Data Communications Company

Switching Enduring

Business Proposal

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1. Introduction

1.1. Purpose of this proposal

The purpose of this document is to present DCC's approach and related costs for managing the ongoing business-as-usual operations of the Centralised Registration Service, with DCC acting as the Central Switching Service (CSS) Provider and the Switching Operator. Its function is to:

- Describe a baseline scope of work and how it will be delivered.
- Demonstrate that DCC is providing an economic and efficient service to meet the requirements placed upon it
- Provide transparency of DCC's proposed and actual costs and activities under the ex-post plus price control approach

1.2. Timelines

This proposal has been published on the DCC website for consideration. DCC welcomes any comments on the content of this proposal, which can be sent via email to regulation@smartdcc.co.uk by 31 March 2023. DCC will carefully consider any comments that are received and will then publish a final version of this Business Proposal.

1.3. Purpose of the Data Communications Company (DCC)

DCC is a licensed entity, initially established to operate the central, standardised network for smart metering in Great Britain. DCC provides data and communication services between smart meters and the business systems of Energy Suppliers, Network Operators, and other Authorised Third Parties.

DCC's licence has been extended to cover the establishment and maintenance of the Centralised Registration Service, which will provide a platform for fast and reliable Switching for all Supply Points in the GB energy retail market.

1.4. Scope of DCC

DCC believes in making Britain more connected, so we can all lead smarter, greener lives.

The Smart DCC Business and Development plan shows DCC's approach to the next five years, where its focus will be and what activities it is aiming to undertake. The latest version of the Business and Development Plan can be found on the DCC website, here.

DCC's original role has been to build, operate and enhance the national smart metering network that underpins the transformation of the UK's energy system – enabling consumers to participate much more actively in their energy management and decarbonisation and helping industry become more agile and competitive. DCC's platform will, for the first time, enable both suppliers and consumers to react in real time (based on secure, reliable data) to changes in energy supply and demand as the UK

dramatically changes the way it generates, transmits, stores, and uses energy in the coming years.

In its extended role operating the Centralised Registration Service, DCC will enable consumers to switch Energy Supplier faster and more reliably, which will build upon the existing benefits that have been realised from the deployment of smart meters.

The Switching service will reduce the time taken to complete a switch to an initial target of five working days, which will then further reduce to next day switching once the new service and associated process changes have been proven. This reduction in duration will be accompanied by an improvement in the underlying address data quality, which is targeted to make a significant reduction in the number of failed switches.

1.5. DCC's key role in developing the Switching arrangements

Since 2016 DCC has been working as a key delivery partner to Ofgem on the definition, design and development of the CSS. The implementation of the new service in July 2022 allowed Ofgem (through DCC as the lead delivery partner) to make significant improvements to both the speed and reliability of the process of switching Energy Suppliers.

DCC's objectives in relation to the Switching Programme and the ongoing operation of the CSS are set out in Licence Condition 15. DCC also has an Interim Centralised Registration Service Objective, which describes DCC's role in the design, build and test of the CSS.

In 2019 Ofgem added a General Registration Service Objective to the DCC Licence, which gives DCC the role of operating the CSS once it is live and in Steady State Operations. Ofgem intend to include a review of DCC's role in operating the CSS when the DCC Licence is reviewed.

In line with its licence obligations, DCC has designed, built, tested and now operates Switching in an economic and efficient manner, taking into account the impact on industry and, where relevant, the impact on consumers. DCC is price control regulated for Switching – it forms part of DCC's annual submission to Ofgem.

1.6. DCC's roles in maintaining and operating the Switching service

The key objectives of the Switching Operator arrangements are in alignment with Ofgem's overall Switching Full Business Case. DCC has procured and commissioned Service Providers to deliver, in conjunction with DCC internal resourcing, the required Switching solution, meeting the following commercial criteria:

- The costs must be affordable under the Ofgem business case and DCC charging methodology
- Contracts will be agreed with the various parties and demonstrate value for money
- The overall commercial strategy is efficient and effective and fits with wider DCC activities where possible

The DCC Switching Operator services are the doorway for industry, and ultimately energy consumers, to faster, more reliable Switching. The diagram below steps through DCC's Switching commitments that will enable, support and improve this service.

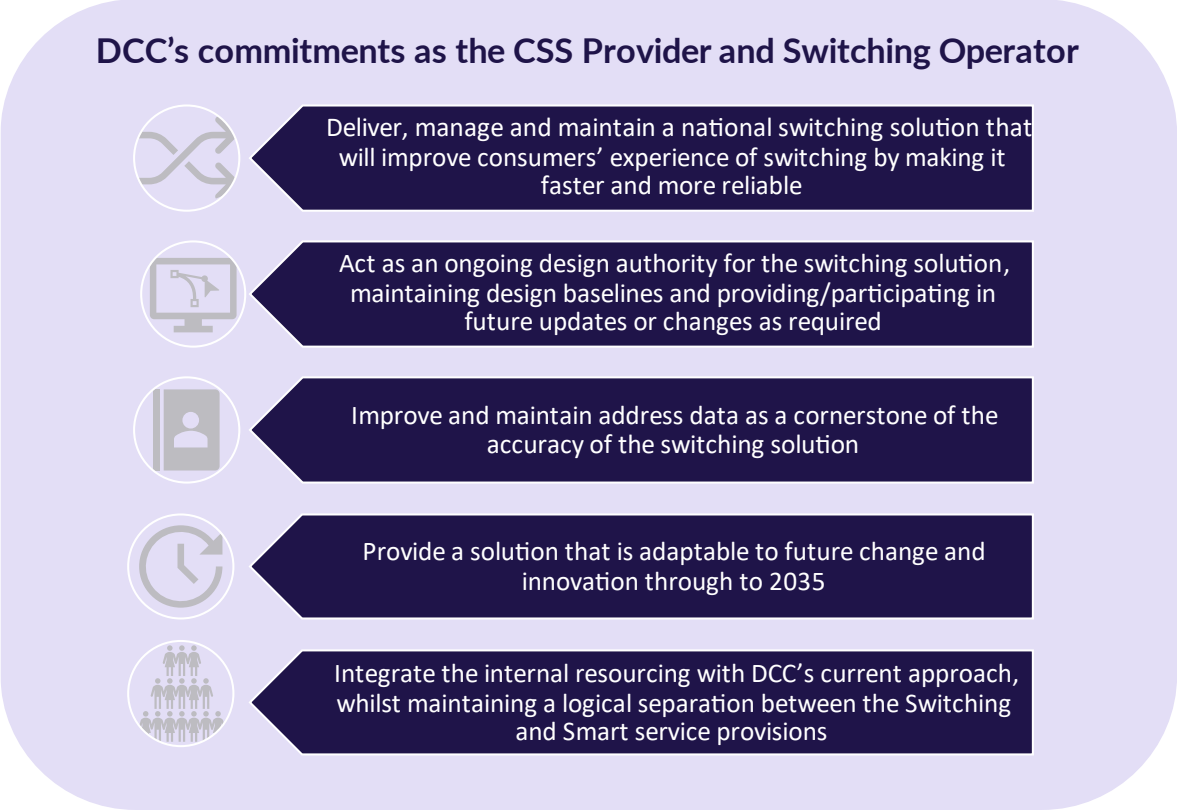

Figure 1. DCC's commitments as the CSS Provider and Switching Operator

In order to meet its ongoing commitments as the CSS Provider and Switching Operator, DCC will deliver to two broad, high-level requirements:

- DCC will continue to maintain, manage and support the Switching solution as delivered: the CSS, the Certificate Authority and the Address Management System
- DCC will provide the services, access points and knowledge articles required for CSS Users and Switching Data Service Providers to access the above Switching solution

At the heart of the Switching service is the Centralised Registration Service. The figure below gives an overview of the Centralised Registration Service and its component parts. It captures DCC's responsibilities in managing the service and the data service providers we link with, whilst also listing wider CSS users.

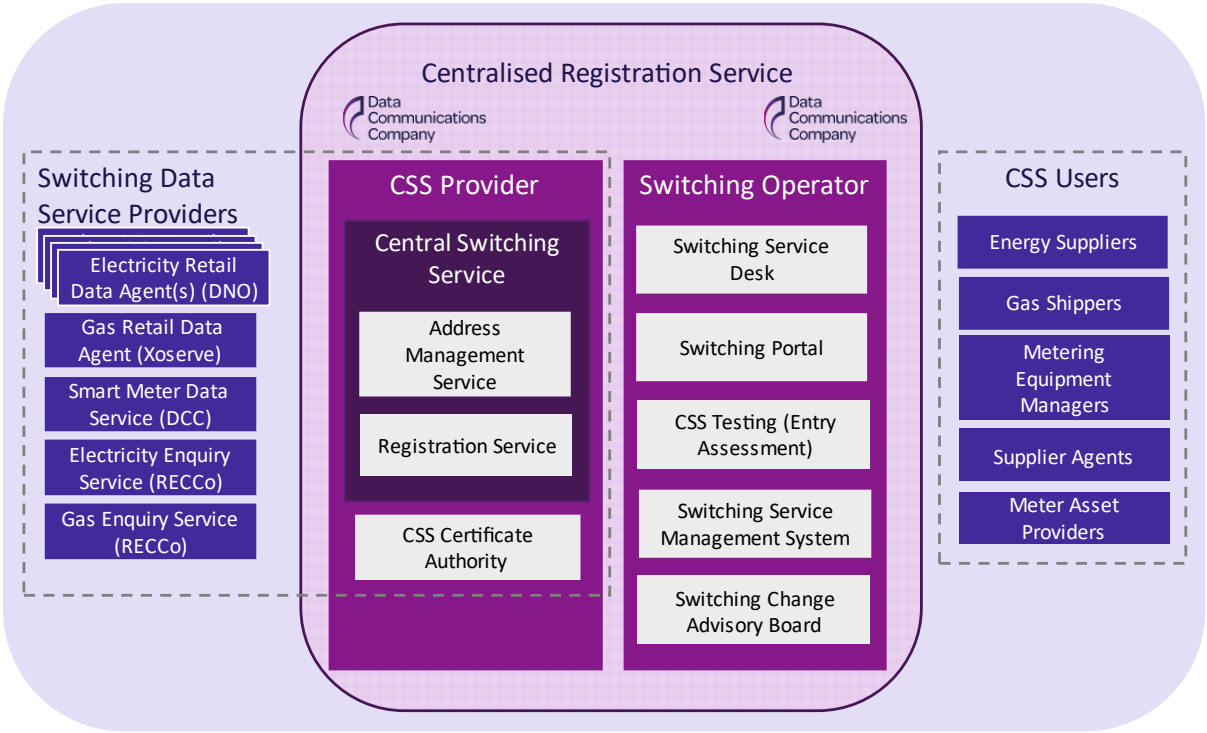

Figure 2. Centralised Registration Service Overview

In adopting its further Switching roles, DCC has also taken on key responsibilities in data management. This is dealt with in detail in the Address Service section of the document; however, the diagram below gives an overview of DCC's data quality and governance cycle, from the initial expertise developed in early stages, through to the data management, reporting and finally the feedback for future learning.

