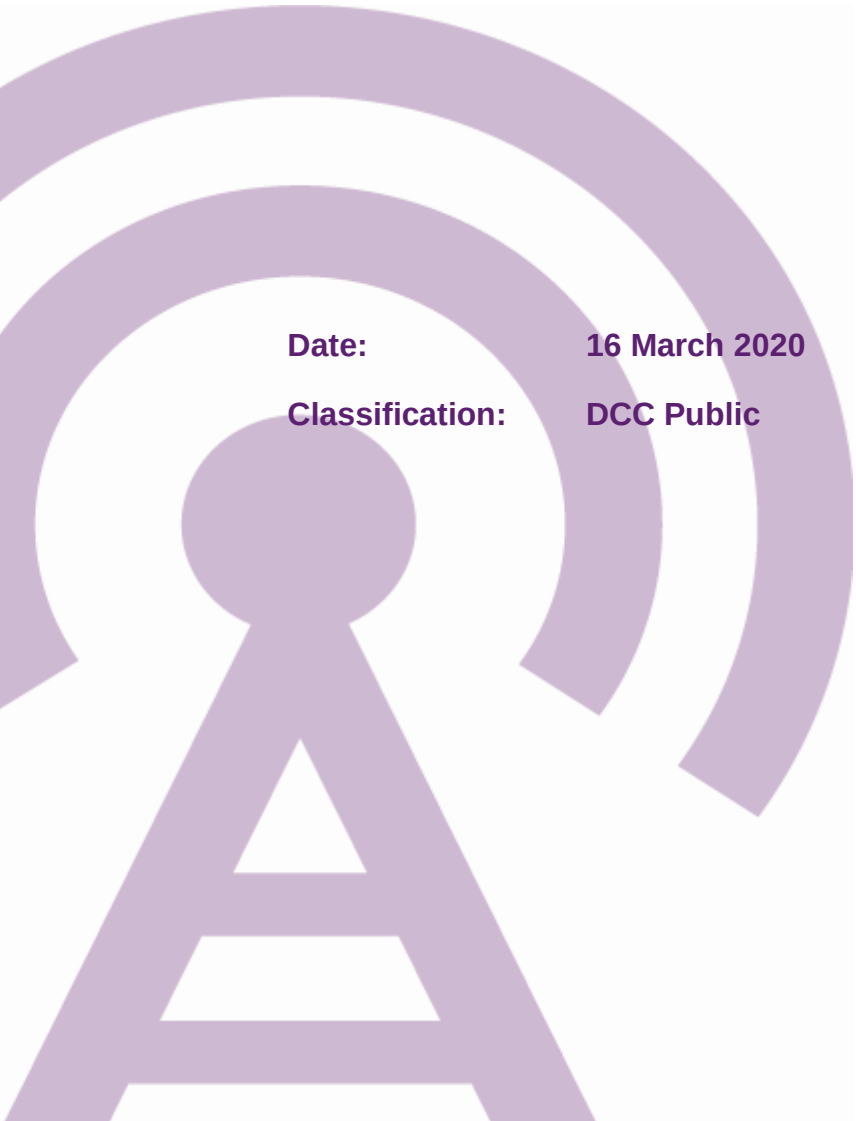
Data Communications Company

Delivery plan for Enduring Change of Supplier



Date: 16 March 2020

Classification: DCC Public

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1 Introduction and Context

Enabling energy customers to change supplier securely and easily is one of the fundamental purposes of the smart metering rollout and is underpinned by DCC's change of supplier process. An essential component of this is the replacement of certificates on devices (primarily meters) that identify the responsible supplier. When the original technical and security architecture for DCC was developed within the government's Smart Metering Implementation Programme, it was decided that DCC should implement a temporary solution for change of supplier, known as Transitional Change of Supplier (TCoS). The rationale was to avoid requiring additional change from energy suppliers during the mass roll-out of smart meters. While designed and successfully operated at a very high standard of security, TCoS is not fully aligned with the Trust Model for smart metering, primarily because TCoS functionality is provided by the Data Service Provider (DSP). It was always intended that TCoS should be replaced as soon as practicable by an Enduring Change of Supplier process, referred to as ECoS, so as to introduce a greater degree of separation.

On 30 May 2019 BEIS wrote to SEC Parties and other stakeholders, consulting on a proposal to direct DCC to provide ECoS arrangements covering both SMETS2 and enrolled SMETS1 meters. This was accompanied by a solution review of options for ECoS prepared by DCC. The BEIS consultation letter endorsed the recommendation in the DCC solution review, which was that Option 2, involving the procurement by DCC of a separate centralised party to operate the Change of Supplier service, should be the preferred option, and sought views on a proposal to direct DCC to implement this solution. This option requires very little change from DCC's energy supplier customers; once implemented, their interaction with the ECoS system to effect a change of supplier event will be very similar to their existing interactions with TCoS. The formal response to consultation, concluding that DCC should be directed to implement Option 2, was issued by BEIS on 17 September 2019.

On 1 August 2019 DCC received a Direction from BEIS for the purposes of Condition 13A of the Smart Meter Communications Licences (the DCC Licence), to work to produce an implementation plan for the ECoS arrangements. The plan must set out the activities which DCC and its External Service Providers will need to undertake, and the deliverables required, in order to deliver the ECoS arrangements, including reaching a position where the TCoS arrangements are discontinued.

It is a requirement of Condition 13A of the DCC Licence that DCC consulted the SEC Panel and all SEC Parties regarding the proposed content of the plan before sending it to BEIS, for approval as it stands, or with required revisions. That consultation took place between 23 January 2020 and 21 February 2020. DCC received five submissions on the content of the plan and has reviewed them. DCC has separately made available a consultation conclusion document that responds to several comments that were submitted as part of the consultation.

This document constitutes DCC's formal submission of the plan to the Secretary of State for approval, following consultation and in accordance with the Licence requirement. Once the plan is approved by BEIS, DCC will be required to take all reasonable steps to give effect to it. A draft set of milestones for delivery of the plan is included in this document at Annex A. The associated activities and deliverables are set out in Annex B in the form of a 'Plan on a Page'. The full direction as to the content of this LC13A plan is attached at Annex C.

2 Plan Summary

This section sets out the key features and milestones of the delivery plan for ECoS. The milestones are set out more fully at Annex A, which represents the formal plan proposed under Licence Condition 13A, and supported by a Plan-on-a-Page at Annex B.

This plan has been developed through planning work undertaken by the DCC and its Service Providers, through the earlier consultation on DCC's solution review which itself drew on a Request for Information (RFI) sent to potential suppliers of the CoS party function, and from responses to a further RFI in November to December 2019. The plan inevitably rests on a number of assumptions and dependencies, and the major ones, together with the top risks identified, are set out in Section 6 of this document.

Progress against the plan will be closely monitored, and reviewed regularly at the appropriate smart metering governance meetings. A key review point will arise following the procurement of the CoS party. Timelines for the Design, Build and Test (DBT) phases will be confirmed with bidders and with the appointed service provider for these phases. If the timings established then differ significantly from those derived from the RFIs and reflected in this plan, we will bring this to the attention of BEIS and the appropriate governance bodies, for consideration of the implications for the plan.

The high-level milestones based on the current non-contingent plan are:

	Estimated start date	**Estimated completion date**
ECoS Party procurement	March 2020	Jan 2021 (DBT) April 2021 (Hosting) May 2021 (Service Management)
ECoS Design phase	February 2021	April 2021
ECoS Build phase	May 2021	October 2021
ECoS Test phase	October 2021	May 2022
ECoS Go-Live approvals	May 2022	June 2022
ECoS Service Live	June 2022	June 2022
TCoS to ECoS migration	June 2022	April 2023

2.1 Contingency

It is proposed that five months of contingency is held by DCC, in line with the expectation set in the solutions review consultation. The recommendation to draw on some or all of this time will be made following reviews as part of normal programme governance processes. DCC will be monitoring progress and the potential need for contingency on a continual basis and will also be reporting to SMDG and IMF members monthly as part of DCC's regular updates. If the use of

contingency time is required, DCC will make a request to BEIS, with an explanation of the reasons for the request and the impact on the project. If agreed by BEIS, the change will be referred to IMF for the necessary update to the Joint Industry Plan (JIP).

