



DCC report for the Enduring Change of Supplier (ECoS) Baseline Margin Project Performance Adjustment (BMPPA) Scheme

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1. Introduction

This report sets out the Data Communications Company's (DCC's) final view of our performance in relation to the Baseline Margin Project Performance (BMPPA) scheme for the Enduring Change of Supplier (ECoS) programme, along with supporting evidence. The ECoS BMPPA scheme set targets under two project activities:

- **Project Activity 1: set a target for the ECoS service to 'go live' on or before 30 June 2022 (but at least by 31 December 2022)** - we did not achieve this and so we are reporting a Project Activity Performance Factor of 1.0 for this Project Activity 1.
- **Project Activity 2: set qualitative targets for the ECoS programme** - we have achieved this in part and so we are reporting a Project Activity Performance Factor of 0.3 for this Project Activity 2.

We have liaised with the Smart Energy Code (SEC) Panel via the Smart Energy Code Administrator and Secretariat (SECAS) to ensure our scores, and overall values, are an accurate reflection of DCC's performance during this scheme.

1.1. Background and context

Enabling energy consumers to change supplier securely and easily is one of the fundamental purposes and benefits of the smart metering rollout. The ability to switch supplier is underpinned by DCC's Change of Supplier (CoS) process and requires the replacement of certificates on devices (primarily meters), that identifies 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, or 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 ECoS process.

The Department for Energy Security and Net Zero (referred to within this document as 'the Department') consulted on a Baseline Margin Project Performance Adjustment (BMPPA) scheme for ECoS on 9 July 2020¹ and 23 December 2021² with c.£1.4m of DCC's margin at risk against this incentive scheme. The final scheme direction and guidance was published on 8 April 2022³ and outlined that following the completion of the scheme on 31 October 2024, DCC is to report to the Department by 31 January 2025 on its performance against two project activities. Project activity 1 was designed to incentivise DCC to begin the replacement of Device Security Credentials for the CoS Party with the ECoS Certificates by the 'Milestone Date' of 30 June 2022. This date was in line with the Joint Industry Plan (JIP) milestone submitted by DCC to the Department. Project activity 2 was designed to incentivise DCC on its performance in relation to five Specified Steps up to 31 October 2024.

¹ BEIS Consultation on BMPPA Scheme for ECoS » (smartenergycodecompany.co.uk)

² BEIS consultation on amendments to the BMPPA Scheme for ECoS and draft notice under Paragraph 6.3 of that Scheme » (smartenergycodecompany.co.uk)

³ BEIS Response to Consultation on Baseline Margin Project Performance Adjustment Scheme (BMPPA) for Enduring Change of Supplier (ECoS) - Smart Energy Code

1.2. Project Activity 1

DCC has determined the Project Activity Performance Factor for Project Activity 1 (PAPF1) to be **1.0** (see Section 3.2.1).

The Project Activity 1 Milestone Date is also referred to within this document as the 'go-live' date. The ECoS arrangements went live on 29 June 2023, approximately one year after the date specified in the BMPPA scheme. We consider many of the reasons for the delay to have been outside of DCC's full control, which we expand on further in response to Specified Step A and within the supporting evidence. We also believe the delay was necessary to ensure the arrangements went live at a more appropriate time. Further evidence for the delay has been laid out in Part 2 of this report.

1.3. Project Activity 2

Project Activity 2 was designed to incentivise DCC on its performance in relation to five Specified Steps. DCC has determined the Project Activity Performance Factor for Project Activity 2 (PAPF2) to be **0.3**.

The Specified Steps in scope of Project Activity 2 were:

- 1) Has DCC not been required to extend the Data Service Provider (DSP) contract past 31 October 2023, and if it had, whether this was for reasons outside of its control (see Sections 2.2.1 – 2.2.2).
- 2) Has DCC proactively identified any difficult to migrate devices and provided support to industry during the migration process (see Sections 2.2.3 – 2.2.4).
- 3) Has DCC effectively planned and communicated with industry on the number of devices that will still have an TCoS certificate (see Sections 2.2.5 – 2.2.7).
- 4) Has DCC effectively communicated with industry during the entirety of the ECoS arrangements (see Sections 2.2.8 – 2.2.10); and
- 5) Has DCC processed all CoS Update Security Credentials Service Requests (SRV6.23s) in a timely and effective manner (see Section 2.2.11).

The final PAPF2 score has been determined to be 0.3 and has been calculated in accordance with the formula in paragraph 5.3 of the direction¹.

¹ [BEIS Response to Consultation on Baseline Margin Project Performance Adjustment Scheme \(BMPPA\) for Enduring Change of Supplier \(ECoS\) - Smart Energy Code](#)

2. Part 1: Main Submission

2.1. Project Activity 1

Project Activity 1 required DCC to begin the replacement of Device Security Credentials of the CoS Party with information from an ECoS Certificate by the Milestone Date of 30 June 2022.

PAPF1 = 1.0.

The ECoS programme began the replacement of TCoS with ECoS certificates on 29 June 2023, approximately one-year later than planned. DCC accepts the milestone date was missed but for reasons we consider necessary. Within Section 2.2.1 we explain our rationale for the delay.

The PAPF score above is calculated in accordance with paragraph 5.2(b) of the direction. See table below.

Project Activity 1 Specified Date	Value of, or methodology for calculating PAPF	Outcome
On or before 30/06/2022	0	
Between 01/07/2022 and 31/12/2022 inclusive	n/185 Where n is the number of calendar days from 01/07/2022 up to and including the Specified Date for Project Activity 1.	
After 31/12/2022	1	The ECoS programme began the replacement of TCoS with ECoS certificates on 29 June 2023 - therefore the score is 1.0.

2.2. Project Activity 2

2.2.1. Specified Step A: Running the ECoS Project

Has the DCC run the ECoS project in a timely way such that either:

- it has not been necessary for it to rely on services provided to it under the DSP contract when acting as the CoS Party under the Smart Energy Code past 31 October 2023; or
- to the extent that it has been necessary to continue to have such arrangements in place, has this been because of factors outside DCC's reasonable control?

DCC proposed score: 1 out of 3 (weighted at 70% = 0.23)

The commentary below supports DCC's position that the direction for DCC to develop the original LC13A plan was issued when there was not enough certainty on milestones and activities. This resulted in the need to extend the DSP contract past 31 October 2023 with many activities outstanding that were outside of DCC's reasonable control. In January 2022 DCC responded to the Departments consultation on the ECoS regime and requested the dates for Project Activity 2 were changed to reflect the change in the Milestone date. The dates were not changed, however

DCC believe delaying the go-live arrangements, and subsequently extending the DSP contract, were the correct actions to take.

On 1 August 2019 the Secretary of State (SoS) issued a direction to DCC under Condition 13A of the DCC licence to produce a plan for the delivery of the ECoS arrangements. DCC consulted on the LC13A plan between 23 January 2020 and 21 February 2020 and received five responses. All responses were broadly comfortable with the content of the plan and stakeholder feedback was incorporated into the final version which was submitted to the SoS and published on 16 March 2020. The plan was approved by the SoS on 30 March 2020 and the delivery milestones were added to the Joint Industry Plan (JIP) v7.4 which was approved by the Smart Metering Delivery Group (SMDG) in May 2020. The approved plan, from end-to-end, was expected to take 26 months.

At the point at which the LC13A plan was produced, DCC was susceptible to challenges that would ultimately impact its delivery. At the time of developing the plan, DCC had not issued the Invitation to Tender (ITT) to bidders meaning the timescales and associated costs could only be indicative. The ECoS Party solution design was also at a high-level stage and the TCoS to ECoS migration process design had not yet commenced. DCC was also learning the lessons from a disaggregated solution via Smart Metering Equipment Technical Specifications 1 (SMETS1) and the dependencies from a device manufacturer perspective had not been fully investigated. As such, the delivery of the LC13A plan came very early on in the ECoS programme. Within the LC13A plan it stated DCC would review the delivery plan following the conclusion of the procurement phase and timescales could be revised based on delivery plans provided by the successful service providers. This review commenced and it was clear that a 26-month plan was not feasible.

DCC set out on a collaborative replanning exercise that aligned with the delivery plans provided by the service providers, leading to the production of a well-informed, and therefore achievable 38-month plan. As the timescales involved in the procurement of the CoS party service provider were not fully accounted for within the original LC13A plan, and any delays in this activity would have a knock-on impact to the approved plan, this known risk materialised. Detailed questions were asked of the service provider during the Best and Final Offer (BAFO) stage by DCC, leading to a three-month delay. DCC also received a higher-than-expected number of clarification questions during the Lot 2 and Lot 3 procurements post-BAFO and an independent operational requirements review was carried out which resulted in a five-month delay. These were activities DCC considers integral to a successful procurement process.

Further risks materialised from the original LC13A plan such as those associated with the LC13A testing plans, which lacked the inclusion of critical activities as it was developed when there were minimal requirements available. Once the ECoS CoS Party service provider was onboarded it became clear that the time assigned between contract award and Pre-Integration Testing (PIT) was not long enough and neither was the time assigned for Design, Build and Test (DBT).

DCC issued a risk assessment with functions within DCC to establish whether the ECoS milestones could impact other live programmes. It was suggested that sharing a go-live window with the Switching Programme in June 2022 was not advisable. This feedback further strengthened DCC's request to revise the 30 June 2022 ECoS Milestone date. DCC sought feedback on this proposal from stakeholders via the Implementation Managers Forum (IMF) and via bilateral conversations with suppliers throughout December 2021, with feedback reaffirming DCC's concerns.

To further de-risk the plan DCC introduced an internal cross-functional design authority process which introduced an additional layer of due diligence prior to beginning key phases of delivery. DCC also recommended that additional assurance needed to be undertaken at key points in the delivery lifecycle, which had worked well on the Switching Programme, and supported on time

test delivery. DCC also proposed that a Manual Integration Testing (MIT) phase be introduced towards the end of the PIT phase. This was a new testing concept where files are moved between Service Providers and processed through DSP to identify early integration issues. This minimised the risk of discovering integration issues in SIT, which are far more costly to resolve.

Additional time for preparatory activities such as Technical Readiness Testing (TRT) and test completion governance between PIT/System Integration Testing (SIT) and SIT/User Integration Testing (UIT) was included in the revised LC13A plan to account for the complexity involved in the programme. The production of the Manufacturing Test Pack was also impacted as it was dependent on the ECoS hosting service provider standing up its infrastructure which had a longer lead time that originally anticipated (an increase of three months to six months).

DCC challenged the ECoS service providers to expedite delivery plans and timescales. For example, DCC had multiple discussions on whether additional resources could be deployed to expedite the build of the application, however this risked a reduction in the quality for very little time savings so was discounted. DCC also challenged the time required for the build of the hosting infrastructure to enable Hardware Security Module (HSM) credential generation and environment provisioning. However, specific SEC requirements for the ECoS solution would have to be compromised to achieve this and therefore was not possible.

Ultimately, the delay in go-live for the ECoS arrangements can be grouped into two key themes; elements of the programme that had changed since the original LC13A delivery plan; and additional activities proposed to de-risk the plan. This shows the original LC13A plan was based on assumptions due to the programme being at an early stage.

In 2021 DCC undertook a replanning exercise and at the January 2022 IMF meeting (annex 1), DCC presented a set of updated JIP milestones for consideration. DCC's intention was for these dates to be agreed to provide additional certainty to industry, to consider lessons learned from previous programmes and to mitigate any risks. These dates were issued for consultation in January 2022. Feedback was received from the IMF and an ad-hoc meeting was held on 16 February 2022 for DCC to respond to this feedback. The outcome from this replanning exercise and subsequent consultation was a revised set of JIP milestones, including an updated go-live date of 30 June 2023. Final approval of the new JIP milestones was provided by SMDG on 10 March 2022.

Within DCC's ECoS BMPPA January 2022 consultation response (annex 2), DCC requested the incentive milestones for Project Activity 1 be amended. We also requested the dates for Specified Step A be amended due to the change in date for Project Activity 1. However, these changes were not reflected within the ECoS BMPPA scheme. The revised LC13A plan provided for sufficient time for critical path activities such as environment preparation and governance which considered lessons learned from SMETS1 introducing new service providers. Lessons were learned from SMETS1 again when expanding the time between the Hosting provider contract award and design completion, from one month to three months. This ensured roles and responsibilities across the ECoS Application and Hosting provider were clearly understood prior to commencing the final build and minimised the risk of changes being required later. There have been occasions historically, whereby DCC has committed itself to meet JIP milestones despite there being known issues which has resulted in changes being required post go-live. By taking onboard learnings from previous programmes, and delaying the go-live date, DCC reduced the risk of increased costs and further delays to remedy issues later in the programme.

2.2.2. Specified Step A: Managing the contractual arrangements

Has the DCC managed its Service Provider contracts such that DSP contract arrangements applying to TCoS have been terminated, and any consequential contractual savings have been realised.

DCC proposed score: 2 out of 3 (weighted at 30% = 0.20)

Due to the delay in the go-live of the ECoS arrangements the DSP contract arrangements necessitated an extension, however, as was the case with the go-live date changes, this extension date change was not reflected in the ECoS BMPPA scheme.

DCC terminated the TCoS service, and the associated DSP contractual arrangements on 1 November 2024. This resulted in the realisation of £29,055 per month or £348,664 per annum of cost savings for industry. These savings are captured in the DCC In-Life Supplier Management Budget Lock process and have been confirmed with DCC Commercial.

As DCC continued to seek cost efficiencies, despite the need to extend the DSP contract, we believe a score of 2 out of 3 is warranted.

$$QF_A = 0.23 + 0.20 = 0.43$$

2.2.3. Specified Step B: Identification of difficult-to-migrate devices

Has the DCC proactively identified, at an early stage (i.e. in sufficient time to allow device manufacturers time to resolve any issues prior to the end of the ECoS Migration Period), difficult to migrate Devices? Has the DCC notified suppliers and other interested parties of these Devices and explained the reasons for why they are difficult to Migrate?

