacted as required in accordance with Section H14.44 (General: Testing Issue Resolution Process));
- (e) (to the extent it is not reasonably practicable to use actual Devices) details of the alternative arrangements (which may include Test Stubs) to be used in their place (together with an explanation of how such arrangements will provide sufficient assurance that the SIT Objective has been met), in which case there must also be a process describing whether and how to switch to the use of actual Devices as they become available;
- (f) where a Device Model is de-selected pursuant to the Device Selection Methodology, the process for switching to an alternate Device Model where practicable, or otherwise to Tests Stubs or an alternative arrangement;
- (g) a Good Industry Practice methodology for determining whether the SIT Objective has been achieved in respect of each Region and each RDP System, including details of the exit criteria to be achieved and the level of assurance that will be delivered by achievement of those exit criteria; provided that one such exit criteria for each Region must include the successful use in that Region of each Communications Hub Device Model that the DCC first proposes to make available in that Region (save that such Communications Hub Device Models need not have CPA Certificates and need not (where the Secretary of State so directs) have a ZigBee Alliance Assurance Certificate);
- (h) that the DCC will produce a report where the DCC considers that the exit criteria referred to in (g) above have been achieved for a Region or an RDP System (providing evidence of such achievement in such report), having consulted with each Registration Data Provider in relation to the exit criteria applicable to that Registration Data Provider; and
- (i) how an auditor (that is sufficiently independent of the DCC, the DCC Service Providers and the Registration Data Providers) will be selected, and how such auditor will monitor the matters being

tested pursuant to Systems Integration Testing, and confirm that the exit criteria referred to in (g) above have been achieved for a Region or an RDP System (such independent auditor to be appointed by the DCC on terms consistent with Good Industry Practice).

### **Approval of SIT Approach Document**

- T2.6 The DCC shall submit the SIT Approach Document to the Panel for the Panel's approval as fit for the purposes envisaged by this Section T2.
- T2.7 The DCC shall not submit the SIT Approach Document to the Panel under Section T2.6 until after the DCC has first published the Device Selection Methodology.
- T2.8 Before submitting the SIT Approach Document to the Panel, the DCC shall consult with the Registration Data Providers regarding the SIT Approach Document. When submitting the SIT Approach Document to the Panel, the DCC shall also submit copies of the consultation responses received from the Registration Data Providers. In addition, the DCC shall publish such consultation responses (to the extent not marked confidential) on the DCC Website.
- T2.9 Where the Panel decides not to approve the SIT Approach Document submitted for approval, the Panel shall notify such decision to the DCC and the Registration Data Providers giving the reasons why it considers that it is not fit for the purposes envisaged in this Section T2. In such circumstances, the DCC shall:
- (a) revise the document to address such reasons;
  - (b) re-consult with the Registration Data Providers; and
  - (c) re-submit the document to the Panel for approval and comply with Section T2.8 (following which this Section T2.9 or Section T2.10 shall apply).
- T2.10 Where the Panel decides to approve the SIT Approach Document submitted for approval, the Panel shall notify such decision to the DCC and the Registration Data Providers. In such circumstances, the DCC and each Registration Data Provider shall have the ability (within the 14 days after notification by the Panel) to refer the matter to the Authority (or, where the Secretary of State so directs, to the Secretary of State or such other person as the Secretary of State directs) to determine whether the SIT Approach Document:
- (a) should be approved as fit for the purposes envisaged by this Section T2;
  - (b) is not fit for the purposes envisaged by this Section T2, but will be deemed to be approved if it is revised by the DCC in accordance with the determination; or
  - (c) is not fit for the purposes envisaged by this Section T2 and should be revised and re-submitted by the DCC in accordance with Section T2.9,

(and any such determination shall be final and binding for the purposes of this Code).

### **Commencement of Systems Integration Testing**

- T2.11 Subject to Section T2.12, once the SIT Approach Document has been approved by the Panel (or deemed to be approved by the Panel under Section T2.10(b)), the DCC shall publish the approved document on the DCC Website and give at least 3 months' (or such shorter period as the Secretary of

State may direct) notice to the Registration Data Providers of the date on which Systems Integration Testing is to commence. Where directed to do so by the Secretary of State, the DCC shall determine a revised commencement date for Systems Integration Testing (provided that the DCC shall first consult on such date with such persons as the Secretary of State may specify in such direction), and shall (where specified by the Secretary of State in such direction) make consequential revisions to the SIT Approach Document (which date (and, where relevant, revisions) must be published at least 3 months (or such shorter period as the Secretary of State may direct) in advance of the revised date on which Systems Integration Testing is to commence).

- T2.12 The DCC shall not publish the SIT Approach Document and give notice under Section T2.11 where the Panel's decision has been appealed under Section T2.10 (pending approval of the document thereunder or revision in accordance with a determination made under Section T2.10(b)), save that where:
- (a) the Panel's approval of the SIT Approach Document is appealed by one or more Registration Data Providers, the DCC shall nevertheless publish the document and give notice under Section T2.11 insofar as the document relates to the other Registration Data Providers; and/or
  - (b) the Panel's approval of the SIT Approach Document is appealed by one or more Registration Data Providers or the DCC, the Panel may nevertheless direct that the matter appealed is not of a nature that should delay notice under Section T2.11, in which case the DCC shall publish the document and give notice under Section T2.11 (noting the appeal).
- T2.13 Prior to the commencement of Systems Integration Testing, the DCC shall assess whether or not each Registration Data Provider meets the entry criteria referred to in Section T2.5(a), and report to the Registration Data Provider and the Panel on the same. Each Network Party shall ensure that its Registration Data Provider:
- (a) cooperates with the DCC in its assessment of whether the Registration Data Provider meets the entry criteria referred to in Section T2.5(a);
  - (b) takes all reasonable steps to meet those entry criteria by the date required in accordance with the SIT Approach Document; and
  - (c) notifies the Panel and the DCC as soon as reasonably practicable if the Registration Data Provider considers that it will not meet those criteria by that date.
- T2.14 Systems Integration Testing in respect of each Registration Data Provider shall only commence once the Registration Data Provider meets the entry criteria referred to in Section T2.5(a). Any disagreement between the DCC and a Registration Data Provider as to whether the Registration Data Provider has met such entry criteria shall be determined by the Panel, provided that such disagreement must be notified to the Panel within 14 days of the DCC notifying its assessment to the Registration Data Provider. The Panel's decision on such matter may (within 14 days after the Panel's decision) be appealed by the DCC or the affected Registration Data Provider to the Authority (or, where the Secretary of State so directs, to the Secretary of State or such other person as the Secretary of State directs), whose decision shall be final and binding for the purposes of this Code.

### **Systems Integration Testing**

- T2.15 The DCC shall comply with its obligations under the approved SIT Approach Document. The DCC shall take reasonable steps to ensure that Systems Integration Testing is completed as soon as it is reasonably practicable to do so.

- T2.16 Each Network Party shall ensure that its Registration Data Provider complies with its obligations under the approved SIT Approach Document.
- T2.17 Where requested by the DCC and/or a Registration Data Provider, each Party shall take all reasonable steps to do all such things as are within its power and necessary or expedient in order to facilitate achievement of the SIT Objective.
- T2.18 Where the DCC wishes to make amendments to the SIT Approach Document (other than consequential revisions in accordance with Section T2.11), the DCC shall consult with the Registration Data Providers regarding those amendments and submit those amendments to the Panel (in accordance with Section T2.8) for approval (following which Sections T2.9 to T2.12 shall apply as if the references in those Sections to approval of the document were to approval of the amendments and as if the references in Sections T2.11 and T2.12 to giving notice were not included).

