

**Version XX**

**APPENDIX XX**

**SEC Variation Testing Approach Document for SMETS1  
Services**

DRAFT

## **1 Definitions and Interpretations:**

- 1.1 In this document, except where the context otherwise requires, the expressions in the left-hand column below shall have the meanings given to them in the right-hand column below. Where not defined in this document, Capitalised terms used in this document are set out in Section A of the Amended SMETS1 SEC.
- 1.2 Where there are conflicts between this SEC Variation Test Approach Document for SMETS1 Services and any of the Test Approach Documents produced pursuant to this, the SEC Variation Test Approach Document for SMETS1 Services shall take precedence.
- 1.3 Where obligations are expressed in respect of DCC Service Providers in this document, these shall be construed as obligations on the DCC, where text is included in this document which does not explicitly place obligations on a Party, the SEC Panel or Testing Participant, these shall be construed as obligations in the DCC.

<b>Amended SMETS1 SEC</b>	means the version(s) of the SEC that contains amendments made by the Secretary of State that relate to Services in respect of SMETS1 Smart Metering Systems and other provisions supporting SMETS1 Smart Metering Systems.
<b>Business Acceptance Testing (BAT)</b>	comprises a Test Stage within the Transition to Operations Test Phase.
<b>Capability Release</b>	Is the amendment of the SEC to oblige the DCC to offer Services in respect of one or more SMETS1 Device Models
<b>Eligibility Testing</b>	comprises a Test Stage undertaken as part of the User Testing Services Test Phase.
<b>Environment Plan</b>	has the meaning set out in Table 10.1
<b>Environment Guide for UTS Participants</b>	has the meaning set out in Table 10.1
<b>Independent Assurance Reports</b>	has the meaning set out in Table 10.1
<b>Migration Testing</b>	Means testing of the systems and processes that will be used to migrate existing SMETS1 Smart Metering Systems to the DCC System.
<b>Migration Test Approach Document (MTAD)</b>	Has the meaning of a document that sets out supplementary rights and obligations in relation to Migration Testing.
<b>Modified DCC Total System</b>	means the DCC Total System as modified to

	enable the delivery of Services as set out in the Amended SMETS1 SEC.
<b>Pre-Integration Testing (PIT)</b>	Means a set of tests undertaken by a DCC Service Provider to verify that the part of the Modified DCC Total System being provided by that DCC Service Provider meets the Testing Objective.
<b>SIT Auditor</b>	Means the independent person appointed to review the testing and assurance undertaken by the DCVC during the SIT Phase, and to confirm that that the SIT exit criteria have been met.
<b>SMETS1 Interface Testing</b>	means the testing activity that assures that the DCC User Interface operates in accordance with the Amended SMETS1 SEC. This will be completed through SMETS1 Services Eligibility Testing in accordance with the Exit Criteria.
<b>SMETS1 Interface Test Completion Report</b>	has the meaning set out in Table 10.1
<b>SMETS1 Services</b>	means Services in relation to SMETS1 Smart Metering Systems.
<b>SMETS1 Services Eligibility Testing</b>	means the mandatory testing that parties must complete in order to be eligible to use SMETS1 Services in production
<b>SMETS1 Testing Objective</b>	Means the objective set out in section 5.
<b>Solution Test</b>	Means a test stage within System Integration Test Phase that will include the verification of SMETS1 updates to existing interfaces, and new interfaces within the solution, and confirm the SMETS1 Enrolment and Adoption integration has not caused any regression to existing functionality
<b>Systems Integration Testing (SIT)</b>	Means a set of tests undertaken by a DCC and the DCC Service Providers collectively to verify that the parts of the Modified DCC Total System being provided by those DCC Service Providers and the DCC meets the Testing Objective.
<b>Systems Integration Test Approach Document (SITAD)</b>	Has the meaning of a document that sets out supplementary rights and obligations in relation to Systems Integration Testing.
<b>Test Approach Document</b>	Means one or more of the Systems Integration Tests Approach Document, the User Testing Services Approach Document, the Migration Test Approach Document and the Transition to Operations Test Approach Document
<b>Test Phase</b>	The SMETS1 Test Phases will comprise: <ul style="list-style-type: none"> <li>• Pre-Integration Testing (PIT)</li> </ul>