DCC proposed score: 3 out of 3 (weighted at 70% = 0.70)

This section focuses on DCC's development of SEC documentation and reports to assist suppliers in identifying 'difficult to migrate' devices and the reasons for the difficulties, i.e. non-communicating devices, which can be defined as devices that had failed migrations either due to technical firmware issues or communication issues.

The ECoS migration period took place between 6 August 2023 and 31 July 2024, resulting in 31m migrations (95.6% of the total portfolio). Throughout the migration period the DCC Migration Control Team proactively identified issues with difficult to migrate devices and provided reports directly to suppliers that detailed how their portfolio was progressing during the migration. These issues were also highlighted in the regular updates presented at industry working groups such as the Technical and Business Design Group (TBDG) and the Joint Delivery Review Meeting (JDRM). DCC also published a list of non-migratable devices (annex 3) via the SECAS website on 12 July 2023, which was made public, and visible to all SEC parties. This list contained approximately 9,403 devices at the start of the migration period and reduced to 8,660 devices after suppliers had either upgraded the firmware or decommissioned the device.

At the September 2023 TBDG meeting (annex 4), DCC presented the first monthly report for migration activity for August 2023. This update confirmed 1,128 out of 1,206 migration attempts were successful (a success rate of 94%). DCC confirmed 46 of the failed migrations had generated three different error codes¹ and explanations for each error code and why these were difficult to migrate was provided in the update. DCC noted that 30 of the 46 failures were due to certificate retrieval time-outs meaning these would be re-attempted. DCC also confirmed that migrations had been paused on 25 August 2023 as certain devices were experiencing issues, which was subsequently resolved via a workaround and eventual fix.

In September 2023, DCC confirmed there were 9,387 known non-migratable devices. TBDG representatives were asked to confirm whether they were aware of what steps they needed to

¹ Error codes for the 46 failures in August 2023 were DE201, DE202 and PE103.

take in relation to these devices, to which three suppliers in attendance confirmed they knew they needed to arrange firmware upgrades.

The October 2023 TBDG update (annex 5), showed failed migrations had increased due to the scale of attempts and 83,420 out of 5,174,650 device migration attempts had failed, resulting in a 91.7% success rate. Pre-migration errors also totalled 344,155, with many errors attributable to time out errors (NP004). The DSP Retry Strategy was used which reattempted migrations seven times over nine days. Any failed migration was also retried as per the ECoS Transition and Migration Approach Document (ETMAD) and ECoS Migration Error Handling and Retry Approach (EMEHRA). This meant that each migration attempt could have had up to 35 attempts before it was deemed non-migratable. If a device was deemed non-migratable then it would be addressed via the Private Key Transfer (PKT) process. Errors decreased in November 2023 and the SMETS1 pilot commenced successfully. SMETS2 migrations reached 10m on 24 November 2023. Further examples of TBDG updates during the migration can be found in annexes 6 - 11.

All first migration attempts were completed by the end of January 2024 (two months ahead of schedule). This was achieved because DCC owned the process and was therefore in full control of all migration attempts. Retries, and attempts for newly installed devices, all took place between February 2024 and April 2024.

To deliver the ECoS programme DCC was responsible for the drafting and consultation of SEC subsidiary documents to support suppliers and other interested parties throughout the migration process. The ETMAD defined the DCC and supplier party rights and obligations that needed to be in place during the ECoS migration. The ETMAD stated DCC must produce and maintain an EMEHRA which would define the triage approach DCC would follow where there is a failed migration and the resolution activity that supplier parties should take in certain circumstances. The ETMAD also stated DCC must produce and maintain an ECoS Migration Reporting Regime (EMRR) which would define the reports provided to Supplier Parties that showed the successful and failed migrations as well as the device models deemed non-migratable.

DCC would continually seek to improve the migration process to assist suppliers and interested parties. For example, DCC recognised early on that there was a scenario whereby the responsible supplier who receives the reports defined in the EMRR was not the one responsible for resolving the issues. In this scenario, it was not clear who the Responsible Supplier for the Gas Proxy Function was if there was no Gas Smart Metering System installed in the premises. DCC therefore proposed bespoke rules be introduced via clause 1.11 of the ETMAD for the migration of GPF devices. These rules were accepted and clarified early on who would be the responsible supplier in these scenarios.

The EMEHRA detailed the error resolution activities and the different types of issues that could be encountered by suppliers and the expected remediation activities that would take place either between DCC and the service providers or by the suppliers themselves. The reports would detail the failed migrations that would require supplier attention when the TCoS service provider re-attempts to replace the Device Security Credentials on individual devices. The EMEHRA also explained the resolution paths for both technical firmware issues and communication issues.

If a device model was identified as non-migratable often a firmware upgrade was recommended. For the more common communication failures then the recommended resolution was the retry strategy, as defined in the EMEHRA. The retry strategy explained that initially a retry would take place automatically after the first attempt over a short period, typically in five-minute intervals, and with increasing intervals to mitigate failures due to intermittent communication issues. DCC built in a longer retry strategy to allow time for suppliers to remedy any issues before a retry was attempted again.

DCC developed a real-time dashboard for internal use that displayed the ECoS migration success rates. Information for ESME, GPF, GSME and HCALCS was available 24/7 and included updates on the percentage of devices that were able to be migrated first time, the volume that were able to be migrated successfully after an initial failed migration attempt as well as the success rate by device type. This level of information was integral in DCC understanding how well the migration was progressing and to identify any trends and issues that could be investigated and reported on to industry.

We believe the level of assistance DCC has provided industry and the early intervention in the identification of difficult to migrate devices, and its continued attempts to migrate devices, warrants a score of 3 out of 3.

2.2.4. Specified Step B: Support and assistance

Has DCC provided support and assistance (where appropriate) to Energy Suppliers in order to address the difficulties such that the Devices were or will be able migrated?

Proposed score: 3 out of 3 (weighted at 30% = 0.30)

DCC only had to contact one device manufacturer to discuss the issue of difficult to migrate devices. A firmware upgrade was subsequently issued and, as a result, a volume of 10,000 devices that were experiencing issues reduced to 8000 devices. DCC did not have to directly notify any suppliers of difficult to migrate devices as the majority were migrated on the second attempt (263,520 migrations were successful on the second attempt), if not the first (30,856,998 migrations were successful on the first attempt). In comparison to the total portfolio, very few devices required more than five retries (15,703 were successfully migrated after five attempts and 17,955 were successfully migrated after more than 6 attempts).

Suppliers themselves would have been unable to enact many changes to enable a successful migration, unless their device was on the SEC published list (annex 3). Between February 2024 and April 2024, DCC carried out any necessary retries. In some cases, devices were attempted at least eight times which illustrates DCC's commitment to migrate as many devices as possible.

A total of 31,250,709 devices had a TCoS to ECoS migration successfully attempted by the end of the migration process (annex 13). The JIP milestone for completing all migrations was 30 April 2024 and DCC completed this two months ahead of schedule.

DCC provided a suite of reports to suppliers to assist their understanding of the migration process for their portfolio. An explanation of every report DCC provided can be found in annex 12. In total DCC produced and published 26,187 separate csv files to 66 SEC parties during the migration.

DCC also provided an "ECoS Migrations Final Supplier Reporting – Report Guide" in August 2024 which set out how each responsible supplier should interpret the final report sent to them (ECOSMIG-008). This explained that the final report would include device level information on all SMETS2 devices that were in scope of the migration activity that had a known TCoS or ECoS certificate and whether that device had a TCoS or ECoS certificate following the closure of the ECoS migration. The creation of this ad-hoc report was in direct response to supplier feedback and was created using different business logic than that used to create the earlier reports. The report would identify to suppliers if they had any pending migrations that needed to return a 'final outcome', i.e. the DSP needed nine days to carry out their retries and so those device statuses would not be available until the final report was issued in August.

Paying consideration to the large amount of reporting material provided to suppliers that directly assisted their understanding of the migration, throughout the migration, and DCCs regular

participation and updates at industry working groups, we believe the level of support and assistance provided to suppliers warrants a score of 3 out of 3.

$$QF_B = 0.70 + 0.30 = 1.00$$

2.2.5. Specified Step C: Planning

Did the DCC have an effective plan to minimise the number of devices still in (or still to enter) the supply chain and which hold TCoS Certificates by 31 October 2024? Was the DCC's plan for managing this aspect of the ECoS Programme effectively communicated to relevant parties, and were their views taken into account in finalising those plans? Did the DCC put this plan into effect?

DCC proposed score: 2 out of 3 (weighted at 33% = 0.22)

We believe DCC has taken all reasonable steps to effectively plan, manage and communicate the arrangements to industry to minimise the number of devices still in, or still to enter, the supply chain which hold TCoS Certificates by 31 October 2024. In addition to the ECoS migration activities (see Sections 2.23 – 2.24) DCC also developed the PKT solution and confirmed how Communications Hubs would transition from TCoS to ECoS.

DCC were aware that not all devices would be migrated during the migration process as some could be deemed non-communicative or because they were held in suppliers' inventory. As illustrated in annex 14, DCC explained how we would seek industry views throughout the development of the PKT solution and followed an effective engagement approach ensuring TBDG, IMF and SEC Sub-Committees were consulted throughout. This approach allowed for a wide-ranging set of industry views to be collated and for feedback to be incorporated into the evolving plans.

The PKT solution enabled the transfer of the TCoS Private Key (the Private Key that is used to Digitally Sign CoS Commands where the Target Devices hold the TCoS Certificate, as well as commands to replace the TCoS Certificate with an ECoS Certificate) to the ECoS Party. When this transfer takes place, it allows the TCoS Service to be shut down without the risk of being unable to continue to exchange CoS Party and Supplier Party credentials on devices that continued to hold TCoS Certificates, since the requisite commands could continue to be generated by the ECoS Party using the transferred Private Key. DCC confirmed there would be no impact to DCC Users because of the PKT process, with both TCoS and ECoS keys both continuing to work before and after the changes had taken effect (annex 15).

On 8 June 2023, the Department designated the enabling changes for PKT using its transitional powers under section 88 of the Energy Act 2008. Another regulatory change was raised to SEC Appendix S 'DCCKI Certificate Policy' via SEC Modification MP251 'Transfer of Secret Key Material'¹. MP251 was raised by the Smart Metering Key Infrastructure Policy Management Authority (SMKI PMA) SEC Sub-Committee to support the PKT solution and was permitted to skip the usual refinement process, progressing straight to the report phase as it was acknowledged the modification already had a well-developed solution.

We believe DCC effectively engaged with the Department and SEC Sub-committees on PKT, allowing them to confidently endorse the solution. This engagement was integral in the PKT solution going live on 30 July 2024, as scheduled, thus meeting the associated JIP milestone. The TCoS production key was destroyed on 2 August 2024, as scheduled, which also met the associated JIP milestone.

¹ [Transfer of Secret Key Material - Smart Energy Code](#)

Whilst DCC had no commercial control over the number of meters that still had TCoS certificates that were already in the supply chain, we did engage with suppliers, Meter Asset Providers (MAPs) and those involved in device inventory to ensure they were aware of the transition from TCoS to ECoS. DCC also encouraged the effective management of industries supply chain inventories to reduce the TCoS inventory by as much as possible.

There was a risk that Communications Hubs, in addition to meters, would hold TCoS certificates after the end of the migration, for reasons such as them being held in suppliers' inventories. DCC had the ability to ensure CHs with TCoS certificates were kept to a minimum by engaging directly with industry (annex 16). Once the CHs were installed, they would be able to rotate the TCoS certificate with an ECoS certificate and the stock with TCoS certificates reduced.

We recognise the PKT solution was an added cost and required further industry support, however, we believe the solution was the right solution to address the issue of stock still having TCoS certificates. The PKT solution is now live and operating as intended, delivering significant benefits to industry. As a result, DCC has proposed a score of 2 out of 3.

2.2.6. Specified Step C: Management

Were ECoS Certificates made available at a suitably early stage in order to minimise the number devices in (or still to enter) the supply chain that hold TCoS Certificates by 31 October 2024? Did the DCC effectively engage with Energy Suppliers to help ensure coordinated action to minimise the number of such devices by 31 October 2024? Did the DCC provide the support that it could reasonably be expected to provide in managing any issues in this area?

DCC proposed score: 2 out of 3 (weighted at 33% = 0.22)

DCC effectively engaged with industry by attending industry forums such as the SEC Sub-Committees, the Energy and Utilities Alliance (EUA) and the British Electrotechnical and Allied Manufacturers Association (BEAMA). Engagement at these forums was to ensure they were aware of any issues in the migrations, the activities involved in the PKT process as well as any changes in the mitigating designs. Suppliers and MAPs were also invited to regular drop-in sessions to understand more about their role in PKT. DCC also regularly attended the Community of Meter Asset Providers (CMAP) to present updates on migration activities and to discuss the implications of stock management. At the March 2023 IMF DCC detailed how residual stock that was installed, and had TCoS certificates, would be managed (annex 17), explaining the PKT process would address this issue.

DCC developed a separate project to manage the issuing of a single one-off manufacturing pack that would address all certificates due to expire in 2026 that were issued by the Organisation Certificate Authority (OCA). The new manufacturing pack (manufacturing pack 2 or MP2) would create new certificates with longer expiry dates allowing devices with expired certificates to continue to be supported and for devices in inventories to still be capable of installation. DCC has been progressing MP2 since early 2024 and requested supplier support in user testing and the production pilot that will take place during Q1 2025 at the DCC Operations Forum meeting in September 2024. At this meeting DCC presented a detailed plan on a page of activity which included the various customer engagement touchpoints to ensure suppliers understood what was required of them and when. All updates regarding progression against the plan was provided to TBDG and the revised plan for the manufacturing pack was presented to IMF in May 2023 (annex 18). The minutes from this session confirm that the EUA representative confirmed there had been a constructive discussion between DCC and EUA on the topic and that EUA were supportive of a move to a single manufacturing pack.

