SMETS1 – RY22/23 Variances Overview

Service Variance by GL

The table below provides a breakdown of incurred and forecasted costs in price control format i.e. mapping costs directly against the price control General Ledger codes (GLs).

Baseline (£m)		RY22/23	RY23/24	RY24/25
Total SMETS1		**0.000**	**0.000**	**0.000**
Payroll costs	PR	0.000	0.000	0.000
Non-payroll costs	NP	0.000	0.000	0.000
Recruitment	RC	0.000	0.000	0.000
Accommodation	AC	0.000	0.000	0.000
External services	ES	0.000	0.000	0.000
Internal services	IS	0.000	0.000	0.000
Incurred (£m)		**RY22/23**	**RY23/24**	**RY24/25**
Total SMETS1		**11.849**	**3.901**	**2.612**
Payroll costs	PR	3.170	3.249	1.972
Non-payroll costs	NP	0.001	0.053	0.054
Recruitment	RC	-	0.013	-
Accommodation	AC	0.122	-	-
External services	ES	7.771	0.586	0.586
Internal services	IS	0.786	-	-
Variance (£m)		**RY22/23**	**RY23/24**	**RY24/25**
Total SMETS1		**11.849**	**3.901**	**2.612**
Payroll costs	PR	3.170	3.249	1.972
Non-payroll costs	NP	0.001	0.053	0.054
Recruitment	RC	-	0.013	-
Accommodation	AC	0.122	-	-
External services	ES	7.771	0.586	0.586
Internal services	IS	0.786	-	-

Service Variance by Sub-Team

The table below shows the payroll variance by sub-team within the SMETS1 Service.

Baseline (£m)	RY22/23	RY23/24	RY24/25
SMETS1 Payroll Costs	**0.000**	**0.000**	**0.000**
Commercial and Regulation	0.000	0.000	0.000
Finance	0.000	0.000	0.000
Operations	0.000	0.000	0.000
Security	0.000	0.000	0.000
Service Delivery	0.000	0.000	0.000
Testing	0.000	0.000	0.000
Incurred (£m)	**RY22/23**	**RY23/24**	**RY24/25**
SMETS1 Payroll Costs	**3.170**	**3.249**	**1.972**
Commercial and Regulation	0.157	0.157	0.157
Finance	0.144	0.000	0.000
Operations	0.686	0.686	0.665
Security	0.007	0.000	0.000
Service Delivery	1.984	2.116	0.838
Testing	0.191	0.291	0.312
Variance (£m)	**RY22/23**	**RY23/24**	**RY24/25**
SMETS1 Payroll Costs	**3.170**	**3.249**	**1.972**
Commercial and Regulation	0.157	0.157	0.157
Finance	0.144	0.000	0.000
Operations	0.686	0.686	0.665
Security	0.007	0.000	0.000
Service Delivery	1.984	2.116	0.838
Testing	0.191	0.291	0.312

1 SMETS1 Service

Summary

- The SMETS1 Enrolment and Adoption Programme is highly complex and technically challenging. It is enabling the migration of more than 15 million first-generation SMETS1 smart meters onto the DCC network, where they will become fully interoperable between energy suppliers. This is critical as it allows consumers to switch energy suppliers seamlessly without losing smart functionality and will continue to deliver significant savings to industry.
- As of 31 March 2023, 11.3 million meters had been migrated (up from 8.9 million on 31 March 2022), enabled by strong DCC performance, with over 99.7% of migrations delivered 'right first time' (RFT).
- As highlighted by the recent National Audit Office (NAO) report, there has been important progress in addressing many of the technical challenges that originally prevented SMETS1 meters from providing full functionality. This has contributed to the broader benefits arising from the adoption of smart meters, including power sector decarbonisation.
- DCC has prioritised migrating the dormant meters it is able to identify and enrol onto the network. This is to avoid high levels of SMETS2 replacement costs for industry, especially as we approach 4G launch (there is a reduction in the benefits case of £390 per replacement of SMETS1 with a SMETS2).
- DCC has the capacity to support a greater pace of migrations and is working with the remaining suppliers to progress this as quickly and efficiently as possible.

1.1 Purpose, Scope, and Structure

1.1.1 Purpose

Background

Under the SMIP Foundation Stage, SMETS1 meters were rolled out by suppliers ahead of the establishment of DCC systems, so that customer benefits could be accelerated. SMETS1 meters are the first-generation smart meters which were not designed with the same level of compatibility and interoperability as SMETS2 meters. The main drawback of the approach suppliers took to rolling out SMETS1 meters is that when a consumer changes energy supplier, these meters risk losing their smart functionality and revert to how traditional meters operate. Without addressing this issue, the full benefit of early adoption of smart meters will not be realised.

The overall purpose of the SMETS1 Service is to integrate these meters into the DCC service so that they can be operated in 'smart mode' and maintain their smart functionality.

The technical solution (Initial Enrolment Project Feasibility Report, IEPFR or the "Feasibility Report") was consulted on in 2016 with two key options:

1. A Direct to Meter (D2M) solution whereby the DCC effectively communicates with the SMETS1 meter via new software developed specifically for the purpose (IP4).
2. A solution that would integrate the existing market framework (Smart Meter Systems Operators (SMSOs)) (IP5b) into the DCC ecosystem.

Option 2 was considered lower risk as the existing market framework was already operational and had been tested. In May 2017, DCC consulted on a delivery plan for option 2 ("LC13" plan), which was approved by the Government in October 2017. This scheduled the enrolment and adoption of SMETS1 meters into the DCC ecosystem in three operating capability releases – Initial Operating Capability (IOC), Middle (MOC) and Final (FOC) – with each release delivering a capability for a different type of meter that have been installed by energy suppliers.

1.1.2 Scope

Changing Assumptions, as well as Increased Complexity and Scope

As the SMETS1 service scope evolved, it became apparent that the complexity was greater than initially envisaged by all key stakeholders. These issues were raised with DESNZ (formerly BEIS) as posing a significant risk to delivery and articulated through relevant governance forums with industry and DESNZ.

A restructure of the Service was subsequently carried out in the last quarter of 2018 with DCC consulting on a revised LC13 plan.

Subsequently, the scope of operational projects being delivered by DCC evolved, with DESNZ mandating to maximise migrations, progress a device swap out service for FOC, and DCC looking to stabilise the current instability of the FOC solution as an additional operational service.

Key planned events and objectives driving activity and cost

The SMETS1 programme was formally closed during RY21/22. As part of RY22/23 Business Planning, SMETS1 became part of Business-As-Usual (BAU), restructuring into three workstreams. Despite its formal closure in RY21/22, Ofgem has required that DCC reports the finalisation of SMETS1 migration operations as a separate activity. This implies that, although reported as having a zero-baseline, activity under the SMETS1 service is expected and approved to continue under Business-as-Usual (BAU) until March 2024. Note that BAU is a suit of operational projects delivered on behalf of DCC operations.

1. **Maximising Migrations.** There is a risk that a significant number of SMETS1 meters will not be migrated without further solution and regulatory change, resulting in SMETS2 replacements and delays to migrations into the DCC System. As a result, DESNZ mandated DCC to maximise the number of installations for industry for a given cohort, exclude via regulatory consultation where there is persistent failure, and ultimately seek closure of the Requesting Party for each cohort. In RY22/23, the team unblocked approximately 44,500 additional devices. Without the Maximising Migrations workstream in place, industry would need to replace these devices to SMETS2, resulting in a reduction in SMETS1 benefits at £390 per installation, (this is the figure DESNZ has suggested we use) incurring industry an additional cost for unnecessary replacements (and with approximately 2 million installations left to migrate, the overall impact could be close to £800m). Against the DESNZ Business Case cost to Swap to SMETS2, this is benefit to industry of c £13.8m for this workstream.
2. **Device Swap Out.** Smart Energy Code (SEC) mandates that DCC must support energy suppliers in replacement of a SMETS1 device with another SMETS1 device. This regulatory requirement is referred to as Device Swap Out for which DCC had a Joint Industry Plan (JIP) milestone to deliver against. It was agreed that this functionality should be excluded from the initial DCC solution when the functionality to migrate SMETS1 devices into the DCC System went live. However, DCC was required to investigate whether the functionality was required. Through a consultation process, DCC established that this functionality was required for Prepayment Meter Interface Devices (PPMIDs) and the FOC cohort. To date DCC has only provided a Device Swap Out solution for PPMIDs across its cohorts (IOC, MOC, & FOC). DCC developed a solution that would provide for the Device Swap Out of Comms Hubs, gas, and electricity meters for the FOC cohort. Service Users expect this service to be delivered and have provisioned assets for this mandated service.
3. **FOC Stabilisation.** Following delivery of SMETS1 FOC Service, DCC has been working to complete the remaining activities with regards to work off, tech refresh, enduring requirements, and ultimately the end-of-life service for SMETS1. DCC Operations in parallel have been migrating FOC Installations in British Gas (BG) and Npower SMSOs, but in doing so, have encountered unforeseen challenges in the

migration process. As such, DCC Operations have analysed the total portfolio of issues within the FOC solution evaluating their impact. Given the size, complexity, and challenge in resolving these issues, Service Delivery have been requested to manage a total FOC Stabilisation plan on behalf of DCC Operations. This includes ensuring that there is a Service Delivery team and CTO Subject Matter Experts (SMEs) in place to control the quality, scope, and pace of Service Provider Delivery. Without this service in place, DCC Operations will not have the correct SMEs and resources to deliver the required changes and DCC will not have taken all reasonable steps to ensure the best possible delivery for the identified work in an economic and efficient manner.

At the start of RY22/23, the key objectives, and deliverables for the three workstreams were:

Maximising Migrations

- Technical Unblocking Initiatives: Technical delivery to unblock the maximum number of Migrations for a given cohort (i.e., Partial Migration – Secure, implemented in the February Maintenance Release)
- Regulatory Exclusion/Unblocking Consultations: Mandated requirement from DESNZ to maximise the number of Migrations for a given cohort or exclude (as per defined category consulted with industry) in order to enable Requesting Party shutdown.
- Reporting Improvement Project: Provide Clear Auditable Exclusions Reporting to Industry on RP Closure Volumes to ensure DCC have taken 'All Reasonable Steps' to Migrate All Devices
- RP Shutdown Migration Control Centre (MCC) Closure: Closedown of the Requesting Party and ultimately MCC Shutdown/Transformation following Completion of Migrations for a given Cohort [MOC(MDS), FOC(NP) and IOC]
- Trilliant SMSO: Determination of the Trilliant SMSO capability and either unblocking/Exclusion of the Installations

Device Swap Out

- Delivery of a Device Swap Out Solution for FOC (BG)
- Meeting the SEC Requirement related to Device Swap Out
- Ensure compliance against requested Service where FOC (BG) have all relevant Data and the Technical Solution to Swap Out a SMETS1 Gas Smart Metering Equipment (GSME), Electricity Smart Metering Equipment (ESME) or Communications Hub (CH) with another equivalent SMETS1 Device

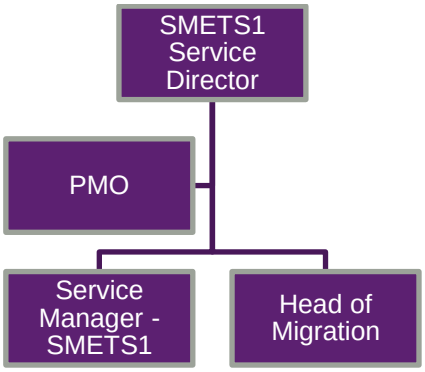
FOC Stabilisation

- Deliver any outstanding items from the FOC Release 2 work-off plan not completed by March 2022
- Deliver the backlog of priority production defects and fixes as agreed in February 2022
- Agree and deliver any new changes or incidents identified as necessary to achieve business targets relating to FOC migrations against a path to green agreed service scope
- Support the Active meter migration end dates as stipulated in the Transition and Migration Approach Document (TMAD)

1.1.3 Service Structure

The figure below shows how the service was organised during RY22/23, and the key roles within each sub-team.

Figure 1: SMETS1 Service Structure



It should be noted that the sub-team structure within the payroll system (below) does not always match the SMETS1 service structure illustrated in the figure above. To deliver the service in the most efficient way, resources from different sub-teams are deployed and prioritised across the service as needed.

RY22/23 Sub-teams	RY21/22 Sub-teams	Description
Commercial and Regulation	Commercial and Regulation	Commercial The purpose of this team in threefold: (i) to drive better supplier performance and accommodate changes to the Service Providers' contracts for any of the capability releases, (ii) to drive and lead on procurements and negotiations with current and new Service Providers for any of the capability releases, and (iii) to complete and review contract signatures for Service Providers' contracts for any of the capability releases. Regulation The purpose of this team is threefold: (i) to provide support to the team on any regulatory matters, (ii) to run consultations as required for other SEC designated documents and (ii) to identify requirements and dependencies for go-live governance including internal DCC governance and external governance.
Finance	Finance	Budgets, forecasts, and tracks actual spend, as well as supports on business cases. As for the rest if the business, the SMETS1 service is also benefiting from the finance transformation programme (including the work on business accuracy).
Operations	Operations	To manage the SMETS1 Service on an ongoing basis, the SMETS1 Operations team's primary focus is to support the migration activity, manage supplier relations (particularly for FOC stabilisation), and establish an Early Life Support in time for the first capability release.

RY22/23 Sub-teams	RY21/22 Sub-teams	Description
		This will involve business acceptance and operational acceptance testing to ensure that the service can be handed over to operational teams within the DCC and remaining non-functional processes and activities have been verified as being fit-for-purpose.
Security	Security	The primary purpose of the SMETS1 Security team is to produce and finalise the Security Architecture and Risk Assessment for each of the service's capability releases. This includes security assessing and assuring the integration of all SMETS1 service providers and components.
Service Delivery and Design and Assurance (CTO)	Service Delivery	The overall purpose of this team is to deliver the system changes for SMETS1 on behalf of DCC operations in accordance with DCC's Licence Conditions, liaising with internal and external stakeholders to ensure all end-to-end components are in place to enable the safe and efficient migration of meters. The SMETS1 service introduced new components to DCC's core infrastructure. While this is designed to be 'seamless' to end-customers there is greater complexity in terms of data flows, security, and physical Device Model combinations. Within the Service Delivery team, the SMETS1 CTO team's primary focus is to continue to deliver an ongoing high-level technical design and provide assurance of supplier detailed technical design.
Testing	Testing	The SMETS1 Test Services and Assurance Team will oversee multiple testing stages for the three different capability releases, including: Pre-integration Test (PIT), System Integration Testing (SIT), Migration SIT, and User Integration Testing (UIT).

1.2 Variance Overview

Variance by GLs in the RIGs

The table below provides a breakdown of incurred and forecast costs in price control format (i.e. mapping costs) directly against the price control General Ledger codes (GLs). Non-payroll costs are explained in a later section. Payroll and Recruitment are discussed within the next section.

Table 1: Cost centre variance by GL

GL costs (£m)		RY22/23	RY23/24	RY24/25
Total Baseline - SMETS1		**0.000**	**0.000**	**0.000**
Total Incurred - SMETS1		**11.849**	**3.901**	**2.612**
Total Variance - SMETS1		**11.849**	**3.901**	**2.612**
Payroll Costs	PR	3.170	3.249	1.972
Non-payroll Costs	NP	0.001	0.053	0.054
Recruitment	RC	-	0.013	-

Accommodation	AC	0.122	-	-
External Services	ES	7.771	0.586	0.586
Internal Services	IS	0.786	-	-

Payroll costs variance

The overall Payroll Costs variance in RY22/23 is positive, with incurred costs of £3.170m, (22.3% lower than for RY21/22). The SMETS1 Service was formally closed during RY21/22 and as part of RY22/23 Business Planning, SMETS1 became part of BAU, restructuring into three workstreams. This implies that, although reported as having a zero-baseline, activity under the SMETS1 service is expected and approved to continue under BAU until March 2024.

Table 2: Service variance by sub-team

Variance (£m)	RY22/23	RY23/24	RY24/25
SMETS1 Payroll Costs	**3.170**	**3.249**	**1.972**
Commercial and Regulation	0.157	0.157	0.157
Finance	0.144	0.000	0.000
Operations	0.686	0.686	0.665
Security	0.007	0.000	0.000
Service Delivery	1.984	2.116	0.838
Testing	0.191	0.291	0.312

Variance by Sub-Team

In RY22/23, the overall Payroll Costs variance is positive. The Commercial and Regulation, Operations, Service Delivery, and Testing teams returned material (greater than £150,000) variance this year. In RY23/24 and RY24/25 the same teams continue to show material variances. The reasons for such variances are set out below.

1.3 Drivers for Variance – Resource

DCC's SMETS1 service team focussed on delivering the activities below during RY22/23. It is these activities that drive the cost variances presented above.

- Final Operating Capability (FOC) Stabilisation Service
- Device Swap Out Project
- Maximising Migrations Workstream

Final Operating Capability (FOC) Stabilisation Service

As detailed in last year's Price Control submission, there have been technical challenges with the aspects of the FOC cohort and it was accepted FOC migration behaves differently to earlier cohorts.

Following delivery of SMETS1 FOC Service against the agreed Minimum Viable Product and Subsequent R2.1 and R2.2 uplifts, DCC has been working to complete the remaining activities with regards to work off, tech refresh, enduring requirements, and ultimately the end-of-life service for SMETS1.

In parallel, DCC Operations have been migrating FOC installations in British Gas and Npower SMSOs, but in doing so, have encountered unforeseen challenges in the migration process.

DCC Operations analysed the total portfolio of issues within the FOC solution evaluating their impact. Given the size, complexity, and challenge in resolving these issues, Service Delivery were requested to manage a total

FOC Stabilisation plan on behalf of DCC Operations. This includes ensuring that there is a Service Delivery team and CTO SMEs in place to control the quality, scope, and pace of Service Provider Delivery.

The FOC Stabilisation Team has worked against existing design, a backlog of operational issues and production incidents to deliver improved functionality in the FOC cohort against the following areas:

1) Operational Maintenance Releases

As in previous SMETS1 Cohorts, DCC has performed a series of monthly operational Maintenance Releases (MR) post Go Live for the FOC Cohort including Defect Fixes and Low Complexity Changes.

These have followed the standard 2 week SIT A and UIT A Release Process for maintenance release through to the production System with Testing Support from the relevant service providers.

Maintenance Releases were carried out in April, May, June, and August, as well as monthly between October to March 2023 against the following key changes:

- PR7247 & PR7336: March Maintenance Release
- PR7337: April, May June Maintenance Releases
- PR7422 & CEN075: August Maintenance Release
- PR7456 & CEN080: October Maintenance Release
- PR7485 & CN082: November Maintenance Release
- PR7495 & CEN083: December Maintenance Release
- PR7527, CEN086 & NP068: Jan, Feb & March Maintenance Releases
- PR7426: HHT (handheld terminals) Licences
- NP057: Provision of additional devices

Owing to the complexity to triage and prioritise issues in the FOC Cohort for Maintenance Releases, this process has been managed by the FOC Stabilisation Service Team.

2) Operational Incidents

There have been 2 unforeseen incident fixes that have occurred where the design in the FOC Solution was not implemented correctly requiring an implementation and subsequent testing by the Systems Integrator. Changes included:

- PR7553: Prod INC 929103 fixes
- PR7496 & CEN085: November MR+

One of these incidents, INC000000928843 in Oct 2022, also required an additional Maintenance Release Window, the November MR+ window, to be created and funded to fix the issue and maintain service.

Both INC000000928843 and INC000000929103 changes were funded by DCC to protect service and because the design was not explicit and clear in its original implementation. Both changes have been fixed at cost.

3) Design Changes

PR7505 was raised by DCC as an Explicit Design Change by DCC to account for a required Design Change in the FOC solution. This was where Rollback failures were not being correctly reported in the Security Controls Framework (SCF), with any devices rolled back to Requesting Party having DCC certificates incorrectly remaining on them. Changes Included:

- PR7505: Service Request Variants (SRV) Rollback Failures

The solution testing for this was absorbed into an existing maintenance release. However, DCC funded this specific design change due to a lack of clarity around its original implementation.

4) Tech Refresh End of Life

[redacted] Maintenance Support for DCC on OpenShift Container Platform (OCP) v3 was due to cease in June 2022. Following that, limited support (no bug fixes, security fixes or root cause analysis) would be provided under Extended Life Phase (ELP). Changes Included:

- PR7372: OpenShift

However, [redacted] were able to provide the same level of support under ELP as Maintenance Support if migration to OCP v4 was undertaken. DCC has progressed this End-of-Life change to ensure continued operational support to service as seen in previous cohorts.

5) Operational Capacity Improvements

To continue to scale and increase the operational capacity of the SMETS1 solution to meet industry demand, DCC has continued to make operational capacity improvements to the SMETS1 estate. Changes in this area were either deployed by existing High or Low Maintenance windows by DCC and included:

- CR4964: ActiveMQ Impact Assessment
- PR7596: Log Reductions
- PR7580: Push Window Changes
- PR7523: Vodafone Retries
- PR7517: E21 Messages

Furthermore, given changes to current market conditions, DCCs capacity improvements have also helped to cater for the increased focus on Price Cap events, which were unforeseen and for which the original technical design and commercial agreements in place SMETS1 for and deployed resources in the FOC Stabilisation Service to ensure DCC is ready.

Device Swap Out

Device Swap Out (the ability to swap a SMETS1 meter for another SMETS1 meter in certain circumstances) is a SEC obligation established as part of the SMETS1 mandate. DESNZ have provided written confirmation that this is a service in the interests of consumers and must be delivered where there is demand. Moreover, DCC Legal have reviewed and agreed DCC must deliver this service to avoid potential damages/liabilities in this area.

The principal energy suppliers responsible for the installation of meters within the IOC and MOC releases elected that they did not require a device swap out service. However, within FOC one of the principal suppliers have confirmed they require a device swap out to be delivered. DESNZ have indicated that there is a positive business case for DCC providing this service.

DCC established a small project team to prepare the plans to deliver this capability once FOC was completed. However, conversations with DESNZ identified other sensitivities which resulted in DCC and DESNZ agreeing to push the bulk of this work into RY22/23.

SMETS1 Device Swap Out fulfils DCCs outstanding SEC Obligation through delivery of the following:

- Detailed Design with Full Change Delivery Model (CDM) & Cross Functional Design Authority (CFDA) wrap to ensure Detailed Business, System & Operational Requirements to ensure existing SMETS1 Solution is not unduly impacted by changes,
- Technical Changes for a Swap Out Service in FOC. Changes include Loading of Pre-requisite Data, Self Service Interface (SSI) Engineering PIN Retrieval, SRV Processing, International Mobile Subscriber Identity (IMSI) Status Changes and reuse of the 6.21 SRV,
- Regulatory Consultations to formally confirm demand for Service. Regulatory changes to remove DCC obligation where there is no demand. SEC Subsidiary Document (SSD) updates aligning technical/regulatory landscape,

- Solution Testing B-Stream Testing of Data Load Migration and SMETS1 Service Provider (S1SP) Solution Implementation to confirm DCC has delivered a compliant solution available suitable for industry use,
- Hypercare Post Go Live support to Industry and DCC Operations to ensure solution meets DCC licence obligations and DCC is compliant to the SEC.

Maximising Migrations

The Maximising Migrations workstream aims to deliver significant benefits to our customers by addressing the risk that a significant number of SMETS1 meters will not be migrated without further action and regulatory change, resulting in SMETS2 swap outs and delays to active migrations. In RY21/22, the team unblocked 800,000 meters through the Maximising Migrations service with a budget of £1m. This saved industry up to £280m through avoiding the costs of replacing these meters with SMETS2+ meters.

At the time of the original SMETS1 business case, DCC agreed the strategy with DESNZ to focus on the DMCs with the largest volume of meters that could be migrated as quickly as possible. In FY22/23, DCC unblocked approximately 18,000 additional devices though partial migration, 1,500 devices through a solution to deregister the PPMID, and circa 25,000 additionally migrated devices through continuing to attempt migration to a regulatory exclusion with inherited Active Installations. Against the Business Case cost to Swap to SMETS2 this is a benefit to industry of circa £13.8m for this workstream.

The acceleration of these initiatives also provides the opportunity for closure of the Requesting Party contracts. The Contracts for FOC NP and MOC MDS cost DCC approximately [redacted] per month each combined, meaning their closure represents a net saving for DCC (which ultimately benefits our customers) when compared to running all Cohorts until the SMETS1 Backstop (the DESNZ-set date by when Service Users must fulfil their active migration obligations). Had DCC not adopted this approach it would have imposed significant additional costs on customers.

Maximising Migrations initiatives for RY22/23 have been:

- GT01 pt2 (Secure): Migration of the GSME in the Secure Cohort where there are repeated GT01 failures seen upon Migration
- Partial Migration (All Cohorts): Partial Migration of the EMSE & CH where the GSME has repeatedly failed Upgrade
- Deregister Dormant PPMID: Regulatory changes to allow DCC to deregister Dormant PPMID Devices to enable further migrations for a given cohort
- Removal of Certs prior to Migration: Removal of required administrative checks prior to migration to allow for further migration attempts and increased migration success/exclusion
- Consultations to close All SMETS1 Requesting Parties: Regulatory consultations to implement unblocking and Exclusion initiatives with the agreement of industry and DESNZ. This was achieved for the MOC MDS and FOC Npower cohorts in FY22/23
- Service Closure of the Requesting Party: Delivery of the plan to track all closure activities with the Requesting Party, ensuring an auditable process to confirm DCC has met its obligations

These changes require Operational, Architectural and Regulatory SMEs with Domain knowledge to be consistently available to meet DCC's ambitions.

1.3.1 Commercial & Regulation

There are key capabilities within the Commercial and Regulation team:

- Commercial – drive better supplier performance and lead on procurements and negotiations with current and new service providers for any of the capability releases; and complete and review contract signatures for service providers' contracts for any of the capability releases
- Regulation – provide regulatory support, and draft consultations and DCC responses where changes to the SEC, including SEC subsidiary documents are required

Original plans for commercial and regulation resources assumed migrations would complete at the end of December 2020. However, migration has continued beyond this timeline due to a slower-than-anticipated migration rate from industry, which has caused the SMETS1 teams at DCC to continue in operation.

For RY22/23, the team incurred £157k (3.1% less than RY21/22).

Activities driving change in resource in RY22/23 and RY23/24

Following the close of the delivery phase of the SMETS1 Service, there has been continued resource requirements from commercial (8 people involved this year), regulation (3 people involved this year), and other teams to support three continuing streams of work:

- Maximising migration
- Device swap-out
- FOC stabilisation

With a zero baseline for RY22/23 and RY23/24, all costs during these years appear as variant. For this cost area, these variances are material (over £150k). Forecast costs are static across the two years.

1.3.2 Operations

The SMETS1 Operations team has three areas of focus:

- Transition to Operations (TTO) - business acceptance and operational acceptance testing to ensure that the service can be handed over to operational teams
- Early Life Support (ELS) – to provide additional resource to support resolution of issues and problems for each capability release as it goes into Production for the first time
- Migration Control Centre (MCC) – the team that manages the analysis, forecasting and execution of the migrations of SMETS1 meters onto the DCC system

Original plans for operational resources assumed migrations would complete at the end of December 2020. However, migration has continued beyond this timeline due to a slower-than-anticipated migration rate from industry, which has caused the SMETS1 teams at DCC to continue in operation.

For RY22/23, the team incurred £687k (24% less than RY21/22).

Activities driving change in resource in RY22/23

As the service moves to a stable delivery phase, the volume of operations decrease compared to that of previous years, with the main area of activity being the MCC.

The following roles were all required during the year and contributed to the variance when compared to the baseline: Migrations Technical Operations Manager, Operations Analysts, Planning Analysts, Planning and Insights Manager, Reporting Analysts and Transition Managers, Major Incident Team, Problem Management and Change and Release Management.

Activities driving change in resource in RY23/24 and RY24/25

Following the close of the delivery phase of the SMETS1 Service, there will be continued resource requirements from Commercial and Regulation, Design and Assurance, Operations, Security and Service Delivery to support three continuing streams of work:

- Device swap-out
- Maximising migrations
- FOC stabilisation

With a zero baseline for RY22/23 and RY23/24, all costs during these years appear as variant. For this cost area, these variances are material (over £150k). Forecast costs are static across the two years.

1.3.3 Service Delivery

The overall purpose of this team is to deliver the Enrolment and Adoption of SMETS1 meters into the DCC in accordance with DCC Licence Conditions, liaising with internal and external stakeholders to ensure all end-to-end components are in place to enable the safe and efficient migration of meter tests.

Original plans for service delivery resources assumed migrations would complete at the end of December 2020. However, migration has continued beyond this timeline due to a slower-than-anticipated migration rate from industry, which has caused the SMETS1 teams at DCC to continue in operation.