	<ul style="list-style-type: none"> <li>• System Integration Testing (SIT)</li> <li>• User Testing Services (UTS)</li> <li>• Migration Testing (MT)</li> <li>• Transition to Operations (TTO)</li> </ul> <p>Each Test Phase may contain within it multiple Test Stages.</p> <p>PIT, SIT and UTS Test Phases will be conducted for each Capability Release</p>
<b>Test Phase Guidance</b>	means a document containing information regarding the testing undertaken by Users during the User Testing Services Phase
<b>Test Stage</b>	Means a sub-component part of a Test Phase that may be executed sequentially or in parallel with other stages
<b>Testing to support the Transition to Operations (TTO).</b>	Means additional non-functional tests (which include Operational Acceptance Testing, Business Acceptance Testing, security testing, pre-production proving and any required Performance Testing) that assure that DCC is capable of meeting its Testing Objective for SMETS1 Services.
<b>Testing to support the Transition to Operations Approach Document (TTOAD)</b>	Has the meaning of a document that sets out the supplementary rights and obligations in relation to Testing to support the Transition to Operations
<b>Test Traceability Matrix</b>	Has the meaning of a document employed to map requirements to test cases that is used to demonstrate how the requirements are covered by the test cases.
<b>User Testing Services (UTS)</b>	Means a test phase during which SMETS1 Interface Testing is undertaken, Eligibility Testing may be undertaken and the Testing Services under H14 of the SEC are first made available in respect of the Modified DCC Total System
<b>User Testing Services Approach Document (UTSAD)</b>	Has the meaning of a document that sets out the supplementary rights and obligations in relation to User Testing Services.
<b>Work Off Plan</b>	Means a plan produced on completion of Test Phase / Stage in relation to testing undertaken in accordance with this SEC Variation Testing Approach Document for SMETS1 Services, that specifies the outstanding Testing Issues and the plan to resolve them

## **2 Designation and the requirements to comply under the SEC**

- 2.1 This document is the “SEC Variation Testing Approach Document for SMETS1 Services” (the “SMETS1 SVTAD”).
- 2.2 Section X11.7 of the Smart Energy Code requires that the DCC and each person other than the DCC that participates in (or is required to participate in) testing under a SEC Variation Testing Approach Document shall comply with the “SEC Variation Testing Approach Document”.
- 2.3 Section X11.8 of the Smart Energy Code specifies that section H14 of the Code (Testing Services) and the Enduring Testing Approach Document shall apply in respect of testing under the SEC Variation Testing Approach Document for SMETS1 Services as if such testing was a Testing Service under Section H14.34 (Modification Implementation Testing); and each participant in such testing shall be deemed to be a Testing Participant for such purposes.

## **3 Hierarchy of documents, determining Test Phases and their requirements**

- 3.1 The DCC shall undertake the following Test Phases in accordance with this SMETS1 SVTAD and the relevant Test Approach Document set out below:
  - (a) Systems Integration Testing (SIT) and the SIT Approach Document (“SITAD”);
  - (b) User Testing Services and the User Test Approach Document (hereafter “UTSAD”);
  - (c) Migration Testing and the Migration Test Approach Document (“MTAD”); and
  - (d) Testing to support the transition to operations of SMETS1 Services and the Testing to Support the Transition to Operations Approach Document (“TTOAD”).
- 3.2 The documents described in section 3.1(a-d) shall be developed by the DCC. In developing the documents, the DCC shall consult with the Testing Advisory Group of the Panel, SEC Parties and other relevant stakeholders prior to the submission of the

document to the Secretary of State.

3.3 The DCC shall submit each draft Test Phase Approach Document to the Secretary of State, indicating:

- (a) why the DCC considers the draft to be fit for purpose;
- (b) copies of the consultation responses received; and
- (c) any areas of disagreement that arose during the consultation process and that have not been resolved.

3.4 The DCC shall comply with any direction given by the Secretary of State to re-consider, re-consult and/or re-submit the draft document.

3.5 Additionally, the DCC shall, in accordance with Good Industry Practice, develop test phase guidance for the User Testing Services phase describing the activities to be undertaken by Users during this test phase.

3.6 Once approved, the DCC and each person other than the DCC that participates in (or is required to participate in) testing under a Test Phase Approach Document shall comply with that Test Phase Approach Document.