It should be noted that the manufacturing pack is applicable for ECoS as well as certificate recovery, Access Control Broker (ACB) and Wide Area Network (WAN). Updates are provided on

the manufacturing pack at bi-monthly DCC Operations Forums which has circa 60 attendees from across the industry. The PKT process was identified as the resolution to ensuring any devices with TCoS certificates to be migrated to ECoS post-October 2024. We believe this solution was well known and had been discussed at many forums with views taken into consideration.

We have proposed a score of 2 out of 3 for DCC's management in this area and again recognise improvements could have been made in the roll out of the PKT solution and manufacturing pack. However, the PKT solution has since been implemented and is operating as intended.

2.2.7. Specified Step C: Communication

Did the DCC seek industry views on its plan to minimise the number of devices in the supply chain that hold TCoS Certs by 31 October 2023 and take them into account when finalising that plan (and explain how it has done this)? Did DCC effectively communicate with relevant parties as was necessary to give effect to the plan?

DCC proposed score: 2 out of 3 (weighted at 33% = 0.22)

The manufacturing pack and PKT solution were two key projects DCC sought industry views on. It should be noted that the manufacturing pack was descope from the ECoS programme in Q2 2023 (annex 19). The manufacturing pack was not solely a deliverable under the ECoS programme and would need to be tracked under a separate project due to its implications for the wider smart metering ecosystem. The identified mitigation for excess TCoS stock in the supply chain was to implement the PKT solution which would enable TCoS devices to be installed after October 2024 and would allow industry a longer period to switch manufacturing lines from TCoS to ECoS devices. Updates were shared with the Operations Group (OPSG) at the June 2023 Live Service Criteria approval meeting as well as at a wide variety of industry working groups throughout 2023, including the SEC Security Committee (SSC), Smart Metering Key Infrastructure (SMKI PMA), TBDG, SMDG at tri-lateral meetings with representatives from OPSG, the Testing Advisory Group (TAG), the Department, IMF, BEAMA and EUA, OPSG and with SEC chairs. At every meeting DCC requested discussion and feedback to inform the next iteration of the plan for presentation at the following forum. The plan continually evolved with information from all interested parties and was presented regularly. An overview of DCC's extensive engagement for PKT can be found in annex 20.

As a result of the extensive engagement approach to seek industry views to minimise the number of devices in the supply chain that still held TCoS certificates we believe warrants a score of 2 out of 3.

$QF_c = 0.22 + 0.22 + 0.22 = 0.66$

2.2.8. Specified Step D: Timing and frequency of engagement

Has the DCC effectively informed its customers of any interactions that they will (or can be expected to) have in relation to the delivery of the Enduring Change of Supplier in a timely manner and with an appropriate frequency of engagement?

DCC proposed score: 2 out of 3 (weighted at 20% = 0.13)

DCC acknowledges that during the early stages of the programme the standard engagement approach to inform and seek support from our customers did not happen, which resulted in lower engagement levels than we would have expected. Following feedback from industry and Ofgem, DCC took corrective action to better manage the engagement approach in the run up to go-live and to work much more closely with our customers. DCC considers this to be a learning point and has taken steps to ensure that going forward, engagement for mandatory programmes follow the

Programme Assurance Framework, agreed between DCC and the SEC Panel. This should ensure that customers feel informed and involved in future DCC activities.

In recognition of customer sentiment and the critical nature of the ECoS Programme, DCC established a regular schedule of engagement that informed customers about the programme activities and gave them an opportunity to share their views. We began with an in-person summit in April 2022, with the primary objectives of helping customers to understand the changes they could expect under the incoming enduring arrangements and DCC's role in delivering the ECoS programme. We invited delegates from across all SEC Parties, with more than 60 representatives in attendance. The feedback and outputs of this summit were communicated to customers via the DCC website.

Following on from the summit, a range of channels were used to regularly share updates and seek customer input, including consultations, webinars and newsletters. This was in addition to regular formal engagement via the SEC Panel and its Sub-Committees, and the Department-led industry forums.

In January 2023 (six months ahead of the revised go-live date), we reviewed our engagement approach, recognising that engaging on the Live Services Criteria meant that the volume of information that we needed to share with customers for them to formally recommend that ECoS proceed to go-live was going to increase significantly. In February 2023, we presented an overview of the programme of activities that needed to be completed in advance of ECoS go-live to the relevant SEC Sub-committees (the OPSG, the SSC and TAG), (annex 21). This presentation included a proposal on how we would demonstrate the progress of the programme and our readiness for go-live to our customers.

We also shared a summary of what information the committees could expect to see presented each month, at each of the relevant SEC Sub-Committees. We sought feedback on the volume and detail of the information presented, as well as the style in which it was presented to customers. This view was consolidated into a simple engagement plan on a page detailing all key customer touchpoints, through to go-live (annex 22). This plan on a page view was shared consistently throughout the LSC engagement, to provide customers with a clear view of when and where they could hear programme updates and share their feedback.

We acknowledge improvements could have been made at the start of the programme and therefore have proposed a score of 2 out of 3.

2.2.9. Specified Step D: Quality of Information provided by DCC

Has the information that the DCC has communicated been of sufficient quality and detail?

DCC proposed score: 3 out of 3 (weighted at 30% = 0.30)

DCC has taken a range of approaches with customers as the ECoS Programme has developed to ensure the quality and detail of information provided meets their needs.

The ECoS summit event was designed to give customers a solid understanding of the programme for us to build on, as the programme progressed. Each agenda item was created with this in mind, and the relevant subject matter experts were available to answer any questions. This helped ensure we were able to provide the appropriate level of detail (annex 23).

We worked closely with the SEC Sub-Committee Chairs to plan engagements and ensure that the right information was being shared with Sub-Committees, at the right time. This ensured that the content was pitched at the appropriate level of expertise for each forum and helped us to prepare for any questions or discussion points that a customer wanted to raise. We engaged consistently

with the Sub-Committees to ensure the quality and detail of our information was appropriate. This included our suggested engagement approach, which we sought feedback and agreement on. We received positive verbal feedback from the OPSG Chair and one of our customers on both the approach and the way the information was going to be presented. The OPSG Chair complimented the way the information had been shared and the customer suggested that this approach should be used as a template for future engagements. The OPSG Chair suggested that a Harvey Balls style readiness view of ECoS components would be helpful for customers, so we created an iterative version that was included in each update going forwards (annex 24).

As we progressed through the Sub-Committees month-by-month, a snapshot of the Live Service Criteria with an associated RAG status was introduced to give a transparent overview of each LSC that needed to be agreed by each committee (annex 25). This enabled customers to see how we were tracking against each LSC, ask questions and familiarise themselves with the areas that could impact them, well in advance of their collective decision on go-live.

We also introduced an 'Asks and Actions' slide at each sub-committee session. This covered updates on actions assigned to the programme and detailed answers to any questions asked by customers at previous meetings that we had not been able to answer in-session (annex 26). We included a schedule illustrating what was happening across the programme and what we would share at each forum. We presented an updated view of this schedule at each meeting, demonstrating progress and building up a level of continuous assurance with customers that the programme was ready to go-live as planned (annex 27).

In April we shared the draft Live Service Criteria Report with customers to allow sufficient time and opportunity for customers to familiarise themselves with the report and to provide any comments or feedback. The draft report was distributed via SECAS at the end of April 2024, allowing a period of two weeks for customer responses (annex 28).

Outside of monthly formal engagements with the SEC Sub-Committees and the regulatory forums (IMF, TBDG, SMDG), we utilised other channels to ensure that customers who might not attend those forums were also informed about the programme and would be ready for go-live.

We held a series of targeted bilateral meetings with customers that we had identified as needing to implement a change ahead of ECoS go-live. We created an internal report that demonstrated which customers were using incorrect Market Participant Identifiers (MPIDs) with XML Signing Certificates, which would cause a change of supplier request to fail, post go-live. We then made contact with these customers to discuss the issue and help them make the necessary change to ensure go-live would not have any impact to their processes. For those customers still experiencing challenges in the run up to go-live, we held weekly sessions through the Customer Relationship Management team to help and support them in making the necessary changes.

We held regular customer drop-in sessions, with calls for input on areas of interest or useful content (annex 29). We also shared updates at both the SEC Small Supplier Forum and the Department for Energy Security and Net Zero (DESNZ) Independent and Small Supplier forum, drawing attention to LSC 8 concerning any changes customers might need to make in advance of go-live, specifically with reference to Anomaly Detection Thresholds, MPIDs and XML Certificates.

In addition to this, we utilised digital channels where possible, including a go-live update delivered through the 'SECAS Modcast' – a short podcast produced by SECAS covering SEC modifications and any upcoming changes, and regular updates via the ECoS page on our website.

This period of engagement culminated in a go-live briefing in June 2023 open to DCC customers and stakeholders, sharing a holistic programme readiness update.

In conclusion, we have proposed a score of 3 out of 3 for the quality of information shared during the ECoS arrangements, which is also supported by one of the two scores provided within the October 2024 SECAS survey.

2.2.10. Specified Step D: Taking account of customer views

Has the DCC consulted with relevant customers on the way in which it should engage with them in relation to their interactions? Has the DCC taken customer views into account when making decision about how customer interactions should be managed? Has the DCC communicated a clear rationale for such decisions, expanding how customer views have informed its decision making and where relevant why the DCC has decided not to incorporate customer views?

DCC proposed score: 3 out of 3 (weighted at 50% = 0.50)

DCC has been committed to ensuring that our customers' views inform DCC's decisions on both the ECoS programme and our engagement approach. This is demonstrated in the DCC's published response to its consultation on the draft "Go-Live" version of the ECoS Transition and Migration Approach Document (ETMAD) in August 2022. DCC outlined how it would address a number of concerns raised by respondents in the consultation, including the transparency of the ECoS migration approach, stock management, the process for categorising device models as non-migratable and the management of failed migrations for individual devices. For example, on the transparency of the migration approach, DCC said that it would mitigate concerns about transparency by using 'drop in' sessions with industry and presentations at governance groups to share information, progress reports to DESNZ and relevant governance groups during the ECoS migration period. DCC also recognised feedback regarding the ECoS migration timescales by including within the draft ETMAD a further five - six months to manage resolution of 'difficult to migrate' devices and to allow suppliers to install remaining TCoS stock.

As outlined in our answer to the previous question, DCC sought feedback and agreement on our suggested engagement approach at OPSG in February 2023 and provided a schedule illustrating what was happening across the programme and what we would share at each Sub-Committee month by month. We presented an updated view of this schedule at each meeting.

Over the reporting period, we undertook eight consultations on ECoS. We publicised these consultations on the DCC website, issued notifications to the relevant SEC party representatives on our Nominated List of Contacts at each registered SEC party and held a number of associated consultation webinars, providing additional opportunities for customers to ask questions and share their views. We subsequently published decision documents on the DCC website for five of these consultations, summarising the responses from customers and demonstrating how their feedback informed our decision-making. The decision documents also highlight any areas of disagreement between DCC and our customers, sharing the rationale where views have deviated, as well as the next steps. A message notifying our customers of the published decision documents was sent to all respondents, as well as the representatives on the Nominated List of Contacts.

As part of the ECoS summit held in April 2022, workshop style sessions were held on Supply Chain & Inventory and User Integrated Testing. The purpose of these sessions was to seek customer feedback which we were then able to build into our programme planning (annex 30). We published a feedback closure report on the DCC website following the summit highlighting how DCC would take the key customer questions and feedback forward and by when.

In January 2023 (six months ahead of go-live), we reviewed the ECoS engagement approach, recognising that engaging on the Live Service Criteria meant that the volume of information that we needed to share with customers was going to increase. In February 2023, we presented an overview of the activities that needed to be completed before ECoS could go-live to the relevant

SEC Sub-Committees. This presentation included a proposal on how we would demonstrate the progress of the programme and our readiness for go-live to our customers.

We shared a summary of what information they could expect to see presented each month, at each of the relevant SEC Sub-Committees. After sharing this view, we requested feedback on the volume and detail of the information presented, as well as the style in which it was presented to customers. We received positive feedback from OPSG on the engagement approach, with a request for a Harvey Balls style view of ECoS components. We included this view at OPSG going forwards (annex 24).

In addition, we had proposed to share information-only updates on Security and Testing at OPSG once a month. The OPSG Chair felt updates in those areas might be a little too detailed for members and as a result, we amended the plan and continued to share updates in those areas in detail at SSC and TAG. All Sub-Committees endorsed the suggested engagement approach and further to that, we have used this approach as the basis for LSC engagement on CH&N.

As part of our monthly updates to both the SEC and DESNZ forums, we presented clear engagement plans (annex 27) that set out key milestones and indicated both when and where customers would be engaged on those topics, well in advance. This ensured that our engagement approach was shaped with customers and allowed adequate opportunity for customers to feed in their views throughout.

We note that one respondent to the survey conducted by SECAS in October 2024 scored DCC poorly across the customer engagement aspect of the programme, stating that zero communication had been received. While this may have been true for the individual respondent, DCC do not believe this is true of the organisation as a whole, nor of our other customers. As evidenced throughout this submission, DCC conducted extensive engagement across multiple SEC and DESNZ forums that have designated representatives of all Customer groups, including engagement delivered through the established Small and Independent Supplier forums. In addition, DCC have been able to confirm that 653 files relating to ECoS have been made available through the respondent's organisational User SharePoint, over the course of the programme.

