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Action:	**For Decision**

Live Services Criteria for the November 2019 entries onto the Eligible Products Combination List (EPCL) for SMETS1 - SEC Panel Sub-Committee Review

1. Purpose

This paper updates the Panel on the reviews undertaken by the SEC Panel Sub-Committees; Testing Advisory Group (TAG) and Operations Group (OPSG), of the SMETS1 Live Services Criteria (LSC) for additional entries onto the EPCL, and supporting evidence provided by the DCC on 29 October 2019.

The intent is that these views will facilitate the SEC Panel recommendation to BEIS.

2. Sub-Committee Views on DCC Statement of Readiness

The OPSG met on 5 November 2019 and TAG met on 8 November 2019 to consider the Live Services Criteria, the DCC letter to BEIS and supporting documentation (attached as Appendix A for information). OPSG reconvened on 8 and 13 November to consider the operational aspects of SMETS1 production issues highlighted by members.

The Sub-committees recommend that the Panel agree to recommend to BEIS that the EPCL is updated once the conditions set out in Section 4.4 have been met. The table below provides a summary of the views of the Sub-Committees set against the LSC and statements from the DCC.

2.1 Scope of review

The Sub-Committees note that the DCC is requesting approval to migrate 24,000 active Itron installations and 50,000 dormant Elster installations. The DCC state they are ready to migrate these at a rate of 2,000 installations per day. The Sub-Committees have therefore reviewed the evidence provided on the basis that the volume being migrated is no greater than 2,000 installations per day.

The Sub-Committees recognise that the DCC wants to migrate volumes greater than 2,000 installations per day, but further assurance is required from the DCC, including: how DCC will determine when volumes should increase, and how any decision will be conducted and communicated to SEC Parties. Discussion will continue between the relevant Sub-Committees, DCC and BEIS to establish a way forward.

Live Service Criteria	DCC Statement	Sub-Committee Views	RAG Status
1. SMETS1 Migration Services ready, including early migration support for relevant Device Model Combinations	DCC has set up its Migration Control Centre (MCC) and Early Life Support (ELS) functions. It has proven both migration solution and scalability. To date, DCC has successfully migrated 2139 dormant Itron installations, with an overall success rate of 93%. There are currently 156 migrations which are stalled awaiting a change to anomaly detection settings which we anticipate will complete successfully during the next few days, bringing overall success rate up to 98%. DCC has also proven it can successfully migrate in excess of 1200 meters per day (1229). 142 of the migrated installations are operational (active) on DCC's network, across five suppliers. The remaining are pending the relevant responsible suppliers becoming business ready. DCC's ELS Team is engaging with suppliers and closely monitoring these migrated installations. To date, DCC has had no reports of any issues affecting live service of successfully migrated installations. All failures and rejections, apart from a single installation have either been rolled back or have been fixed forward or have rectification plans to be fixed, with no impact to consumer experience.	The OPSG accept the statement of readiness provided by the DCC. The OPSG noted that of the migrations to date, 1 device had failed and was now operating in "dumb" mode. The DCC confirmed the device was not "bricked" and there was potential for this to be recoverable. The TAG considered that the exit criteria for migration testing had been met. The TAG agreed that this LSC was met.	**Green**
2. Service Operations capability ready	DCC's MCC and ELS functions are operational and appropriately scaled to support volume. Business Acceptance Testing (BAT) for active migrations has been successfully completed and exit criteria have been met. As DCC continues to learn lessons and adapt the migration solution, further BAT will take place. DCC's monitoring of the service has not identified any change to transaction response times, or utilisation of system resources associated with the migration of	The OPSG accept the readiness statement provided by the DCC. The OPSG commented that some reports are not being delivered in accordance with the Migration Reporting Regime. The DCC has committed to rectify the situation.	**Green**

