

SEC Appendix AX

SEC Variation Testing Approach Document for the Future Service Management Arrangements

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1. Definitions and Interpretation

- 1.1. In this SEC Variation Testing Approach Document for the Future Service Management Arrangements (hereafter “FSM SVTAD”), except where the context otherwise requires, the expressions in the left-hand column within Table 1.1 shall have the meanings given to them in the right-hand column within Table 1.1. Where not defined in this FSM SVTAD, words beginning with a capital letter used in this document are defined in Section A of the SEC.
- 1.2. Where there are conflicts between this FSM SVTAD and any related FSM Test Approach Document, or any Test Coverage Document this FSM SVTAD shall take precedence.
- 1.3. Where obligations are expressed in respect of DCC Service Providers in this FSM SVTAD, or any FSM Test Approach Document and any Test Coverage Document these shall be construed as obligations on the DCC. Where text is included in this FSM SVTAD, or any FSM Test Approach Document or any FSM Test Coverage Document which does not explicitly place obligations on a Party, the Panel, or Testing Participant, these shall be construed as obligations on the DCC.

Table 1.1 FSM SVTAD Definitions

Term	Meaning
Completion Report	means a report that is produced setting out evidence demonstrating how the criteria for the completion of testing have been met.
FSM Arrangements	means; - a new service management and incident management system, - a new 4G Communications Hub forecasting and ordering management system. and - a new system to support the returns process for all Communications Hubs.
FSM Release	means those changes to all, or part of the DCC Total System that are planned to go-live in production at the same time, which are necessary to support the delivery of the FSM SEC Variations.
FSM SEC Variations	means the variations to the SEC that are planned to support the introduction of and transition to the FSM Arrangements as published by the DCC and/or the Secretary of State from time to time.
FSM Test Approach Document	means a document produced pursuant to Clause 4.1.

Term	Meaning
FSM User Testing Services Approach Document	means any document approved by the Secretary of State pursuant to Clause 7 that sets out the approach to mandatory User Testing
Joint Industry Plan (JIP)	means the part of the joint industry plan that is agreed at the Department for Energy Security and Net Zero's smart metering delivery group that relates to the FSM Arrangements
Link Test Stage	means a test stage focusing on the testing of interfaces and interactions within a Sub-System.
Modified DCC Total System	means the DCC Total System as it will be modified to enable the delivery of the FSM Arrangements.
Order Management System(s)	means a Sub-System utilised to manage the forecasting, ordering, and manufacturing process for Communications Hubs
Pre-Integration Test Phase (“PIT”)	means the test phase that is inclusive of the Unit Test Stage, Link Test Stage, System Test Stage for a new, or change to a Sub-System. Optionally PIT may also include a Component Integration Test Stage.
Sub-System	means an element of the Modified DCC Total System, in respect of which changes will be tested independently for the purposes of the Unit Test Stage, Link Test Stage, and System Test Stage .
System Test Stage	means a test stage focusing on verifying that a Sub-System as a whole meets specified requirements.
Systems Integration Test Phase (“SIT”)	means the test phase focusing on verifying the end-to-end operation of the Modified DCC Total System that will exist as a result of the FSM Release that is the subject of the test phase.
TAB	means the DCC’s Test Assurance Board.
TAG	means the SEC Panel’s Testing Advisory Group.

Term	Meaning
Testing Baseline Requirements Document (“TBRD”)	a document published by the Secretary of State from time to time setting out baseline versions of the Smart Energy Code for the purposes of test exit decisions.
Testing Issue Thresholds	means the maximum number of extant Testing Issues that may be permitted at completion of a test phase.
User Testing	means testing by one, or more Users of all, or part of any changes to the Modified DCC Total System in respect of each FSM Release.
Unit Test Stage	means a test stage focusing on the testing of individual hardware, or software components within a Sub-System.