DCC feels that we have produced a report that gives a fair assessment of our delivery of the ECoS programme and our engagement throughout, acknowledging the areas where we could have performed better. As such, we believe a score of 3 out of 3 is warranted for this aspect of the scheme, which is also supported by one of the two scores provided within the October 2024 SECAS survey.

$$QF_D = 0.13 + 0.30 + 0.50 = 0.93$$

2.2.11. Specified Step E

Specified Step E required DCC to process all CoS Update Security Credential Service Requests (Service Request Variant 6.23) in a timely and effective manner during the ECoS migration period. The intent behind Specified Step E was to ensure the ECoS migration did not cause disruption to the Business as Usual (BAU) CoS process. To track this, the DCC Technical Operations Centre (TOC) monitored the CoS process success rate each day during the ECoS migration. Any days with less than a 100% success rate were identified and DCC could investigate to confirm whether the reasons for the less than 100% success rate were for reasons outside of the ECoS programmes control. DCC were able to submit an exclusion request if the cause of the less than 100% success rate was due to an incident that was not ECoS related.

DCC submitted exclusions for one of the lowest performing days, which was accepted by the Department. The exclusions were due to incidents that were not caused by the ECoS¹ programme but had an impact on the CoS process. The mean average of the five lowest performing days was then used in the calculation for E which was used as a multiplier for PAPF2.

Monthly reports were submitted to the Department between 29 June 2023 – 31 July 2024 and the mean average of the five lowest performing days was used to determine the value for E, resulting in E = 0.971017012. The E value has been used in our calculations to determine the PAPF2 of 0.3.

2.2.12. Conclusion and next steps

In summary, the calculation of the Project Performance Factor for Activity 2 is:

$$\text{PAPF} = 1 - (Q \times E)$$

$$Q = (0.4 \times 0.43) + (0.2 \times 1.0) + (0.2 \times 0.66) + (0.2 \times 0.93)$$

$$E = 0.971$$

DCC has submitted this report, which consists of a main submission and supporting evidence, by 31 January 2025, in line with the requirements detailed in the ECoS BMPPA scheme guidance as per paragraph 2.2. We have worked with our SECAS colleagues in developing the report and the accompanying scores. Whilst we acknowledge the scores are not the same between the DCC and SEC Panel submissions, we consider our scores to be appropriately evidenced.

We expect the Department to form a minded-to position by April 2025, at which point a consultation will be issued between May to July 2025. DCC expect to receive a decision from the Department by September 2025. DCC will then report this final decision within our RY25/26 Price Control submission to Ofgem.

¹ Exclusion for 26 July 2023: INC0000001065262.

3. Part 2: Supporting Evidence

The table below sets out the supporting evidence to the main submission.

Annex Ref.	Evidence Title	Specified Step
1	January 2022 IMF presentation on revised JIP milestone dates, POAP and activities to be undertaken	A
2	DCC response to the ECoS BMPPA amendments consultation (January 2022)	A
3	ECoS Non-Migratable Device Model List published on the SECAS website	B
4	September 2023 TBDG update for August 2023 migrations	B
5	November 2023 TBDG update for October 2023 migrations	B
6	December 2023 TBDG update for November 2023 migrations	B
7	February 2024 TBDG update for January 2024 migrations	B
8	March 2024 TBDG update for February 2024 migrations	B
9	April 2024 TBDG update for March 2024 migrations	B
10	May 2024 TBDG update for April 2024 migrations	B
11	July 2024 TBDG update for June 2024 migrations	B
12	Overview of ECoS reports	B
13	ECoS Final Migration Figures	B
14	Engagement approach for the Private Key Transfer (PKT) solution	C
15	TBDG presentation on the PKT solution	C
16	January 2023 IMF ECoS update on supply chain risks and issues with mitigations and latest updates	C
17	March 2023 IMF update	C
18	May 2023 IMF update with revised timeline for the manufacturing pack	C

Annex Ref.	Evidence Title	Specified Step
19	OPSG presentation on proposal to remove manufacturing pack from scope of ECoS programme	C
20	Overview of engagement undertaken for Private Key Transfer	C
21	Activities to go live February – June 2023	D
22	ECoS Engagement POAP	D
23	ECoS Summit Objectives	D
24	Harvey Balls Examples from March and June 2023	D
25	Live Services Criteria Table	D
26	Asks and Actions Slide	D
27	Engagement Schedule being ticked off	D
28	Sharing of Draft LSC Report	D
29	Drop in invitation with Call for Input	D
30	ECoS Summit Customer Participation Elements	D

Annex 1 – January 2022 IMF presentation on revised JIP milestone dates, POAP and activities to be undertaken

The below ECoS JIP CR - Milestones slide shows the baselined and recommended ECoS dates which were included within a JIP Change Request, as well as a plan on a page and timeline showing all tasks required up to the revised milestone date. The agreed upon LC13A plan was not feasible and DCC developed a revised plan based on up-to-date information. DCC presented at industry working groups on the latest developments against the revised JIP milestones, ensuring updates were clear, always provided the latest information and were consistent in their approach to engagement. Despite the JIP milestones and the go-live date changing, DCC didn't waiver from its commitment to deliver a successful ECoS programme. The associated go-live BMPPA milestone had been missed, and had not been changed in the BMPPA scheme, however DCC strived to deliver the arrangements according to the revised plan.

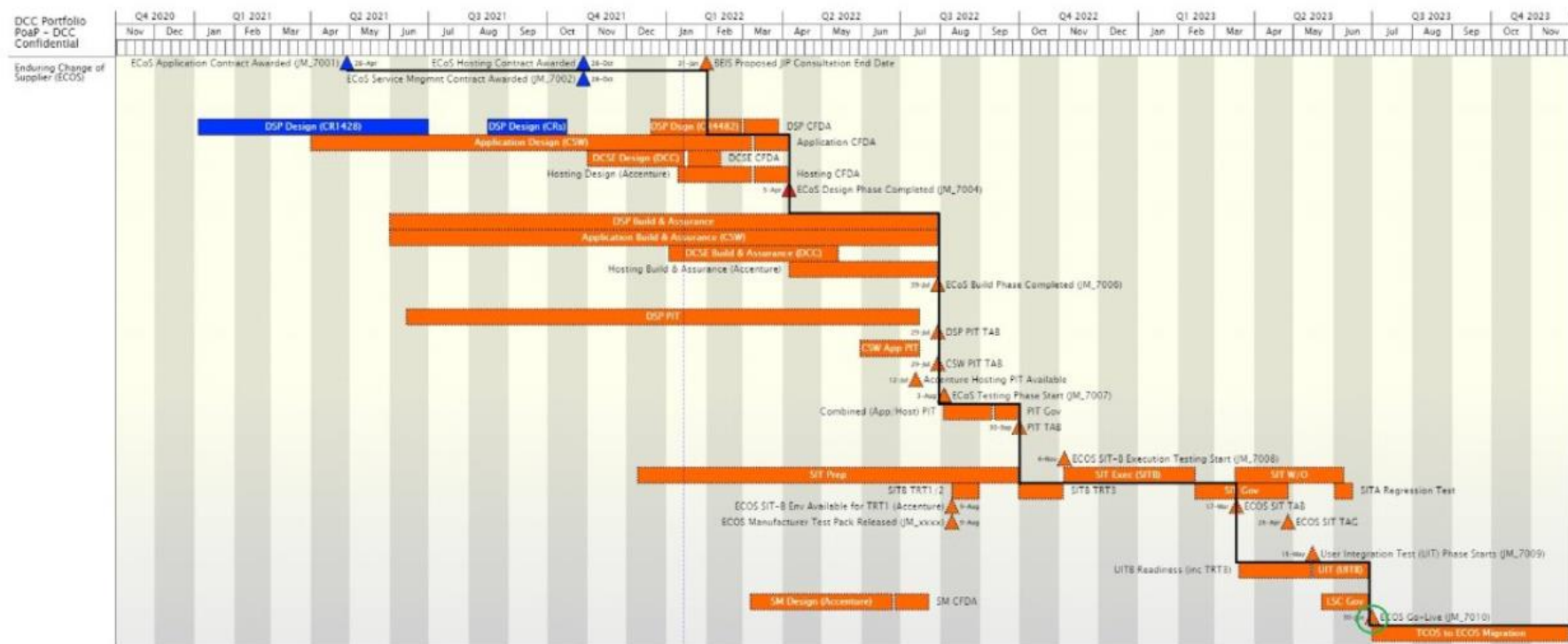
DCC Controlled

ECoS JIP CR - Milestones

The table below includes the baseline milestone dates and the proposed revised dates. These have been recommended to allow for the incorporation of lessons learnt from previous programmes, minimise risk of unforeseen impact and provide more certainty to industry.

JIP Ref.	Milestone	Baselined JIP v7.11	Recommended dates
JM_7004	ECoS Design Phase Completed	30 Oct-21	5-Apr-22
JM_7006	ECoS Build Phase Completed	08-Oct-21	29-Jul-22
JM_7007	ECoS Testing Phase Start	11-Oct-21	1-Aug-22
JM_7008	ECoS SIT Phase Start	06-Dec-21	4-Nov-22
JM_7009	User Integration Test (UIT) Phase Commence	28-Feb-22	15-May-23
JM_7010	ECoS Go-Live	30-Jun-22	30-Jun-23
NEW	Consultation issued on ETMAD v2.0	N/A	18-Apr-22
NEW	Manufacturing Test Pack released	N/A	15-Jul-22

ECoS High Level Delivery Plan POAP



Timelines to JIP CR Approval and Final Plan

Activity	Date	Commentary
SI request DCC functions to impact assess new ECoS Go Live date	20/12/2021	Complete
Risk Assessments from DCC functions returned	06/01/2022	Complete
DCC issue CR to Service Providers to impact assess new Go Live date	11/01/2022	Complete
BEIS proposed JIP Consultation start date	14/01/2022	Complete
DCC receive PIA costs and indicative plan from Service Providers	24/01/2022	DCC receive PIAs from SPs including SPs underpinning their dates
DCC present JIP CR at IMF	27/01/2022	DCC to incorporate any feedback from IMF into JIP CR prior to final submission to BEIS
Revised Integrated Plan produced	31/01/2022	Based on indicative PIA plans received on 21/01
BEIS proposed JIP Consultation end date	04/02/2022	
BEIS presents updated JIP to SMDG subject to support from IMF	10/02/2022	
DCC receive final costs and plan from Service Providers	11/03/2022	DCC receive FIAs from SPs
DCC sign off final costs and updated commercial agreements with Service Providers	31/03/2022	

Annex 2 – DCC response to the ECoS BMPPA amendments consultation (January 2022)

1. Executive summary

DCC welcomes the opportunity to respond to BEIS's consultation on amendments to the Baseline Margin Project Performance Adjustment (BMPPA) Scheme for the Enduring Change of Supplier (ECoS) programme.

DCC's digital energy spine plays a vital role in government's aspirations to decarbonise the economy and help achieve Net Zero. Since licence award, the services DCC provides to customers has evolved, and we have risen to the challenge.

Incentive schemes are an integral part of the regulatory regime to deliver these services. They provide clarity on what constitutes success for government, the regulator and our customers. Our performance is judged against them, and consequently, they are of the utmost importance to DCC.

An effective incentive scheme framework must be predictable, reasonable, measurable and achievable, and align with established regulatory principles.¹

Alignment of Incentive Dates with the Replanned dates

In line with the original Licence Condition 13 (LC13) plan², we have completed the scheduled planned review with our Service Providers. The outcome of which is that the Go Live date has moved to June 2023. It was always the intention to revisit the plan when the landscape became clearer. The replan was done in good faith to minimise disruption and costs to our customers, and ensure the migration is 'right first time'. In this respect we believe the re-planned dates are in the best interests of our customers and that the Go Live date (PAPF1) and the date associated with QFa should be moved accordingly. We do not believe it would be reasonable for BEIS to proceed with the June 2022 date for Go Live knowing that this is not the date industry is now working to.

The later date for Go Live will have an impact on PAPF2 as we will almost certainly need to rely on the Data Service Provider (DSP) contract after October 2023. In the event BEIS does not change dates for PAPF1 and PAPF2 to reflect the live industry plan, DCC will likely request a formal re-baselining of the incentive scheme in accordance with the provisions of the consultation document (which seems unnecessarily bureaucratic given the agreed LC13 plan dates).

Annex 3 – ECoS Non-Migratable Device Model List published on the SECAS website

DCC published the ECoS Non-Migratable Device Model List via the SECAS website as per paragraph 1.12 of the ETMAD.