Live Service Criteria	DCC Statement	Sub-Committee Views	RAG Status
	SMETS1 installations. This is in line with DCC's expectations.		
3. SMETS1 Service and Migration can operate at the requisite volumes to support migration and operation of the relevant DMC and operating capability, in parallel with all SMETS2 activity	The addition of the proposed DMCs onto the EPCL are of a volume that DCC considers will not impact system performance. DCC has tested the solution well beyond these volumes during System Capacity Testing. DCC has not experienced any impact to performance of its SMETS2 Service as a result of successful SMETS1 migrations to date. DCC has also proven that the migration solution capability works and is scalable up to a daily volume of 1200 and is confident it can scale up to 2,000 migrations per day without changes to existing tooling and processes. We are therefore confident that DCC can appropriately manage the volume of active Itron and dormant Elster installations proposed for addition onto the EPCL.	The OPSG accept the statement from the DCC on the basis that the volume being migrated is no greater than 2,000 installations per day. The OPSG recognise that the DCC wants to migrate volumes greater than 2,000 per day but further assurance is required from the DCC. For example, on what basis the DCC intends to increase volumes and when? The DCC expects to be able to increase migration volumes once Migration Control Centre (MCC) Tooling changes have been implemented to enable automation. This has yet to complete BAT. The OPSG commented that they had concerns over the current backlog of dormant meters (c.21% of original volume), and a lack of transparency of progress. The DCC noted concerns and offered to provide visibility of migration progress at future OPSG meetings. The OPSG rated this as Green subject to further details being provided by the DCC on its intentions to increase future migration volumes. The TAG accepted that the evidence regarding the System Capacity Test Approach Document, presented for the first entry onto the EPCL (Itron Dormant) was sufficient for these entries. The TAG noted that DCC will need to resolve the minor points outstanding when the SCTAD results were first presented. The TAG agreed that this LSC was met.	**Green**
4. Regression Testing has completed successfully for	There is no code release associated with the addition of these entries on to the EPCL, and therefore there is no risk to impacting live service as a result. For this reason, there is no	Notwithstanding the statement from the DCC, the test completion reports included details of the regression testing that has been conducted. The TAG agreed that the required regression testing had been	**Green**

Live Service Criteria	DCC Statement	Sub-Committee Views	RAG Status
SMETS1 and SMETS2 Live Systems	regression testing evidence to provide.	completed satisfactorily and met the exit criteria. The TAG agreed that this LSC was met.	
5. Testing of SMETS1 Services for the relevant DMCs has completed successfully	DCC has successfully completed testing for the proposed EPCL entries in line with SVTAD and MTAD. Evidence of successful testing is being submitted to TAG on 1 November 2019, to be considered by TAG on 8 November 2019.	TAG has reviewed the test completion reports and agreed that the testing has completed. However, a number of issues have been identified by the DCC and the TAG recommends that the EPCL should only be updated when a number of conditions are met, with evidence provided to BEIS. These are set out by DMC in section 4.4.	**Amber**
6. Pre-existing services remain stable for SMETS2 and SMETS1 prior to operating capabilities[1]	DCC has been monitoring its systems and services through the Technical Operations Centre (TOC) to ensure that there are no extant issues which might affect DCC's ability to migrate the devices at Annex A. DCC will continue to ensure that there are no issues in production which would prevent go-live, and will continue to monitor the service up until 24 November 2019 with a final go/no-go decision being made on 22 November 2019.	The OPSG accepted the statement from the DCC. The OPSG noted there were ongoing incidents occurring in the SMETS2 environment. The DCC assured the OPSG that a decision was taken each day regarding potential impacts to SMETS2 services, prior to commencing migration. Residual Risks 9, 10 and 11 highlight operational risks present in the existing SMETS1 service. The OPSG accepted the mitigations for these risks, however risks 10 and 11 set out in section 3 below lead to an assessment of Amber for this LSC.	**Amber**
7. Any lessons learnt from prior operating capabilities are incorporated into live process	Having successfully migrated dormant devices into the DCC System, DCC has learnt valuable lessons that it will apply when migrating the proposed EPCL entries. DCC has also undertaken a strategic, programme wide lessons learned review of process which has been set out in Annex I.	The OPSG accepted the statement from the DCC.	**Green**
8. No detrimental impact to consumers	Based on the experience of live migrations and early life support to date, DCC does not consider that there is a material risk of negative impact to consumers' experience.	The OPSG accepted the statement from the DCC, but emphasised that the mitigations set out under risk 10 in section 3 below be executed urgently.	**Green**