### **Completion of Systems Integration Testing**

- T2.19 Subject to Section T2.20, Systems Integration Testing shall end in respect of each Region or RDP System on the date notified as the end of Systems Integration Testing for that Region or RDP System by the DCC to the Secretary of State, the Authority, the Panel, the Parties and the Registration Data Providers.
- T2.20 The DCC shall not notify the end of Systems Integration Testing in respect of each Region or RDP System before the following reports have been produced in respect of that Region or RDP System:
- (a) the DCC's report in accordance with the SIT Approach Document demonstrating that the exit criteria have been met in respect of that Region or RDP System (as envisaged by Section T2.5(h)); and
  - (b) the independent auditor's report to the DCC in accordance with the SIT Approach Document confirming that the exit criteria have been met in respect of that Region or RDP System (as envisaged by Section T2.5(i)).
- T2.21 On notifying the end of Systems Integration Testing for one or more Regions or RDP Systems, the DCC shall provide to the Authority and the Panel and (on request) to the Secretary of State:
- (a) copies of the reports referred to in Section T2.20; and
  - (b) where relevant, a list of sections of the report or reports which the DCC considers should be redacted prior to circulation of the reports to the Parties, Registration Data Providers or Testing Participants where the DCC considers that those sections contain information which may pose a risk of Compromise to the DCC Total System or RDP Systems.
- T2.22 Once directed to do so by the Panel, the DCC shall make copies of the reports referred to in Section T2.20 available to the Parties, the Registration Data Providers and the Testing Participants. Prior to making such copies available, the DCC shall redact those sections of the reports which it is directed to redact by the Panel where the Panel considers that those sections contain information which may pose a risk of Compromise to the DCC Total System or RDP Systems (which sections may or may not include those sections which the DCC proposed for redaction).

## Testing Issues

- T2.23 Sections H14.37 to H14.45 (General: Testing Issue Resolution Process) shall apply for the purposes of Systems Integration Testing. Each Registration Data Provider shall be deemed to be a Testing Participant for such purposes, and may raise a Testing Issue in respect of Systems Integration Testing.
- T2.24 During Systems Integration Testing, the DCC shall provide the Secretary of State with copies of the reports which are generated by the DCC or the DCC Service Provider in respect of Testing Issues (without redacting those reports as ordinarily required by Sections H14.37 to H14.45).

## Additional Systems Integration Testing

- T2.25 On each occasion that the Secretary of State so directs for the purpose of this Section T2.25, the DCC shall undertake testing against the SIT Objective in respect of such Services that have not previously been the subject of testing under this Section T2 as the Secretary of State may direct (each such round of testing being "Additional SIT").
- T2.26 The purpose of each round of Additional SIT shall be to demonstrate the SIT Objective as described in Sections T2.2 and T2.3, but subject to the following variations (the SIT Objective as so varied being the "Additional SIT Objective"):
- (a) the only variations pursuant to Section X (Transition) that will be taken into account in interpreting the relevant Sections are those that will continue to apply following commencement of the provision of the Services that are the subject of that round of Additional SIT; and
  - (b) the Additional SIT Objective shall not apply by reference to the document published from time to time by the Secretary of State for the purpose of Section T2.3(b), but instead by reference to the document published from time to time by the Secretary of State for the purposes of that Additional SIT.
- T2.27 The provisions of this Section T2 shall apply to each round of Additional SIT, subject to the following:
- (a) all references in this Section T2 to "Systems Integration Testing" shall be read as references to "the relevant round of Additional SIT";
  - (b) Sections T2.25 and T2.26 shall apply in place of Sections T2.2 and T2.3; for which purpose it is acknowledged that some of the capability and interoperability to be demonstrated via Additional SIT will already have been demonstrated via previous testing undertaken pursuant to this Section T2 (and further testing of such capability or interoperability shall not be required to the extent that it has already been sufficiently proven for the purposes of the Additional SIT Objective as part of such earlier testing);
  - (c) the Additional SIT shall be undertaken only in respect of the Region or Regions and the RDP System or RDP Systems directed by the Secretary of State;
  - (d) the SIT Approach Document shall apply to the Additional SIT (without prejudice to the DCC's ability to make changes to the SIT Approach Document in accordance with this Section T2);
  - (e) (unless otherwise directed by the Secretary of State) the Registration Data Providers shall not be obliged to participate in the Additional SIT and the entry and exit criteria relating to RDP Systems shall not apply (and, accordingly, Registration Data Providers need not be consulted regarding, and

shall have no appeal right in respect of, changes to the SIT Approach Document that relate only to Additional SIT in which the Registration Data Providers are not participating);

- (f) no period of notice need be given by the DCC in advance of commencement of Additional SIT (unless otherwise directed by the Secretary of State);
- (g) the Device Models to be used for Additional SIT are those selected pursuant to the previous phase of testing pursuant to this Section T.

### **T3. INTERFACE TESTING**

#### **Overview**

T3.1 Interface Testing tests the capability of the DCC and the DCC Systems together with the Communications Hubs selected pursuant to Section T1 to interoperate with User Systems.

#### **Interface Testing Objective**

T3.2 The objective of Interface Testing (the “**Interface Testing Objective**”) is to demonstrate that the DCC and the DCC Systems together with the Communications Hubs selected pursuant to Section T1 interoperate with User Systems to the extent necessary in order that the DCC is capable of complying with its obligations under Sections E (Registration Data), G (Security) and H (DCC Services) (in each case) at levels of activity commensurate with the relevant Volume Scenarios.

T3.3 For the purposes of Section T3.2, the Sections referred to in that Section shall be construed by reference to:

- (a) the decision or consultation document concerning the intended future content of those Sections most recently published by the Secretary of State prior to 14 April 2016 (regardless of whether the content of those documents has yet been incorporated into this Code or whether those Sections yet have effect, but taking into account any variations to this Code pursuant to Section X (Transition) that apply (or are due to apply on the Section or a relevant Subsidiary Document coming into effect) and that will continue to apply on Communication Services first becoming available); and
- (b) to the extent not inconsistent with any document referred to in (a), any document regarding technical or procedural requirements which support those Sections which is published from time to time by the Secretary of State for the purposes of this Section T3.3.

T3.4 Interface Testing is to be undertaken on a Region-by-Region basis; such that the Interface Testing Objective is to be demonstrated in respect of each Region separately. Interface Testing for a Region cannot be completed until Systems Integration Testing has been completed for that Region. For the avoidance of doubt, Interface Testing cannot be completed until Systems Integration Testing has been completed for each and every Region and RDP System.

T3.5 During Interface Testing, Parties who wish to do so, and who are ready to do so in accordance with the entry criteria for the User Entry Process Tests, shall be able to undertake the User Entry Process Tests (pursuant to Section H14 (Testing Services)).

## Overlapping Provision of Systems Integration Testing and Interface Testing

- T3.6 Prior to the start of Interface Testing, the DCC may propose to the Secretary of State, having regard to the overriding objective of completing Interface Testing in a timely manner, that Interface Testing should be commenced from some point during Systems Integration Testing for any or all Regions. The DCC's proposal must set out its analysis of the benefits and risks of doing so. Prior to submitting its proposal to the Secretary of State, the DCC shall consult with the other Parties regarding the proposal. The DCC shall also submit copies of the consultation responses received from Parties. Where it has submitted the proposal to the Secretary of State, the DCC shall publish the proposal and such consultation responses (to the extent that they are not marked confidential) on the DCC Website.
- T3.7 Where the Secretary of State agrees with the DCC's recommendation pursuant to Section T3.6, then Interface Testing shall commence from the time recommended for the Regions included in the recommendation (notwithstanding anything to the contrary in the Interface Testing Approach Document or the SIT Approach Document).

