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# MP277 ‘Virtual Gateway Connection’

## Modification Report

Version 1.0

22 January 2025



## About this document

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This document is a Modification Report. It sets out the background, issue, solution, impacts, implementation approach and progression timetable for this modification, along with any relevant discussions, views and conclusions.

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This document also has three annexes:

- **Annex A** contains the business requirements for the solution.
- **Annex B** contains the redlined changes to the Smart Energy Code (SEC) required to deliver the Proposed Solution.
- **Annex C** contains the Data Communications Company (DCC) Preliminary Assessment.
- **Annex D** contains the responses received to the Refinement Consultation.

## Contact

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## 1. Summary

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This proposal has been raised by Chris Barlow from the DCC.

The SEC currently requires a physical DCC Gateway Connection to be established at the premises of a DCC User to allow secure data transfers to and from the DCC. This is the case for all DCC Users excluding Registered Data Providers (RDPs). [MP248 'Requirements for DCC Gateway Connection'](#), implemented as part of the November 2024 SEC Release, updated the SEC to allow the DCC to share data with RDPs, and in turn allow RDPs to share acknowledgement messages without the need for a physical DCC Gateway Connection.

All other DCC Users are currently required to establish a physical DCC Gateway Connection to access the DCC network. Once a connection is established, a DCC User can then be considered a DCC Gateway Party. The DCC has stated that it has fielded approximately 130 queries from prospective, new and existing DCC Users expressing an interest in obtaining a virtual DCC Gateway Connection, with some raising concerns about the misalignment of having a physical DCC Gateway Connection with their cloud-based IT infrastructure.

The impact of the current arrangements presents a challenge for prospective, new and existing DCC Users due to the potential costs and time associated in establishing a physical DCC Gateway Connection.

The Proposed Solution would provide the option for prospective, new and existing DCC Users to connect to the DCC through a virtual DCC Gateway Connection. To enable this, the option for virtual DCC Gateway Connections will be added to the Data Service Provider (DSP) catalogue.

The Smart Energy Code Administrator and Secretariat (SECAS) is targeting this modification for implementation in the February 2025 SEC Release. This modification will be a Self-Governance modification. Costs for the Proposed Solution include an initial DCC setup and implementation fee of up to £135,000 dependant on the number of DCC Users and annual DCC running costs of up to £74,000 dependant on the number of DCC Users.

## 2. Issue

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### What are the current arrangements?

#### What is a DCC Gateway Connection?

A DCC Gateway Connection is designed to ensure a secure and reliable connection for Data communication between DCC Users and the DCC. The ordering of DCC Gateway Connections is provisioned for by the following sections of the SEC:

- SEC Section E 'Registration Data'
- SEC Section H 'DCC Services'
- SEC Appendix G 'DCC Gateway Connection Code of Connection'

Prospective, new and existing DCC Users (excluding RDPs following the implementation of MP248) that want to connect to the DCC network must use a physical DCC Gateway Connection. This means that the organisation's IT system needs a direct physical connection to the DCC network through specific infrastructure. The SEC identifies this as a DCC Gateway Connection. In order for a DCC User to obtain a DCC Gateway Connection the following steps must be completed:

- DCC receives completed connection form
- Gateway Party receives initial quote (five Working Days)
- Gateway Party provides authority to proceed (up to thirty calendar days)
- DCC Carries out a physical site survey (thirty calendar days)
- Gateway Party receives revised quote (ten Working Days)
- Gateway Party accepts revised quote (up to thirty calendar days)
- Connection and equipment are installed (within 90 Working Days for high volume connection or, 25 Working Days for a low volume connection)

SEC Section H 'DCC Services' covers the requirement for DCC Users on how to interact with the DCC. It currently states that to interact with the DCC, a DCC User requires a DCC Gateway Connection, which by definition, is placed within the organisation's premises. This will require a site visit, equipment costs and can take approximately 90 days or longer to set up. This is to enable Data being sent from the DCC to the DCC User to be transferred securely. Once a connection is established, a DCC User can then be considered a DCC Gateway Party.

The DCC have two types of connection available. These are high volume connections and low volume connections.

### ***High volume connections***

When a high volume connection is installed, the DCC state there it is likely to be between ten and twenty megabits per second available for the DCC User. If more bandwidth is required, high volume connections can usually be upgraded up to a maximum of 100 megabits per second. This upgrade is a chargeable request.

### ***Low volume connections***

When a low volume connection is installed, the DCC state there is likely to be up to 40 megabits per second download speed and a ten megabits per second upload speed providing there is superfast broadband connection available at the Party's Data centre. If this is not available, then a standard broadband connection will be provided which the DCC state there is likely to be up to 20 megabits per second download speed and a 2.5 megabits per second upload speed. If the Party needs to move to a high volume connection, then it will need to apply for a new high volume connection. The Party may then choose to cancel the low volume connection.

## DCC Gateway Connection charges

There are two types of applicable charges in relation to a physical DCC Gateway Connection: the connection charge and the annual charge.

### Connection charge

The connection charge recovers the cost of installing the physical DCC Gateway Connection and will be payable to the DCC following installation. The connection charges will depend on the specific requirements of each individual connection, as outlined in SEC Section H15 and Appendix G: DCC Gateway Connection Code of Connection.

The variables that will influence the level of this charge include:

- Physical distance from the premises of the physical DCC Gateway Connection to the local exchange
- Configuration of the premises of the DCC Systems i.e. whether there are existing connections that can be used or whether new lines will be required
- Type of connection determined e.g. ethernet, Fibre to the Cabinet (FTTC), Asymmetric Digital Subscriber Line (ADSL) and/or copper
- The amount of further work required as determined by a physical site inspection; and
- The bandwidth requested by the Connecting Party.

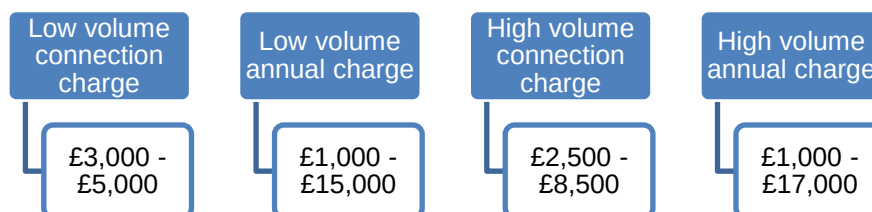
### Annual charge

The annual charge recovers the annual rental cost associated with the connection and will be payable to the DCC at the start of each contractual year. The charge will be dependent on the specific requirements on each individual connection, as outlined in Section H15 and Appendix G: DCC Gateway Connection Code of Connection.

The variables that will influence the level of this charge include:

- The length of the contract i.e. one year or three years;
- Type of connection determined e.g. ethernet, FTTC, ADSL and/or copper; and
- The bandwidth requested by the Party

The figures below show the indicative explicit charges for a physical DCC Gateway Connection. More around the charges can be found in the [DCC Charging Statement](#).



## What is the issue?

SEC Section H 'DCC Services' specifies that organisations connecting to the DCC must use a physical DCC Gateway Connection to ensure a secure link between their system and the DCC's services. While this was appropriate when the SEC was first implemented, it has now become a barrier for many prospective, new and existing DCC Users.

The DCC states that it has fielded approximately 130 queries in relation to establishing virtual DCC Gateway Connections from prospective, new and existing DCC Users. Due to technological advancements, organisations are moving their IT systems to cloud-based systems. The current physical DCC Gateway Connection requirement has become increasingly outdated and incompatible with how a large number of businesses operate today. The current arrangements do not cater to many prospective DCC Users who want to connect to the DCC.

## What is the impact this is having?

The current physical DCC Gateway Connection requirements represent potential impracticalities for these cloud-based organisations. A large number of organisations want cloud-based options to align with their current IT models, but the existing SEC requirements for a physical DCC Gateway Connection are not as operably efficient as possible when paired with these cloud-based systems. This mismatch creates additional lead times and costs to spend on physical premises they otherwise would not require if the option to have a virtual DCC Gateway Connection existed during the process of becoming a DCC User.

The SEC obligation of having a physical DCC Gateway Connection can be obstructive to potential cost savings a DCC User could make by utilising a virtual DCC Gateway Connection. Additionally, potential and expected benefits of becoming a DCC User may be delayed, as establishing a physical DCC Gateway connection is a longer process than that of establishing a virtual DCC Gateway Connection.

Organisations that are currently operating with a physical DCC Gateway Connection but are looking to migrate to the cloud-based systems are still required in line with current SEC obligations to maintain a physical DCC Gateway Connection.

Users are unable to take advantage of the potential benefits virtual DCC Gateway Connections would offer in terms of additional functionality such as higher throughput and built in resilience and redundancy.

## Costs for DCC Users

The DCC Charging Statement indicates costs associated with physical DCC Gateway Connections which include the initial connection set up fees and annual maintenance fees. It is thought that establishing a virtual DCC Gateway Connection could significantly lower these costs for some DCC Users. This potentially creates a challenge under the SEC which aims to facilitate fair and efficient access to the DCC network, potentially limiting equitable cost benefits across the energy sector.

## Impact on consumers

Without a virtual alternative to the physical DCC Gateway Connection, there is a potential unnecessary time delay in the adoption of smart technologies. The DCC have noted that prospective

DCC Users have decided not to begin the process of becoming a DCC User as a virtual DCC Gateway Connection was not available. Consequently, consumers may be unable to take advantage of new and emerging advances in energy saving.

### 3. Solution

#### Proposed Solution

The Proposed Solution will implement a Virtual Routing & Forwarding (VRF) component and new virtual Firewall for each cloud connected DCC Gateway Party. The Firewall will route traffic between each DCC Gateway Party's VRF and the associated Smart Metering Equipment Technical Specifications (SMETS)2 VRF. The Firewall would only allow a DCC Gateway Party to access the DSP, Trusted Service Provider (TSP), testing environments and Service Now (SNOW).

DCC Gateway Parties can request both a physical and virtual DCC Gateway Connection, however this is not recommended practice by the DCC.

The SEC mandates a DCC Gateway Party must operate their virtual DCC Gateway Connection and digital signatures from within the UK. Changes to this affect will also be reflected within SEC Appendix G 'DCC Gateway Connection Code of Connections'.

An existing DCC Gateway Party holding a physical DCC Gateway Connection at the time of this modification's proposed implementation can request a change to a virtual DCC Gateway Connection without charge or contractual penalties.

The Proposed Solution will also provide the option for prospective, new and existing DCC Users to connect to the DCC through a virtual DCC Gateway Connection by selecting a virtual connection from the DSP Service Catalogue. In addition, the DCC will likely need to make changes to the DCC Charging Statement to reflect costs associated with a virtual DCC Gateway Connection.