[1] We have included in this LSC an assessment of the operational impact on DCC and Users of newly highlighted operational issues in the production service

Live Service Criteria	DCC Statement	Sub-Committee Views	RAG Status
experience expected	To date, DCC has had no reports of any issues affecting the operation of successfully migrated installations.		
9. Assurance of required Business Continuity/Disaster Recovery	DCC is confident that its Systems are sufficiently resilient.	The OPSG accepted the statement from the DCC on the basis that a BCDR plan is reviewed and agreed by the OPSG and the TABASC chair at the OPSG December 2019 meeting.	**Amber**
10. Completion of relevant security testing and approval of security architecture	The SSC has reviewed successive drafts of the SMETS1 Security Architecture for IOC and provided comments. DCC has noted the comments and have provided the SSC with a response as to how these have been addressed. DCC has determined that there are no updates required to SMETS1 Security Architecture document 1.4, and no new functional code will be introduced in order for the proposed DMCs to be incorporated in the EPCL. The only changes to the code subsequent to the go-live of 27 July 2019, have been defect fixes, none of which have been security impacting. DCC anticipates further defect fixes being added to the code, however all defect fixes are subject to a risk assessment to determine appropriate regression testing of security functionality.	The SSC recommends to the SEC Panel that the security criteria for the first entry onto the EPCL have been met, subject to the DCC continuing to complete a number of remaining actions that are necessary to provide full assurance and reporting progress at each SSC meeting until all remediations are complete.	**Green**

3. Residual Risks

The OPSG and TAG noted that the DCC has set out remaining residual risks. The DCC has provided mitigations for the risks. The table below provides a view from the OPSG and TAG.

Residual Risk	DCC Proposed Approach	TAG & OPSG Views
1 Fail over of the Data Service Provider (DSP) has not been tested with SMETS1 configuration	DCC proposes that this risk is accepted. The failover architecture for the DSP has been successfully tested in the production environment. The architecture relating to failover for SMETS2 is unchanged, with the introduction of SMETS1 functionality and the balancing of the SMETS1 load between two data centres meaning the likelihood of this risk arising is low.	The OPSG accepted the assessment from the DCC, on the basis that a BCDR plan was received, reviewed and agreed by the OPSG and the TABASC chair, at the OPSG December 2019 meeting.

Residual Risk	DCC Proposed Approach	TAG & OPSG Views
	The DSP failover architecture will be fully tested again in the next Disaster Recovery (DR) test of the DSP, scheduled for May 2020.	
2 Load balancing across DCO data centres not ready at go-live	This Risk has been fully mitigated and therefore removed.	The OPSG accept the DCC assessment.
3 Lack of end to end capacity testing	DCC proposes that this risk is accepted. DCC does not currently have the capability to carry out complete end-to-end capacity testing and have taken the same approach to capacity testing as with previous releases - conducting a design review and testing individual components. DCC will monitor the performance of the live service via the TOC, ensuring any issues are identified. Live proving has not indicated that performance issues are likely given the volume of migrations for this release.	The OPSG and TAG accept the DCC assessment.
4 Capacity testing only carried out on DUIS 3 interface	DCC proposes that this risk is accepted. DCC has conducted a design review which indicates that the introduction of DUIS3 should not impact DUIS1 and DUIS2. The introduction of DUIS2 did not have a detrimental impact on DUIS1 and we are of the opinion that the introduction of DUIS3 will not have a detrimental impact on DUIS1 and DUIS2. During live proving, no performance related issues have been reported for the DUIS1 and DUIS2 interfaces.	The OPSG and TAG accept the DCC assessment.
5 Negative testing not complete	DCC proposes that this risk is accepted given the low impact, particularly whilst the volume of migrations is comparatively low. DCC has fully tested the migration rollback process so if an issue does arise, DCC can reverse any problematic migrations. DCC has carried out additional negative testing during this phase of MST, in line with TAG recommendations.	The OPSG accept the DCC assessment. Discussions between TAG, the DCC's TAB, DCC Operations and the SMETS1 programme led to changes and clarifications to negative testing. The TAG accepts that agreed negative testing has been completed.
6 SMETS2 Regression Testing not carried out with every combination of devices	This risk has been removed. As a result of putting SMETS1 code live, there were no SMETS2 regression incidents recorded which suggests that DCC's approach to SMETS2 regression testing was fully effective. This release does not materially change the DCC solution and therefore this risk is being removed.	The OPSG and TAG accept the DCC assessment.