Activities driving change in resource in RY22/23

The principal drivers of activity that drove the variance in resources were:

- The technical complexity of the FOC solution provided by two different service providers:
    - The application provided by Trilliant and designed across two layers: the adapter layer (the development of which was funded by DCC); and the head end system (deemed IPR by Trilliant and for which DCC pays a fee to use but has no access)
    - The application hosting infrastructure provided by DXC
- Trilliant's overall performance has greatly improved in RY22/23 relative to RY21/22. While there have still been challenges with FOC, with migration volumes not reaching the required targets, Trilliant have worked hard to address the issues.
- The number of defects found in the production environment relating to Trilliant software - poor application of quality controls applied by Trilliant resulted in multiple defects throughout the year requiring fixes and significant additional testing, misaligned code bases and defects hidden within fixes for other defects.
- Trilliant is a small company, with a limited number of software developers, which made it difficult to accelerate or flex the time taken to provide fixes alongside planned releases. This resulted in elongated timelines of action.
- The number of production incidents caused by defects found in the Trilliant software deployed in live service. The triage and resolution of these caused contention in the maintenance release schedule used to deliver priority fixes required by DCC operations and production incidents.

All these combined variously over the year and required the service to adjust its plans monthly as scope was moved across releases.

The following roles were all required during the year and contributed to the variance when compared to the baseline; Enterprise Delivery Director, Business Analysts, PMO Analysts, PMO Manager, Service Managers, Service Director, Project coordinators, Project Managers, Senior PMO Analyst.

Activities driving change in resource in RY23/24 and RY24/25

Following the close of the delivery phase of the SMETS1 Service, there will be continued resource requirements from Service Delivery, and other teams, to support three continuing streams of work:

- Maximising migration
- Device swap-out
- FOC stabilisation

With a zero baseline for RY22/23 and RY23/24, all costs during these years appear as variant. For this cost area, these variances are material (over £150k).

1.3.4 Testing

The SMETS1 Test Services and Co-assurance team oversees multiple testing stages for the 2 uplifts (3.1 and 3.2) completed during RY22/23. The incurred costs of Testing resources during RY22/23 were £191k - all of which had not been forecasted for the year.

Original plans for testing resources assumed migrations would complete at the end of December 2020. However, migration has continued beyond this timeline due to a slower-than-anticipated migration rate from industry, which has caused the SMETS1 teams at DCC to continue in operation.

For RY22/23, the team incurred £191k (83% less than RY21/22).

Activities driving change in resource in RY22/23

The areas of activity that drove the variance in resources are identical to those set out for Service Delivery above. The volume of defects found in live service and planned releases required extensive re-testing in both the B-stream and A-Stream environments.

The bulk of the resource costs in RY22/23 in the Testing sub-team were incurred on one DMCT Testing Manager and one Test Assurance Lead. These two roles are forecast to continue into RY23/24 and RY24/25. There is the addition of one Lead E2E Architect in RY23/24 and RY24/25.

Following the close of the delivery phase of the SMETS1 Service, there will be continued resource requirements from Testing, and other teams, to support three continuing streams of work:

- Maximising migration
- Device swap-out
- FOC stabilisation

Activities driving change in resource in RY22/23

With a zero baseline for RY22/23 and RY23/24, all costs during these years appear as variant. For this cost area, these variances are material (over £150k). A new service is, however, taking place in RY22/23 for Trilliant SMSO, for which testing will be required.

1.4 Drivers for Variance – Non-Resource

1.4.1 Summary

During RY22/23, there were 6 procurements within the SMETS1 Service that had material variance (i.e. over £150k). These are across External Services and Internal Services. Only one procurement within SMETS1 for RY23/24 and RY24/25 has forecasted material variance, which is within External Services. The breakdown is provided below.

Table 3: Material variance for SMETS1 non-resources internal costs

	Variance (£m)	RY22/23	RY23/24	RY24/25	
	Total Variance External Services	7.771	0.586	0.586	
	Total Variance Internal Services	0.786	-	-	
GL	**Variance (detail) (£m)**	**RY22/23**	**RY23/24**	**RY24/25**	**Procurement Type**
ES	Consultancy Regs Framework Review – Design and Implement	0.189	-	-	[redacted]
ES	Migration Testing	0.444	-	-	[redacted]
ES	SMETS1 - [redacted]	0.230	-	-	[redacted]

ES	SMETS1 - [redacted]	3.897	-	-	[redacted]
ES	SMETS1 Requesting Party – [redacted]	1.721	-	-	[redacted]
ES	SMETS1 Migration - [redacted]	0.866	-	-	[redacted]
ES	Testing	-0.024	0.476	0.476	[redacted]
IS	S1MRS & SDMR	0.784	-	-	[redacted]

1.4.2 Consultancy Regs Framework Review - Design and Implement

DCC has an obligation under the SMETS1 Transition Migration Approach Document (TMAD), Appendix AL of the Smart Energy Code, that states that "where directed to do so by the Secretary of State from time to time, the DCC shall develop and consult upon a further draft or drafts of this TMAD and submit it to the Secretary of State in accordance with the process set out in Section N6.4 of the Code". There are also specific rules for the closure of the Requesting Party for each cohort as specified in Clause 7 of the TMAD. The contractor was tasked to lead on the closure process which included the drafting of the consultations and conclusions document outlined below.

Activities

The contractor was tasked with the following activities:

- Maximising migrations - (lead role)

  DCC has completed delivery of the initial capability releases (IOC & MDS) and subsequent migrations however there are a number of installations which were blocked from migration, and DESNZ have mandated that DCC must work with industry to agree a route forward for each blocked installation. DCC recognise that similar blocking issues will be encountered in other cohorts and therefore this programme of work ("Maximising Migrations") will undertake the same steps to account for all the outstanding Secure and FOC installations.

  Specifically, DCC is obliged to meet the requirements set out in Clauses 1.4 to 1.9 in the TMAD

- Decommissioning of a Requesting Party (lead role)

  Clause 7 of the TMAD sets out the obligations DCC needs to comply with in respect of Decommissioning of a Requesting Party or the Commissioning Party. DCC will need to consider an approach to decommissioning migration functionality (probably on an incremental basis) given the existing timescale within Clause 7 of the TMAD which requires a Requesting Party to be operational for 12 months following the last EPCL entry and requires formal stakeholder consultation.

  The dates for decommissioning Migration DUST (Clause 17.24 of the MTAD) are linked to the decommissioning process in Clause 7 of the TMAD and apply equally to all Cohorts. Since ending the Migration DUST earlier than the TMAD decommission schedule would be possible, DCC might decide to consult on an MTAD variation to remove certain GroupIDs from the scope of Migration DUST.

  The contractor was required to draft the necessary regulatory changes to meet DCC's delivery plans and ensure the Secretary of State approves the plans.

- Trilliant SMSO (lead role)

  The scope for the SMETS1 programme included provision for migrating SMETS1 meters from six incumbent Smart Metering Service Organisations (SMSOs), of which five have been delivered by the end of FY20/21. Capability to migrate devices from the last remaining SMSO, operated by Trilliant, was deferred due to the main energy supplier in this cohort ceasing trading in the middle of the programme. DCC will need to re-validate business case and consult with industry before moving forward with the workstream.

Changes to the SEC are expected so support from the consultant will be required. Exact scope will depend on the outcome of the business case and industry consultation.

- Device Swap Out (support role)

  The SEC has a general requirement for the DCC to provide the capability to swap out all devices which includes PPMIDs, IHDs, CADs, GSMEs, ESMEs and comms hubs irrespective of SMETS version or which S1SP they are operated with. So far, DCC has delivered the capability to be able to replace an IHD/PPMID device with another IHD/PPMID on the same HAN. DCC also sought input from industry to ascertain whether there was a need for device swap out for other devices in Q2 2022.

  The necessary regulatory changes would depend on the outcome of industry response and DESNZ policy decision. However, since the regulatory documents currently support the swap out for all devices, if the implemented DCC capability does not align to this then changes to the regulatory documents were likely to have been required. These may include changes to SEC Appendix AM - SMETS1 Supporting Requirements (S1SR), SEC Appendix AB - Service Request Processing Document (SRPD), SEC Appendix AC - Inventory, Enrolment and Decommissioning Procedures (IEDP) and SEC Appendix AD - DCC User Interface Specification (DUIS). The contractor was responsible for supporting the RD&D team if changes to the SEC are required.

- Regulatory Support

  Regulatory support and advice was required, as directed by the Senior Regulation Manager or Head of Regulatory Design and Delivery. This will entail answering regulatory queries from teams involved in the SMETS1 Programme.

Deliverables

The following consultations and conclusions documents were delivered by the contractor during RY2023 – 2024.

Consultation name and description	Consultation open date	Conclusions date
Various 2- Final Exclusion Categories / Unblocking for MOC (MDS) and IOC Exclusion Categories 1. unable to attempt Firmware Upgrade for IOC; 2. firmware upgrade / configuration failures for IOC and MOC (MDS); and 3. data issues & duplicate MPANs and MPRNs across all cohorts. Unblocking 1. provision of partial Migration for MOC (MDS) in relation to firmware failure; and 2. unblocking migration due to data issues (Ceased Trading / Non-live User / Duplicate MPxNs).	23 March 2022 https://www.smartdcc.co.uk/consultations/smets1-consultation-various-2/	25 May 2022 https://www.smartdcc.co.uk/consultations/smets1-conclusion-various-2/
Initial Closure Matters (RP Decommissioning for MOC (MDS)) 1. Closure Changes to Clause 7 of the TMAD 2. RP Decommissioning for MOC (MDS) 3. Migration DUST closure for IOC and MOC (MDS) 4. DMCT Process closure aligned to RP Decommissioning and DMCT & PPCT amendments	5 April 2022 https://www.smartdcc.co.uk/consultations/smets1-consultation-initial-closure-matters/ Re-consultation 28 July 2022 https://www.smartdcc.co.uk/consultations/smets1-consultation-revised-closure-date-for-moc-mds/	25 May 2022 https://www.smartdcc.co.uk/consultations/smets1-conclusion-initial-closure-matters/ 29 September 2022 - Further conclusion https://www.smartdcc.co.uk/consultations/smets1-conclusion-revised-closure-date-for-moc-mds/ 13 October 2022 - Final RP Decommissioning Timetable

Consultation name and description	Consultation open date	Conclusions date
		published for closure on Sunday 23 October 2022 https://www.smartdcc.co.uk/consultations/smets1-publication-final-rp-decommissioning-timetable-for-moc-mds/
MEHRS – April 2022 MOC (Secure) Two extra checks	14 April 2022 https://www.smartdcc.co.uk/consultations/smets1-consultation-mehrs-april-2022-moc-secure/	10 May 2022 https://www.smartdcc.co.uk/consultations/smets1-consultation-mehrs-april-2022-moc-secure-conclusion/
Active to Dormant - New Exclusion Category There are some energy suppliers looking to exit their SMETS1 SMSO contracts which means their Active Meters become Dormant. There then become eligible for Migration. DCC needs to move to get these either (i) Migrated; or (ii) Excluded.	28 April 2022 https://www.smartdcc.co.uk/consultations/smets1-consultation-active-to-dormant/	25 May 2022 https://www.smartdcc.co.uk/consultations/smets1-conclusion-active-to-dormant/
Migration DUST closure for FOC (NP) MTAD amended on 27 September to remove requirement for Migration DUST provision for FOC (NP)	4 August 2022 https://www.smartdcc.co.uk/consultations/smets1-consultation-migration-dust-closure-for-foc-np/	15 September 2022 https://www.smartdcc.co.uk/consultations/smets1-conclusion-migration-dust-closure-for-foc-np/
RFI2	3 November 2022 https://www.smartdcc.co.uk/consultations/smets1-second-request-for-information-unaccounted-smets1-devices/	No formal conclusion
Housekeeping change and TMAD extension	3 November 2022 https://www.smartdcc.co.uk/consultations/smets1-consultation-tmad-expiry-date-extension-and-housekeeping/	5 December 2022 https://www.smartdcc.co.uk/consultations/smets1-conclusion-tmad-expiry-date-extension-and-housekeeping/
Migration DUST closure for MOC (Secure) MTAD amendment on 27 January 2023	5 December 2022 https://www.smartdcc.co.uk/consultations/smets1-consultation-migration-dust-closure-for-moc-secure/	18 January 2023 https://www.smartdcc.co.uk/consultations/smets1-conclusion-migration-dust-closure-for-moc-secure/
Closure 2 1. Partial Migration for IOC, MOC (Secure) and FOC 2. De-register PPMIDs for FOC (BG) 3. Allow early closure for IOC and FOC (NP) 4. Amendments to five strikes rule 5. Amendments to Active to Dormant for split sites 6. Exclude firmware /config failures for MOC (Secure) and FOC 7. Closing FOC (NP) and IOC	16 December 2022 https://www.smartdcc.co.uk/consultations/smets1-consultation-closure-2/	Part A Partial Migration – 15 February 2023 https://www.smartdcc.co.uk/consultations/smets1-conclusion-closure-2-part-a/ Part B Other regulatory changes – 15 March 2023 https://www.smartdcc.co.uk/consultations/smets1-conclusion-closure-2-part-b/ Part C FOC (NP) Closure – 16 March 2023 https://www.smartdcc.co.uk/consultations/smets1-conclusion-closure-2-part-c/ Part D IOC Closure – 5 April 2023 https://www.smartdcc.co.uk/consultations/smets1-conclusion-closure-2-part-d/

The contractor was required to provide support to further consultations on the Secure and FOC cohorts, albeit the timing and nature of these was dependent on the progress of the migrations. Additionally, DCC required the contractor to provide support should there be further changes arising from the Device Issues Resolution Forum (DIRF) and to the process for S1SR. Details of the scope of these consultations will become clearer as analysis of the Production solution is undertaken.

Value for money

The expenditure with Design and Implement is comprised of two sub-£100k competitive procurements for the same activities but covering different periods of the year. In both cases we issued requests for quotations to six consultancies under Framework contract sub-lot 3.5. In both procurements, only one tenderer submitted a bid, Design and implement.

In both cases, we convened an evaluation panel to assess the quality of the bid and produced an Award Recommendation Report.

Both procurements that make up the variance of £0.19m for this activity relate to [redacted] of resource at a discounted rate as per the below. The combined cost is set out below. Note that the contract DCC signed continues into April 2023, hence why the BAFO cost and the reported cost for the reporting year of £0.19m do not match.

Procurement – Consultancy Regs Framework Review - Design and Implement		
Number of Bids received	1 (D&I)	
Number of Bids shortlisted	1	
Strengths of Selected Bidder	Only one bid was received. The D&I bid showed high levels of technical competence based on prior work for DCC on SMETS1	
Challenge by DCC	**Initial Price**	**BAFO**
	[redacted]	[redacted]

1.4.3 Migration Testing

Driver for the Procurement

As part of SMETS1 migration, there is a SEC requirement to provide and enable certain testing services. These are:

- MDUST - this is a test service that DCC needs to provide, as detailed in Migration Testing Approach Document for SMETS1 Services ('MTAD') referred to in Appendix AK of the SEC (SEC Variation Testing Approach Document for SMETS1 Services - 'SMETS1 SVTAD'). This testing service allows SMETS1 suppliers to test each SMETS1 device model combinations prior to migration in production.
- DMCT – this test service enables DMCs to be added to the Eligible Product Combination List (EPCL), which is the mechanism that authorises SMETS1 Suppliers (Active) and DCC (Dormant) to migrate devices onto DCC Systems. The DMCT process is a SEC obligation placed upon the DCC via section 20 of the TMAD. Until the TMAD is changed, the DCC must carry out the DMCT process as required.

British Gas and Npower are two of the incumbent SMSOs in the FOC cohort. As such, DCC had to agree terms with them to create and operate a Requesting Party capability to facilitate migration of meters from their systems to DCC's SMETS1 solution. As part of this arrangement, it was necessary for DCC to be able to access support, typically a team of experienced technical resources, from each of the SMSOs to back the testing of the various meter and device set-ups. For Npower, this covered MDUST and for British Gas, this covered MDUST and some limited DMCT support. Npower's MDUST service was closed after a consultation with the industry on 30th Sep 2022.

Securing Value for Money

There were costs to each SMSO for standing up and making available these teams and these costs were passed through to DCC. Through DCC's Contract Management System (CMS), the procurement team works together with the commercial and finance teams to ensure that costs incurred accurately reflect work and scope conducted by suppliers (e.g., study of number of working days and resources deployed for each contract).

Payment of monthly charges was made as the requirement to have these SMSO teams available was extended. There were several extensions throughout RY22/23 as is shown in the table below.

Table 4: SMSO MDUST and DMCT passed through costs breakdown

Testing type	Period of Extension	Approval Mechanism	SMSO	Value (£)
MDUST	April 2022 – June 2022	CEN067	British Gas	[redacted]
	April 2022 – June 2022	NP051	Npower	[redacted]
	July 2022 – September 2022	CEN071	British Gas	[redacted]
	July 2022 – September 2022	CEN081	Npower	[redacted]
	October 2022 – December 2022	NP058	British Gas	[redacted]
	January 2023 – March 2023	CEN087	British Gas	[redacted]
DMCT	September 2022 – December 2022	PR7551	CGI	[redacted]

1.4.4 SMETS1 - [redacted]

Driver for the Procurement

Currently, all SMETS1 FOC testing activities involve [redacted] devices. These required engineering support while the services were at critical stages (either getting started or going through testing phase).

Contract management

It was decided that after Quarter 3 of this financial year, all engineering support from [redacted] would be removed to save on costs. This decision was made given that all devices had already gone through critical service stages and thus, did not require further engineering support.

1.4.5 SMETS1 - Npower

Driver for the Procurement

Npower is one of incumbent SMSOs in the Final Operating Capability (FOC) cohort. As such, DCC had to contract with them to create and operate a Requesting Party capability to facilitate migration of meters from their systems to DCC's SMETS1 solution.

Contract Management

DCC's contract with Npower and [redacted] is a fixed cost contract based upon milestone payments (milestones 4 to 7 for this phase) for [redacted] overall. DCC incurred costs in RY22/23 of £3.897 with Npower (6.4x from costs incurred in RY21/22) to finalise the migration of smart meters. Most of the variance costs for this item are due to an extension of the finance plan for this service. The bulk of the costs are comprised of:

- Three payments for milestones 5 ([redacted]), 6 [redacted]), and 7 ([redacted])
- Two charges for migration services, one in September 2022 for [redacted] and one in December 2022 for [redacted]
- One charge for NPW dormant SIM costs for [redacted]

1.4.6 SMETS1 Requesting Party – British Gas

Driver for the Procurement

British Gas is one of the incumbent SMSOs in the Final Operating Capability (FOC) cohort. As such, DCC had to contract with them to create and operate a Requesting Party capability to facilitate migration of meters from their systems to DCC's SMETS1 solution.

DCC incurred costs in RY22/23 of £1.721m with British Gas (almost par from £1.722m in RY21/22) to finalise the migration of smart meters.

Most of the variance costs for this item are due to an extension of the finance plan for this service. This extension is expected to be, and costed, until end of 2023 provided DCC governance is in place.

Contract Management

DCC's contract with British Gas is a fixed cost contract broken into monthly operational charges with 20% being retained to cover 2 milestones at the percentage stated in the Finance Plan of the total monthly charges for each milestone. One milestone is for completion of dormant migrations ([redacted] in RY22/23) and the other being completion of all migrations ([redacted] in RY22/23).

1.4.7 SMETS1 Migration - Morrisons Data Services (MDS)

Driver for the Procurement

MDS are one of the incumbent SMSOs in the Middle Operating Capability (MOC) cohort. As is the case for previous years, DCC extended the contract with MDS as they are the only provider able to facilitate migration of meters from their systems to DCC's SMETS1 solution. Further details were provided in last year's Price Control. In RY22/23 the costs related to the operational phase of the solution.

Securing Value for Money

As described in previous years, MDS is an incumbent supplier of SMSO services (contract ended 23rd October 2022) and without their support the meters for which they provide those services could not be migrated into DCC's systems. Therefore, the original procurement was single source, but followed the approach set out in the SMETS1 Sourcing Strategy to deliver value for money. Upon receipt of the initial quote from MDS for the migration work, DCC undertook the following activities to drive value for money:

- Reviewing the quotation in detail with the supplier to challenge their costings and remove those that we believed were unjustifiable (e.g., costs for office space)
- Revisiting the scope of the requirements with internal DCC stakeholders to ensure they were adequately balanced against the cost of MDS providing them (e.g., there was no 'gold plating' of requirements)
- Working through alternative delivery models with MDS and DCC's internal stakeholders to reduce costs, while still delivering the requirements (e.g., changes to MDS's support model for migration)

Contract management

Although the contract closure date took place on October 23rd of 2022, the final payment was incurred on 31st January 2023.

1.4.8 Testing

Driver for the Procurement

As part of the SMETS1 migration, new meters are tested and managed for good functioning. Although non-variant for RY22/23, budget is forecasted for upcoming years as an ongoing cost for device management. New meter testing is expected to be conducted for PPMID/HPMID, EDMI, and L&G.

Contract Management

Forecasted costs for device management are broken down into [redacted] monthly payment and [redacted] trimester payments.

1.4.9 S1MRS & SDMR

Driver for the Procurement

These costs are recurring costs that are hosted in the Capita Data Centre and provided to DCC by Capita as managed services under the ongoing Apps and Hosting Contract (most recently extended until March 2024).

- S1MRS - the SMETS1 reporting services - created for the monitoring and reporting of all SMETS1 Migrations in accordance with regulatory requirements.
- SDMR - SMETS1 Dormant Repository Tool - also created for monitoring and reporting SMETS1 Migrations in relation to Dormant Meters in accordance with regulatory requirements.

Securing Value for Money

Ofgem will be aware that several tools are provided by Capita under the Apps and Hosting contract, including S1MRS, SDMR and MDUST - all of which are required until the end of the SMETS1 Migration.

As the SMETS1 Service has continued into RY22/23, DCC considered the most economic and efficient option would be to enter a short-term extension with Capita rather than a full re-procurement. This decision was taken in line with our procurement SME's recommendation after assessing the available options. Running a procurement exercise for a short duration contract would be significantly higher than the benefits derived. In addition, there was a real risk that only Capita would tender, having then received the same offer, but with additional procurement costs. The current offer includes monthly payments for S1MRS & SDMR of [redacted] for Resources and [redacted] for Infrastructure.

1.5 External Costs

The sections below describe the material Change Requests (CR) and Project Requests (PR) that incurred costs of more than £1m in RY22/23. As in prior years, we explain the background, drivers, scope and how we secured value for money.

Please note that there is a material CR (CR4169) in the Supplementary Schedules this year that is not described in this document. The reason for this is because CR4169 is a large multi-year change request that although incurring costs in RY22/23 was CAN'd in 2021 and has been explained previously.

1.5.1 DXC – CR4062 - Production Capacity and Central Logging (Uplift) Enduring Support

Drivers and Scope

Following the conclusion of System Capacity Testing, Trilliant undertook an analysis of the output of those tests to determine the compute uplifts necessary to the Production environment to support the performance requirements of the application. They were subsequently also asked by DCC to impact scaling the platform to support 326 SRVs with a peak of 375 SRVs per second, rather than the contracted number of 263 SRVs.

In addition, DCC provided DXC with their requirements for data archiving and retention, a key driver for the volume of storage required going forward and the associated uplift required to the Production environment and the scaling recommendations contained herein and in CR4062 are therefore predicated on:

1. Performance and scaling analysis and infrastructure estimates provided by Trilliant to ensure that the meter enrolment profile provided by DCC could be supported along the new SRV requirement. Their recommendations are detailed in section 7.1 (Documents provided to DXC by Trilliant on November

13th, 2020.); The components of the infrastructure that Trilliant have sized are detailed in the RACI below in section 7.6.

2. DCC's data storage and retention requirements, detailed in the document, "HLD0010 – Smart DCC – Central Logging Solution v0.13.docx"

3. Any concomitant uplift to the 'non-functional' infrastructure required to support Trilliant's recommendations as determined by DXC, for example management servers. The components of the infrastructure that DXC have sized are also detailed in the RACI below.

4. Any related uplift to DXC's Services required to support the growth in infrastructure.

Securing Value for Money

The 'Centlog' solution is an integral part of the infrastructure that has been provided by DXC, this specific CR extended the ongoing BAU charges as previously defined in PR7020 as part of the DXC Contract extension taking the contract out to July 2025.

This CR introduced no changes to the underlying solution and was used as a mechanism to contract DCC's on going obligations in to support the infrastructure. This service was also previously discounted through negotiation in April 2021 and these charges represent the continued discounted rate. Reducing the total charges down from [redacted] to [redacted].

A breakdown of the costs is provided in the tables below.

Detail	Price initial (£)	Price final (£)
Infrastructure charges F/Y 22/23	[redacted]	[redacted]
Infrastructure charges F/Y 23/24	[redacted]	[redacted]
Infrastructure charges F/Y 24/25	[redacted]	[redacted]
Infrastructure charges F/Y 25/26	[redacted]	[redacted]
Total Charges	[redacted]	[redacted]

Table 5: Price Breakdown CR4062

Initial SoW price (£)	Final SoW Price (£)	Difference (%)
[redacted]	[redacted]	0

Table 6: Initial vs Final Price CR4062

1.5.2 DXC – CR4504 - DXC central logging system

Drivers and Scope

It became apparent that DXC's logging platform for production is undersized for the now current production workload. DXC experienced spikes in logging driven by meter readings and migrations. When these events occurred, the logging system flooded, resulting in some loss of logging data. As migration and meter volumes increase, we expect this situation to worsen. This behaviour has only become apparent as more traffic has been put through the system.

The impact to loss of logs includes but is not limited to:

- Potential risk to DXC's ability to support incident resolution due to missing logs, this may have a knock-on effect on migrations.
- Incomplete SLA calculations.
- A risk to DXC's ability to effectively monitor the system.

DXC have already undertaken a few tactical changes to mitigate such as:

- Increasing the buffer sizes at the end clients such that logs can be buffered for a longer period if the logging cluster is unavailable due to an increase in writes per second.
- Removing unnecessary fields from the logs indexed to reduce log size. DXC will be applying the same change to the metrics shortly.
- Scheduled restarts of the logging agents on Task Managers to address issue where logging agents fail to flush logs after several reconnection attempts. OpenShift nodes to follow shortly.
- Increased monitoring of the logging clusters.

The above tactical changes have had a modest positive impact, but action is required to address the increased capacity requirement.

The current architecture was identified as on-performant for the actual production workload, as a result there is potential cluster instability. DXC was requested to propose a cost-effective architectural solution and desired scale for this increase in capacity, beyond the capacity set out in PR7020, to cover a period of 6 months from 01st April 22 allowing evidence to be established to determine the capacity requirements at scale) and then a further 12 months if there are cost efficiencies to be gained from a single capacity uplift.

Securing Value for Money

CR4504 is a tactical build upon the existing infrastructure deployed through CR4602 to ensure DCC worked closely with DXC to understand the proposed bill of materials and validated costs against the previous deployment of infrastructure charges as utilised in the previous CR. We subsequently also negotiated an uplift which introduced a dedicated enhanced Centlog support model as set out below providing a more robust solution to de-risk any ongoing issues around capacity going forward.

Scope of Centlog Solution Support Services

The Contractor provided a dedicated support service for the Centlog Solution at no additional cost to DCC, as part of supplementary support from Elastic Search, within the 'Centlog Solution Support Services'.

The Centlog Solution Support Services included:

- Stabilisation and remediation activities for the Centlog Solution to ensure the Centlog Solution is available and operates as required by the Agreement.
- Resolution of Incident Tickets relating to the Centlog Solution in line with the requirements of the Agreement (and via the Service Desk where relevant);
- Patching of the Centlog Solution as required by and detailed in Section 1.1.1 (Patch Management) of Appendix 1 (Contractor Solution Architecture) of Schedule 4.1 (*Contractor Solution*) and Section 72.A.12.5 Control of operational software of Schedule 2.5 (*Security Management Plan*)); and

- Service request fulfilment (including but not limited to roll back of data, user admin etc.) as detailed in Section 5.20 (Request Fulfilment) of Schedule 2.1 (*Requirements*).

As part of the core support, the Centlog Solution Support Services included monitoring of the availability and operation of the Centlog Solution.

A breakdown of the costs is provided in the tables below.