ECoS-Non-Migratable-Device-Model-List-v1-29062023

Search for tools, help, and more (Alt + Q)

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Comments Catch up Editing

J6

Manufacturer advise that customers should upgrade to the latest f/w version to support migration of devices to ECoS

Entry	Version Of Entry	Date of entry	Version Of Last Edit	Device Type	Device Manufacturer	Device Model	Firmware Version	Supporting Rationale	Notes
5	1	7/10/2023	7/10/2023	ES/ME	118F	00000100	00060408	Manufacturer confirmation	Manufacturer advise that customers should upgrade to the latest f/w version to support migration of devices to ECoS
6	1	7/10/2023	7/10/2023	ES/ME	118F	00000100	00060600	Manufacturer confirmation	Manufacturer advise that customers should upgrade to the latest f/w version to support migration of devices to ECoS
7	1	7/10/2023	7/10/2023	ES/ME	118F	00000107	00060200	Manufacturer confirmation	Manufacturer advise that customers should upgrade to the latest f/w version to support migration of devices to ECoS
8	1	7/10/2023	7/10/2023	ES/ME	118F	00000107	00060202	Manufacturer confirmation	Manufacturer advise that customers should upgrade to the latest f/w version to support migration of devices to ECoS
9	1	7/10/2023	7/10/2023	ES/ME	118F	00000107	00060400	Manufacturer confirmation	Manufacturer advise that customers should upgrade to the latest f/w version to support migration of devices to ECoS
10	1	7/10/2023	7/10/2023	ES/ME	118F	00000107	00060408	Manufacturer confirmation	Manufacturer advise that customers should upgrade to the latest f/w version to support migration of devices to ECoS
11	1	7/10/2023	7/10/2023	ES/ME	118F	00000107	00060600	Manufacturer confirmation	Manufacturer advise that customers should upgrade to the latest f/w version to support migration of devices to ECoS
12	1	7/10/2023	7/10/2023	ES/ME	118F	00000207	00060200	Manufacturer confirmation	Manufacturer advise that customers should upgrade to the latest f/w version to support migration of devices to ECoS
13	1	7/10/2023	7/10/2023	ES/ME	118F	00000207	00060202	Manufacturer confirmation	Manufacturer advise that customers should upgrade to the latest f/w version to support migration of devices to ECoS
14	1	7/10/2023	7/10/2023	ES/ME	118F	00000207	00060400	Manufacturer confirmation	Manufacturer advise that customers should upgrade to the latest f/w version to support migration of devices to ECoS
15	1	7/10/2023	7/10/2023	ES/ME	118F	00000207	00060408	Manufacturer confirmation	Manufacturer advise that customers should upgrade to the latest f/w version to support migration of devices to ECoS
16	1	7/10/2023	7/10/2023	ES/ME	118F	00000207	00060600	Manufacturer confirmation	Manufacturer advise that customers should upgrade to the latest f/w version to support migration of devices to ECoS
17	1	7/10/2023	7/10/2023	ES/ME	118F	00000207	00060600	Manufacturer confirmation	Manufacturer advise that customers should upgrade to the latest f/w version to support migration of devices to ECoS
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Version Control Non-Migratable List

Annex 4 - September 2023 TBDG update for August migrations

DCC started reporting on migrations at the September 2023 TBDG meeting, for the month of August. The update provided an overview of successful and failed migrations. Within the failed migrations update DCC explained the reasons for the failures and the error codes.

ECOS SMETS2 Migration Monthly Summary (August 2023)

Commentary				
- The ECoS SMETS2 Migration Pilot concluded during the first week of August. Completion of the pilot was delayed owing to a P1 incident on Switching. - Over the course of August, the ramp up has progressed at a measured pace, while initial migration behaviours have been investigated. There have been 1,128 successful migrations out of 1,206 attempted in the month of August. - Migrations were paused on Friday 25th August due to an ongoing incident as DPOs (Device Processing Outcomes) were not generating for certain devices (INC000001077406). This impacted migrations and prevented any activity until 01/09, when a workaround was <u>implemented</u> and a fix has since been delivered. - Further analysis of migration rates and completion forecast is provided in a later slide.				
Analysis				
Due to this being the first monthly report, we are unable to provide trend analysis. This will be provided during September's reporting period				

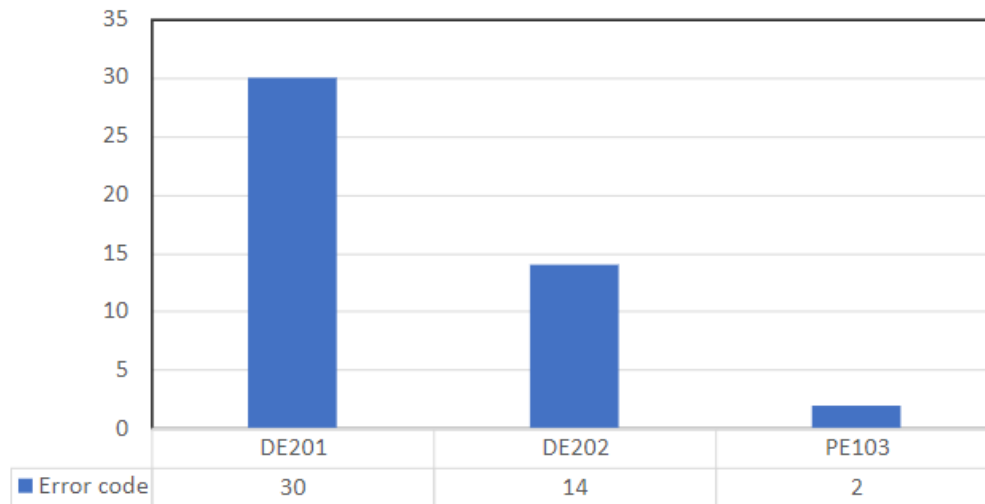
ECOS Summary				
Metric	August		Cumulative to 31/08/23	Trend compared to previous month
Devices attempted migrations	1,206		1,211	
Successful Migrations	1,128		1,133	
Failed Migrations	46		46	
Success Rate	94%		94%	
Migrations pending	N/A		0	
Pre-migration errors	32		32	
Stop Requests	29		9416	
Auto Stop Requests	0		0	
Forecast V Actual	11.86%		0	
Capacity Utilisation	0.05%		0	

ECOS SMETS2 Migration Failure Summary (August 2023)

Failed migrations

	August		Trend	Cumulative
Volumes	46			46

Device rotation failure by error code for August



Commentary for failure reasons

- There have been 46 failed migrations last month which have generated the following error codes
- DE201 - 30
- DE202 - 14
- PE103 - 2
- Please note that any failures which occur prior to the command delivery stage will not be reported on this slide due to errors of this nature not being reported on at a SEC party level, as they occur pre-migration
- Error code explanations (See appendix for detailed breakdown):
- DE201- Certificate retrieval time out
- DE202- This relates to credentials on the device either not being there or the tool failing to execute the demand
- PE103- No acknowledgement of request from CSP

Annex 5 – November 2023 TBDG ECoS update for October 2023 migrations

Within the November update, for activity in October, DCC explained there had been a high number of time out errors which had been resolved with DSP. The error codes for the failed migrations were included in the slides along with explanations.

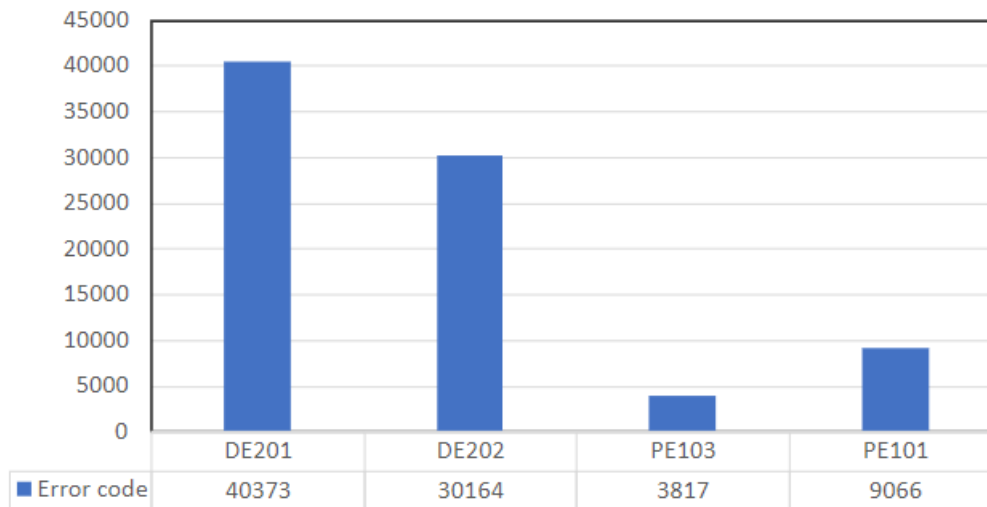
Monthly Summary



Failed migrations

	October	September	Trend	Cumulative
Volumes	83,420	3,243	↑	86,716

Device rotation failure by error code for October



Commentary for failure reasons

- There have been failed migrations last month which have generated the following error codes
- DE201 – 40,373
- DE202 – 30,164
- PE103 – 3,817
- PE101 – 9,066
- Please note that any failures which occur prior to the command delivery stage will not be reported on this slide due to errors of this nature not being reported on at a SEC party level, as they occur pre-migration
- Error code explanations (See appendix for detailed breakdown):
- DE201- Certificate retrieval time out
- DE202- This relates to credentials on the device either not being there or the tool failing to execute the demand
- PE103- No acknowledgement of request from CSP
- PE101 – Request to CoS Party is rejected

Annex 6 – December 2023 TBDG update for November 2023 migrations

DCC continued to provide updates relating to failed migrations along with the error codes, for November 2023.

DCC Controlled

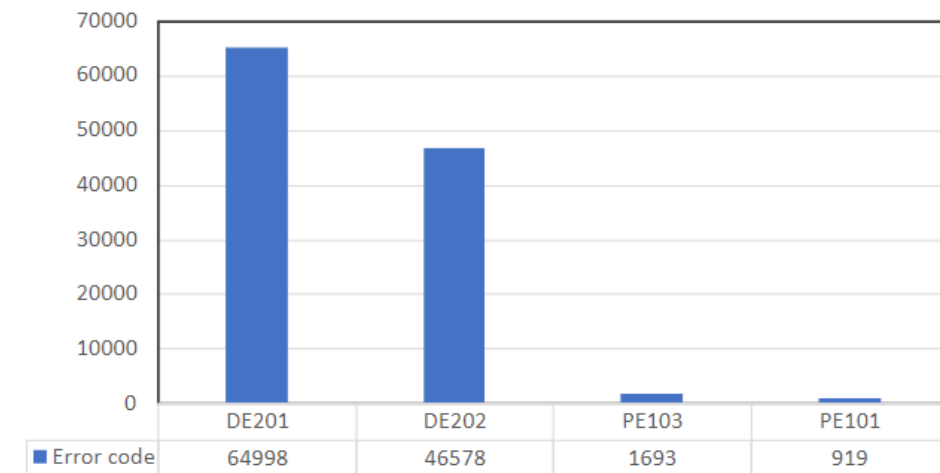


Monthly Summary

Failed migrations

	November	October	Trend	Cumulative
Volumes	114,188	83,420	↑	201,191

Device rotation failure by error code for November

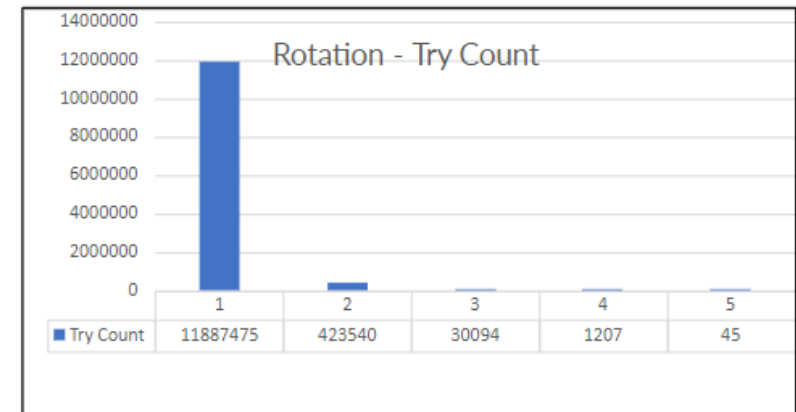


Commentary for failure reasons

- There have been failed migrations last month which have generated the following error codes
- DE201 – 64,998
- DE202 – 46,578
- PE103 – 1,693
- PE101 – 919
- Please note that any failures which occur prior to the command delivery stage will not be reported on this slide due to errors of this nature not being reported on at a SEC party level, as they occur pre-migration
- Error code explanations (See appendix for detailed breakdown):
- DE201- Certificate retrieval time out
- DE202- This relates to credentials on the device either not being there or the tool failing to execute the demand
- PE103- No acknowledgement of request from CSP
- PE101 – Request to CoS Party is rejected

Monthly Summary

Metric	November	October
Total devices	28,837,241	28,202,617
Available to Migrate	10,565,715	17,305,128



<u>ECoS Breakdown of Portfolio</u>	Figures up to 01/12
Successfully Migrated	11,502,353
In Progress	92,735
Non Migratable (SEC Published)	9,395
Excluded – Migrated 5 Times	45
Under Investigation	6,203,999

Commentary for weekly summary

- 9,395 Remain Non Migratable and Published to Industry
- Devices under investigation can include any devices which are either ineligible for migration or currently under a stop request which will be removed after a certain number of days.
- Please note that the devices under investigation figure is currently inflated as we look to target devices that have communicated within the past 60 days for migration.
- DCC are currently conducting a pilot of sending Cert Retrievals to a small volume of non-communicating devices to see if they can be woken up for a migration attempt. Update to be provided next month on success.

Annex 7 – February 2024 TBDG update for January 2024 migrations

The update for January 2024 explained that the milestone of completing all first attempts on all eligible devices was completed on 26 January 2024. Migrations would then progress onto retries and newly installed devices.

ECOS Executive Summary

DCC Controlled



ECOS Summary

Metric	January	December	Cumulative to Date	Trend compared to previous month
Devices attempted migrations	7,700,364	7,538,631	27,643,644	↑
Successful Migrations	7,025,501	7,099,666	25,780,714	↓
Failed Migrations	259,055	174,424	645,730	↑
Success Rate	91.2%	94.1%	93.2%	↓
Migrations pending	N/A	N/A	63,142	
Pre-migration errors	415,808	264,541	1,154,058	↑
Stop Requests	45,769	30,940	55,218	↑
Auto Stop Requests	0	0	0	→
Forecast V Actual	100%	98.24%	100%	↑
Capacity Utilisation	80.80%	93.37%	61.02%	↓
SMETS1 Inventory Change	4,066,618	6,078,249	10,144,867	↓

Analysis

- January saw an increase in pre-migration failures; however, this was largely caused by the processing of old batches that had not made it into migration, which in turn were expected to fail. This caused 160k VF004 errors.
- Out of 7,700,364 attempted migrations, 7,025,501 have been successful, producing a success rate of 91.2%. Removing devices which have registered as validation failure and have not been attempted, this increases the success rate to 96.4%
- Similarly, when pre-migration errors and pending migrations are removed from the cumulative total, the success rate increases from 93.2% to 97.5%.
- We have Successfully Migrated 86% of the Total Portfolio of Devices.