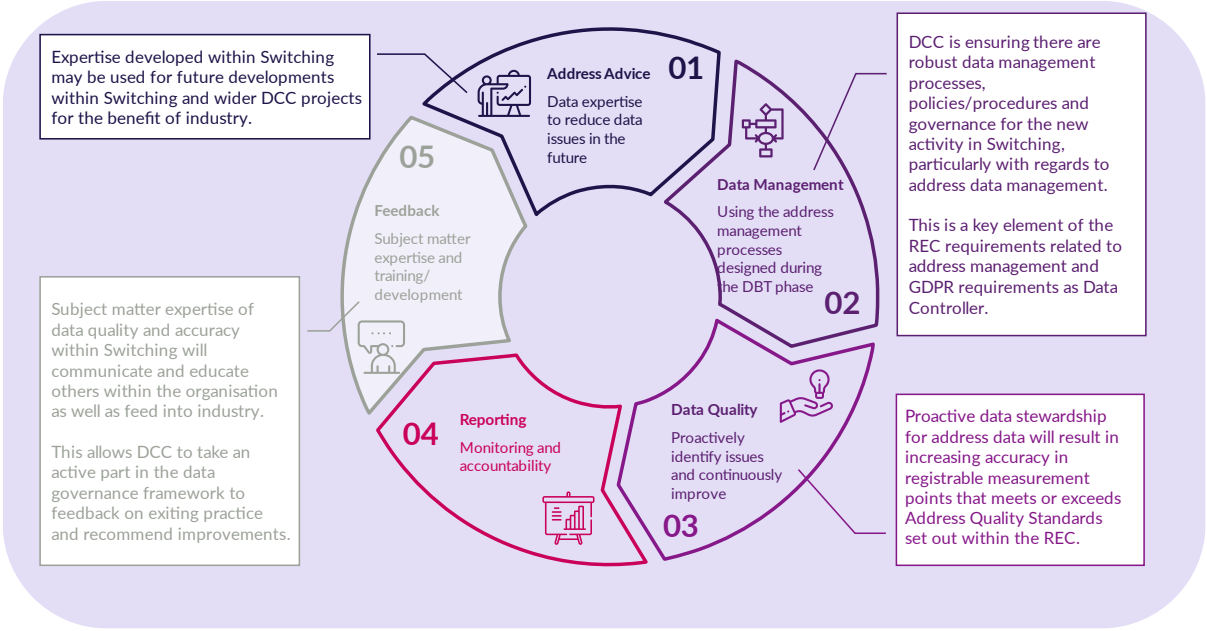

Figure 3. DCC's Data Quality and Governance Cycle

DCC will also provide the Switching Operations Service, which will provide service management capabilities supporting the end-to-end Switching Arrangements. CSS Users will be able to interact with this service via the Switching Portal, which will

support logging of incidents and various service requests, including Onboarding of new users, provision of security certificates and knowledge articles.

The diagram below gives an overview of the Switching ecosystem. On the left are the CSS data sources relating to the location of the meters - Ordnance Survey address data and Registrable Meter Points (RMPs). The CSS attempts to match this location data and the result is stored in the CSS as the Retail Energy Location (REL). Energy Suppliers, as CSS system users (shown in the centre of the diagram), interact directly with the CSS to initiate a Switch, and will also interact as a CSS data user to consult the Gas and Electricity enquiry services. Price comparison websites, as CSS data users, consult with the Gas and Electricity enquiry services to provide information to energy consumers.

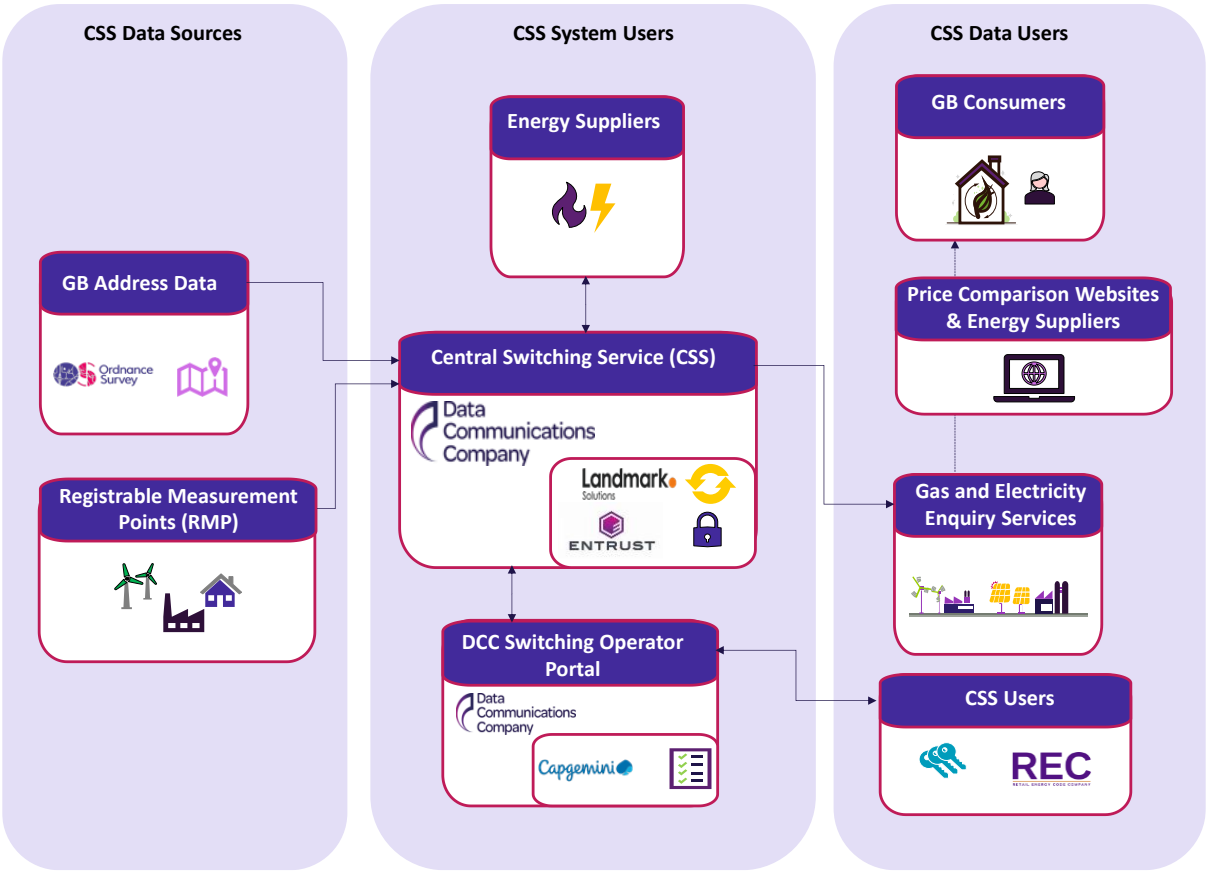

Figure 4. Switching Ecosystem

2. Switching Operator Requirements

This proposal addresses the requirements detailed in three primary sources:

- Ofgem Switching Programme Full Business Case
- Retail Energy Code (REC)-defined obligations of a REC Party
- REC-defined obligations of a REC Service Provider

As part of the Transition phase of the Switching Programme, DCC has mapped and provided traceability for the regulatory Switching requirements. This detailed analysis has enabled DCC to create a comprehensive set of requirements and their related deliverables.

2.1. Ofgem's Switching Programme Requirements

The following table summarises the requirements as given in Ofgem's Switching Programme Full Business Case and DCC's deliverables to meet those requirements.

Capability	Ofgem Full Requirements Summary (Items in grey have been delivered)	Focus of DCC's Approach as Switching Operator
Registration Service	The design, build, test, transition and **operation** of the **Registration Service** which manages the gas and electricity registrations and associated data (including addresses and RMPs).	DCC's deliverables to ensure the Registration Service, which includes the CSS and Certificate management, continues to meet the requirements as defined in DCC's elements of Design Baseline 4 (DB4). This includes managing the relevant service providers and assuring their deliverables.
Address Service	The design, build, test, transition and **operation** of the **Address Service**, which manages a complete list of GB standardised addresses and performs address matching.	DCC's deliverables to ensure the Address Service continues to meet the defined DB4 requirements, including assuring and improving data and data protection.
Switching Operations Service	The design, build, test, transition and **operation** of **services and systems that are required to manage the live switching arrangements** including first-line service desk, centralised Service Management System, self-service interface portal and interfaces with existing service providers.	DCC's deliverables of the following systems and the related operational services: • Switching Service Management System • Switching Portal • Switching Service Desk • Incident Management • Fully resourced operational team to run the above services
Systems Integration Service	The management of the integration and testing, data migration and transition activities of systems and services across the CSS components and between the CSS Service Providers, including co-ordination of interfaces with Market Participants.	DCC's delivery of any integration services required to deliver approved **changes** to the Switching solution, as well as ongoing release and environment management.
Service Infrastructure	The design, build, test, transition and **operation** of the **infrastructure** on which the Registration and Address Services can operate.	DCC's deliverables and associated resourcing to ensure the ongoing availability of the service infrastructure.