#### **4 Modification**

4.1 This SEC Variation Testing Approach Document for SMETS1 Services and the Test Phase Approach Documents shall be modified by the DCC in accordance with any direction to do so made by the Secretary of State and pursuant to the requirements set out in X1.14 of the Smart Energy Code;

4.2 The aforementioned documents may be modified by DCC following consultation with SEC Parties and other relevant persons, the Testing Advisory Group of the Panel, the Authority and the Secretary of State, provided that:

- (a) prior to making any such modification, DCC must present to the Secretary of State a summary of the consultation responses received and an explanation of how the DCC has taken them into account; and
- (b) it may not be modified to the extent that the Secretary of State directs

otherwise; or

4.3 These documents may be modified by DCC without consultation where the modification is of a minor typographical nature or where the modification has no material effect on the rights or obligations of SEC Parties or any other person who is entitled to undertake testing in accordance with this document.

4.4 Where the DCC needs to make amendments to the Test Phase Guidance, the DCC shall ensure amendments are made in accordance with Good Industry Practice and shall notify Users of the changes and make the revised document available.

## **5 SMETS1 Testing Objective:**

5.1 The objective of testing undertaken pursuant to this SEC Variation Testing Approach Document for SMETS1 (“the SMETS1 Testing Objective”) is to:

(a) demonstrate that the DCC and the component parts of the Modified DCC Total System:

(i) Operate; and

(ii) interoperate with User Systems and Smart Metering Systems

to the extent necessary for the DCC to comply with its SMETS1 obligations;  
and

(b) demonstrate the capability of a [User] to interoperate with the Modified DCC Total System before becoming eligible to use SMETS1 Services.

5.2 The Testing Objective is demonstrated in the following ways:

(a) Systems Integration Testing demonstrates that the individual systems of the Modified DCC Total System can successfully operate together to meet the Testing Objective.

(b) User Testing Services demonstrates:

(i) for SMETS1 Services Eligibility Testing – Users can successfully send Service Requests to SMETS1 Devices prior to being eligible to do so and receive the corresponding responses and alerts;

- (ii) for SMETS1 Interface Testing - that the Modified DCC System works effectively when interacting with User Systems.
  - (c) Migration Testing demonstrates that the SMETS 1 Smart Metering Systems can be successfully migrated to the DCC.
  - (d) Transition to Operation demonstrates that the operational performance of the Modified DCC Total System is not adversely affected by the introduction of SMETS1 Services and tests the DCC's internal processes and procedures.
- 5.3 Testing shall be performed by the DCC in accordance with Good Industry Practice.
- 5.4 In order to achieve the SMETS1 Testing Objective the DCC shall undertake testing activities which include the following:
- (a) end to end communication tests from User to Device and Device to User for all technical specifications;
  - (b) verifying that all other functional changes that are part of the Amended SMETS1 SEC operate as intended;
  - (c) wherever practicable, the use of automated testing;
  - (d) validation of all DCC operational impacts and regression testing of the service, as defined in the relevant Test Approach Documents, and
  - (e) validation of the end to end data flows via the Modified DCC Total System as defined in specific test phase approach documents.
- 5.5 The SMETS1 Testing Objective applies in respect of different versions of the SMETS1 Amended SEC to reflect different SMETS1 Service Capability Releases.

### **Overlapping of SMETS1 Testing**

- 5.6 The DCC may, having regard to the overriding objective of completing SMETS1 Testing, determine that SMETS1 System Integration Testing should be commenced from some point during SMETS1 Pre-Integration Testing for some or all elements of each Capability Release.
- 5.7 The DCC may also determine that SMETS1 User Testing Services should be



commenced from some point during SMETS1 System Integration Testing for some or all elements of each Capability Release.

- 5.8 The DCC shall not overlap SIT and UTS for a Capability Release without the prior agreement of the SEC Panel [via the Testing Advisory Group].

## **6 SMETS1 Services Testing Requirement Documents**

- 6.1 Until such time as the relevant version of the Amended SMETS1 SEC exists for a Capability Release, testing for that Capability Release shall be conducted against the proposed set of amendments to the SEC that are intended to be implemented to give effect to that Capability Release. The proposed set of amendments to the Smart Energy Code are:

- (a) in the case of changes to the Sections of the SEC, those that have most recently published by the Secretary of State; and
- (b) in the case of changes to SEC Schedules and Appendices, those that are set out in a document published by BEIS for that purpose, that being the 'SMETS1 Testing Baseline Requirements Document (SMETS1 TBRD)'.