Commentary

- Milestone of completing all first attempts on all eligible devices was completed on 26/01/2024. We are now moving into Long Tail of ECoS Migration and between February – April 24 will be conducting migrations on retries and newly installed devices only.
- SMETS1 migrations recommenced in January 2024. To date, the migration process has been positive and the total number of SMETS1 devices which has been migrated is 10,144,867.

Annex 8 – March 2024 TBDG update for February 2024 migrations

The March 2024 update confirmed that the SMETS1 inventory change was fully concluded and DCC had successfully migrated 95% of the total portfolio of devices.

ECOS Executive Summary (Feb 24) DCC Controlled



ECOS Summary

Metric	February	January	Cumulative to Date	Trend compared to previous month
Devices attempted migrations	3,913,892	7,700,364	31,550,877	↓
Successful Migrations	2,893,528	7,025,501	28,674,242	↓
Failed Migrations	332,429	259,055	978,159	↑
Success Rate	73.9%	91.2%	90.9%	↓
Migrations pending	N/A	N/A	56,483	
Pre-migration errors	687,935	415,808	1,841,993	↑
Stop Requests	148,284	45,769	157,295	↑
Auto Stop Requests	0	0	0	→
Forecast V Actual	100%	100%	100%	→
Capacity Utilisation	46.97%	80.80%	58.67%	↓
SMETS1 Inventory Change	8,310,217	4,066,618	18,455,084	↑

Analysis

- February saw a decrease in volumes of devices available for Migration as we are now in the Long Tail of the ECoS Migrations Programme, and we are only conducting migration attempts on retry's and newly installed devices.
- Out of 3,913,892 attempted migrations, 2,893,528 have been successful, producing a success rate of 73.9%. Removing devices which have pre-migration errors and pending migrations are removed from the cumulative total, the success rate increases from to 91.1%.
- We have Successfully Migrated 95% of the Total Portfolio of Devices.

Commentary

- SMETS1 Inventory Change has now fully concluded.
- The default S1 Change will now pick up newly migrated SMETS1 Devices and inventory will show as ECoS on migration.

Annex 9 – April 2024 TBDG update for March 2024 migrations

The April 2024 update showed the number of failed migrations with associated error codes and explained that the ECOSMIG-002 regulatory report provided the details for the responsible supplier of the device that had failed migration.

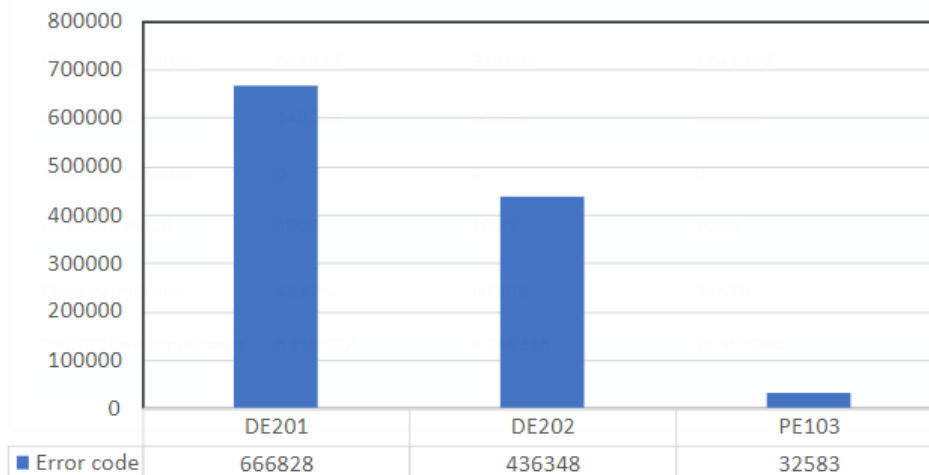
Monthly Summary



Failed migrations

	March	February	Trend	Cumulative
Volumes	247,134	281,222	↓	1,135,759

Device rotation failure by error code for All Time



Commentary for failure reasons

- 247,134 failed migrations last month which have generated the following error codes
- DE201 – 151,105 - Certificate retrieval time out
- DE202 – 88,216 - Credentials on the device not identified
- PE103 – 7,813 - No acknowledgement of request from CSP

Cumulative 1,135,759 Failed Migrations equates to **575,712 Devices** in total that have failed.

315,563 of these devices have been successfully migrated to ECoS.

252,104 devices remaining have either moved to no longer eligible for migration or are still in a Retry process.

8,835 devices have not migrated when reaching the 6th migration attempt and all these devices are different make, models and firmware with a mixture of failure error codes. We continue to review these devices with our Devices Team.

For Details of Devices that have Failed Migration the regulatory report ECOSMIG-002 provides the responsible supplier all details of devices that have failed a migration attempt and this report is produced every 6 hours.

Annex 10 – May 2024 TBDG update for April 2024 migrations

The May update which covered April activities showed the number of failed migrations and the number of devices that had not migrated when reaching the 6th migration attempt.

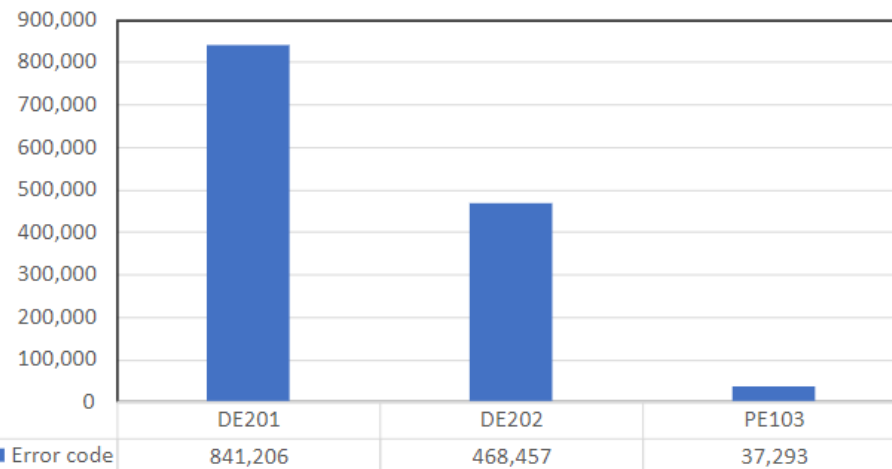
Monthly Summary



Failed migrations

	April	March	Trend	Cumulative
Volumes	213,950	247,134	↓	1,346,956

Device rotation failure by error code for All Time



Commentary for failure reasons

There have been 213,950 failed migrations last month which have generated the following error codes
 DE201 – 176,539
 DE202 – 32,701
 PE103 – 4,710

Cumulative 1,346,956 Failed Migrations equates to 590,363 Devices in total that have failed.

342,512 of these devices have been successfully migrated to ECoS.

247,996 devices remaining have either moved to no longer eligible for migration or are still in a Retry process.

72,654 devices have not migrated when reaching the 6th migration attempt and all these devices are different makes, models and firmware with a mixture of failure error codes.

Annex 11 – July 2024 TBDG update for June 2024 migrations

The July 2024 update explained the Final ECoS Migrations Reporting would be produced early August 2024, and a notification would be issued to suppliers to let them know the reporting was ready.

ECOS Executive Summary

DCC Controlled



ECOS Summary

Metric	June	May	Cumulative to Date	Trend compared to previous month
Devices attempted migrations	692,807	716,599	34,722,759	↓
Successful Migrations	451,108	565,562	30,845,475	↓
Failed Migrations	92,449	93,686	1,529, 717	↓
Success Rate	65.11%	78.92%	89.2%	↑
Migrations pending	13,805	0	13,805	
Pre-migration errors	25,856	57,351	2,200,146	↓
Stop Requests	6,649	6,910	102,076	↓
Auto Stop Requests	0	0	0	→
Forecast V Actual	100%	100%	100%	→
Capacity Utilisation	7.95%	7.18%	48.23%	↓
SMETS1 Inventory Change	0	0	18,455,084	→

Analysis

- JIP Milestone for ECoS Migrations was successful delivered.
- 95% of Total Device Portfolio available has been migrated.
- ECoS Migrations are planned to end on Friday 19th July 2024. This will give us time to receive outcomes for all pending migrations before the end of July 2024.
- Final ECoS Migrations Reporting will be produced early August 2024. Notification will be provided to suppliers when ready to be viewed.

Commentary

- SMETS1 Inventory Change has fully concluded in February 2024.

Annex 12 – Overview of ECoS reports

DCC presented at TBDG monthly during the migration process and was responsible for the creation of eight reports per supplier party during the migrations as per the Enduring Change of Supplier Migration Reporting Regime (EMRR).

- 1. ECOSMIG-001 – Detail Report: ECoS Migrations Completed Successfully**
 - a. These reports contained detailed records for each Device that had completed the ECoS Migration successfully within a reporting period.
 - b. These reports were delivered daily at 06:00.
- 2. ECOSMIG-002 – Detail Report: ECoS Migrations Completed Unsuccessfully**
 - a. These reports contained detailed records for each Device that had completed the ECoS Migration unsuccessfully within a reporting period.
 - b. These reports were delivered every six hours, i.e. four times per day.
- 3. ECOSMIG-003 – Detail Report: Gaining Supplier Devices History**
 - a. These reports detailed the successfully migrated, the latest failure or installed with ECoS credentials for each gaining supplier from the beginning of the migration.
 - b. These reports were delivered every month.
- 4. ECOSMIG-004 – Summary Report: Devices Count by Non Migratable Device Model**
 - a. These reports summarised how many devices will not be attempted for ECoS Migration as they are of a Device Model categorised as Non Migratable.
 - b. These reports were delivered once per week.
- 5. ECOSMIG-005 – Summary Report: ECoS Migration Activity for the Previous Week**
 - a. These reports summarised the status and events for all ECoS Migrations on the week prior to the date of the reporting time.
 - b. These reports were delivered once per week.
- 6. ECOSMIG-006 – Detail Report: Newly Installed ECoS Devices**
 - a. These reports detailed each newly installed ECoS Device within a reporting period.
 - b. These reports were delivered once per month.
- 7. ECOSMIG-007 – Summary Report: ECoS Total Counts**
 - a. These reports summarised the total number of Devices that have been migrated from the beginning of migration, the number of migration failed attempts, the number of Devices installed with ECoS Certificates, the number of Devices remaining with TCoS Certificates and the number of Devices of a Device Model categorised as Non Migratable.
 - b. These reports were delivered once per month.
- 8. ECOSMIG-008 – ECoS Migrations Final Supplier Reporting**

- a. These reports detailed a snapshot view of all SMETS2 devices that were in scope for ECoS migration.
- b. These reports were delivered ad-hoc, once, at the end of the migrations.

DCC developed a report guide to assist Responsible Suppliers in understanding the final ECOSMIG-008 report.

Annex 13 - ECoS Final Migration Figures

These slides contain a breakdown of the non-migrated devices and the successful migrations.

ECOS Executive Summary

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ECoS SMET2 Certificate Migration	1 August 2024
Total SMET2 TCoS Portfolio (end of day 31 July 2024)	33,055,358
Successfully Migrated to ECoS	31,250,709
Not Migrated	1,804,649
Not Migrated	Breakdown
Migratable	312,425
Non Migratable (SEC Published)	8,660
Reached Maximum Migration Attempt 6+	105,020
Non-Communicating Devices (More than 60 Days) *No Response to Certificate Retrievals	853,956
Unknown Certificate	126,263
Decommissioned Devices	398,325
Total	1,804,649
SMETS1 – Inventory Change to ECoS	Completed February 2024
SMETS1 – Inventory change	18,455,084

Analysis

- ECoS Migrations Programme ran from 6th August 2023 to 31 July 2024.
- Final Submission of Batches was concluded on 19th July 2024.
- Final Summary data is from 31 July 2024 to allow all devices In Progress to update.
- All Decommissioned devices have been removed from Not Migrated Volumes.
- EMRR Final ECoS Reporting for suppliers was uploaded for Suppliers to view on 2 August 2024.
- Final ECoS Reporting for Suppliers with full view of devices in their portfolio to show Migrated and Non-Migrated in one file due to be delivered to W/C 19th August 2024.
- 95.6% of Total Device Portfolio has been migrated.