Table 1. Switching Operator Requirements

As DCC takes up the role of Switching Operator, certain activities under DBT will be completed and will have no ongoing service requirement. Where this is the case, these requirements have not been listed above.

2.2. REC-defined requirements on DCC

The REC defines an organisation bound by the REC as a 'Party'. There are five types of Party: Energy Suppliers, Gas Transporters, Distribution Network Operators (including Independent Network Operators), Metering Equipment Managers and DCC.

The REC also defines an organisation that provides REC services as a 'REC Service Provider', which can be split into specific REC Service Provider roles.

This section details DCC's analysis of the REC and resulting roles it has identified for its ongoing CSS Provider and Switching Operator services.

2.2.1. DCC's roles under the REC

The DCC is classified under the REC as the provider of the CSS and the Switching Operator services. The requirements and performance targets are set out within the Central Switching Service Definition and the Switching Operator Service Definition respectively.

DCC's REC-defined roles are evolving. Whilst these specific roles are defined, the activities within them will change to meet the ongoing requirements. The roles that DCC has analysed and used to develop the target operating model are defined in the REC and are shown in the table below.

DCC Role	REC Definition
CRS Provider	means the DCC when performing the functions and services required by Condition 15 (Incorporation, delivery and provision of the Centralised Registration Service) of the DCC Licence
CSS Provider	means the DCC when performing functions under or in relation to this Code (but always excluding its functions under the Smart Energy Code and its roles as CSS Systems Integrator, SI Provider and Switching Operator), including in respect of the Central Switching Service and including in effecting the design, build and testing of any System that will allow it to perform functions under this Code after the CSS Go-Live Date. This role is the CSS Procurer and Manager function as described in the E2E Data Migration Plan, E2E Integration Plan, E2E Post Implementation Plan, E2E Testing Plan, E2E Transition Plan: Implementation Approach and E2E Transition Plan: In-Flight Switches Approach
REC Party	means each 'Party' under and as defined in the Retail Energy Code. 'REC Parties', 'Parties' and similar expressions shall be interpreted accordingly
REC Service Provider	means the provider of each REC Service
SI Provider	means the system integration function provided or procured by the DCC. The DCC shall be responsible for ensuring that the SI Provider complies with the obligations imposed on the SI Provider under this Code

Smart Meter Data Service Provider (SMDSP)	means the DCC in its role as provider of the Smart Meter Data Service
Switching Data Service Provider	means the CSS Provider, the SMDSP (in respect of the services provided under the Smart Energy Code), the Gas Retail Data Agent, the Electricity Retail Data Agents, and the Enquiry Service Providers
Switching Operator	means the DCC in performing the role of managing the co-ordination of the CSS Provider and the other Switching Data Service Providers, including the mechanisms for Users to report incidents and access service management support, from the CSS Go-Live Date

Table 2. DCC's REC-Defined Roles

In addition to the above roles, DCC has licence conditions to operate economically and efficiently and REC obligations as the Switching Operator and CSS Provider where it is accountable to the REC Performance Assurance Board.

DCC's role under the REC is complex due to the interfaces it operates with other large, centralised services, such as Smart Metering and gas settlements. Switching-related costs will be charged by DCC to the Retail Energy Code Company (RECCo), who in turn will recover those costs from REC Parties and CSS Users as set out within the REC Charging Methodology.

3. DCC's Switching Operator Deliverables

DCC will use the skills, knowledge and relationships developed during both the Smart Metering service and the earlier phases of the Switching Programme to deliver the day-to-day requirements of the CSS and Switching Operator services. The two services of Smart Metering and Switching will be independently managed, ensuring that the performance of each service meets the respective service levels. DCC will support flexibility in resourcing, drawing on resources from across the business whilst acknowledging and tracking different funding streams. The independent programme management will ensure that neither service is adversely affected by the other.

Through the Design, Build and Test phase of the Switching Programme, DCC has delivered a platform that will enable faster, more reliable switching. DCC continues to ensure the availability of these platforms whilst also delivering the services and portals that allow CSS Users and Data Service Providers to access the Switching service.

This section of the proposal details DCC's deliverables to meet its Switching obligations, segmented into the two broad areas of DCC's ongoing operation of the CSS platform and DCC's delivery of the Switching Operator Services.

DCC's ongoing CSS deliverables encompass:

- DCC's obligations to oversee the continued operation of:
  - The Central Switching Service (CSS)
  - The Certificate Authority

  - The Address Service

DCC's obligations to manage and maintain the Switching Operator Service encompass the following:

- Switching Operator Service, including:
  - Switching Portal
  - Switching Service Management System
  - Reporting on the Switching service
- DCC's operational evolution and delivery
- Service Provider Management (function applicable to both the Switching Operator deliverables and the CSS maintenance deliverables)
- Change Management (as above; applicable to both Operator and CSS maintenance deliverables)
- The Switching Service User Experience

3.1. Registration Service: DCC's deliverables as the CSS provider

In meeting its requirements, DCC is responsible for delivering and operating the CSS, which includes the Registration Service, Address Management and Certificate Authority solutions. This section details how DCC, alongside our partners Landmark and Entrust, ensures that these solutions continue to operate to meet the Switching requirements.

The CSS sits in the centre of the new Switching arrangements; DCC anticipates it will process over 15 million gas and electricity Switch Requests from Energy Suppliers each year.

A single service will be utilised to store gas and electricity RMPs and process Switch Requests, for both fuels, in a harmonised manner and to the same Service Levels.

To enable these new Switching arrangements, the CSS will connect securely, using open messaging standards, to existing industry services. This includes all gas and electricity Energy Suppliers; Xoserve, who will provide gas RMP data; Distribution Network Operators (including Independent Network Operators), who will provide their electricity RMP data; and the gas and electricity Enquiry Services, who will make CSS data available to their users.

The CSS enables Energy Suppliers to:

- Submit Registration Service Requests
- Transmit Registration and REL data to CSS Users and other Switching Data Services
- In the case of the DSP, provide data which will replace the existing Retail Data Provider data

DCC will manage the ongoing provision of the CSS solution. Alongside our service provider Landmark, DCC is responsible for:

- Providing the CSS, which:

- Masters all the Energy Suppliers' Registrations and provides this data to the other Switching Data Services, enabling the operation of other industry processes such as smart metering and gas and electricity settlements
- Maintains a record of all gas and electricity RMPs, providing this data to the DSP
- Processes all Registration Requests from Energy Suppliers, including validating each request against defined business rules and sending messages to all relevant CSS Users and Switching Data Services as the Registration processes through its lifecycle

- Providing the Address Management System, which masters all the Retail Energy Locations, primarily created from the Meter Point Location data provided by Network Operators and matched to Ordinance Survey's AddressBase Premium (OS ABP).

The figure below gives an overview of the CSS and Address Service interactions. The CSS and Address Service will be operated within a Microsoft Azure cloud environment. This architecture supports a secure and scalable solution, including disaster recovery capabilities located within the UK, as shown in the grey box in the figure below. All CSS Users and Switching Data Services will access the CSS via the public internet, supporting both inbound APIs and outbound Webhooks (depicted as purple clouds in the figure). The DSP (shown as 'Smart Metering') and CSS will exchange messages through the Gamma Network, utilising the security policies required under the SEC.

As shown in the centre of the diagram, the creation of REL Addresses will be undertaken within this environment via interactions between the CSS (which will hold the MPL addresses provided to it from DNOs and Gas Transporters) and the Address Service (which will hold the GB Standardised Address List). Following the automated address matching, certain addresses may require further investigation or corrective action, this will be undertaken within a Service Desk function.

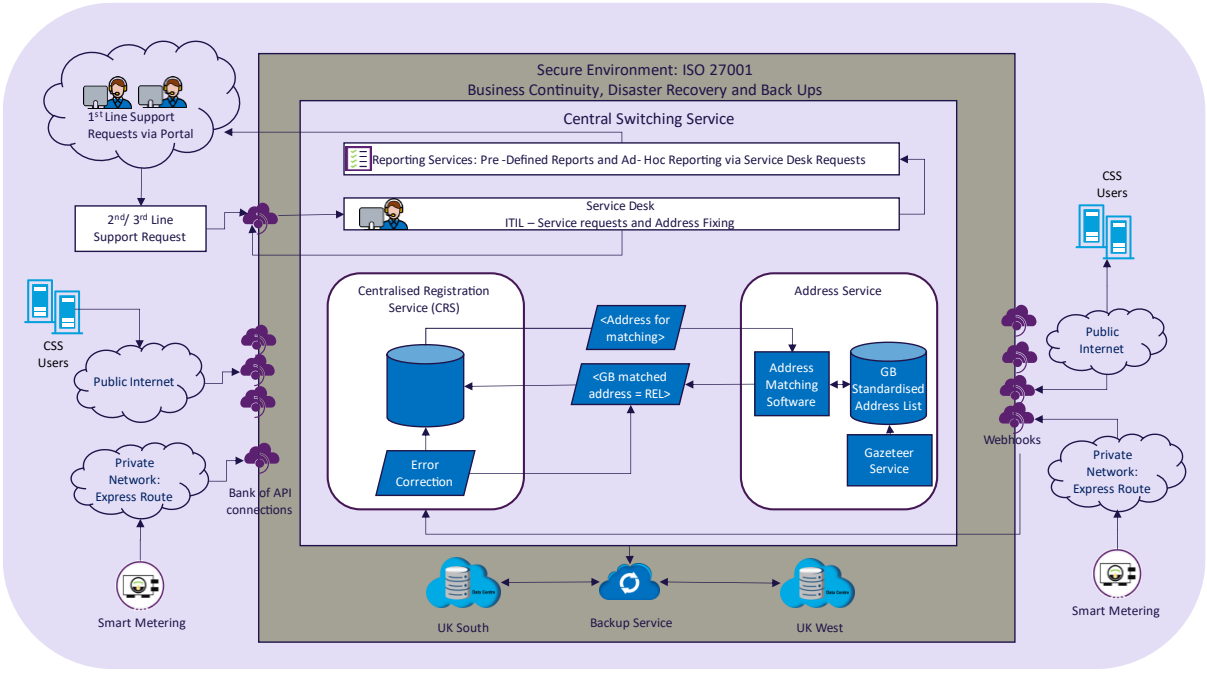

Figure 5. DCC & Landmark: CSS and Address Management Overview

3.1.1. The Certificate Authority

DCC is responsible for delivering and ensuring the continued operation of the CSS Certificate Authority. The CSS Certificate Authority exists as a function within DCC Operations, leveraging the knowledge and capabilities that exist currently to deliver the Smart Energy Code (SEC) Registration Authority. Digital security firm Entrust will manufacture, store and manage the TLS and JWS certificates for the Switching Public Key Infrastructure (PKI). These certificates are required by each CSS User and Switching Data Service Provider to receive and send messages from the CSS.