### 4. Impacts

This section summarises the impacts that would arise from the implementation of this modification.

#### SEC Parties

| SEC Party Categories impacted |                               |   |                       |
|-------------------------------|-------------------------------|---|-----------------------|
| ✓                             | Large Suppliers               | ✓ | Small Suppliers       |
| ✓                             | Electricity Network Operators | ✓ | Gas Network Operators |
| ✓                             | Other SEC Parties             | ✓ | DCC                   |

| Breakdown of Other SEC Party types impacted |                           |   |                       |
|---------------------------------------------|---------------------------|---|-----------------------|
| ✓                                           | Shared Resource Providers | ✓ | Meter Installers      |
| ✓                                           | Device Manufacturers      | ✓ | Flexibility Providers |

| Breakdown of Other SEC Party types impacted |                 |   |            |
|---------------------------------------------|-----------------|---|------------|
| ✓                                           | DCC Other Users | ✓ | MAPs/ MAMs |

### **DCC**

The DCC will be required to facilitate a change to the DSP service Catalogue, enabling the selection of a virtual DCC Gateway Connection option. The Proposed Solution does not impact the DCC Total System. This modification will involve changes to the SEC but could enhance DCC's service flexibility and improve User satisfaction.

### **Large Suppliers**

Large Suppliers could be directly and positively affected as they are significant Users of the DCC network for accessing Smart Meter Data. Virtual connectivity could reduce their connection costs and streamline their operations, especially if they plan to transition to, or already host their IT in, cloud-based systems. This option may also lower ongoing infrastructure maintenance costs and offer improve flexibility and functionality.

### **Small Suppliers**

The Proposed Solution could offer potential cost and time savings to Small Suppliers as this could reduce the expenses tied to physical DCC Gateway Connections. A virtual DCC Gateway Connection could alleviate some operational pressures and make access to the DCC network more accessible and manageable.

### **Electricity and Gas Network Operators**

Network Operators could see improved Data flow and coordination with other DCC Users, which may support grid flexibility and management. There is also a potential for cost savings by eliminating physical connections within physical premises.

### **Shared Resource Providers**

Shared Resource Providers, who may serve multiple SEC Parties with IT and network services, are directly impacted as they will need to support virtual DCC Gateway Connections for their clients.

### **Meter Installers**

Meter installers are indirectly impacted. While they do not connect directly to the DCC network, the flexibility in DCC access could benefit meter Data handling and streamline processes for their clients. Indirectly, it may lead to smoother installation procedures and data access for completed installations.

### **DCC Other Users**

DCC Other Users, who may consist of new energy Service Providers, are directly impacted by this solution. For them, a virtual DCC Gateway Connection provides a more time efficient entry point to



DCC services, reducing the potential operational efficiencies of maintaining a physical DCC Gateway Connection.

## **DCC Systems**

### **DCC System changes**

This modification will not require DCC System changes. However, the DCC will be required to establish VRFs and Firewalls as part of the set up process.

### **DCC System traffic**

This modification may impact DCC System traffic, as the potential of adding new DCC Users raises the likelihood of further traffic going through the DCC System.

## **SEC and subsidiary documents**

The following parts of the SEC will be impacted:

- Section A 'Definitions and Interpretation'
- Section E 'Registration Data'
- Section H 'DCC Services'
- Appendix G 'DCC Gateway Connection Code of Connection'

## **Devices**

There will be no impact to Devices from this modification.

## **Consumers**

There are expected positive impacts to consumers from the implementation of this modification. The Proposed Solution may have a positive impact on consumers as organisations will have another method of connecting to DCC services, potentially expanding offerings to consumers in the energy market.

## **Other industry Codes**

There are no expected impacts on other industry Codes from this modification.

## **Greenhouse gas emissions**

There are expected positive impacts to greenhouse gas emissions from this modification. The Proposed Solution could support decarbonisation goals by accelerating onboarding for DCC Users. Faster access to DCC services could facilitate cleaner energy management practices, thereby reducing the energy sectors carbon footprint overtime. The Proposed Solution could have a positive

impact to greenhouse gas emissions by introducing a method of connecting to the DCC without the need for a physical premises, reducing site visits and physical equipment to be present at the SEC Parties premise.

## 5. Costs

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### DCC costs

DCC costs are comprised of the addition of the VRF, configuration, changes to the Gamma network, and the design, build, and test of the updated DSP Service Catalogue. There is also a need to amend and write up contracts for impacted Service Providers of £17,285. To provide a maximum figure for costs, the setup and implementation cost for up to 28 Users is £135,000 with running costs of £74,000 for the first year, and contract amendment costs, giving a total of £226,285.

### SECAS costs

The estimated Smart Energy Code Administrator and Secretariat SECAS implementation cost to implement this as a stand-alone modification is one day of effort, amounting to approximately £600. This cost will be reassessed when combining this modification in a scheduled SEC Release. The activities needed to be undertaken for this are:

- Updating the SEC and releasing the new version to the industry.

### SEC Party costs

During the Refinement Consultation, only one Network party alluded to any potential SEC Party costs. They stated that they would consider switching to virtual connectivity should MP277 be implemented, which means they may incur costs of switching their current physical DCC Gateway Connection and beginning the process of obtaining a virtual DCC Gateway Connection. This figure was stated as between £0 - £100,000.

## 6. Implementation approach

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### Agreed implementation approach

The Change Sub-Committee (CSC) has agreed an implementation date of:

- **27 February 2025** (February 2025 SEC Release) if a decision to approve is received on or before 26 February 2025; or
- **An Ad hoc SEC Release** which would take place one Working Day following decision, if a decision to approve is received after 26 February 2025.

This modification will become an Ad hoc SEC Release if the February 2025 SEC Release becomes an unattainable implementation target. This modification could have immediate cost and time saving benefits for some prospective, new and existing DCC Users, hence the urgency of implementing the Proposed Solution as quickly as possible.

## 7. Assessment of the proposal

### Areas for assessment

#### Would the introduction of cloud-based connections impact existing DCC Gateway Parties with a physical DCC Gateway Connection?

The DCC has stated that both physical and virtual connections would be supported and there would be no changes associated with physical connections should DCC Users choose not to move to a virtual connection.

#### What additional security measures would be necessary to protect cloud-based connections to the DCC network?

Continued monitoring in line with existing processes would also be critical to ensure that any unusual or unauthorised behaviour is detected promptly. As part of MP248, the Security Sub-Committee (SSC) and the Smart Metering Key Infrastructure Policy Management Authority (SMKI PMA) provided input into the virtual DCC Gateway Connection framework and did not identify any risks with virtual DCC Gateway Connections.

#### What alternatives do organisations have if a virtual DCC Gateway Connection is not implemented?

Organisations will still be able to establish a physical DCC Gateway Connection. However, an organisation may choose to delay accessing DCC services until a more flexible virtual DCC Gateway Connection option is available. This could have the potential to slow their integration into the smart energy ecosystem and delay their contribution to decarbonisation efforts.

### Sub-Committee input

SECAS has engaged with the Chairs from the Operations Group (OPSG), Technical Architecture & Business Architecture Sub-Committee (TABASC), SSC, SMKI PMA, Testing Advisory Group (TAG) and the Privacy Sub-Committee (PSC) to confirm what input is required from these forums. The following Sub-Committees provided the below input to this modification:

| Sub-Committee input |                                                                               |
|---------------------|-------------------------------------------------------------------------------|
| Sub-Committee       | Input sought                                                                  |
| OPSG                | A review of operational feasibility and implications of the Proposed Solution |
| TABASC              | A review of technical feasibility and implications of the Proposed Solution   |

Managed by

| Sub-Committee input |                                                         |
|---------------------|---------------------------------------------------------|
| SSC                 | A review of security measures and security architecture |
| SMKI PMA            | A review of technical feasibility and implications      |
| TAG                 | No input required                                       |
| PSC                 | No input required                                       |

## Solution development

### *Previous SEC modification for cloud connectivity*

A modification implemented in the November 2024 SEC Release, [MP248 'Requirements for DCC Gateway Connection'](#), was raised to allow the DCC to share data with RDPs without the need for a physical DCC Gateway Connection.

MP248 addressed the RDPs need for a virtual DCC Gateway Connection option that aligned with their cloud-based infrastructure, rather than relying on the traditional physical DCC Gateway Connection. This initial focus on RDPs has subsequently served as a test case for a more adaptable connectivity model within the DCC framework.

While MP248 was being discussed, the DCC recognised the need to explore a broader solution applicable to all DCC Users. This wider effort aims to expand on the framework of the MP248 solution, offering similar cloud-based connectivity options for prospective, new and existing DCC Users that are also moving towards a cloud infrastructure. Essentially, the solution framework and design principles established under MP248 formed the foundation for all DCC Users who select a virtual DCC Gateway Connection, ensuring consistency in approach, security, and reliability.

### *MP248 solution design background*

To ensure a robust solution design, the SSC, SMKI PMA and the TABASC provided input on the security, technical and architectural aspects of MP248. The feedback received ensured that any cloud-based connectivity aligns with DCC security requirements and standards. The scope of MP248 only catered to RDPs.

When MP248 was initially discussed with the TABASC, concerns were raised regarding the wording of the business requirements which aimed at offering virtual connectivity to RDPs only. It was suggested that the requirements should explicitly extend to encompass all DCC Users, ensuring consistency in implementation. However, the DCC highlighted that the solution was aimed at RDPs only. The TABASC were satisfied with the rationale. The TABASC emphasised that it would be beneficial to include a transition process within the modification to facilitate existing DCC Gateway Parties wishing to migrate from physical to virtual DCC Gateway Connections to ensure a smooth transition for all involved. This was facilitated for RDPs as part of MP248.

The SSC and SMKI PMA were satisfied with the security architecture associated with virtual DCC Gateway Connections and recommended that a User Competent Independent Organisation (CIO) Assessment to be completed. The DCC have confirmed the CIO assessment will take place following the outcome of MP277.

### Views from the Issues Group

A member questioned if virtual DCC Gateway Connections would make it easier for Manufacturers to connect to the DCC for live testing. They queried whether User Integration Testing (UIT) aspects are being investigated in line with the issue. The DCC stated that testing environments and other connections supported by the current gamma connection method utilised for physical DCC Gateway Connections would be utilised to allow for connection to test environments when using a virtual DCC Gateway Connection. The issue was presented to the Issues Group as part of the November 2024 Working Group meeting. Members agreed that the Proposed Solution addresses the issue.