2.2 Content of Plan

The remainder of this document sets out:

- the scope of the plan (Section 3)
- the key interactions between ECoS and other DCC deliverables (Section 4)
- the delivery approach to be taken (Section 5)
- the major risks, assumptions and dependencies underlying the plan (Section 6)
- information on DCC's project mobilisation for ECoS implementation (Section 7)
- next steps (Section 8)
- consultation questions on which DCC is seeking respondents' views (Section 9)
- the proposed milestones which form the basis on which BEIS will be asked to approve this plan (Annex A)
- a Plan on A Page for the delivery project (Annex B)
- the Direction letter to DCC under Licence Condition 13A (Annex C)

3 Scope

The ECoS delivery plan encompasses procurement of service providers for the CoS party function (in three separate lots for DBT, Hosting, and Service Management), the design, build and test of the ECoS service including testing the connection to the new Central Switching Service, developing new functionality in the DSP to work with the new CoS Party, arrangements for ECoS certificates to be added to devices at manufacture (rather than TCoS), and management of the migration of devices from using TCoS certificates to ECoS certificates. Change of supplier arrangements for both SMETS1 and SMETS2 meters are included.

Establishing and then operating the new CoS party, and ensuring that TCoS continues to operate until the transition to ECoS is complete, falls to DCC and its service providers. It is a feature of the chosen solution that for DCC's energy supplier customers, using the ECoS service once it is established will be virtually identical to using TCoS. However, there will be some involvement by energy suppliers as required, as discussed in the DCC Request for Information on ECoS to energy supplier SEC Parties in November 2018, including arranging with the manufacturers supplying their devices to place ECoS certificates on new devices from the appropriate dates.

4 Key interactions with other DCC deliverables

This section considers interactions with other major DCC deliverables when planning for ECoS. DCC plans with respect to the key interactions and dependencies identified are set out below.

4.1 Interaction with the Central Switching Service

DCC is Ofgem's delivery partner for the major programme to procure delivery of a Central Switching Service (CSS). This will provide a new, centralised facility, responsible for ensuring that both electricity and gas meter points are accurately matched to premises addresses from an authoritative GB database, and that this data is made available to properly authorised parties. A principal purpose of this is to facilitate faster, reliable switching. The Switching programme, acting under Ofgem sponsorship and a specific addition to the DCC licence, is distinct from DCC's smart metering activity.

Currently, to enable a change of supplier using the TCoS, Registration Data Provider (RDP) data feeds are used to provide Registrable Meter Point (RMP) and Registration data to the DSP. Once the CSS is operational, these data feeds will be replaced by messages provided by the CSS. With the introduction of ECoS, the CoS party will also need access to the same registration data. Since we know that some form of separation will be required between the CoS party and the DSP, the best course is for the CoS party to have its own direct access to the CSS.

Integration between the CSS and the CoS Party will be treated in the same way as CSS integration with the DSP. This means that:

- The new CoS Party will need to comply with the CSS Physical Interface Design (PHID) that describes the CSS API and data exchanged
- The CSS will need the ability to identify the CoS Party as a separate, unique entity, via a Market Role/Market Participant Identifier (MPID) combination
- The CoS Party will be provided with a set of synchronisation messages that will enable it to maintain its own view of the current state of the RMP and Registration data that is consistent with that mastered by the CSS
- DCCKI and SMKI keys will be used to secure and sign data in transit between the CoS Party and the CSS – this is the same approach used in the integration of the CSS with the DSP

The Switching programme is already in Design, Build and Test phase and the CSS is planned to go live in July 2021. Under the delivery plan for ECoS set out in this document, ECoS will still be in its 'Build' phase at the point of CSS go-live. DCC proposes that, to ensure that there is a smooth transition to ECoS without disrupting the development of the CSS, the Switching programme will ensure CSS is designed to accommodate integration with the CoS Party, and this functionality will be included in the first release. The Switching programme will undertake sufficient testing to ensure that the CSS can support concurrent integration with the CoS Party and the DSP. Once the CoS Party has been developed, the ECoS programme will undertake all required testing to support the integration of the CoS Party, co-ordinating with the Central Switching Service Provider as necessary.

4.2 Interaction with the reprocurement of the Data Service Provider

DCC's initial contract for its Data Service Provider (DSP), held by CGI IT UK Ltd, expires at the end of October 2021 (extendable for up to three additional one-year periods). DCC will therefore be running a reprocurement exercise for the services provided by the DSP and has begun a programme of work to consider how best to carry this out.

The key interaction with the development of ECoS is that the existing TCoS service is operated by the DSP. It is essential that TCoS continues to operate reliably until its replacement with ECoS is fully completed, meaning that all relevant devices have ECoS certificates, and that all new devices coming through the supply chain for installation also carry ECoS certificates.

Various contractual and timing scenarios for the future of DSP services are possible. Recognising the importance of maintaining a seamless change of supplier service, DCC has integrated planning for ECoS and TCoS migration into consideration of future DSP options. DCC will ensure that regardless of any change in contractual arrangements for the provision of DSP services, the TCoS service will be maintained until migration to ECoS has taken place and it is no longer required. DCC will manage the procurement of the ECoS party, reprocurement of the DSP, transition from TCoS to ECoS and the various interdependencies between them in an integrated way, to ensure continuity of service.

4.3 Interaction with other key DCC deliverables

DCC has a substantial portfolio of other programmes to be delivered during 2020-2023, each with its own requirements in terms of human and other resources, including access to DCC's test environments at the appropriate points. Following the direction from BEIS, the plan for ECoS has now been built into DCC's portfolio management processes to ensure that the necessary resources are identified and made available, and any conflicting demands managed. Expected forward requirements for access to test environments across the DCC portfolio are now planned through a single management and planning tool. Requirements and timings reflecting the deliverables in this LC13A plan have been included in the environments forward plan – essentially, access to the UIT and SIT 'B' environments during the testing phase of the ECoS project - and there is no contention between the planned dates for ECoS and the planned dates for any other baselined programme that would obstruct delivery in accordance with this plan. Active management of these issues will continue as timings and requirements are further refined with the progress of the project. To assist this, the environments schedule will be shared at the appropriate governance fora.

5 Delivery Approach

Details of DCC's delivery plan for ECoS are set out below, including a description of the key delivery phases; key milestones; and relevant testing components included in each. The solution for which DCC has been directed to plan is the one referred to as 'ECoS2' in the BEIS consultation dated 30 May 2019 (see that consultation's Appendices 5 and 6 for detail). In brief, the solution is very similar to the existing TCoS system but will involve a new CoS Party separate from the DSP. Change of Supplier events for all smart metering systems enrolled with DCC (both SMETS1 and SMETS2) will be initiated by the gaining supplier, and validated, processed and executed by the central CoS Party service provider. Procurement, implementation and management of the CoS Party will be undertaken by DCC, and it will form part of the DCC total system. DCC expects the procurement to be split into three lots (Design/Build/Test, service hosting, and service management), so there may be more than one service provider involved in the creation and delivery of the CoS Party. This document refers to the 'CoS Party' without making assumptions as to the underlying contractual arrangements with DCC.

The DSP will be required to enhance the existing architecture to accommodate a new ECoS Party Interface Specification (EPIS) and an ECoS component dedicated to handling ECoS events. DCC will initiate this work through a Change Request in parallel with beginning the procurement of the CoS Party, following approval of this LC13A delivery plan by BEIS.

No changes to energy suppliers' business processes are expected to be necessary due to the functional similarity between TCoS and ECoS. As set out in Appendix B of DCC's RFI to supplier parties of 23 Nov 2018, the following generic changes will be required:

For Smart Meters, energy suppliers will be required to:

- include all three certificates in each 6.23 Service Request (so a Digital Signing Key, Key Agreement Key and a KeyAgreementTopUpCertificate); and
- populate the SupplierPrepaymentTopUpFloorSeqNumber field

For all 6.23 Service Requests, energy suppliers will be required to:

- complete the ExecutionDateTime field; and
- sign the XML with a Private Key where the corresponding Public Key has been certified for XMLSigning under SMKI. The corresponding SMKI certificate must specify the MPID the supplier wishes to use in relation to the CoS

As per existing SEC requirement, energy suppliers must not use such a Private Key to sign any Command to a SMETS2 Device.

New Error Codes

- Amended process to handle new error codes introduced by ECoS in Alerts N26 and N27 for CoS Events

Certification for XMLSigning

Each energy supplier will need to:

- generate a new private key for the purpose of the section above;

- submit a corresponding Certification Request to the SMKI Registration Authority, specifying any MPIDs the supplier wishes to use for the purpose of section above, and a remote party role of XMLSigning; and
- ensure a corresponding SMKI Certificate is issued

Threshold Specification for CoS Events

Each energy supplier will need to provide Anomaly Detection Threshold values for the number of CoS Events it expects for each of its MPIDs in future periods, broken down to a daily granularity.