The PKI operations team within DCC will manage all certificates and provide secure access to those certificates via DCC's service provider Entrust. Each organisation will nominate individuals within their own organisation or within their service providers' organisation to request the creation or revocation of certificates. The PKI team will validate that the nominating individual is correct and provide secure access for named individuals via the Switching Portal.

3.2. Address Service: DCC's ongoing data cleansing, protection and management deliverables

Ofgem identified that a major underlying quality issue driving poor consumer outcomes related to Switching was based on issues with the addresses utilised by the industry to identify Registrable Measurement Points (RMP).

An address, in most instances, is used as a proxy for the RMP when a consumer provides personal information to attempt a switch.

Poor quality addresses prevent the consumer (and agents of the consumer such as price comparison websites), from correctly identifying the RMP. This can either exclude the consumer from switching or lead to erroneous switches (otherwise known as Erroneous Transfers), where the wrong consumer is switched in error.

Improving the quality and availability of address data is a significant role for DCC in terms of future reliability and is covered in some depth to give a clear sense of the size of task that DCC is taking on.

3.2.1. Background to DCC's role in improving address data quality

In earlier phases of the Switching Programme, DCC, alongside Network Operators and Energy Suppliers, has been data cleansing existing addresses mastered by the Network Operators (known as Meter Point Locations (MPL)) and attempting to match to the Ordnance Survey's AddressBase Premium service. DCC instigated a quality improvement project for those addresses that cannot be automatically matched to OS ABP. The Ofgem target for this activity has been exceeded and provides a strong foundation for activities that will continue post Go Live.

As part of the Switching Programme, DCC will have retrieved all registration records from the energy industry - approximately 57 million addresses from 28 different existing gas and electricity registration systems - which will all be stored within the CSS. These records relate to approximately 29 million properties across Great Britain that are capable of being switched using the new switching arrangements.

3.2.2. DCC's Data Master role

The Data Master is the Market Participant responsible for the stewardship of the data quality for the Data Item, as further described in the Data Specification and the Switching Data Management Schedule. The figure below gives an overview of the regulatory requirements on DCC as the Data Master.

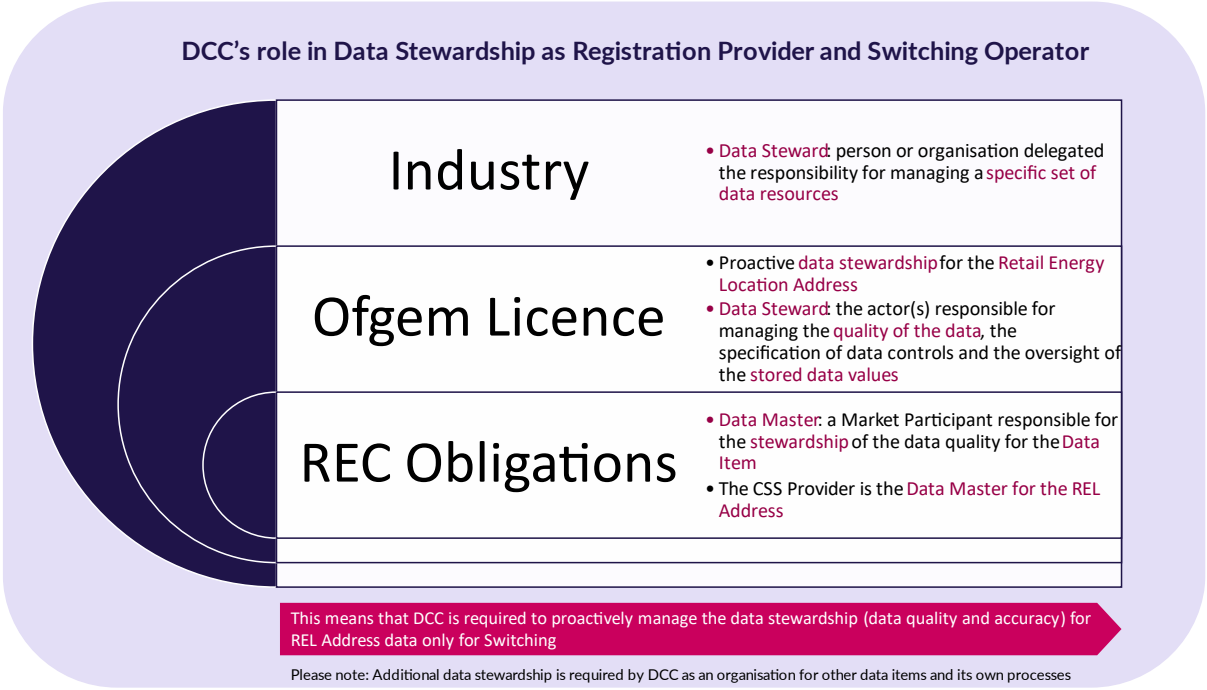

Figure 6. DCC's Role as Data Master

DCC is the Data Master for the Retail Energy Location, which will be either created from the MPL matched to AddressBase Premium, a Manually Entered Address created by an Energy Supplier or the MPL if a match could not be found.

3.2.3. DCC's ongoing role in managing and improving REL data

As part of the ongoing Switching operations, DCC continues to monitor and improve the quality of addresses and report back to source data providers to notify them of the need to update the addresses.

DCC will actively manage address quality, ensuring that continued improvement can be made to those addresses that have not currently matched, as well as continuing to ensure that the changes to addresses throughout their lifecycle are maintained and that addresses related to new premises are matched.

DCC is ensuring that there are robust data management processes, policies, procedures and governance for Switching, particularly with regards to address data management. This is a key element of the REC requirements related to address management and GDPR requirements as Data Controller.

The areas of address management that DCC is delivering can be broadly split into three categories:

Address Quality Methodology – this is a document that will be produced by DCC, for industry consultation, to show the future activities that DCC will be performing to deliver quality improvements to the Address Data.

Performance Management and Reporting – DCC will report into the REC Performance Assurance Board against the measures that are set in the Address Quality Methodology and monitor its supplier's (Landmark's) performance against contractual requirements.

Address Quality Improvements – DCC will be a central point for the coordination and facilitation of source data providers to perform local cleansing on the Address Data. Additionally, DCC will manage the centralised address matching initiatives that will be running with DCC's Service Providers.

In order to store and manage these records, DCC has to ensure strict controls are in place. For example:

- Before data is loaded into CSS, the system will initially attempt to ensure it conforms to British Standard BS7666. BS7666 is a British Standard that sets out the guidelines upon which the Local Land and Property Gazetteers (LLPGs) and Local Street Gazetteers (LSGs) are built. It sets out the standards on how to record Basic Land and Property Units (BLPUs), using the Unique Property Reference Number (UPRN), grid co-ordinates and one or more Land Property Identifiers (LPIs).
- The Centralised Switching Service applies this standard when registration records are received from the industry and, before storing those data items into CSS, attempts to match them to a BS7666 conformant database, in this case Ordnance Survey's AddressBase Premium product.

DCC has also taken additional steps during the matching process whereby simple issues that occur with the data received, that can be readily amended, are corrected through automatic means. Examples of this include data alignment issues, where data has been provided but the street address may have been included in the Post Town field or vice versa.

To maintain integrity of the service, DCC has put additional measures in place. Reports will be made available to assess the current state of the REL data and to provide insights into wherever improvements are possible. These reports will cover all migrated meters plus those meters raised through the CSS registration process. The aim is to identify all areas where targeted effort can be applied to improve data quality and thereby promote continuous improvement in the quality of Address Data.

DCC will analyse these reports and identify process improvements or specific areas where data quality can be improved and will communicate the required activities to be undertaken to deliver these changes.

3.3. DCC's Deliverables as the Switching Service Operator

DCC, as the Switching Operator, is responsible for:

- the Switching Service Desk, Switching Portal and the Switching Service Management System, which provide service management capabilities covering the end-to-end Switching Arrangements
- the Switching Change Advisory Board, which governs the implementation of Operational Change by Switching Data Service Providers

The Switching Portal is how CSS Users can interact with the Switching Operator via service requests to On-board or Off-board from the services, request or revoke security certificates, access knowledge articles and access related communications.

The Switching Portal is also the means by which Incidents and Problems can be raised and tracked through to resolution.

- Switching Service Desk - The service desk provides support to CSS Users, ensuring that Service Requests and Incidents are managed within the agreed REC SLAs. This team triages all incidents, ensuring that the correct resolver groups are identified and assigned. DCC's role includes the co-ordination of incident resolution across the Switching ecosystem, which includes working with our own service providers and external parties, such as CSS Users and the other Switching Data Service Providers
- Major Incident Management - Major Incidents are managed by a dedicated team, with a Major Incident Manager assigned ownership through to resolution. DCC's role is to manage co-ordination of the incident's resolution by the required resolver groups, which may involve our internal service providers and other external Switching Data Service Providers.

3.3.1. The Switching Service Management System and Switching Portal

In order to access the CSS systems and services, CSS Users will initially be Onboarded via the CSS Portal.

The CSS self-service Portal (as depicted in the vertical orange block in the figure below) allows users to access and register information relating to incidents, service requests, PKI certificates, changes, knowledge articles and reports.