Residual Risk	DCC Proposed Approach	TAG & OPSG Views
7 Workarounds Related to Migration Defects	This Risk has been fully mitigated and therefore removed.	The OPSG accept the DCC assessment.
8. There is a risk that the failure of a migration could impact consumers. Any active migrations which fail and require a corrective fix forward from DCC, may cause a temporary interruption of smart functionality for the consumer. Where the migration requires a rollback, the impact would be minimal as rollback is a quick process.	Live proving identified a number of issues that have now been fixed. The fixes were not device specific, and therefore DCC does not believe there is evidence that the device specific parts of the solution have caused these problems. For this reason, DCC have assessed the likelihood to be low, however DCC is proposing to work with customers to agree a cautious pacing strategy for new types of migration enabled in this release. This approach further mitigates the risk of widespread impact to consumers or DCC's customers.	The OPSG accept the DCC assessment. The OPSG noted that issues had occurred in early migrations. The OPSG noted that 1 device had failed to migrate and was operating as "dumb". Had this occurred with an "active" meter migration in PP mode the impact would have been grave. The OPSG further questioned the DCC regarding the level of BAT undertaken with its Service Providers for "active" meters.

Residual Risk raised by OPSG

Residual Risk	Mitigations	TAG & OPSG Views
9. There is a risk that DNOs could permanently lose access to a SMETS1 device if an incorrect DNO certificate is added to a device. If an incorrect DNO's certificate is added to a SMETS1 device, it is then not possible to change it due to the DSP validation. When the DNO attempts to change the certificate, the DSP does a Registration Data check that checks that the Network Operator trying to make the change matches the certificate in the DNO slot. This check will fail and the change will be rejected.	1. In many cases of SMETS1 Enrolment and Adoption, the DCC will put the DNO Certificate in the slot, so this scenario should not arise in standard migrations 2. A proposed solution will be put to SSC on Wednesday 13th November (but will need to be implemented by the DSP) 3. This is an existing SMETS1 issue and is not associated with the new EPCL entries.	OPSG agreed to accept this risk subject to the proposed solution being taken promptly through the appropriate channels for assessment and remediation.
10. There is a risk that PPMIDs cannot be joined to SMETS1 Honeywell Elster devices, as	1. As this EPCL approval request for Honeywell Elster is for dormant meters only,	OPSG agreed to accept the risk subject to the proposed solution being taken promptly

SR 8.11 is rejected if the join period is greater than 255 seconds	none will be in prepayment mode. Whilst it is possible that a migrated credit consumer then requests to switch to prepayment mode and a PPMID needs to be joined, the risk has been assessed by OPSG members as low in the short term. 2. DCC will provide a fix such that if a join period greater than 255 is specified, it will be changed to 255 [date to be confirmed]	through the appropriate channels for assessment and remediation. Whilst this is considered to be low risk in the short term, it is imperative that the fix is in place before active Honeywell Elster devices are migrated. If not, the risk will increase and could result in the need to replace device sets.
11. Migrated Itron meters are generating Power and Voltage Alerts, and DNOs are unable to set the recommended voltage threshold or configure power alerts. This is highlighted as a risk as the excessive alert volumes in SMETS2 has been raised as a significant issue at OPSG	1. The current volumes are below the level which would be of concern to DCC and DNO systems. 2. DCC to continue the investigation and propose a solution. 3. DCC to establish monitoring with regular reports to OPSG alongside the SMETS2 alerts reports. 4. The voltage threshold issue must complete the BEIS device issue process to agree that current behaviour is acceptable or any required changes.	OPSG agreed to accept the risk, subject to the proposed solution being taken promptly through the appropriate channels for assessment and remediation and regular reporting to OPSG being established.