Detail	Price initial (£)	Price final (£)
Charges F/Y 22/23	[redacted]	[redacted]
Charges F/Y 23/24	[redacted]	[redacted]
Charges F/Y 24/25	[redacted]	[redacted]
Charges F/Y 25/26	[redacted]	[redacted]
Total Charges	[redacted]	[redacted]

Table 7: Price Breakdown CR4504

Initial SoW price (£)	Final SoW Price (£)	Difference (%)
[redacted]	[redacted]	0

Table 8: Initial vs Final Price CR4504

1.5.3 CGI IE – CR4567 - Support for B Stream environments hosted in AWS until 31st October 2024 (Extension to CR4207)

Change Drivers

The CR was raised to allow DCC to access an existing Amazon Web Service (AWS) hosted environment as part of the testing environment provisioned by CGI IE for the User Interface Testing (UIT) Stream B environment. Without the recognition of available capacity and the integration between the existing AWS hosted environments, DCC would have incurred additional provisioning costs for an additional environment to enable CGI IE to support their contracted requirements.

Change Scope

Under then original scope of CR4207, CGI IE provided continuing AWS hosted service to provide the following environments:

- UIT-B
- SIT-B
- SPIT2

This CR extended that scope of work from 1st February 2022 until 31st October 2024.

This Service shall have the ability to have periods of "hibernation", invoking the "spin up and down" functionality created under CR4207 on these environments.

Securing Value for Money

Under the Agreement, CGI IE S1SP delivers an AWS service on the SIT-B, UIT-B, and IE S1SP's "SPIT2" environments in order that DCC can continue to provide SMETS1 change / implementation programmes to industry and service users. CR4567 is a continuation of the existing AWS services on S1SP IE SIT-B, UIT-B and SPIT2 environments as previously documented in CR4207 which expired on 31st January 2022. This extension is in place for a 21-month period from 1st February 2022 to 31st October 2024.

To further utilise and explore cost-saving opportunities, DCC requested the ability to instigate periods of "hibernation" on these environments, known further as 'spinning-up' or 'spinning-down'. As part of this capability, DCC will be responsible for managing the availability in line with DCC portfolio activities.

A breakdown of the costs is provided in the tables below.

Detail	Price initial (£)	Price final (£)
Environment Team Support (SPIT2) **	[redacted]	[redacted]
Environment Team Support (SITB)**	[redacted]	[redacted]
Environment Team Support (UITB)**	[redacted]	[redacted]
AWS Consumption - Dedicated Resources (SPIT2) **	[redacted]	[redacted]
AWS Consumption - Dedicated Resources (SITB)**	[redacted]	[redacted]
AWS Consumption - Dedicated Resources (UITB)**	[redacted]	[redacted]
AWS Consumption - Shared Resources (SPIT2, SITB, UITB) ***	[redacted]	[redacted]
"Third Party (HeleCloud) Support of AWS Environments***	[redacted]	[redacted]
(SPIT2, SITB, UITB)"	[redacted]	[redacted]

Entrust HSM Support***	[redacted]	[redacted]
Equinix Hosting***	[redacted]	[redacted]
TrendMicro Antivirus (SPIT2)	[redacted]	[redacted]
TrendMicro Antivirus (SITB)	[redacted]	[redacted]
TrendMicro Antivirus (UITB)	[redacted]	[redacted]
Penetration Testing	[redacted]	[redacted]
FIA Preparation and Governance (CR4567 straight to FIA - assumes simple agreement for continuation of service)	[redacted]	[redacted]
Total Charges	[redacted]	[redacted]

Table 9: Price Breakdown CR4567

Initial IA price (£)	Final IA Price (£)	Difference (%)
[redacted]	[redacted]	(0.6)

Table 10: Initial vs Final Price CR4567

1.5.4 CGI IE – CR4631 - IOC SMETS1

Drivers and Scope

The purpose of CR4631 is to continue with DCC's migration capability in line with DCC requirements and obligations. These are services previously provided under CR1382 and PR7114 (IE SMSO Production Support) to ensure the continuation of SMETS1 migrations in the IOC cohort.

Extension of production services provided as follows:

- Smart Meter System Operator (SMETS1 Foundation Service Provider) (SMSO) and Requesting Party Service (RPS) production service.
- Provision of RPS production environments including Hardware Security Modules (HSMs)
- Provision of SMSO production environment where this is not already provided by energy suppliers using the SMSO service [Given that you intend to extend to July it looks likely that this will occur]
- SMSO and RPS migration service.
- Instant Energy (IE) SMSO Production Support.
- Firmware Upgrade / Device Configuration support.

- Eligible Product Combination List (EPCL) updates where necessary.
- Analytical support for examining remaining un-migrated meters on production e.g., ad hoc queries, investigation of migration failure categories including input to DCC reports/attendance at meetings, support for decision regarding eventual abandonment of un-migratable meters.
- SMETS1 Service Provider (S1SP) Enhanced Migration Support.
- Monitoring of Migration and triage of issues for Initial Operating Capacity (IOC), Middle Operational Capability (MOC) and Final Operational Capability (FOC).

Securing Value for Money

The initial price for CR4631 (CGI IE - Requesting Party Production Contract Services Extension) was calculated to be [redacted] by CGI IE. The activity was originally planned to cover a 4-month period between April 2022 and July 2022. However, there was an opportunity to extend these services beyond the end of July 2022 at a monthly cost of [redacted]. It is important to note a separately payable monthly charge incurred by the active suppliers who use the SMSO service of [redacted].

As the SMETS1 migrations within the Initial Operating Capacity (IOC) cohort were not complete, the decision was made to extend the services for a further 5 months under CR4631 to the end of December 2022. This was considered value for money as the labour charges were agreed to remain unchanged for the full duration of the CR at [redacted] per month. Only the infrastructure charges changed and these in fact reduced from a high of [redacted] in April 2022 through to [redacted] per month for the period May 2022 to July 2022, then decreased further for the period August 2022 to December 2022 to [redacted] per month (down 72.8% versus April 2022). It is important to highlight the final supplier exited the SMSO service at the end of August 2022. From which point DCC started incurring the monthly SMSO service charge of [redacted] per month for a period of 4 months under this CR4631 (a total of [redacted] to the end of December 2022).

The services as provided under CR4631 had to be in place until The Secretary of State approved the Decommissioning timetable. DCC concluded on a proposal to end Migrations and stop the process in respect of the IOC cohort on the 5 April 2023. On 28 April 2023 DCC wrote to the Secretary of State recommending the Requesting Party for the IOC cohort be decommissioned on Sunday 28 May 2023. The Secretary of State approved the proposed RP Decommissioning Timetable on 17 May 2023.

A breakdown of the costs is provided in the tables below.

Detail	Price initial (£)	Price final (£)
Labour Breakdown	[redacted]	[redacted]
Total Infrastructure Costs	[redacted]	[redacted]
SMSO service charges	[redacted]	[redacted]
Total Charges	[redacted]	[redacted]

Table 11: Price Breakdown CR4631

Initial SoW price (£)	Final SoW Price (£)	Difference (%)
[redacted]	[redacted]	+356

Table 12: Initial vs Final Price CR4631

1.5.5 Capgemini – CR4732 – Commissioning Party – Extension of services

Drivers and Scope

The Commissioning Party ("CP") Service enables the enrolment and commissioning of SMETS1 devices from the Requesting Party onto the DCC Total System, as part of the SMETS1 migration activity. It is provided by:

a) Critical Software (CSW) in its capacity as the CP Application Provider; and

b) Capgemini in its capacity as the Applications Network and Security Operations (ANSO) provider hosting the CP application (Note: the underlying infrastructure is now provided by Capita following the transition from UK Cloud).

Under the baseline Capgemini ANSO Agreement (Dated 28th October 2021), the CP Service was contracted through to 31st October 2022 based on an assumed closure date for SMETS1 migrations, with no pre-specified pricing beyond that date. DCC complied with an obligation under Schedule 3 of the Agreement to notify Capgemini (by 30th April 2022) of its decision to continue the service and hence this CR was raised. The CP service term had to be extended to align with the revised planned completion date of the SMETS1 migration programme. Without extension of this CP service, DCC would no longer be able to enrol, and commission migrated SMETS1 devices onto its network.

Securing Value for Money

While DCC communicated its decision in principle to extend the CP service in good time and the scope of the CP services was required to continue "as is", there was some uncertainty and risk from Capgemini's perspective regarding future pricing of the service, due to two main drivers:

(1) **Physical Infrastructure Change** – Focus of DCC and Capgemini teams on moving the underlying physical infrastructure for hosting of the CP Application from UK Cloud to Capita due to UK Cloud pending insolvency -A change freeze was in place under the Capgemini contract for much of the period from April to Oct 2022 while transition to the replacement underlying infrastructure was implemented.

(2) **Required Term of CP Services** – The requirement for CP Service is driven by the ongoing need for SMETS1 migrations. At the time that the CP Service needed to be renewed (31st October 2022) the expiry date for the transition and migration of SMETS1 meters under the SEC (Schedule AL - Transition and Migration Approach Document or TMAD) was set as 31st December 2022. After further engagement with BEIS, DCC sought consultation with industry during November 2022 as to whether the expiry date should be extended to 31st March 2024. In response customers signalled that they expected demand for migration services will need to continue through 2023. On 20th December 2022 BEIS issued a formal direction designating the TMAD expiry date as 31st March 2024.

However, despite the above uncertainty, Capgemini agreed to hold their pricing to materially the same level as existing monthly run rate charges for the CP Services over the initial baseline contract 1 year term. The pricing included extra flexibility for DCC to terminate CP services early for convenience, for example on one months-notice effective 1st October 2023 onwards, should SMETS1 migrations complete early.

A breakdown of the costs over the maximum 14-month period to 31st Dec 2023 covered by this CR is provided in the tables below. Costs shown exclude UK Cloud infrastructure scope / costs which are now part of Capita contract scope (see section on Project Stones/Civet below).

Detail	Price initial (£)	Price final (£)
Application Management	[redacted]	[redacted]
Service Management	[redacted]	[redacted]
Linux VM App Server mgmt & support	[redacted]	[redacted]
Linux VM Non-App Server mgmt & support	[redacted]	[redacted]
Firewalls Mgmt & Support	[redacted]	[redacted]
HSM Mgmt & Support	[redacted]	[redacted]
ELK Support for 6 Nodes	[redacted]	[redacted]
Total Charges	[redacted]	[redacted]

Table 13: Price Breakdown CR4732

Initial CAN price (£)	Final CAN Price (£)	Difference (%)
[redacted]	[redacted]	0

Table 14: Initial vs Final Price CR4732

1.5.6 DXC – PR7497 - DXC-OpenShift Migration (Version 3 to Version 4)

Drivers and Scope

Support for OpenShift V3 expired on 30th of June 22. As a result, PR7372 was raised to mitigate the fact that [redacted] Maintenance Support for OCP v3 was due to cease in June 2022. Following this date, limited support (no bug fixes, security fixes or root cause analysis) would be provided under Extended Life Phase (ELP). However, [redacted] would provide the same level of support under ELP as Maintenance Support if migration to OCP v4 had been commenced although this was a significant project with an initial delivery timeline of circa 9-12 months, so an extension of the existing level of support beyond June 2022 was required to provide sufficient time for the implementation of the project as well as the stabilisation of the FOC platform. An ELS Licence was subsequently purchased to take this support to June 23

This PR covered both the discovery phase workshops and ELS licence purchase to ensure we have appropriate support in place.

PR7497 follows on from the conclusion of PR7372 to cover the Project Initiation, Testing & deployment phase of the DXC OpenShift migration from Version 3 to version and is as per design agreed from the discovery phase undertaken via PR7372 allowing for the migration to OpenShift V4 prior to the expiry of the renewed ELS Licence

Securing Value for Money

To further understand and de-risk the migration activities DCC undertook various discovery sessions with DXC to understand the operational and technical impact under PR7372 which resulted in a reduction of the licence cost being reduced by circa £180K and an expedited delivery of the project initiation, testing and delivery plan.

This plan was scrutinised by DCC and due to tight delivery timescales, we ensured any delays to the delivery of the project attributable to DXC would not impact ongoing support and that DXC would ensure continued support from [redacted] would continue to be provided to ensure continuity of service.

A breakdown of the costs is provided in the tables below.

Detail		Price initial (£)	Price final (£)
Milestone 1	Design Phase	[redacted]	[redacted]
Milestone 2	PIT Cut-Over	[redacted]	[redacted]
Milestone 3	SIT-A Cut-Over	[redacted]	[redacted]
Milestone 4	UIT-B Cut-Over	[redacted]	[redacted]
Milestone 5	Production Cut-Over	[redacted]	[redacted]
Milestone 6	SIT-B Cut-Over	[redacted]	[redacted]
Milestone 7	UIT-A Cut-Over	[redacted]	[redacted]
Milestone 8	Server Decom & Completion	[redacted]	[redacted]
Total Charges		[redacted]	[redacted]

Table 15: Price Breakdown PR7497

Initial SoW price (£)	Final SoW Price (£)	Difference (%)
[redacted]	[redacted]	0

Table 16: Initial v Final Price PR7497

2 Project Stones / Civet

Summary

- The Dual Control Organisation (DCO) is a fundamental service linking the DCC DSP and the Head End Systems of CGI, Secure and Trilliant to SMETS1 Devices. The application is hosted in a Private Cloud by Capgemini and previously utilised the services of UKCloud for the physical solution – space, power and computing platform.
- Following warnings from Capgemini, Government and Ofgem about the financial instability of UKCloud, DCC acted swiftly and at pace to protect users. We immediately [redacted] explored a range of alternative service providers in line with our licence conditions to procure on a competitive basis.
- In March 2022, DCC understood, through engagement with the Cabinet Office, that the timeline to move away from UKCloud had become more urgent.
- What followed was a fast-paced programme of work under crisis management conditions to move a crucial part of SMETS1 infrastructure from a failing service provider to a new one. In a very short amount of time DCC had to consider options, procure a new provider, as well as undertake design, build and rigorous testing of a new solution.
- Throughout this period, we engaged very closely with DESNZ, Ofgem (including via our letter of 19 August 2022 updating on our efforts to maintain SMETS1 continuity of service), and Cabinet Office and were made aware of some very clear requirements, including:
    - The clear steer provided by DESNZ (including at Ministerial level) was that the migration away from UKCloud needed to happen at pace and without any interruption, as well as their advice on the criticality of avoiding any disruption to the Energy Bill Support Scheme (EBSS) cost of living payments being applied to smart meters from Autumn 2022.
    - Both Ofgem and the Minister made it very clear that DCC must take any action possible to ensure no failure of service. This was clearly outlined in Ofgem's letter to DCC on 20 May 2022 stressing that *'the consequences to consumers of the loss of service to SMETS1 meters would be unacceptable'* and that *'Ofgem expects DCC to take whatever steps are necessary to comply with the licence duty to ensure business continuity'*.
    - When it became apparent that Capgemini were unable to migrate off UKCloud in the timescales required, DCC had no option but to directly award to a supplier who could meet the timescales (rather than running an RFP).
- Based on the above, and with close involvement of Cabinet Office, DESNZ and Ofgem, we made the decision to migrate the service away from UKCloud to Capita. Only the Capita solution enabled DCC to transition at speed due to the minimal change required thus preserving continuity of service. Importantly, this in turn meant we were able to reduce the risks to the EBSS payments being made in time for winter.
- The cost to customers and users of a disabled DCO service would have been significant and therefore it was critical to reduce the likelihood and impact of any potential service failure. DCC moved to the quickest suitable solution, Capita, thus greatly reducing the likelihood of significant costs and disruption to all users.
- Our letter to Ofgem on 26 April 2023 provided a summary of our approach to safeguarding continuity of service by moving from UKCloud to Capita.

2.1 Overview and context

This section covers the costs associated with the urgent appointment of Capita to provide hosting services, following on from Capgemini, HMG and Ofgem warnings about the financial instability of UKCloud.

Business Context

The end-to-end SMETS1 Solution includes the application hosting of the Dual Control Organisation (DCO), which is a fundamental service linking the DCC DSP and the Head End Systems of CGI, Secure and Trilliant to SMETS1 Devices. The DCO is an application is an application that sits at the heart of the SMETS1 security and is designed to help detect if a SMETS1 Service Provider (S1SP) is compromised and prevent mass meter attack using anomaly monitoring and cryptography. It provides Key Management and a 'Detect and Prevent' mirroring service to remove the SMETS1 Service Provider (S1SP) as a single point of compromise for SMETS1 smart meters, providing a stable and secure platform for the SMETS1 service.

Critical Software developed the DCO application and provide ongoing support for the software itself. The application was originally hosted on a private cloud provided by UK Cloud as a subcontractor under Capgemini's ANSO contract. When DCC were notified of the UK Cloud's potential insolvency and advised by Cabinet Office to accelerate a move away from UK Cloud, the hosting service was moved to Capita under the emergency clause of the ANSO contract. The ANSO contract still provides the service wrapper around the hosting provided by Capita.

[redacted]

In March 2022, DCC understood through engagement with the Cabinet Office that the timeline to move away from UKCloud had become more urgent. Following a detailed analysis of options, which include engagement with alternative platform providers and advice from DCC Regulatory and Legal teams, we made the decision to migrate the service to Capita as a short-term, emergency solution. The Capita platform is similar to the UKCloud infrastructure - this allowed DCC to transition the service quickly with minimal change. The recommendation and programme plan was supplied to DESNZ and Ofgem to support the decision-making process.

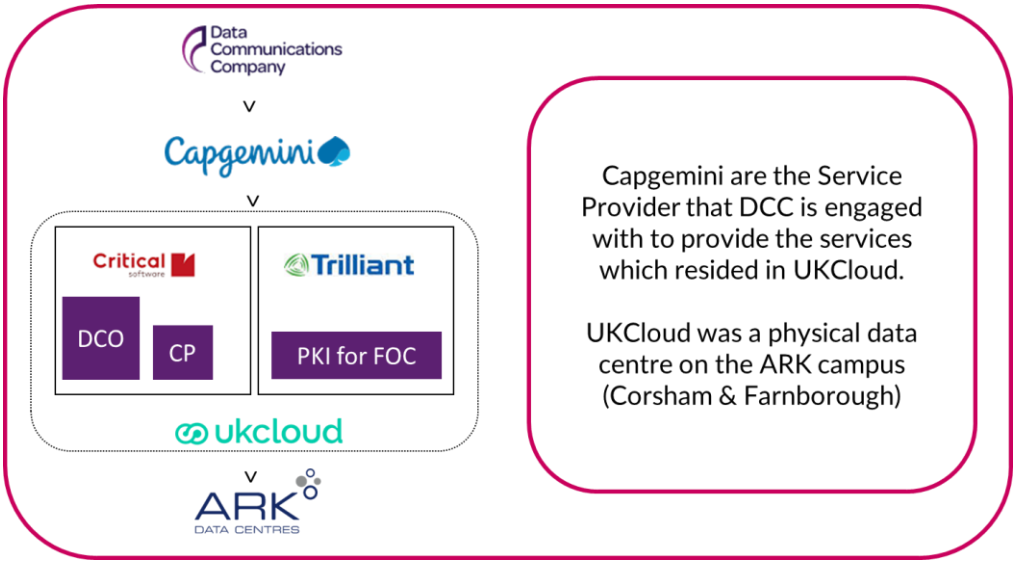


Figure 2: The business context of DCC, UKCloud, and other service providers

A business case (following HM Treasury Green Book Guidance) is being developed to support a recommendation for the enduring solution. The business case process will identify and assess a range of options against a set of criteria which include value for money and regulatory compliance.

Driver for the Procurement

[redacted] DCC had been discussing with Capgemini and the UK Government (who were also a major user of UKCloud services) migration away to remove the potential risk to our services.

The preferred option for DCC was to remain on UKCloud whilst planning for, and building, an enduring solution. However, to mitigate against this risk, DCC developed a three-phase migration plan as follows:

1. Immediate (Phase 1) –The design, build and testing of a solution that would allow an immediate lift and shift of the servers to an alternative provider. Capita would step in to provide DCC support to do this with support from Cap Gemini. The design and build stages were completed on 07 July 2022 with initial testing is due to be complete by 31 July 2022 (at which time DCC would have an MVP) and full testing completed by the end of August 2022.
2. Interim Resilience (Phase 2) - Following this lift and shift solution (and hence mitigation of the immediate risk), Capita were replicating this environment to provide resilience of the solution by 18 September 2022
3. Enduring (Phase 3) - A final enduring solution to be designed and delivered aligned to our technology strategy moving to the Cloud

However, there was still a financial/insolvency risk to UKCloud given the continued delay in funding being received, the fact that their accounts had still not been filed and DCC were unsighted as to the cash runway that any additional funding would provide.

As there was still the risk of UKCloud entering insolvency prior to DCC being ready to migrate services to the interim Capita solution, additional mitigation measures as part of a "Plan B" continue to be explored. This includes the provision of funding to UKCloud as a going concern or in Administration, issued by Capgemini, supported by the DCC, to ensure continuity of service for a fixed period if this is required. Cabinet Office facilitated discussions with the sole other customer of scale that could support the funding of UKCloud, [redacted].

Given the continued uncertainty, DCC (CTO, Operations, Commercial and Service Delivery) developed a detailed migration plan that would allow a controlled migration to the Capita solution in September 2022. The primary driver at all times was to protect the continuation of this essential service for the customer and minimisation of disruption to the customers.

Timeline summary

- **October 2021 to February 2022** - The move out of the UKCloud platform was first considered in October 21. This was understood at the time as a strategic move to a new provider and options to move to a different hosting via AWS were being assessed.
- **March 2022 to April 2022** – In March 2022, DCC understood through conversations with the Cabinet Office that the timeline to move away from UKCloud was becoming more urgent. Due to this, the assumption shifted from a non-emergency managed transition to AWS, to a faster migration with minimal change. This came with the requirement that DCC need to identify a platform provider with as similar possible infrastructure as UKCloud. Multiple sessions with both DCC and Capgemini architects were held to explore technical options. Capita emerged as a viable option through this analysis (falling under 'Option 2: Lift & Shift'). We also considered alternatives to Capita hosting and engaged with an organisation called [redacted], which enabled comparison before a decision was made.
- **Mid to late April 2022** – By late April, there was increasing pressure to make a selection on the platform based on the time pressure being relayed to DCC by the Cabinet Office, DESNZ and Ofgem. We continued our analysis (further workshops were held), with Capgemini supporting throughout, to understand which technology partner had the best 'like for like' fit to support an emergency migration. Although Capita was initially discounted as a viable option following a regulatory assessment, and given the urgency to migrate, this option was reevaluated and emerged as the preferred option on the basis of technology compatibility (requiring minimal change and enabling a faster migration), as a short-term emergency solution. There were extensive workshops with all technical teams to validate

that the core building blocks of the existing service would be able to move to (any other proposed) solution without deep software transformation. At its core the Capita platform allowed DCC to essentially copy and paste the existing service over to the Capita platform. Configuration, networking and infrastructure changes were of course still required to complete the migration.

- **May 2022** – DCC conducted an analysis of the current risk associated with the DCO programme. This was supplied to DESNZ and Ofgem to support the recommendation and programme plan for a migration to Capita.

Securing Value for Customers

The cost to customers and users of a disabled DCO service would be significant. Therefore, the primary factor in solution selection was to reduce the likelihood and impact of any potential service failure, that is find the quickest suitable solution. In this way the likelihood of significant costs and costs to all users would be greatly reduced. The potential impacts of a disabled DCC service to different user groups are set out below.

User / consumer group	Potential impacts of disabled DCO service
Consumers	• Loss of smart meter functionality • Pre-payment – Manual entry of UTRNs (IOC & FOC)
DCC Service Users	• Unable to amend (i.e. apply emergency) credit or debt on meters • Unable to apply Tariff Changes • Physical CoS command can occur, but none of the CoS processes that follow • Not possible to activate firmware • Unable to read on IOC devices
DCC Service Providers	• IOC: Prepayment top-ups possible with S1SP configuration/infrastructure changes. Zero SRVs to/from meters (meters revert to Dormant state) • MOC: Prepayment top-ups possible but with operational risks • FOC: Prepayment top-ups possible with S1SP configuration/infrastructure

Table 17: Likely impacts of a disabled DCO service

Capita "Lift & Shift" Option

Given the increasing pressure in April 2022 (as set above), and the potential for significant costs and disruptions, DCC determined that it should move to a risk avoidance stance and establish a production capability outside of UKCloud, with as minimal change as possible, minimal security disruption, on the quickest possible pathway. As a result, the decision was made to move the hosting service to Capita in the interim to reduce the risk of disruption and dis-benefits to users, and to therefore deliver value to consumers and users.

Urgency and timeliness of solution was seen as the largest driver of solution selection. The option to lift and shift the service to Capita was determined to be the shortest expected timeline. This speed of delivery would contribute to the provision of a resilient offering. Assessment at the times suggested that the Capita solution would be near to the level of operational resilience offered by the previous solution and therefore provide assurance and service resilience while the full strategic end state was confirmed and built.

DCC was acting under advice from central Government at pace, going with an interim tactical short-term solution in order to buy time to procure an enduring solution. The severity of the operational risks that would

follow from not procuring an alternative service provider at pace suggested that it was not practical or proportionate to pursue a fully competitive procurement process at that time.

Therefore, the decision to shift to Capita in the interim was confirmed, thereby protecting users, reducing the potential impacts and costs they would experience and therefore deliver the maximum value. DCC was able to use the well-established Apps and Hosting contract as the framework for the engagement.

Technical Assurance

As stated above, to ensure resilience and continuation of service, there was the need for a timely alternative solution. Therefore, DCC needed to identify a platform provider with as similar possible infrastructure as UKCloud.

A UKCloud "like for like" infrastructure would allow for the migration of application and data to another similar platform, with no changes to the application. Applications are effectively “lifted" from the existing environments and “shifted” as-is to a new hosted platform with Gamma connectivity & VMware Cluster.

DCC and Capgemini architects explored technical options and determined that Capita was a viable option. Alternatives to Capita hosting were also considered, including [redacted].

However, also considered alternatives to Capita hosting and engaged with [redacted], which enabled comparison before a decision was made. The [redacted] solution did not however have the necessary Gamma connectivity. Neither did [redacted] have a dual Data Centre (DC) capability that supported the required Database (Db) replication. DCC considered other providers and found them to be not, or less, technically feasible.

Contract Management & Deliverables

Capita and Capgemini have performed well since UKCloud ceased operations last year. Both parties have adapted to a novel working relationship and interface to ensure the continuation of the DCO service and maintenance of system resilience.

Next steps

Following the award of the contract to Capita, there are three current contracts that deliver the DCO service as shown in the table below.

Contract & Purpose	Supplier	Expiry date	Extension rights
Applications and Hosting contract: Provides hosting for the DCO and Commissioning Party (CP) applications	Capita	30 Apr 2024	None
Application Network Security Organisation (ANSO): Hosting service wrapper	Capgemini	31 Oct 2024	3 x 12-month extension options – max end date 31 Oct 2027
DCO Application support: Support for the bespoke DCO application, CP application, Interoperability Checker (IC) and Representative Test Environment (RTE)	Critical Software (CSW)	31 Oct 2024	None

Table 18: SMETS 1 DCO Contracts

As a result of DCC's rapid response to the risk of UKCloud's financial instability, potential costs to users were avoided. DCC is now in a position to push to secure greater value for money for customers. DCC's preferred way forward is to run a full competitive tender for the enduring DCO solution as this will allow DCC to understand the solutions available and select the one that will deliver an operationally and economically efficient service.

2.2 Costs

The costs associated with the transfer from UKCloud to Capita (Civet) fall into two types, Run and Build. The run costs cover the monthly hosting costs and other outgoings. The build costs cover the setting up of replacement hosting locations and facilities. Site 2A is the existing Capita location in Corsham, and site 2B is the new second Capita location in Farnborough.

The RY22/23 costs of run and build across these two locations are set out in the chart below.

NB this chart does not show the existing and continuing costs of Capgemini for providing the "wrapper" to the hosting. Also, it does not show any running costs from January 2023 once the build had completed and the new solution was running.

Figure 3: RY22/23 Civet run and build costs at Corsham (2A) and Farnborough (2B)

Overall, the costs for Civet were within the forecast envelope, as set out in the chart below. As before, this does not show the existing and continuing costs of Capgemini for providing the "wrapper" to the hosting. Also, the chart does not show any operational costs from January 2023 once the build had completed and the new solution was running.

Figure 4: RY22/23 Civet actual v forecast at 2A and 2B

The material PRs associated with this activity are listed below.

2.2.1 PR7399 Capgemini - Procurement of Licenses for Emergency Interim Capability - Option 6

Drivers and Scope

To procure required licenses (or support cost from third party support cost for software/hardware) to enable the project to deliver the Capita private cloud emergency interim capability.

Procurement of third-party Licenses to provide disaster recovery (DR) services for emergency interim capability (Capita Infrastructure) for Testing in different environments during below phases:

- Build and Test phase.
- Standby Phase
- Live services phase

Securing Value for Money

The initial purchase order set out a safety-first fall-back position. The nature of the transfer between Capita and UKCloud created periods over duplication and redundancy. DCC and partners were committed to not overspending and would strive to bring the PR in below the full price. In the end, the work (and accompanying licences) were achieved with less than half of the initial budget.