While the Portal is a means of access by CSS Users, the Switching Service Management System (the horizontal orange block in the figure below) is where issues are recorded, managed and accessed by Switching Data Service Providers and Switching Service Providers (SPs).

Aside from the automated connections described above, CSS Users and Switching Data Service Providers can also manually contact the Service Desk via telephone or email (shown as green arrows). For example, all category 1 and 2 incidents should be reported to the service desk via telephone.

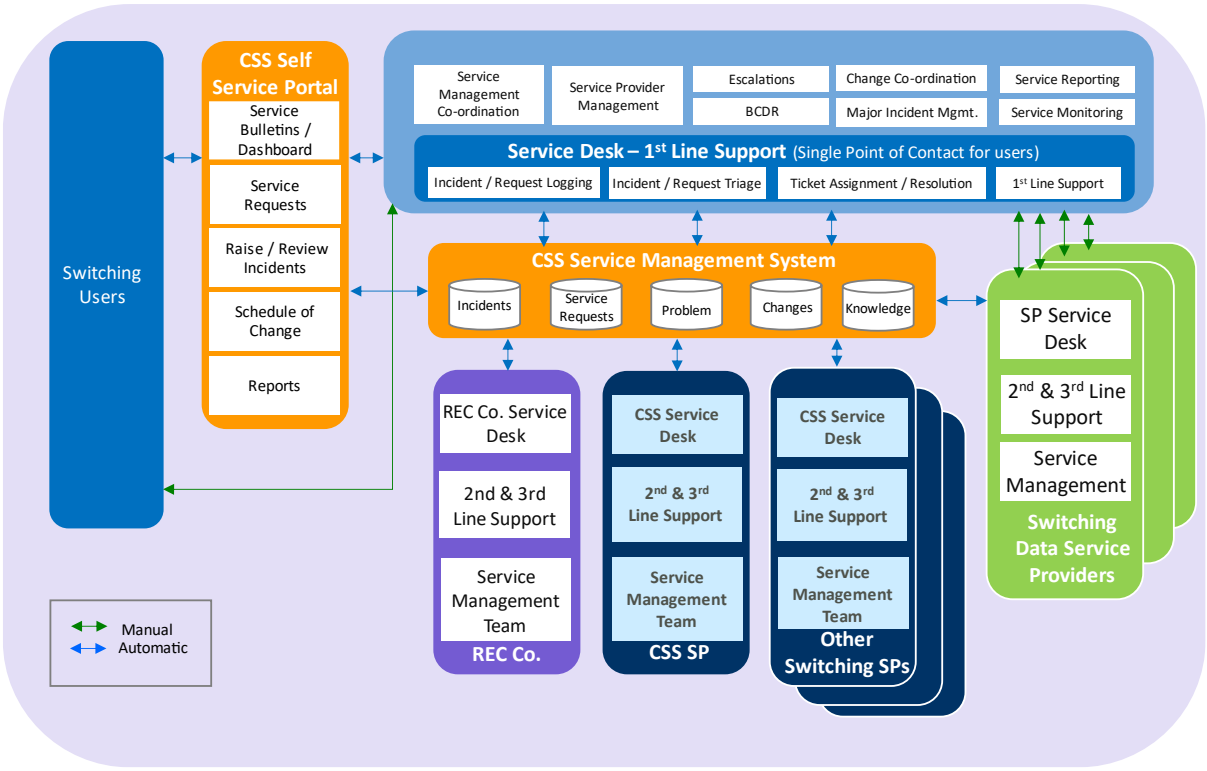

Figure 7. Interfacing into the CSS Service Management System

CSS User and Switching Data Service Engagement Model

CSS Users3.6.1 interact with the CSS via messages sent through Application Programming Interfaces (APIs) over the internet using JSON (Java Script Object Notation) messaging standards. This machine-to-machine communication is secured via a PKI service operated by the Certificate Authority.

Approved persons will interact with the Certificate Authority via the Switching Portal, which will support Service Requests related to a request for certificates and revocation of certificates. The approval and management of requests will be undertaken by the Certificate Authority, which sits within DCC Operations, leveraging the operational knowledge and expertise that manages Smart Metering certificates.

DCC has also produced and maintained an extensive Switching Knowledge Base, of which many of the associated artefacts will be classified as REC Category 3 products. The Knowledge Base is maintained by DCC and its Service Providers and has been made accessible via the Switching Portal.

The Switching Portal is the means by which CSS Users can raise Service Requests and Incidents to the Switching Operator. The comprehensive list of Service Requests accessible to CSS Users are also published to the Switching Portal. DCC, as the Switching Operator, will undertake activities to resolve Service Requests and Incidents in line with the SLAs set out in the REC.

If triage by the Switching Operator identifies that communication is required, or the resolution is dependent on other organisations, this will be managed by DCC via the Service Management System (for communication to Switching Data Service Providers) or via the Switching Portal (for CSS Users). DCC has developed the technical knowledge

to be able to triage Incidents and Service Requests and allocate them to the correct parties for resolution; these skills and knowledge are vital to the efficient operation of the Switching service.

CSS Users will need to establish new processes within their business to manage user identities and roles for access to the portal. They will also need to create processes relating to the raising of incidents and requests within the Switching Portal, which is accessed via a web browser.

Support for new CSS users

DCC has an ongoing requirement to support new entrants to the market or optional users who choose to interface with the CSS. This new user support is known as External Testing and is part of the wider Entry Assessment process with the REC Manager. External Testing verifies a party's eligibility to act as a User of the CSS and allows organisations to prove that their systems operate according to the REC. DCC will work with the REC Manager to ensure that the testing scope is appropriate for each party.

DCC Testing Services will provide support for new users in conjunction with the SI. Testing Services will assure and support the test activities, including providing technical and general support, providing defect management, providing tooling (such as test data tools, simulators and test management tools), as well as providing test data and environments.

Switching Service Desk and Incident Management

The Switching Service Desk is available 24 hours a day, 7 days a week as per the requirements set out in the REC Service Management Schedule.

The Switching Portal is the primary point of contact for CSS Users, as described above. It contains details of all the standard service requests that can be raised by CSS Users, including PKI-related requests, Onboarding requests and other interaction types.

The figure below shows DCC's service capabilities for both CSS Users (shown at the top of the figure) and Service Providers (at the bottom of the figure). As depicted in the yellow block, the design of the Switching Operator system has been developed utilising the ITIL Framework. The core ITIL functions of incident management, problem management and change management will be operated by the DCC Operations teams. These services will cover the CSS and the CSS external interfaces to external CSS Users and Switching Data Service Providers. CSS Users and other industry stakeholders will be able to access the service via a number of channels, enabling them to raise incidents, service requests and obtain reports.

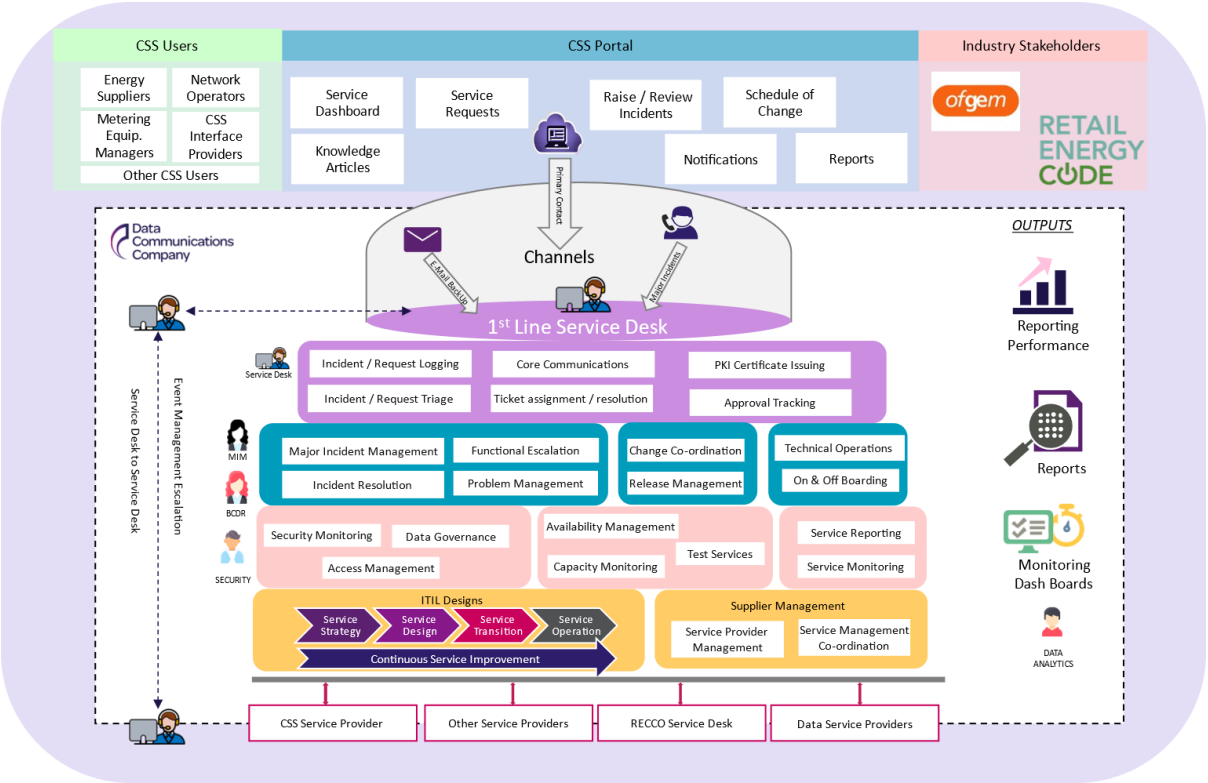

Figure 8. DCC's Service Capabilities

The Switching Portal is also the primary method of raising an incident. Incidents raised by CSS Users follow DCC's standard incident management process, which defines the assessment criteria for prioritising incidents, the target response times and the process a CSS User can follow to escalate an incident.

The figure below gives an overview of the incident lifecycle, identifying self-service actions by the CSS User as well as step-by-step actions by DCC's Switching Service Desk.