4. Further Observations from the Sub-Committees

4.1 General

The OPSG noted the DCC statement regarding the potential risks to operations from the concurrent implementation of these EPCL entries, and migration at the same time as the SEC November 2019 Release. The DCC provided further assurances that with the majority of migrations being dormant, the DCC would remain in control to stop/start migration if issues occur. The DCC confirmed that there was no system interaction between the two environments, and that if issues occurred, organisation capacity was in place to manage this effectively.

The OPSG also commented that it was not yet possible for premises with split supply points to be migrated. The DCC commented that it may not be until early 2020 before this issue is addressed.

Both OPSG and TAG propose to review the lessons learned from this execution of the governance process.

4.2 Operational Impact of deficiencies in the Production Service

OPSG notes that the existing LSCs do not appear to highlight the impact on Users of existing issues in the production service, which may be exacerbated by the inclusion of further DMCs and increased volumes. It is recommended that the LSCs be reviewed.

4.3 Timeliness of Information

Significant frustration was experienced by TAG with the lateness of information and updates to information provided. This problem was compounded by the volume of information that needed to be reviewed.

The DCC has worked very hard to explain any updates and new information, to cater for the lack of time available to review final information.

Fundamentally, TAG considers that the time made available for governance and oversight has been compromised, as the programme runs without contingency, deadlines are set and issues arise.

Most TAG members have asserted that they are concerned that proper assessment and oversight has not been possible and raise concerns that problems could arise as a result.

4.4 Specific Recommendations for EPCL Entry from TAG

The DCC's test completion reports identified testing issues that were reviewed by the TAG. The TAG agreed to make specific recommendations to the Panel regarding each relevant issue, setting out conditions that should be met for each, before each Device Model Combination should be added to the EPCL. These recommendations are set out below.

Additionally, the TAG discussed the appropriate governance to confirm that the conditions are met. The TAG recommends that the DCC should provide evidence to BEIS that each condition is met; considering that this provides appropriate oversight whilst avoiding the overhead of re-convening the TAG and Panel.

Itron Active

Issue	Description	Recommendation
91333	SR6.7 can only be run once per day	DCC should complete the Design Issues Review Forum (DIRF) process. This will either: - Confirm that this restriction is acceptable and lead to the S1SR[2] document including this limitation; or - Confirm that this restriction is not acceptable, the issue confirmed as Severity 2, and lead to the DMC failing the exit criteria until it is fixed.
61224	CoS loss alerts are not sent in 1/3 of CoS events. This is an issue introduced into production at the time of the first EPCL entry, but the problem would be exacerbated by introducing active DMCs.	DCC confirmed that this issue is expected to be fixed in early December (date not yet available). The DMC should be added to the EPCL when the issue is fixed.

Honeywell Elster Dormant

Issue	Description	Recommendation
61224	See above	See above.

[2] SMETS1 Supporting Requirements

91342	PPMID joining fails if *JoinTimePeriod* is greater than 255 seconds	TAG has sought confirmation from OPSG members whether this will cause operational problems. The DMC should be added to the EPCL when either: - OPSG confirms this will cause no operational problems; or - The issue is fixed. Until then, the issue should be considered Severity 2, meaning that it has not met the exit criteria.
91339 / 91340	A small proportion of Service Responses do not include response codes.	DCC confirmed that this issue is expected to be fixed in early December (date not yet available). The DMC should be added to the EPCL when the issue is fixed.

5. Views Relating to the Entry and Exit Criteria of the Testing

The TAG reviewed all of the test completion reports and considered that the entry and exit criteria were met, subject to the points made in section 4.4.

6. Recommendations

The Panel is requested to:

- **NOTE** the views of the TAG and OPSG contained in this paper;
- **AGREE** the content of the letter from the Panel to BEIS for the Live Services Criteria for the November 2019 entries onto the Eligible Products Combination List (EPCL) for SMETS1' (Appendix B);
- **AGREE** to recommend to BEIS that the EPCL is updated once the conditions set out in section 4.4 are met; and
- **AUTHORISE** that the relevant Sub-Committees agree with DCC and BEIS, the process for assurance about increased rates of migration, and obtain endorsement of this process from the SEC Panel Chair.

SECAS Team

13 November 2019

Attachments:

- Appendix A – DCC SMETS1 Live Service Criteria and supporting evidence
- Appendix B – Draft letter to BEIS - Panel determination