### Views from the SSC

SECAS presented MP277 to the November 2024 SSC meeting, providing an overview of the issue, impacts and Proposed Solution. The SSC Chair noted their support for the intention of the modification, as they had expressed a desire for MP248 to have originally represented all DCC Users. Whilst supportive of the modification, the SSC asked SECAS and the DCC to return to the SSC to define whether DCC Users can have both physical and virtual DCC Gateway Connections, whether the DCC can facilitate UK only connections, and the implications if an existing DCC Gateway Party wanted to move from physical to virtual Gateway Connections.

SECAS and the DCC returned to the SSC in December 2024 and provided an update to the SSC on the requested criteria. It was confirmed that DCC Users can hold both physical and virtual DCC Gateway Connections if they so wish, however this is not a DCC recommended practice. The DCC confirmed they will verify that a DCC Users virtual DCC Gateway Connection is routed through a UK only connection, however noted a DCC User could technically endpoint their connection via a non-UK data centre, so confirmed a need for additional governance in SEC Appendix G 'DCC Gateway Connections Code of Connection' to negate this.

Finally, the DCC confirmed that an existing DCC Gateway Party can switch from a physical to a virtual DCC Gateway Connection without any contractual penalties, and the DCC would be responsible for the new virtual DCC Gateway Connection.

During the meeting, several DCC Users asked the DCC if they would be able to act as test subjects when implementing virtual DCC Gateway Connections. The DCC asked them to reach out following the meeting to discuss their support for MP277's Proposed Solution.

### Views from the TAG

SECAS presented MP277 to the December 2024 TAG meeting, providing an overview of the issue, impacts and Proposed Solution. The TAG approved of the modifications intent and were interested in the Proposed Solution. A TAG member queried whether the DCC would provide access to test environments as part of the virtual DCC Gateway Connection, in line with that of the gamma connections utilised within physical DCC Gateway Connections. The DCC took an action to confirm if test environments would be accessible in a virtual connection format. The DCC subsequently confirmed that test environments would be accessible in the same way that physical DCC Gateway Connections are.

### **Views from the OPSG**

SECAS provided a paper outlining MP277 and the Proposed Solution to the December 2024 OPSG with the intention of gathering any potential feedback from OPSG members. SECAS has not received any feedback from the OPSG to date, however SECAS discussed this issue with the OPSG Chair prior to the meeting, and they believed there are no operational impacts as a result of MP277.

### **Views from the Working Group**

SECAS presented MP277 to the January 2025 Working Group, outlining developments of the modification to date, the Preliminary Assessment outcome, Refinement Consultation responses and next steps. SECAS discussed forum feedback received in relation to MP277, outlining overall support across Sub-Committees for the intention to implement virtual DCC Gateway Connections. One Working Group member, a Large Supplier, noted that although the TABASC agree with virtual connections, they believed the TABASC did not support MP277 as a modification, and advised the TABASC recommended waiting for the new DSP provider to implement virtual connectivity. The DCC advised that there are no firm timelines on when the new DSP can provide virtual connectivity and will be returning to the TABASC in January 2025 to deliver more information on the DSP re-procurement.

Another Working Group member, a Large Supplier, felt that getting no more than one year of benefit out of MP277 does not provide a sufficient business case to justify the outlined costs. This was echoed by several Working Group members during the discussion. SECAS confirmed they will gather any further feedback from the TABASC in relation to virtual connectivity and present it to the January 2025 CSC.

### **Views from the TABASC**

During the November 2024 TABASC meeting, a member acknowledged that a previous modification, MP248, included a solution for RDPs only and that they anticipated this modification to be a larger piece of work due to the complexities of all DCC Users sending and receiving larger volumes of Data rather than the daily delta file which RDPs receive from the DCC.

The TABASC Chair queried whether or not virtual DCC Gateway Connections will be implemented as part of the DSP re-procurement. The DCC confirmed that this will be the case.

The DCC highlighted that when MP248 had been discussed with the SSC, the discussions applied to all DCC Users rather than RDPs only, therefore the solution to MP248 had paved the way for all Users to access virtual DCC Gateway Connections.

The DCC advised that it would include a table of costs for virtual DCC Gateway Connections in the Preliminary Assessment so that it can be compared to the physical DCC Gateway Connection costs. This information has been provided and has been scoped out as part of the Proposed Solution.

The TABASC Chair stated that they are interested with the progression of this modification and would like to review the Preliminary Assessment. As a result of this comment, SECAS returned to the TABASC during December 2024. SECAS presented a more detailed breakdown of what the Proposed Solution is comprised of, as well as outlining a cost of the modification.

During the discussion, the TABASC Chair advised that as part of the upcoming DSP re-procurement process, virtual DCC Gateway Connections would be included and potentially available during 2025. TABASC members challenged the business case for MP277 if the Proposed Solution was then likely to only be in place for approximately one year at most. The DCC took an action from the TABASC to

reach out to the prospective DSP elect and discuss timescales of their implementation to ascertain if the modification should proceed.

The TABASC Chair also queried the level of interest from DCC Users, as the DCC had noted it had fielded 130 queries from prospective, new or existing DCC Users in relation to obtaining a virtual DCC Gateway Connection. The TABASC Chair was concerned by the number of queries noted, as no members of the TABASC were reflected in this number. The DCC took another action to reach out to Parties who had requested a virtual DCC Gateway Connection to compile intentions of support for the modification. Following the TABASC meeting, the DCC have confirmed multiple DCC Users from various parts of the industry have contacted the DCC to show support and offer themselves for initial testing.

During the January 2025 TABASC meeting, it was confirmed that the new DSP will aim to deliver virtual connectivity to DCC Users by November 2025, approximately nine months after the proposed implementation date for MP277 of February 2025. The TABASC believe virtual connectivity should be implemented, however members stated they did not wish to pay the costs of the modification and would prefer to wait until November 2025 for the new DSP to deliver the functionality. As a result, the TABASC definitely advised they do not support MP277.

### **Views from the Change Sub-Committee**

MP277 was presented to the January 2025 CSC within the intention of progressing to the Report Phase. During the meeting, one CSC member (Large Supplier) questioned whether a DCC User who chooses to switch from a physical connection to a virtual connection would incur any additional costs. The DCC confirmed there would be no contractual charges or penalties for existing Users to move from physical to virtual.

The CSC member then queried if there would be any charges in relation to removal of the physical connection and equipment as this is not a simple process. The DCC took the query away from the meeting and confirmed to SECAS that there is no fixed cost to stop and remove a physical connection, but there are costs associated with this action which will vary based on a DCC Users current configuration and connection contract with the DCC. The DCC also confirmed these costs would also be relevant if MP277 were not to be implemented, these costs would also apply to the virtual connectivity due to be implemented by the new DSP.

The CSC approved progression to the Report Phase for MP277.

## **8. Case for change**

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### **Business case**

#### **Approval of the modification**

The Proposed Solution is directed by the need to modernise connectivity between the DCC and DCC Users. The current reliance on physical DCC Gateway Connections imposes setup and maintenance costs. A virtual DCC Gateway Connection would reduce these costs, streamlining the new DCC User process, and encourage more organisations to access DCC services. As more DCC Users join through a virtual DCC Gateway Connection, the DCC can better support the decarbonisation efforts,



enhancing Data sharing and system flexibility crucial to renewable energy integration and energy management.

Costs associated with taking up a virtual DCC Gateway Connection demonstrate potentially significant cost savings for medium to high traffic DCC Gateway Parties. Table 1 below outlines the costs of setting up and maintaining virtual and physical DCC Gateway Connections for new and existing DCC Users who oversee both medium and high traffic volumes.

| Traffic Volume | Costs                  | New Users       |                  | Existing Users  |                  |
|----------------|------------------------|-----------------|------------------|-----------------|------------------|
|                |                        | Virtual Gateway | Physical Gateway | Virtual Gateway | Physical Gateway |
| Medium         | 1st Year Setup         | £1,600          | £5,500           | N/A             |                  |
|                | 1st Year Running Costs | £6,500          | £9,000           |                 |                  |
|                | Ongoing Running Costs  | £6,500          | £9,000           |                 |                  |
| High           | 1st Year Setup         | £1,700          | £6,500           | £1,700          | £6,500           |
|                | 1st Year Running Costs | £7,000          | £15,000          | £7,000          | £15,000          |
|                | Ongoing Running Costs  | £7,000          | £15,000          | £7,000          | £15,000          |

*Table 1: Provisional setup and maintenance costs for new & existing DCC Users with medium & high traffic-loads.*

The above table demonstrates significant potential cost savings for medium to high traffic DCC Users. Savings would be unique per user dependent on traffic workload and current contractual DCC costs. A breakdown of potential savings is shown below:

- New DCC Users with a medium traffic-load could save circa. £6,000 in the first year, and circa. £2,500 per year in subsequent years if they were to opt for a virtual DCC Gateway Connection.
- New DCC Users with a high traffic-load could save circa. £12,000 in the first year, and circa. £8,000 per year in subsequent years if they were to opt for a virtual DCC Gateway Connection.
- Existing DCC Users with a high traffic-load could save circa. £6000 in the first year, and circa. £8,000 per year in subsequent years if they were to opt for a virtual DCC Gateway Connection.



## Views against the General SEC Objectives

### Proposer's views

The Proposer believes that this modification will better facilitate SEC Objectives (a)<sup>1</sup>, (d)<sup>2</sup> and (e)<sup>3</sup> by enabling a more efficient new DCC User process and enduring operation of existing DCC Users. This flexibility ensures improved functionality and potentially lower costs for some DCC Users making it easier and faster to connect. The costs and setup time associated with a virtual DCC Gateway Connection may help lower entry barriers for new organisations and reduce ongoing operational costs. The flexibility and scalability of a virtual DCC Gateway Connection promotes innovation in energy network operations, potentially enabling a DCC User to adopt advanced energy management technologies.

### Industry views

SECAS received three responses to the Refinement Consultation for MP277. One respondent believed that the modification should be rejected, and two respondents believed that the modification should be approved. The respondents who favoured approval considered the modification better facilitated SEC Objectives (a), (d), and (e).

The respondent who favoured rejection of MP277 believes that offering virtual connectivity is the right thing to do for DCC Users, however, is concerned about the longevity of MP277's benefits as the upcoming DSP re-procurement has revealed virtual connectivity will be implemented as part of the new DSP.

## Views against the consumer areas

### Improved safety and reliability

This modification would have a positive impact against improved reliability. This would be demonstrated in the introduction of flexibility across the market and by lowering operational costs.

### Lower bills than would otherwise be the case

This modification would have a positive impact against lowering bills. This would be demonstrated in by lowering operational costs for DCC Users in turn, this could lower bills for end consumers.