## **7 Approach to Testing**

- 7.1 This document sets out the generic testing requirements for all Test Phases. Where there are specific testing requirements for a Test Phase these shall be set out in the Test Approach document for that phase

### **Capability Release**

- 7.2 In undertaking testing for each Capability Release the DCC shall:
- (a) Include regression testing in SIT of the functionality employed in the production systems; and
  - (b) include the testing in SIT of the new functionality introduced to support the Device estate in this and any earlier Capability Release.

## **8      Generic Testing Activities**

8.1      For each of the Test Phases, the DCC shall perform the following activities in accordance with Good Industry Practice:

- (a)      Implement testing infrastructure;
- (b)      Undertake Test Phase planning;
- (c)      Identify test scenarios;
- (d)      Design test scripts;
- (e)      Produce a test specification document;
- (f)      Produce a relevant traceability matrix, or equivalent;
- (g)      Design and Prepare Test Data, and load the Test Data into the test environment;
- (h)      Prepare a Test Execution Schedule;
- (i)      Execute testing;
- (j)      Perform quality gate reviews;
- (k)      Test issue management;
- (l)      Test issue resolution;
- (m)      Release and configuration management;
- (n)      Test Progress reporting;
- (o)      Test Assurance;
- (p)      Test Completion reporting; and
- (q)      In addition, for the User Testing Services Phase, the DCC shall provide support for Users undertaking testing.

## **Test principles**

- 8.2 The DCC shall develop its testing methodologies, test scenarios, and regression testing in accordance with Good Industry Practice which shall be set out in the relevant Test Approach Document.

## **Test Environment**

- [8.3 *SMETS1 Services shall make use of the existing integrated DCC environment and shall include the use of cloud-based environments for Service Provider development and integration activities.*]

[Detail to be inserted]

## **Timetable for Testing**

[Detail to be inserted]

## **9 General Requirements for SMETS1 Testing**

- 9.1 Where relevant, the DCC shall define the entry and exit criteria for a Test Phase, and the evidentiary requirements. These shall be set out in the relevant Test Approach Document,
- 9.2 DCC shall produce a Test Plan & Test Schedule for each Test Phase which shall detail:
- (a) the extent of testing to be carried out; and
  - (b) the responsibilities of Service Providers and other Parties.
- 9.3 Test results shall be reported (the format of the reporting shall be defined by the relevant Test Phase Approach Document) by test participants to the DCC throughout test execution.
- 9.4 Testing issues logs shall be produced and retained by the DCC detailing all Testing Issues found during test execution.
- 9.5 Regression testing shall, where applicable, be used to test the modified DCC system to ensure defects are not been introduced or uncovered as a result of changes made

when the software or its environment is changed.

9.6 On completion of a test phase or stage, DCC will produce a Completion Report that shall include;

- (a) Overview of testing undertaken;
- (b) Actual number of tests run, passed, failed and not run;
- (c) Explanation of any tests not run;
- (d) Details of any failed tests;
- (e) Number and severity of any testing issues raised;
- (f) Information on any testing issues outstanding and their severity;
- (g) Specification of test environment used;
- (h) Recommendations for any additional tests to be included in the next test phase; and
- (i) Lessons learnt during the Test Phase.

9.7 On receipt of a Completion Report, the DCC shall produce an Assurance Report that shall include:

- (a) details of the test assurance activities undertaken by the DCC in the Test Phase;
- (b) information on how each of the test exit criteria have been met;
- (c) data on tests executed and assured as passed; and
- (d) a view on the acceptability of any outstanding test issues and work off plans.

9.8 The Assurance Report and supporting documentation will be presented to the DCC Test Assurance Board for their approval.

## **10 Specific Deliverables**

10.1 The DCC shall publish or update published versions of the documents detailed in

Table 10.1.

- 10.2 The development of these documents shall include a review process with via the monthly DCC testing forum, TDEG.

