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Paper Reference:	**SECP_66_1503_04**
Action:	**For Decision**

SMETS1 Services Initial Operating Capability SIT Completion Decision

1. Purpose

This paper provides details of the Testing Advisory Group's (TAG) considerations, and associated recommendations, regarding the completion of the SMETS1 Services Initial Operating Capability (IOC) System Integration Testing (SIT) and whether the exit criteria for the test phase have been met.

Subject to the Panel's consideration of the TAG's recommendations and observations, the Secretary of State will be notified by letter of the Panel's decision on IOC SIT Completion and any supporting views and observations.

2. Executive summary of recommendation to the Panel

The TAG considered that exit criteria for IOC SIT had not been met at the time of the TAG meeting on 6 March 2019. However, a discreet set of actions was agreed between the TAG and the DCC and there is an agreed method of confirming whether those actions are completed. A binary update regarding the status of these actions can be provided before or at the Panel meeting on 15 March 2019.

The TAG recommendation to the Panel is that the exit criteria should be considered met, contingent upon confirmation that the actions are successfully completed.

3. Role of the TAG and Panel in SMETS1 Services SIT testing phase completion

The role of the Panel and TAG in the SMETS1 Services Release involves agreeing the completion of test phases for each operating capability[1], before the commencement of subsequent test phases.

Supplemental to this is the role of the Panel, the TAG and Operations Group, in providing a recommendation on the SMETS1 Services Release Live Service Criteria (LSC) that need to have been met prior to each operating capability 'going live'. The LSC is still under development and will be brought to the Panel for comment (following TAG and Operations Group Review) at a future meeting.

[1] Initial Operating Capability (IOC), Middle Operating Capability (MOC) and Final Operating Capability (FOC).

4. TAG considerations of the IOC SIT Completion report

4.1 TAG review process undertaken

To ensure the content and structure of the IOC SIT completion report was fit for purpose[2] and to ensure clear views and recommendations could be formed, the TAG considered the report over three meetings. The structure and content of the IOC SIT completion report was reviewed and discussed at the scheduled 30 January and 27 February 2019 meetings. An additional meeting on 6 March was used to finalise the TAG recommendation on IOC SIT Completion and focussed on any updated or additional content added to the reports following the 27 February meeting, and following the DCC Test Assurance Board meetings that took place on 1 March 2019.

4.2 TAG observations on IOC SIT

The TAG raised observations on the content and structure of the completion report during its review of the completion report. Many of the observations were addressed, with the TAG noting that the approach to capturing comments and then detailing how they have been actioned, was appreciated and should continue. The DCC's engagement with TAG in this respect has been exceptional.

The following observations were discussed during the final review by the TAG on 6 March 2019 and considered worthy of noting to the Panel:

i. Scope of functional testing

The ability to successfully replace an enrolled SMETS1 meter set with a SMETS2 meter set was not proved as of 6 March. This functionality is critical, and TAG considered it is necessary that this is proved as part of SIT. The TAG's recommendation is contingent upon this capability being successfully proved before the Panel meeting on 15 March.

To prevent repetition of this type of issue, the DCC and TAG agree that scope of SIT needs to be more clearly defined and agreed at the start of the process, and TAG and DCC will work to improve this area.

The TAG also noted that BEIS initiated a consultation on altering the Testing Baseline Requirements Document (TBRD)[3] on the day of the TAG meeting, triggered by an update by the DCC to the SMETS1 Supporting Requirements document. The TAG considered this late change to the baseline to be extremely unhelpful.

ii. Regression testing

The DCC has conducted extensive regression testing during IOC SIT and TAG acknowledges an improvement in this area. However, the detailed contents of the various regression tests are not clearly explained to TAG.

TAG noted that significant SMETS2 testing had taken place alongside IOC SIT, but considered that proving that SMETS2 operated via the DUISv3 interface is a critical omission. The TAG's recommendation is contingent upon DCC performing regression testing to prove this will work before the Panel meeting on 15 March.

iii. Concessions & Test Traceability

The TAG has raised concerns about the use of concessions for managing the testing process, with an underlying concern that this is a DCC process and not published in a

[2] It is assumed a similar structure and approach will be used for subsequent test phase completion reports.
[3] The change puts out of scope the ability to replace a SMETS1 GSME with a replacement SMETS1 GSME, which will now not be available until later in 2019.

regulatory document. The DCC has consistently stated that the scope of IOC SIT has not been reduced through the concessions process.

This process has led to difficulty in assuring traceability of tests against the baseline; and this issue is compounded by the ongoing consultation on the TBRD.

The TAG's recommendation is contingent upon DCC confirming that the updated TBRD does justify each of the 121 concessions, leading to tests not being run regarding SMEST1 GSME replacement, and that the changes do not require any additional tests to be run.

Further, completion of this SIT exit criterion will not be met if the outcome of the BEIS consultation is that the requirement to support replacement of a SMETS1 GSME with another SMETS1 GSME from day one is retained.

- **Other points not leading to contingencies**
  - TAG members have raised concerns about the process and timing of notifying the selected Device Model Combinations. This point does not affect the consideration of the SIT exit criteria.
  - Although not part of the IOC SIT consideration, the TAG has concerns about the timeliness and availability of other Testing Approach Documents. Similarly, the lateness of the consultation regarding the scope of SMETS2 regression testing, contributed to some of the concerns raised in this document. This point does not affect the consideration of the SIT exit criteria.
  - DCC has performed testing on a sample of SMETS1 alerts during SIT testing, and has agreed to run all alert tests required in the Common Test Scenarios Document as an entry criterion for Eligibility Testing. This point does not affect the consideration of the SIT exit criteria.
  - TAG members have routinely raised concerns regarding the insufficient time allowed within plans for governance. A TAG member has noted the DCC's excellent work in turning around high-quality documentation in short timescales and likewise the TAG is thanked for their excellent work in reviewing documentation and recommendations. Fundamentally, this should be an exception rather than the norm.