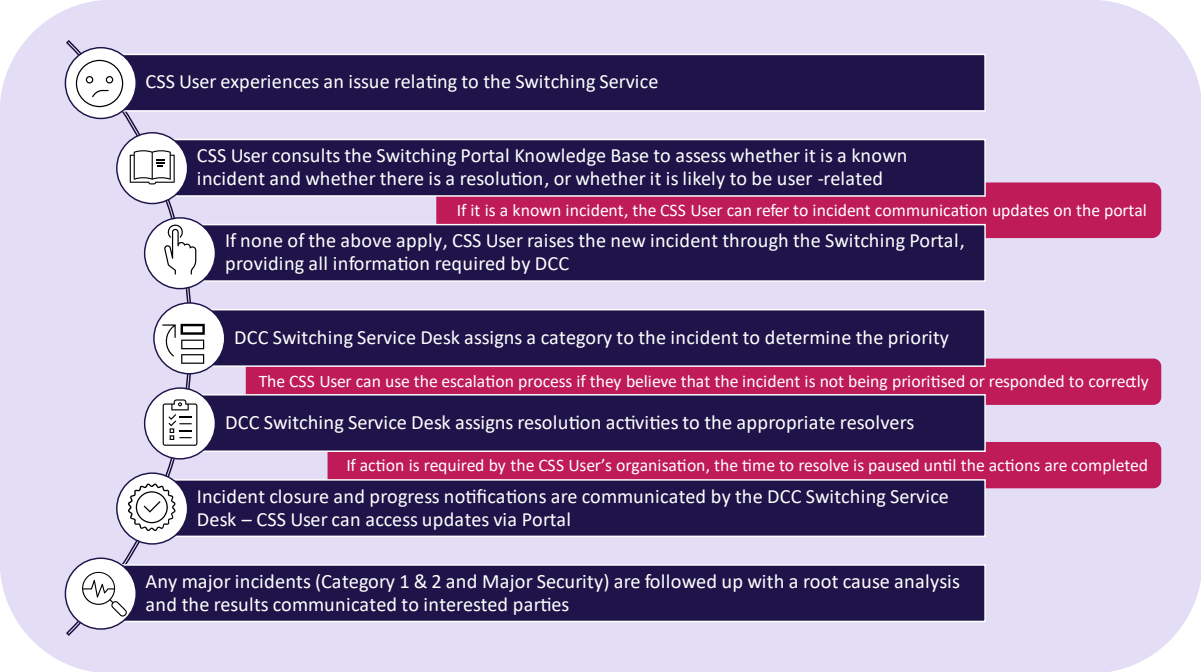

Figure 9. Incident Management Process

Major Incident Management

A Major Incident is a high-impact, high-urgency incident, which will constitute a Category 1 or Category 2 incident, that affects a large number of users, depriving the business of one or more crucial services or a degradation in service. All Major Incidents are managed and co-ordinated by DCC as the Switching Operator in order to ensure there is a controlled resolution and minimise the business impact.

3.3.2. Reporting

DCC is committed to ensuring Service Users and other stakeholders are kept informed about the ongoing operation and performance of the ongoing Switching services. To support this commitment, operational and contract management teams will provide regular reporting to a range of different stakeholders, with each report being structured to reflect the specific interests of the receiving party.

In common with other services already delivered by DCC, regular monitoring and reporting is based on agreed performance metrics. In the case of Switching, relevant performance metrics have been captured from several sources including:

- The Ofgem Switching Full Business Case
- DCC's obligations within the Retail Energy Code
- Performance and Availability Requirements specified as set out in the relevant REC service definition documents
- Design Baseline 4 requirements

DCC has established a series of systems and processes that support regular monitoring of our performance metrics and access to lower-level performance information to support interventions where there has been a failure or identifiable movement in performance against normal service. Key aspects include:

- Automated tracking of performance metrics
- Regular (weekly) internal reviews of performance for each system/process
- Regular (monthly) dashboard cross system reviews of performance
- Ad-hoc forums to respond to issues, performance trends and incidents, inclusive of other Switching Data Service Providers
- 'Eyes on Glass' near real-time monitoring of the service performance to identify and resolve issues prior to those issues becoming SLA impacting

3.3.3. The ongoing development of our operational capabilities

Over the last few years, DCC has been working closely with Ofgem and wider industry, initially in the provision of support to Ofgem during the earlier phases of the Switching Programme (leading up to the creation of Design Baseline 4 documentation) and subsequently leading the Design, Build and Test phase.

Our role within the development and delivery of the new Switching Arrangements, combined with our existing roles within Smart Metering, place DCC in a unique position that enables us to efficiently mobilise and operate the CSS Provider and Switching Operator services as defined within the Retail Energy Code.

Since inception, as additional responsibilities were added to the DCC licence, DCC has developed and matured from its starting point of the delivery and operation of the SMETS2 infrastructure to providing numerous other industry-transforming systems and services. As shown in the evolution timeline below, as the business has grown, so has DCC's operational functions, such as the service management approach, which DCC has developed in line with ITIL processes.

DCC currently provides operational capabilities that support the service management for Smart Metering, which encompasses the DSP, CSPs (plus other Service Providers within the ecosystem) and SEC Parties who are the end users of those services.

DCC also manages the performance of those Service Providers via its Commercial and Supplier Management teams, ensuring that value for money is achieved and DCC's obligations under the Smart Energy Code are met.

These capabilities have been extended to include the new Service Providers that DCC selected to deliver its obligations as the CSS Provider and the Switching Operator.

The service deliverables outlined in this section have been developed based on detailed knowledge of the new Switching Arrangements together with significant learnings gained from the above activities, such as the management of incidents, operational change and regulatory change within the energy industry.

Service delivery for Switching Operations will utilise DCC's existing Service Management capabilities, such as the existing ITIL processes, Service Centre and Incident Management teams in conjunction with the operation of a dedicated Switching Service Management System and Switching Portal.

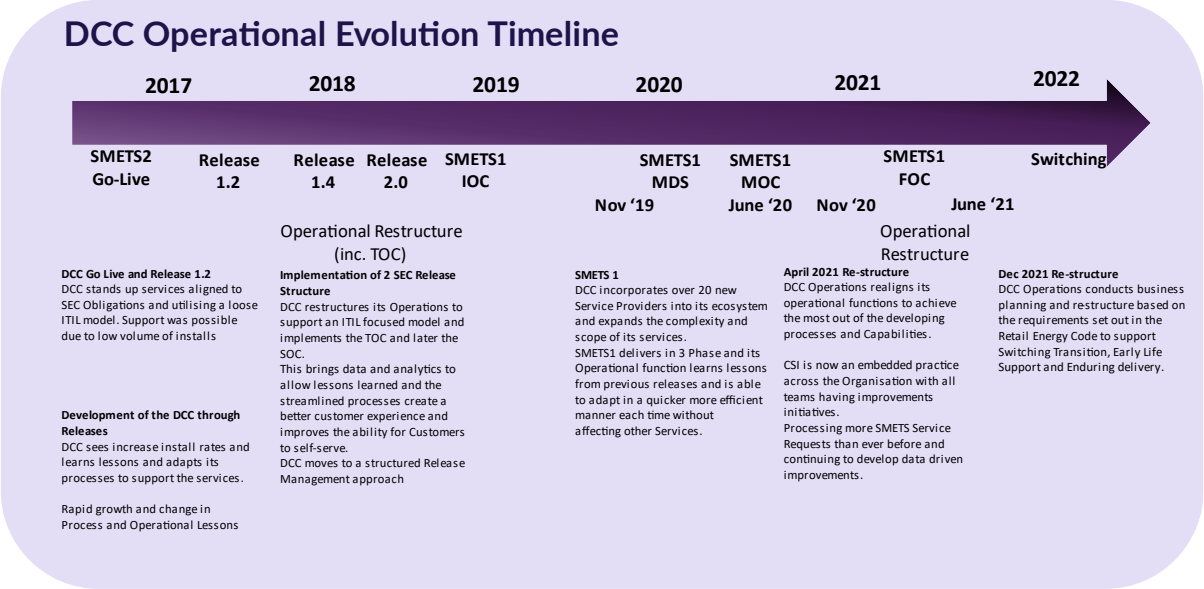

Figure 10. DCC's Operational Evolution Timeline

3.3.4. The role of DCC Operations within the later Switching Programme stages

In earlier phases of the programme, the DCC Switching Programme Team ensured that the DCC business is ready to integrate and operate the CSS into business-as-usual practice. In addition to assuring the CSS solution has been designed, built and tested to fulfil the programme requirements, the Switching team has assured that the business is ready to operate the CSS service at both operational and enterprise levels of the business.

From March 2022 until go-live of the Switching Service in July 2022, DCC's Switching activities were focused on the Transition phase of the programme. The Transition phase was used to ready the CSS platform for service, populating the CSS Production Environment with the data currently used in the existing switching platform and integrating Switching Data Service Providers (SDSP). SDSPs are parties that fulfil a role under the current solution, and that need to be integrated to the CSS solution to support the new CSS service.