From a security perspective, design decisions will reflect a strong emphasis on ensuring that the trust model is fully reflected, and external bodies including the SEC Panel's Security Sub Committee (SSC) and the National Cyber Security Centre will be consulted as appropriate and where necessary.

5.1 CoS Party Procurement

DCC undertook a market engagement exercise between 11 November and 6 December 2019 by publishing a Request for Information (RFI) to the market. This RFI built on the exercise in November – December 2018 that informed the selection of the preferred option. The RFI objective was to inform the Request for Proposal (RFP) requirements, determine supplier capabilities, stimulate interest in the upcoming RFP, obtain updated rough order of magnitude costs and help develop a shortlist of prospective service providers to invite to participate in the RFP.

We expect that there will be a requirement for the CoS Party function to be separated from certain DSP activities, which may constrain bidders in relation to some aspects of future DSP procurements. Before the issue of the RFP, DCC will work with BEIS to understand the likely scope of that requirement, particularly with respect to any required organisational separation, so that bidders can be informed as accurately as possible.

The procurement will be carried out in accordance with DCC's licence obligations and procurement policy. The RFP process will be planned with support from DCC subject matter experts and technical leads, and include reviews with the SEC Panel's Security Sub Committee and with BEIS. The RFP document will be shared with potential providers who confirm they wish to participate. Our expectation is that the procurement will be divided into three lots, covering Design/Build/Test (DBT), service hosting, and service management. An appropriate period will be allowed for bidders to respond.

The submissions received by the relevant deadline will be evaluated in accordance with the evaluation criteria for each lot as published in the RFP, and bidders shortlisted following moderation of the scoring. In each case, following an initial moderation session, shortlisted bidders will be invited to attend a clarification meeting, and subsequently to submit a best and final offer (BAFO). On receipt of the BAFO, a final moderation session will be held to agree the final scores and bidder feedback. The contract will be awarded and participants will be notified of the outcome with feedback being provided to each bidder. DCC's commercial and procurement lead will negotiate and finalise the contract ready for execution. DCC will sequence the evaluation and contract negotiation phases of the procurement so as to support the overall plan, prioritising finalising the DBT contract as this lies on the critical path, with the others following shortly afterwards.

Work on preparing the requirements for the RFP is being developed in parallel with consultation on this LC13A plan. Subject to any changes to the plan following consultation, and to BEIS approval, this should enable DCC to issue the RFP in March 2020. We would expect to complete the evaluation, final negotiations and contract signing for the Design, Build and Test lot by January 2021, with awards of the other lots following on in April and May 2021 respectively. In planning this timeline, DCC has taken on board lessons learned from other recent procurements, aiming to ensure there is sufficient time to properly define the requirements, and to work through the evaluation and negotiation process thoroughly before contract award.

5.2 Regulatory requirements

We understand that BEIS intend to make changes to the SEC to ensure the new CoS Party arrangements are accommodated and also to define the requirement for organisational separation between the CoS Party and the DSP, or specified functions carried out by the DSP. In addition, there will be consequential changes such as updating references to TCoS. We understand that BEIS intend to consult on these changes, and then introduce them to the SEC using powers under S88 and S89 of the Energy Act 2008.

There will also need to be additional SEC subsidiary document (SSD) content, which will be developed and consulted upon by DCC, and then designated by BEIS using transitional powers. In particular, we envisage the creation of a SEC Variation Test Approach Document (SVTAD).

The first point in the delivery plan when these changes will be required is to support the start of the Test phase, planned for October 2022. DCC therefore intends to develop the content during the course of 2020, with a view to implementation in good time for that date. The plan includes a milestone for completion and approval of the SVTAD document by June 2021.

In addition there will be a need for a transition document to assist in the management of the migration and cutover process. We anticipate that the initial version of this will be prepared by BEIS, in parallel with the planned enduring SEC changes, and with the effect of temporarily disapplying those enduring changes. We will work with BEIS on subsequent versions to reflect the requirements as we progressively work through ECoS transition and migration. DCC will provide all necessary support to assist in giving our customers sight of this as early as possible, but the essential, required date will be in advance of the start of migration, planned for June 2022.

The SVTAD will provide the overarching approach and outline of the testing for ECoS. It will describe how testing will be conducted and assured, to ensure that the move to ECoS fully meets the new requirements and obligations, while not undermining the ability of parties to continue to meet their existing SEC obligations. It will set out the objectives of testing for ECoS and if required the TCoS Migration and define the different stages of testing in terms of the activities, resources and evidence needed to meet those objectives. The plan will clearly define the Entry and Exit gateway requirements and the governance processes to be completed to proceed to the next stage. It will define the requirements and procedures for the review of system requirements and specification documents during the design phase, as well as test plans, scenarios, cases and scripts.

For each test phase there will be a more detailed test plan. These plans will be specific to the required test phase and will, in detail, define the testing requirements, what is in and out of scope for the phase and what will be deemed a successful conclusion i.e. passing of all the applicable exit and success criteria including security assurance; where testing will be carried out; and the test timeline for the test phase.

DCC will consult with TAG members, with the SEC Panel and its sub-committees, and with SEC Parties on the contents of the SVTAD for ECoS as part of its delivery of ECoS. Following consultation, the SVTAD for CoS will be reviewed and updated in light of the consultation comments and submitted to BEIS for consideration for incorporation into the SEC.

Proposed timings for the testing associated with ECoS are set out in section 5.5 below.

5.3 Design

In preparation for the RFP, DCC will work to further develop the architecture, alongside the detailed requirements analysis. Solution design activity will include carrying out a full impact assessment (FIA) of the impacts on existing systems. Overall, DCC will manage the end-to-end design process covering the ECoS solution, TCoS to ECoS migration and securely closing the TCoS service.

When the service provider designing and building the CoS party has been identified, DCC will agree a set of new solution artefacts (technical and functional documents) with them. Full impact assessment documents from existing service provider and solution artefacts from the CoS party service provider will be assured through DCC's internal design assurance process. This considers the solution End to End, assuring the Technical, Functional, non-Functional, Security, Operational, Test and Service Design artefacts and will provide the formal assurance point for inclusion within a DCC Release. This LC13A plan envisages this activity commencing immediately following DBT contract award in January 2021, with a target date for completion of the refined design in April 2021.

5.4 Build

The service provider for ECoS design, build and test will build the functionality in accordance with the detailed requirements set out in the procurement exercise, and the final design as refined in discussion with the service provider.

Design changes to the existing service provider systems, including the new DSP functionality outlined at 5.1 above, will be carried out in line with existing contract and design processes in place using the DCC Change Delivery Methodology (CDM) and will be prioritised in line with the ECoS delivery plan. This LC13A delivery plan envisages the Build phase commencing in May 2021, with a target date for completion of the build in October 2021.

5.5 Testing

The main purposes of the ECoS testing phase will be to prove that using the new CoS Party satisfies all associated requirements, and to test the alterations to the DSP functionality. This will ensure that 'Gaining Suppliers' are able to successfully manage the devices of which they have taken ownership. This will be to ensure that where a device with an existing TCoS key can

be transposed to an ECoS key and when a CoS occurs, the new supplier takes ownership of the device. This will also prove that where new devices are set up with the ECoS certification these too can be changed.

As will be set out in the SVTAD, each test phase will be supported by the required detailed test plan for that phase. This will ensure the requirements and the scope of coverage for each phase are clearly defined, as well as specifying the required bench marks for a successful conclusion.

Throughout the project, which will be implemented via a phased approach, testing will ensure that the CoS process can successfully manage CoS via both TCoS and ECoS during the transition period, and finally solely via ECoS.

The test phases Pre-Integration Testing (PIT) and User Integration Testing (UIT) will also aim to prove the TCoS Migration process.

The sections below provide a detailed structure of the test phases. This LC13A delivery plan envisages the start of the Testing phase in October 2021.

5.5.1 ECoS - Pre-Integration Testing (PIT)

The PIT Phase includes Unit and Link testing, System Testing (ST), Factory Acceptance Testing (FAT) and TCoS Migration testing. This is where the DCC's Service Providers, primarily the Data Service Provider (DSP) and the new provider for the CoS Party, will undertake pre-integration activities individually to verify that their solution meets the specifications whether it be for new functionality, amended or existing functionality.

PIT for ECoS will provide assurance of quality of the new CoS Party and the associated interfaces as well as the amended processes and interfaces with the DSP.

