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<b>Action:</b>	<b>For Decision</b>

## Release 2.0 User Interface Testing Approach Document Update

### 1. Purpose

This paper provides details of the Testing Advisory Group's (TAG) considerations and related recommendations regarding the Entry and Exit Criteria within the Release 2.0 User Interface Testing (UIT) Approach Document for Panel consideration. The TAG considerations and recommendations are provided to inform a Panel recommendation to the Secretary of State on the approval of the entry and entry criteria and to also highlight any other matters the Panel may wish to include alongside its recommendation.

### 2. Role of the Panel and TAG in the Release 2.0 Testing Approach Documents

It has previously been noted that the Panel, with supporting input from the TAG, have been requested by BEIS to recommend the approval of the entry and exit criteria (as applicable) for the Release 2.0 Testing Approach Documents.

As with previous release testing approach document discussion, this does not prevent other observations and comments from being raised by the TAG and then subsequently reiterated or expanded by the Panel in the formal recommendation it provides to the Secretary of State.

As outlined in the subsequent sections, feedback has been provided and discussions have taken place on the Release 2.0 UIT Approach Document. It will, however, be the Secretary of State's decision whether these observations should or can be addressed.

Section 3 and 4 provides a narrative summary of the TAG discussions on the Release 2.0 UIT Approach Document, during recent TAG meetings, which has informed the subsequent recommendations on the document and associated entry and exit criteria. The structure of the paper, has intentionally be constructed to provide the narrative that led to the views and recommendations at the end of this paper, to illustrate the discussions and considerations undertaken by the TAG.

The current draft of the Release 2.0 UITAD is provided in Appendix A, and reflects the current content produced by the DCC and informed by feedback from TAG Members and discussions at TAG Meetings.

In addition, the comments raised by the TAG on the Release 2.0 UITAD are provided in supporting spreadsheets provided in Appendix B. They have been provided to the Panel to be noted and subsequently highlighted to the Secretary of State as part of providing its recommendation on the UIT entry and exit criteria requirements.

### **3. Consideration of the UIT Approach Document**

#### **3.1 TAG Review of the UIT Approach Document Exit Criteria**

On 23<sup>rd</sup> January 2018, the TAG discussed v0.2 of the UIT Approach Document. This further review, followed on from initial discussions at the 20<sup>th</sup> December 2017 TAG meeting. This initial review was supplemented by TAG Member feedback that was provided and collated on and in advance of the 5<sup>th</sup> January 2018, before being submitted to the DCC. This feedback informed the updates made to form v0.3 of the UIT Approach Document that was provided in support of discussions at the 21<sup>st</sup> February 2018 TAG meeting.

The discussions at the February 2018 meeting focused on the key themes of concerns and observations that were made previously by the TAG in relation to the consideration of including Release 2.0 UIT exit criteria and related obligations on Suppliers. The below sections set out the discussions on each area from the February meeting.

##### **3.1.1 Objective of UIT**

All parties agreed that the key risk that should be mitigated through testing is that metering systems currently deployed no longer operate when Release 2.0 goes live, meaning that the agreed focus should be regression testing of current functionality.

Secondary and tertiary risks are that metering systems no longer operate once Communications Hub firmware is updated (expected six months after Release 2.0 go live) and deployment of sub-GHz equipment, which Suppliers are largely free to determine when they commence these installs.

##### **3.1.2 Planning of UIT**

The TAG raised concerns around the DCC proposed approach around the planning of UIT and expressed views that testing participants would be unwilling to commit to providing detailed test plans by 31<sup>st</sup> March 2018, as proposed by the DCC. The TAG requested that the DCC complete an environment guide on how they propose to connect to UIT-B environment and how the DCC plan to support Supplier in the DCC test lab would be needed.

In addition, the TAG raised concerns around the planning of UIT and its unwillingness to commit to test against proposed dates including having to commence testing at the beginning of UIT as proposed, on 21<sup>st</sup> May 2018. The key reason being the lack of necessary information to enable testing participants to connect to a new environment, meaning that the testing participants may not be able to make their infrastructure changes in sufficient time.