### Reduced environmental damage

This modification would have a positive impact in relation to environmental damage. This would be demonstrated in the journey towards statutory net-zero targets by allowing DCC Users to communicate with the DCC without the need for a physical DCC Gateway Connection.

---

<sup>1</sup> Facilitate the efficient provision, installation, and operation, as well as interoperability, of Smart Metering Systems at Energy Consumers premises within Great Britain

<sup>2</sup> Facilitate effective competition between persons engaged in, or in Commercial Activities connected with, the Supply of Energy

<sup>3</sup> Facilitate such innovation in the design and operation of Energy Networks (as defined in the Data Communications Company Licence) as will best contribute to the delivery of a secure and sustainable Supply of Energy

### Improved quality of service

This modification would have a positive impact on the quality of service. Offering a virtual alternative to that of a physical DCC Gateway Connection may increase the reliability of services offered.

### Benefits for society as a whole

This modification would have a neutral impact to society as a whole.

## Appendix 1: Progression timetable

| Timetable                                            |                           |
|------------------------------------------------------|---------------------------|
| Event/Action                                         | Date                      |
| Business requirements developed with the DCC         | 28 Oct 2024 – 30 Oct 2024 |
| Issue discussed at Issues Group                      | 6 Nov 2024                |
| Modification discussed with TABASC                   | 7 Nov 2024                |
| Draft Proposal raised                                | 8 Nov 2024                |
| Preliminary Assessment requested                     | 8 Nov 2024                |
| Presented to CSC for initial comment                 | 19 Nov 2024               |
| CSC converts Draft Proposal to Modification Proposal | 19 Nov 2024               |
| Modification discussed with SSC                      | 27 Nov 2024               |
| Preliminary Assessment returned                      | 6 Dec 2024                |
| Modification discussed with TAG                      | 10 Dec 2024               |
| Modification discussed with TABASC                   | 10 Dec 2024               |
| Modification discussed with OPSG                     | 10 Dec 2024               |
| Refinement Consultation                              | 18 Dec 2024 – 15 Jan 2025 |
| Modification discussed with Working Group            | 15 Jan 2025               |
| Modification approved by CSC                         | 21 Jan 2025               |
| Modification Report Consultation                     | 22 Jan 2025 – 13 Feb 2025 |
| Change Board Vote                                    | 26 Feb 2025               |

*Italics denote planned events that could be subject to change*

## Appendix 2: Glossary

This table lists all the acronyms used in this document and the full term they are an abbreviation for.

| Glossary |                                    |
|----------|------------------------------------|
| Acronym  | Full term                          |
| ADSL     | Asymmetric Digital Subscriber Line |
| CIO      | Competent Independent Organisation |

| Glossary |                                                                |
|----------|----------------------------------------------------------------|
| Acronym  | Full term                                                      |
| CSC      | Change Sub-Committee                                           |
| DCC      | Data Communications Company                                    |
| DSP      | Data Service Provider                                          |
| FTTC     | Fibre To The Cabinet                                           |
| MAM      | Meter Asset Manager                                            |
| MAP      | Meter Asset Provider                                           |
| OPSG     | Operations Group                                               |
| PSC      | Privacy Sub-Committee                                          |
| RDP      | Registered Data Provider                                       |
| SEC      | Smart Energy Code                                              |
| SECAS    | Smart Energy Code Administrator and Secretariat                |
| SMETS    | Smart Metering Equipment Technical Specification               |
| SMKI PMA | Smart Metering Key Infrastructure Policy Management Authority  |
| SNOW     | Service Now                                                    |
| SSC      | Security Sub-Committee                                         |
| TABASC   | Technical Architecture and Business Architecture Sub-Committee |
| TAG      | Testing Advisory Group                                         |
| TSP      | Trusted Service Provider                                       |
| UIT      | User Integrated Testing                                        |
| VRF      | Virtual Routing & Forwarding                                   |

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# MP277 ‘Virtual Gateway Connection’

## Annex A

## Business requirements – version 1.0

### About this document

---

This document contains the business requirements that support the solution for this Modification Proposal. It sets out the requirements along with any assumptions and considerations. The Data Communications Company (DCC) will use this information to provide an assessment of the requirements that help shape the complete solution.

## 1. Business requirements

This section contains the functional business requirements. Based on these requirements a full solution will be developed.

| Business Requirements |                                                                                                  |                          |        |
|-----------------------|--------------------------------------------------------------------------------------------------|--------------------------|--------|
| Ref.                  | Requirement                                                                                      | Responsible for delivery | MoSCoW |
| 1                     | Virtual connection option available for new and existing DCC Users                               | DCC                      | M      |
| 2                     | DCC Users shall be able to select a virtual connection to the DSP from the DSP service catalogue | DCC                      | M      |
| 3                     | Virtual connection must be as secure as the current physical connection                          | DCC                      | M      |
| 4                     | Provision for onboarding and maintenance of virtual connections                                  | DCC                      | M      |
| 5                     | Functionality and support are equivalent to a physical DCC Gateway Connection                    | DCC                      | M      |

### Key

- M = Must have
- S = Should have
- C = Could have
- W = Won't have

## 2. Considerations and assumptions

---

This section contains the considerations and assumptions for each business requirement.

### 2.1 General

Excluding Registered Data Providers (RDPs) the Smart Energy Code (SEC) requires a physical DCC Gateway Connection at the SEC Parties' premises to allow secure Data transfer with the Data Communications Company (DCC). This requirement is preventing existing and cloud-based organisations wishing to become a DCC User being able to connect in a more cost effective method.

### 2.2 Requirement 1: Virtual connection option available for new and existing DCC Users

To modernise and streamline the connection process for all new and existing DCC Users, the DCC must provide a virtual gateway connectivity option. This allows all new and existing DCC Users a more flexible and potentially cost-effective method of communicating with the DCC.

### 2.3 Requirement 2: DCC Users shall be able to select a virtual connection to the DSP from the DSP service catalogue

This requirement allows DCC Users to choose a virtual connection to the Data Service Provider (DSP), making it easier for them to connect with DCC services in a flexible, cost-effective way. By providing this option in the DSP service catalogue, the DCC ensures that Users can access this alternative to physical connections, reducing setup costs and lead times, especially for those using cloud-based infrastructure.

### 2.4 Requirement 3: Virtual connection must be as secure as the current physical connection

To ensure that the proposed virtual DCC Gateway Connection can meet the security standards set by physical DCC Gateway Connection this modification should undergo a comprehensive assessment. DCC Users wishing to connect virtually must also take all reasonable steps to ensure that a virtual connection is secure as the physical connection from the DCC User side of the connection.

### 2.5 Requirement 4: Provision for onboarding and maintenance of virtual connections

The DCC must support the onboarding of virtual gateway Users, with defined maintenance and troubleshooting processes. Parties that wish to connect virtually should have support in maintaining their connection(s) through the DCC.

## **2.6 Requirement 5: Functionality and support are equivalent to a physical DCC Gateway Connection**

This requirement will ensure that any virtual DCC Gateway Connections are robust alternatives, aligning with the DCC's goals of a flexible, accessible network.



### 3. Glossary

---

This table lists all the acronyms used in this document and the full term they are an abbreviation for.

| Glossary |                                                   |
|----------|---------------------------------------------------|
| Acronym  | Full term                                         |
| DCC      | Data Communications Company                       |
| DSP      | Data Service Provider                             |
| SMETS    | Smart Metering Equipment Technical Specifications |
| SEC      | Smart Energy Code                                 |
| RDP      | Registered Data Provider                          |

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# MP277 ‘Virtual Gateway Connection’

## Annex B

### Legal text – version 1.0

#### About this document

---

This document contains the redlined changes to the SEC that would be required to deliver this Modification Proposal.

## Section A - Definitions and Interpretation

---

These changes have been redlined against Section A version 34.0.

### Amend the following definitions in Section A1.1:

**DCC Gateway Connection** means:

- (a) in respect of each User or RDP which has elected under Section E3 (DCC Gateway Connections for Registration Data Providers) or H15.4 (Requests for DCC Gateway Connections) to utilise a virtual (cloud-based) connection, that virtual connection; or
- (b) in all other cases the physical infrastructure by which a connection is (or is to be) made between a premises and the DCC Systems (and each such DCC Gateway Connection shall form part of the DCC Systems).

**DCC Gateway Equipment** means, for each premises and any physical DCC Gateway Connection provided at that premises, that part of the DCC Gateway Connection that is (or is to be) located within that premises.

**DCC Gateway Party** means a Party that is seeking or has been provided with a DCC Gateway Connection ~~at its premises~~, or to whom the right to use that connection has been transferred in accordance with Section H15.16 (Use of a DCC Gateway Connection).

## Section E - Registration Data

---

These changes have been redlined against Section E version 12.0.

### Amend Section E3 as follows:

- E3.1 Registration Data Providers may request DCC Gateway Connections, and the DCC shall offer to provide such connections, in accordance with Sections H15.4 and H15.6 to H15.12 (as if Registration Data Providers were Parties), save that: ~~-(a)~~ a Registration Data Provider shall not specify which DCC Gateway Bandwidth Option it requires, and shall instead specify which (if any) other Registration Data Providers it intends to share the connection with pursuant to Section E3.4.; ~~and (b)~~ For clarity, a Registration Data Provider may elect to connect to the Registration Data Interface using a virtual (cloud-based) connection (as further described in Section H14).

## Section H - DCC Services

These changes have been redlined against Section H version 28.0.

### Amend Section H15 as follows:

#### H15. DCC GATEWAY CONNECTIONS

##### **Obligation to Maintain DCC Gateway Connections**

- H15.1 The DCC shall maintain each DCC Gateway Connection and make it available subject to and in accordance with the provisions of this Section H15.
- H15.2 The DCC shall ensure that each DCC Gateway Connection is available at all times (subject to Planned Maintenance undertaken in accordance with Section H8.3).
- H15.3 No Party may use a DCC Gateway Connection for any purposes other than accessing, and sending and receiving Data via, the DCC Interfaces (and subject to the provisions of this Code applicable to each DCC Interface).