PIT with Devices, Stubs and Drivers

As PIT is not an end to end phase, to replicate the receipt and submission of messages to and from other applications and between the various service providers within the DCC ecosystem, we will use a combination of real devices, stubs and drivers as relevant to replicate these end points.

On the completion of PIT the Test Completion Report (TCR) will be reviewed and approved by DCC's Test Assurance Board (TAB) before PIT can exit into the SIT Phase in accordance with the planned SVTAD for CoS. PIT is expected to commence in October and complete in December 2021.

5.5.2 ECoS - System Integration Testing (SIT)

SIT will bring all the Service Providers (DSP, CoS Party), Central Switching Service, interface infrastructures and DCC together in order to confirm that the different service providers and DCC backend systems work effectively together to meet the requirements of the SEC and operate as a working system for DCC customers. Testing of Communications Service Providers' (CSPs') systems is out of scope as there is no change to their infrastructure or current process. SIT will include:

- Solution Testing by the Service Providers.

- Service Provider User Acceptance Testing (SP UAT) by the Systems Integrator (SI) and witnessed by DCC, which is undertaken to provide additional assurance. It allows DCC to witness an agreed subset of the tests carried out in Solution Test. The subset of tests will be described in a SP UAT Test Plan. SP UAT will be carried out using meters as end points.

- Regression Testing to ensure associated processes that have not been altered or introduced still function correctly. This will be carried out as part of Solution Testing and SP UAT as well as any test cycles to retest fixes.

SIT with Devices

Device Integration Testing will not be carried out as a defined separate test phase within SIT, but there must be Solution Testing with devices prior to going into the SP UAT sub-phase, where it can be proven that the correct message and certification structure goes onto the correct meter type.

To ensure that SIT can commence at the appropriate time, there will be the ability, if devices are not readily available, to test using Emulators, Stubs and or drivers, connecting via a test link (not via the CSPs – testing with CSPs will be in UIT). This contingency measure would apply only until devices are ready and available.

SIT – External Audit

There is a governance requirement that all SIT testing will be audited by the official Auditor; KPMG. KPMG will, over a 2-week window, review and assess all aspects of SIT testing; from documentation, test coverage to witnessing and outcomes. Their final report will form part of the SIT Test Completion Report exit gateway requirements to be able to progress into UIT.

On the completion of SIT, including SIT External Audit, the TCR will be reviewed and approved by DCC's TAB, presented to the Test Advisory Group (TAG) for a recommendation for approval, and finally on TAG's recommendation taken to SEC Panel for approval.

This LC13A delivery plan envisages completion of SIT in February 2022.

5.5.3 ECoS – User Integration Testing (UIT)

UIT for ECoS will be the first opportunity for energy supplier Users to test their systems and devices with DCC's before changes are made available in the production environment. This will enable the 'gaining supplier' to ensure that when they take ownership of the meter(s) they are able to retrieve the required data and successfully use it within their systems. DCC will produce a User Test Services Approach Document (UTSAD) for ECoS and consult with SEC Parties. The UTSAD will cover the entry criteria for User Testing starting in UIT as well as requirements on Users. In order for Users to use the ECoS functionality they will be required to prove to DCC they can do so. DCC will update and consult on any changes required to the Common Test Scenarios Document (CTSD).

The system used will be architecturally a full end to end system, using both SMETS1 and SMETS2+ meters via COS Party, DSP, CSPs and Communication hubs as well as the DCC's backend applications.

This LC13A delivery plan envisages completion of UIT in May 2022.

5.5.4 ECoS – Operational Readiness Testing (ORT)

DCC appreciates the critical importance of operational readiness and a smooth transition for its customers when using new systems. On that basis, DCC is proposing 'Operational Readiness Testing' (ORT) which will take place prior to the deployment of ECoS functionality into the production environment. This testing stage will operate independently and overlap with SIT and UIT test phases. ORT comprises a range of testing activities and includes Operational Acceptance Testing (OAT), Capacity testing, Business Acceptance Testing (BAT) and Business Continuity Disaster Recovery Testing (BCDR). ORT provides assurance that DCC systems and processes – including billing and reporting - are ready to support the changes introduced by the wider release. DCC anticipates that ORT activities will run for ten weeks before the uplift into production.

Operational Acceptance Testing (OAT)

This will comprise Resilience and Operational Process Testing that is not carried out within BAT. Security Testing though normally part of this phase will be carried out as an independent test phase managed and controlled by the Security Team. This will be documented in a Test Approach and/ or a master Test Plan, including the required entry/ exit criteria.

On the completion of OAT a Test Completion Report will be written and submitted to DCC Operations and the Operational Acceptance Board (OAB).

Capacity Testing

This will follow all requirements defined within the System Capacity Test Assurance Document (SCTAD). This phase will be carried out in parallel to the SIT test phase but in a separate environment.

On completion the process will follow the Exit Criteria, a Test Completion Report will be written and submitted to TAB for Approval and when approved, TAG will be informed that it has been approved and this will be referenced within the SIT Test Completion process which is approved by TAG.

Business Acceptance Testing (BAT)

This will exercise the processes and procedures that will be in place to support the operation of the DCC service associated with ECoS. This will be documented in a Test Approach and/ or a master Test Plan, including the required Entry/Exit Criteria.

On completion, the process will follow the Exit Criteria, a TCR will be written and submitted to DCC's Operational Acceptance Board (OAB) for approval.

Business Continuity Disaster Recovery Testing (BCDR)

This will be carried out by the ECoS Service Provider to ensure that all requirements are met, and the service is failed over and brought back within the requirements. This will be documented in the BCDR Plan, including the Entry/Exit criteria. Testing will be carried out within a Pre-Production Environment and post Go Live in the Production environment within a 3 month window.

On completion, the process will follow the Exit Criteria, a TCR will be written and submitted to Operational Acceptance Board (OAB) for approval.

5.5.5 CSS Connectivity Testing – Contingency Approach

There is an existing Registration Data system associated with the DSP and currently used for switching. As part of the Switching Project this solution will be replaced with a new strategic solution, the Central Switching Service (CSS) - see section 4.1 above.

Current plans indicate that CSS will be available before ECoS testing completes. If, however, the Switching project suffers any delays then a contingency test approach (testing with CSS outside SIT and UIT) will be put into effect and run as a sub test project. It will fall under the governance of the TAB and the required test document will be taken from the SIT Test plan etc and sign-off will go through the normal channels as a 'special' case.

The testing with CSS will be to ensure the ability to connect to it using the required user set up and configurations. The testing to prove that the CSS solution works and produces the correct data will fall under the Switching project.

5.5.6 Security Testing and Assurance

A Security Test and Assurance Programme will ensure that appropriate and sufficient testing has taken place to demonstrate that the ECoS solution and associated integrations have been designed, developed and implemented securely.

The intent of the Test Programme is to build confidence in the security of the solution as DCC moves towards go live.

The security test programme will cover security testing across the development and implementation life cycle and operate across those environments that support each such test coverage. i.e.

- Code review and Unit / Module testing are development activities and so conducted within the development environment.;
- Pre-Integration Test (PIT) System testing is conducted in the system test environment;
- Systems Integration Test (SIT) includes Infrastructure and Boundary Penetration testing activities;
- User Integration Test (UIT) includes Application, Infrastructure and Boundary Penetration testing activities;

- Misuse Testing, Base Operating System Testing, Application, Infrastructure and Boundary Penetration Testing activities are performed in the Target implementation environment (Prod/UIT)

Penetration testing will be conducted during development, testing and prior to live operation, and augmented with an independent audit.

All penetration testing will be carried out by a CHECK accredited provider who will provide a plan for scoping, delivery and reporting to be included within the main programme plan.

CIO assurance of ECoS will be required at each of the key Design, Build and Test phases to ensure appropriate assurance of the solution.

The SEC Panel's Security Sub-committee and the SMKI Policy Management Authority will be regularly updated throughout the life of the project, and will be asked to consider the scope of the CIO assurance activities and any deliverables that are produced, as well as any other key DCC security relevant documents.

Transition planning will ensure that there is no reduction in security during the period while both TCoS and ECoS are running in parallel.

5.6 ECoS Go Live: Live Service Criteria

The requirements for provision of the ECoS service will be developed into a Service Impact Assessment, which will be brought within DCC's change control governance. This will feed into the Live Service Criteria (LSC) as they are developed. The final LSC will be delivered and measured against the needs of the Service and then evidenced against the Technical delivery, Service Delivery and Cut-Over.