## Interface Testing Approach Document

- T3.8 The DCC shall develop a document (the "Interface Testing Approach Document") which sets out:
- (a) the reasonable entry criteria to be satisfied by the DCC with respect to the DCC Systems and the Communications Hubs selected pursuant to Section T1, and to be met by the Registration Data Providers with respect to the RDP Systems prior to commencement of Interface Testing in each Region;
  - (b) the entry criteria to be met by the Parties prior to their commencing the User Entry Process Tests (which criteria shall be consistent with the relevant requirements of Section H14 (Testing Services), subject only to amendments reasonably required for the purposes of Interface Testing)
  - (c) the manner in which Interface Testing is to be undertaken, including the respective obligations of the DCC, each other Party and each Registration Data Provider and the Volume Scenarios to be used;
  - (d) a reasonable timetable for undertaking and completing Interface Testing;
  - (e) the frequency and content of progress reports concerning Interface Testing to be provided by the DCC to the Panel (which the Panel shall make available to the Secretary of State, the Authority and Testing Participants), which reports must include details of Testing Issues identified and resolved and of any problems and solutions encountered with respect to Devices (the details of such Testing Issues to be anonymised and redacted as required in accordance with Section H14.44 (General: Testing Issue Resolution Process));
  - (f) (to the extent it is not reasonably practicable to use actual Devices) details of the alternative arrangements (which may include Test Stubs) to be used in their place (together with an explanation of how such arrangements will provide sufficient assurance that the Interface Testing Objective has been met), in which case there must also be a process describing whether and how to switch to the use of actual Devices as they become available;
  - (g) where a Device Model is de-selected pursuant to the Device Selection Methodology, the process for switching to an alternate Device Model where practicable, or otherwise to Tests Stubs or an alternative arrangement;

- (h) the process by which the DCC will facilitate the Parties undertaking and completing the User Entry Process Tests (which process shall be consistent with the relevant requirements of Section H14 (Testing Services), subject only to amendments reasonably required for the purposes of Interface Testing);
- (i) how, to the extent it is reasonably practicable to do so, the DCC will allow persons who are eligible to undertake User Entry Process Tests (pursuant to the Interface Testing Approach Document) to undertake those tests concurrently (provided that, where it is not reasonably practicable to do so, the DCC shall give priority to completion of the User Entry Process Tests by the Supplier Parties);
- (j) a Good Industry Practice methodology for determining whether or not the Interface Testing Objective has been achieved in respect of each Region, including details of the exit criteria to be achieved and the level of assurance that will be delivered by achievement of those exit criteria (including, as described in Section T3.27, completion of User Entry Process Tests for that Region by two Large Supplier Parties and (where applicable pursuant to Section T3.21) by at least one Network Party in respect of the 'Electricity Distributor' User Role and/or at least one Network Party in respect of the 'Gas Transporter' User Role); and
- (k) how the DCC will report to the Panel where the DCC considers that the exit criteria referred to in (j) above have been achieved in respect of a Region (providing evidence of such achievement), having consulted with the Registration Data Providers and the Parties who are obliged by this Section T3 to undertake the User Entry Process Tests.

### **Approval of Interface Testing Approach Document**

- T3.9 The DCC shall submit the Interface Testing Approach Document to the Panel for the Panel's approval as fit for the purposes envisaged by this Section T3.
- T3.10 Before submitting the Interface Testing Approach Document to the Panel, the DCC shall consult with the other Parties, the Panel and the Registration Data Providers regarding the Interface Testing Approach Document. When submitting the Interface Testing Approach Document to the Panel, the DCC shall also submit copies of the consultation responses received from the other Parties or the Registration Data Providers. In addition, the DCC shall publish such consultation responses (to the extent not marked confidential) on the DCC Website.
- T3.11 Where the Panel decides not to approve the Interface Testing Approach Document submitted for approval, the Panel shall notify such decision to the DCC and the other Parties giving reasons for such decision. In such circumstances, the DCC shall:
- (a) revise the document to address such reasons;
  - (b) re-consult with the other Parties and the Registration Data Providers; and
  - (c) re-submit the document to the Panel for approval and comply with Section T3.10 (following which this Section T3.11 or Section T3.12 shall apply).
- T3.12 Where the Panel decides to approve the Interface Testing Approach Document submitted for approval, the Panel shall notify such decision to the DCC, the other Parties and the Registration Data Providers giving reasons for such decision. In such circumstances, the DCC and each other Party and each Registration Data Provider shall have the ability (within the 14 days after notification by the Panel) to refer the matter to the Authority (or, where the Secretary of State so directs, to the Secretary of State or

such other person as the Secretary of State directs) to determine whether the Interface Testing Approach Document:

- (a) should be approved as fit for the purposes envisaged by this Section T3;
- (b) is not fit for the purposes envisaged by this Section T3, but will be deemed to be approved if it is revised by the DCC in accordance with the determination; or
- (c) is not fit for the purposes envisaged by this Section T3 and should be revised and re-submitted by the DCC in accordance with Section T3.11,

(which determination shall be final and binding for the purposes of this Code).

### **Commencement of Interface Testing**

- T3.13 Subject to Section T3.14, once the Interface Testing Approach Document has been approved by the Panel (or deemed to be approved by the Panel under Section T3.12(b)), the DCC shall publish the approved document on the DCC Website and give at least 6 months' (or such shorter period as the Secretary of State may direct) notice to the other Parties of the date on which Interface Testing is to commence. Where directed to do so by the Secretary of State, the DCC shall determine a revised commencement date for Interface Testing (provided that the DCC shall first consult on such date with such persons as the Secretary of State may specify in such direction), and shall (where specified by the Secretary of State in such direction) make consequential revisions to the Interface Testing Approach Document (which date (and, where relevant, revisions) must be published at least 6 months (or such shorter period as the Secretary of State may direct) in advance of the date on which Interface Testing is to commence).
- T3.14 Where the Panel's approval of the Interface Testing Approach Document is appealed by one or more persons under Section T3.12, the Panel may nevertheless direct that the matter appealed is not of a nature that should delay publication and the giving of notice under Section T3.13, in which case the DCC shall publish the document and give notice under Section T3.13 (noting the appeal). Subject to the foregoing provisions of this Section T3.14, the DCC shall not publish the Interface Testing Approach Document and give notice under Section T3.13 where the Panel's decision has been appealed under Section T3.12 (pending the approval of the document thereunder or revision in accordance with a determination made under Section T3.12(b)).
- T3.15 Prior to the commencement of Interface Testing and in accordance with the Interface Testing Approach document, the DCC shall assess whether or not each Large Supplier Party (and, where directed pursuant to Section T3.21, each Network Party) meets the entry criteria referred to in Section T3.8(b), and report to the Panel and that Party on the same. Each Large Supplier Party (and, where directed pursuant to Section T3.21, each Network Party) shall:
- (a) take all reasonable steps to ensure that it meets the entry criteria referred to in Section T3.8(b) by the date required in accordance with the Interface Testing Approach Document; and
  - (b) notify the Panel and the DCC as soon as reasonably practicable if the Party considers that it will not meet those criteria by that date.
- T3.16 Section H14.16 (User Entry Process Tests) shall apply where there is any disagreement between the DCC and a Party as to whether that Party has met the entry criteria for the User Entry Process Tests (as modified by the Interface Testing Approach Document), provided that:

- (a) the Panel's decision on any such matter may be appealed to the Authority (or, where the Secretary of State so directs, to the Secretary of State or such other person as the Secretary of State directs), whose decision shall be final and binding for the purposes of this Code; and
- (b) in the case of the Parties referred to in Section T3.15, any such disagreement must be notified to the Panel within 14 days of the DCC notifying its assessment to that Party and any appeal must be brought within 14 days after the Panel's decision.