##### **Requests for DCC Gateway Connections**

- H15.4 Each Party other than the DCC may request (in accordance with this Section H15 and as further described in the DCC Gateway Code of Connection) as many DCC Gateway Connections as the Party wishes. A Party may request either a virtual (cloud-based) connection or a physical connection to a Party's premises in each case using the DCC Gateway Bandwidth Option of the Party's choice.
- H15.5 In order to assist a Party in determining which DCC Gateway Bandwidth Option to request (or, in the case of connections using a DCC Gateway HV Connection, the size of the bandwidth required), the DCC shall (on request) provide any Party with information regarding the size of the different message types that can be sent via the DCC User Interface.
- H15.6 Within 5 Working Days following receipt of any request from a Party for a DCC Gateway Connection at a premises, the DCC shall:
  - (a) where the request does not include all the information required in accordance with the DCC Gateway Connection Code of Connection, notify the Party that this is the case and provide reasonable assistance to the Party in re-submitting its request; or
  - (b) undertake a desk-based assessment as described in the DCC Gateway Connection Code of Connection and provide a response to the Party ~~in respect of that premises~~ under Section H15.7, H15.8 ~~or~~ H15.9 or H15.9A (as applicable).
- H15.7 In the case of a request for a DCC Gateway LV Connection, and where the DCC's desk-based assessment indicates that a physical site assessment is not required, the DCC shall provide an offer to the Party setting out:
  - (a) the DCC's reasonable estimate of the likely bandwidth of the connection once made;
  - (b) the date from which the DCC will provide the connection;

Managed by

- (c) the connection Charges and annual Charges that will apply in respect of the connection; and
- (d) the connection period for which the connection will be made available.

H15.8 In the case of a request for a DCC Gateway LV Connection, and where the DCC's desk-based assessment indicates that a physical site assessment is required, the DCC shall notify the requesting Party that this is the case, and (unless the DCC is not reasonably able to do so without undertaking a physical site assessment, and subject to further information which may become available as a result of the physical site assessment) notify the Party of:

- (a) the DCC's reasonable estimate of the likely bandwidth of the connection once made;
- (b) the date from which the DCC will provide the connection;
- (c) the connection Charges and annual Charges that will apply in respect of the connection; and
- (d) the connection period for which the connection will be made available.

H15.9 In the case of a request for a DCC Gateway HV Connection, the DCC shall notify the Party that a physical site assessment is required, and (unless the DCC is not reasonably able to do so without undertaking a physical site assessment, and subject to further information which may become available as a result of the physical site assessment) notify the Party of:

- (a) the date from which the DCC will provide the connection;
- (b) the connection Charges and annual Charges that will apply in respect of the connection; and
- (c) the connection period for which the connection will be made available.

H15.9A In the case of a request for a virtual DCC Gateway Connection, the DCC shall notify the Party of:

- (a) the online assessment and other arrangements to establish and maintain the virtual connection, as further described in the DCC Gateway Code of Connection; and
- (b) the date from which the DCC will provide the connection.

#### **Physical Site Assessments**

H15.10 In the case of a notice to a Party under Section H15.8 or H15.9, the Party has 30 days following receipt of such notice to confirm to the DCC that the Party wishes the DCC to proceed with the physical site assessment. In the absence of such confirmation, the Party shall be deemed to have opted not to proceed.

H15.11 Where the DCC has received a confirmation in accordance with Section H15.10, then the DCC shall, within 30 days thereafter, complete the physical site assessment. The Party requesting the connection shall ensure that the DCC has such access to the Party's premises as the DCC may reasonably require in order to undertake such site assessment. The DCC shall ensure that all persons exercising such rights of access do so in compliance with the applicable site rules and reasonable instructions of those in control of the premises.

H15.12 The DCC shall, within 10 Working Days after completing a physical site assessment pursuant to Section H15.11, provide an offer to the Party that requested a connection at that premises setting out:

- (a) any supplementary conditions which will apply in respect of the connection (in addition to the provisions of this Code) required as a consequence of matters identified in the site assessment;
- (b) (in the case of DCC Gateway LV Connections) the DCC's reasonable estimate of the likely bandwidth of the connection once made;
- (c) the date from which the DCC will provide the connection;
- (d) the connection Charges and annual Charges that will apply in respect of the connection; and
- (e) the connection period for which the connection will be made available.

#### **Initial Provision of a DCC Gateway Connection**

H15.13 In the case of an offer to a Party under Section H15.7 or H15.9A or H15.12, the Party has 30 days following receipt of such offer to confirm to the DCC that the Party accepts that offer. In the absence of such confirmation, the Party shall be deemed to have opted not to accept the offer (which shall lapse).

H15.14 Where a Party accepts an offer as described in Section H15.13, the DCC shall take all reasonable steps to provide the requested DCC Gateway ~~LV Connection~~ ~~or DCC Gateway HV Connection~~ by the date set out in the accepted offer (subject to payment of any applicable Charges).

H15.15 In the event that the DCC will be delayed in providing the requested DCC Gateway Connection, the DCC shall notify the relevant Party of the delay (including reasons for the delay) and of the revised connection date (being as soon as a reasonably practicable thereafter), and shall take all reasonable steps to provide the requested connection by that revised date.

#### **Use of a DCC Gateway Connection**

H15.16 Subject to Section H15.3, the Party that requested a DCC Gateway Connection ~~at a premises~~ shall be entitled to use that connection for as long as the DCC is obliged to make it available in accordance with Section H15.18 (provided that such Party may transfer its right in respect of that DCC Gateway Connection to another Party on both such Parties giving notice to the DCC referring to this Section H15.16).

H15.17 The DCC Gateway Party may notify the DCC of the other Parties (if any) that are (subject to Section H15.3) entitled to share (or no longer entitled to share) use of that DCC Gateway Connection, and in respect of which DCC Interfaces.

#### **Ongoing Provision of a DCC Gateway Connection**

H15.18 Once a DCC Gateway Connection has been established ~~at a premises on behalf of~~ for a DCC Gateway Party:

- (a) the DCC shall make the connection available to the DCC Gateway Party in accordance with this Code until the DCC Gateway Party notifies the DCC that the Party wishes to cancel the connection (on not less than three months' prior notice);
- (b) only in the case of physical connections (not virtual), the DCC shall give the DCC Gateway Party four months' advance notice of the date on which the period of connection referred to in the accepted connection offer is due to expire (or of the date on which any period of extension pursuant to paragraph (c) below is due to expire), and shall at the same time confirm the annual Charges that will apply if the connection is not cancelled;
- (c) only in the case of physical connections (not virtual), on the expiry of a period referred to in paragraph (b) above, unless the DCC Gateway Party cancels the connection in accordance with paragraph (a) above, the period of connection shall be extended for a year (which will give rise to an additional annual Charge);
- (d) the DCC Gateway Party and the DCC shall comply with the provisions of the DCC Gateway Connection Code of Connection applicable to whether the connection is a virtual or physical connection and applicable to the DCC Gateway Bandwidth Option utilised at the connection (and the DCC may limit the use of the connection where the DCC Gateway Party fails to do so and where this is provided for in the DCC Gateway Connection Code of Connection);
- (e) the DCC shall, on request, provide the DCC Gateway Party with a report on the performance of its connection as further set out in the DCC Gateway Connection Code of Connection; and
- (f) in the case of DCC Gateway HV Connections, the DCC Gateway Party may increase or decrease the bandwidth of its connection in accordance with (and subject to the limitation provided in) the DCC Gateway Code of Connection (provided that, in the case of decreases, the applicable Charges may not alter as a result).

H15.19 The cancellation of any DCC Gateway Connection pursuant to Section H15.18(a), is without prejudice to:

- (a) the right of the DCC Gateway Party to apply for another connection under Section H15.4; and
- (b) the obligation of the DCC Gateway Party to pay the applicable Charges for the full duration of the period of connection referred to in the accepted connection offer or any period of extension under Section H15.18(c).

### Virtual Connections

H15.19A In the case of virtual DCC Gateway Connections, the DCC Gateway Party for the connection shall establish and maintain the Systems necessary to interface with the DCC Systems.

H15.19B Such Systems which are established and maintained by a DCC Gateway Party shall form part of the User System of each User which uses the virtual DCC Gateway Party's DCC Gateway Connection.



H15.19C The DCC shall ensure that each virtual DCC Gateway Connection has sufficient bandwidth for the purposes of its use in accordance with this Code (subject to the DCC Gateway Party complying with Section H15.19A).

**DCC Gateway Equipment for Physical Connections**

- H15.20 In first providing a physical DCC Gateway Connection at a premises, the DCC shall procure that the DCC Gateway Equipment is installed at the relevant premises, and that the DCC Gateway Equipment is installed in accordance with Good Industry Practice and all applicable Laws and Directives.
- H15.21 Following its installation at a premises, the DCC shall ensure that the DCC Gateway Equipment is operated and maintained in accordance with Good Industry Practice, and that it complies with all applicable Laws and Directives. The DCC shall maintain a record of the DCC Gateway Equipment installed at each DCC Gateway Party's premises from time to time, and of the point of its connection to that Party's Systems.
- H15.22 The DCC Gateway Party at whose premises the DCC Gateway Equipment is (or is to be) installed shall provide the DCC with such access to that premises as the DCC may reasonably require in order to allow it to undertake the installation, maintenance, relocation or removal of the DCC Gateway Equipment. The DCC shall ensure that all persons exercising such rights of access do so in compliance with the site rules and reasonable instructions of the DCC Gateway Party.
- H15.23 The DCC Gateway Party at whose premises the DCC Gateway Equipment is (or is to be) installed shall be entitled to witness and inspect the installation, maintenance, relocation or removal of the DCC Gateway Equipment. No such witnessing or assessment shall relieve the DCC of its obligations under this Code.
- H15.24 Each DCC Gateway Party shall ensure that no damage is deliberately or negligently caused to the DCC Gateway Equipment installed at its premises (save that such a Party may take emergency action in accordance with Good Industry Practice to protect the health and safety of persons or to prevent imminent damage to property).
- H15.25 The DCC Gateway Equipment shall (as between the DCC and each other Party) remain the property of the DCC. The DCC Gateway Equipment is installed at the DCC's risk, and no other Party shall have liability for any loss of or damage to the DCC Gateway Equipment unless and to the extent that such loss or damage arose as a result of that Party's breach of this Code (including that Party's obligations under Section H15.24).
- H15.26 No Party other than the DCC shall hold itself out as the owner of the DCC Gateway Equipment, or purport to sell or otherwise dispose of the DCC Gateway Equipment.
- H15.27 Where a DCC Gateway Party wishes to alter the location of the DCC Gateway Equipment at the Party's premises, then that Party shall make a request to the DCC, and the DCC shall either (in accordance with any provisions of the DCC Gateway Connection Code of Connection concerning the same):
- (a) notify such Party that it is entitled to relocate the DCC Gateway Equipment within the Party's premises, in which case the Party may move such equipment (and, where it

does so, it shall do so in accordance with Good Industry Practice and all applicable Laws and Directives); or

- (b) notify such Party that the DCC Gateway Equipment must be relocated by the DCC, in which case the DCC shall (subject to payment of any applicable Charges) move the DCC Gateway Equipment in accordance with Good Industry Practice and all applicable Laws and Directives.