DRAFT

**Table 10.1 Specific Deliverables**

<b>Environment Plan</b>	Plan for the utilisation of specific environments for each test phase which details SMETS1 Services issue management process for issues arising within the other DCC environments	DCC	Relevant parties	As soon as possible following Test Approach Document approval and prior to SIT commencing	Publish on DCC Website
<b>Environment Guide for UTS Participants</b>	Guidance for Parties testing across multiple UIT environments and with SMETS1. As a minimum shall include details of device certification and mobility, triage, defect and fix management, change management and device management in UTS	DCC	Relevant parties	To be provided by the DCC as soon as possible following the Test Approach Document being approved	Publish on DCC Website
<b>Independent Assurance Reports</b>	As referenced in section [18.13], a range of independent assurance activities shall be conducted and where appropriate reports relating to said activity shall be produced and reviewed.	DCC	Relevant parties	As determined by the timing for the completion of the assurance	Publish on DCC Website
<b>SMETS1 SIT Completion Report</b>	Evidence of success against the SMETS1 SIT Exit Criteria	DCC	SEC Panel / TAG	Following TAB approval of SIT Exit	Publish on DCC Website
<b>SMETS1 Interface Test Completion Report</b>	Evidence of success against the SMETS1 User Testing Services Interface Test Exit Criteria	DCC	SEC Panel / TAG	As determined by the timing for the completion of SMETS1 Interface Test	Publish on DCC Website

## **11 Traceability**

- 11.1 The overall scope of testing in SIT shall be validated by the DCC through the use of a Test Traceability Matrix (TTM) which shall set out how each requirement in the Amended SMETS1 SEC is to be tested
- 11.2 The commencement of SIT is dependent on the production of the TTM. If, during SIT, further changes are introduced to the Amended SMETS 1 SEC, the TTM will be updated to reflect these changes
- 11.3 The TTM shall be used by the DCC to track SIT progress and to demonstrate the completion of SIT, and shall form a key element of the independent SIT audit.

## **12 Test Procedure**

### **Generic Entry and Exit Criteria**

- 12.1 Progression through the testing phases for SMETS1 Services shall be gated using both the generic Entry and Exit Criteria (as referenced in subsections 12.3 to 12.5 respectively) and specific criteria (as referenced in 12.2).

### **Specific Entry and Exit Criteria**

- 12.2 Where required, additional Specific Entry and Exit criteria shall be established for a test phase. These shall be set out in the relevant Test Phase Approach Document. Governance relating to any proposed changes of the test phase documents is addressed in section 4.

### **Generic Entry Criteria**

- 12.3 The fulfilment of the following generic Entry Criteria is required to permit entry to all Test Phases:
  - (a) Test Approach Document for Test Phase approved;
  - (b) Test Plan signed off by the DCC;
  - (c) Test Complete Certificate for any precursor Test Phase issued, unless agreed (in accordance with 5.6 to 5.8) that Test Phases may overlap;

- (d) Test Specification prepared, including production of a Test Traceability Matrix
- (e) Confirmation that the required Test laboratories, DCC Devices, tools, stubs, environments and data are in place are ready for testing; and
- (f) Approval to Proceed Certificate for the Test Phase issued by the DCC.

12.4 Test Phases may be subdivided into Test Stages. In these circumstances, Entry and Exit Criteria may be established at the Test Stage level to support Test Stage gating by the DCC. Where this occurs, this will be specified in the relevant Test Plan.

### **Generic Exit Criteria**

12.5 The following generic Exit Criteria are required to exit all Test Phases (except UTS where the requirement for successful exit is IT completion):

- (a) All planned tests have been executed. In exceptional circumstances a planned test may be proposed to be descoped. This will be subject to the agreement of the DCC and BEIS.
- (b) The test success rate that is achieved shall be at or above the minimum levels specified in the relevant Test Approach Document;
- (c) The number and severity of any outstanding Test Issues allocated to the DCC Systems is at or below the thresholds specified in [section 13].
- (d) Test results and other requisite evidence are documented;
- (e) Set of test issue logs are produced;
- (f) Regression testing is successfully completed in accordance with the criteria specified in the relevant Test Approach Document;
- (g) Production of Work Off Plans for any outstanding Test Issues that occurred in the Test Phase;
- (h) Work Off Plans from preceding Test Phases have been completed and the associated tests successfully re-run; and
- (i) Test completion reports have been produced the associated test completion



certificates have been issued by DCC.