Failed Migration Summary

Failed	Cumulative
Failed Migration Attempt	1,580,458

Total Migration Attempts (Success & Failed)				
Migration Attempt	Successful Attempts	Failed Attempts	Total Migration Attempts	Success Rate
1	30,856,998	639,136	31,496,134	98.07%
2	263,520	305,438	568,958	54.13%
3	67,580	203,151	270,731	24.96%
4	28,954	155,535	184,489	15.69%
5	15,703	128,894	144,597	10.86%
6+	17,955	148,304	166,259	8.08%
Total	31,250,710	1,580,458	32,831,168	95.18%



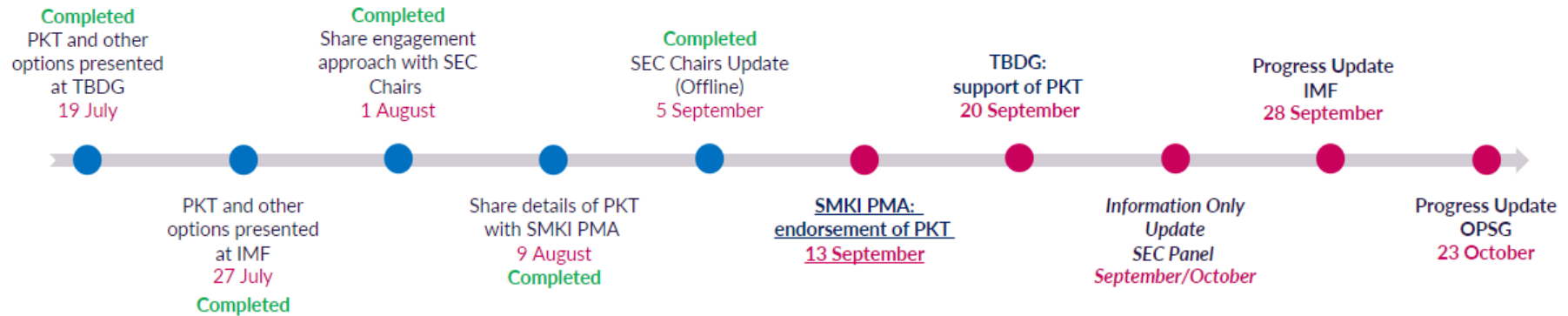
Commentary for failure reasons

- Total cumulative failed migrations have generated the following error codes
 - DE201 – 1,009,113 – 63.85%
 - DE202 – 524,653 – 33.2%
 - PE103 – 46,692 – 2.95%
- Cumulative 1,580,458 Failed Migrations errors equates to 639,136 Devices in total that have failed.
- 389,043 devices have been successfully migrated to ECoS.
- 250,093 devices remaining have either moved to no longer eligible for migration or have now been decommissioned.
- 105,020 devices have not migrated when reaching the 6th migration attempt and all these devices are different makes, models and firmware with a mixture of failure error codes. We continue to review these devices with our Devices Team.

Annex 14 – Engagement approach for the Private Key Transfer (PKT) solution

Engagement Approach for Private Key Transfer (PKT)

- The ECoS Programme will continue to provide updates on Private Key Transfer
- Progress updates will be provided to TBDG each month
- OPSG will receive update on plans and progress in October, in line with commitments made at point of LSC acceptance
- SMKI PMA will be engaged at the relevant points during delivery e.g. on the approach to moving keys



Annex 15 - TBDG presentation on the PKT solution

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4. February TBDG Action 109.02 - Moving the TCOS Private Key

- Action 109.02

A summary of the proposed “Moving TCOS Private Key to ECOS” change request at the next TBDG meeting, focusing on what difference the expected change would make to users in practice, including when and in what circumstances DCC would expect the new functionality to be deployed and utilised.

- There is no impact envisaged to DCC Users, both TCoS and ECoS keys will continue to work before and after the changes have been made.
- The Private Key Transfer work is divided into 5 logical segments to allow for effective governance of each stage. Preparation, Key Export, Key Transfer, Key Import, Closedown.
- The changes will follow the standard DCC release process & deployed through the test environments (PIT/SIT/UIT) before they are orchestrated in the Production environment.

Annex 16 – January 2023 IMF ECoS update on supply chain risks and issues with mitigations and latest updates

Programme Risks / Issues

DCC Controlled

	Risk/Issue	Mitigation	Latest Update
3	R4053-Prod & Test - Device Firmware - Update lead times As a result of many different device types / variants including Comms Hubs being in production there is a risk that some devices / Comms Hubs will require updates and this can take up to 1 year for all device types (Comms Hubs and Meters) to be updated	• ECoS programme (i.e. DCC) to identify meters & Comms Hubs with problematic firmware and work with Energy Suppliers, MAPS, those involved in device inventory to ensure appropriate firmware is installed. DCC for Comms Hubs, Energy Suppliers for Meters. • Use the current production BAU TCoS to TCoS process to test a handful of all device and Comms Hub types / variants to confirm there are no firmware issues (Complete). Where issues are identified, DCC to confirm that more recent versions do support TCoS to TCoS thereby confirming the upgrade path. If the most recent firmware has an issue, DCC will inform both Device Manufacturers and Energy Suppliers detailing that a new version is required. It is the responsibility of Energy Suppliers to apply firmware upgrades to meters and DCC to apply firmware upgrades to Comms Hubs. • For Comms Hubs, through the TCoS to TCoS proof of concept. In order for this risk to be effectively mitigated, DCC will need to ensure that they are applying firmware updates to meters ahead of migration start. As a result the impact data has been set to 28th April '23 which is 2 months before the start of the migration period.	• TCoS to TCoS proof of concept for Comms Hubs, no problematic devices were found. • However, engagement with manufactures to be undertaken, to gain comfort on what tests they perform on backward compatibility when releasing new devices and firmware versions
4	R4032 - Supply Chain - TCoS to ECoS Device Transition (All Types of devices) As a result of the need to transition devices, including Comms Hubs from TCoS to ECoS from Go Live, there is a risk that TCoS devices will continue to be deployed for longer than expected due to the amount of inventory held in the supply chain.	• Engage with Energy Suppliers, MAPS, those involved in device inventory to make them aware of the transition from TCoS to ECoS meters and comms hubs • Work with device and comms hub supply chain stakeholders (i.e. Energy Suppliers and MAPS) to manage the supply chain inventory to reduce TCoS inventory to a minimum prior to Go Live • Review Energy Supplier device inventory shortly after Go Live to ensure that reduction of TCoS supply chain inventory is monitored and Energy Supplier procurement of TCoS devices ceases. • Explore / progress the option of moving the TCoS credential for use by the ECoS Party in order to allow TCoS credentialled devices and Comms Hubs to continue to operate after the TCoS Smart Network component is turned off.	• From conversations held earlier this year, there is no consistency on inventory levels held by industry. • The intention of DCC is to issue the manufacturing pack at the earliest opportunity, given the fact that there is no standard (minimum or maximum) inventory level issuing the pack too early (i.e. before migration start may result in suppliers attempting to install ECoS devices before the ECoS party is live

Annex 17 – March 2023 IMF update

DCC provided a comprehensive update in March 2023 covering how DCC will manage residual stock post 31 October 2024.

The residual stock validity post October '24

Q What happens post October '24 if TCoS devices continue to be installed?

A A benefit of the Private Key Transfer change is that Energy Suppliers may continue to install TCoS stock (Comms Hubs & Meters) following the end of ECoS migration period. ECoS Party will take responsibility for processing SR6.23 for these devices whether they hold TCoS or ECoS certificates.

We anticipate that ECoS Party will target these newly installed TCoS devices for certificate rotation based on similar logic that will be applied to newly installed ECoS devices. This is subject to further design assessment as part of the Private Key Transfer change.

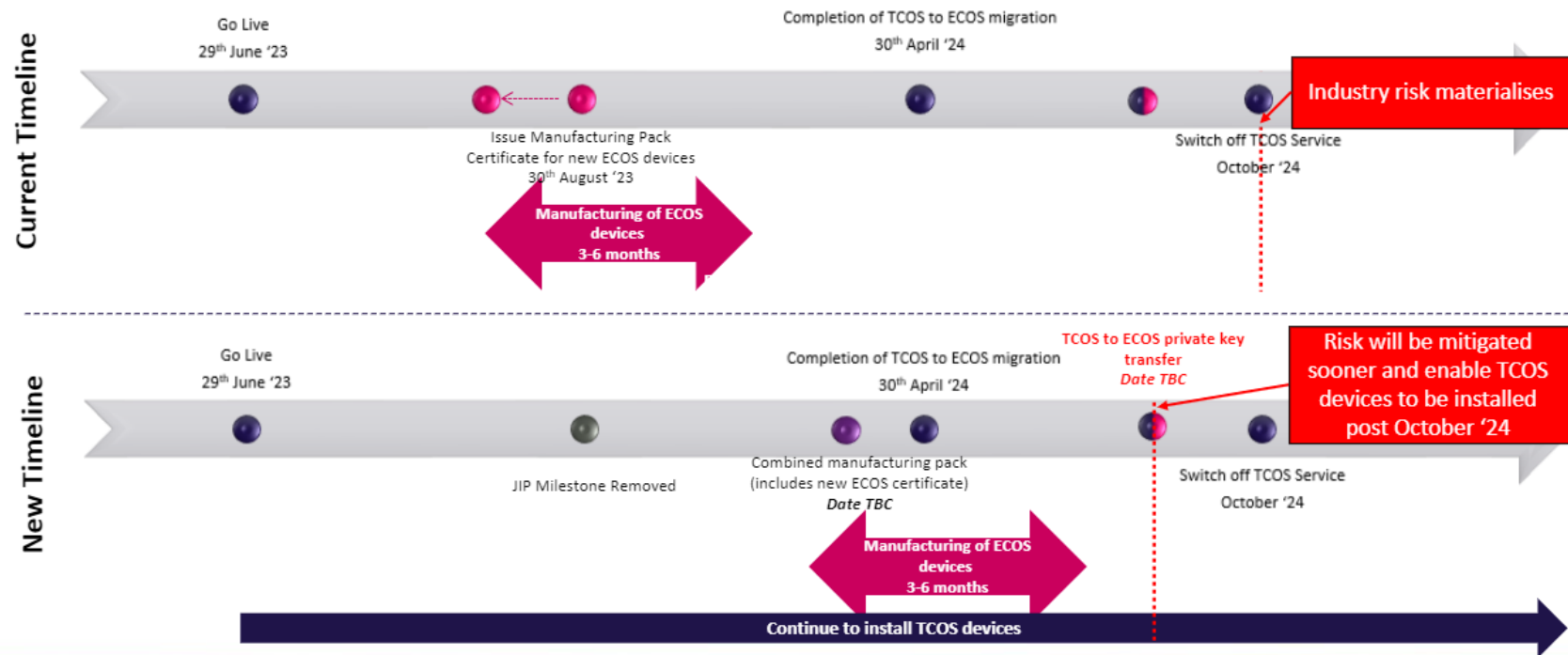
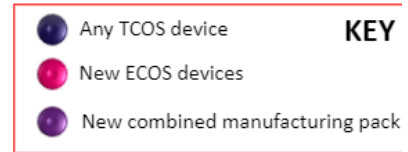
Annex 18 – May 2023 IMF update with revised timeline for the manufacturing pack

The migration timeline was presented which confirmed a 10-month migration window beginning from 29 June 2023 through to 30 April 2024. The IMF was requested to remove the associated JIP milestone for DCC to issue the new ECoS manufacturing pack on 30 August 2023, so that only one manufacturing pack would be issued that would be combined with ACB and recovery certificates. Any risk in moving this date was also mitigated by the progression of the Private Key Transfer (PKT) option which had been progressing well.

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Manufacturing of New ECOS Devices Timeline (illustrative)

ii) Install & commission newly manufactured devices with ECOS certificates - Risk that industry will not be able to commit to using up all TCOS device stock and changing over supply chain if there is a delay in issuing the manufacturing pack certificate. This has always been a risk but probability and impact now high.



Annex 19 – OPSG presentation on proposal to remove manufacturing pack from scope of ECoS programme

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ECoS – Install and Commission Removal from Scope

For information only.

Reason:

- A defect was identified in UIT preparation which impacted the new ECoS certificate for the UIT manufacturing pack.
- Full Root Cause Analysis (RCA) was completed, a fix applied and retested successfully. However, the UIT devices were invalid.
- A decision was made, via TBDG/Dept, to postpone the issuing of the ECoS production manufacturing pack to 2024 and combine with other certificate updates e.g. ACB & Recovery to issue a single pack.

Impact:

- JIP milestone for August 30th to issue production manufacturing pack is not achievable.
- JIP milestone will be RED status until a replan has been agreed with customers.
- Having a single manufacturing pack reduces the frequency of changes to customer manufacturing lines.

Mitigating Action:

- Remove issuing of manufacturing pack from ECoS scope and move to future programme, with objective to issue a single manufacturing pack annually from 2024. DCC will provide an update in August 2023.

Changes in Scope:

The following items will be de-scoped as part of the decision:

- UIT testing of Install and Commission (I&C)
- Procurement of refurbished devices for production I&C
- Running of the Production I&C Pilot
- Manufacturing line cutover from TCoS to ECoS
- Issuing of ECoS manufacturing pack to industry for Comms Hubs, ESME and GSME devices
- **Live Service Criteria will apply to the TCoS to ECoS migration activity only.**

Annex 20 – Overview of engagement undertaken for Private Key Transfer

Governance Forum	Dates	Additional Comments
SSC	28 September 2022	DCC outlined the problem statement and the three proofs of concept to help demonstrate the feasibility of the solution. Members noted the update. The same update was provided to SMKI PMA on 12 October 2022.
SMKI PMA	12 October 2022	DCC outlined the problem statement and the three proofs of concept to help demonstrate the feasibility of the solution. Members noted the update. The same update was provided to SSC on the 28 September 2022.
SMKI PMA	14 December 2022	DCC presented an item on the Retention of the TCoS Private Key, including an update against the three proofs of concept, focusing closely on the PoC2. SMKI PMA noted the update
TBDG	17 May 2023	DCC held follow up discussions with EUA Utility Networks, British Gas, Calvin Capital & Octoenergy
Tri-lateral meeting	18 May 2023	Presentation of stranded device mitigation options to Dave Warner (OPSG), Martin Hanley (TAG) and Julian Hughes (in DESNZ capacity).
BEAMA/EUA & Members Forum	24 May 2023	
IMF	25 May 2023	An update was provided, confirming that DCC were the accelerating TCoS to ECoS PKT workstream that would enable TCoS devices to be installed post-October 2024, thereby removing other risks. The update also noted that the technical proving in January 2023 had given a high degree of confidence for the effectiveness of the fix and that it could resolve many of the risks associated with the workstream which had been of concern to stakeholders. IMF members noted the update.
OPSG	13 June 2023	A high-level overview of the intention to implement TCoS to ECoS PKT was shared as part of the Live Service Criteria presentation, including description, impact, mitigation and next steps towards implementation. Members noted the update. The same information was shared as part of the presentation to IMF on 29 June 2023.
IMF	29 June 2023	A high-level overview of the intention to implement TCoS to ECoS PKT, including description, impact, mitigation and next steps towards implementation was shared with IMF members as an appendix to the main presentation. No comment was received.
SMDG	13 July 2023	An update was provided as part of the Key Risks standing item, detailing next steps to be shared at TBDG on 19 July and
TBDG	19 July 2023	An item on the TCoS Stranded Device risk was shared as part of the ECoS update, including outlining the risk and the other identified mitigation options ('Do nothing' and extend TCoS). Members voiced support for PKT and were resistant to the suggestion that the other options should be explored further.
SEC Chairs	1 August 2023	An update on PKT as the preferred solution was shared with the SEC Chairs, including the advantages and draft engagement approach for PKT going forwards. The Chairs were comfortable with the approach outlined and it was noted that a detailed update should be shared with SMKI PMA for discussion and feedback.