H15.28 Where the DCC's obligation to make a DCC Gateway Connection available ends in accordance with Section H15.18(a) or the DCC Gateway Party for a DCC Gateway Connection ceases to be a Party in accordance with Section M8 (Suspension, Expulsion and Withdrawal), then the DCC shall, within 30 days thereafter: (a) cease to make that DCC Gateway Connection available; and (b) remove the DCC Gateway Equipment from the relevant premises in accordance with Good Industry Practice and all applicable Laws and Directives.

#### **DCC Gateway Connection Disputes**

H15.29 Where a DCC Gateway Party wishes to raise a dispute in relation to its request for a DCC Gateway Connection (or the extension of its period of connection or increases or decreases in the bandwidth of its connection, in each case under Section H15.18), then the dispute may be referred to the Panel for determination. Where that Party or the DCC disagrees with any such determination, then it may refer the matter to the Authority for its determination, which shall be final and binding for the purposes of this Code

## Appendix G - DCC Gateway Code of Connection

---

These changes have been redlined against Appendix G version 3.0.

### Amend Clause 1.7 as follows:

- 1.7 Where a DCC Gateway Party intending to use a physical DCC Gateway Connection requests multiple physical DCC Gateway Connections for a single location at the same time, the DCC shall take all reasonable steps to conduct any Site Surveys in a single visit to that location.

### Add Clauses 1.32 to 1.36 as follows:

#### Virtual DCC Gateway Connections

- 1.32 The DCC shall provide the option for virtual (cloud-based) connectivity for Users in the Data Service Provider catalogue.
- 1.33 The DCC shall give a DCC Gateway Party reasonable notice of the required online assessment to perform installation, maintenance or removal of any virtual connection and the DCC shall accommodate the DCC Gateway Party's reasonable requests regarding timing.
- 1.34 A DCC Gateway Party can request both a virtual and physical DCC Gateway Connection if required.
- 1.35 A DCC Gateway Party can request a switch from a physical DCC Gateway Connection to a virtual DCC Gateway Connection, and vice-versa.
- 1.36 The DCC will verify that a virtual DCC Gateway Connection is only connected to a United Kingdom availability zone in line with that of physical DCC Gateway Connections. Data centres utilised by a DCC Gateway Party must be hosted within a United Kingdom availability zone.

# **SEC Modification Proposal SECMP0277, DCC CR5529**

## **Virtual Gateway Connectivity**

## **Preliminary Impact Assessment (PIA)**

|                        |                                     |
|------------------------|-------------------------------------|
| <b>Version:</b>        | <b>1.1</b>                          |
| <b>Date:</b>           | <b>6<sup>th</sup> December 2024</b> |
| <b>Author:</b>         | <b>DCC</b>                          |
| <b>Classification:</b> | <b>DCC PUBLIC</b>                   |

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# 1 Executive Summary

The Change Board are asked to approve the following:

- Costs for SECMP0277 for up to 28 users of **£226,285** including one year of operation
- The Data Service Provider (DSP) and DCC teams are impacted by this Modification

No Full Impact Assessment is anticipated for this Modification.

## Problem Statement

The Smart Energy Code (SEC) currently requires a physical DCC Gateway Connection at a SEC Parties' premises to allow secure data transfer with the DCC. This is the case for all DCC Service Users excluding Registered Data Providers (RDPs) which were addressed as part of MP248 'Requirements for DCC Gateway Connection'.

Non-RDP DCC Service Users are required to establish a fixed line connection to access the DCC network. Currently the DCC has approximately 130 new organisations and three existing DCC Users raising concerns about the incompatibility of having a physical DCC Gateway Connection with their cloud-based IT infrastructure who would be better served by a Virtual Gateway connection.

## Modification Benefits

The Proposed Solution would provide the option for new and existing DCC Service Users to connect to the DCC using a Virtual Gateway Connection. For large-volume DCC Service Users it is expected the Virtual Gateway would save substantial running costs each month and for all potential DCC Users offers superior functionality including redundancy.

## 2 Document History

### 2.1 Revision History

| Revision Date | Revision | Summary of Changes                       |
|---------------|----------|------------------------------------------|
| 26/11/2024    | 0.1      | Initial version, for DCC internal review |
| 03/12/2024    | 0.25     | Review complete                          |
| 06/12/2024    | 1.1      | Cost revision to show maximum cost       |

### 2.2 Associated Documents

This document is associated with the following documents:

| Ref | Title and Originator's Reference                                     | Source | Issue Date |
|-----|----------------------------------------------------------------------|--------|------------|
| 1   | DP277-Modification-Report-v0.2                                       | SECAS  | 14/11/2024 |
| 2   | DP277-business-requirements-v0.2                                     | SECAS  | 08/11/2024 |
| 3   | Charging Statement Regulatory Year ending 31 March 2025 <sup>1</sup> | DCC    | 28/03/2024 |

References are shown in this format, [1].

### 2.3 Document Information

The Proposer for this Modification is Chris Barlow of the DCC.

The Preliminary Impact Assessment (PIA) was requested of DCC on 11<sup>th</sup> November, 2024.

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<sup>1</sup> <https://www.smartdcc.co.uk/media/u31la12l/cs-ry2425-issue-10.pdf>

### 3 Context and Requirements

In this section, the context of the Modification, assumptions, and the requirements are stated.

The requirements have been provided by DCC, the Proposer and the Working Group.

#### 3.1 Current Arrangements

A DCC Gateway Connection is designed to ensure a secure and reliable connection for Data communication between DCC Users and the DCC. Using a fixed line connection, DCC Users connect to the DSP to send information to, and receive responses from, the DCC Total System.

#### 3.2 What is the Issue and Potential Solution?

SEC Section H 'DCC Services' specifies that organisations connecting to the DCC must use physical, on-premises infrastructure to ensure a secure link between their system and the DCC's services. While this was appropriate when the SEC was first implemented, it has now become a barrier for many potential and existing DCC Users.

DDC have developed a Virtual Framework for allowing DCC Users to connect to the DSP using a Virtual Gateway Connection, easily and securely, which was shared with SSC and TABASC during the development of MP248. The Proposed Solution will provide the option for new and existing DCC Users to connect to the DCC via a Virtual DCC Gateway Connection by selecting a new option from the DSP Service Catalogue. This change would not directly impact the DCC Total System, although security assurance is required to ensure an effective, and at least an equivalent secure solution.

#### 3.3 Business Requirements

The business requirements are as follows.

| Ref | Requirement                                                                                      | MOSCOW |
|-----|--------------------------------------------------------------------------------------------------|--------|
| 1   | Virtual connection option available for new and existing                                         | Must   |
| 2   | DCC Users shall be able to select a virtual connection to the DSP from the DSP service catalogue | Must   |
| 3   | Virtual connection must be as secure as the current physical connection                          | Must   |
| 4   | Provision for onboarding and maintenance of virtual connections                                  | Must   |
| 5   | Functionality and support are equivalent to a physical DCC Gateway Connection                    | Must   |

#### 3.4 Changes to the SEC

At the very least, the following parts of the SEC will be impacted :

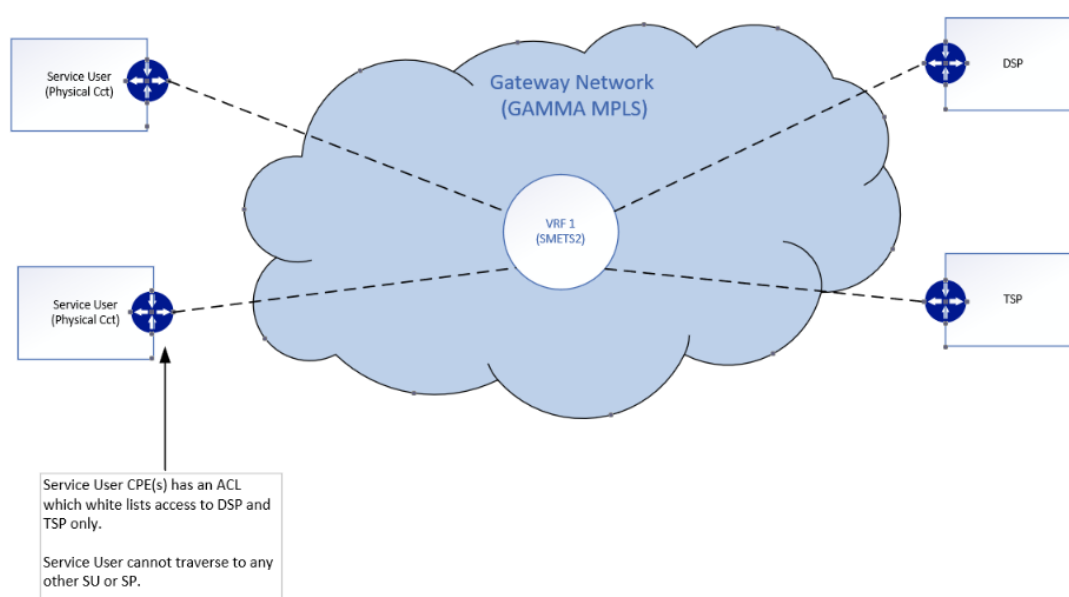
- Section A 'Definitions and Interpretation'
- SEC Section E 'Registration Data'
- Section H 'DCC Services'
- Section G 'Security'
- Appendix G 'DCC Gateway Connection Code of Connection'



SECAS will carry out a review of all the impacted legal text, and present it as part of the Modification development.

### 3.5 Current Situation

Currently, all DCC Service Users have physical circuits with Gamma-managed Customer Premises Equipment (CPE) routers that terminate in VRF1. The CPEs hold an Access Control List (ACL) which ensures that DCC Service Users can only communicate with the DSP, the Trusted Service Provider (TSP) and Service Now. They cannot communicate with other DCC Service Providers / Service Users connected to the Virtual Routing and Forwarding (VRF) component of the router, referred to as VRF1. The existing solution is shown in the following diagram.



Current charges for the Physical connections are as indicated in the annual DCC Charging Statement [3]:

| DCC Physical Gateway | Initial Connection Charge    | Annual Charge Per Annum (3 year contract) <sup>2</sup> |
|----------------------|------------------------------|--------------------------------------------------------|
| Low Volume           | £3,000 - £5,000 <sup>3</sup> | £1,000 - £15,000                                       |
| High Volume          | £2,500 - £8,500              | £1,000 - £17,000                                       |

Details of parameters that influence these initial connection and running costs are given in Appendix A.