2. General

- 2.1. This document is the SEC Variation Testing Approach Document for the Future Service Management Arrangements (hereafter “FSM SVTAD”).
- 2.2. Section X11.7 of the 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 Code specifies that Section H14 of the Code (Testing Services) and the Enduring Testing Approach Document shall apply in respect of testing under a SEC Variation Testing Approach Document 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.
- 2.4. This FSM SVTAD sets out:
 - (a) the framework for the testing that is required to be undertaken for the introduction of the FSM SEC Variations;
 - (b) the arrangements that apply to the development of FSM Testing Approach Document(s) for each FSM Release;
 - (c) the arrangements that apply to the development of FSM Test Coverage Document(s) for each FSM Release; and
 - (d) the rules to apply to the development of any FSM Mandated User Testing Document(s) for each FSM Release.
- 2.5. Each of the documents described in Clause 2.4 (b)-(d) may be produced:

- (a) as separate documents for the version of the Modified DCC Total System that will exist for each FSM Release;
- (b) as separate documents for each of PIT and SIT in respect of an FSM Release;
- (c) in the case of PIT for a FSM Release, as separate documents per Sub-System; or
- (d) as any combination of the aforementioned permutations.

as the DCC considers appropriate. Each document shall clearly state the FSM Release(s) to which it pertains, and where combined, the DCC shall state in the combined document the individual parts of which it is comprised. Testing undertaken pursuant to this FSM SVTAD shall be performed by the DCC and any other Party that participates in it in accordance with Good Industry Practice.

- 2.6. The DCC shall not complete the PIT test phase in respect of an FSM Release until the FSM Test Approach Document and FSM Test Coverage Document that set out the approach to and coverage of the tests for that PIT test phase have been approved by the TAG.
- 2.7. The DCC shall not commence any SIT tests in respect of an FSM Release until the FSM Test Approach Document and FSM Test Coverage Document that set out the approach to and coverage of those tests have been approved by the TAG.
- 2.8. Where the FSM Test Approach Document produced pursuant to Clause 4.1 does not set out the approach to the entirety of testing that will be undertaken during the test phase to which the document relates (PIT or SIT) in respect of each of the FSM Releases, this shall be clearly stated in the FSM Test Approach Document. The DCC shall subsequently seek TAG approval of an updated FSM Test Approach Document as and when the remaining approach to testing is planned. As set out in Clauses 2.6 and 2.7, the DCC shall not complete the PIT test phase or commence any SIT tests without the FSM Test Approach Document setting out the approach to those tests having been agreed pursuant to Clause 4.2 (a) or 4.2 (b)
- 2.9. Where the FSM Test Coverage Document produced pursuant to Clause 4.2 does not set out coverage of the entirety of testing that will be undertaken during the test phase to which the document relates (PIT and SIT) in respect of each of the FSM Releases, this shall be clearly stated in the FSM Test Coverage Document. The DCC shall subsequently seek TAG approval of an updated FSM Test Coverage Document as and when remaining tests are planned. As set out in Clauses 2.6 and 2.7, the DCC shall not complete the PIT test phase or commence any SIT tests without the FSM Test Coverage Document setting out the coverage of those tests having been agreed pursuant to Clause 4.2 (a), or 4.2 (b).

Timetable for Testing

- 2.10. Test phases shall be commenced in the timescales that are necessary to facilitate testing in accordance with the milestones on the Joint Industry Plan.

Testing Objective

- 2.11. The objective of the DCC testing undertaken pursuant to this FSM SVTAD (the “FSM Testing Objective”) is to demonstrate that the DCC and the component parts of the Modified DCC Total System in respect of each FSM Release operate and interoperate with User

Systems and Smart Metering Systems to the extent necessary for the DCC to comply with the relevant requirements that will exist in the SEC that pertain to each of the FSM Releases.

Test Entry Criteria

- 2.12. The fulfilment of the following Entry Criteria is required to permit entry into PIT for a Sub-System:
- (a) test plan signed off by the DCC;
 - (b) Test Completion Certificates for any precursor test phase issued;
 - (c) test specification prepared, including the production of a test traceability matrix;
 - (d) confirmation that the required test laboratories, Devices, tools, stubs, environments, and data are in place, secure and are ready for testing; and
 - (e) an approval to proceed certificate for the test phase has been issued by the DCC
- 2.13. The fulfilment of the following Entry Criteria is required to permit entry into SIT in respect of each of the FSM Releases:
- (a) test plan signed off by the DCC;
 - (b) all relevant Testing Approach Documents and Test Coverage Documents approved by the TAG;
 - (c) Test Completion Certificates for any precursor test phase issued;
 - (d) test specification prepared, including the production of a test traceability matrix;
 - (e) confirmation that the required test laboratories, Devices, tools, stubs, environments, and data are in place, secure and are ready for testing; and
 - (f) an approval to proceed certificate for the test phase has been issued by the DCC