A breakdown of the costs is provided in the tables below.

Detail	PO created date	Price initial (£)	Price Current Forecast to Complete (£)
2A Licence costs		[redacted]	[redacted]
Total Charges		[redacted]	[redacted]

Table 19: Price Breakdown PR7399

Initial SoW price (£)	Current SoW Forecast (£)	Difference (%)

[redacted]	[redacted]	(51.9)

Table 20: Initial vs Final Price PR7399

2.2.2 PR7411 - Additional equipment and services for second data centre for DCO and CP (Farnborough)

Drivers and Scope

This PR was raised to support Capita in their build of a second data centre for DCO and CP, geographically separated from the initial DCO based at Corsham. This needed to be operational by 18th Sept 2022. The primary requirement was to uplift the Farnborough data centre to have the same capability as that in Corsham.

The PR contained the following requirements:

- Specification of the networking configuration for the Gamma connection at Farnborough
- Specification of ARK data centre fibre interconnects at Farnborough
- Design build and test the perimeter networking hardware (F5, HSM & switches) at Farnborough
- Configuration of the PKI application at Capita Corsham and Farnborough
- Specification of the production Virtual Machines at Corsham that require to be migrated to Farnborough
- Configuration of the data replication between Capita Corsham and Farnborough
- Configuration of hardware security modules / softCypto modules
- Configuration of NTP service
- System preparation for testing
- Defect correction and support during testing
- Updated high level design (HLD) documentation
- Updated operating processes and procedures for dual data centre operation (Corsham and Farnborough).
- Compliance statement against requirements
- Additional support as identified during execution of the programme

Securing Value for Money

PR7411 covers the time and material use of resources to carry out a range of tasks as set out above. The initial scope was clarified, following a process of engagement between DCC and the supplier, further engagement continued across the period from June 2022 to September 2022. With DCC challenges and queries being responded to by the supplier. This ensured that the initial scope was as tight as possible, and the further changes in the statement of works were confirmed as necessary and not excessive, thereby reducing the unnecessary costs and improving the value for money to customers.

A breakdown of the costs is provided in the tables below.

Detail	Price initial (£)	Price final (£)
PR7411 - Project Stones -Capgemini	[redacted]	[redacted]
PR7411-DXC-Additional equipment and services	[redacted]	[redacted]

PR7411 -Part 2 - Project Stones	[redacted]	[redacted]
Total Charges	[redacted]	[redacted]

Table 214: Price Breakdown PR7411

Initial SoW price (£)	Final SoW (£)	Difference (%)
[redacted]	[redacted]	(3.1)

Table 22: Initial vs Final Price PR7411

Centralised Registration Service (Switching Programme) – RY22/23 Variances Overview

Cost Centre Variance in RY22/23 by GL

The table below provides a breakdown of incurred costs in Price Control format below i.e., mapping costs directly against the price control General Ledger codes (GLs).

Total Centralised Registration Service			RY22/23	RY23/24	RY24/25
Baseline			**-**	**-**	**-**
Incurred			**5.106**	**4.406**	**4.461**
Payroll costs	PR	£m	3.249	2.470	2.358
Non-payroll costs	NP	£m	-	0.053	0.053
External services	ES	£m	0.427	-	-
Service management	SM	£m	1.430	1.883	2.050
Variance			**5.106**	**4.406**	**4.461**
Payroll costs	PR	£m	3.249	2.470	2.358
Non-payroll costs	NP	£m	-	0.053	0.053
External services	ES	£m	0.427	-	-
Service management	SM	£m	1.430	1.883	2.050

Cost Centre Variance by Staff Type and Team

The table below shows incurred Payroll costs by sub-team within the Switching programme.

Centralised Registration Service Internal Costs Payroll Costs		RY22/23	RY23/24	RY24/25
Baseline		**0.000**	**0.000**	**0.000**
Incurred		**3.249**	**2.470**	**2.358**
Commercial and Regulation		0.146	0.109	0.109
Finance		0.122	0.046	0.046
Operations		0.378	0.355	0.355
Security		0.201	0.096	0.096
Service Delivery		1.828	1.329	1.217
Testing		0.575	0.535	0.535
Variance		**3.249**	**2.470**	**2.358**
Commercial and Regulation		0.146	0.109	0.109
Finance		0.122	0.046	0.046
Operations		0.378	0.355	0.355
Security		0.201	0.096	0.096
Service Delivery		1.828	1.329	1.217
Testing		0.575	0.535	0.535

1 Centralised Registration Service (Switching Programme)

Summary

- Faster and more Reliable Switching is an Ofgem sponsored project successfully delivered by DCC and its Delivery Partners, to make the process of switching energy suppliers simpler and faster for consumers.
- The go-live was a significant milestone in the transformation of the retail energy market, helping to increase competition and provide a foundation for innovation, leading to improved consumer value, experience, and engagement with the market.
- DCC played a vital role in delivering the Switching programme on time and to budget, successfully going live as planned in July 2022.
- Switching has no agreed cost baseline so all incurred costs are reported as variances. In this reporting year, we report c.£4.7m as efficiently incurred costs. Since Go Live, DCC has demonstrated strong operational performance, with costs accounted for in Operations.

1.1 Purpose, Scope and Structure

DCC was Ofgem's key delivery partner and active co-ordinator of contractors working to deliver the Design, Build and Test (DBT) phase of its Switching Programme, which aims to:

"*...improve consumers' experience of switching, leading to greater engagement in the retail energy market by designing and implementing a new switching process that is reliable, fast and cost-effective. In turn this will build consumer confidence and facilitate competition, delivering better outcomes for consumers.*"[1]

DCC was dedicated to achieving Ofgem's objectives by playing an active role in enabling the Switching Programme through efficient and economical actions.

At the start of RY22/23 the Switching Programme remained in the DBT phase in preparation for DCC's role as Switching Operator responsible for live operation of the system which commenced when the system went live on 18 July 2022. The DBT phase of the Programme continued beyond Go Live until October 2022 to manage the Early Life Support (ELS) stage of the Programme and support the Operations function as it took on the service.

The DCC Switching Programme's Aims and Objectives

DCC's contribution to the Switching Programme had three core purposes:

- To advise - providing advisory services to support the Ofgem-led definition of the end-to-end switching arrangements.
- To meet the requirements - ensuring that the procured Central Switching Service (CSS) would meet the requirements defined by the Programme.
- To deliver - delivering the CSS, including managing the contracted delivery partners, and managing progress through DBT and the early years of operation under the obligations within the Retail Energy Code (REC).

These objectives are founded on DCC's Licence and the Retail Energy Code (REC), and they advanced through the various Programme phases of Enactment, DBT and into Live Operations. DCC's focus is to design, implement, manage, and maintain a solution that will enable fast and reliable switching of energy suppliers nationwide, ensuring secure data handling.

Core activity in RY22/23

The Switching Programme activity in RY22/23 was heavily focused on the transition to live operation and initial support of operational the system. Transition to live operations commenced before the start of RY22/23 in March 2022 and was undertaken in three stages:

- Stage 1 introduced new connections from existing systems into the CSS to populate the CSS with the current (at the time) Domain Data and populate the CSS with an initial bulk load and reconciliation of data from the existing central systems. Enriched data was then passed back to the central systems.

- Stage 2 introduced a production interface from the Smart Data Service Provider (DSP) into the CSS and new production interfaces from central systems into the CSS. The data migration from existing systems to CSS was finalised during this stage and weekly extracts of new registrations and Supplier Arranged Appointment (SAA) data from source systems were initiated. In addition, new address data, the Retail Energy Location (REL), was made available via the enquiry services and data synchronicity between data providers and consumers was maintained pending the Go/No-Go decision and commitment to Go Live.

- Stage 3 introduced a production interface back into the DSP from the CSS and production interfaces to suppliers, agents, and shippers. In addition, this stage saw the synchronisation of Registration and SAA data from source system to CSS being maintained at an accelerated cadence, there was a final synchronisation of data from source systems, registration identifications were disseminated, and Licenced Parties were onboarded ready for the cutover to live operations.

For DBT, DCC had a Switching Programme Stakeholder Engagement Strategy and an associated approach and plan which was updated every four months, the last update taking place in April 2022. The approach included a stakeholder map which identified eight broad categories of stakeholder and eight different key engagement mechanisms. Regular and targeted engagement with stakeholders was maintained throughout the lifecycle of the Programme.

As the programme moved into the later stages of testing, energy suppliers were more engaged in the programme and the need for the Summits declined. The emphasis therefore shifted to cover shorter events targeted on specific topics, such as service management and the use of the REL, allowing us to tailor our engagement approach to customers' requirements.

The progress of the delivery of the Switching Programme continued to be closely monitored against the parameters included within the DCC Switching DBT Business Case. There were two main Programme governance forums run by Ofgem, the Delivery Group and the Implementation Group, both of which met monthly and were fed by Working Groups. DCC reported on progress to both these Groups, both in terms of time and quality, and also provided a summary update on finance against the baseline budget set out in the DCC internal Switching DBT Business Case.

DCC's Role in DBT

The DBT phase covered eight workstreams of which DCC was a key contributor to six:

- Readiness Assessment – this was the responsibility of the Programme Coordinator (PC) appointed by Ofgem.

- Regulatory – this was the responsibility of Ofgem's Regulatory Team. This team was supported by DCC's Regulatory team in the drafting of versions 2 and 3 of the REC. Version 3 came into effect when the Switching service moved into live operation in July 2022.
- Solution Delivery – a key focus for DCC and its Service Providers (SPs).
- Business Change – this was the responsibility of Ofgem and its PC.
- Testing – a key focus for DCC and its SPs.
- Data – a key focus for DCC, the Systems Integrator (SI) and the Central Switching System Provider (CSSP).
- Transition – a key focus for DCC and its SPs.
- Early Life Support (ELS) – a key focus for DCC and the System Integrator (SI) while our other SPs transitioned to support live operations.

The DBT Incentivisation Framework

The DBT incentivisation framework places DCC's margin at risk based on the timely delivery of key milestones to agreed quality. Five delivery milestones (DM) have been identified for the DBT phase following consultation with industry and all five have now been passed:

- DM1 - DBT Readiness – this milestone represented completion of mobilisation and planning for DBT and gave certainty to the industry parties to commence their DBT activities.
- DM2 - CSS Pre-integration Test Exit – this milestone represented successful completion of the initial, Pre-integration Testing (PIT) of the CSS.
- DM3 - SI Readiness for Systems Integration Testing – this milestone represented successful completion of the planning and preparation activities for Systems Integration Testing (SIT), including development and agreement of the SIT Plan.
- DM4 - End to End Testing (E2E) Exit – this milestone represented successful completion of the Programme-led E2E testing. The SI was responsible for planning and managing the execution of this stage of testing.
- DM5 - Transition Stage 2 Exit – this milestone represented successful completion of all Transition Stage 2 exit criteria when REL data is created for the population of the CSS.

The milestones were assessed against agreed programme entry/exit gate assessment criteria which were maintained by the PC. The completion of incentivised milestones is assessed by the Licensed Party Assurer based on achievement of these acceptance criteria, including completion of any stakeholder engagement specified in the Product Description for the milestone.

The principles and conditions under which the target delivery dates of the incentivised milestones can be changed are set out in the Policy on Incentivised Milestone Management which is closely aligned to the Change Control process. This policy was used for the Transition Phase and was updated to reflect governance changes in the DBT Phase. The policy allows changes to the performance regime, including but not limited to impacts on the critical path, from scope change driven by the PC, delay outside of DCC's control and materialisation of risks which have been identified as being outside of DCC ownership.

The last of these milestones, DM5, fell in RY22/23. Further information is provided in the Performance Section of the Price Control submission.

DBT Phase Programme Delivery

Costs incurred during the DBT phase were directly driven by DCC's core responsibility to deliver a Switching service that is economic, efficient, robust, and secure. This responsibility led DCC to act in the following capacities specifically relating to the CSS:

- As a contract manager - managing contracted SPs, including their deliverables, performance tracking, delivery against milestones and associated payments. This includes the objectives of:
    - Taking an active role in the management and delivery of outcomes.
    - Ensuring value for money for the consumer by taking into consideration the estimated "total cost of ownership" of a new Switching service across the industry when managing change.
    - Managing innovation and accommodating design modification through contractual arrangements.
    - Mitigating risks through robust processes and contractual arrangements, including mitigating delivery risk and the cost of failure.
    - Managing SPs' incentivisation frameworks.
- As a manager of design integrity - managing the acceptance and, where relevant, integration of all design artefacts and documentation including system, service, interface, hosting, and data specifications. Technical Design Authorities and Design Integrity teams are involved in considering change requests and their impacts on the programme timescales and design, with Ofgem holding overall technical design authority and DCC managing the CSS technical design integrity.
- As a solution assurance gatekeeper - managing the testing and production proving process, including the acceptance of all testing artefacts, the assurance of test results prior to integration with other service provider systems and scoping and witnessing the Acceptance Tests.
- As an issues manager - assuring triage activities and managing defect escalations and rectifications as necessary.

1.1.1 Cost Centre Structure

In order to manage the broad requirements of the Switching Programme efficiently, the organisational model for the DBT phase changed over time to reflect the different stages of the programme. The sub-programmes provided the leadership structure through which the programme resources operate, thus allowing resources to be allocated to specific tasks as necessary. The sub-programmes are detailed in the table below.

Function Type	Function	Comments / Description
Sub-programmes	Transition and Production Readiness.	Management of the preparation for and execution of the transition to live running. It was also responsible for the management of the CSSP, [redacted], the SI, [redacted], and CGI.
	Operational Readiness	Working with DCC Operations on the management of the development of the approach to live service delivery. It was also responsible for the management of the Switching Service Management Tools Provider, [redacted].
	Data Management and Security	Management of activities associated with obtaining data from industry parties and working with the CSSP on its data management responsibilities. It was also

		responsible for working with DCC Security to ensure that the security architecture for Switching was in place, tested and assured and management of the Public Key Infrastructure (PKI) Service Provider, (Entrust).
	Commercial and Go Live Governance	Commercial management of DCC's SPs on the Switching Programme, DCC's input to the development of the enduring REC, engagement with DCC's stakeholders on the Switching Programme and managing the preparation for internal and external governance associated with the Switching Service Go Live.
	Switching Enterprise Transition (SET)	Supporting DCC functions in their preparations for live operation of Switching and for defining and managing projects to deliver required additional capabilities that were better run centrally.
Additional assurance function	Design Integrity	Responsible for assuring the completeness of the E2E design
	Test Assurance	Responsible for assuring the testing undertaken by the SI across all test phases.
Strategy & Assurance	DCC Leadership	Responsible for leading the DCC Switching Programme, overseeing sub-programmes and interfacing with key stakeholders
	Programme Management Office (PMO)	Responsible for providing support and coordination to the whole DCC Switching Programme.

The Switching Programme structure for RY22/23 until Go Live is illustrated in the figure below.

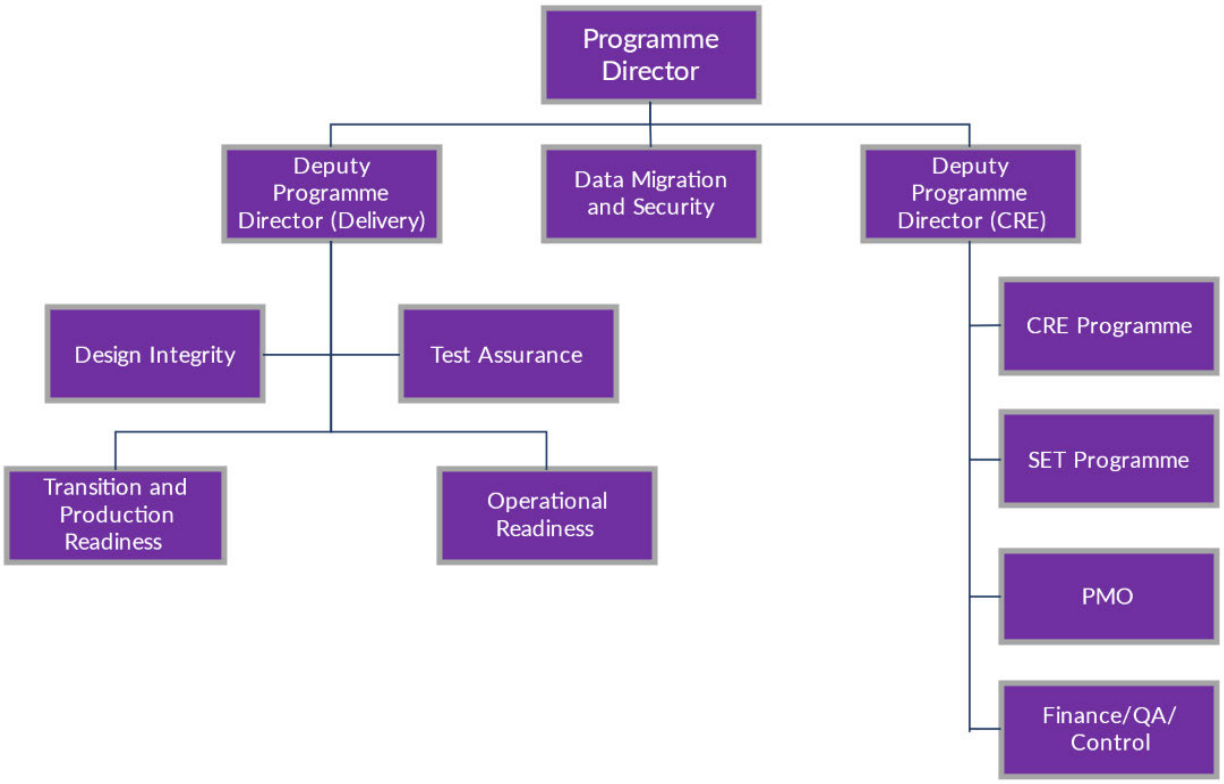


Figure 1: Switching programme organisational structure

The Switching Programme team for the DBT phase comprised predominantly permanent staff and maintained a ratio of 75:25 permanent to contractor staff; with consultants and contractors with specific skill sets used to meet specific, temporary requirements. The ratio of temporary to permanent staff was regularly reviewed and revisited as necessary. The Programme team was insulated from the wider Smart Programme, using a dedicated and discrete team, and only calling on central DCC resources for core functions such as Finance and Communications. Any additional resource requirements were recruited specifically for the Switching Programme. This ensured dedicated resources with specific, relevant skillsets were working on the Switching Programme, which would allow for separate charging for REC activities.

Once the Switching service went live in July 2022 this structure was further reduced and only key individuals were retained through the ELS period to support knowledge transfer to the Operations team. The Programme shut down at the end of October 2022.

1.2 Cost Centre Variances

Incurred Cost by General Ledger Code in the RIGs

For the annual price control purposes, the Switching Programme has always had a zero baseline, and all costs must be justified through the price control mechanism. The remainder of this section and the following sections therefore describe the drivers for the activities within the Switching Programme.

A breakdown of incurred and forecast costs in price control format is presented in Table 1 below. This maps directly against the Price Control new scope GLs. Payroll costs are explained in Section 1.3 and non-payroll External Services costs are explained in Sections 1.4 and 2.

To note, unlike other Price Control sections, full incurred costs are presented rather than variance from baseline. This is owing to the different nature of the Switching Programme where all costs are reviewed as

opposed to project/programme variance. Also note that the Price Control forecast and the RECCo budget are set out a different basis – with the former including committed expenditure only, as well as differences in the staff cost methodology.

Table 1: Incurred costs from the RIGS by GL

Incurred (£m)		RY22/23	RY23/24	RY24/25
Total Switching		**5.106**	**4.406**	**4.461**
Payroll costs	PR	3.249	2.470	2.358
Non-payroll costs	NP	-	0.053	0.053
External services	ES	0.427	-	-
Service management	SM	1.430	1.883	2.050

Incurred Cost by Sub-Team

Table 2 below shows the payroll cost by sub-team. We are presenting the incurred costs as these are equal to variances because the Switching programme has no formal baseline. In RY22/23, all sub-teams except Commercial and Regulation incurred spend that exceeded the typical materiality threshold of £0.15m. For RY23/24 and RY24/25 all sub-teams except Commercial and Regulation and Security show forecast incurred costs greater than £0.15m. Further financial details of above activities and events are presented in the following sections.

As the Design, Build and Test phase of the Switching programme ended in late 2022 and moved into early life support upon Go Live, incurred payroll costs will continue in RY23/24. As with all DCC programmes, the early life support phase of a new programme is crucial to ensure the service operates as expected, and any issues can be resolved quickly. Programme resources reduced as the operational live service stabilised.

Table 2: Incurred costs from the RIGS by sub-team

Incurred (£m)	RY22/23	RY23/24	RY24/25
Switching Internal Costs Payroll Costs	**3.249**	**2.470**	**2.358**
Commercial and Regulation	0.146	0.109	0.109
Finance	0.122	0.046	0.046
Operations	0.378	0.355	0.355
Security	0.201	0.096	0.096
Service Delivery	1.828	1.329	1.217
Testing	0.575	0.535	0.535

Key Events and Objectives Driving Activity and Cost in RY22/23

The activity across RY22/23 covered the transition to live operations and the ELS. This activity fell within two of the seven workstreams identified in the CSS Integration Plan:

- Data, covering the development of the REL.
- Transition, covering Transition, Cutover and ELS.

As well as programme delivery activities across these two workstreams, DCC also managed the entire Programme and its SPs and supported Ofgem in the drafting of version 3 of the REC which came into effect when the CSS went live in July 2022.

The main deliverables and associated Product Descriptions worked on over the course of RY22/23 were:

- Transition plan and approach
- Transition Runbook
- Transition Completion Reports
- Master Readiness and Service Acceptance checklists
- Post Implementation and ELS Plan
- Post Implementation and Exit Report
- Service Design

1.3 Drivers for Costs Incurred – Resource

The Programme delivered to the updated plan agreed with industry in October 2020 for the later phases of the Programme. It should be noted that there was a change in the structure of the Programme immediately prior to the start of RY22/23 to ensure it was effectively organised to deliver the remainder of the Programme.

There were still additional Change Requests (CR) approved by Ofgem that the Programme was required to impact assess and then, if approved, implement. This resulted in an increase in external costs incurred to address these CRs however DCC absorbed these within the existing programme team, there was no uplift to resourcing costs incurred.

1.3.1 Transition and Production Readiness

Payroll Sub-Team – DBT Readiness

In managing the Programme's two key service providers, the SI and the CSSP as well as CGI through Transition the Transition and Production Readiness sub-programme was responsible for overseeing their work and approving key deliverables prior to submission into Programme governance. The sub-programme team also worked with DCC's Regulatory and Test Assurance teams to ensure that appropriate arrangements were in place for the governance around the development of this interface, which involved working with DCC's Test Assurance Board and the Smart Energy Code Panel's Test Advisory Group.

The sub-programme was also responsible for managing all change relating to design and testing. The main deliverables which the SI and CSSP have worked on over the course of RY22/23 were:

- Transition plan and approach
- Transition Runbook
- Transition Completion Reports
- Master Readiness and Service Acceptance checklists
- Post Implementation and ELS Plan
- Post Implementation and Exit Report.

Activities driving change in resource in RY22/23

The team was disbanded shortly after Go Live in August 2022. Prior to disbanding there were no significant changes in resource levels across the sub-programme in RY22/23.

1.3.2 Operational Readiness

Payroll Sub-Team – Operations

In managing the Programme's third key service provider, the Switching Service Management Tools Provider (SSMTP), the Operational Readiness sub-programme has been responsible for overseeing its work and approving key deliverables prior to submission into Programme governance. The main deliverables which the SSMTP has worked on over the course of RY22/23 are:

- Service Design.

Activities driving change in resource in RY22/23
The team was disbanded shortly after Go Live in August 2022. Prior to disbanding the team increased in size bringing in additional resources from Operations to support the preparation for live operations.

1.3.3 Data Management and Security

Payroll Sub-Team – Operations

The Data Management and Security sub-programme had two main areas of responsibility:

- Obtaining data from industry parties and implementing mechanisms to improve the quality of that data. In this role the key activities of the sub-programme were:
  - Overseeing and supporting the data analysis and cleanse activities undertaken by the CSSP
  - Overseeing an Interactive Data Matching (IDM) project run by the CSSP. The objective of this project was to conduct central address matching exercises to support achievement of an address data quality target at Go Live. This project involved the use of a Feature Manipulation Engine to enhance the automated data matching that had been undertaken earlier in the Programme.

- Working with DCC's Security function to ensure that the correct security controls were put in place for the Programme both within DCC and its Service Providers.

Activities driving change in resource in RY22/23

The team transferred to Business as Usual (BAU) operations at the end of September 2022. There were no significant changes in resource levels across the sub-programme in RY22/23.

1.3.4 Commercial and Go Live Governance

Payroll Sub-Team – Commercial & Regulation

The Commercial team within this sub-programme performed the necessary contract and supplier relationship management activities with our SPs, including the commercial management of CRs, and also worked with the Regulatory team to identify obligations contained within the REC which needed to be included within our SP contracts to ensure compliance. Having identified the changes needed to our contracts with the CSSP, the SSMTP and the PKI Service Provider, the team negotiated and agreed these changes.

The team also negotiated and agreed required contract extensions for [redacted], to provide SI services for a period post-Go Live and support the CSS/DSP interface respectively. In addition, the Commercial team managed a Performance Recovery Plan with the CSSP resulting from an accumulation of delivery issues. This involved working with the CSSP to agree the nature of the poor performance, agreeing a recovery plan, and then holding weekly progress review meetings to ensure agreed activities were being progressed. This work resulted in improved performance from the CSSP.

The Regulatory team led DCC's input to the development of the enduring REC (Version 3). In this role the sub-programme team managed DCC's response to Ofgem consultations on the drafting of the REC and provided input to technical specifications and other documents that were included in the enduring REC, including the

performance regime, the change management schedule, and the Switching Operator service definition. The Regulatory team also led DCC's engagement with RECCo and the REC Code Manager to define the ways of working between the two organisations post-Switching Go Live ensuring engagement with the appropriate sub-programmes in the working sessions. In this work it was supported by the SET sub-programme.

The Engagement team continued to lead engagement with DCC's stakeholders on the Programme. The team completed the final update to the stakeholder engagement approach and plan in April 2022 and then prepared an initial draft of the enduring plan to handover to Customer Operations. Stakeholder engagement included arranging and chairing both formal and informal stakeholder engagement events in response to customer requests, for example on the use of the REL and service management. The team also continued to lead engagement with Parties Under Integration as well as energy suppliers, including both one-to-one meetings and monthly sessions focusing on the feedback from the Programme's E2E Plan Review sessions.

The Commercial and Go Live Governance sub-programme was responsible for developing and managing the internal DCC Go Live Governance pathway that ensured that all necessary governance was completed prior to reporting to Ofgem on DCC's readiness to Go Live.

Activities driving change in resource in RY22/23

The Commercial and Go Live Governance sub-programme team reduced after Switching Go Live as the Regulatory, Engagement and then Commercial teams returned to the BAU teams between July and September 2022. Prior to this, there were no significant changes to the resources of the team over RY22/23.

1.3.5 Switching Enterprise Transition

Payroll Sub-Team – Commercial & Regulation

The SET sub-programme was responsible for supporting DCC functions in their preparations for live operation of Switching and defining and managing projects to deliver additional capabilities required that were better run centrally, including work on identifying the obligations on DCC included in the REC and determining the most appropriate DCC Function to deliver those obligations.

Activities driving change in resource in RY22/23

The team was disbanded shortly after Go Live in August 2022. Prior to disbanding there were no significant changes in resource levels across the sub-programme in RY22/23.

1.3.6 Design Integrity

Payroll Sub-Team – Design and Assurance

The Design Integrity team was responsible for assuring the completeness of the End to End (E2E) design including maintaining the design documents and updating them in line with changes agreed through the change control process, completing quality assurance, and working with the SI's design team to resolve design issues.

The team provided design input to other sub-programmes including:

- Undertaking design impact assessments for change requests raised through the change control process
- Development of the E2E Reporting Solution design.

The team also included the Programme's Security Management team which maintained the Information Risk Assessment and Risk Treatment Plan for the Programme.

Activities driving change in resource in RY22/23

A new permanent lead for this team was recruited during the year. As the workload for this team decreased over the period up to Switching Go Live, the size of the team also decreased. It continued to support the Programme through ELS.

1.3.7 Test Assurance

Payroll Sub-Team – Testing

The Test Assurance team was responsible for assuring the testing undertaken by the SI. In RY22/23 the focus was primarily on providing support for the management of all change relating to design and testing and addressing actions arising from the findings of reviews carried out by the Core Systems Assurer (CSA).