The TAG noted that the timeframes outlined by DCC are challenging at this point and may not be achievable. In addition, at the February meeting it was observed that placing quite strict obligations on parties to be prepared to start in the short term is a concern.

The DCC noted the reasoning behind its proposal at this time was the need for User Testing to be undertaken in a window of time to ensure confidence of completion and to provide the associated assurance that the changes being introduced by Release 2.0 would not prevent existing functionality from working as expected, specifically DCC User Interface Specification (DUIS) version 1.0 Services requests in the Release 2.0 environment involving Release 1.x Communications Hubs firmware.

##### **3.1.3 Who should test**

The TAG discussed who the obligation should sit with. The TAG explored the option of obliging all Suppliers vs only two Large Suppliers and whether adaptor providers should be involved as they may give as much assurance as Supplier. It is noted that, at the SEC level, no obligations can be placed

on non-SEC Parties. This led to the DCC removing its proposal for such an obligation on adaptor providers to test in UIT.

However, during the February TAG meeting, the DCC did continue to propose an obligation on Suppliers to collectively undertake regression testing within the UIT timebox window. The TAG did not support this proposal due to concerns around the timing of the introduction of such a mandate. However, the TAG did understand and recognised the benefits of undertaking regression in order to prove that uplifting the Code should not impact devices that are already in production.

### **3.1.4 What should be tested**

The Business Process Testing scope for those participating for both Release 1.x Single Band regression and Release 2.0 Single Band was outlined, by the DCC. Following feedback provided by the TAG, it was agreed that exit criteria should focus on regression testing ensuring that devices operating on R1.x firmware and DUIS version 1.0 Service Requests continue to work and are supported.

### **3.1.5 Defects**

The TAG discussed the application of a defect mask to R2.0 (UIT exit) and agreed that if one applies it should be consistent with test phase approach defect masks, previously used.

## **3.2 TAG Review of the UIT Approach Document Entry Criteria**

### **3.2.1 – Mandated User Testing in R2.0 UIT**

The above areas all linked to the main area of discussion at the February 2018 meeting on UIT exit criteria and associated with this, whether Suppliers should be obligated to undertake regression testing during the Release 2.0 UIT period. The TAG discussed two options; Option 1, which would add exit criteria (without any associated Supplier obligations), and option 2, which would add obligations in relation to regression testing by suppliers.

#### **Option 1 – exit criteria without associated User obligations.**

This option would involve Release 2.0 UIT having exit criteria where:

- a defect mask would be applied, where no Severity 1 or 2 defects would be allowed. Severity 3, 4 and 5 defects would be permissible in line with other test phase defect masks; and
- reporting would be provided on the type and extent of testing undertaken by testing participants during the UIT period. Any concerns on the type and extent of testing would be considered and discussed by the TAG and the Panel in advance of any final considerations as part of the subsequent Go-Live criteria considered by the Secretary of State.

To aid this the associated Testing Environment Guide would need to be finalised and the DCC would need to support Suppliers in the DCC Test Labs.

When this option was discussed, the DCC challenged that this was in line with the original approach before BEIS prompted the initial discussions on the need for UIT exit criteria and is per the approach set out in the first iteration of the Release 2.0 UITAD.

## **Option 2 – Mandated regression testing, involving User obligations added to the Release 2.0 SEC Variation Testing Approach Document (SVTAD) - DCC preferred approach<sup>1</sup>**

Option 2, proposed by the DCC included the execution of regression testing by Suppliers. Suppliers would be obligated, through associated changes to the SVTAD, to undertake testing.

This regression testing activity and completion of it would form part of the exit criteria for Release 2.0 UIT, and would form part of UIT completion activities in advance of any decision on any Release 2.0 Go live decision.

### **3.2.2 – TAG initial views**

At the end of the 21<sup>st</sup> February TAG meeting the conclusions of the TAG was that due to the timing of the proposal to obligate Suppliers to undertake regression testing, that it was too late to mandate the obligations outlined by the DCC, due to the relative proximity to the commencement of UIT. In addition, time would still be needed for BEIS and the DCC to consult SEC Parties on such obligations that would need to be added to the Release 2.0 SVTAD.