3. Modification of the FSM SVTAD

- 3.1. This FSM SVTAD;
- (a) shall be modified by the DCC in accordance with any direction to do so made by the Secretary of State. The DCC shall consult with Parties concerning any proposed modification to those documents in accordance with any direction to do so made by the Secretary of State.
 - (b) may be modified by the DCC following consultation with Parties and other relevant persons, the TAG, the Authority, and the Secretary of State, provided that:
 - i. prior to making any such modification, the 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
 - ii. it may not be modified to the extent that the Secretary of State directs otherwise
 - (c) may be modified by DCC without consultation where the modification is of a minor typographical nature, or where the modification does not have any 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. FSM Testing Approach Document

- 4.1. The DCC shall prepare a draft FSM Testing Approach Document, which shall include the approach to testing for each FSM Release including:
- (a) the proposed amendments to this Code that pertain to the testing, an explanation of the associated changes to the Modified DCC Total System, and the testing objective;
 - (b) the scope of each FSM Release to which the Test Approach Document relates;
 - (c) the principles and approach to apply to PIT and / or SIT (as applicable);
 - (d) the testing environments to be used;
 - (e) whether devices are to be used in testing and if so, which ones;
 - (f) the requirements (if any) for security testing;
 - (g) the requirements (if any) for system capacity testing;
 - (h) the process for resolving Testing Issues, the applicable Testing Issue Thresholds for use in PIT and SIT completion and the process for excluding Testing Issues;
 - (i) the exit criteria for a test phase to complete successfully;
 - (j) any perceived risks associated with the approach to testing and the proposed mitigations;
 - (k) the approach to providing for assurance of the testing undertaken; and
 - (l) matters to be included in each FSM Release Testing Completion Report (to be prepared pursuant to Clause 6).
- 4.2. The DCC shall submit the draft of the FSM Testing Approach Document in respect of each FSM Release to the TAG for review (and such submission by the DCC and review by the TAG may take place prior to this Clause 4.2 coming into effect); and:
- (a) Where the TAG and the DCC can reach an agreement, the relevant draft FSM Testing Approach Document shall be updated by the DCC as necessary and deemed to be final; or
 - (b) where the TAG and the DCC cannot reach an agreement, the matters of disagreement shall be referred by the DCC to the Secretary of State for determination. The Secretary of State's decision on such matters shall be final and binding for the purposes of this Code and the relevant draft FSM Testing Approach Document shall be updated by the DCC as necessary and deemed to be final.
- 4.3. The DCC shall comply with the FSM Testing Approach.

- 4.4. Revisions to the FSM Testing Approach Document finalised pursuant to Clause 4.2:
- (a) may, from time to time, be submitted by the DCC to the TAG for agreement in accordance with the provisions of Clause 4.2, and the provisions of Clause 4.2 shall apply (again) to the revised version of the document; or
 - (b) shall be made by the DCC in accordance with any direction to do so issued by the Secretary of State. The DCC shall consult with TAG concerning any such proposed revision in accordance with any direction to do so issued by the Secretary of State.
- 4.5. The DCC shall document its use of emulators and which device sets it shall be using and for what purpose in the relevant FSM Testing Approach Document. Where the specific device sets are not known when the FSM Testing Approach Document is first agreed, the DCC shall subsequently update the FSM Testing Approach Document to list the device sets when they are known. For the avoidance of doubt, this part of the FSM Testing Approach Document, or any updates to include this information are not subject to the agreement process set out in Clauses 3.3 and 3.5.

5. FSM Test Coverage Document

- 5.1. The DCC shall prepare the FSM Test Coverage Document in accordance with the requirements in Clause 2.4, which shall set out the depth and breadth of testing required in PIT and SIT in respect of each FSM release and shall include:
- (a) the scope (breadth) and coverage (depth) of testing against requirements for the relevant sub-system (in the case of PIT) and the Modified DCC Total System (in the case of SIT), identified as groupings of functional and non-functional requirements;
 - (b) any perceived risks associated with the scope and coverage of testing and the proposed mitigations.
- 5.2. The DCC shall submit the draft FSM Test Coverage Document(s) to the TAG for review (and such submission by the DCC and review by the TAG may take place prior to this Clause 5.2 coming into effect) and:
- (a) where the TAG and the DCC can reach an agreement, the relevant draft FSM Test Coverage Document shall be updated by the DCC as necessary and deemed to be final; or
 - (b) where the TAG and the DCC cannot reach an agreement, the matters of disagreement shall be referred by the DCC to the Secretary of State for determination. The Secretary of State's decision on such matters shall be final and binding for the purposes of this Code and the relevant draft FSM Test Coverage Document shall be updated by the DCC as necessary and deemed to be final.
- 5.3. The DCC shall comply with each FSM Test Coverage Document in respect of each FSM Release and shall take all reasonable steps to complete the tests set out in the FSM Test Coverage Document in accordance with the milestones on the Joint Industry Plan.
- 5.4. Revisions to a FSM Test Coverage Document finalised pursuant to Clause 5.2:

- (a) may, from time to time, be submitted by the DCC to the TAG for agreement in accordance with the provisions of Clause 5.2, and the provisions of Clause 5.3 shall apply (again) to the revised version of the document; or
- (b) shall be made by the DCC in accordance with any direction to do so issued by the Secretary of State. The DCC shall consult with TAG concerning any such proposed revision in accordance with any direction to do so issued by the Secretary of State.

6. SIT Test Completion

- 6.1. Completion of testing for SIT in respect of each FSM Release, shall, only complete when the Panel determines that the exit criteria for completion as set out in the relevant Testing Approach Document have been met.
- 6.2. When the DCC considers that such completion ought to occur, the DCC shall prepare a Completion Report as provided for in the FSM Testing Approach Document. The DCC shall:
 - (a) notify the Secretary of State, the Authority, the Panel, TAG, and the Parties that the DCC considers that testing has been completed in respect of each FSM Release;
 - (b) review the supporting documentation and evidence with regards to the relevant Exit Criteria with the TAG; and
 - (c) provide the Authority, the Panel, TAG, and the Secretary of State with copies of the Completion Report, and a list of the sections of such report that the DCC considers should be redacted prior to publication. The Panel shall confirm the completion of testing for SIT in respect of each FSM Release (as the case may be) or shall highlight where it believes the Exit Criteria have not been met.
- 6.3. Where the Panel confirms the completion of testing for the relevant test phase (subject to the TAG and the DCC reaching an agreement regarding resolution of any issues raised by the TAG) the Completion Report shall be updated by the DCC as necessary and deemed to be final.
- 6.4. Where the TAG declines to confirm the completion of testing for the relevant test phase, the DCC shall update the Completion Report to reflect resolution of any issues where the DCC and the TAG reached an agreement, and the DCC shall then either:
 - (a) refer the matters where the TAG and the DCC are in disagreement to the Secretary of State for determination; or
 - (b) continue with testing (and Clause 6.2 onwards shall apply again).
- 6.5. Where a referral has been made by the DCC pursuant to Clause 6.4 (a) the determination of the Secretary of State shall be final and binding for the purposes of this Code as follows:
 - (a) where the Secretary of State agrees that testing for the relevant test phase is complete, the relevant Completion Report shall be updated by the DCC as necessary and shall be deemed to be final; or

- (b) where the Secretary of State disagrees that testing for the relevant test phase is complete, the DCC shall continue with testing (and Clause 6.2 onwards shall apply again).

6.6. The DCC shall publish the final Completion Report for the SIT test phase, as soon as reasonably practicable which shall be anonymised and redacted where directed by the Panel, on the DCC Website. The DCC shall notify the Panel, the Secretary of State, the Authority, and the SEC Parties of the publication of the report.

7. Mandatory User Testing

7.1. Where the DCC considers that User testing is required prior to implementation of a FSM Release, it shall set out its proposals for User testing in a draft FSM User Testing Services Approach Document for each FSM Release, including:

- (a) those Users that should be required to participate in the testing;
- (b) the entry requirements for those Users required to participate in the testing,
- (c) the approach to testing and the tests that must be undertaken by each User;
- (d) the timescales for testing;
- (e) the arrangements for test completion;
- (f) the process for resolving testing issues; and
- (g) notification of test completion.

In developing any FSM User Testing Services Approach Document the DCC shall consult with the TAG, Parties, and other relevant stakeholders prior to the submission of the document to the Secretary of State.

7.2. Following consultation under Clause 7.1, and where the DCC considers that user testing should be required, the DCC shall submit the draft FSM User Testing Services 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.

7.3. The DCC shall comply with any direction given by the Secretary of State to re-consider, reconsult, and/or re-submit the draft FSM User Testing Services Approach Document.

7.4. Should a FSM User Testing Services Approach Document be approved by the Secretary of State for a FSM Release, the DCC and each Party other than the DCC that participates in (or is required to participate in) testing, as set out in such approved document, shall comply with that FSM User Testing Services Approach Document for that FSM Release.