Live Service Criteria for the implementation of ECoS and the evidence required to demonstrate that they have been met will be developed in consultation with BEIS, and a governance process agreed involving SEC Panel governance to ensure that the criteria are satisfied before the ECoS solution is deployed in the live environment. On the basis of experience, the plan allows a month from successful completion of the testing phase to gaining agreement to go live. This LC13A plan envisages reaching this major milestone in June 2022.

5.7 Transition into Service

Preparation for transition will ensure that all operational functions and capabilities within DCC are ready to support the service in live; we will also work with external transition managers to gain their assurance that they are ready to support the live service, and we will provide the assurance back through to our Operations SLT.

Transition activities will ensure that the knowledge gap between development (project) and maintenance (Live service) is bridged and that all the necessary documentation and knowledge required by Operations to support the new service has been provided. All impacted DCC Functions and Capabilities will provide confirmation and evidence of readiness to support in Live.

The transition plan will be built during the Service Design phase and finalised once the Service Designs have gone through DAB. Preparation for transition will include engagement with service providers and external stakeholders to ensure readiness of both internal and external teams to support operation in live.

The plan will be developed and governed under DCC's Change Delivery Methodology (CDM). Transition will be complete when it is confirmed that the service is ready to be supported in Business As Usual.

5.8 Device Migration from TCoS to ECoS

Once ECoS goes live, the DSP will have the capabilities in place to identify and route the SR6.23 requests to target devices, and will be able to process the new associated alerts.

This LC13A delivery plan envisages a period of 10 months to complete the migration of devices from the TCoS system to ECoS, between June 2022 and April 2023.

With the required capabilities in place, and according to the programme transition plan, DCC will start the process of moving devices from TCoS to ECoS.

This will involve two principal workstreams. The first is arranging for ECoS certificates rather than TCoS certificates to be placed on devices in the supply chain, via a manufacturing pack.

The second involves the swapping out of TCoS certificates for commissioned devices, to be replaced with ECoS certificates and so effectively migrating them to the new ECoS system. Part of the transition plan will outline how the DCC will deal with devices that fail the migration to ECoS.

DCC will maintain a full service management solution across both services until migration is complete, and support for Users throughout the transition and migration processes. The detailed processes and schedules for making these changes will be set out in the transition document and in supporting material to be developed by DCC.

5.9 Engagement with Device Manufacturers

No changes to devices are envisaged as part of the implementation of ECoS, but the switch to putting ECoS credentials onto new devices will need careful management. The contractual relationship to arrange for this lies between energy suppliers and manufacturers, but clear communications from DCC to device manufacturers on expectations and timelines should help to smooth the process.

DCC has existing regular communication with device manufacturers, including a quarterly cycle of one to one meetings with the DCC Devices Team to address any technical issues between the DCC and manufacturers. This cycle of meetings will be used to ensure that manufacturers have early notice and information of the forthcoming changes required in terms of the change from TCoS to ECoS credentials.

DCC will also use existing communications channels with the relevant industry bodies such as EUA and BEAMA to reinforce and co-ordinate messaging.

Using the methods described above the DCC devices team will inform all known manufacturers of the initial consultation, high level plan of events and timescales, and keep them updated in line with the ECoS LC13A plan.

DCC will also request devices from manufacturers for use in SIT and UIT test environments, with the appropriate configuration and SMKI security credentials, and the devices team will track the progress of their development and delivery. These devices will be required at latest by 31 October 2021.

5.10 Arrangements for secure destruction of TCoS private keys

The BEIS direction letter requires DCC to make arrangements for the secure destruction of TCoS private keys. This will take place once migration to ECoS is fully complete, and it is judged that there is no further purpose in maintaining them. No milestone will be set for this, as DCC will consult the SSC and SMKI PMA on the appropriate point and method for this to be done. Once agreed, the encrypted keys will be deleted using the agreed wiping tools or techniques.

5.11 Governance and progress reporting

DCC will report regularly on the progress of the ECoS project against the plan through the usual SMIP governance mechanisms, and where relevant the SEC enduring governance bodies. We expect this to be covered in the usual cycles of DCC reporting and updates at the Implementation Managers Forum and Smart Metering Delivery Group. We expect that the key milestones for ECoS implementation will be added to the Joint Industry Plan, under the governance of those bodies, including the management of any Change Requests. Other governance bodies will be engaged as relevant, including particularly TBDG in respect of baselining regulatory provisions, SSC and SMKI PMA approval of security design, and TAG for agreement of test plans, test documentation, and the exit of testing phases.

As required in the LC13A direction letter, DCC will advise BEIS of the results of impact assessments carried out by our Service Providers on Change Requests relating to the provision of ECoS, and of the costs arising from procuring new service providers to deliver ECoS capability, together with the anticipated effects on DCC's service charges.

5.12 Stakeholder Updates and engagement

DCC's approach to delivering an outstanding customer experience is to engage with DCC customers through a number of channels. These include digital, traditional communications, Government and Industry bodies and a number of tailored bilateral and multilateral engagements and industry events.

Engagement with all stakeholders will occur throughout the lifecycle of the project. DCC will ensure stakeholders are kept informed and are adequately consulted through various channels and governance groups including engagement with the SEC Panel and its sub-committees, particularly TAG, the SEC Ops group, the SSC and the SMKI PMA as relevant, and on programme progress with the Implementation Managers Forum (IMF), the Smart Metering Delivery Group (SMDG), and other transitional bodies as relevant.

All Stakeholders will be kept informed on DCC's progress against the plan through regular reporting, and stakeholder feedback from engagement activities will be considered in the development and rollout of the project. DCC will continue to evolve and develop stakeholder engagement to ensure transparency and that stakeholders are kept informed, have an opportunity to shape proposals, and can also help guide DCC's direction with the use of surveys.

6 Risks, Assumptions and Dependencies

The tables below capture the key risks and dependencies and the core assumptions associated with delivery of DCC's plan for ECoS, including those outside the control of DCC.

Risks

Ref	Description	Impact	Management Strategy
R1	Obtaining Registration data from CSS	The need to integrate the CSS with the CoS Party system results in a dependency between the two programmes. This could increase the implementation risk associated with both programmes due to the need to coordinate development and testing activities across the two simultaneously	The ECoS Programme will work with the CSS Programme to ensure full alignment
R2	DSP Contract/Re-procurement	If TCoS migration is not completed before the final DSP extension period, or an alternative DSP provider is appointed, the necessary contractual arrangements will need to be put in place to enable all Devices to be migrated	The ECoS Programme will work with the DSP Re-procurement Programme to ensure the necessary contract provisions are in place
R3	DSP Contract/Re-procurement	Renegotiation of the existing DSP contract, or coverage in a new DSP provider contract, to ensure TCoS transition and migration is supported	The ECoS Programme will work with the DSP Re-procurement Programme to ensure the necessary contract provisions are in place
R4	Testing with actual Smart Meters is not carried out or not carried out as soon as possible within the process	This will lead to uncertainty as to whether ECoS will work with both types of meters and that the correct message types and flow are successfully recognised and processed or rejected correctly	Actual SMETS meters to be used in testing within SIT and extensive testing carried out using SMETS meters before SIT can be signed off
R5	The CoS Party Service Provider is not agreed within the timescales indicated in this LC13A Delivery Plan	This will delay all delivery elements of the ECoS project, Design, Build, Test, ECoS go live and TCoS to ECoS migration	Procurement to engage CoS party Service Providers (DBT, hosting and service management) as part of the RFP process to ensure delivery within the timescales indicated in this plan is agreed. This will be monitored.