### **Service Provider User Acceptance Testing**

- 12.6 The SIT Phase shall include Service Provider User Acceptance Testing (SP UAT) which shall operate concurrently with the Solution Test.
- 12.7 The DCC shall observe an agreed subset of the tests carried out in Solution Test. The subset of tests shall be described in a SP UAT Test Plan.
- 12.8 The DCC shall create the SP UAT Test Plan in accordance with good industry practice.
- 12.9 The SP UAT Test Plan shall be reviewed and agreed with TAG as part of the ongoing oversight of SIT entry process.
- 12.10 In the observance of the test execution, or in reviewing evidence produced from executed tests there shall be:
- (a) No deviation from test scripts; and
  - (b) No involvement by observers in the execution.
- 12.11 The DCC shall in its Test Completion Report describe the following for SP UAT:
- (a) Test completion;
  - (b) Test failures; and
  - (c) Test pass rate
- independently of the Solution Test, to ensure 100% coverage and other success criteria of SP UAT are met.
- 12.12 For SIT and the testing for SP UAT the following Test Success Criteria shall apply:
- (a) 100% of tests listed in the Test Specifications have been executed, or any exceptions documented and agreed with the DCC, and reported to SEC Panel;
  - (b) at least 90% of planned tests have been passed, or any exceptions documented and agreed with the DCC Test Assurance Board and reported in the Test Phase

Completion Report presented to TAG and SEC Panel, except for regression testing of the Modified DCC System with enrolled smart metering systems where 100% of tests passed is required.

### **SIT Exit Criteria**

12.13 Exit from SIT shall be in accordance with Table 12.1, as will be applied to testing for each Capability Release. SIT testing encompasses all Capability Releases and exit will be judged accordingly for each such Stage.

**Table 12.1 SIT Exit criteria**

#	Exit Criteria	Success	Evidence
1	Functional SIT Execution	Successful completion will be 100% of planned Tests, as part of Functional testing, have been executed, with a 90% pass rate	Test Completion Report and Test Assurance Board Completion Certificate
2	SIT Regression Execution	Successful completion will be 100% of planned Tests, as part of Regression testing, have been executed, with a 100% pass rate	Test Completion Report and Test Assurance Board Completion Certificate
3	Testing Issues within agreed thresholds	Open Testing Issues are with the agreed Defect Mask (see 13)	Test Completion Report and Test Assurance Board Completion Certificate
4	Test results documented and evidence captured	Results of testing documented and evidence stored	Test Completion Report
5	Complete set of Testing	Logs have been produced and stored for all Testing	Included in SIT Exit Evidence

#	Exit Criteria	Success	Evidence
	Issue logs produced	Issues identified in Testing	Pack
6	Full Test traceability as proved	Test Traceability (as defined in the TTM) demonstrated and documented	Coverage Report
7	Full Test traceability to the heatmap	Test heatmap produced that shows coverage and success of testing and traceability to the TTM	Reconciliation Report
8	SIT Stage Completion Report approved	TAB approval of SIT Stage Completion Report	Issuing of Test Stage Completion Report by Test Assurance Board
9	SIT Stage Completion Certificate Issued	TAB issuing of SIT Test Stage Completion Certificate	Issuing of Test Stage Completion Report by Test Assurance Board

### **Acceptance Process Following SIT Completion**

12.14 SIT phase shall only complete when the SEC Panel determine that the SIT Exit criteria have been met. When DCC considers that SIT ought to complete, the DCC shall:

- (a) notify the Secretary of State, the Authority, the SEC Panel and the SEC Parties that it considers that SIT has completed;
- (b) provide the Authority, the SEC Panel and the Secretary of State with copies of the SIT Test Completion Report and the SIT Auditor's report and a list of the sections of such reports that it considers should be redacted; and

- (c) review the supporting documentation and evidence with regards to the relevant entry and exit criteria with the SEC Panel Testing Advisory Group.

12.15 The SEC Panel shall confirm the completion of SIT, or shall highlight where it believes the Exit Criteria have not been met. Where the SEC Panel believes the Exit Criteria have not been met, it shall direct the DCC to address outstanding matters and submit further documentation and evidence to support the completion of SIT.

12.16 On direction from the SEC Panel, the DCC shall provide the SEC Parties with copies of the Test Completion Report(s) and the auditor's report, having first redacted any sections specified by the SEC Panel.