<sup>2</sup> Note 1 Year Contracts are also available

<sup>3</sup> These charges vary because of multiple factors as described in Appendix A

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### 3.6 Physical Gateway Connection Timelines

For a DCC User to currently obtain a Physical Gateway Connection the following steps with associated timelines must be completed:

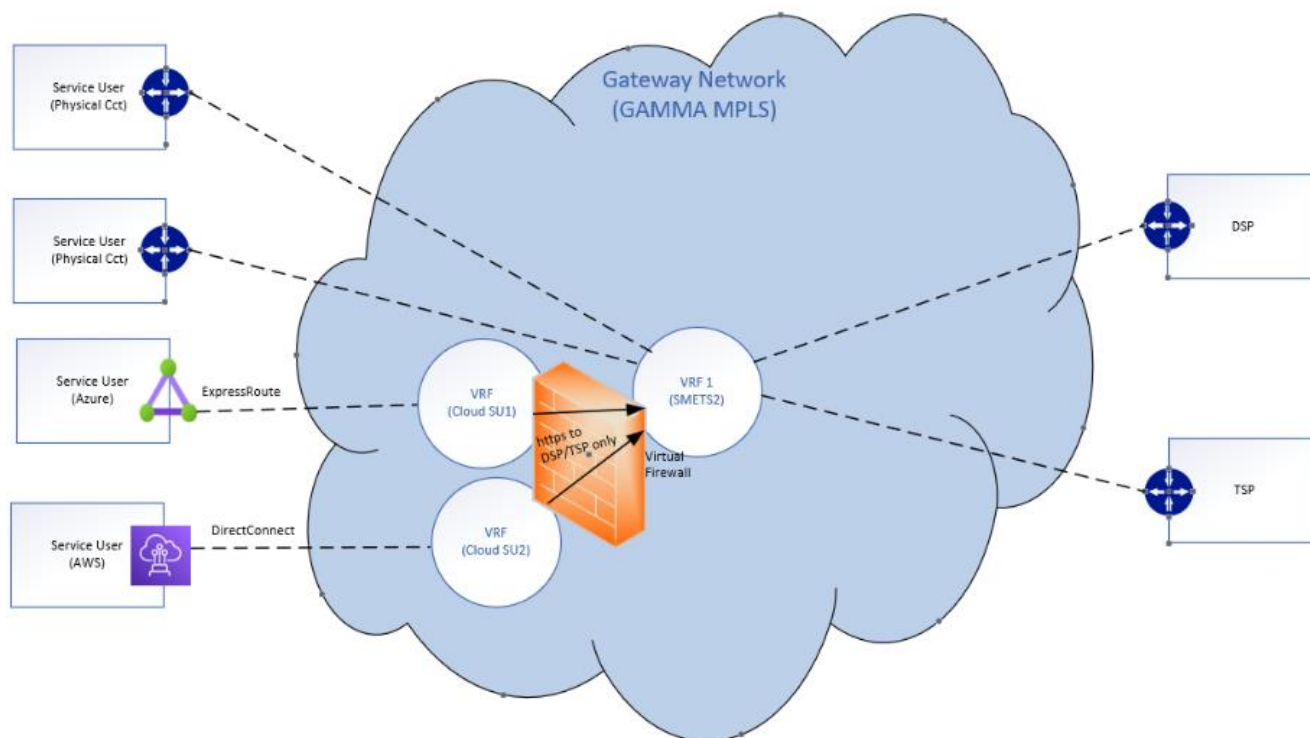
- DCC receives completed connection form
- Gateway Party receives initial quote (five Working Days)
- Gateway Party provides authority to proceed (up to 30 calendar days)
- DCC Carries out a physical site survey (30 calendar days)
- Gateway Party receives revised quote (10 Working Days)
- Gateway Party accepts revised quote (up to 30 calendar days)
- Connection and equipment are installed (within 90 Working Days for high volume connection or 25 Working Days for a low volume connection)

Notes on the anticipated delivery timelines for the Virtual Gateway are given in section 5.6.

## 4 Description of Solution

The solution will provide an option for new and existing DCC Service Users to be able to add connections from their cloud environments (either Azure or Amazon Web Services).

This option uses a new VRF for each cloud connected DCC Service User plus a new virtual firewall on the gateway connections network.



In this option, each new cloud connection required by a DCC Service User would require a new VRF on the gateway connections network and would be connected to the same new virtual firewall. The virtual firewall would then route traffic between each new DCC Service User's VRF and the SMETS2 VRF. The new virtual firewall would filter traffic using a generic firewall rule that would only allow cloud-based DCC Service Users to access DSP, TSP, and Service Now as they do today. The https routing ensures that the connection is available to the connected Service User only, and means that in the case of a compromise of any virtual connected Service User could not lead to an attack on any other Service User or Service Provider, regardless of whether they have a virtual or physical connection

This option is the most secure of the three options considered as it filters traffic between individual DCC Service Users on cloud connections. However, this option is the most complex and carries a greater administrative overhead and cost. It should also be noted that the virtual firewall would not allow more than 14 cloud based DCC Users to connect, before an additional virtual firewall would be required. The need for incremental firewalls makes the charging mechanism more complex for the DCC as there would be repeating service setup costs and incremental service costs from the DSP and Gamma each time a new firewall was added, even if that single additional firewall is only required for a single DCC User. Costs for the potential provision of connections is given in section 7.

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## 4.1 Further Questions and Answers About the Virtual Gateway

### Can you mix a physical and virtual gateway connection?

Yes, you can, but this is not recommended practice. Each Virtual Gateway connection comes with the resilience and redundancy making the use of a physical connection unnecessary and more expensive.

### The SEC mandates operation from UK. Will you be able to prevent cloud region connection from outside the UK?

As part of the connection process, DCC will verify that the Virtual Connection is only connected to a UK Availability Zone, which is a repeat of the pattern for physical connections. However a User can technically connect from that endpoint to the rest of the Azure or Amazon Web Services (AWS) network, which is also true of a physical connection which carry out a peer-to-peer connection to any other location. It would require governance as part of the Code of Connection to limit data centre locations.

### Can a DUser switch from physical to virtual connections while in a contract for a physical connection? What is the process for switching?

Users will be able to request a virtual connection and switch their contracts without any penalties. DCC will be responsible for the new Virtual connection. No dual running of physical and virtual connectivity is required.

### How should a User request a virtual connection?

Users will be able to request access via a Virtual Gateway through the Service Catalogue. DCC Service Users will be responsible for establishing and configuring their link from their data centres using AWS DirectConnect or Azure ExpressRoute to the Gamma Gateway Network VRF. Note that these connections to Gamma may not be available at the same capacity as physical connections, e.g., ExpressRoute circuits are only available 50 Megabits per second (Mbps), 100Mbps, 200Mbps, 500Mbps, 1 Gigabit per second (Gbps), 2Gbps, 5Gbps, or 10Gbps. The managed ExpressRoutes that Gamma would be using are limited to a maximum of 1Gbps.

## **5 Impact on DCC Systems, Processes, and People**

This section describes the impact of SECMP0277 solution on DCC Services and Interfaces that impact Users and/or Parties.

There will be no change to the DSP infrastructure design or DSP resilience beyond the Gamma changes. This Modification does not impact the DSP resilience or DR implementation.

### **5.1 Security Impact**

The solution option given above would replicate most of the current ACL functionality and would provide protection commensurate with the current service for both cloud hosted DCC Service Users and those with physical circuits. This option is the most secure solution, but is technically the most complex and carries the most cost.

A more detailed assessment of Security impact will be carried out as part of the Full Impact Assessment.

### **5.2 Technical Specifications**

No changes to any technical specifications are required for this modification. This is not a design change.

### **5.3 Service Impact**

There will be no significant change to the existing link ordering process through the Service Catalogue as a result of the Modification. It is likely that existing order forms that are used as part of the link ordering process will need to be modified to include additional “Cloud Connection” and associated sub options. Note that the effort estimates and ROM pricing assumes that the new Virtual Gateway will be equivalent of the existing physical link options in terms of resilience and capacity.

### **5.4 Integration Impact**

It is not expected that there will be any change to the validation of DCC Service User connectivity to the User Integration Test (UIT) environments.

### **5.5 DCC Impacts**

The DCC Service Desk and Service Management team will have to update existing, and potentially create new, processes to handle connectivity changes and setup.

### **5.6 DCC Service User Setup**

To request a cloud connection, DCC Service Users will use the existing Service Desk link ordering process. Gamma will only accept an order if it has been fully completed. A 30 calendar day period will be required to implement a cloud connection following Gamma’s acceptance of a fully completed form. Once the cloud connection has been implemented by Gamma, a further period will be required to configure the DSP application to use the connection. It is recommended that 3 months is allowed for each cloud connection setup initially which may reduce once the service has bedded in.

DCC will challenge these timelines as part of the implementation process.

## 6 Implementation Timescales and Approach

This Modification need not be implemented in a SEC Release.

The current SECAS forecast for the implementation of this Modification is May 2025, assuming Change Board approval early in February 2025.

### 6.1 Implementation Approach

A period of time to complete the setup phase before offering the new cloud connectivity service to DCC Service Users will include these activities:

- changing forms and the process to request a Virtual Gateway connection
- liaising with Gamma to finalise the service offering
- setup of new infrastructure
- a review of proposed firewall rules once the infrastructure has been implemented

### 6.2 Testing and Acceptance

No PIT testing is anticipated for each configuration. No Post-PIT Change Request providing the SIT and UIT response for the SEC Release is anticipated for this Modification.

Penetration testing is likely as part of the User setup and configuration.

## 7 Costs and Charges

The Rough Order of Magnitude cost (ROM) shown below describes indicative costs to implement the functional and non-functional requirements as assumed above. The price is not an offer open to acceptance. It should be noted that the change has not been subject to the same level of analysis that would be performed as part of a Full Impact Assessment and as such there may be elements missing from the solution or the solution may be subject to a material change. As a result, the final offer price is likely to result in a variation.

No integration testing costs are expected for this Modification. This PIA is based solely on the existing (Legacy) DSP system with the New DSP expected to provide a new gateway.

As noted previously, there is a limit of 14 users per added VRF. Setting up the Virtual Gateway connection has a set level of anticipated cost as shown in the following table, while if it is agreed to implement a number of VRFs at the time of the initial setup, adding those VRFs is more straightforward and less costly if it is carried out at the time of implementing the whole capability. However, if there was a period between the initial implementation and a subsequent increase of DCC Users requiring a Virtual Gateway, the increased (ROM) costs are as shown below.

| VRF             | DCC Users      | DCC Service Setup | Operation (12 months) | Total Setup | Total Operation |
|-----------------|----------------|-------------------|-----------------------|-------------|-----------------|
| First VRF       | up to 14 users | 110,000           | 50,000                |             |                 |
| Second          | 15 - 28 Users  | 25,000            | 24,000                | 135,000     | 74,000          |
| Third           | 29 - 42 Users  | 25,000            | 24,000                | 160,000     | 98,000          |
| Later, Separate | add 14 Users   | 40,000            | 24,000                |             |                 |

The Modification cost covers the addition of the VRF, configuration, changes to the Gamma network, and the design, build, and test of the updated DSP Service Catalogue. There is also a need to amend and write up contracts for impacted Service Providers of **£17,285**. To provide a maximum figure for costs, the setup and implementation cost for up to 28 users is £135,000 with running costs of £74,000 for the first year, and contract amendment costs, giving a total of **£226,285**.