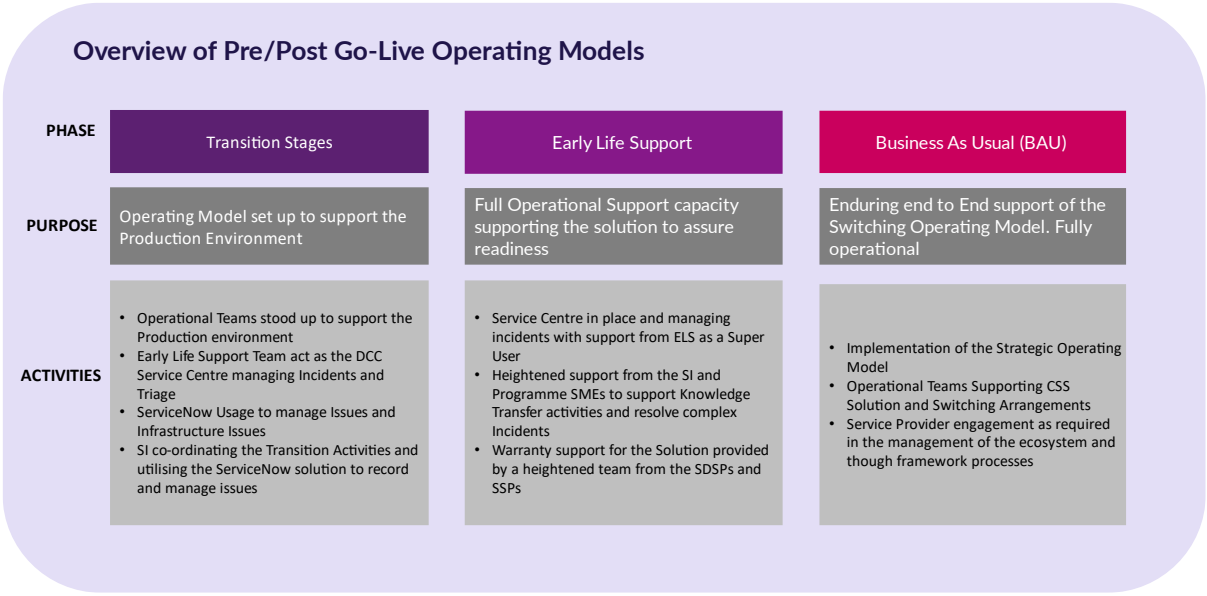

Figure 11. Pre and Post Go-Live Operating Models

The Transition Stages ran to late July 2022 (the final stage of Transition, Stage 3, overlapped with the go live event). So, although CSS was not conducting switches until go live, the Technical Go Live has commenced ahead of Transition Stage commencement in March 2022.

DCC Operations sized its Switching capabilities in line with available industry data and the delivery of its new REC obligations. Its recruitment and training plans have been phased and aligned with the programme's Transition Stages, with resources being brought online proportionally throughout the first half of 2022. This approach supported early process learning and engagement in advance of the full service Go Live in July 2022.

In the run up to and post Go Live, DCC's Hypercare team was engaged throughout. This team has vast experience gained from the implementation of large-scale SEC-related changes. The team is supporting wider operational activities throughout the learning and service mobilisation stages and will remain in place until DCC operation's 'hypercare exit criteria' have been satisfied in relation to service performance and stability.

DCC anticipates its operational resources will reduce to 'steady state' levels in late 2023 following an anticipated period of service introduction and stabilisation. Resource levels will be managed accordingly through DCC's internal resource planning activities.

The Switching Operator Target Operating Model

DCC's Service Delivery as the Switching Operator will take advantage of the skills and expertise held within existing DCC teams. To continue to deliver value for money across all services, whilst also protecting and maintaining existing service levels, the following principles will be applied throughout DCC's approach during the introduction of Switching operations to the Service Delivery estate:

- Utilising existing capability and approach for common requirements where existing capacity is sufficient
- Extending capacity for common requirements within existing capabilities where increased levels of support are required
- Developing additional capabilities where the role of Switching Operator brings new requirements

This approach will allow DCC to leverage existing skills and experience, whilst also taking advantage of any available economies of scale while operating multiple different services at the same time, ensuring that sufficient capacity and capability is available to support the ongoing Switching operations alongside existing responsibilities.

Examples of this approach include:

- DCC's extended Service Operations team will be responsible for the operation of both the Switching and Smart Metering Service Management capabilities, including the service desks, incident management and the pro-active monitoring of both services
- To deliver 24/7 services, DCC will use a blended model. Resources have been trained to the required level, resulting in most of our people being capable of supporting either Smart Metering or Switching, with a subset capable of supporting both of our services
- Larger functions, such as In Life Change, require a high number of resources and will, by their nature, be less blended as it will not be cost effective to cross skill resources. In this instance, additional staff will be provided to meet the requirement
- Smaller functions, such as Finance and Capacity Management, require less resources to support day to day operations; it will therefore be more cost effective to cross skill existing resources (combined with new hires) to support both Switching and Smart Metering service delivery

3.3.5. Business Continuity and Disaster Recovery (BCDR) Management

DCC's BCDR capability for Switching will follow the same model as for the rest of DCC's active operations. An assurance framework has been developed and implemented for both Business Continuity and Disaster Recovery activities. This framework defines how DCC will develop, implement, maintain, and oversee implementation of policies, procedures and associated plans for disaster recovery administration and business continuity.

DCC's BCDR capability is based on industry-standard best practices (ISO 22301, ISO 27031, BCI good Practice Guidelines -2018). In order to ensure ongoing operations, DCC:

- Monitors and reviews the Recovery Point Objectives (RPO) and Recovery Time Objectives (RTO) for IT systems and services, driving improvements where objectives are not met
- Assures Crisis Management Plan and Incident Management capabilities

All CSS Service Providers and Switching Data Service Providers providing a Switching service have agreed to the following recovery targets as part of their contractual obligations:

- Recovery Time Objectives (RTO) – the period, following a BCDR event, within which a product, service or activity must be resumed, or resources must be recovered (ISO 22301 BCMS Standard). Often referred to as the required time to complete failover of services from one data centre to another. The service shall be recoverable within a target RTO of 4 hours in the event of its non-availability
- Recovery Point Objective (RPO) – the point to which information used by an activity must be restored to enable the activity to operate on resumption (ISO 22301 BCMS Standard). Often referred to as the maximum allowable data loss. DCC, as Switching Data Service provider responsible for the CSS Registration and CSS Address Service, has a target RPO of 15 minutes

DCC has agreed with Ofgem to use the existing data for release testing and External Testing. Due to its sensitive nature, DCC has a responsibility to securely store and protect this data in line with its other data management responsibilities.

3.4. DCC's Service Provider management activities

DCC's Commercial, In-service Delivery and Strategic Customer Engagement teams have been working closely with the Programme team to ensure that the relationships, services and deliverables already developed within the Switching Programme continue seamlessly into operational delivery.

3.4.1. Contract management

DCC's Contract Management function is designed to ensure effective management of each contract with a view to delivering maximum value for money.

DCC has considerable experience in monitoring and managing supplier performance for existing services, including long-established relationships with SMETS2 suppliers and more recent forward-looking relationships with our Switching partners. DCC will utilise this experience in the management of the Switching Operator-related contracts, building in additional capacity to support the additional workload and capability where Switching requirements differ from existing contract management activities.

The scale and scope of DCC's contract management activities can vary to take account of the size and scope of the contract concerned. There are certain minimum activities that apply to all contracts, and a fuller set of contract management activities, which apply to, for example, Fundamental Service Providers. DCC's key Service Providers in the Switching Programme, including Landmark, Capgemini and Entrust, all receive full contract management.

3.4.2. Service Provider performance management

DCC will utilise its existing service provider performance management capabilities, developed for Smart Metering, to manage the new Service Providers that make up the Switching ecosystem.

DCC's existing business functions of the Supplier Relationship Management team and the In-Life Supplier Delivery Management team, will be expanded to cover the additional Service Providers.

DCC will ensure that each Service Provider operates to the KPIs and SLAs as set out within the REC and which will be flowed down to the contracts that have been agreed between DCC and each Service Provider.

DCC, under its licence and as a REC Party, must ensure that it is compliant with all service levels and functional requirements. A significant number of those obligations are met by the activities of its service providers. As such, DCC will build strong day-to-day operational relationships with those service providers, supported by a robust set of performance management monitoring and management interfaces. This will ensure that DCC's service providers are successful in achieving those targets, and risks are proactively mitigated and issues resolved before they become performance impacting.

3.4.3. Ongoing systems integration services

DCC's service provider Netcompany, the SI for the Switching Programme, will continue to perform this role for an interim period until a competitive procurement is undertaken to conclude in 2023. The rationale for this approach is to ensure that consistency is maintained across the Go Live and early operational phases of the new arrangements. Netcompany will be subject to contract and service management as described above.

The SI's primary roles will be:

- Support Operational Change delivery across internal service providers, including release planning, testing and management of environments
- Support REC Change Proposals (CP), including impact assessments, release planning and testing, and implementation
- Support, when required, testing with external Switching Data Service Providers in support of REC CP change
- Support new CSS User Onboarding, including the External Testing support of new users

3.5. Change management services

DCC is responsible for responding to requests for changes to the Switching solution and the Switching Operational Services. Once a change has been approved, DCC will also manage the design and testing services as required.

3.5.1. Impact assessment of change

The DCC change management team's expertise will be expanded to support both REC and SEC changes. The REC change management process has some variations to that used for the SEC; DCC will manage the implementation of REC change as follows:

- The initial management of Change Proposals: these will be managed by the REC Change Management process. DCC, as a REC Service Provider, will be requested by the Code Manager to undertake production of Impact Assessments (IA), both Preliminary (PIA) and Detailed (DIA). This will be the responsibility of DCC In Life Change, but the integration team will provide extensive support through the co-ordination of the process and engagement with impacted internal DCC functions and impacted service providers
- The cost of producing the detailed Impact Assessment shall be invoiced by the service provider to the RECCo upon acceptance by the Code Manager of that impact assessment as being completed to an appropriate standard and in accordance with the agreed timetable and quote
- The development and testing of changes to the DCC Switching System: this will be overseen by DCC and delivered by the integration team
- The transition of the change, either as a single change or as part of a release, into live operations: Once the testing of a change is complete, the integration team will pass the completed change back to DCC Operations to introduce into live operations
- In managing the development and testing of the implementation of changes, the integration team will manage all testing by the SPs and CSS Users (if required under the REC), and will prepare the supporting documentation for a release. This is then passed back to DCC Operations to support the transition into live operations
- As part of release management, DCC will co-ordinate deployments and ensure that pre- and post-deployment checks are carried out, including the development of runbooks

3.5.2. Approval of operational change

The Change Approval Board is administered by DCC and is responsible for the monitoring and approval of all operational change undertaken by the Switching Data Service Providers. This function will provide assurance that operational changes implemented by each service provider will be coordinated and assessed to ensure that impacts to the Switching arrangements are planned and minimised. A Forward Schedule of Change will be published on the Switching Portal, which will allow all CSS Users to understand when a change will be implemented and any impacts, such as reduced availability or maintenance windows.