Activities driving change in resource in RY22/23

As the workload for this team decreased over the period up to Switching Go Live, the size of the team also decreased. It was disbanded after Go Live.

1.3.8 DCC Leadership

Payroll Sub-Team – Service Delivery

The Programme was managed by the DCC Leadership team which comprised the Programme Director, two Deputy Programme Directors and programme and project managers. The PMO Team was also part of the overall DCC Leadership.

Activities driving change in resource in RY22/23

The DCC Leadership team decreased at the start of RY22/23 with the restructuring on the completion of testing. It then reduced further after Go Live as individual sub-programmes ended. The Programme Director changed to part-time in May 2022 and then left the Programme immediately after Go Live, as did the Deputy Programme Director responsible for Delivery; the other Deputy Programme Director took on Programme Director responsibilities and was not replaced. Three of the Programme Managers left before the end of August 2022 and the remaining one left at the end of September 2022. The size of the PMO also reduced after Go Live.

1.4 Drivers for Costs Incurred – Non-Resource

1.4.1 Summary

The only item of expenditure over the £150k threshold is Service Desk – Switching, within the SM GL Code. The section below provides the details of the activities.

Table 3: Material incurred internal non-resource costs for Switching

	Incurred (£m)	RY22/23	RY23/24	RY24/25	Procurement Type
SM	Service Desk – Switching	1.430	1.883	2.050	[redacted]

1.4.2 RY22/23 - Service Desk – Switching

The DCC Service Centre operates as a contactable support mechanism for smart metering and switching services, providing manual assistance to action, route and guide service user queries and issues. The service functionality required under the SEC and REC is as follows:

- Provide first line support for SMETS and switching services through:
  - Dedicated email and telephone support provided 24/7
  - Manual handling/logging of user issues/queries
- This support will need to aid in-life service delivery requests and incident management from energy customers. To achieve this, the service centre specifically needs to:

- Offer immediate issue resolution through scripted diagnostics and/or agent led knowledge-based tools/scripting
- Offer the escalation of incidents to either the DSP or CSP 2nd line service desks if 1st line support cannot resolve the issue/query

- Be ready to 'Go-Live' in advance of the incumbent contract expiry in January 2024

In addition, it is desirable for the provision of the Service Centre to:

- Offer scalability throughout the contract life to adapt the approach to evolving requirements of the service and drive continuous improvements
- Enable the implementation of the following introductions to the service:
  - Increased automation of the service, providing the opportunity to scale down FTE resources
  - Re-engineered processes to drive out efficiencies in issue resolution

Historically, the incumbent supplier has been [redacted] who were previously contracted up 31 January 2023. As DCC is obliged to provide this service (outlined in section H8.19 of the SEC, and in Schedule 26, Paragraph 6 of the REC), DCC needed to reprocure the service, which was to be done competitively through a standard request for information (RFI) to request for proposal (RFP) process.

However, during the pandemic it became clear that DCC's requirement that Service Desk staff were onsite was not a viable option for alternative contractors. Because of the complications that the pandemic caused, DCC concluded that it was better value for money, as well as least likely to result in non-compliance with the SEC and REC that we extended the existing contract with [redacted]. We took this decision in the light of both the costs of the ongoing service, but also its performance, with [redacted] consistently meeting all KPIs and SLAs.

The extension was on a like-for-like basis and was negotiated for an initial 12 months (to January 2024), though with a further 12-month optional extension (to January 2025), while we prepared for a full re-procurement.

Driver for the Procurement

DCC's Service Centre acts as a 1st line of support for all incidents, service requests and queries raised by customers and service providers across all Smart Metering Services, and the new Switching Service. This support, generally, pertains to either; agents using scripted diagnostic /knowledge-based tools to resolve issues immediately, or escalate incidents to either DCC or the relevant service provider's 2nd line of support.[1]

Figure 2 below outlines the interaction chain surrounding the Service Centre.

[1] Each service provider is required to operate a 2nd line of support service desk to meet their SLAS.

Figure 2: Interaction chains into and out of the Service Centre

Within this interaction chain, examples of the support the Service Centre provides are outlined below:

- DSMS – Support with day-to-day queries around service provision, such as logging the returns of faulty comms hubs
- SMETS2 Ecosystem – Routing service users to the 2nd line service Desks where queries around the service provider run Order Management Solutions (OMS') cannot be immediately resolved.
- Switching Service – Incident management for Central Switching Service (CSS) queries

The incumbent service provider for Service Desk is [redacted], who were initially contracted to provide the service from January 2018 to a contract expiry in January 2023.[2] As the end date of this deal approached, DCC chose to extend this contract further on a like-for-like basis for 12-months to January 2024 at a cost of [redacted]. As part of this extension, DCC also negotiated a further optional 1-year extension to take this deal to January 2025, if necessary.

The performance of the Service Centre - and by proxy [redacted] as the service provider - is tracked against a set of KPIs, the list of which is available in the annex. Throughout the contract length, [redacted] has performed to expectation and met all KPIs successfully.

Inclusion of switching

With the CSS going live in July 2022, DCC Operations were tasked with meeting over 100 new obligations under the REC. A series of obligations relate to the requirements and configuration of DCC's Service Management system to handle inbound calls from switching customers. The requirements for the system were built on the following strategic prerequisites:

- It must be able to handle a forecast of 60k daily switches as well as suppliers' backlogs

[2] The contract from 2018 was an initial three-year period, with a further two optional 1-year extensions that took the contract to January 2023.

- The service is required to be "separated" operationally and financially from DCC's Smart (SEC) operations
- Switching services must not be compromised by DCC's Smart service operations, and vice-versa

The costs incurred in RY22/23 and forecast for RY23/24 and beyond represent the costs of operational salaries for call centre staff, plus a range of set up and ongoing infrastructure costs, including vetting, telephony licences and training costs. In RY22/23 these summed to £1.4m.

Going forward we are in the process of reprocuring the Service Desk/Service Management function for both Switching and SMETS1 and 2 and envisage the new service when the current contract expires in January 2024. Though, given that the current competitive procurement approach is agnostic to onshore or offshore solutions, there is the potential for complications in mapping to these timelines if on/offshoring solutions have to be delivered in separate ways (i.e., offshoring solutions potentially requiring phasing from onshore to offshore). It should be noted that the current contract has the option of a 12-month extension to January 2025, thereby safeguarding continuity of service in the event of any on/offshoring phasing issues.

1.4.3 RY23/24 and RY24/25

As above, DCC is forecasting the expenditure required to maintain the Switching Service Desk will increase to £1.9m in RY23/24. This is because the costs will be over a full year rather than the 9 months of service in RY22/23. There is also a further uplift scheduled in RY24/25 arising from an anticipated increase in Switching volumes and therefore customer contact.

2 External Costs

There are no material CRs/PRs relating to Switching in RY22/23.

3 Switching Incentive Regime (SIR)

Details of the Switching Incentive Regime (SIR) can be found in the Price Control submission, Section 05. Performance.

Network Evolution – RY22/23 Variances Overview

Programme Variance by GL

The table below provides a breakdown of incurred and forecast costs in price control format i.e., mapping costs directly against the price control General Ledger codes (GLs).

Baseline (£m)		RY22/23	RY23/24	RY24/25
Total Network Evolution		**0.000**	**0.000**	**0.000**
Payroll costs	PR	0.000	0.000	0.000
Non-payroll costs	NP	0.000	0.000	0.000
Recruitment	RC	0.000	0.000	0.000
External Services	ES	0.000	0.000	0.000
Internal Services	IS	0.000	0.000	0.000
IT Services	IT	0.000	0.000	0.000
Incurred (£m)		**RY22/23**	**RY23/24**	**RY24/25**
Total Network Evolution		**14.702**	**7.807**	**5.834**
Payroll costs	PR	9.514	7.690	5.718
Non-payroll costs	NP	0.003	0.118	0.116
Recruitment	RC	-	-	-
External Services	ES	5.186	-	-
Internal Services	IS	-	-	-
IT Services	IT	-	-	-
Variance (£m)		**RY22/23**	**RY23/24**	**RY24/25**
Total Network Evolution		**14.874**	**7.807**	**5.834**
Payroll costs	PR	9.514	7.690	5.718
Non-payroll costs	NP	0.003	0.118	0.116
Recruitment	RC	-	-	-
External Services	ES	5.358	-	-
Internal Services	IS	-	-	-
IT Services	IT	-	-	-

Programme Variance by Sub-Team

The table below shows the payroll variance by sub-team within the Network Evolution cost centre.

Baseline (£m)	RY22/23	RY23/24	RY24/25
Network Evolution Payroll Costs	**0.000**	**0.000**	**0.000**
Commercial and Regulation	0.000	0.000	0.000
Design and Assurance	0.000	0.000	0.000
Finance	0.000	0.000	0.000
Operations	0.000	0.000	0.000
Security	0.000	0.000	0.000
Service Delivery	0.000	0.000	0.000
Testing	0.000	0.000	0.000
Incurred (£m)	**RY22/23**	**RY23/24**	**RY24/25**
Network Evolution Payroll Costs	**9.514**	**7.690**	**5.718**
Commercial and Regulation	1.889	1.562	1.386
Design and Assurance	0.450	0.404	0.404
Finance	0.356	0.137	0.137
Operations	0.385	0.316	0.226
Security	0.298	0.255	0.185
Service Delivery	5.170	4.438	2.774
Testing	0.966	0.577	0.606
Variance (£m)	**RY22/23**	**RY23/24**	**RY24/25**
Network Evolution Payroll Costs	**9.514**	**7.690**	**5.718**
Commercial and Regulation	1.889	1.562	1.386
Design and Assurance	0.450	0.404	0.404
Finance	0.356	0.137	0.137
Operations	0.385	0.316	0.226
Security	0.298	0.255	0.185
Service Delivery	5.170	4.438	2.774
Testing	0.966	0.577	0.606

1 Network Evolution

Summary

- Network Evolution is the banner under which several core technology programmes are managed (including 4G Communication Hubs & Networks (CH&N), Data Services Provider (DSP), Digital Service Management Systems (DSMS), Test Automation Framework and Public Key Infrastructure Enduring (PKI-E)). These have a range of aims and ambitions, but all contribute to the continued delivery of a secure and stable service (in line with our licence obligation to provide continuity of service), while improving the customer experience and delivering better value for money over the long term.
- The pace of change in the technology sector continues to accelerate, and as DCC has reached its first decade of operation, it has become increasingly important to upgrade our infrastructure. For example, with sunsetting of 2G/3G now confirmed, the successful and timely delivery of our next generation 4G Communications Hubs is critical. This programme of work has therefore seen an increase in resources this year and will continue to receive the upmost focus and attention as we progress through the joint industry implementation plan over the coming years through to launch in 2025.
- On the Data Services Provider programme, the last year has seen strong progress on the technological design, adopting a modern microservices approach to provide commercial leverage and maximise future flexibility, with focus now moving on to the commercial approach and delivery.
- As mentioned in the 'Corporate Management' section, we are strictly following the Green Book process for all programmes. The creation of a Centre of Excellence for managing Green Book business cases has been essential, producing high quality outputs and ensuring all parties have a better understanding of their role and responsibilities.
- As expected for such important programmes, expert legal support has been essential. Learning some of the lessons from the contracts we inherited, we have worked very closely with our legal partners (for example [redacted] on the CH&N programme) to ensure timely procurements, develop clear and viable contracts, avoid potential legal challenges and ultimately, deliver best value for money for our customers.

1.1 Purpose, Scope, and Structure

1.1.1 Purpose and Scope

Overview and Benefits

The Network Evolution Programme focuses on the future of DCC operations in the smart metering environment. It explores how new processes, systems, and technologies can improve the live service, reduce the operating costs of the DCC system, and above all, secure the continuity of a critical part of the UK's national infrastructure.

The Network Evolution programme is driven by advances in digital technology which continue to reshape the energy landscape. We must make sure that the DCC Network keeps pace with and prudently anticipates that change. At the same time, we must maintain continuity of service to the energy industry as contracts with service providers expire. These challenges are being addressed urgently for a variety of reasons:

- The contract for the provision of the Data Services Provider (DSP) service with CGI is coming to an end, currently due to expire by October 2024. DCC has an option to extend this contract for a further year until October 2025. DCC submitted to DESNZ on the 30th of June 2023 the Outline Business

Case (OBC) following analysis of options and engagement with DESNZ, Ofgem and Customers. An extension to the existing CGI contract will be required to ensure there is no interruption to service whilst the Full Business Case (FBC) and proceeding transition to new arrangements are undertaken

- The existing 2G/3G networks, in use in the South and Central regions, have been superseded by the introduction of 4G networks, with 5G on the horizon. In December 2021, the Department for Digital, Culture, Media, and Sport (DCMS) announced that 2G and 3G services will not be offered in the UK after 2033 at the latest. So, the DCC will, therefore, need to anticipate and upgrade its communications provisions accordingly
- SMETS1 and SMETS2 assets have a 15-year life, meaning that the earlier enduring technology can be made available in the ecosystem, the lower the amount of scrappage and the longer the economic life of assets
- [redacted] contract for the Smart Metering Key Infrastructure (SMKI) security service, also known as Trusted Service Provider (TSP), expires in March 2025 with an option to extend by one year to March 2026. PKI Enduring Services Programme has been established to conduct a full competitive re-procurement of the TSP service, but also consider opportunities around consolidating other PKI applications within DCC's estate. The Strategic Outline Case (SOC) was submitted to DESNZ on 30th May 2023, and DESNZ responded on 26th June stating that they were content for DCC to progress to the Outline Business Case (OBC) stage
- There is a continuing need to drive competition within the supply chain to reduce costs, improve service, and accelerate continuous improvement by, for example, adopting a future testing strategy which provides automated set up

Network Evolution aims to ensure that customers can always obtain value for money and opportunities for competition are integral, such that all service providers are continually subjected to effective competitive pressures. The 4G Communication Hubs & Networks (CH&N) Full Business Case (FBC) has been accepted without objection by DESNZ, the SEC Panel, and SEC sub-committees. The programme has now completed low level design and is due to go live in June 2025.

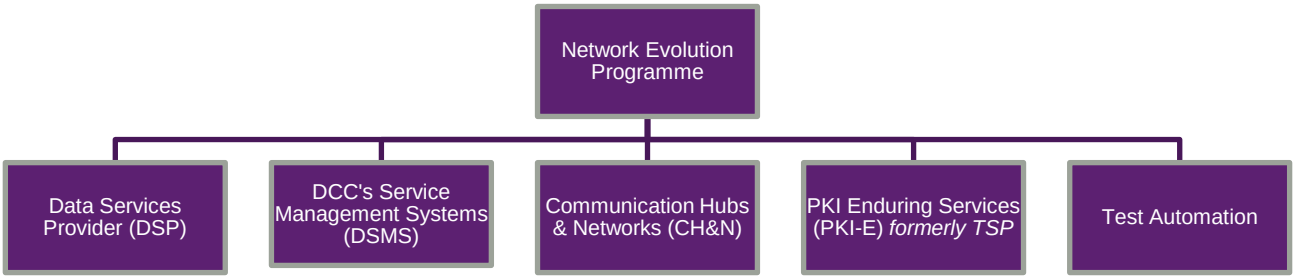
Programme Structure

The programme is comprised of 5 distinct sub-programmes:

1. The **Data Services Provider (DSP)** focuses on designing and procuring data services which are secure, sustainable, and capable of rapid and cost-effective change in response to market and customer demand. The DSP and DSMS (see below) programmes together cover the procurement of all functionalities currently in the DSP contract with CGI.
2. **DCC's Service Management System (DSMS)** programme supports the day-to-day interactions between DCC and its customers. It is provided under the DSP contract via CGI, with a software application called Remedy/BMC Helix. The DSP contract will expire in October 2024, and the Remedy solution is supported until March 2024. Given that the Remedy solution is significantly behind software versions available in the market, it will have to be replaced. Costs over RY22/23 will consist of internal project resources and consultancy costs for market testing activities.
3. The **4G Communication Hubs & Networks (CH&N)** programme designs and procures future-proof communication hubs and networks. We require a technology with a longevity of at least 15 to 20 years so that the full benefit of the Communication Hub assets' operational life is realised from the point of installation. It will also provide roaming and switchable capability to increase resilience and minimise industry costs and inconvenience to the end consumer. During RY22/23 the following were achieved:
    - Dual Band Comms Hub final Full Business Case (FBC) shared with DESNZ in July 2022 and received non-objection in September 2022
    - Main supplier contracts for Dual Band Comms Hub delivery were awarded in October 2022 and mobilisation commenced shortly thereafter
    - Low Level Design milestone was completed in May 2023

4. The **PKI Enduring Services (PKI-E)** programme is to procure a replacement to the SMKI security service in a cost-effective way. Activities started in RY20/21 with a tactical re-platforming of existing SMKI services to ensure business continuity which was delivered in September 2022. The PKI Enduring Service Programme to address the longer-term needs was launched in FY21/22 and reached Change Delivery Model (CDM) Gate 0 in August 2021.
5. The **Test Automation** programme implements automated testing to achieve faster and lower-cost testing with additional enhancements to System Regression and User Integration Proving testing that will allow DCC to confirm the efficacy of changes.

Figure 1 - Breakdown of Network Evolution Services



Timescales

The overall programme is in the early phases of development, as follows:

- **DSP** is nearing the end of the OBC phase, following a period to define what the future business, technology and security landscapes, opportunities and challenges look like over the next 10+ years and has consulted with industry on the future services to be delivered. The programme is planning a competitive procurement phase as part of the FBC phase. An extension to the existing CGI contract is anticipated to ensure that there is no interruption when the current contract expires in October 2024
- **DSMS** is also nearing the end of the OBC phase following detailed market research to fully understand the Technical Service Management software market to inform a Request for Information which was issued in December 2022. DCC applied to DESNZ for an exemption from completing a Treasury Green Book Business Case. Written authorisation was received on the 14th of February 2023. The exemption placed an obligation on DCC to demonstrate to its customers that it is compliant with the license conditions in seeking a best value contract award. DCC also produced an OBC which went through a Gate review in December 2022. Over the following RY23/24, DCC will seek to award a contract to an implementation partner, commence detailed design, and build of the new DSMS solution
- **CH&N** is now in its delivery stage**.** The programme has completed low level design and is currently in the build and test phase. It will pilot at the end of 2024 and move to the mass manufacture of 4G Communication Hubs in June 2025
- The **PKI Enduring Services** Programme has completed a Strategic Outline Case (SOC) and is working towards delivering an OBC by November 2023. DCC plans to extend the current [redacted] contract until March 2026 and conclude the re-procurement (including any transition to a new service) by the 31st of January 2026
- The **Test Automation** Programme is currently completing detailed design and infrastructure build ahead of its target implementation in Q1 2024. This will enable 24/7 working and a significant reduction in the time and cost to complete regression testing

Timescales for next-generation Communication Hubs, re-platforming of the TSP services, and Test Automation are relatively well established. Precise timescales are yet to be confirmed for all outcomes and more work is required on the approach to be adopted in each area.

Organisational Programme Structure

The Network Evolution organisational programme is structured beneath the Chief Delivery Officer. Three Delivery Directors lead the sub-programmes, which are divided up between them as detailed in Figure 2. The DSP service is split into two separate services: Data Systems and System Integrator. Each of the sub-programmes is led by a Programme Director, or Programme Manager. Each sub-programme delivery team consists of a Programme Director (where appropriate), Programme Managers and Project Managers, with Architects, Business Analysts, Commercial Business Partners, Design Subject Matter Experts (SMEs), Regulatory Analysts, and others on a dedicated or shared basis as required. Where one service utilises less than all of a person's time, the preference is to use their remaining time elsewhere in the Network Evolution programme to benefit from synergies.

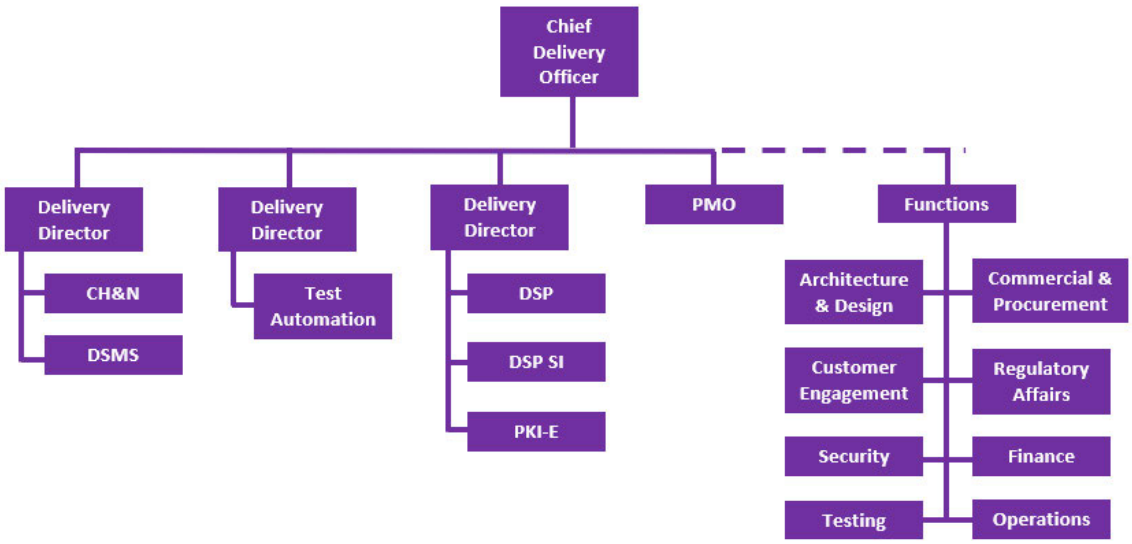
In addition to these programme teams, Network Evolution has a Programme Management Office (PMO) under a PMO Manager that spans the whole of the Network Evolution programme. The PMO ensures that programmes follow the DCC's change delivery methodology (CDM) and best practice on aspects such as planning, risk, and issue management. PMO staff support Programme and Project Managers in coordinating resource management across the programme.

The Network Evolution programme's structure also includes senior leaders from key functions within DCC with a remit to support across all of the programmes. These include:

- Director of Architecture and Design
- Director of Commercial & Procurement
- Head of Service Transition, Operations
- Information Security Officer
- Test Director (Test Design and Assurance)
- Senior Regulatory Business Partner
- Head of Strategic Customer Engagement
- Finance Business Partner

At the end of RY22/23, the programme structure was as follows:

Figure 2 – Programme organisational structure RY22/23



It should be noted that the sub-team structure within the payroll system does not match the functional team structure illustrated in the figure above. The mapping between the two is presented in the table below. The table provides the overview of the Network Evolution programme during RY22/23 and a description of the functional sub-teams within the structure. Note this is unchanged from the mapping presented in the RY21/22 submission.

Table 1 – Description of Net Evo's Functional Sub-Teams for Each Service

RY21/22 Sub-teams	RY22/23 Sub-teams	Description
Commercial & Procurement, and Customer Engagement.	Commercial and Regulation	Sets the commercial strategy and leads on supplier engagements and negotiations as Network Evolution extends and replaces the key SMETS2 foundation contracts. Ensures that all procurement conforms to the regulated conditions. Leads Requests for Information (RFIs) and Invitations to Tender (ITT) to understand the market and to procure services. Provides guidance and oversight of legal and compliance issues and drafting of contracts. Detailed legal support is contracted to an external law firm under the oversight of the Head of Legal. Plans, manages, and executes programme interactions with customers, including fora such as SEC Panel committees, Energy UK, and directly with customers. This is to ensure that customers are sighted on the programme and that the programme gets necessary input including to guide decisions on scope and business cases.
Architecture and Design	Design and Assurance	Provides expertise on technical direction and definition of technical solutions, platforms, and methodologies. This is done to address current problems in delivering services and to facilitate the move to a future landscape. Ensures the integrity of the DCC solution architecture. The team guarantees that new functionality and changes to the architecture are fit for purpose and comply with the standards necessary to maintain a robust, consistent, and integrated technical infrastructure.
Finance	Finance	Budgets, forecasts, and tracks actual spend, as well as supports on business cases.
Operations	Operations	Ensures that processes required to support the future DCC service and technical landscape are coherent, efficient, and properly defined to meet the needs of in-life operations, including SLAs. This includes the processes that customers will need to use to access and operate DCC services.
Security	Security	Makes sure that any technical, data or process changes are compliant with all security protocols and tested appropriately. Owns the relationships with the National Cyber Security Centre (NCSC) and the SEC Security sub-committee for Network Evolution.
Regulatory Affairs	Service Delivery	Ensures that Network Evolution programme is delivering in line with DCC Licence Conditions, and proposed changes are understood and supported by DESNZ and Ofgem as applicable. Engages and consults with DESNZ, customers, and industry to understand existing problems and future needs and ensure that DCC proposals are understood and supported. The Regulatory Affairs team supports Network Evolution to deliver this DESNZ, customer, industry, and SECAS engagement.
Testing	Testing	Ensures that testing methodologies and tools in the future DCC landscape are fit for purpose and utilise best practice.

1.2 Variance Overview

Variance by GLs in the RIGs

The table below provides a breakdown of incurred and forecast costs in price control format (i.e., mapping costs) directly against the price control General Ledger codes (GLs). Non-payroll costs are explained in a later section. Payroll and Recruitment are discussed within the next section.

Current Network Evolution's services are reported with a zero-baseline due to Ofgem's rejection of forecast costs for all programmes under Price Control. Therefore, any cost incurred or forecasted that is above 150k has been deemed as variant under this report.

Table 2: Cost centre variance by GL

GL costs (£m)		RY22/23	RY23/24	RY24/25
Total Baseline – Net Evo		**0.000**	**0.000**	**0.000**
Total Incurred – Net Evo		**14.702**	**7.807**	**5.834**
Total Variance – Net Evo		**14.702**	**7.807**	**5.834**
Payroll costs	PR	9.514	7.690	5.718
Non-payroll costs	NP	0.003	0.118	0.116
Recruitment	RC	-	-	-
External Services	ES	5.186	-	-
Internal Services	IS	-	-	-
IT Services	IT	-	-	-

Payroll costs variance

The overall Payroll Costs variance in RY22/23 is positive, with incurred costs £9.514m higher than the zero-baseline for the programme this year. The Net Evo Programme is a combination of services and thus, does not have a baseline. This implies that, although reported as having a zero-baseline, activity under the Net Evo programme is expected and approved to continue.

Table 3: Programme variance by Team

Variance (£m)	RY22/23	RY23/24	RY24/25
Network Evolution Payroll Costs	**9.514**	**7.690**	**5.718**
Commercial and Regulation	1.889	1.562	1.386
Design and Assurance	0.450	0.404	0.404
Finance	0.356	0.137	0.137
Operations	0.385	0.316	0.226
Security	0.298	0.255	0.185
Service Delivery	5.170	4.438	2.774
Testing	0.966	0.577	0.606

Variance by Team

In RY22/23, the overall Payroll Cost variance is positive. All teams returned material (greater than £150,000) variance this year. In RY23/24 and RY24/25, all teams except for Finance continue to show material variances. The reasons for such variances are set out below.

1.3 Drivers for Variance – Resource

In RY22/23, a total of 6 teams shows material variance, which, for most, is likely to continue in the coming years. For each of the teams, an explanation of activities taken place each year is broken down by service (DSP, PKI-E, CH&N, DSMS, and Test Automation).

1.3.1 Commercial and Regulation

The Commercial team sets commercial strategy and leads on supplier engagements and negotiations, ensuring that all procurements conform to regulatory requirements. It leads RFIs and ITTs to understand the market and to procure services.

The Regulation team ensures that Network Evolution programmes are in line with DCC Licence Conditions, and proposed changes are understood and supported by DESNZ and Ofgem as applicable.

Activities driving change in resource in RY22/23

DSP

Business Case Development: During FY22/23, the DSP Data Systems (DS) service focused on completing the Strategic Outline Case (SOC) and moving into preparing its Outline Business Case (OBC). The latter was completed and submitted to DESNZ on the 30th of June 2023. The DSP programme completed its Strategic Outline Case (SOC), obtaining its non-objection on the 21st of June 2022.

Market Engagement: As part of developing the Strategic Outline Case for the DSP service, the team facilitated the market engagement activity engaging with DESNZ and customers to assess short-listed options for the programme's architectural design. The options' technical feasibility was compared against customer business needs.

The team followed up with the incumbent supplier (CGI) and respective service providers to assess their ability to meet the identified customer business needs and validate delivery and cost assumptions (as input to the economic appraisal options).

Towards the later end of the regulatory year, the team engaged with DESNZ and customers to validate the ranked options and DCC's emerging preferred option. This led to the development of the OBC economic and commercial case, together with the finance and management cases.

The mentioned activities have enabled the SEC panel to conclude that the selected option was supported by customers. A competitively procured option has been selected and set out in the OBC to DESNZ.