Ref	Description	Impact	Management Strategy
R6	Service Providers not supporting UIT	This will delay the UIT phase of the ECoS programme and subsequent evaluation of device performance prior to ECoS Go-Live	The ECoS Programme will work with the Service Providers and Device Manufacturers to ensure support and participation of UIT
R7	LC13A testing plans, definitions are taken as fact and not re-reviewed	As plans/timelines are based upon assumptions and not service providers' specifications, agreed processes etc, they are/may not be accurate and true	Requirements reviewed, approved and baselined prior plans/specs written so all partied fully understand the requirements
R8	The usage of a shared test environment within DCC and other projects	Possibility of contention for time to use test environments.	DCC forward planning for environments use will identify bottlenecks well in advance to allow management of contention. Plans will be shared with stakeholders to help identify issues. No bottlenecks are currently identified for ECoS.
R9	Manufacturing Test Pack not released within the required timescales	This will delay the Testing undertaken within PIT SIT and UIT as defined within this delivery plan and its associated timelines	The ECoS Programme will work with the Service Providers and Device Manufacturers to ensure delivery within the required timescales
R10	Test Devices Released from Device Manufacturers	This will delay the Testing undertaken within SIT and UIT as defined within this delivery plan and its associated timelines	The ECoS Programme will work with energy suppliers and Device Manufacturers to ensure delivery within the required timescales
R11	Manufacturing Pack released	Delays in the DCC making ECoS Certificates available to energy suppliers for Device Manufacturers as defined within the delivery plan will affect the proposed go live and subsequent migration from TCoS to ECoS	The ECoS Programme will work with service providers, energy suppliers and Device Manufacturers to ensure delivery within the required timescales
R12	Production Devices made available from Device Manufacturers	Delay in the Device Manufacturers delivering/making available Production Devices with the required ECoS Certificates as defined within the delivery plan will affect the proposed go live and subsequent migration from TCoS to ECoS	The ECoS Programme will work with service providers, energy suppliers and Device Manufacturers to ensure delivery within the required timescales

Ref	Description	Impact	Management Strategy
R13	Independent Security Assessment	Delays in completion or achievement of satisfactory results for the independent Security Assessment undertaken under Appendix 2 of Schedule 5 of the associated licence conditions will have an impact on the dates for ECoS Go-Live	The ECoS Programme will work with the DCC Security team and ensure engagement with additional required stakeholders to ensure completion within the required timescales
R14	Regulation in Place to Support ECoS Go-Live	Delays in ALL parties reviewing and ensuring that all Regulatory aspects are in place to support ECoS Go-Live, including S88 and SSD re-designations will have an impact on the timescales proposed	The ECoS Programme will work with the DCC Regulatory team and ensure engagement with additional required stakeholders to ensure completion within the required timescales
R15	Replacement of TCoS Certificates	If TCoS certificates contained with metering devices are not replaced correctly, the Devices will never be able to be churned again.	The ECoS Programme will work with Device Management and TSP to ensure compatibility
R16	Resourcing	DCC unable to resource the programme with appropriately skilled people.	Programme team will work with all department heads to ensure resource requirements and skillsets are defined and met
R17	Assumptions in plans, definitions and timelines prove inaccurate once service providers are engaged.	Planned project timeline could prove undeliverable.	Two Requests for Information issued before this LC13A plan was developed, plus consultation on options to ensure assumptions are as robust as possible. DCC will check and review service providers' developing delivery plans, and seek to challenge/ manage any significant variations from expectations.
R18	The migration of assets from TCoS to ECoS does not cover all DCC User devices.'	Certain assets being unable to migrate to the ECoS Platform	The ECoS Programme will work with service providers as part of the TCoS – ECoS Migration strategy to ensure where practically as possible all scenarios are captured and mitigated accordingly.

Dependencies

Ref	Description	Delivered by	Dependent Activities	Date
DEP1	Connection available to new Central Switching Service	DCC	ECoS Testing phase	08/10/21
DEP2	All requirements will be reviewed and approved before any Test Plan is produced.	DCC	By start of Testing phase	8/10/21
DEP3	Wherever required, Service Providers will create and provide Test Plans for review and Acceptance in accordance with the overarching Test Strategy	Service Providers	Before start of each test phase	Planned start date for each test phase
DEP4	Devices with required configuration will be available for SIT and UIT	Energy suppliers and device manufacturers	SIT and UIT	31/10/21
DEP5	For the UIT Phase, energy suppliers need to have been engaged and ready to test by the beginning of the defined UIT window as per their allocated slot	Testing Services will work with the suppliers to agree a suitable time slot within the window	UIT Test Phase	28/2/22
DEP6	DSP Re-Procurement	DSP (existing or reprocured) must continue to provide TCoS service until ECoS migration is complete.	TCoS closedown	30/04/23

Assumptions

Ref	Description	Impact if incorrect
A1	An extension of the current DSP contract is approved, or an alternative solution is agreed, to support the continued provision of TCoS until migration to ECoS is complete	Delay in completion of project
A2	Testing with meters is required to support the test phases as defined by the project	Will not complete a full end to end test and therefore, will not be able to confirm the certification is correctly installed onto the device(s)
A3	No change to SMETS1 S1SP expected	Delay in completion of project
A4	There will be no changes to the GBCS specification required for ECoS	Delay in completion of project
A5	Energy suppliers are not expected to be impacted by the migration from TCoS to ECoS	Little or no impact
A6	Aggregate Anomaly Detection Thresholds for CoS Events and Change of CoS Party to be defined by DCC and agreed by SSC	No Impact
A7	Business Intelligence and Management Information (BIMI) will be replaced by DCC Enterprise Data Solution by the time ECoS is implemented in 2021 Therefore, it is assumed no changes to BIMI are required to support ECoS.	No Impact
A8	DSP service will be extended or reprocured to cover the support required to complete the implementation of ECoS	See R2, R3 and DEP5
A9	The TCoS to ECoS migration will be completed before the end of the final DSP contract extension, or an alternative service provider appointed.	See R2, R3 and DEP5
A10	SMETS1 & SMETS2 Smart Meters will be used at some point in testing to confirm process works with both meter types	See R10

Ref	Description	Impact if incorrect
A11	No new Test environments will be required for ECoS testing	Time will be lost sourcing additional environments
A12	CSS will be treated as a 'Black Box' in terms of functionality for ECoS, because ECoS needs to configure/comply with CSS requirements/protocols etc as a new MPID. Testing will be required to prove both the interface & processing of data received.	If impacted, will work with Switching Project to resolve.
A13	CSS feed will be available for ECoS SIT.	Delay to project. Likelihood is low.
A14	No change requirement to CSP (Arqiva, Telefonica)	No Impact
A15	All Main Testing phases will be linear - PIT, SIT UIT. ORT can overlap other phases	This is DCC methodology. Once re-engagement with SP is carried out this could be adapted to a different structure for this project
A16	Pen Testing will be carried out by a third party specialist company and will be successfully completed and reported to SSC (and SMKI PMA as relevant) before Go Live.	Delay to project.
A17	UIT will include Suppliers and SMETS meters with the required TCoS certification as well as devices with the new ECoS certification. It is assumed that no Stubs/Drivers/Emulators will be utilised	Will cause delays to project. See R4, R9 & R10
A18	There is no change or impact to SMETS1 and SMETS2 devices from a functional and hardware perspective.	Will cause issues. Project and device manufactures to confirm. Likelihood very low.
A19	CIO assessments will not give rise to delay in progressing to subsequent phases of project.	Delay to project.
A20	SMKI service provider reprocurement does not give rise to disruption or delay to ECoS.	Delay to project.

7 Project mobilisation

DCC has begun project mobilisation for the implementation project. Staff have been made available to support development of this plan and, in accordance with DCC's Change Delivery Methodology, the necessary resources have been identified and approved to meet the plan as set out in this document. ECoS delivery will be integrated into DCC's portfolio planning and internal monitoring processes to ensure delivery remains on track.

Annex A: Proposed Milestones

Ref.	Milestone	Responsibility	Date	Definition
Proc1	Change Request to be raised with DSP	DCC	31/03/2020	This Milestone represents when a Change Request will be raised with the DSP for those changes required within the core system to accommodate ECoS
Proc 2	Distribution of ECoS Request for Proposal (RFP)	DCC	31/03/2020	This Milestone represents when the RFP for ECoS Services is distributed to service providers
Proc3	ECoS Contracts Awarded for ECoS Design Build and Test	DCC	29/01/2021	This milestone represents when the contract for ECoS Design, Build and Test will be signed and agreed by the preferred suppliers.
SEC01	Baseline ECoS Security Architecture	DCC / Service Providers / CIO	22/03/2021	Define the Security architecture and controls to be implemented in the ECoS Design.
Device01	Communicate to Device Manufacturers and Service Providers delivery requirements to	DCC	31/03/2021	This milestone represents the latest date when device manufacturers will be informed of delivery requirements to support the ECoS testing phases