4.3 TAG views on IOC SIT exit criteria

Focusing on the IOC SIT Completion criteria[4] the TAG made the following observations.

Reference	Criteria	TAG Observation
SIT.EXG1	All Planned tests have been executed	TAG considers that the criterion was NOT met at 6 March. See section 4.2i. DCC must assure that SMETS1 meter sets can be replaced with SMETS2 meter sets.
SIT.EXG2	Test success rate above 90%	Criterion Met
SIT.EXG3	The number and severity of Testing Issues are at or below the Thresholds	Criterion Met

[4] Summarised in greater details section 2 of the SIT Completion Report provided as Appendix A.

Reference	Criteria	TAG Observation
SIT.EXG4	Test Results and other evidence is documented	Criterion Met
SIT.EXG5	Test Issue logs are produced	Criterion Met
SIT.EXG6	100% of planned tests for regression testing have been executed on the stage exit versions of the software with a 100% pass rate	TAG considers that the criterion was NOT met at 6 March See section 4.2ii DCC must assure satisfactory operation of SMETS2 devices using DUIS v3 interface DCC agreed to explain and / or add to the work-off plans retesting of two failed and nine blocked SMETS2 regression tests, which were understood to be device (rather than DCC) issues
SIT.EXG7	Work-Off Plans for any extant Testing Issues has been produced	Criterion Met
SIT.EXG8	Work-Off Plans from preceding Test Phases have been completed and the associated tests successfully re-run	Criterion Met
SIT.EXG9	Assurance Report(s) for Test Stages have been produced containing the requisite information (Clause 9.4 and 9.5 of the SMETS1 SVTAD)	Criterion Met

Table 1: TAG views on SIT Generic Exit Criteria

Reference	Criteria	TAG Observation
SIT.EXS1	Functional SIT Execution Successful completion will be 100% or planned tests (unless as set out in Clause 12.6 [5]tests have been de-scoped and such de-scoping approved by the Secretary of State) for functional testing have been executed, with a 90% pass rate for any planned tests on the same Device Model Combination (DMC) (excluding those tests that have been de-scoped).	TAG considers that the criterion was NOT met at 6 March See SIT.EXG1, above
SIT.EXS2	SIT Regression Execution Successful completion will be 100% or planned test for regression testing have been executed on the stage exit version of the software, with a 100% pass rate.	TAG considers that the criterion was NOT met at 6 March. See SIT.EXG6, above
SIT.EXS3	Testing Issue Thresholds Extant Issues are with the relevant Testing Issue Threshold per Service Provider[6].	Criteria Met See SIT.EXG3, above

[5] Clause 12.6 of the SMETS1 SVTAD.
[6] The Threshold applies per Service Provider in SIT, for Severity 3 defects it is 60 in total, if each of the 4 SMETS1 Services Release SIT Service Providers had 15 Severity 3 defects each.

Reference	Criteria	TAG Observation
	<table><tr><td>Testing Issue Severity</td><td>SIT Threshold per SP and DMC</td></tr><tr><td>1</td><td>0</td></tr><tr><td>2</td><td>0</td></tr><tr><td>3</td><td>15</td></tr><tr><td>4</td><td>30</td></tr><tr><td>5</td><td>60</td></tr></table>	
SIT.EXS4	Test results documented and evidence captured. Results of testing documented, and evidence stored	Criterion Met See SIT.EXG4, above
SIT.EXS5	Complete set of Testing Issue Logs produced and stored for all Testing Issues identified in Testing	Criterion Met See SIT.EXG5, above
SIT.EXS6	Full Test traceability to the requirements. Test Traceability (as defined in the Test Traceability Matrix (TTM)) demonstrated and documented.	TAG considers that the criterion was NOT evidenced at 6 March See section 4.2iii The TBRD was updated on date of TAG meeting and the impact on TTM needs to be assessed The DCC must confirm that the TBRD justifies the tests subject to concession, meaning they are not run and that no additional tests are required
SIT.EXS7	Full Test traceability of executed tests. Test heatmap produced that shows coverage and success of testing and traceability to the TTM	Criterion Met
SIT.EXS8	DCC assurance report approved. TAB approval of the DCC assurance report	Criterion Met

Table 2: TAG views on SIT Specific Exit Criteria

5. Confirming resolution of outstanding items

The TAG and DCC discussed the process for confirming that the outstanding items are completed and agreed that TAG would place reliance on the DCC's Test Assurance Board (TAB). The details of this process are:

- The TAG documents the outstanding points, set out in section 4.2 and related to individual exit criteria in section 4.3 (completed 6 March);
- The DCC completes necessary testing / actions;

- The DCC holds associated Test Assurance Board (TAB) meeting, at which two TAG members are participants and all TAG members are welcome to observe (TAG members have been invited to the meeting scheduled for 14 March); and
- The DCC / TAG Chair will provide updates to the Panel to confirm whether the outstanding points are resolved.

6. Recommendations

The Panel is requested to:

- **AGREE** that IOC SIT has successfully been completed, subject to the points raised in sections 4.2 and section 4.3; and
- **AGREE** the TAG observations and any additional Panel observations that should be noted by BEIS / the Secretary of State;

Phillip Twiddy

SECAS Team

8 March 2019

Attachments:

- Appendix A: IOC SIT Completion Report **(AMBER)**