PKI-E (formerly TSP)

LC13B Plan Consultation: The PKI-E service is due to run a planning consultation on the 14th of July 2023, as directed by DESNZ under licence condition 13B. Regulatory Affairs resources are involved in drafting the consultation and will assess industry responses, as well as draft the conclusions document.

Market Engagement: As part of developing the Strategic Outline Case for the PKI-E service, the team ran a market engagement activity with potential service providers to assess the feasibility, technical proposals, costs, and plans for provision of a new TSP service. This was led by the commercial and procurement teams and involved developing an RFI pack and then running several engagement sessions. Detailed proposals were received from 9 companies that were used to develop the business case.

LC16.6 Business Case Development: The Strategic Outline Case was developed during RY22/23. A drafting of the overall document, as well as development of the commercial case, was led by the Commercial and Regulation teams.

CH&N

Contract Awards: The procurement of 4G Communication Hubs and associated services resulted in the award of contracts in Q3 2022/23 to the value of [redacted] over 15 years. This included design build and run services for the disaggregated supply of Communication Hubs and the supporting software and service infrastructure required to operate the communications network. Contracts have been awarded for Communication Hubs' manufacture (CH), device management (DM), cellular network provision (WAN), systems integration (SI), component integration (CI), and DSP Gateway. Awards went to [redacted] (WAN), [redacted] (CH), [redacted] (CI & DM), [redacted] (DSP Gateway & SI). In addition, programme and technical assurance contracts have been put in place to mitigate the risks posed by a disaggregated delivery model. The procurement of order management and logistics services is still in progress as at the end of 2022/23 with separate business cases under development to support this activity.

LC13B: The 4GCH&N service has agreed a schedule of LC13B milestones against which the progress of delivery can be monitored. Status against upcoming milestones is being reported to DESNZ monthly through routine bilateral engagement and more widely with Implementation Managers Forum (IMF) and Smart Metering Delivery Group (SMDG) forums.

Business Cases: DCC submitted a FBC to DESNZ in Q1 2022/23 in line with the HM Treasury Green Book process applicable to major programmes. Following a non-objection from DESNZ, DCC were able to proceed to contract with delivery partners to commence the design, build, and test for a large proportion of the work. The supporting services for order management and logistics of Communication Hubs are subject to separate business cases which are currently work in progress.

Regulatory Change: In delivering 4G equipment and services, the CH&N service must ensure that it is compliant with the SEC. In some cases, the SEC will need to be modified to reflect differences between the current specifications and service levels described in the SEC for 2G and 3G, and those required for 4G. In other cases, the SEC will need to be extended to specifically apply to 4G.

The Regulation team has been required to support the programme in reviewing requirements to ensure that they comply with all SEC obligations, and to identify any SEC changes needed. This comprises both transitional and enduring red line changes to the SEC which will be managed between the regulations team and DESNZ.

DSMS

Market Engagement: The service team, with support from Commercial colleagues, ran a market engagement activity with potential service providers to assess the IT Service Management (ITSM) market. Several vendors were reviewed to assess feasibility, technical proposals, costs, and plans for provision of new DSMS solutions. This led to the development of an RFI pack and was issued to several ITSM implementation partners. Detailed proposals were received from three companies in January 2023 and further negotiation took place to select the preferred supplier.

LC16.6 Exemption Request: The Regulation team supported the service in submitting an exemption request to completing a Treasury Green Book Business Case from DESNZ for the procurement of a new DSMS Product. DCC received the exemption letter on the 14th of February 2023.

Activities driving change in resource in RY23/24 and RY24/25

DSP

Outline Business Case (OBC) submission: During RY23/24, the service team is expected to have transitioned from Stage 1 (investigative stage of the Change Delivery Methodology) to Stage 2 (programme shaping). To finalise the first stage, starting in September 2023, the programme team will complete the DESNZ and customer engagement in advance of the OBC completion and submission. The team will also start the completion of the High-Level Requirements (HLRs) and Design (HLD).

Request for Proposal (RFP) preparation: Stage 2 will start from October 2023 and the team is expected to issue the Request for Proposal (RFP) in January 2024, designed to generate industry interest and a competitive procurement. From October until January, the team plans to produce the RFP content and prepare for the

request by engaging with DESNZ and customers. During the first months of RY24/25, the service team is expected to complete the Detailed-Level Requirements (DLRs), Service Design, and update the High-Level Design (HLD) in anticipation of Request for Proposal activities.

Request for Proposal issuance: the team is expected to complete the RFP addressed through 3 stages during RY24/25.

1. Stage 1: due diligence and compliance checks, evaluation and moderation, and initial down-selection
2. Stage 2: Best and Final Offer (BAFO) response period, further evaluation and moderation, as well as further down-selection
3. Stage 3: negotiation, final evaluation, and final selection

CGI Contract: the team is expected to negotiate and complete the contract extension with CGI during RY24/25.

FBC Management Case: with the team developing the FBC Management Case in RY24/25, the service is expected to transition into Stage 3, initially focused on design.

PKI-E (formerly TSP)

The PKI Enduring Services will ramp up in RY23/24 with market engagement requiring resource from the Commercial and Procurement teams. This will be in the form of an RFP in Q3 RY23/24 followed by BAFO and Contract Award in Q4 RY23/24.

The service will also require support from the Regulatory team to develop the Outline Business Case (OBC) and Full Business Case (FBC) that will be required by DESNZ under LC16.6 in the period, as well as anticipated requirements by DESNZ to run LC13B consultations on its delivery plans.

CH&N

Design, Build, & Test (DBT): As the service moves into the build and test phase, resources will be arranged around 3 key workstreams. Resource requirements are expected to be higher in RY23/24 and RY24/25 after which they will fall. The service is due to handover into operations in Q1 2025. The 3 workstreams can be found below:

1. Design, build and test of core capability
2. Business Readiness and Service Transition
3. Supporting Systems (OMS and Logistics)

The workstreams are comprised of multi-functional teams from both DCC and delivery partners who will work together, with programme support, to create and deliver against detailed plans.

DSMS

No further commercial and regulation resources are expected for the upcoming regulatory years given that all contracts are waiting to be awarded.

1.3.2 Design and Assurance (CTO)

This team covers the architects and design authority to create and assure the design of systems and processes to deliver the Network Evolution services.

Activities driving change in resource in RY22/23

DSP

High Level Designs (HLD): the CTO team has designed a high-level options architecture for technical requirements, as set out in the Strategic Outline Case (SOC). This stems from last year's observation that specific technical skills were needed in areas where DCC have insufficient breadth and depth.

Through the market engagement, the CTO team economically assessed each of the shortlisted options set out in the SOC to inform the OBC and the post-preferred option. The team also led the engagement with customers to validate how each of the options met customers' business needs.

CH&N

Resources from the CTO function are required to support both high- and low-level design activity. In addition, there is a requirement for testing teams to engage in the development of plans. The testing teams must also work with the design teams to ensure that test plans are sufficient to provide robust assurance to the disaggregated solution.

DSMS

Over RY22/23, the Design and Assurance team supported the DSMS service in producing a high-level design and a set of high-level technical requirements that were included in the early market engagement activity and subsequent RFI process. Resources were also deployed to evaluate RFI responses and part of the ensuing negotiation workshops that took place with selected suppliers.

Activities driving change in resource in RY23/24 and RY24/25

DSP

RFP: the CTO team is expected to support the RFP process and evaluate supplier proposals to effectively support the recommendation of contract awards. The team will work closely with the Commercial and Regulation teams as the CTO team provides the technical input required to make the final decision.

In parallel to the RFP process, the CTO team will evaluate and propose the optional migration and transition strategy to the new service. The team will validate this strategy with bidders.

PKI-E (formerly TSP)

The PKI Enduring Services has ramped up during RY23/24 with requirements gathering and high-level design work to be led by the Service Delivery and Design and Assurance teams. Early market engagement was conducted in the form of an RFI in Q1 RY23/24 to inform options that could be taken forward within the Strategic Outline Case (SOC).

The Design and Assurance Team will also play a key role in producing the OBC and FBC that will be required by DESNZ under LC16.6 in the period. Stage 2 deliverables have been planned and will be resourced following the completion of Stage 1. These deliverables include:

- Detailed business requirements (RY23/24)
- Completed RFP process (including evaluation and BAFO)
- Full Business Case (including non-objection from DESNZ)
- Contract Award to successful TSP Service Provider

From RY24/25, the service is expected to have completed Stage 3 deliverables, which include:

- Detailed Design
- Assured build and Test artefacts (incl. Testing outcomes)

CH&N

Resources for the CH&N service will peak in RY23/24 as the programme moves into the build and test phases of delivery. This will require resources from all functional areas of DCC. Resource requirements will begin to fall in the second half of RY24/25 once hyper care activities cease and the service is handed over to BAU.

Test Automation

Following the non-objection of the Full Business Case (FBC) in October 2022, the service awarded the contract to the successful bidder to deliver the Test Automation service.

Resource demand will peak in RY23/24 as the service moves through the build and test phases into delivery in Q1 2024.

DSMS

The Design and Assurance team will provide resource support across all deliverables for RY23/24 specifically in the production of detailed design, production of technical requirements, and assurance management activities.

1.3.3 Finance

The Net Evolution Finance team is responsible for activities including the production and management of financial plans and forecasts for the different services, as well as month-end reporting.

Activities driving change in resource in RY22/23

DSP

An economic appraisal of all short-listed technical options as set out in the SOC was undertaken during RY22/23. This study was followed by the development of the OBC Finance case.

CH&N

Finance resources are expected to remain stable for the duration of the service. Key activities are budgeting and forecasting of service activity and maintaining financial governance as the service moves through DBT and into delivery.

DSMS

A finance business partner was assigned to monitor costs for DSMS over RY22/23.

Activities driving change in resource in RY23/24 and RY24/25

DSP

The Finance team will produce the finance case for the FBC, as well as leading on the FBC's economic appraisal model.

DSMS

The Finance team will continue to support the service on all financial governance service activity as required throughout RY23/24.

1.3.4 Operations

DCC Operations teams supported Network Evolution in RY22/23 through its Service Design and Enterprise Architecture functions. They also provided Subject Matter Experts (SMEs) from its Business As Usual (BAU) teams to support requirements gathering.

The Service Design team ensures that processes required to support the future DCC service and technical landscape are coherent, efficient, and properly defined to meet the needs of in-life operations, including SLAs. This includes the processes that customers will need to use to access and operate DCC services.

The Enterprise Architecture (EA) team ensures consistency of overall DCC systems architecture, including the consideration of impacts of adding new 4G technology and the long-term evolution of technology on DCC architecture.

Activities driving change in resource in RY22/23

DSP

The Operations team have provided input to the development of the SOC and market engagement activity during RY22/23. The team oversaw the short-listed technical options of the SOC. The team led the engagement with customers through the Operations' sub-committee (known as the 'Ops Group') to share and validate the outcome of the Options Appraisal. The team was also a key contributor for activities regarding requirements and service design.

CH&N

The DCC operations team have provided support to the 4GCH&N service in the following key areas during RY22/23:

Business Cases: Operations resources have been required to support the development of OBCs for the OMS and Logistics services.

Service Design: The team was also involved in the target operating model for the new 4G service, as it is a critical activity in this phase of the service which will continue into RY23/24.

Transition: Few aspects of how 4G equipment and services will be transitioned into live working require discussion and/or consultation with industry. These include arrangements for ordering, customer obligations for testing and piloting, how 4G will be introduced and 2G/3G ramped down to ensure a smooth transition, and any regulatory (SEC) changes that may be required. The Operations team has led on much of this activity for the service in RY22/23.

DSMS

Similar to Design and Assurance resources, the Operations team has been engaged on a range of activities including the development of the business and high-level requirements that fed into the market engagement and evaluation of the RFI responses.

The team also produced this year an outline of the Customer Experience strategy, which sets out the future aspirations of the service centre, underpinning the selection of a DSMS product to deliver upon these outcomes.

Activities driving change in resource in RY23/24 and RY24/25

DSP

The Operations team is set to lead the evaluation and service design of the future DSP service.

PKI-E (formerly TSP)

The Operations team will provide input to the development of the requirements and market engagement activity during RY23/24. This is due to recipients of the new service the Operations team's input to the solution specification being critical.

The Operations team will also be involved in development of the requirements for the reprocured TSP service.

CH&N

Operations resource requirements are likely to increase in RY23/24 and RY24/25 as the service develops more detailed plans for service design. In addition, business acceptance testing will need to be planned, developed, and delivered. Service demands on operations will fall from RY25/26 as the service moves into delivery and migrates into BAU.

DSMS

Operational resources will be required to support the DSMS service over RY23/24 to help set and agree the transition strategy and readiness acceptance criteria. Service Centre operatives will be involved in testing the new DSMS product, for which training will be required.

Test Automation

Service Design and Transition resources will be required to design and support the delivery of live service and operational readiness criteria, ahead of Test Automation going live.

1.3.5 Security

The Security teams ensure that any technical, data, or process changes is compliant with all security protocols and tested appropriately. These teams own the relationship with the NCSC and the SEC Security sub-committee (SSC) for Network Evolution.

Activities driving change in resource in RY22/23

CH&N

The Security team has played a key role in assuring the designs for the 4CH&N disaggregated model. It will continue to work with the service and its delivery partners to assure the security of the DCC network as it moves into 4G delivery.

DSMS

The Security team provided its expertise to ensure that security aspects of the Stage 0 and 1 DSMS service deliverables were assessed against the SEC and other security considerations. They were also involved in reviewing and evaluating the three submitted RFI responses.

Activities driving change in resource in RY23/24 and RY24/25

PKI-E (formerly TSP)

The Security team has a leading role in ensuring that the PKI Enduring Services service delivers its objectives and does so to schedule. This includes the support of discussions with suppliers and key stakeholders such as the SEC committees and the NCSC.

The PKI Enduring Services has had support from Security team in completing the Strategic Outline Case, and continues to support with design, commercial discussions, and engagement of SEC committees during RY23/24.

CH&N

The service will continue to work with the Security team to ensure that all security requirements are sufficiently embedded in into the low-level designs. It will also support the testing process to assure the security elements of the 4G solution.

DSMS

During RY23/24, the Security team will be responsible for defining security architecture post-contract award. The team will continue to support the project through subsequent stages - particularly by assessing any data security risks through migration, managing any mitigations as required.

Test Automation

The Security team will be required to undertake an assurance of the Test Automation solution including review of Security Management Plan.

1.3.6 Service Delivery

Service Delivery includes the Programme Director, Programme Managers, Project Managers, PMO and Business Analysts (BAs) required to deliver the programme.

Activities driving change in resource in RY22/23

DSP

Service Delivery resources were deployed for project and programme management in line with the DCC change delivery methodology, which culminated in the delivery of the Strategic Outline Case. The Service Delivery team engaged in 4 main activities throughout the year:

1. Construction and delivery of the case
2. Management and resolution of strategic risk issues, assumptions, and dependencies
3. Control of the service governance
4. Compilation of documentation of high-level requirements

PKI-E (formerly TSP)

Project and programme management was required to deliver the TSP Tactical programme, which went live in September 2022.

CH&N

Project and programme management will continue to oversee all aspects of the service as described above through the full programme lifecycle.

Business analysis will identify key requirements in face of operational and technical changes. The team will manage these requirements through a traceability matrix through the service lifecycle to track deliveries.

DSMS

The Service Delivery will support the Commercial and Regulation team with the RFI and subsequent contract development. The service team will collate evidence to support the LC16 exemption request and, in parallel, produce a Gate 0 and 1 business case. The team expects to receive approval from DCC internal governance forums.

The project team were also responsible for producing and presenting a customer engagement strategy, which was presented and agreed by the SEC Operations group.

Activities driving change in resource in RY23/24 and RY24/25

DSP

Service Delivery resources will be required in the upcoming regulatory years to support the Outline Business Case and develop the Management Case. The team will plan and mobilise the service's next stages and support with external engagement activities.

PKI-E (formerly TSP)

Project and programme management within the Service Delivery team will support the Commercial and Regulation teams in driving the commercial and business case development. They will also support the Customer Engagement Team on the engagement plan. The team will provide support across all stage 1 and stage 2 deliverables in RY23/24, as well as to all deliverables in RY24/25.

Business analysis was required to gather requirements for PKI Enduring Services, including the identification of all relevant requirements in the SEC that need to be delivered.

DSMS

The Service Delivery team will continue to support the DSMS project throughout RY23/24 to manage the subsequent DBT stages, mobilisation, and early life support, until it can be handed over for the Operations team to manage.

Test Automation

Following the non-objection of the Full Business Case (FBC) in October 2022, the service awarded the contract to the successful bidder to deliver the Test Automation service.

Project and Programme Management will oversee its delivery, working with DCC functions, service providers, and governance groups to complete the build, test, and implementation ahead of transition to Operations in Q1 2024.

Business analysis supports the traceability of detailed requirements against the design of the Test Automation solution.

1.3.7 Testing

The Test Assurance team is responsible for ensuring that testing across DCC programmes and releases is set up and executed correctly. It aims to ensure that services meet the requirements and design and are free of defects when launched in production. Test Assurance supports Network Evolution in early stages of services by defining Test Approaches and Strategies. It also provides support to the procurement of test services and assures the testing activity conducted by the appointed suppliers.

Activities driving change in resource in RY22/23

CH&N

Test Approach and Strategy: Developing and agreeing the test strategy is a critical activity and a regulatory requirement. The test approach for the CH&N service has key differences from previous services by implementing the "shift left" approach to do more and deeper testing with real devices in early test phases. This approach is based on lessons learned from previous services and was approved by the SEC Test Advisory Group (TAG) with the objective of finding defects in early phases where they can be fixed and re-tested quicker. This test approach underpins the overall delivery plan, and the Test Assurance team has been heavily involved in discussions and consultations with suppliers and stakeholders on it.

Activities driving change in resource in RY23/24 and RY24/25

PKI-E (formerly TSP)

Developing and agreeing the test strategy is a critical activity and a regulatory requirement. The test approach for the PKI Enduring Services programme will be based on lessons learned from TSP Tactical and other previous programmes. This test approach was approved by the SEC Test Advisory Group (TAG) with the objective of finding defects in early phases where they can be fixed and re-tested more quickly. This test approach underpins the overall delivery plan, for which the T&A team has been heavily involved in discussions and consultations with suppliers and stakeholders.

DSMS

At the start of RY23/24, testing resources have started to get involved in mobilisation planning with the preferred supplier pre-contract award. The mobilisation aims to review the high-level requirements to assess testing traceability and transition planning, including data migration from the existing DSMS solution Remedy. The testing team will provide significant support to stage 3 on the Design Build and Test (DBT) phase of the service in RY23/24.

Test Automation

Test Architecture and Assurance teams will continue to play a key role in assuring the test framework and test outcomes on the service. This includes ensuring that it meets all DCC and industry governance. The testing team will also the key role in creating and executing plans to transition Test Automation Framework (TAF) into live service.

1.4 Drivers for Variance – Non-Resource

1.4.1 Summary

During RY22/23, there were 6 procurements within the Net Evo programme that had material variance (i.e. over £150k), all of which are within External Services. No procurements within the Net Evo programme for RY23/24 and RY24/25 has forecasted material variance. The breakdown is provided below.

Current Network Evolution's services are reported with a zero-baseline due to Ofgem's rejection of forecast costs for all programmes under Price Control. Therefore, any cost incurred or forecasted that is above 150k has been deemed as variant under this report.

Table 4: Material variance for Non-Resources Internal Costs in Network Evolution

	Variance (£m)	RY22/23	RY23/24	RY24/25	
ES	Total Variance External Services	5.358	-	-	
GL	Variance (detail) (£m)	RY22/23	RY23/24	RY24/25	Procurement Type
ES	CH&N Financing	1.169	-	-	[redacted]
ES	CHN Consultancy Support	0.172	-	-	[redacted]
ES	HMT Business Case Development	0.701	-	-	[redacted]
ES	Legal Advice/Support – Net Evo (CH&N)	1.195	-	-	[redacted]
ES	Net Evo DSP High Level Design	0.713	-	-	[redacted]
ES	Network Evolution – [redacted] (CH&N)	0.265	-	-	[redacted]
ES	Smart Metering Key Infrastructure (SMKI)	0.379	-	-	[redacted]
ES	Smart Routing Gateway High Level Design	0.196	-	-	[redacted]

1.4.2 CH&N Financing

Driver for the Procurement

In line with the Communication Hubs and Network (CH&N) Final Business case as approved by the Board, DCC has run a competitive process to secure an arm's length loan arrangement to finance the Design, Build and Test (DBT) phase of the CH&N programme.

The impact of undertaking a financing arrangement on normal commercial terms is that DCC can achieve a cost-effective method of financing the DBT phase of the programme over an extended period. The 5-year tenure of the Facility will spread the cost of the DBT phase, mitigating the potential short-term increase in DCC charges if this arrangement was not in place.

DCC conducted an assessment with external legal support to ensure the arrangements were permissible, which concluded that:

- The Board has the power to approve the Facility where this is judged to be in the best interests of the Company and Stakeholders, considering DCC's obligations in the DCC Licence and SEC, including its ability to recover the costs of the financing from SEC Parties and transfer of obligations to any Successor Licensee
- The Licence and SEC permit the recovery of the Facility from SEC Parties, subject to DCC's overarching obligation to incur costs economically and efficiently and the lending being compliant with the DCC Licence
- The proposed facility is permitted by Condition 27 of the DCC Licence, which enables DCC to enter a loan arrangement if it is on an arm's length basis, on normal commercial terms and is part of DCC's Authorised Business (including the Mandatory Business)

These requirements of Condition 27 of the DCC Licence (arm's length, commercial terms) and as regards price control have been satisfied by the competitive procurement process carried out by DCC to obtain the Facilities. The Facilities will support and provide benefit to the delivery of the Mandatory Business.

Securing Value for Money

[redacted] provided legal advice and led the preparation and negotiation of transactional documentation. Deloitte assisted DCC in the commercial procurement through a competitive market process. This identified a joint facility provided by [redacted] and [redacted] as the preferred option.

Overview of the Facilities

To date, DCC has been provided with financing facilities by its SMETS2 CSPs. However, given the dis-aggregated nature of the new CH&N programme, DCC sought to procure its own financing arrangements. This is in accordance with the final business case presented to the DCC Board and DESNZ (as was).

The Facilities will be provided through two Lenders: [redacted] and [redacted] as set out below.

Table 5: Summary of financing facilities

	Tranche 1: [redacted]	Tranche 2: [redacted]
Term	[redacted]	[redacted]
Interest rate basis	[redacted]	[redacted]

Given that the [redacted] facility is on a [redacted] interest rate, DCC will separately enter a [redacted] swap with [redacted] at the date of drawdown to mitigate any interest rate risk. This will be recognised as a cash flow hedge in DCC's annual accounts and DCC engaged with [redacted] on the necessary steps to ensure hedge

effectiveness and the proposed accounting treatment. External legal advice confirmed this arrangement is permissible under the DCC Licence as part of the loan arrangements.

Contract Management

The Facilities are payable by DCC. The Facilities are not secured against any DCC or third-party assets and no direct guarantee is required to be provided by Capita. DCC's draw-down of the Facilities was limited to [redacted] before the SEC change was laid in parliament and [redacted] prior to gaining parliamentary approval. The parliamentary approval of the SEC change was granted in June 2023.

DCC Licence renewal or extension has been covered extensively in due diligence by the lenders, and the Facilities include provision to enable transfer to a Successor Licensee (consent by the lenders or their agents not to be unreasonably withheld or delayed). The cancellation and early repayment of the Facility will be triggered if, by 24 September 2024 (one year prior to current Licence expiry Date), Ofgem has not extended the DCC Licence, or the tender exercise to determine the Successor Licensee has been discontinued or abandoned and Ofgem has not otherwise confirmed that a Successor Licensee other than DCC will be appointed on or before the end of the DCC Licence term.

1.4.3 CHN Consultancy Support

Driver for the Procurement

To ensure a successful Testing and Transition phase of the CH&N service, DCC required the independent assurance of a Strategic Programme Assurance Provider (SPAP). This procurement was originally split in 2 lots:

- Lot 1 - Single Band Communication Hubs
- Lot 2 – Dual Band Communication Hubs

Prior to the contact award, however, DCC de-scoped the support required given that only the Dual Band Communications services were eventually procured. The SPAP activity was, therefore, revised to only assure Lot 2 work.

Securing Value for Money

Following the evaluation of 3 sourcing approaches, it was agreed that a 'Framework Plus' strategy would be used. This strategy involved a competitive procurement between 4 eligible suppliers under Lot 3.3 'Assurance and Advice' of DCC's audit and assurance framework, and [redacted]:

1. [redacted]
2.
3.
4.

Proposals were received from 2 bidders: [redacted] and [redacted]

[redacted] provided the highest scoring Quality and Technical response at a significantly lower price than the second-placed bidder. The total value of the contract for SPAP was fixed price at [redacted], with payment profile based on monthly core service charges, and specific assurance milestone payments.

Table 6: CHN Consultancy Support - Procurement Evaluation Breakdown

Customer Engagement Performance Framework	
Number of Bids received	2
Number of Bids shortlisted	2

Strengths of Selected Bidder	[redacted] provided the highest scoring Quality and Technical response at a significantly lower price than the second placed bidder	
Challenge by DCC	**Initial Price**	**BAFO**
	[redacted]	[redacted]

1.4.4 HMT Business Case Development

Elements of DCC's commercial and programme activities relating to new or additional Relevant Service Capability are subject to Licence Condition LC16.6 (A-C). As such, these require DCC to obtain "confirmation in writing that the Secretary of State does not object to the proposed Relevant Service Capability". The way that DESNZ requires DCC to provide information necessary to obtain this confirmation is through the completion of HM Treasury 'Green Book' business cases. The pipeline of activity which is (or is potentially) subject to this Licence Condition is tracked on a quarterly basis through a Commercial Pipeline shared with DESNZ, Ofgem, and the chair of the SEC Panel.

Within the period of this submission, this condition applied to 2 major services: the 4G Communications Hubs (CH&N) and the DCC Data Services Provider (DSP).

Driver for the Procurement

As mentioned in section I (Corporate Management), the development of HM Treasury Green Book business cases is a specialist skill that does not exist to the required level at DCC. Concerted recruitment efforts in the previous financial year were unable to recruit either on a permanent or contract basis.

By October 2021, DCC had recognised the need for resources to develop business cases to support programme milestones on both the DSP and 4G Communications Hubs & Network programmes. This was critical to enable successful passage through programme gates (and in the case of 4G Communications Hubs & Network, progressing towards contract signature with the new provider).

At this point, DCC decided to consider entering a short-term consultancy arrangement to secure the required capability. The advantages of this approach include:

- Responding to swiftly fill the skill gap with qualified and capable resources to meet the immediate delivery plan milestones
- Limiting resource commitment only to the period of immediate need
- Creating space to accurately size and scope future internal provision as well as investigating alternative mechanisms for ongoing provision of capability

Securing Value for Money

The original contract, signed within the window of last year's submission, was conducted through DCC's consultancy services framework (which itself was competitively procured to help secure ongoing value for money as well as reducing the cost and time overheads required to secure consultancy support).

The high-level sourcing can be summarised as follows:

- Two companies on the framework ([redacted] and [redacted]) were identified to have the capability and capacity to provide interim business case development support
- These two providers were invited to put forward proposals identifying specific resources and the rates proposed for everyone (as well as calling out whether any discounts applied to the standard framework rate cards)
- Both potential providers submitted proposals, which were reviewed by representatives of Regulatory Engagement and Programme Teams
- Both potential providers were invited to present their proposals with the specific business case resources questioned on capability and experience by DCC's Regulatory Business Case and Engagement lead

- [redacted] was selected to provide the required services on a combination of Cost and Capability of proposed resources

Costs that fall in this period were accrued because of extension of the original term from the end of March 2022 through to October 2022. Provision of business case resource is now managed through the Centre of Excellence established in the Customer Engagement Function.

Contract management

As a call off arrangement, utilisation of the resource was driven by business need established by each of the programmes. Activity was monitored on a weekly basis through updates with the Programme Directors and the Regulatory Business Case and Engagement lead.

Costs were invoiced by the provider monthly and cross checked against known utilisation and the quality of deliverables was monitored by the Regulatory Business Case and Engagement lead.

1.4.5 Legal Advice/Support – [redacted] – CH&N

Driver for the Procurement

As we described in the Price Control submissions for RY20/21 and RY21/22, the Communications Hubs and Networks Programme launched a major Invitation to Tender (ITT) in December 2020 to procure 4G equipment and services worth around [redacted] over the life of the contracts. The ITT was divided into two Lots, each covering Communications Hubs, Device Manager, Wide Area Network and Logistics (Lot 1 on an aggregated basis i.e., single bidder outcome, Lot 2 on a disaggregated basis i.e., multiple (4x) contract outcome.