### 13 **Testing Issue Defect Masks**

13.1 Testing Issue Defect Masks shall be applied as a component of the exit criteria for each Test Phase. Where there are iterative deliveries within a Test Phase, all extant defects identified during the Test Phase will be assessed at the Test Phase exit.

13.2 The target thresholds for outstanding Testing Issues in each Test Phase, are set out in table 13.1 below.

**Table 13.1 Test Issue Thresholds**

Test Issue Severity	PIT	SIT	UTS (Interface Testing Exit)	TTO
1	0	0	0	0
2	0	0	0	0
3	15	15	5	15
4	30	30	10	30
5	60	60	20	60

13.3 If, during the SIT and UTS Phases, a Severity 2 Testing Issue is opened that the DCC Test Assurance Board believe should not be included against the Testing Issue Defect Mask for that Phase, the DCC shall request the [SEC Panel / BEIS] to determine on its exclusion.

## **14     Testing Issue Resolution:**

- 14.1   Where a Testing Participant disagrees with any determination of the DCC in relation to Testing Issues of this SEC Variation Testing Approach Document for SMETS1 Services, the Testing Participant may within [X Working Days] refer the matter to the Secretary of State for its determination, which shall be final and binding.
- 14.2   Pursuant to section 14.1, the determination of the DCC including assigned test issue status shall remain and be included in any evaluation until the Secretary of State reaches its determination and notifies [within a reasonable timescale] the DCC and the Testing Participant.

## **15     Work Off Plans**

- 15.1   All open Testing Issues shall be documented in a Work Off Plan agreed by the DCC Test Assurance Board and shall be resolved within the following timescales:
- (a)   For Severity 3 defects, within 20 working days from the issuing a Completion Certificate;
  - (b)   For Severity 4 defects, within 40 working days from the issuing a Completion Certificate; and
  - (c)   For Severity 5 defects, within 60 working days from issuing a Completion Certificate.
- 15.2   DCC shall monitor the discharge of work-off plans and report progress to DCC Test Assurance Board. If the timescales are not met, a correction plan shall be produced and presented to the DCC Test Assurance Board for its approval. The resolution of work off plans shall be reported to the SEC Panel and its Test Advisory Group.

## **16     Test Result Management & Reporting**

### **Weekly DCC Test Execution Report**

- 16.1   The frequency of test phase reporting shall be detailed in the relevant Test Phase Approach Document. The DCC shall provide a weekly Test Execution Report to the SEC Panel and the Secretary of State; the content shall be anonymised and redacted where appropriate.

- 16.3 The Test Execution Report shall detail progress of testing within SMETS1 Services, including relevant test phases, test issue reporting, capacity and availability of the user testing services and shall be based on DCC data.
- 16.4 During SIT testing, the Test Execution Report shall in addition to the requirements specified in [16.2 to 16.3], detail progress against the testing glide path and testing coverage of functional areas.

### **Test Completion Reports**

- 16.5 The DCC shall produce a Test Completion Report as described in table [10.1] and referenced in section [12] where it considers the relevant Exit Criteria for a Test Phase have been met. The report shall provide evidence of the testing undertaken, testing results, extant test issues and details of how the exit criteria have been met. This report will be considered by the DCC Test Assurance Board who will determine whether completion has been achieved.

## **17 Test Resources**

### **Test Stubs**

- 17.1 Testing Stubs may be used, where appropriate, to support the completion of testing mandatory phases and test procedures.
- 17.2 The DCC and Testing Participants may, for SMETS1 Services, use a service user simulator Testing Stub to simulate a DCC User in SIT.

## **18 Audit and Independent Assurance**

- 18.1 The DCC shall appoint an independent auditor through the existing DCC Audit and Assurance Framework Agreement, a minimum of one month prior to the commencement of SIT.
- 18.2 The SEC Panel Testing Advisory Group shall provide to the DCC a minimum of one representative to participate in the definition of the audit scope and selection of the SIT Auditor.
- 18.3 Tender responses shall be assessed against criteria which inter alia shall include:

- (a) independence from the DCC and its Service Providers;
- (b) proposed Audit Approach;
- (c) relevant Experience; and
- (d) cost.

18.4 The identity of the SIT Auditor shall be provided to the Authority, the SEC Panel and the Secretary of State following contract award.

**19 Dispute Resolution Process**

*[Detail to be inserted]*