The TAG also observed that the DCC's planning for Release 2.0 has been underway for a long period of time, and to push forward with additional obligations on Parties at this point was inappropriate, based on the proposals in its current form. Therefore, the TAG was of the view that Option 1 should be taken, forward.

Therefore, at the end of the 21<sup>st</sup> February TAG meeting the recommendation from the TAG was that the entry criteria should be approved, however the TAG did not support the DCC's proposal regarding the exit criteria, particularly the nature of the obligations being placed on Suppliers, per option 2 outlined above.

This outcome prompted further action and further considerations by the DCC on its position regarding UIT activities and associated exit criteria and subsequent Supplier obligations, which is set out in section 4 below.

## **4. DCC views and revised proposals on UIT exit criteria**

Having noted the recommendation from the TAG at the end of the 21<sup>st</sup> February TAG meeting, on the way forward regarding the Release 2.0 UIT Exit Criteria. The DCC provided the following view and rationale as to why they believe the Exit criteria should include regression testing, and as a consequence an associated obligation on Suppliers.

*In light of the TAG feedback, DCC reviewed the scope and wording of the proposed obligations with BEIS and tabled a revised proposal, that was considered by TAG members at a teleconference on 1 March 2017.*

*DCC continue to assert that regression R1.x testing by individual Users provides the most compelling demonstration that making the new R2.0 code available in production will not adversely impact those Users or their customers.*

*DCC initially sought all Users to be available to participate in federated testing but only required evidence of successful testing from any two Users for each test. DCC now believe that all Users that are active in production should be obliged to take all*

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<sup>1</sup> Subject to further refinement and TAG discussions as set out in section 4.

*reasonable steps to execute this testing but only for those Service Requests that they are using in production; using their own preferred approach (i.e. individual service request or business process) on their proposed version of firmware; where desired by instructing their service providers to run the tests on their behalf; and assessed through self-certification.*

*DCC believe that embracing all Users is equitable and addresses concerns about how to replicate how individual Users orchestrate their business processes. Allowing Users to define their own approach, aligning it with their Service Request usage and using self- certification, reduces the potential intrusion whilst promoting fuller coverage.*

*Whilst DCC remains keen to commence and complete this testing, DCC recognise that not all will be able to meet the start of the UIT window and so suggest that Users must start no later than 50 days prior to the end of the planned UIT window, and in all events, complete this testing sooner than 10 days prior to the end date.*

Following the TAG's feedback at its February 2018 TAG meeting, the DCC provided a revised proposal for the TAG to consider. The TAG met for an ex-committee teleconference on Thursday 1<sup>st</sup> March 2018 to discuss the proposal and provide further views to highlight to the SEC Panel. It is worth noting that the TAG Members were very helpful by agreeing to participate in this subsequent discussion via teleconference on the revised DCC proposal at short notice.

#### **4.1 TAG considerations on the DCC revised proposal on the Release 2.0 UIT exit criteria and associated obligations**

The DCC provided a revised UIT exit criteria proposal to the TAG. It is summarised below, along with the discussions and views of the TAG. This in turn informed a revised recommendation from the TAG for the Panel to consider.

##### **4.1.1 Revised Release 2.0 UIT Exit Criteria**

The revised UIT exit criteria, provided by the DCC, in light of the previous TAG feedback was summarised as:

- The UIT B environment to have been available for testing for a total of at least 80 Working Days
- 100% of agreed Regression Tests executed by Suppliers
- No new (i.e. not replicable in live) Severity 1 or Severity 2 defects found against R1 functionality across DCC or Supplier systems.

##### **4.1.2 DCC intent behind the UIT exit criteria**

In support of the criteria, the DCC expanded them with details on the intent behind the inclusion of the UIT Exit criteria and the need for an associated obligation on Suppliers to undertake the regression testing activity, The DCC intentions is summarised as:

- There is a need to address the risk of high severity service incidents affecting consumers in live, and to be sure that Release 2.0 does not cause such incidents
- The need to gain confidence that all active Suppliers can operate effectively after Release 2.0 go-live
- The desire to get all Suppliers to do some testing rather than putting undue pressure on a few Suppliers to do all the testing

- Suppliers (or their Adaptor provider where applicable) to test a representative set of Release 1.x DUIS requests that they use in live; either atomically or within business scenarios.