To support this procurement activity, DCC ran a competitive tender process at the outset of the procurement process with external law firms. The successful bidder, based on quality and price, was [redacted].

[redacted] provided legal advice and support on the procurement of capability 'end-to-end'. Their activities during the life of the procurement covered: (i) advice and assurance support concerning DCC's procurement process and obligations; (ii) support in preparing the ITT and associated contracts, the evaluation of bidder contractual submissions, and the negotiation of contract terms with bidders; (iii) advice in connection with the impacts of the procurement on DCC's other contracts and (iv) support in connection with legal content in assurance papers, including DESNZ business case documentation.

The instruction of a panel law firm in connection with the above activities follows the approach which DCC adopted in connection with the Switching Programme (sponsored by Ofgem) and DESNZ (formerly DESNZ), in terms of the original SMETS2 procurement and DESNZ's assurance of this procurement process, as part of its governance.

The CH&N procurement was on a far greater scale to the Switching Programme. There is a high potential risk exposure inherent in the design, manufacture, and installation of communications hubs into millions of homes, and the provision of associated technologies over a 15–20-year period. It was essential that DCC ran processes which could withstand challenge and deliver a risk profile that will be acceptable to DCC and its stakeholders, in compliance with SEC. By getting external legal advice on a competitive basis, DCC ensured that it had the full range of expertise and capability available to complete legal activity to the standards required for such a significant procurement, at a competitive price. DCC also ensured that it had flexibility to scale resources up and down when needed, during a global pandemic, in a complex process in which timescales and volumes of work carry a significant and inherent level of uncertainty.

A significant part of [redacted] work was becoming highly conversant with the existing CSP and DSP contracts – detailed legal documents amounting to many hundreds of pages – to allow DCC to negotiate with potential bidders in an informed manner, as well as to build familiarity with DCC's Licence and SEC obligations and risks, to ensure that the procurement delivered an acceptable risk profile to DCC and its stakeholders. The team of lawyers had to develop their knowledge to match that of the bidders to ensure that DCC was not disadvantaged by information asymmetry.

In RY20/21, [redacted] played a key role in interviewing and moderating bids gave to DCC, to ensure the process was followed correctly and recorded in a way that would withstand scrutiny in the event of challenge. [redacted] also performed legal assurance of the 'down selection' process before bidders were advised of the outcomes.

This work continued into RY21/22 as the successful CH&N bidders' contract processes were progressed, including adapting the contract schedules agreed during the earlier phase. The key activities in RY21/22 were the provision of legal advice and services including:

i. Negotiation of Term Sheets and contractual provisions

ii. Advice and assurance on procurement compliance

iii. Evaluation support within the procurement process

iv. Governance support including legal content for FBC submission under LC16.6A-C

This work continued again into RY22/23. In particular, [redacted] focussed on:

i. Negotiation of contracts - this is the most significant part of the work required of [redacted], with hundreds of pages of detailed contractual text reviewed, amendments identified, and significant change implemented.

ii. Advice and assurance on procurement compliance – given the size of the contract, unsuccessful bidders are more likely to scrutinise the process DCC has adopted, with a potential consequence being legal challenge with potentially significant impacts in terms of time and cost consequences for the programme and customers. DCC's total legal spend amounted to less than 0.1% of the costs of the total programme but has significantly reduced the likelihood of an adverse financial, or other, impact.

iii. Governance support including legal content for FBC submission under LC16.6A-C – given DCC's licence obligations, [redacted] supported the work required to populate the business case for the programme, and respond to further comments, questions, and request for further information from government.

Securing Value for Money

The expenditure in RY22/23 year is a continuation of the contract signed with [redacted] in RY20/21. The budget approved by DCC's Board on legal support needed to get to gate 2 was [redacted], and as such the expenditure is under budget.

The DCC legal team is small and while well placed to advise on a broad range of issues, did not have the necessary capacity to deal with a procurement of this size, particularly during the global pandemic, and in any event specialist advice and support in the following areas:

- Contractual arrangements regarding solution integration – noting that in both Lot 1 and Lot 2, solutions (and associated contractual provisions) needed to interface and interoperate with the total DCC system and one another
- Procurement and competition law compliance in a technology contract environment
- Intellectual property
- Data protection
- TUPE (Transfer of Undertakings Protection of Employment rights)
- Contract transition

Failing to deploy specialist capability would have resulted in the following:

- Delay to the procurement process resulting in knock on impacts such as loss of benefits and service continuity risks
- Disadvantageous terms and conditions exposing DCC and its customers to financial and other risks for example through poorly specified liability provisions

The Commercial evaluation of external law firms in the original procurement of legal support for CH&N focused upon day rates and discounts that may be applied by the supplier should certain spend thresholds be met rather than fixed price. This call-off structure was designed to offer best value for DCC, to enable DCC access to the

services under the contract as the need arose and not be bound by fixed cost, while ensuring that an appropriate cost reduction was achieved in line with the volume of usage. Our assessment was that because of the uncertainty of the volume of support DCC would need during the process, it was more economic and efficient not to opt for a fixed price contract which could have been significantly more expensive had our need proven to be lower than anticipated.

Below we repeat last year's information on the scoring and discounts that were submitted to us in the bidding process. As can be seen, [redacted] provided the largest discount from their day rates of the three bidders for expenditure over £250k.

Table 7: Legal Advice/Support for the CH&N Procurement Process - Procurement Evaluation Breakdown

Procurement – Legal Advice/Support for the Comms Hubs & Network Procurement Process		
Number of Bids received	3	
Number of Bids shortlisted	2	
Strengths of Selected Bidder	[redacted] were considered the most appropriate fit for this work owing to 'good practical appreciation of possible procurement rules/approaches'; 'impressive discussion of the procurement issues and possible mitigants' and 'overall, AG presented a well-balanced and highly experienced team with good command of the issues.' [redacted] achieved a far superior quality and interview score (53.99% versus next place bidder of 42.75%), with competitive rates and the largest volume discounts. Following moderation, [redacted] quality score (50.99) was significantly higher than the other two bidders (38.25 and 36.99).	
Challenge by DCC	**Initial Price**	**BAFO**
	[redacted]	[redacted]
	Commercial scores were based upon an evaluation of rates and volume discounts. The successful bidder would have won based upon pre-BAFO scores alone but provided improved commercial terms as part of its BAFO leading to a 6% increase in its commercial score (leading to a 5.34% margin in overall scores), with further volume discounts offered during the life of the matter.	

Table 8: Initial Proposal Legal Bidders Discount Rates/Value

Provider	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Following DCC's negotiations and insistence of a BAFO stage [redacted] improved their discounts, offering the following significant reductions in day rates based on volume:

Table 9: [redacted] BAFO Discount Rates/Value

[redacted]

We firmly believe that our negotiations and decision-making have resulted in economic and efficient expenditure, achieving better discounts and quality of outputs than the other law firms.

1.4.6 Net Evo DSP High Level Design

DCC's CTO required a third-party DSP Transformation Design Partner to support the current delivery team with digital design capabilities needed for a high-level design of the new DSP platform. While the selected external partner would be accountable and responsible for the creation and design of artefacts needed for the new SMIP, the internal DCC team would be responsible for their assurance, and the Cross Functional Design Authority (CFDA), of their approval.

Driver for the Procurement

As part of the work conducted for SSP0155 – DSP Design Partner, DCC selected [redacted] to deliver this initial phase of work. This included the initial High-Level Design of the Smart Routing Gateway (see section 1.4.8 below)

Securing Value for Money

Digital design is a relatively new skill with the market dominated by large advisory firms that can deliver high level advice (e.g., Deloitte or KPMG). There is a market for more detailed early design partners who can deliver digital transformation (e.g., Kainos). However, these suppliers tend to be aligned to specific technologies and are less able to advise or support on the elaboration of the design from a strategic perspective or build a high-level and software design specifications. These types of suppliers, thus, do not have the skills to anticipate and refine high level strategies at the level needed for DCC's Data System Platform.

[redacted] was chosen as the delivery partner given its global reach, industry expertise, and insight on latest technology and global standards. [redacted] also shows best practice in its quantitative and qualitative methods through its list of awards and suite of engineering tools.

Contract Management

The work conducted by [redacted] is part of the work conducted for SSP0155 – DSP Design Partner, for which several contract management tools were used as part of the contractual framework. These tools include:

- Weekly and on-demand calls with [redacted] regarding utilisation of the resource. Activity was monitored on a weekly basis through updates with the Programme Directors and Architecture and Engagement Lead
- Costs were invoiced by the provider monthly and cross checked against known utilisation
- Quality of deliverables was monitored by Architecture and Engagement Lead

1.4.7 [redacted] (CH&N)

Driver for the Procurement

The key activities on the Communication Hubs & Networks (CH&N) Programme in RY22/23 were the procurement of 4G equipment and services under an ITT launched in December 2020 and writing the Full Business Cases required by DESNZ under LC16.6.

The CH&N ITT was procuring equipment and services valued at [redacted] over a 15-year period in 2 Lots. Lot 1 comprised an aggregated service similar to the SMETS2 service today, to deliver a Single Band Communications Hub via a single supplier. Lot 2 covered a Dual Band Communications Hub contracted directly with multiple suppliers in a disaggregated model.

Because of the complexity and scale of the procurement and significance of the 15-year contracts to be placed, DCC decided to augment the procurement team with a specialist consultant. This was meant to ensure that the defined process was followed closely, and the procurement proceeded efficiently. This was necessary to mitigate the risk of any party raising a legal challenge to the process, and any such challenge being successful.

One contractor was recruited onto the DSP programme last year to support the procurement activities including running two Requests for Information during the year as well as working on the initial procurement strategy and the procurement inputs into the Business Case process. Other contractors were brought in to support the initial contractor's role on an *ad hoc* basis.

Securing Value for Money

DCC approached [redacted] who proposed a list of individuals for each of the distinct pieces of work. DCC interviewed all candidates and subsequently chose two individuals (a main contractor, and a support contractor on *ad hoc* basis) who had specific expertise in each of the work packages, details below.

The main contractor chosen had specific expertise and knowledge that was not held in-house and was hired to ensure the defined process was followed correctly, the individual had previously worked with DCC and had systems integration skills and expertise, they also had intimate knowledge of the CH&N programme.

Value for money was managed by:

- Ensuring this resource was targeted at activities needing specific expertise not available in the wider team
- Reducing the number of days expected
- Management of monthly expectations by the Deputy Programme Director

The cost to DCC was further reviewed against the contractor benchmarks and the consultancy rate cards were aligned. The successful contractors charged a day rate which was between 30-50% lower than other providers ([redacted]). The main contractor was a [redacted] employee before they moved to [redacted] As such, the route was determined to be more cost effective and deliver value for money.

1.4.8 Smart Metering Key Infrastructure (TSP)

The Trusted Service Provider (TSP) provides the Smart Metering Key Infrastructure (SMKI) and Infrastructure Key Infrastructure (IKI) solutions that underpin the end-to-end security model used in the SMIP (Smart

Metering Implementation Programme). As such, it delivers a key security function for the Total System which needs continuous operation capability to be ensured.

The TSP workstream was broken down into two programmes: the TSP Tactical Programme (TSP-T) and the Enduring PKI Programme (PKI-E). The former was delivered as a live service in September 2022. The latter will design, procure, and deliver the longer-term security solution to address security requirements and threats from 2025/6 when the current service and contract expires.

Driver for the Procurement

DCC has a contract with [redacted] to supply the SMKI security service. To meet this service, [redacted] used the supplier DigiCert, who provided the Symantec SMKI platform. The contract between [redacted] and DCC was originally 7 years with a 1-year optional extension provision. In May 2020, DCC commenced discussions with [redacted] about varying the terms of the contract to 9 years plus 1-year optional extension. In August 2020, DCC was advised by [redacted] that its supplier DigiCert was intending to sunset the Symantec SMKI platform (CPL5) in its current format, following up DigiCert's purchase of Symantec, and migrate all service users to a new platform (DigiCert ONE). This was unexpected and required a significant workstream to be put in place at short notice to ensure no interruption to the service provided to DCC's customers. The TSP Tactical (TSP-T) Programme was, therefore, formally mobilised.

Some additional benefits of the new platform are:

- DCC is taking its first steps in using private cloud/managed compute infrastructure – using virtual machines and Kubernetes technology to drive efficiency and security of the new environment
- Managed compute infrastructure will be provided an 'as a service' model, with the added maintenance, support and sparing of a PaaS (Platform as a Service) environment
- Additional compute resources will be easier to add to the platform – simply scaling up the quantity of resources in a cloud environment
- SLA's have been improved for the new platform:
    - Definition of Persistent Service Failure has been tightened
    - Definition of Critical Service Failure has been tightened
    - Batch request size has increased from 375k to 500k
    - Improved maximum certificate requests per second
    - Performance Measures now align with time taken to resolve an issue, as opposed to simply responding to a problem

Securing Value for Money

Upon receipt of the announcement by [redacted], DCC considered all possible options, primarily:

1. Negotiating a replacement solution with [redacted] to take the service past April 2022
2. Re-precuring a SMKI solution with another provider
3. Securing an extension of [redacted] and DigiCert's existing platform

The second option was not possible in the timeline available, as above [redacted] advised DCC in August 2020 that the Symantec SMKI platform was going out of service, given the procurement and assurance process, and stakeholder engagement required. DCC was unable to procure with another provider before the existing contract came to an end. The third option was deemed not possible by [redacted] because of the updated plans of DigiCert to discontinue the CPL5 platform following up their acquisition of Symantec. It was therefore decided to proceed with the first option, negotiating a replacement [redacted] solution.

This decision was reviewed by SEC Panel in February 2021. In February 2021 we wrote to DESNZ (formerly DESNZ) outlining our proposed approach in response to the change announced by [redacted] DESNZ granted an exemption from the need for formal business case review under LC16.6 in February 2021.

Contract Management

For RY22/23, the payment of £378,726 was against agreed payment milestones associated with final tests ([redacted] for each of milestones 11 to 14, and [redacted] for milestone 15 as the completion of DigiCert migration).

Note that the forecasted RY22/23 payments are lower than the expected £498,000 forecasted during last year's Price Control report.

1.4.9 Smart Routing Gateway High Level Design (DSP)

The Smart Routing Gateway (SRG) is a service that enables DSP traffic to switch between the existing legacy DSP and a new DSP. A High-Level Design (HLD) was initially conducted to assess the feasibility of moving the SRG service into DSP procurement service. It was concluded that a full transition of SRG into the DSP procurement service would not be as beneficial as using a Hybrid and Dual-Running approach at first. This approach refers to running 'as-is' DSP and 'to-be' DSP in parallel.

There is, however, a need to route the current traffic between these two services in a smart way. This includes routing of southbound messages (i.e., service requests from end users), northbound messages (i.e., service responses and alerts), and DSP-only messages.

Note that, for routing messages via the final Smart Routing Gateway service, no or minimum changes need to be done by end users or systems. The Smart Routing Gateway solution will meet the current service request processing requirements.

Driver for the Procurement

The Data Service Provider (DSP) contract renewal process has been started, and one of the core elements to allow this multi-million-pound procurement to achieve value for money is to show that the Smart Metering System can move traffic from the existing legacy platform to a new platform that could be procured as part of the process.

Moving all the DSP traffic in one "Big Bang" migration is seen to be too risky by all parties involved in the Smart Metering system, and without being able to gradually migrate traffic from the existing platform to the new platform, CGI would know that DCC would be unable to change platforms and be in a monopoly provider position.

Therefore, DCC commenced work on developing a capability that would enable traffic to gradually be moved over from one platform to another, and this capability became the Smart Routing Gateway.

The main requirement of the Smart Routing Gateway is to seamlessly move traffic as migration of DSP progresses to the new platform in a safe, controllable, reliable way, to enable a new contract to commence without impacting system availability or reliability.

The HLD provided enough information for the SRG to be put into the lotting instruction (officially it is Statement of Work 6 of Lot 1 of the DSP Request for Proposal) and this HLD will enable bidders for this contract to scope and cost its delivery, and place DCC in a position where CGI can no longer consider itself a certain winner of a new long-term contract.

Securing Value for Money

As part of the work conducted for SSP0155 – DSP Design Partner, DCC selected [redacted] to deliver this initial phase of work. This included the later DSP High Level Design (see section 1.4.6 above)

Digital design is a relatively new skill with the market dominated by large advisory firms that can deliver high level advice (e.g., Deloitte or KPMG). There is a market for more detailed early design partners who can deliver digital transformation (e.g., Kainos). However, these suppliers tend to be aligned to specific technologies and

are less able to advise or support on the elaboration of the design from a strategic perspective or build a high-level and software design specifications. These types of suppliers, thus, do not have the skills to anticipate and refine high level strategies at the level needed for DCC's Data System Platform.

[redacted] was chosen as the delivery partner given its global reach, industry expertise, and insight on latest technology and global standards. [redacted] also shows best practice in its quantitative and qualitative methods through its list of awards and suite of engineering tools.

Contract Management

The work conducted by [redacted] is part of the work conducted for SSP0155 – DSP Design Partner, for which several contract management tools were used as part of the contractual framework. These tools include:

- Weekly and on-demand calls with [redacted] regarding utilisation of the resource. Activity was monitored on a weekly basis through updates with the Programme Directors and Architecture and Engagement Lead
- Costs were invoiced by the provider monthly and cross checked against known utilisation
- Quality of deliverables was monitored by Architecture and Engagement Lead

Enduring Change of Supplier (ECoS) RY22/23 Variances Overview

Cost Centre Variance in RY22/23 by GL

The table below provides a breakdown of incurred and forecasted costs in Price Control format i.e. mapping costs directly against the price control General Ledger codes (GLs).

Baseline (£m)		RY22/23	RY23/24	RY24/25
Total ECoS		-	-	-
Payroll costs	PR	-	-	-
Non-payroll costs	NP	-	-	-
Recruitment	RC	-	-	-
External Services	ES	-	-	-
Incurred (£m)		**RY22/23**	**RY23/24**	**RY24/25**
Total ECoS		**1.432**	**1.352**	**1.339**
Payroll costs	PR	1.220	1.330	1.330
Non-payroll costs	NP	0.001	0.022	0.009
Recruitment	RC	-	-	-
External Services	ES	0.211	0.000	0.000
Variance (£m)		**RY22/23**	**RY23/24**	**RY24/25**
Total ECoS		**1.432**	**1.352**	**1.339**
Payroll costs	PR	1.220	1.330	1.330
Non-payroll costs	NP	0.001	0.022	0.009
Recruitment	RC	-	-	-
External Services	ES	0.211	0.000	0.000

Cost Centre Variance by Staff Type and Team

The table below shows the payroll variance by sub-team within the ECoS cost centre.

Baseline (£m)	RY22/23	RY23/24	RY24/25
ECoS Payroll costs	-	-	-
Incurred (£m)	**RY22/23**	**RY23/24**	**RY24/25**
ECoS Payroll costs	1.220	1.330	1.330
Commercial and Regulation	0.067	0.080	0.080
Operations	0.258	0.254	0.254
Security	0.081	0.063	0.063
Service Delivery	0.464	0.495	0.495
Testing	0.351	0.437	0.437
Variance (£m)	**RY22/23**	**RY23/24**	**RY24/25**
ECoS Payroll costs	1.220	1.330	1.330
Commercial and Regulation	0.067	0.080	0.080
Operations	0.258	0.254	0.254
Security	0.081	0.063	0.063
Service Delivery	0.464	0.495	0.495
Testing	0.351	0.437	0.437

1 ECoS Programme

Summary

- Enduring Change of Supplier (ECoS), is a programme to enhance security when consumers switch from one energy supplier to another. It was initiated in response to a 2019 direction by DESNZ (then BEIS).
- An essential component of this is the replacement of certificates on devices (primarily smart meters) which identify the responsible supplier.
- In RY2022/23, DCC achieved several critical programme milestones including integration, capacity and acceptance testing. This enabled successful Go Live, as planned and on budget, on 29 June 2023.

1.1 Purpose, Scope, and Structure

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 process requiring the replacement of certificates on devices (primarily meters), identifying 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 Enduring Change of Supplier (ECoS) process, so as to introduce a greater degree of separation.

On 1 August 2019 DCC received a Direction from DESNZ for the purposes of Condition 13A of the Smart Meter Communications Licence (the DCC Licence), to produce an implementation plan for the ECoS arrangements. The plan was required to set out the activities which DCC and its external Service Providers needed to undertake, and the deliverables required, to deliver the ECoS arrangements, including reaching a position where the TCoS arrangements would be discontinued.

It is a requirement of Condition 13A of the DCC Licence that DCC consult the SEC Panel and all SEC Parties regarding the proposed content of the plan before submitting it to BEIS for approval. That consultation took place between 23 January 2020 and 21 February 2020. DCC received five submissions on the content of the plan and responded to all comments, accordingly, publishing the final document on the Smart DCC website[1].

DCC received Secretary of State approval on the 30th March 2020 to progress delivery of the following requirements:

- To design and build an IT solution to manage the activities relating to Change of Supply – notably the validation of an 'Update Security Credentials' (CoS) SRV6.23 from the Gaining Supplier, the co-ordination of related messaging with the Access Control Broker and ultimately efficient replacement of Losing Supplier security credentials with ones provided by the Gaining Supplier, on the devices within the end consumers' smart metering system.

[1] The consultation conclusion documents is available on the Smart DCC website: Consultation on the Delivery Plan for Enduring Change of Supplier

- Procurement of a hosting platform to support the ECoS solution – a hosting platform and relevant infrastructure required to independently host the ECoS solution.
- Implementation of a managed service agreement for ECoS – a managed service which will maintain, monitor and evaluate the service on behalf of the DCC, in order to ensure the continuity of the Service Management framework for the ECoS Service

The initial procurement process resulted in the same supplier being awarded both the second and third requirements, hosting and service management. In order to leverage better value, it was therefore decided to combine these two requirements into one procurement phase for the latter stages.

From April 2020, DCC commenced work to enact the agreed delivery plan.

Key achievements in RY22/23 included:

- Pre-Integration Testing - DCC's Service Providers undertook Pre-Integration Testing (PIT) of individual systems and components prior to their integration in SIT. PIT was assured by DCC test assurance teams and subject to Test Assurance Board (TAB) approval before commencement of Systems Integration Testing (SIT). The approval to proceed certificate was issued on 28 September 2022
- Systems Integration Testing - SIT consisted of a set of tests undertaken by DCC and DCC Service Providers collectively, to verify that each of the individual systems and components (the Modified DCC Total System), could operate and interoperate with User Systems, Smart Metering Systems comprising Smart Metering Equipment Technical Specifications (SMETS) 1 and SMETS2+ Devices, the ECoS Party Solution, CSS Interface, DCSE (the DCC migration and reporting tool), as well as the Hosted and Infrastructure solution to support the ECoS Party Application. SIT functional testing was completed and approved by the TAG on 29 March 2023, and we have therefore successfully completed SIT in line with the requirements of the ECoS Test Approach Document (TAD)
- System Capacity Testing - System Capacity Testing demonstrates that the operational performance of the modified DCC Total System is not adversely affected by the introduction of ECoS Services and that the ECoS Services will operate at the requisite performance levels. This testing finished on 28 April 2023 and was successfully presented to the TAB on 15 May 2023 and was (re)presented to the Testing Advisory Group (TAG) for information only on 31 May 2023
- Business Acceptance Testing (BAT) – the BAT was undertaken to prove the end-to-end Service Management processes and procedures, that will be carried out to support the Services launched or updated as part of the ECoS service across DCC. BAT was completed on 21 April 2023 and the test completion report was issued on 12 May 2023
- Operational Process Testing - Operational Process Testing verified the ECoS operational functions and processes and ensured the operational readiness of the ECoS service
- User Integration Testing (UIT) – the UIT comprises end-to-end testing by testing and commenced on 15 May 2023. UIT ran for a period of six weeks prior to Go Live (30th June 2023). This allowed Users to test the interoperability of its User Systems and Devices with the new ECoS service prior to ECoS Go Live

Key events and objectives driving activity and cost

The activity driving resource and non-resource profiles is related to the delivery of the LC13a Plan.

To recap, in the RY20/21 Price Control submission we advised that a full plan review would be undertaken once all new suppliers were on board, to revalidate future milestones. The final onboarding of suppliers was completed in late October 2021. Following this a full planning review was undertaken in November 2021, in conjunction with the new suppliers to revalidate future milestones.

The plan review output concluded in December 2021 and gave a revised 'Go-Live' date of 30 June 2023. The revised interim milestone dates are presented in the table below, demonstrating the key critical activities that have now been completed ahead of 'Go-Live'.

Six milestones of the ten were completed in RY22/23, with all build, PIT, SIT and UIT test phases completed on time. One further milestone has been completed in RY23/24, with a successful go-live on the 30th June 2023.

The ECoS delivery milestones previously presented in RY21/22, are updated with progress during RY22/23 in the table below.

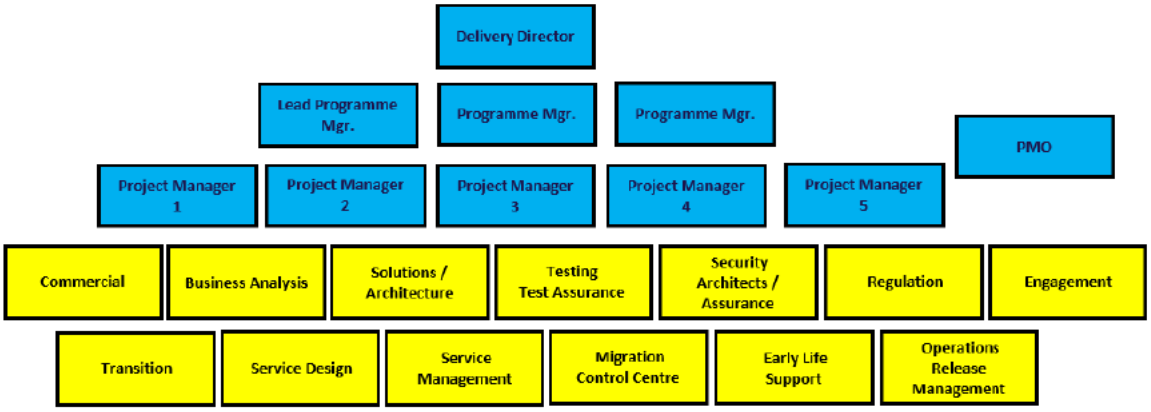
Table 1. ECoS Delivery Milestones

JIP ref	Milestone	Baselined JIP	Approved Revised dates
JIP _7001	ECoS Contracts Awarded for Application CoS	12 April-21 **complete**	N/A
JIP_7002	ECoS Contracts Awarded for ECoS Hosting and Service Management	27 October-21 **complete**	N/A
JIP _7004	ECoS Design Phase Completed	30 Apr-21	05-Apr-22 **complete**
NEW JIP _7012	Consultation issued on ETMAD v2.0	N/A	18-Apr-22 **complete**
NEW JIP_7013	Manufacturing Test Pack released	N/A	15-Jul-22 **complete**
JIP_7006	ECoS Build Phase Completed	08-Oct-21	29-Jul-22 **complete**
JIP_7007	ECoS Testing Phase Start	11-Oct-21	01-Aug-22 **complete**
JIP_7008	ECoS SIT Phase Start	06-Dec-21	04-Nov-22 **complete**
JIP_7009	User Integration Test (UIT) Phase Commence	28-Feb-22	15-May-23 **complete**
JIP_7010	ECoS Go Live	30-Jun-22	30-Jun-23 **complete**

1.1.1 Cost Centre Structure

Throughout RY22/23, the ECoS Programme delivered against its Design and Build phases, and also commenced and delivered a significant part of the Test phase. Organisationally, the Cost Centre structure follows on from that reported in the RY21/22 submission, with an updated Organisational structure and sub team mapping reflected and narrated below.

Figure 1. Programme organisational structure



A mapping of the ECoS Programme is set out in the table below:

Table 2. Description per Sub-Team

Current Sub-team RY22/23	Sub Team structure reported in RY21/22	Description
Delivery Director	Programme Director	Overall Leadership of the Programme including overseeing delivery and acting as the senior stakeholder and supplier interface.
1 x Lead Programme Manager 1 x Support Programme Manager	1 x Lead Programme Manager 1x Support Programme Manager	Oversees the delivery of the ECoS Programme and its phases as identified by the LC13a Delivery Plan. An additional Programme Manager was brought into the Programme during RY22/23 to support the volume of project workstreams to oversee and lead on external governance engagement.
4 x Project Managers	4 x Project Managers	Support the Programme Managers. Deliver respective programme elements. The Project Managers breakdown into the following areas for Design, Build and Test: (i) Application (ii) Infrastructure (iii) Operational Readiness and (iv) Migration.
PMO	PMO	Provides project assurance and general project support.
Regulation, Engagement and Commercial & Legal	Regulation, Engagement and Commercial & Legal	Functional support to the whole lifecycle, and distinct phases, of the programme including external engagement and regulatory matters.
Business Analysis	Business Analysis	Comprehensively captures requirements, informing the solution to be delivered.
Early Life Support Service Management Transition Migration Control Centre	Early Life Support Device Management Transition Migration Control Centre	Designs and manages the structure of the service transition. Manages and operates Data Science and Analytics function.