3.5.3. Release management of change

DCC's role in service management comprises both ongoing activities and some aspects that are specific to each new release:

- Ongoing Services: DCC will work closely with the REC Code Manager to ensure the smooth operation of the Switching service, change and release management and post-release implementation monitoring. DCC reports regularly to the REC Code Manager on all aspects of the delivery of its services. DCC's integration team will also lead on the identification and management of risks and issues and maintain all documentation relevant to the delivery of its services.
- Release-related Services: Once the content of a release is known, DCC will develop a Release Plan. The plan will also be integrated with and aligned to the REC Code Manager's overall release plan. The plan will identify the Critical Path for that release,

and DCC will maintain it by identifying mitigating actions for any issues or delays and monitoring its service providers and external parties' progress.

3.5.4. Post-change testing services

The overall approach to and plan for systems integration and testing for the live operations of the CSS will be defined in a Core Release Integration and Testing Approach (CRITA) and a Core Release Integration and Testing Plan (CRITP), which will be the first major deliverables of the integration team prior to CSS Go Live.

DCC will maintain these documents and then use them to create a specific Release Integration and Testing Plan (RITP) for each release once the scope of that release is confirmed. These documents will be aligned to DCC and REC Code Manager approaches and plans. The purpose in developing the CRITA, CRITP and RITPs is to ensure that all aspects of the CSS solution design, including the REL address and all other aspects of the data model, are fully considered.

Knowledge management will be an important part of DCC's deliverables. DCC and the SI have developed a Knowledge Management Approach and Plan (KMAP), which sets out the knowledge management tools that will be used and the approach that will be used to disseminate information using those tools.

The DCC team will carry out all functional and non-functional testing as required by the change, supported by the use of a test management tool.

All aspects of the CSS solution design, including the REL address and all other aspects of the data model, will be fully considered and included in test scenarios, test scripts and test data. DCC will develop, maintain and manage all testing tools required.

The DCC Test and Assurance Team, supported by other areas of DCC, is responsible for the assurance of testing carried out and is supported by the integration team.

Testing issues and defects will be managed using a Defect Management Process. Test and defect management tools and a Triage team will be used to undertake an initial review of all testing issues, ensuring that defects are routed correctly.

An environment management plan has been developed, which covers environment requirements for testing and ensures that the environments for which DCC is responsible are populated prior to testing.

DCC will perform a test data management role, including the preparation of a test data strategy, approach and policy and a test data tool. DCC will continue to use the existing test data as agreed with Ofgem. In an extension to its data protection responsibilities, DCC will securely protect this sensitive data.

3.5.5. Post-change design management

DCC will manage, coordinate and assure the integration of the design, including the Design Baseline 4 end-to-end (E2E) design, Business design, Logical design, Physical design, Interface design, Data design, and Technology design.

DCC will also ensure that all Parties have access to the information required to develop an end-to-end understanding of the relevant aspects of the design they are working on and offer a design query service to all Parties.

DCC will ensure that agreed overarching design principles are adhered to by all parties engaged by DCC in the CSS and core systems and services design. In relation to all requirements related to Design, DCC shall ensure that all aspects of the CSS solution design, including the REL address and all other aspects of the data model, are fully considered and included.

A complete and comprehensive set of Switching solution design documents will be maintained by DCC, including the Switching Service Management System (SMS). DCC will work with the REC Code Manager to ensure all REC Parties have appropriate access to these documents via the Switching Portal.

DCC will also undertake regular audits, at least one per release, to ensure that all artefacts affected by a CR that has been implemented have been implemented at the correct version and the Configuration Management System has been updated accordingly. Full requirements traceability will be available, and a Traceability Matrix will be maintained that links requirements, design, build, testing, deployment configuration and regulation.

3.5.6. Environment strategy

An Environment Plan has been delivered, which details the environments necessary for release testing and the responsibilities for the provision of those environments. The environments will be monitored to ensure they are available for CSS. DCC will liaise with its providers of the production and testing environments to ensure that any constraints with the provision of those environments are identified and managed, any environment contention is identified, documented and minimised, and environment performance is reported on a weekly basis.

DCC, alongside the SI, will coordinate releases into the environments and release plan, ensure that there are no clashes and ensure that appropriate governance framework has been adhered to.

3.6. The Switching service user experience

CSS Users will access the Portal and services for many varied reasons. New users will need to register and verify their access, and existing users will use the platform not only to instigate switches, but also to raise incidents, provide and retrieve data, and track events.

3.6.1. Switching Service Users

The Switching services and solutions detailed in this Business Proposal will be provided to organisations qualified under the REC who perform the following Market Roles:

- Energy Suppliers: All Gas and Electricity Suppliers must become Qualified CSS Users when becoming a REC Party. They will not be able to gain any customers until they become qualified to use the CSS
  - Energy suppliers typically use the CSS to submit registration service requests when they gain a customer or receive notifications when they lose a customer
- Network Operators: All Gas Transporters and Electricity Distribution Network Operators (including Independent Distribution Network Operators) must interface to the CSS and provide Meter Point data, which includes the address for where the Meter Point is located. All Gas Transporters utilise their service provider Xoserve to interface to the CSS.
  - Network operators typically use the CSS and portals to provide Meter Point data
- Metering Equipment Managers (MEMs): Gas and Electricity MEMs can choose to become CSS Users, but they are not obligated to by the REC
  - MEMs typically use the CSS and portals to receive messages regarding their related registrations
- Other CSS Users: Gas Shippers, Electricity Supplier Agents and Meter Asset Providers are not REC Parties. They can choose to become CSS Users and to do so must become qualified under the REC
  - As with MEM users, other CSS Users use the CSS and portals to receive messages regarding their related registrations
- CSS Interface Providers (CIPs): Service providers can become CSS Users and provide an interface between the CSS and a CSS User
  - CIPs adopt the purpose of the CSS User and so will interface with the CSS and portals in the manner of the user
- Ofgem, the Retail Energy Code Company and the REC Code Manager: DCC and its service providers will interact with governance bodies to provide reporting and support industry change

4. The DCCs Business Plan to Operate the Switching Services

4.1. Switching forecast costs

As set out in the REC, the CRS Provider (DCC) presents its Rough Order of Magnitude (ROM) forecast charges for the following Financial Year to the REC Board by the end

of November every year, with the first submission of the forecast charges by the end November 2022 for the Financial Year ending 31 March 2024.

Such forecast charges shall be evidenced and reflect the CRS Provider's reasonable forecast costs of providing the Centralised Registration Service and permitted under the DCC Licence.

As per Licence Condition 36.9, the forecast costs shall include relevant internal costs, external costs, adjustments to account for under or over recovery of costs in the previous year approved by the Authority and margin permitted under its licence but shall not include any contingency costs or VAT.

Cost Type	Components
Internal Costs	Resource costs including: • salary • NI • bonus • training • holiday/sick pay • pension provision • other costed benefits • recruitment costs
	Non-resource costs including: • service centre • consultancy costs
External Costs	SI contract costs
	CSS contract costs
	Switching Portal contract costs
	Certificate Solution contract costs
	Allowance for change costs
Margin	15% mark-up on Internal Costs

The total estimated DCC cost to industry associated with delivering the Switching Operator service is summarised in the table below for Regulatory Years (RY) 2023/24 to 2024/25. DCC has forecast these costs for the purpose of generating a realistic budget.

Forecast Costs	2023/24
Internal Costs	£5.3m
External costs	£11m
Margin	£0.4m
Totals	£16.7m

4.1.1. Internal Costs

Resource Costs

Resource costs, are those costs associated with members of staff working on switching.

Non-resource costs

Non-resource costs are a subset of Internal Costs and reflect all costs which are not resource or External Costs. This is predominantly made up of costs associated with the service centre and consultancy costs.

4.1.2. External Costs

DCC will have Contracted External Services for the SI, CSS, Switching Portal and Switching Service Management System, and Certificate Authority procurements as well as estimated DSP costs.

4.1.3. Margin

The margin represents a return to DCC for the delivery and management of DCC's role in the enduring switching service. This margin will be recovered through the CRS Charges[1] in effect from April 2023 onwards.

In January 2023 Ofgem published its decision that DCC should be awarded margin of 7% on its economic and efficient internal costs on Switching from 01 April 2023 onwards, equating to 7.5% Rate of Return.[2]

4.2. DCC Performance Regime and Price Control

Due to DCC's unique position as the monopoly provider of the GB smart metering infrastructure, it is subject to a range of terms and conditions in the Smart Meter Communications Licence. Under the Licence, Ofgem reviews DCC's expenditure on

[1] CRS Charges – are the charges payable by RECCo to DCC each month from 1 April 2023.
[2] https://www.ofgem.gov.uk/publications/decision-policy-and-statutory-consultation-establish-dcc-switching-incentive-regime

an annual basis through the Price Control. DCC's Switching Operator services will be subject to price control and an incentive scheme.

5. Comments and Feedback

Please provide any comments or feedback by 17:00hrs on 31 March 2023 to DCC at regulation@smartdcc.co.uk.

Comments may be submitted in PDF or similar format rather than Microsoft Word format if preferred. Comments may be published on our website: www.smartdcc.co.uk. Please state clearly in writing whether you want all or any part of your comments to be treated as confidential. It would be helpful if you could explain to DCC why you regard the information you have provided as confidential. Please note that responses in their entirety (including any text marked confidential) may be made available to the Department for Business, Energy and Industrial Strategy (BEIS) and the Gas and Electricity Markets Authority (the Authority). Information provided to BEIS or the Authority, including personal information, may be subject to publication or disclosure in accordance with the access to information legislation (primarily the Freedom of Information Act 2000, the Data Protection Act 2018 and the Environmental Information Regulations 2004). If BEIS or the Authority receive a request for disclosure of the information, DCC/BEIS/the Authority will take full account of your explanation (to the extent provided to them) but cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded by DCC as a confidentiality request.