## **Interface Testing**

- T3.17 The DCC shall comply with its obligations under the approved Interface Testing Approach Document. The DCC shall take reasonable steps to ensure that Interface Testing is completed as soon as it is reasonably practicable to do so.
- T3.18 Each Network Party shall ensure that its Registration Data Provider complies with its obligations under the approved Interface Testing Approach Document.
- T3.19 Each Party that undertakes the User Entry Process Tests prior to completion of Interface Testing shall do so in accordance with Section H14 (Testing Services) and the approved Interface Testing Approach Document.
- T3.20 T3.20 Each Large Supplier Party shall take reasonable steps to commence the User Entry Process Tests as soon as reasonably practicable (in respect of the User Roles of 'Import Supplier' and/or 'Gas Supplier', depending on which Energy Supply Licence or Energy Supply Licences it holds). Each Large Supplier Party shall, on request, notify the Panel and the DCC of the Party's progress towards completing such User Entry Process Tests.
- T3.21 Where directed to do so by the Secretary of State, each Network Party shall take reasonable steps to commence the User Entry Process Tests as soon as reasonably practicable (in respect of the User Roles of 'Electricity Distributor' or 'Gas Transporter', as applicable). Following any such direction, each Network Party shall, on request, notify the Panel and the DCC of the Party's progress towards completing such User Entry Process Tests.
- T3.22 Section H14.21 (User Entry Process Tests) shall apply where there is any disagreement between the DCC and a Party as to whether that Party has completed the User Entry Process Tests (as modified by the Interface Testing Approach Document), provided that:
- (a) the Panel's decision on any such matter be appealed to the Authority (or, where the Secretary of State so directs, to the Secretary of State or such other person as the Secretary of State directs), whose decision shall be final and binding for the purposes of this Code; and
  - (b) in the case of the Parties referred to in Section T3.15, any such disagreement must be notified to the Panel within 14 days of the DCC notifying its assessment to that Party and any appeal must be brought within 14 days after the Panel's decision.
- T3.23 Where the DCC wishes to make amendments to the Interface Testing Approach Document (other than consequential revisions in accordance with Section T3.13), the DCC shall consult with the other Parties regarding those amendments and submit those amendments to the Panel (in accordance with Section T3.10) for approval (following which Sections T3.11 to T3.14 shall apply as if the references in those Sections to approval of the document were to approval of the amendments and as if the references in Sections T3.13 and T3.14 to giving notice were not included).

## Completion of Interface Testing

T3.24 The DCC shall, once the DCC considers that the exit criteria (as envisaged by Section T3.8(j)) have been met in respect of any Region, in accordance with the Interface Testing Approach Document:

- (a) provide to the Panel a report evidencing that such criteria have been met;
- (b) where relevant, list those sections of the report which the DCC considers should be redacted prior to circulation of the report to the Parties, where the DCC considers that those sections contain information which may pose a risk of Compromise to the DCC Total System, RDP Systems and/or User Systems; and
- (c) apply to the Panel to determine whether or not such exit criteria have been met,

and the DCC may either (as it reasonably considers appropriate in accordance with the Interface Testing Objective) do so in respect of individual Regions or some or all of the Regions collectively.

T3.25 On application of the DCC pursuant to Section T3.24, the Panel shall:

- (a) determine whether or not the exit criteria have been met;
- (b) notify its decision to the Secretary of State, the Authority and the Parties, giving reasons for its decision; and
- (c) direct the DCC to publish its report, subject to the redaction of those sections of the report which the Panel considers to contain information which may pose a risk of Compromise to the DCC Total System, RDP Systems and/or User Systems (which sections may or may not include those sections which the DCC proposed for redaction).

T3.26 Where the DCC has provided a report to the Panel in accordance with Section T3.24, the Panel shall provide a complete copy on request to the Secretary of State and/or the Authority.

T3.27 Subject to Section T3.28, Interface Testing shall be completed once the Panel has confirmed that the exit criteria referred to Section T3.8(j) have been met in respect of each and every Region, which must include (in respect of each Region) that the following persons have completed User Entry Process Tests (for that Region):

- (a) at least two Large Supplier Parties who are not an Affiliate of one another in respect of the 'Import Supplier' User Role, and at least two Large Supplier Parties who are not an Affiliate of one another in respect of the 'Gas Supplier' User Role; and
- (b) (only where applicable pursuant to Section T3.21) at least one Network Party in respect of the 'Electricity Distributor' User Role and/or at least one Network Party in respect of the 'Gas Transporter' User Role.

T3.28 Each Party shall have the ability (within the 14 days after notification by the Panel) to refer each of the Panel's decisions pursuant to Section T3.25 to the Authority (or, where the Secretary of State so directs, to the Secretary of State or such other person as the Secretary of State directs) to determine whether or not the exit criteria have been met in respect of the Region in question (which determination shall be final and binding for the purposes of this Code).

T3.29 Where, following the application of the DCC pursuant to Section T3.24, the Panel or the person which determines a referral under Section T3.28 determines that one or more of the exit criteria have not been met, the DCC shall undertake further testing in order to demonstrate that the exit criteria have been met and shall resubmit its report under Section T3.24

### Testing Issues

T3.30 Sections H14.37 to H14.45 (General: Testing Issue Resolution Process) shall apply for the purposes of Interface Testing. Each Party participating in Interface Testing shall be deemed to be a Testing Participant for such purposes, and may raise a Testing Issue in respect of Interface Testing.

T3.31 During Interface Testing, the DCC shall provide the Secretary of State with copies of the reports which are generated by the DCC or the DCC Service Provider in respect of Testing Issues (without redacting those reports as ordinarily required by Sections H14.37 to H14.45).

### Definitions of Large and Small Suppliers

T3.32 For the purpose of this Section T3, the question of whether a Supplier Party is a Large Supplier or a Small Supplier shall be assessed at the time that this Code is first modified to include this Section T3.32.

T3.33 Each Supplier Party that is a Large Supplier in accordance with Section T3.32 shall notify the DCC of their status as such within one month after the time that this Code is first modified to include Section T3.32.

### Additional Interface Testing

T3.34 On each occasion that the Secretary of State so directs for the purpose of this Section T3.34, the DCC shall undertake testing against the Interface Testing Objective in respect of such Services that have not previously been the subject of testing under this Section T3 as the Secretary of State may direct (each such round of testing being "**Additional Interface Testing**").

T3.35 The purpose of each round of Additional Interface Testing shall be to demonstrate the Interface Testing Objective as described in Sections T3.2 and T3.3, but subject to the following variations (the Interface Testing Objective as so varied being the "**Additional Interface Testing Objective**"):

- (a) the only variations pursuant to Section X (Transition) that will be taken into account in interpreting the relevant Sections are those that will continue to apply following commencement of the provision of the Services that are the subject of that round of Additional Interface Testing; and
- (b) the Additional Interface Testing Objective shall not apply by reference to the document published from time to time by the Secretary of State for the purpose of Section T3.3(b), but instead by reference to the document published from time to time by the Secretary of State for the purposes of that round of Additional Interface Testing.