Current Sub-team RY22/23	Sub Team structure reported in RY21/22	Description
Solutions Architecture Service Design	Solutions Architecture Service Design	Provides solution architecture and planning of initial design.
Testing and Test Assurance	Testing and Test Assurance	Manages and provides testing services of the designed solution and assurance of system interoperability across service providers.
Security Architects and Assurance	Security Architects and Assurance	Specify design, build, and testing of security requirements to ensure that the process is designed so that data remains secure through the change of supplier process. .

1.2 Cost Centre Variances

Variance by GLs in the RIGs

There is payroll related variance in RY22/23 and payroll forecast variance in future years as the ECoS programme has no baseline. There is also substantive variance in External Services which is further explained later in this section.

Table 3. Programme variance by GL

GL costs (£m)		RY22/23	RY23/24	RY24/25
Total Baseline - ECoS		-	-	-
Total Incurred - ECoS		**1.432**	**1.352**	**1.339**
Total Variance - ECoS		**1.432**	**1.352**	**1.339**
Payroll costs	PR	1.220	1.330	1.330
Non-payroll costs	NP	0.001	0.022	0.009
Recruitment	RC	-	-	-
External services	ES	0.211	0.000	0.000

Variance by Sub-Team

The table below shows the variance in sub-teams Operations, Service Delivery and Testing for RY22/23 and future years There is no baseline for this Programme.

Table 4. Variance from the RIGs by sub-team

Enduring Change of Supplier (ECoS) Payroll Costs	RY22/23	RY23/24	RY24/25
Incurred	**1.220**	**1.330**	**1.330**
Commercial and Regulation	0.067	0.080	0.080
Operations	0.258	0.254	0.254
Security	0.081	0.063	0.063
Service Delivery	0.464	0.495	0.495
Testing	0.351	0.437	0.437
Variance	**1.220**	**1.330**	**1.330**

Commercial and Regulation	0.067	0.080	0.080
Operations	0.258	0.254	0.254
Security	0.081	0.063	0.063
Service Delivery	0.464	0.495	0.495
Testing	0.351	0.437	0.437

1.3 Drivers for Variance – Resource

1.3.1 Progress against objectives in RY22/23

DESNZ developed a number of Go Live Decision-making criteria for ECoS Go Live and shared these with a number of industry forums for discussion, including the SEC Panel, the SEC Operations Group, the SMKI Policy Management Authority, the Security Sub-Committee and the Technical and Business Design Group, as well as the DCC.

In the lead up to Go Live, the ECoS Programme has engaged extensively with all the aforementioned groups and on 26 May 2023 submitted its evidence to DESNZ, SEC Panel and Sub-Committees on DCC's readiness to Go Live with the ECoS arrangements on 29 June 2023. This included an extensive Live Service Criteria Document providing a report on DCC's readiness for ECoS, including an assessment against the Live Service Criteria. It provided rationale as to why DCC was of the view that it had progressed effectively through the programme delivery stages and was ready for Go Live on 29 June 2023.

On 23 June 2023, the SEC Panel Chair wrote to DESNZ recommending to proceed with the new ECoS Service having considered the Live Services Criteria and supporting evidence from DCC and the views from the TAG, Operations Group (OPSG) and SSC On 29 June. On 29 June, DESNZ provided a direction to re-designate SEC Subsidiary documents in support of ECoS Go Live and the ECoS Programme went live on 29 June 2023, moving to the Migration Phase of ECoS.

1.3.2 Commercial and Regulation

The Commercial team negotiate with service providers to ensure any change is both economic and efficient and the delivery risk is minimised to the DCC. The Commercial personnel have managed finalisation of the Agreements on the back of several contract change control and project request initiated by the ECoS Programme. The work has involved changes to the lots 1 through to 3 Agreements with Critical Software and Accenture, as well as changes to the CGI Agreement and Landmark. These changes have included the re-plan and updating the performance management obligations on Accenture and Critical Software, as well as introducing new project scope such as Supplier of Last Resort (SOLR).

The Regulation personnel working on the ECoS Programme have developed and drafted further versions of the ECoS Transition and Migration Approach Document (SEC Appendix AS) (ETMAD). On 11 April 2022, DCC consulted upon the "Go Live" version of the ETMAD publishing its response on 24 August 2022. The response noted that at the time of publication, there remained a number of outstanding issues with the drafting of the "Go Live" version of the ETMAD that required to be resolved before the document could be finally concluded upon.

On 8 December 2022, the DCC Regulation team consulted upon further changes to the "Go Live" version of the ETMAD, resolving outstanding matters identified in the August 2022 document. The DCC concluded upon this consultation on 28 March 2023 and within the conclusions document, consulted upon a proposed re-designation date for the suite of SEC subsidiary documents for the planned ECoS Go Live date of 29th June 2023.

Additionally, on 31 March 2023, DCC issued a consultation in a 'Pre-Go Live' ETMAD, however while no issues were raised by industry to prevent re-designation, ongoing discussions regarding the timing for the production

of ECoS Certificates meant that the regulatory changes proposed in the consultation were no longer required. DCC published a consultation conclusion document on 6 June 2023.

The "Go Live" ETMAD that was re-designated at ECoS Go Live is being used to control the process of transition to the new ECoS arrangements and was designed to:

- Cease the suspension of the ECoS main body changes that have been introduced into the SEC
- Set out the arrangements whereby 'Update Security Credentials (CoS)' Service Requests (SRV 6.23) are processed differently by DCC depending on whether the target Device holds Device Security Credentials that are ECoS related or TCoS related
- Introduces two new documents to be developed and maintained by the DCC, being the ECoS Migration Reporting Regime (EMRR) and ECoS Migration Error Handling and Retry Approach (EMEHRA), including details of the ongoing maintenance requirements; and
- Deal with other migration related matters.

Activities driving change in resource in RY22/23

The "Go Live" ETMAD alongside the wider changes to SEC Subsidiary documents previously issued for consultation in September 2021 were re-designated at the ECoS Go Live date in accordance with the description above.

Activities driving change in resource in RY23/24 and RY24/25

Any necessary amendments to the ETMAD, EMRR and EMEHRA will be consulted on as and when required during this period. The ETMAD shall no longer apply (and will be automatically deleted from the SEC) on 1 November 2024, or any such later date as the Secretary of State directs following a proposed alternative with SEC Parties and the SEC Panel.

1.3.3 Operations

DCC Operational teams have been involved in the delivery of ECoS from the outset of the programme. The Financial year 2022 to 2023 Operational Involvement in ECoS supported the preparation for the ECoS service to go live and to ensure a smooth go-live and operational readiness to support the ECoS Service and the ECoS Migration Service.

Activities driving change in resource in RY22/23

The main activities were as follows:

- Operational Defect Review – Review of all Defects across PIT, SIT, SCT and UIT to verify the impact of any defect on the DCC Service and possible Customer impact of Defect to allow it to be appropriately categorised and triaged. Across all test phases this started following the approval to proceed into Pre-Integration Testing on the 28th September 2022
- Migration Approach – DCC Migration Control Centre have supported the delivery of the ETMAD review and testing of the Device Candidate Selection Engine (DCSE) and the migration Strategy which is required in order to manage the delivery of the migration solution and the required strategy to support Certificate transfer of TCoS Certificates to ECoS Certificates on all applicable devices. This included:
    - Testing
    - Strategy Review
    - Resource Forecasting and Review
    - Regulatory Review
- DCSE Development – The Operational team have developed the DCSE tool which is the key tool in the delivery of the migration process for ECoS. This has been developed to meet the needs of the migration design, integration into the total system and the testing of the solution and report outputs. This included:

  - DCSE Design
  - DCSE Build
  - Reporting Design
  - Testing Verification
- Service Design – The Service Architecture team have been carrying out the development of the Service Design and ITIL support framework to support the ECoS solution. This activity was required to ensure the end-to-end support arrangements are catered for in the delivery of service and ensures continuity of process between DCC and the ECoS Party. The Service Designs were iteratively designed and delivered through 2022 and completed in time to support Business Acceptance Testing
- Business Acceptance Testing - BAT was undertaken with the BAT Team, within Operations and key operational resources to prove the end-to-end Service Management processes and procedures, that will be carried out to support the Services launched or updated as part of the ECoS service across DCC. BAT was completed on 21 April 2023 and the test completion report was issued on 12 May 2023

Activities driving change in resource in RY23/24 and RY24/25

Service Transition and Operational Readiness have defined and completed the transition plans, service acceptance criteria and Live Service Criteria ensuring we have met our obligations and service requirements for the ECoS solution. This activity was completed in June 2023 which ensured that the ECOS systems and functions are operationally ready, and staff are trained and capable to operate the new solution.

1.3.4 Security

The Security team is responsible for making sure that any technical, data or process changes are compliant with all security protocols and tested appropriately. It owns and manages the relationship with the NCSC (National Cyber Security Centre) and the SEC Security subcommittee (SSC) for ECoS.

Activities driving change in resource in RY22/23

The main activities were as follows:

- Service Design: The security team provided ongoing expertise to ensure that security aspects of the future service are assessed against the SEC- Section G, the DCC security architecture framework compliance framework, and other security considerations during RY22/23
- Customer and other Engagement: The Security team were responsible for ensuring that DCC Users and other key stakeholders were informed and consulted on the security aspects of ECoS via dedicated stakeholder workshops
- Independent Audit: The Security Team engaged a Competent Independent Auditor (CIO); all security activities completed during the 22/23 were independently assured by a competent organisation and the final report was presented to SSC and PMA
- The DCC security architecture framework compliance framework control compliance, Section G compliance, PKI Compliance and Security Operations Capability review including other security considerations during RY22/23
- Security functional and Non-functional Testing: The security team had a leading role in ensuring that the ECoS programme is fully Security tested and all the security functional and non-functional activities are included in the overall testing of ECoS
- CHECK Penetration tests and Comprehensive Code review: The security team had a leading role in ensuring that the ECoS programme delivers its objectives, and delivers to schedule, including support for remediating issues identified by CHECK penetration tests and Comprehensive Code review that have required extensive discussions with suppliers and key stakeholders including the CIO, SSC, PMA and NCSC

Activities driving change in resource in RY23/24 and RY24/25

The main activities forecast are as follows:

- Annual Penetration tests by all service providers

- SOC Integration
- TCoS to ECoS Key Migrations and Manufacturing Pack is still ongoing

1.3.5 Service Delivery

Service Delivery (SD) are responsible for programme managing and co-ordinating the overall delivery of the ECoS programme across the Design, Build and Test phases through operational readiness to the successful deployment of the ECoS solution into production on 29 June 2023. SD are responsible for managing the timely execution of plans with Service Providers - namely Accenture, CSW (Critical Software) and CGI - and internal functional leads.

The ECoS programme has been subject to internal governance via Programme Governance Board attended by both Service Providers and senior functional leads with overall accountability for their various deliverables. This is in addition to external governance oversight via DESNZ and various SEC Committees to ensure the ECoS programme delivers the right outcomes for customers. A full Risks, Assumptions, Issues, and Dependencies and (RAID) log is held and managed by the SD function.

SD have delivered the ECoS programme to the revised industry plan and to budget, as approved by DESNZ and DCC Board. The ECoS code is now live and subject to a small number of work-off items that continue to be managed by the SD programme team. These work-off items will be delivered via a series of maintenance releases in July, August and September in line with the migration ramp up activity.

Activities driving change in resource in RY22/23

As per Figure 1, the ECoS programme team has been made up of a number of programme and project managers responsible for delivering the i) ECoS application ii) ECoS infrastructure iii) Migrations and iv) Operational Readiness in conjunction with operational colleagues. The number of project managers has flexed during the peak periods between 4 and 5. We have had a Programme Lead and a supporting Programme Manager focussed on internal and external assurance, supported by a PMO Manager to lead the overall delivery of the programme.

Activities driving change in resource in RY23/24 and RY24/25

The core programme delivery completed on 29 June 2023 at Go Live. Accountability for migrations has now transferred to the Operations team, with early support from the SD team in July and August, and with the exception of the work-off items and post go live reports that continue to be delivered through to September 2023. This will only leave 2 Project Managers on the programme from July through to September 2023, at which point all resources will roll off.

1.3.6 Testing

PIT (Pre-Integration Testing) and SIT (System Integration Testing) were carried out prior to Business/User Acceptance Testing (BAT/UAT). The testing was pivotal in assuring the delivery by the Service Providers was fit for purpose and to the agreed design. PIT was completed in various stages from each Service Provider with the last date being December 22 for the last delivery of the Device Candidate Selection Engine Migration Tool. This was delivered in an Agile methodology, whereas other PIT activity was delivered in a Waterfall methodology. SIT started on 7th November 2022 as per plan and completed in February 2023 with Testing Advisory Group (TAG) approval on 29th March, one month ahead of target.

In addition, System Capacity Testing (SCT) was undertaken from February 2023 to April 2023, with TAG approval being agreed on 31st May 2023. The purpose of SCT was to test the operational performance aspects of the ECoS Solution necessary to provide the DCC with assurance that the Modified DCC Total System meets the defined capacity and performance non-functional requirements for ECoS.

Activities driving change in resource in RY22/23

The main activities were:

- PIT activities: Testing and assuring test artefacts and tests undertaken by other parties, for all individual Service Providers, attendance at various forums and meetings to provide reporting on progress
- SIT activities: Review and approval of various artefacts, SIT test witnessing, reporting, attendance at meetings (Governance related TAG/SEC Panel/JDRM etc), production of TAB and TAG documents, attendance at TAB meetings for approval, as well as defect review meetings

Activities driving change in resource in RY23/24 and RY24/25

The focus of activity in RY23/24 was UAT testing issue retests/fixes in SIT as part of governance to Testing Issue fixes. Supporting Hypercare post Go-Live and any work-off items as agreed with the programme. Test Assurance may be required to also support any additional activities that are outside those listed above.

1.4 Drivers for Costs Incurred – Non-Resource

1.4.1 Summary

During RY22/23, there were no individual procurements within ECoS that had material variance (i.e. over £0.15 million).

Table 5. Material variance for ECoS non-resource internal costs

	Incurred (£m)	RY22/23	RY23/24	RY24/25	
	Total Incurred External Services	0.211	0.000	0.000	
	Variance (£m)	RY22/23	RY23/24	RY24/25	
	Total Variance External Services	0.211	0.000	0.000	

1.4.2 RY22/23

There is a positive variance overall of £0.211 million in External Services in ECoS in RY22/23, however it is formed of four different items, none of which were individually materially variant.

1.4.3 RY23/24 and RY24/25

There is no forecast variance in RY23/24 or RY24/25.

1.5 External Costs

The sections below describe the material Change Requests (CR) and Project Requests (PR) that incurred costs of more than £1m in RY22/23. As in prior years, we explain the background, drivers, scope and how we secured value for money.

1.5.1 Accenture – CR4560 - New ECoS go live date

Drivers of CR

As set out in the Delivery Plan for ECoS published on 16 March 2020, a review of the plan and associated milestones took place following the conclusion of the ECoS Party procurement and onboarding of the Service Providers (Critical Software providing the ECoS Application – Lot 1 and Accenture providing the ECoS Hosting and Service Management – Lots 2 & 3). This review was led by DCC and the Systems Integrator (CGI), working with the new ECoS Service Providers. As part of the end-to-end plan review DCC also conducted a risk assessment with various functions within the DCC, on the impact of a change in dates with respect to other programmes within the portfolio.

DCC considered the move away from a June 22 Go Live date significantly mitigates risks previously communicated around a shared go live window with the CSS programme. When the contract with Accenture was signed, the expected go live date was in mid-February 2023.

The end-to-end review resulted in a revised Go live date of 30 June 2023, in alignment with the June 2023 SEC Release. This meant the implementation plan from Accenture was extended out and additional work required to support the extra four and ¼ months. The drivers for the revised timelines resulting from the end-to-end plan review can be summarised into two distinct themes; elements that have changed since the original LC13A delivery plan, and additional activities that are proposed to de-risk the plan. These items have been agreed between DCC and the ECoS Service Providers as essential additions to the revised plan.

Scope of CR

The scope of this CR was for DCCs ECoS SPs to confirm any impact on delivering against the milestones set out in the revised plan (DCC ECoS Integrated PoaP 20220106v2), whilst also factoring in any change requests that were already in flight.

Securing Value for Money

DCC secured value for money for this change by challenging the scope of pricing of Accenture's FIA response in the following areas:

- Reviewing the profile of resource being required to accommodate the extra four and a ¼ months that the plan has been extended out by.
- Re-profiling of the Milestone payments to ensure the proposed cost of capital charge, if the baseline contract apportionment was followed, would be not applicable; and
- Agreeing on whether the additional licence costs would be needed because of the 60 months of the Run Service, for Lot 2, moving out by 4 and ¼ months.

DCC worked with Accenture to ensure, where possible, they were able to "lift and shift" resources already planned to be in place to cover the extended timescales and movement of key implementation phases during the DBT phase of the work. Other than the licence costs, there was no further changes to the Enduring costs.

DCC will work with Accenture to ensure that the renewal of licences is done on the most economically efficient term, so to minimise the need to incur the full amount of the charges that has been deferred.

A breakdown of the costs is provided in the tables below.

Detail	Price initial (£)	Price final (£)
Extension of Effort	[redacted]	[redacted]
Licence Renewals	[redacted]	[redacted]
Cost of Capital	[redacted]	[redacted]
Total Charges	[redacted]	[redacted]

Table 6: Price Breakdown CR4560

Initial IA price (£)	Final IA Price (£)	Difference (%)
[redacted]	[redacted] or [redacted]	(36) or (14)

Table 7: Initial vs Final Price CR4560

The above savings will vary depending on whether all or some of the licence renewal costs which have been deferred are needed, this will not be known until year 2-3 of the Enduring Service, which would be during 2026-27.

1.5.2 Accenture - CR4101 (ECoS - SIT/UIT Prep and Execution)

Drivers and Scope

The scope of the current PIT environment provides an unregulated environment for testing changes / fixes to the ECoS solution before propagating to the upper regulated environments (SIT and UIT) prior to going into Production. However, because of the detailed negotiations that took place prior to the Accenture agreement being signed in late January 2021, it was clear that the assumptions made by Accenture that the PIT environment were not aligned with the expectations from DCC. Accenture's assumptions were that PIT was intended as a short-term environment / solution that will be decommissioned before SIT environment go live in 2022. The PIT environment was planned to be connected to the overall management and hub services/subscriptions.

DCC's requirement, which was later refined / updated, was for an enduring PIT environment with governance to be built from the ground up, post the decommissioning of the initial PIT environment following SIT connectivity to the DCC data centres. The enduring PIT environment will need to have its own set of shared services and subscriptions to make it completely independent and standalone from SIT, UIT and Production environments.

This will allow DCC and Accenture to have a long-term PIT environment dedicated for testing changes / fixes to the ECoS solution that are intended to be promoted to the SIT and UIT environment and beyond. This environment will take the code changes developed and tested by the Technical Application Service Provider (Critical Software) in their own PIT to be further tested and assured in a more integrated environment, prior to its promotion to the regulated environments.

The PIT environment is an isolated environment and therefore except for an express route to be applied to integrate the HSM to Azure, there will be an outward facing express route and gateway back to the 3rd party systems.

The proposed architecture for the enduring PIT was as per the figure below:

Figure 2 – Logical PIT Architecture

As a result, the Azure environment will be isolated from any existing DCC or their partners workloads with a new Azure Active Directory tenant to provide identity isolation on top of networking and logical isolation. The existing Azure DevOps organisation will be used for the Enduring PIT deployments, but as the environment is isolated, it will not be connected to the Enduring PIT Azure AD tenant. The connection to the Azure DevOps organisation is to allow the same code to be deployed into all environments for testing assurance and code promotion.

Securing Value for Money

DCC secured value for money for this change by focussing in on the following aspects of Accenture's FIA submission, namely:

- Ability for the PIT environment to be capable of being scaled up and down to allow for costs to be minimised for periods when the PIT environment is not needed. DCC were utilising experience from across the existing DCC eco-system where experience has shown that although the PIT environment is enduring in nature, it's not needed 24 x 7 52 weeks per year, and the functionality of a cloud environment, such as Azure, means it can be more dynamic in terms of what services etc can be scaled back or "spun down".
- Ensuring the Azure charges will be charge on as used basis, not fixed price.
- Getting a detailed breakdown of the Azure components / services being provisioned – which was not possible during the initial contract negotiations; and
- The period that DCC would contract for this change, given it was an enduring requirement.

The Programme and Commercial Teams were able to get the necessary granular level of Azure components to assure that the architecture and functionality aligned with the DCC requirements.

Additionally, it was negotiated that up to 11% of the ongoing Azure charge would scalable, based on the split of the month [redacted] charge as follows:

- [redacted] Enduring PIT fixed Infrastructure (unable to be removed/ scaled down)

- [redacted] Enduring PIT Variable Infrastructure (can be scaled up and down by DCC)

A breakdown of the costs is provided in the tables below.

Detail	Price initial (£)	Price final (£)
DBT / Milestone Charge	[redacted]	[redacted]
Azure components & services	[redacted]	[redacted]
Total Charges	[redacted]	[redacted]

Table 8: Price Breakdown CR4101

Initial SoW price (£)	Final SoW Price (£)	Difference (%)
[redacted]	[redacted]	(68)

Table 9: Initial vs Final Price CR4101

Additional in-life Azure utilisation charges

DCC is paying for the Azure charges on "as used" basis, further savings have been made as the current usage of the enduring PIT has been below the assumed monthly charge as shown by the figures in the table below:

	2022	Jan-23	Feb-23	Mar-23	Total
Contracted	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Actual	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Monthly Variance	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Cumulative Variance	[redacted]	[redacted]	[redacted]	[redacted]	
Variance %					51%

Table 10: Budget vs Actual Azure Charges CR4101

1.6 Baseline Margin Project Performance Adjustment (BMPPA)

Details of the ECoS Baseline Margin Project Performance Adjustment (BMPPA) can be found in the Price Control submission, Section 05. Performance.

1 Market-wide half-hourly settlement (MHHS)

Summary

- Market-wide half-hourly settlement (MHHS) is an industry-wide reform designed to lead to a more accurate and timely settlement process, and facilitate the move to a smarter more flexible energy system (e.g. by enabling greater provision of time of use tariffs). Ofgem estimates that MHHS will bring net benefits for GB consumers of between £1.6bn and £4.5bn over the period 2021-2045.
- Smart meters play a pivotal role in this programme as they allow the move from charging on a non-half-hourly basis (i.e. on the basis of customer and agent meter reads) to a more responsive half-hourly process.
- DCC are a delivery supplier to the wider MHHS Programme, building enabling changes to facilitate the new Meter Data Retrieval (MDR) role as well as supporting the customers successfully access the half-hourly data. We have also supported a number of SEC modifications and industry events.
- The ongoing costs have been absorbed within the SEC Release Management Team.

1.1 Purpose, Scope, and Structure

Market-wide half-hourly settlement (MHHS) is an Ofgem-led programme, with Elexon as its key programme delivery partner.

MHHS will be achieved by mandating that electricity suppliers settle all customers with capable meters (or equivalents) in a half-hourly (HH) capacity. Domestic customers will retain the option to opt out of this for import settlement data but not for export. Any Third-Party Intermediaries (TPIs) would also need to access the meter independently for data.

To achieve this and deliver a full solution for MHHS, it was necessary that changes were made to the Smart Energy Code (SEC) and to the DCC systems. A number of obligations have been imposed on the various stakeholders of the programme by Ofgem, including DCC. One obligation was that the DCC raise a SEC modification to progress the delivery of the programme.

DCC are a delivery supplier to the wider MHHS Programme, building enabling changes to facilitate the new Meter Data Retrieval (MDR) role as well as supporting the customers successfully access the half-hourly data. We have worked in collaboration with the MHHS Programme team in discussing and agreeing dependencies. We have supported the Programme in presenting material to customers on the overarching programme as well as the specific changes which DCC are building.

Customer consumption is currently profiled - a profile represents the pattern of electricity usage for a customer within a segment of the electricity supply market. In April 2021, the MHHS decision and full business case was published by Ofgem[1]. This confirmed the proposed Target Operating Model and therefore proceeds with giving energy suppliers access to the exact half-hourly costs of customer consumption patterns, rather than being profiled as they are now for Non-Half Hourly (NHH) customers.

This will make it easier for electricity suppliers to offer Time of Use (ToU) tariffs, which in turn will incentivise customers to shift load patterns. Customer load shifting will benefit intermittent generation, balancing and reduce network infrastructure investment. Ofgem estimate that their chosen option for MHHS will deliver

[1] Ofgem's publication Electricity Retail Market-wide Half-hourly Settlement: Decision and Full Business Case | Ofgem

net benefits to GB energy consumers in the range of £1,559m-£4,509m over the period 2021-2045. This is set against a cost of around £90m to implement.[2] MHHS will also increase overall settlement accuracy.

The changes to be implemented by DCC will be an integral part of a much wider industry change programme, largely based on the Balancing and Settlement Code (BSC), but also impacting the Retail Energy Code (REC) and Distribution Connection and Use of System Agreement (DCUSA).

Key events and objectives driving activity and cost

A high-level summary of the Ofgem decisions in RY22/23 and their interaction with DCC activity is as follows:

- July 2022 - SEC Parties vote to reject MP162
- August 2022 - Ofgem write to DCC asking that the creation of new Meter Data Retrieval role is separated from the capacity uplift costs in order that customers can fully understand the investment requirements
- September 2022 – Ofgem send back MP162 for review and is instruct the modification be presented under the instructions issued in their letter dated 31 August 2022
- October 2022 – Ofgem ran an RFI to assess the impact of capacity constraints across the DCC network because of MHHS
- October 2022 – SEC parties approve MP162
- November 2022 – Authority decision received for MP162 endorsing the industry decision to approve MP162
- January 2023 – DCC host a customer summit alongside industry experts and Ofgem
- April 2023 – Final capacity costs supporting MHHS presented to industry and Ofgem

DCC's key activities in RY22/23

- Ofgem wrote to DCC requesting the separation of the functional requirements, for the creation of the new Meter Data Retrieval (MDR) role from the capacity uplift in order that customers could fully understand the investment requirements. DCC requested Service Providers to separate out the costs to implement the MDR. Further engagement at sub-committees took place and the modification was approved by SEC parties in July 2022
- Following the agreement with industry of the MDR requirement within MP162, DCC engaged with prospective MDR parties on the integration testing requirements. There are several companies signed up who will be adopting the new role
- DCC ran a customer summit which focused on the impact of the introduction of MHHS on DCC's smart metering and central switching services. This was attended by industry parties including Ofgem. It emphasised the importance of working with the DCC to support new service offerings which may arise following the retrieval half-hourly data
- Impact Assessments were received from Service Providers supporting the required capacity uplift to facilitate the increase in message volume because of August mandating MHHS. The assumptions underpinning the capacity uplifts were agreed with Ofgem in RY2022/21 and validated again in September 2022. Final capacity costs were presented to Ofgem on 04 April 2023

[2] Elexon's publication https://www.elexon.co.uk/documents/operations-settlement/market-half-hourly-settlement/market-wide-half-hourly-settlement-mhhs-programme-budget/

1.2 Cost Centre Structure

The resourcing costs incurred by DCC in RY22/23 have been absorbed by the existing SEC Release Management Team. This has included the work to support the progress of the SEC Modification and the capacity uplift. There has been an additional Regulatory Full Time Employees (FTE), assigned to respond to items such as the MHHS consultations, attend cross code working groups, and lead the additional engagement with Ofgem.

DCC implementation costs and additional ongoing costs are not separately assigned to an MHHS project and appear within the Jun 2024 SEC Release costs. DCC are able to separate out the costs associated with the MHHS changes from the other SEC modifications included in the SEC Release.

The MHHS changes were raised under a SEC Modification (MP162) and were progressed in the same way that any other modification would be progressed. The MHHS changes were not complex and thus a separate project team was not required to support these changes outside of the enduring SEC Release team. This provides customers with value for money due to the opportunity costs of utilising the existing team in absorbing the additional change request, supporting the wider MHHS programme.

The external changes were additional to customers and were agreed through the SEC governance process as accordance with Section D. The post PIT test costs however were not additional as they would have been incurred by the Jun 2024 SEC system release, within which the MHHS changes will be delivered.