In addition, the DCC set out how the proposed approach would be undertaken to minimise the impact and burden on Suppliers, with the DCC:

- Providing at least a 40 day window for regression testing. Noting that the regression testing window would finish at least 10 days before the end of UIT (i.e. no later than the 27th June 2018) to allow for contingency and governance activities in advance of the end of UIT on 7<sup>th</sup> September 2018,
- Allow suppliers to propose what testing they will do and self-certify when it is complete. This would give flexibility to suppliers on what regression testing they undertake.
- Allow suppliers to use Release 1.x Emulators rather than Release 1.x Devices where preferred

#### 4.1.3 Associated obligations that would need to be added to the Release 2.0 SVTAD

In support of the revised UIT exit criteria approach the DCC provided a draft indication of the potential obligations on supplier parties that would be needed to support the necessary regression testing needed to deliver and meet the UIT exit criteria. This is set out below:

*Each Supplier Party that has Devices deployed in Production upon the date of the start of Release 2.0 UIT shall:*

- I. take all reasonable steps to meet the Entry Criteria for Regression Testing referred to in [Section X] of the Release 2.0 UIT Approach Document (UITAD), by no later than [50] working days prior to the end of the Release 2.0 UIT phase in the UIT B environment; and*
- II. Use test User Systems which meet the requirements set out in [Section Y] of the Release 2.0 UITAD and,*
- III. cooperate with the DCC to ensure that all such Regression Testing tests are executed by a date being no later than [10] working days prior to the end of the Release 2.0 UIT phase in the UIT B environment; and*
- IV. Provide, to the DCC, a self-certification of test completion in the form provided within [Section A] of the SEC Variation Test Approach Document (SVTAD) by a date which is no later than [5] working days prior to the end of the Release 2.0 UIT phase in the UIT B environment.*

This draft indicative wording is subject to change as part of any necessary consultation on the changes to the Release 2.0 SVTAD. It is also likely that the self-certification forms will be provided in a different document, rather than the Release 2.0 SVTAD.

#### 4.1.4 TAG Observations on the revised approach

The TAG queried the proposed date by which Suppliers would be required to commence regression testing. The current proposal is the date of 27<sup>th</sup> June 2018, which is earlier than DCC will deploy dual-band functionality into the UIT environment, meaning that the code-base is not representative of go live. The DCC recognised and will consider this aspect.

The TAG discussed whether the DCC expects or requires the Regression test to be completely undertaken in both CSP regions. The DCC clarified that its proposal did not stipulate the completion



of a full regression test in each of the CSP regions, however testing would be ideal across the regions, but was not specifically required to meet the exit criteria.

When considering the UIT exit criteria defect mask the TAG questioned how testing participants would demonstrate that a severity 1 or 2 defect identified during Release 2.0 UIT was new and therefore applicable to the UIT Exit criteria. It was agreed that it may be challenging to do, with the TAG concluding that it was likely although disappointing that a testing participant may need to replicate the test in the UIT-A testing environment to show that it is a new defect and not an existing live or UIT-A defect.

#### **4.2 Revised TAG Recommendations on R2.0 UIT exit (and entry criteria)**

Based on the revised approach the TAG generally accepted the revised UIT exit criteria proposals, subject to the Release 2.0 UITAD being appropriately amended to reflect the approach<sup>2</sup>. Therefore, the TAG recommends that the Panel supports and subsequently should recommend the approval on the Release 2.0 entry<sup>3</sup> and exit criteria<sup>4</sup> to the Secretary of State.