T3.36 The provisions of this Section T3 shall apply to each round of Additional Interface Testing, subject to the following:

- (a) all references in this Section T3 to "Interface Testing" shall be read as references to "the relevant round of Additional Interface Testing";
- (b) Sections T3.34 and T3.35 shall apply in place of Sections T3.2 and T3.3; for which purpose it is acknowledged that some of the capability and interoperability to be demonstrated via Additional

Interface Testing will already have been demonstrated via previous testing undertaken pursuant to this Section T3 (and further testing of such capability or interoperability shall not be required to the extent that it has already been sufficiently proven for the Additional Interface Testing Objective as part of such earlier testing);

- (c) the Additional Interface Testing shall be undertaken only in respect of the Region or Regions directed by the Secretary of State;
- (d) to the extent that the Additional Interface Testing relates to Additional Release Services, the references to User Entry Process Tests in Sections T3.16, T3.19, T3.20, T3.21, T3.22 and T3.27 shall be read as references to the corresponding Additional SR Tests;
- (e) the Interface Testing Approach Document shall apply to the Additional Interface Testing (without prejudice to the DCC's ability to make changes to the Interface Testing Approach Document in accordance with this Section T3);
- (f) one month's notice must be given by the DCC in advance of commencement of Additional Interface Testing (or such shorter period as the Secretary of State may direct);
- (g) the Device Models to be used for Additional Interface Testing are those selected pursuant to the previous phase of testing pursuant to this Section T.

#### **T4. END-TO-END TESTING**

##### **Overview**

- T4.1 End-to-End Testing allows for provision of the User Entry Process Tests and Device and User System Tests, subject to any modifications necessary for the purposes of transition.

##### **Overlapping Provision of Interface Testing and End-to-End Testing**

- T4.2 Prior to the start of End-to-End Testing, the DCC may recommend to the Panel, having regard to the overriding objective of completing Interface Testing in a timely manner, that End-to-End Testing should be provided from the commencement of or from some point during Interface Testing. Where the DCC so recommends, it must provide a report to the Panel on the benefits and risks of the DCC providing End-To-End Testing in parallel with Interface Testing (rather than following completion of Interface Testing). Prior to submitting its report to the Panel, the DCC shall consult with the other Parties regarding the recommendation. The DCC shall also submit copies of the consultation responses received from Parties. Where it has submitted its report to the Panel, the DCC shall publish the report and such consultation responses (to the extent that they are not marked confidential) on the DCC Website.
- T4.3 Where the Panel agrees with the DCC's recommendation pursuant to Section T4.2, then End-to-End Testing shall commence from the time recommended (notwithstanding the notice period in Section T4.9). Otherwise, End-to-End Testing shall commence on completion of Interface Testing (or such later date as is necessary to allow compliance with Section T4.9).

##### **End-to-End Testing Approach Document**

- T4.4 The DCC shall develop a document (the "End-to-End Testing Approach Document") which sets out:

- (a) the manner in which User Entry Process Tests and Device and User System Tests are to be provided during End-to-End Testing, which shall be consistent with the relevant requirements of Section H14 (Testing Services) subject only to amendments reasonably required for the purposes of transition;
- (b) that, to the extent it is reasonably practicable to do so, the DCC shall allow persons who are eligible to undertake tests pursuant to the End-to-End Testing Approach Document to undertake those tests concurrently (provided that, where it is not reasonably practicable to do so, the DCC shall give priority to completion of the User Entry Process Tests by the Supplier Parties during the period prior to the completion of Interface Testing and the DCC shall otherwise schedule Testing Participants as is reasonable for the purposes of transition); and
- (c) the latest date from which the DCC will first make Test Communications Hubs available pursuant to Section F10 (Test Communications Hubs).

### **Approval of End-to-End Testing Approach Document**

- T4.5 The DCC shall submit the End-to-End Testing Approach Document to the Panel for the Panel's approval as fit for the purposes envisaged by this Section T4.
- T4.6 Before submitting the End-to-End Testing Approach Document to the Panel, the DCC shall consult with the other Parties, the Panel and those persons entitled to undertake Device and User System Tests regarding the End-to-End Testing Approach Document. When submitting the End-to-End Testing Approach Document to the Panel, the DCC shall also submit copies of the consultation responses received from the other Parties and such persons. In addition, the DCC shall publish such consultation responses (to the extent not marked confidential) on the DCC Website.
- T4.7 Where the Panel decides not to approve the End-to-End Testing Approach Document submitted for approval, the Panel shall notify such decision to the DCC and the other Parties giving reasons for such decision. In such circumstances, the DCC shall:
- (a) revise the document to address such reasons;
  - (b) re-consult with the other Parties and those persons entitled to undertake Device and User Systems Tests; and
  - (c) re-submit the document to the Panel for approval and comply with Section T4.6 (following which this Section T4.7 or Section T4.8 shall apply).
- T4.8 Where the Panel decides to approve the End-to-End Testing Approach Document submitted for approval, the Panel shall notify such decision to the DCC, the other Parties and the other persons who provided consultation responses in accordance with Section T4.6, giving reasons for such decision. In such circumstances, the DCC and each other Party shall have the ability (within the 14 days after notification by the Panel) to refer the matter to the Authority (or, where the Secretary of State so directs, to the Secretary of State or such other person as the Secretary of State directs) to determine whether the End-to-End Testing Approach Document:
- (a) should be approved as fit for the purposes envisaged by this Section T4;
  - (b) is not fit for the purposes envisaged by this Section T4, but will be deemed to be approved if it is revised by the DCC in accordance with the determination; or

- (c) is not fit for the purposes envisaged by this Section T4 and should be revised and re-submitted by the DCC in accordance with Section T4.7,

(and any such determination shall be final and binding for the purposes of this Code).

### **Commencement of End-to-End Testing**

- T4.9 Subject to Section T4.10, once the End-to-End Testing Approach Document has been approved by the Panel (or deemed to be approved by the Panel under Section T4.8(b)), the DCC shall publish the approved document on the DCC Website and (subject to Section T4.3) give at least 6 months' prior notice to Testing Participants of the date on which End-to-End Testing is to commence (or such shorter period as the Secretary of State may direct). Where directed to do so by the Secretary of State, the DCC shall determine a revised commencement date for End-to-End Testing (provided that the DCC shall first consult on such date with such persons as the Secretary of State may specify in such direction), and shall (where specified by the Secretary of State in such direction) make consequential revisions to the End-to-End Testing Approach Document (which date (and, where relevant, revisions) must be published at least 6 months (or such shorter period as the Secretary of State may direct) in advance of the revised date on which End-to-End Testing is to commence).
- T4.10 Where the Panel's approval of the End-to-End Testing Approach Document is appealed by one or more persons, the Panel may nevertheless direct that the matter appealed is not of a nature that should delay publication and the giving of notice under Section T4.9, in which case the DCC shall publish the document and give notice under Section T4.9 (noting the appeal). Subject to the foregoing provisions of this Section T4.10, the DCC shall not publish the End-to-End Testing Approach Document and give notice under Section T4.9 where the Panel's decision has been appealed under Section T4.8 (pending the approval of the document thereunder or revision in accordance with a determination made under Section T4.8(b)).