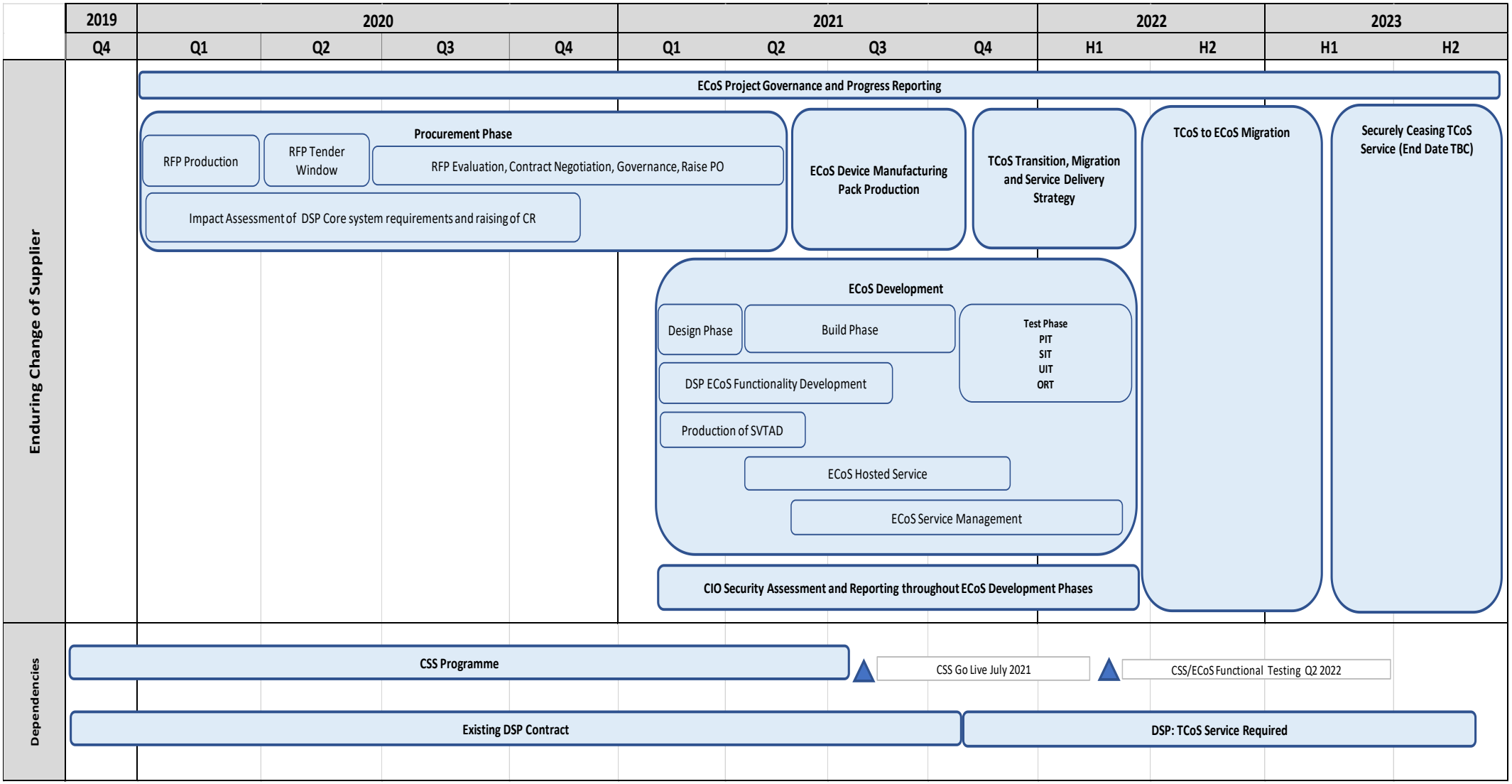
	support testing phases			
Proc4	ECoS Contracts Awarded for ECoS Hosting Services	DCC	02/04/2021	This milestone represents when the contract for ECoS for Hosting Services will be signed and agreed by the preferred suppliers.
Des01	Completion of the ECoS Design Phase	DCC	30/04/2021	This milestone represents the completion of the ECoS design Phase. Design Phase will provide design assurance to other functions throughout including the provision of design specifications for approval by DCC, SSC and TABASC.
Proc5	ECoS Contracts Awarded for ECoS Service Management	DCC	28/05/2021	This milestone represents when the contract for ECoS for Service Management will be signed and agreed by the preferred suppliers.
SEC02	CIO final report on ECoS Design Phase	DCC / Service Providers / CIO	31/05/2021	As part of Des01. ECoS controls implemented into E2E design: CIO Design Phase Report considered by Security Sub-committee (and SMKI PMA as required)
SVTAD01	Completion of SVTAD	DCC	04/06/2021	This milestone represents the completion of the development of and consultation on the SVTAD, ready for designation
Device02	Manufacturing Test Pack released	DCC Security/Device Management	30/06/2021	This milestone represents when the Device manufacturers will be in receipt of the Manufacturing test pack

Bui01	Completion of the ECoS Build Phase	DCC/Service Providers	08/10/2021	This milestone represents the completion of the ECoS Build phase
SEC03	CIO final report on ECoS Build Phase	DCC / Service Providers / CIO	08/10/2021	This milestone represents the completion of the build phase with security controls: CIO Build Phase Report considered by Security Sub-committee (and SMKI PMA as required)
Test01	Pre-Integration Test (PIT) Phase commence	DCC/Service Providers	11/10/2021	This Milestone represents when the PIT phase commences. All the Entry criteria outlined in the approved Test Approach document for ECoS have been achieved as determined by DCC.
Device03	Test Devices Released from Device Manufacturers	DCC (to communicate requirements) Energy suppliers/ Device Manufacturers	31/10/2021	This milestone represents when device manufacturers must make devices available for the ECoS test phases
Test02	PIT Phase Completed	DCC/Service Providers	03/12/2021	This milestone represents the point at which the test Phase Complete Certificate is issued by DCC into respect of PIT Test Phase for ECoS.
Test03	System Integration Test (SIT) Phase commences	DCC/Service Providers	06/12/2021	This Milestone represents when the SIT phase commences. All the Entry criteria outlined in the approved Test Approach document for ECoS have been achieved as determined by DCC.

Test04	SIT Phase Completed	DCC/Service Providers	25/02/2022	This milestone represents the point at which the DCC has completed the SIT Phase (Solution Test, Devise Integration Test, Service Provider User Acceptance Test (UAT) and SIT External Audit phase by meeting the exit criteria set out in the Testing Approach Document for ECoS as determined by DCC and Approved by Testing Advisory Group
Test05	User Integration Test (UIT) Phase Commence	DCC/Service Providers and end Users	28/02/2022	This Milestone represents when the UIT phase commences. All the Entry criteria outlined in the approved Test Approach document for ECoS have been achieved as determined by DCC.
SEC04	CIO final report on ECoS Test Phase	DCC / Service Providers / CIO	10/05/2022	This milestone represents the completion of the independent Security Assessment undertaken under Appendix 2 of Schedule 5 of the associated licence conditions: CIO Test Phase Report considered by Security Sub-committee (and SMKI PMA as required)
SEC05	Final LSC security documentation pack	DCC / Service Providers	10/05/2022	This milestone represents the documentation required by the SSC (and SMKI PMA as required) to provide input into the SEC Panels response to BEIS as to whether the ECoS solution has met the agreed criteria to go live.
Reg01	Regulatory products in Place to Support ECoS Go-Live	DCC	10/05/2022	This milestone represents when all necessary subsidiary documents have been produced and consulted on, ready for (re)-designation as required.
Test06	User Integration Test (UIT)	DCC/Service Providers/ end Users	13/05/2022	This milestone represents the point at which the DCC has completed the UIT Phase by meeting the exit criteria set out in the Testing Approach Document for ECoS as determined by DCC and Approved by Testing Advisory Group and SEC Panel.

	Phase Completed			
Test07	ECoS Test phase Completed	DCC/Service Providers and end users	13/05/2022	This milestone represents when the Test Phase of the DBT (Design Build Test) Phase has completed.
Go1	ECoS Go-Live	DCC	30/06/2022	This milestone represents approval by BEIS for ECoS commencing operation in the live environment following completion of all governance against Live Service Criteria, by re-designating the transition document.
Device04	Manufacturing Pack released	DCC	30/06/2022	This milestone represents the point where DCC will make ECoS Certificates available. Energy suppliers will need to arrange for their contracted device manufacturers to apply them to devices.
Mig01	TCoS to ECoS Migration Complete	DCC/Service Providers and end users	14/04/2023	This milestone represents when the Transition Phase of TCoS Migration has been completed.