Governance Forum	Dates	Additional Comments
SMKI PMA + SSC	9 August 2023	A detailed update on PKT was shared, covering Transfer Activity, Solution Design and Process Flows. Members discussed and fed back some suggestions. DCC agreed to take these away and build in where possible, with a commitment to return with an update for full endorsement at SMKI PMA in early September.

Annex 21 - Activities to go live February – June 2023

DCC Controlled

ECoS Go Live – provisional OPSG Schedule

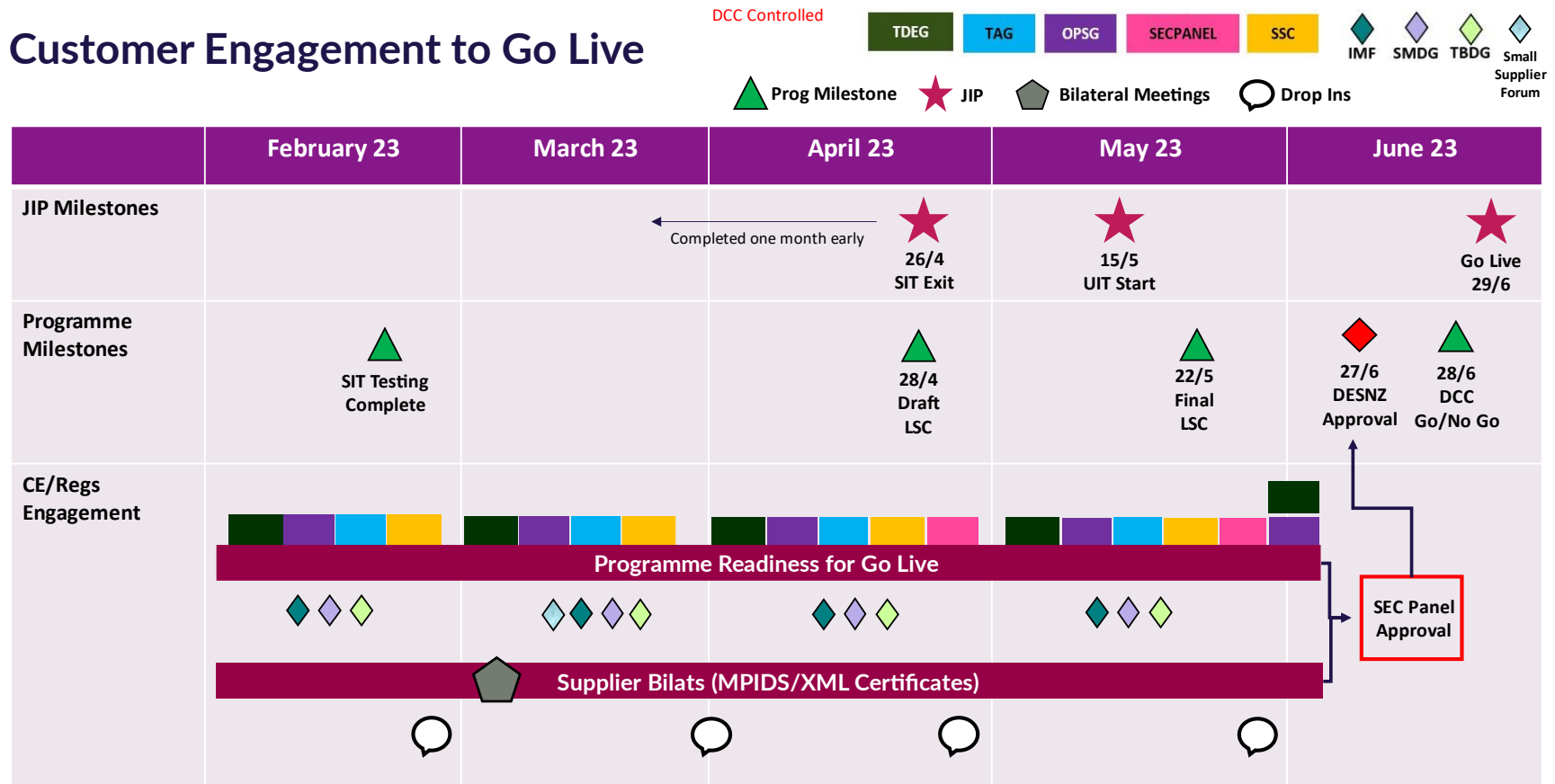
February '23	March '23	April '23	May '23	June '23
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ECoS Go Live – OPSG Schedule

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Annex 22 - ECoS Engagement POAP

Customer Engagement to Go Live



Annex 23 - ECoS Summit Objectives

Objectives of today

DCC Controlled

The objectives of today's Summit are to give Industry an opportunity to:

- 1 Get to know DCC's role in the Enduring Change of Supplier Programme
- 2 Understand the changes under the Enduring Change of Supplier (ECoS)
- 3 Meet our Service Delivery Partners and what their role is in the ECoS Programme
- 4 User Integration Testing (UIT) session to discuss areas to consider testing
- 5 Supply Chain & Inventory Workshop to ensure industry supply chain concerns are accounted for in the DCC plans.

Annex 24 - Harvey Balls Examples from March and June 2023

Key	
Built, tested, deployed and ready for live operation	
Built, tested, ready for deployment and live operation	
Built, testing not complete	
Building in progress	

Component	Current Status at OPSG Paper Deadline	Status at 22/05/2023 Final LSC Issue	Status at 29/06/2023 ECoS Go Live	Rationale
MCC Staffing				MCC is already staffed for SMETS1 migrations. Any additional staff required for ECoS migrations management will be in place for ECoS go-live (as migrations will start on the 29 June 2023).
MCC Process			or	Report 7, a new report following the EMRR Consultation, will be deployed following Go Live.
MCC Tooling				MCC Tooling to support ECoS migrations will be deployed at ECoS go-live and be operational on 29 June 2023.
ECoS System				The new ECoS system will be deployed on 29 June 2023.
ECoS Staffing				The staffing to support the new ECoS system will build over the last couple of months before ECoS go-live. The target service team will be in place for go-live on 29 June 2023. This is to support a fast rampup of ECoS migrations following go-live.
ECoS Process				Processes for the new ECoS system will be ready for operation at go-live.
ECoS Tooling				Tooling to support the new ECoS system will be ready, fully tested and deployed for ECoS operation go-live on 29 June 2023.

#	LSC	Governance	Status at 26/05/2023 Final LSC Issue	Status at 13/06/2023 OPSG	Status at 29/06/2023 ECoS Go Live	Rationale
1.	ECoS Testing is complete	TAG				This is now completed and approved by TAG and TAB.
2.	Any defects have been resolved or accepted	TAG				All defects have been resolved and agreed as such at TAG. Any UIT issues raised since TAG are referenced later in this pack.
3.	DCC is operationally ready to commence	OPSG				The current operational readiness remains on track for go-live. There are a number of checkpoints in place, see slide (25), within DCC Operations to track progress with final OA review on the 22 nd June.
4.	Business continuity and disaster recovery arrangements are in place	OPSG				BCDR arrangements are in place and were approved by the Operations Group in April 2023 for the other related Service Providers. Final approval sought in June '23 OPSG.

Annex 25 – Live Service Criteria Table

ECoS Live Service Criteria (LSC)*(NB Following removal of Install & Commission, LSC relates to migration activity only)*

#	Live Services Criteria	Governance	Sub-Committee Meeting Date (for final approval)	Current RAG Status (06/06)
1	ECoS Testing is Complete (including core solution, migration, capacity testing)	TAG	31/5	
2	Any defects have been resolved or accepted	TAG	31/5	
3	DCC is operationally ready to commence migration	OPSG	13/6	As per slide 15
4	Business continuity and disaster recovery arrangements are in place	OPSG	13/6	
5	Potential consumer impacts have been considered and appropriate arrangements are in place to manage them	OPSG	13/6	
6	The arrangements have been assured from a security perspective	SSC	14/6	
7	Pre-existing services remain stable	OPSG	13/6	
8	A sufficient number of DCC Users have demonstrated that they are ready for ECoS Go Live	DESNZ	N/A*	Risk 5075

* We cannot apply a specific date, as it is comprised of UIT, MPID reporting and ADT reporting.

Annex 26 - Asks and Actions Slide

BEE Controlled

March OPSG - Asks and Actions

- **Agreement to continue to provide updates on:**
 - SIT Exit status, including overview of outstanding defects
 - SCT plan and initial progress
 - UITB readiness
 - Operational Readiness and Operational Acceptance (POAP)
- **Action 90_16: DCC to bring a summary of user readiness activity that is critical for ECoS Go Live.**
 - We have addressed this through the User Readiness Summary later in the pack.

BEE Controlled

Annex 27 - Engagement schedule being ticked off

DCC Controlled

ECoS Go Live – OPSG Schedule

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Annex 28 - Sharing of draft LSC report

Draft ECoS Live Service Criteria



Taylor, Laura (DCC)

To

Conroy Saunders; Cherrelle Mclean

Cc

Showler, Emma (DCC)

28/04/2023

DCC_Controlled\DCC Controlled



ECoS Live Service Criteria v0.1 (draft).docx

528 KB

DCC Controlled

Hi Conroy,

The Draft Live Service Criteria document, as discussed this afternoon.

For the attention of: the Operations Group, Security Sub-Committee and Testing Advisory Group

Please find attached the Draft Enduring Change of Supplier (ECoS) Live Service Criteria document. The Live Service Criteria (LSC) were agreed by the SEC Panel in April 2022 and are the criteria that DCC will use to evidence to the SEC Panel (who will advise the Government) and to the Government (who will decide on whether to make any enabling changes) for the commencement of migration of Devices from using transitional CoS Certificates to enduring CoS Certificates.

This initial draft is being provided to you in advance of the Final LSC document, for information only. Should you have any comments or notes on this draft that you wish to share, please feed these back through the relevant committee Chairs in advance of 17 May 2023. We will share the Final LSC document later in May, followed by bringing this as an agenda item to each of the relevant sub-committees for formal discussion, review and decision in late-May/early-June.

Thanks,

ECoS Programme Team.

DCC Report for ECoS BMPPA scheme (January 2025)

DCC Public

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Annex 29 - Drop in invitation with Call for Input

From: Taylor, Laura (DCC)
Sent: 27 January 2023 12:50
To: Bowers, Luke <luke.bowers@eonenergy.com>
Subject: RE: ECOS Drop in Session

DCC Controlled

Hi Luke,

Thanks for this – I'm in the process of rescheduling the ECoS Drop In sessions and we're looking to restart them in February.

I'd be really interested to hear what areas specifically that you would like to hear more on or have the opportunity to ask questions on?

Thanks,

Laura

DCC Controlled

From: Bowers, Luke <luke.bowers@eonenergy.com>
Sent: 24 January 2023 16:10
To: SMB- Customer Engagement team <customerengagement@smartdcc.co.uk>
Subject: ECOS Drop in Session

****EXTERNAL****

Hi there,

I was wondering if it would be possible to join the drop in sessions advertised on Decembers newsletter that provide updates on the transition from TCOS to ECOS change of supplier processes. I am responsible for the project from a supplier perspective at E.ON Energy.

Regards,
Luke Bowers
SMETS2 Firmware Senior Deployment Analyst
Remote Servicing | Smart Field Connections
E.ON Energy | UK Solutions

Annex 30 - ECoS Summit Customer Participation Elements

DCC Controlled

What is the objective of today's Supply Chain Workshop?

- To consider the processes involved in changing the manufacturing packs
- To discuss the DCC's production trial for ECoS and industry involvement
- To understand your perspective on the changes required to production supply chain
- To discuss the need to run down TCoS stock as ECoS stock becomes available

Areas to consider testing

Sending SRV6.23 Update Security Credentials under the new ECoS arrangement

- DCC will support pairing Testing Participants to conduct Change of Supplier testing
- Parties will need to ensure their XMLSigning Organisation Certificate contains their MPID

Testing on devices where credentials have been switched from TCoS to ECoS

- Same tooling for TCoS to ECoS swap credentials that will be used in production will be available in UIT
- Process to be developed for Testing Participants to request devices to have credentials swapped so testing can happen pre and post switch

Testing on devices which have been manufactured with ECoS credentials

- DCC will be looking to procure test Comms Hubs, for the DCC Test Labs, which are manufactured with ECoS credentials and small number of meters
- Parties should consider if there will need to purchase test comms hubs from DCC or devices from their meter manufacturer

Testing changes to Anomaly Detection Threshold Files

- Parties can test the signing changes to ADT files as well as what happens once threshold is breached