### **End-to-End Testing**

- T4.11 The DCC shall comply with its obligations under the approved End-to-End Testing Approach Document.
- T4.12 Each Party that seeks to undertake User Entry Process Tests or Device and System Tests during End-to-End Testing shall do so in accordance with the approved End-to-End Testing Approach Document. Where the DCC is to provide Testing Services during End-to-End Testing to a person that is not a Party, the DCC shall act in accordance with any relevant provisions of the End-to-End Testing Approach Document.
- T4.13 Where the DCC wishes to make amendments to the End-to-End Testing Approach Document (other than consequential revisions in accordance with Section T4.9), the DCC shall consult with the other Parties, the Panel and those persons entitled to undertake Device and User System Tests regarding those amendments and submit those amendments to the Panel (in accordance with Section T4.6) for approval (following which Sections T4.7 to T4.10 shall apply as if the references in those Sections to approval of the document were to approval of the amendments and as if the references in Section T4.9 and T4.10 to giving notice were not included).

### **Disputes**

- T4.14 Section T3.16 shall apply during Interface Testing in respect of the entry criteria for the User Entry Process Tests. Otherwise, in the case of those disputes relating to User Entry Process Tests and Device and User System Tests that would ordinarily be subject to the Authority's determination pursuant to

Section H14 (Testing Services), during End-to-End Testing, the Secretary of State may direct that such disputes are determined by the Secretary of State (or, where the Secretary of State so directs such other person as the Secretary of State directs), rather than the Authority. The determination of such disputes by the Secretary of State (or such other person as the Secretary of State directs) shall be final and binding for the purposes of this Code.

### **Completion of End-to-End Testing**

- T4.15 Subject to Section T4.17, End-to-End Testing shall cease on the date 12 months after the date from which the ability to test all the Service Requests listed in the Common Test Scenarios Document has been provided, including those Service Requests that are originally deemed omitted by virtue of variations that were made under Section X3 (Provisions to become Effective Following Designation).
- T4.16 During the third month prior to the date on which End-to-End Testing is due to complete in accordance with Section T4.15 (or at such other time as the DCC and the Panel may agree), the DCC shall submit a recommendation to the Panel as to whether or not the period of End-to-End Testing should be extended by an additional 6 months. Prior to submitting such recommendation to the Panel, the DCC shall consult the Testing Participants on the matter. When submitting such recommendation to the Panel, the DCC shall also submit copies of any consultation responses received from the Testing Participants. The DCC shall publish such consultation responses (to the extent not marked confidential) on the DCC Website.
- T4.17 The Panel shall, after receipt of the DCC's recommendation in accordance with Section T4.16, decide whether or not the period of End-to-End Testing should be extended by an additional 6 months. The Panel shall notify the Testing Participants of its decision, and of the reasons for its decision. Where the Panel decides that the period of End-to-End Testing should be extended by an additional 6 months, then End-to-End Testing shall end on the date 18 months after the date it started (which decision shall be final and binding for the purposes of this Code).

### **Testing Issues**

- T4.18 Sections H14.37 to H14.45 (General: Testing Issue Resolution Process) shall apply for the purposes of End-to-End Testing. Each Party participating in User Entry Process Tests or Device and System Tests during End-to-End Testing shall be deemed to be a Testing Participant for such purposes, and may raise a Testing Issue in respect of End-to-End Testing.
- T4.19 During End-to-End Testing, the DCC shall provide the Secretary of State with copies of the reports which are generated by the DCC or the DCC Service Provider in respect of Testing Issues (without redacting those reports as ordinarily required by Sections H14.37 to H14.45).

## **T5. SMKI AND REPOSITORY TESTING**

### **Overview**

- T5.1 SMKI and Repository Testing tests the capability of the DCC and the component parts of the DCC Systems to interoperate with the Systems of Parties to the extent necessary for the SMKI Services and the SMKI Repository Service.

## SRT Objective

- T5.2 The objective of SMKI and Repository Testing (the “**SRT Objective**”) is to demonstrate that the DCC and the DCC Systems interoperate with each other and with Systems of Parties to the extent necessary in order that the DCC is capable of complying with its obligations under Section L (Smart Metering Key Infrastructure) at (during the relevant period) the levels of activity reasonably anticipated during the relevant period, and (thereafter) the levels of activity set out in Section L (Smart Metering Key Infrastructure). For the purposes of this Section T5.2, the relevant period is the period from commencement of the SMKI Services until the date from which Smart Meters are capable of being Commissioned pursuant to Section H5 (Smart Metering Inventory and Enrolment Services).
- T5.3 For the purposes of Section T5.2, the Sections referred to in that Section shall be construed by reference to:
- (a) the decision or consultation document concerning the intended future content of those Sections most recently published by the Secretary of State prior to 14 April 2016 (regardless of whether the content of those documents has yet been incorporated into this Code or whether those Sections yet have effect, but taking into account any variations to this Code pursuant to Section X (Transition) that apply (or are due to apply on the Section or a relevant Subsidiary Document coming into effect) and that will continue to apply following the date on which the provisions in relation to the Issue of Device Certificates and Organisation Certificates under Section L3 (SMKI Services) take effect); and
  - (b) to the extent not inconsistent with any document referred to in (a), any document regarding technical or procedural requirements which support those Sections which is published from time to time by the Secretary of State for the purposes of this Section T5.3.
- T5.4 From the date on which the SMKI and Repository Entry Process Tests can be commenced (as set out in the SRT Approach Document), Parties who wish to do so, and who are ready to do so in accordance with the entry criteria for the SMKI and Repository Entry Process Tests, shall be able to undertake the SMKI and Repository Entry Process Tests (pursuant to Section H14 (Testing Services)).

## SRT Approach Document

- T5.5 The DCC shall develop a document (the “**SRT Approach Document**”) which sets out:
- (a) the reasonable entry criteria to be satisfied by the DCC with respect to the DCC Systems and the Communications Hubs selected pursuant to Section T1 prior to commencement of SMKI and Repository Testing;
  - (b) the entry criteria to be met by each Party prior to its commencing the SMKI and Repository Entry Process Tests (which criteria shall be consistent with the relevant requirements of Section H14 (Testing Services), subject only to amendments reasonably required for the purposes of SMKI and Repository Testing);
  - (c) the manner in which SMKI and Repository Testing is to be undertaken, including the respective obligations of the DCC and each other Party;
  - (d) a reasonable timetable for undertaking and completing SMKI and Repository Testing (including the date from which the SMKI and Repository Entry Process Tests can be commenced);

- (e) the frequency and content of progress reports concerning SMKI and Repository Testing to be provided by the DCC to the Panel (which the Panel shall make available to the Secretary of State, the Authority and Testing Participants), which reports must include details of Testing Issues identified and resolved and of any problems and solutions encountered with respect to Devices (the details of such Testing Issues to be anonymised and redacted as required in accordance with Section H14.44 (General: Testing Issue Resolution Process));
- (f) the process by which the DCC will facilitate Parties undertaking and completing the SMKI and Repository Entry Process Tests (which process shall be consistent with the relevant requirements of Section H14 (Testing Services), subject only to amendments reasonably required for the purposes of SMKI and Repository Testing);
- (g) a Good Industry Practice methodology for determining whether or not the SRT Objective has been achieved, including details of the exit criteria to be achieved and the level of assurance that will be delivered by achievement of those exit criteria (including completion of SMKI and Repository Entry Process Tests by two Large Supplier Parties as described in Section T5.20); and
- (h) how the DCC will report to the Panel where the DCC considers that the exit criteria referred to in (g) above have been achieved (providing evidence of such achievement), having consulted with the Parties who have participated in SMKI and Repository Testing.