Annex B: ECoS Implementation Plan on a Page



Annex C: LC13A Direction letter to DCC for ECoS

Department for Business, Energy & Industrial Strategy

Department for Business, Energy & Industrial Strategy
1 Victoria Street
London SW1H 0ET
www.gov.uk/beis

Angus Flett

Chief Executive Officer

Smart DCC Limited

By email only: Angus.Flett@smartdcc.co.uk

Dear Angus,

DIRECTION GIVEN BY THE SECRETARY OF STATE FOR THE PURPOSES OF CONDITION 13A OF THE SMART METER COMMUNICATION LICENCES

1. The Enduring Change of Supplier (ECoS) arrangements comprise the enduring arrangements for the changing of Device Security Credentials on a SMETS2+ Device or held in relation to an enrolled SMETS1 Device on or following completion of a Supplier Transfer in respect of premises at which there is a Smart Metering System.
2. In May 2019, DCC submitted a report to BEIS setting out its analysis of two different options for how the ECoS arrangements might be implemented, with a recommendation that "ECoS2" should be chosen. Using DCC's report as supporting information, BEIS published a consultation that month on directing the DCC to plan, develop and implement the ECoS2 solution.
3. BEIS will not formally conclude upon that consultation until completion of a formal risk assessment on Transitional Change of Supplier (TCoS) by DCC, which our teams have agreed DCC will provide in time to meet the paper deadline for the Security Sub-

Committee (SSC) on 28 August 2019. However, having already reviewed the consultation responses we consider it likely that we will conclude ECoS2 should be implemented.

4. In the meantime, BEIS wishes to ensure that a suitable plan to deliver ECoS2 is put in place as soon as possible given the security imperatives and the linkages to other projects. Accordingly, this letter includes a direction to the DCC, set out in the **Annex**, to produce such a plan and submit it to BEIS. In the unlikely event that ECoS2 was not to be confirmed, BEIS would amend or rescind the direction as appropriate.
5. You are requested to submit to BEIS a mature draft of the LC13A plan stakeholder consultation by end September 2019 for review, with a view to DCC launching the consultation at the end of October 2019 and submitting a final plan to BEIS for approval by the end of December 2019. In producing the plan, you will need to comply with the requirements of Condition 13A of the DCC licence.
6. Once approved, the DCC will be expected to report against the plan monthly (and more frequently when requested) to IMF, TBDG and any other bodies identified by BEIS. We will also expect DCC to lead on the development of and consultation on the necessary changes to the Smart Energy Code (SEC).
7. Finally, you are requested to start the mobilisation of DCC resources for the project in parallel to completing the plan and to commence the preliminary activities that are likely to be needed under any reasonable plan for the delivery of the ECoS2 solution including, for example, initiating preparation of the procurement activities for the new external service provider(s) that will be needed to operate the ECoS arrangements.
8. I am copying this letter to Rob Salter Church, Rachel Clark and Jacqui Russel at Ofgem.

Kind regards,

Duncan Stone

Deputy Director and Head of Delivery

Smart Metering Implementation Programme

Annex – ECoS Direction

This direction is made for the purposes of the smart meter communication licences granted under the Electricity Act 1989 and the Gas Act 1986 (such licences being the "**DCC Licence**").

This direction concerns the Licensee's implementation plan for the "**Enduring Change of Supplier Arrangements**". The Enduring Change of Supplier Arrangements comprise the enduring arrangements for the changing of Device Security Credentials on or following completion of a Supplier Transfer in respect of a premises at which there is a DCC-enrolled Smart Metering System[1].

Pursuant to Condition 13A (Enduring Change of Supplier Arrangements) of the DCC Licence, the Secretary of State hereby directs the Licensee to produce a plan as follows:

i. The plan must set out the activities which the Licensee (including its current or any future External Service Providers) will need to undertake, and the deliverables which the Licensee (including its current or any future External Service Providers) will need to produce in order to enable the Licensee to deliver the Enduring Change of Supplier Arrangements, including reaching a position whereby the existing Transitional Change of Supplier arrangements may be discontinued.

ii. The plan must set out descriptions, timelines and interim milestones with associated dates for these activities and deliverables of the Licensee (including its current or any future External Service Providers).

iii. The plan must identify the key interactions (including, but not limited to use of test environments) with other changes that DCC is progressing in timescales that affect the introduction of the Enduring Change of Supplier Arrangements, which may include (but are not limited to) the extension or re-procurement of the contract referred to in sub-paragraph 1.5(4) of Schedule 1 of the DCC licence and the introduction of the Centralised Registration Service.

iv. The plan must identify activities, deliverables and events which are outside the control of the Licensee and its External Service Providers, and upon which the Licensee is dependent in order to deliver the Enduring Change of Supplier Arrangements in accordance with the dates set out in the plan. Such dependencies may include policy decisions by the Secretary of State and modifications to the Smart Energy Code, as well as other dependent activities and deliverables of energy suppliers and other industry participants and bodies. The plan must identify the date by which each such dependency will need to be met in order to enable the Licensee to deliver the Enduring Change of Supplier Arrangements in accordance with the dates set out in the plan.

[1] The scope of these arrangements will be baselined in due course, but they are to be based on the DCC's proposed "ECoS2" approach set out in DCC's report to BEIS in May 2019. The arrangements also include the discontinuation of the use of the Transitional Change of Supplier arrangements and affect Devices holding information from the current TCoS Certificate that are either part of Enrolled SMETS2+ Smart Metering Systems or newly manufactured Devices.

v. Without limiting the generality of the above, the plan must include timelines and milestones for:

- **a.** hardware and software design, development and testing phases (including, where relevant, any User testing);
- **b.** changes to the Smart Energy Code which are required to underpin the Enduring Change of Supplier Arrangements;
- **c.** a reasonable period over which energy suppliers can clear their supply chains of Devices populated with information from the old TCoS certificate and update them with that of the ECoS certificate(s) following Commissioning of those Devices;
- **d.** the testing and trialling of the Enduring Change of Supplier Arrangements in advance of commencing the transition to using them;
- **e.** the secure destruction of the TCoS Private Keys following the completion of transition;
- **f.** the development of live services criteria and external audit report assessing the extent to which DCC has met these criteria prior to going live.

vi. The plan must make arrangements for transition to the Enduring Change of Supplier Arrangements, including the management of change of supplier events during the period over which the transition takes place, i.e. during which the live environment will, at the same time, contain some devices that use TCoS credentials and others that use ECoS credentials.

vii. The plan must make arrangement for engagement with Device manufacturers (including via Supplier Parties) in order to ensure coordination of the timing from which Device Manufacturers should ensure that any new Devices are populated with Device Security Credentials that include information from the ECoS Certificate(s) rather than the TCoS Certificate.

viii. The plan must also make arrangements for engagement with the SEC Panel and its Sub-Committees and incorporate such governance activities into timelines, such as on agreeing test plans and testing documentation with the Testing Advisory Group in advance of testing commencing, the security design to be approved by the Security Sub-Committee (and, as relevant, the SMKI PMA), for design solutions and regulatory documents to be discussed and baselined at TBDG, and for the SEC Panel and relevant Sub-Committees to be involved in decisions and advice with respect to entry and exit of testing phases and go-live respectively.

ix. The plan must provide for reporting of progress against the plan monthly (and where requested by the Secretary of State, more frequently) to BEIS, IMF, TBDG and any other bodies specified from time to time by the Secretary of State for such purpose.

x. Without limiting the generality of the above, the plan must include additional reporting to BEIS and any other body specified from time to time by the Secretary of State for such purpose against the following milestones:

- **a.** The impact assessment(s) carried out by the Licensee and its External Service Providers in relation to the Enduring Change of Supplier arrangements;
- **b.** Prior to the agreement of any changes to the External Service Provider Contracts (or entering into any new External Service Provider Contracts) to support the Enduring Change of Supplier arrangements, a description of the proposed contractual changes (or new arrangements) and the consequential impact on Service Charges;
- **c.** (in addition to general progress reports on testing) the production of reports setting out the results of the DCC's testing[2] and, where relevant, and User testing; and

[2] With regards to testing, the Secretary of State currently intends to issue a direction to the DCC under Section X11.4 of the Smart Energy Code so as to require the DCC to produce a SEC Variation Testing Approach Document in relation to the implementation

d. DCC's progress in transitioning to the Enduring Change of Supplier arrangements as measured against its plan for such transition.

Words and expressions used in this direction shall be interpreted in accordance with the DCC Licence, and references to licence conditions are to conditions of the DCC Licence. Expressions beginning with capital letters that are not defined in the DCC Licence have the meanings given to them in the Smart Energy Code (or, where not defined in the Smart Energy Code, the meanings given to them in the DCC's report to BEIS on the Enduring Change of Supplier options in May 2019).

of the Enduring Change of Supplier Arrangements, which the Secretary of State currently intends to subsequently incorporate into the Smart Energy Code. Alternatively, the suite of SEC changes covering ECoS may be extended to include testing related obligations.