This recommendation is subject to the following activities<sup>5</sup> being completed:

- DCC to clarify when each testing participant needs to agree its planned tests with the DCC. It was suggested that this may be on or before the 21<sup>st</sup> May 2018, when the UIT period starts, or before 27<sup>th</sup> June 2018, the proposed date by which Suppliers must be ready to start testing. The DCC did indicate that they are willing to be reasonably flexible on the exact dates though;
- DCC to clarify what happens if a Testing Participant does not complete the testing agreed between them and the DCC, and whether it would prevent UIT exit and consequently Release 2.0 Go-live;
- Clarification from the DCC on the definition of the necessary entry criteria for the UIT Regression Testing by Suppliers. This would need to be supported by confirmation that they can be met, through:
  - The availability of the necessary test Communications Hubs, including reasonable last order dates and the lead times for delivery, to enable the regression testing to be undertaken within agreed time periods; and
  - Clarifying the definition of test systems and other points of detail, e.g. what DUIS XML schema need to be used and which metering systems (or emulators) must be used as the basis of regression testing.

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<sup>2</sup> If following the circulation of the revised Release 2.0 UIT Approach Document (as provided in Appendix A), if there are any outstanding concerns from TAG Members, this will be highlighted to the Panel at its 9<sup>th</sup> March 2018 meeting.

<sup>3</sup> As set out in the revised Release 2.0 UITAD provided as Appendix A

<sup>4</sup> As set out in the revised Release 2.0 UITAD provided in Appendix A, and summarised within section 4 of this paper.

<sup>5</sup> These may be resolved, in advance of the Panel meeting, but after the associated Panel paper day. If so an update will be provided at the Panel meeting.

## **5. Other observations**

### **5.1 Release 2.0 Go Live criteria**

The focus of this paper has been on the Release 2.0 UIT Approach Document and associated Entry and Exit criteria. However, details are still required on the Go-live criteria for Release 2.0. It is assumed these criteria are still being developed, but will be shared with the Panel and TAG for comment. Particularly if the Panel is expected to provide views of the Go-Live criteria to help inform the Secretary of State's decision on whether Release 2.0 should Go-Live.

### **5.2 The timing of Obligating Users to undertake testing**

While the recommendation from the TAG on the revised DCC approach to regression testing was broadly supported at a principle level, the timing concern still stands amongst some TAG Members, and ideally should have been raised and developed earlier in the planning activities for the delivery of Release 2.0.

### **5.3 Testing space and Testing resource availability**

Irrespective of the TAG recommendation on the UIT exit criteria and the Release 2.0 UIT Approach Document, there is an outstanding concern amongst TAG Members on the number and availability of the necessary resources, devices and testing lab space to conduct the necessary UIT testing. The DCC needs to be clear on what is available and what space is available for undertaking Release 2.0 UIT activities, and in particular the ability to discharge any regression testing obligations by Suppliers. There are similar concerns that the DCC will not be able to deliver all necessary infrastructure to enable use of remote test labs in the necessary timeframes.

### **5.4 DCC Production Proving Capability**

Questions were raised around the use of the proposed DCC Production Proving in relation to Release 2.0, and associated obligations on Users. It was noted that the Production Proving function was in the live environment and would not deliver the necessary assurance being sought via the UIT environments.

## **6. Next Steps**

### **6.1 Recommendations to the Secretary of State**

Subject to the Panel's consideration of the TAG's recommendations, the Secretary of State will be notified of the Panel's recommendation on the UIT entry and entry criteria. Subject to the Panel's discussions, any wider observations on the Release 2.0 UIT Approach Document, detailed in Appendix B, will also be highlighted for consideration by the Secretary of State as part of any subsequent activities, if required.

### **6.2 Further activities**

As noted above, the TAG recommendation is subject to a number of outstanding activities outlined in section 4.2. These are supplemented by the need for the Release 2.0 SVTAD to be subsequently amended to incorporate the necessary supplier obligations. Such changes would need to be consulted on with SEC Parties by BEIS and/or the DCC in advance of the designated Release 2.0 SVTAD being updated within the live SEC.



## 7. Recommendations

The Panel is requested to:

- **AGREE** to recommend to the Secretary of State the approval of the entry and entry criteria based on the views expressed by the TAG, noting the outstanding concerns and areas requiring clarification within the Release 2.0 UIT Approach Document; and
- **AGREE** to highlight the observations outlined by the TAG and supplemented by the Panel to the Secretary of State.

David Barber

SECAS Team

2<sup>nd</sup> March 2018