#### **Approval of SRT Approach Document**

- T5.6 The DCC shall submit the SRT Approach Document to the Panel for the Panel's approval as fit for the purposes envisaged by this Section T5.
- T5.7 Before submitting the SRT Approach Document to the Panel, the DCC shall consult with the other Parties, the Panel and the SMKI PMA regarding the SRT Approach Document. When submitting the SRT Approach Document to the Panel, the DCC shall also submit copies of the consultation responses received from the other Parties. In addition, the DCC shall publish such consultation responses (to the extent not marked confidential) on the DCC Website.
- T5.8 The Panel shall consult with the SMKI PMA prior to deciding whether or not to approve the SRT Approach Document submitted for approval.
- T5.9 Where the Panel decides not to approve the SRT Approach Document submitted for approval, the Panel shall notify such decision to the DCC and the other Parties giving reasons for such decision. In such circumstances, the DCC shall:
- (a) re-consult with the other Parties; and
  - (b) revise the document to address such reasons;
  - (c) re-submit the document to the Panel for approval and comply with Section T5.7 (following which Section T5.8 shall apply and this Section T5.9 or Section T5.10 shall apply).
- T5.10 Where the Panel decides to approve the SRT Approach Document submitted for approval, the Panel shall notify such decision to the DCC and the other Parties giving reasons for such decision. In such circumstances, the DCC and each other Party shall have the ability (within the 14 days after notification by the Panel) to refer the matter to the Authority (or, where the Secretary of State so directs, to the

Secretary of State or such other person as the Secretary of State directs) to determine whether the SRT Approach Document:

- (a) should be approved as fit for the purposes envisaged by this Section T5;
- (b) is not fit for the purposes envisaged by this Section T5, but will be deemed to be approved if it is revised by the DCC in accordance with the determination; or
- (c) is not fit for the purposes envisaged by this Section T5 and should be revised and re-submitted by the DCC in accordance with Section T5.9,

(which determination shall be final and binding for the purposes of this Code).

### **Commencement of SMKI and Repository Testing**

- T5.11 Subject to Section T5.12, once the SRT Approach Document has been approved by the Panel (or deemed to be approved by the Panel under Section T5.10(b)), the DCC shall publish the approved document on the DCC Website and give at least 3 months' (or such shorter period as the Secretary of State may direct) notice to the other Parties of the date on which SMKI and Repository Testing is to commence. Where directed to do so by the Secretary of State, the DCC shall determine a revised commencement date for SMKI and Repository Testing (provided that the DCC shall first consult on such date with such persons as the Secretary of State may specify in such direction), and shall (where specified by the Secretary of State in such direction) make consequential revisions to the SRT Approach Document (which date (and, where relevant, revisions) must be published at least 3 months (or such shorter period as the Secretary of State may direct) in advance of the revised date on which SKMI and Repository Testing is to commence).
- T5.12 Where the Panel's approval of the SRT Approach Document is appealed by one or more persons under Section T5.10, the Panel may nevertheless direct that the matter appealed is not of a nature that should delay publication and the giving of notice under Section T5.11, in which case the DCC shall publish the document and give notice under Section T5.11 (noting the appeal). Subject to the foregoing provisions of this Section T5.12, the DCC shall not publish the SRT Approach Document and give notice under Section T5.11 where the Panel's decision has been appealed under Section T5.10 (pending the approval of the document thereunder or revision in accordance with a determination made under Section T5.10(b)).
- T5.13 Prior to the date from when the SMKI and Repository Entry Process Tests can be commenced and in accordance with the SRT Approach document, the DCC shall assess whether or not each Large Supplier Party meets the entry criteria referred to in Section T5.5(b), and report to the Panel and that Party on the same. Each Large Supplier Party shall:
- (a) take all reasonable steps to ensure that it meets the entry criteria referred to in Section T5.5(b) prior to the date from which the SMKI and Repository Entry Process Tests can be commenced; and
  - (b) notify the Panel and the DCC as soon as reasonably practicable if the Party considers that it will not meet those criteria prior to the date from which the SMKI and Repository Entry Process Tests can be commenced.
- T5.14 Section H14.25 (SMKI and Repository Entry Process Tests) shall apply where there is any disagreement between the DCC and a Party as to whether that Party has met the entry criteria for the SMKI and Repository Entry Process Tests (as modified by the SRT Approach Document), provided that:

- (a) the Panel's decision on any such matter may be appealed to the Authority (or, where the Secretary of State so directs, to the Secretary of State or such other person as the Secretary of State directs), whose decision shall be final and binding for the purposes of this Code; and
- (b) in the case of the Parties referred to in Section T5.13, such disagreement must be notified to the Panel within 14 days of the DCC notifying its assessment to that Party and any appeal must be brought within 14 days after the Panel's decision.

### **SMKI and Repository Testing**

- T5.15 The DCC shall comply with its obligations under the approved SRT Approach Document. The DCC shall take reasonable steps to ensure that SMKI and Repository Testing is completed as soon as it is reasonably practicable to do so.
- T5.16 Each Party that undertakes the SMKI and Repository Entry Process Tests pursuant to the SRT Approach Document shall do so in accordance with Section H14 (Testing Services) and the approved SRT Approach Document.
- T5.17 Each Large Supplier Party shall take reasonable steps to commence the SMKI and Repository Entry Process Tests as soon as reasonably practicable (in respect of all the roles to which the SMKI and Repository Entry Process Tests apply). Each Large Supplier Party shall, on request, notify the Panel and the DCC of the Party's progress towards completing such SMKI and Repository Entry Process Tests.
- T5.18 Where the DCC wishes to make amendments to the SRT Approach Document (other than consequential revisions in accordance with Section T5.11), the DCC shall consult with the other Parties regarding those amendments and submit those amendments to the Panel (in accordance with Section T5.7) for approval (following which Sections T5.8 to T5.12 shall apply as if the references in those Sections to approval of the document were to approval of the amendments and as if the references in Sections T5.11 and T5.12 to giving notice were not included).

### **Completion of SMKI and Repository Testing**

- T5.19 The DCC shall, once the DCC considers that the exit criteria (as envisaged by Section T5.5(g)) have been met, in accordance with the SRT Approach Document:
- (a) provide to the Panel a report evidencing that such criteria have been met;
  - (b) where relevant, list those sections of the report which the DCC considers should be redacted prior to circulation of the report to the Parties, where the DCC considers that those sections contain information which may pose a risk of Compromise to the DCC Total System, RDP Systems and/or User Systems; and
  - (c) apply to the Panel to determine whether or not such exit criteria have been met.
- T5.20 Such exit criteria must include a requirement that at least two Large Supplier Parties who are not an Affiliate of one another have each completed the SMKI and Repository Entry Process Tests to become:
- (a) an Authorised Subscriber under the Organisation Certificate Policy;
  - (b) an Authorised Subscriber under the Device Certificate Policy; and

- (c) eligible to access the SMKI Repository.

T5.21 On application of the DCC pursuant to Section T5.19, the Panel shall:

- (a) determine whether or not the exit criteria have been met;
- (b) notify its decision to the Secretary of State, the Authority and the Parties, giving reasons for its decision ; and
- (c) direct the DCC to publish its report, subject to the redaction of those sections of the report which the Panel considers to contain information which may pose a risk of Compromise to the DCC Total System, RDP Systems and/or User Systems (which sections may or may not include those sections which the DCC proposed for redaction).

T5.22 Where the DCC has provided a report to the Panel in accordance with Section T5.19, the Panel shall provide a complete copy on request to the Secretary of State and/or the Authority.

T5.23 Subject to Section T5.24, SMKI and Repository Testing shall be completed once the Panel has determined that the exit criteria referred to Section T5.5(g) have been met in respect of the Parties referred to in Section T5.20.

T5.24 Each Party shall have the ability (within the 14 days after notification by the Panel) to refer the Panel's decision pursuant to Section T5.21 to the Authority (or, where the Secretary of State so directs, to the Secretary of State or such other person as the Secretary of State directs) to determine whether or not the exit criteria have been met in respect of the Parties referred to in Section T5.20 (which determination shall be final and binding for the purposes of this Code).

T5.25 Where, on the application of the DCC pursuant to Section T5.19, it has been determined that one or more of the exit criteria have not been met, the DCC shall undertake further testing in order to demonstrate that the exit criteria have been met and shall resubmit its report in accordance with Section T5.19.

### **Testing Issues**

T5.26 Sections H14.37 to H14.45 (General: Testing Issue Resolution Process) shall apply for the purposes of SMKI and Repository Testing. Each Party participating in SMKI and Repository Testing shall be deemed to be a Testing Participant for such purposes, and may raise a Testing Issue in respect of SMKI and Repository Testing.

T5.27 During SMKI and Repository Testing, the DCC shall provide the Secretary of State with copies of the reports which are generated by the DCC or the DCC Service Provider in respect of Testing Issues (without redacting those reports as ordinarily required by Sections H14.37 to H14.45).

### **Definitions of Large and Small Suppliers**

T5.28 For the purpose of this Section T5, the question of whether a Supplier Party is a Large Supplier or a Small Supplier shall be assessed at the time that this Code is first modified to include this Section T5.28.

T5.29 Each Supplier Party that is a Large Supplier in accordance with Section T5.28 shall notify the DCC of their status as such within one month after the time that this Code is first modified to include Section T5.28.

## Additional SMKI and Repository Testing

- T5.30 On each occasion that the Secretary of State so directs for the purpose of this Section T5.30, the DCC shall undertake testing against the SRT Objective in respect of such Services that have not previously been the subject of testing under this Section T5 as the Secretary of State may direct (each such round of testing being “**Additional SMKI and Repository Testing**”).
- T5.31 The purpose of each round of Additional SMKI and Repository Testing shall be to demonstrate the SRT Objective as described in Sections T5.2 and T5.3, but subject to the following variations (the SRT Objective as so varied being the “**Additional SRT Objective**”):
- (a) the only variations pursuant to Section X (Transition) that will be taken into account in interpreting the relevant Sections are those that will continue to apply following commencement of the provision of the Services that are the subject of that round of Additional SMKI and Repository Testing; and
  - (b) the Additional SRT Objective shall not apply by reference to the document published from time to time by the Secretary of State for the purpose of Section T5.3(b), but instead by reference to the document published from time to time by the Secretary of State for the purposes of that round of Additional SMKI and Repository Testing.
- T5.32 The provisions of this Section T5 shall apply to each round of Additional SMKI and Repository Testing, subject to the following:
- (a) all references in this Section T5 to “SMKI and Repository Testing” shall be read as references to “the relevant round of Additional SMKI and Repository Testing”;
  - (b) Sections T5.30 and T5.31 shall apply in place of Sections T5.2 and T5.3; for which purpose it is acknowledged that some of the capability and interoperability to be demonstrated via Additional SMKI and Repository Testing will already have been demonstrated via previous testing undertaken pursuant to this Section T5 (and further testing of such capability or interoperability shall not be required to the extent that it has already been sufficiently proven for the Additional SRT Objective as part of such earlier testing);
  - (c) the SRT Approach Document shall apply to the Additional SMKI and Repository Testing (without prejudice to the DCC’s ability to make changes to the SRT Approach Document in accordance with this Section T5);
  - (d) no period of notice need be given by the DCC in advance of commencement of Additional SMKI and Repository Testing (unless otherwise directed by the Secretary of State);
  - (e) the following Sections concerning commencement and completion of SMKI and Repository Entry Process Tests by Large Supplier Parties shall not apply: Sections T5.5(g), T5.13, T5.14, T5.16, T5.17, and T5.20; and
  - (f) notwithstanding paragraph (e) above, Large Supplier Parties shall be required to participate in Additional SMKI and Repository Testing if so directed by the Secretary of State in respect of that round of Additional SMKI and Repository Testing and in the manner set out in such direction.

## **T6. DEVELOPMENT OF ENDURING TESTING DOCUMENTS**

### **Overview**

T6.1 The Common Test Scenarios Document, the SMKI and Repository Test Scenarios Document and the Enduring Testing Approach Document are to be developed by the DCC pursuant to this Section T6, and incorporated into this Code pursuant to Section X5 (Incorporation of Certain Documents into this Code).

### **Purpose of the Test Scenarios Documents**

T6.2 The purpose of each of the Common Test Scenarios Document and the SMKI and Repository Test Scenarios Document is set out in Section H14 (Testing Services).

T6.3 The Common Test Scenarios Document must include test scenarios for testing use of the Self-Service Interface and the DCC User Interface and any entry requirements (for particular User Roles) prior to execution of those tests. In respect of the DCC User Interface, such tests must include (for each User Role) a requirement for the successful testing of Service Requests for each Service set out in the DCC User Interface Services Schedule in respect of that User Role.

### **Purpose of the Enduring Testing Approach Document**

T6.4 The purpose of the Enduring Testing Approach Document is to set out (in respect of persons who are eligible to undertake tests pursuant to the Testing Services) how and in what circumstances the Testing Services are to be provided, including details of:

- (a) the obligations with which the DCC and Testing Participants must comply in respect of the Testing Services (including in relation to security);
- (b) how the DCC will provide any Testing Services remotely (including over DCC Gateway Connections);
- (c) how the DCC will provide a connection to a simulation of the SM WAN pursuant to Section H14.31 (Device and User System Tests); and
- (d) how the DCC will make Test Certificates available pursuant to Section H14.11 (General: Test Certificates), which may make different provision in respect of different categories of Test Certificates.

### **Process to Develop Documents**

T6.5 The procedure by which the DCC is to develop each of the Common Test Scenarios Document, the SMKI and Repository Test Scenarios Document and the Enduring Testing Approach Document is as follows:

- (a) the DCC shall produce draft documents by such date as is reasonably necessary to meet the applicable date under Section T6.5(d);
- (b) in producing each draft document, the DCC must consult appropriately with the Parties;

- (c) where disagreements with the Parties arise concerning the proposed content of either document, the DCC shall seek to reach an agreed solution with them, but without prejudice to the purposes of the document;
- (d) having complied with (b) and (c) above, the DCC shall submit each draft document to the Secretary of State as soon as is reasonably practicable, and:
  - (i) in the case of the Common Test Scenarios Document and the SMKI and Repository Test Scenarios Document, in any case by the date seven months prior to the expected commencement date of Interface Testing as set out in the Interface Testing Approach Document (or such later date as the Secretary of State may direct); or
  - (ii) in the case of the Enduring Testing Approach Document, in any case by the date three months prior to the expected commencement date of End-to-End Testing as set out in the End-to-End Testing Approach Document (or such later date as the Secretary of State may direct);
- (e) when submitting a draft document under (d) above, the DCC shall indicate to the Secretary of State:
  - (i) why the DCC considers the draft to be fit for purpose;
  - (ii) copies of the consultation responses received; and
  - (iii) any areas of disagreement that arose during the consultation process and that have not been resolved; and
- (f) the DCC must comply with the requirements with respect to process and timeframe of any direction that is given by the Secretary of State to resubmit either document.

## **T7. ENDING OF THE APPLICATION OF THIS SECTION T**

- T7.1 This Section T shall cease to apply, and this Code shall automatically be modified so as to delete this Section T, on the last to occur of the following:
- (a) completion of Interface Testing;
  - (b) completion of End-to-End Testing; and
  - (c) completion of SMKI and Repository Testing.