In addition, Virtual Gateway DCC Users will have the following estimated setup and annual running costs; the range allows for varying DCC User configurations.

| Virtual Gateway Setup Costs per DCC User (£) | Cloud Connection 12 Months Operational (£) | First Year Total Cost (£) | Subsequent Annual Running Cost (£) |
|----------------------------------------------|--------------------------------------------|---------------------------|------------------------------------|
| 1,600 – 2,000                                | 6,000-7,000                                | 7,600-9,000               | 6,000-7,000                        |

The costs for the setup and first 12 months of the Virtual Gateway is estimated at £7,600 to £9,000 with subsequent annual running costs at £6,000 to £7,000, based on a 2 x 100Mb

resilient Azure ExpressRoute connection. If a DCC user elected a slower 50Mbps connection, the Gamma operational costs would be approximately 25% less.

Bear in mind, as well as the annual running costs from Gamma, any Service User has to pay their own costs for the AWS or Azure:

- Circuit
- Gateway
- DTO (egress) charges for data they send

The operational costs will vary between organisations depending on their needs, and we would recommend potential Service Users work with their own IT organisations to establish these costs.

## 7.1 Note on Cloud Connection Costs

Both supported Cloud providers, Azure and AWS, have slightly differing pricing components, and varying charges for each component. In some components charges are based on configuration, while others relate to capacity or data transfer. For example, AWS Direct Connect charges are based on capacity, port hours, and data transfer out (DTO) through the AWS Direct Connect location. Naturally this will vary according to each DCC User's requirements.

## 7.2 DSP Contract and Schedule Impacts

No changes to DSP Schedule 2.2 (Performance Measures and Reporting) are expected as a result of this Modification. Changes to the DSP contracts will be implemented at a cost of no more than £17,285.

The CAN will add a single cloud connectivity option to Schedule 2.7 (Catalogue Services).



## 8 Risk, Assumptions, Issues, Dependencies, and Design Decisions

In the following sections, Risks, Assumptions, Issues, Dependencies and any Design Decisions are identified.

### 8.1 Risks

| Ref.      | Risk and Impact                                                                                                                                                |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MP265-DR1 | Implementation and usage costs for Service Users connecting to the Virtual Gateway may vary significantly based on their requirements and final configuration. |

### 8.2 Assumptions

| Ref.      | Assumption                                                                                                                                                  |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MP277-DA1 | Costs associated with setting up second or third VRFs are less than setting up one VRF, waiting a period of time, and then setting up another subsequently. |
|           |                                                                                                                                                             |

### 8.3 Design Decisions

Two other solutions were considered for the Virtual Connection, but were rejected.

In Option 1, Cloud hosted Service Users would have new cloud circuits provisioned which would terminate directly on the existing VRF1 in the Gamma network. However, the security risks and required actions for Service Users are not acceptable, e.g., a compromise of any virtual connected Service User could lead to an attack on any other Service User or Service Provider, regardless of whether they have a cloud or existing physical connection.

For Option 2, a new VRF and a new virtual firewall are required on the gateway connections network. This would replicate most of the current ACL functionality and would protect existing Service Users with physical connections, but would not filter traffic between individual DCC Service Users where both of them use virtual connections. This is a more secure solution than Option 1 but Service Users with new cloud connections, would be responsible for implementing their own security to mitigate the increased risk of attack, should another cloud-based DCC Service User be compromised.

## Appendix A: Physical Connection Parameters

SEC Section H 'DCC Services' states that to interact with the DCC, a DCC User requires a DCC Gateway Connection, placed within the organisation's premises. This requires a site visit, equipment costs and can take a while to set up. This ensures data being sent between the DCC and DCC User is transferred securely. Two types of connection are available, high volume and low volume.

### High Volume Connections

For a high volume connection there is likely to be 10 or 20Mbps available for the DCC User. If more bandwidth is required, high volume connections can usually be upgraded up to a maximum of 100Mbps. This upgrade is a chargeable request.

### Low Volume connections

When a low volume connection is installed, there is likely to be up to 40Mbps download speed and a 10Mbps upload speed, providing there is superfast broadband connection available at the DCC Service User's Data centre. If this is not available, then a standard broadband connection will be provided which is likely to be up to 20Mbps download and a 2.5Mbps upload speed. If the Party needs to move to a high volume connection, then it can apply for a new high volume connection. The Party may then choose to cancel the low volume connection.

### DCC Gateway Connection charges

There are two types of applicable charges, the connection charge and the annual charge.

The **connection charge** recovers the cost of installing and is payable to the DCC following installation. The charge will depend on the specific requirements of each individual connection, as outlined in SEC Section H15 and Appendix G. The variables that will influence the charge include:

- Physical distance from the premises of the connection to the local exchange
- Configuration of the premises i.e., whether there are existing connections that can be used or whether new lines will be required
- Type of connection determined e.g. ethernet, Fibre to the Cabinet (FTTC), Asymmetric Digital Subscriber Line (ADSL) and/or copper
- The amount of further work required as determined by a physical site inspection
- The bandwidth requested

The **annual charge** recovers the annual rental cost of the connection, and is dependent on the specific requirements on each individual connection, as outlined in Section H15 and Appendix G. The variables that will influence the level of this charge include:

- The length of the contract i.e., one year or three years
- Type of connection determined e.g. Ethernet, FTTC, ADSL and/or copper
- The bandwidth requested

## Appendix B: Glossary

The table below provides definitions of the terms used in this document.

| Acronym | Definition                                      |
|---------|-------------------------------------------------|
| ACL     | Access Control List                             |
| ADSL    | Asymmetric Digital Subscriber Line              |
| AMS     | Application Management Services                 |
| AWS     | Amazon Web Services                             |
| CAN     | Contract Amendment Note                         |
| CPE     | Customer Premises Equipment                     |
| CR      | DCC Change Request                              |
| DCC     | Data Communications Company                     |
| DSP     | Data Service Provider                           |
| DTO     | Data Transfer Out                               |
| FTTC    | Fibre to the Cabinet                            |
| Gbps    | Gigabit per second                              |
| https   | Hypertext Transfer Protocol Secure              |
| Mbps    | Megabits per second                             |
| PIA     | Preliminary Impact Assessment                   |
| PIT     | Pre-Integration Testing                         |
| RAID    | Risks, Assumptions, Issues, and Dependencies    |
| ROM     | Rough Order of Magnitude (cost)                 |
| SEC     | Smart Energy Code                               |
| SECAS   | Smart Energy Code Administrator and Secretariat |
| SIT     | Systems Integration Testing                     |
| SSC     | Security Sub-Committee                          |
| TSP     | Trusted Service Provider                        |
| TTO     | Transition to Operations (Implementation)       |
| UIT     | User Integration Testing                        |
| VRF     | Virtual Routing and Forwarding                  |

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# MP277 ‘Virtual Gateway Connection’

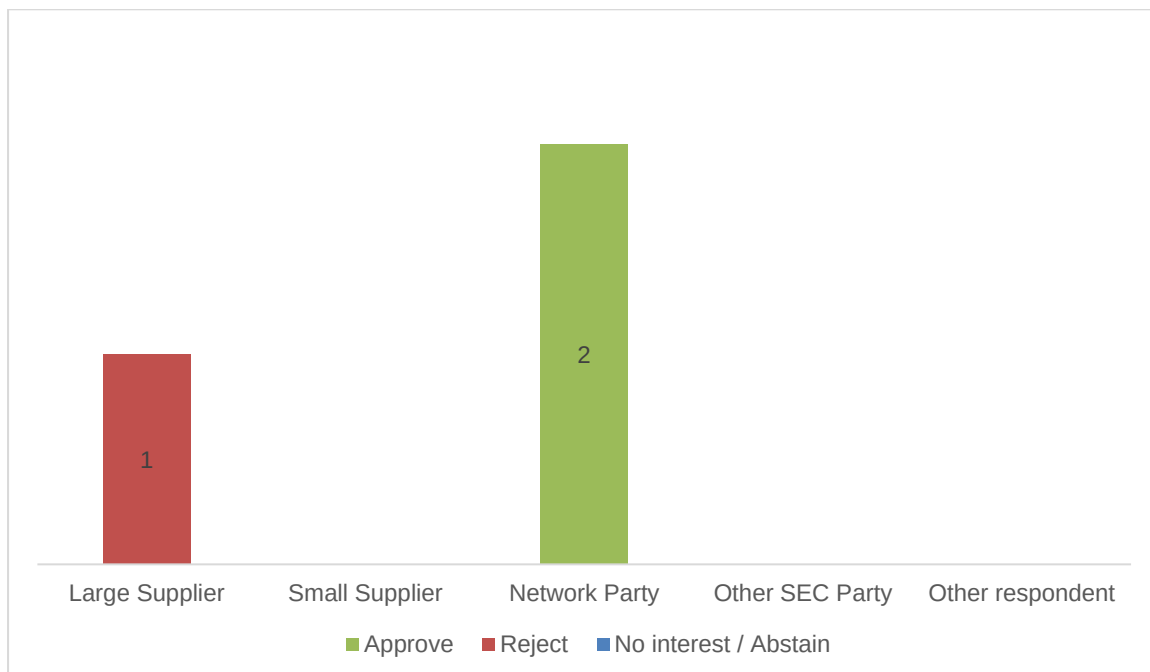
## Annex C

## Refinement Consultation responses

### About this document

This document contains the full collated responses received to the MP277 Refinement Consultation.

### Summary of responses



## Refinement Consultation

SECAS received three responses to the Refinement Consultation for MP277. One respondent believed that the modification should be rejected, and two respondents believed that the modification should be approved. The respondent who favoured approval considered the modification better facilitated SEC Objectives (a)<sup>1</sup>, (d)<sup>2</sup>, (e)<sup>3</sup>.

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<sup>1</sup> facilitate the efficient provision, installation, and operation, as well as interoperability, of Smart Metering Systems at Energy Consumers' premises within Great Britain.

<sup>2</sup> facilitate effective competition between persons engaged in, or in Commercial Activities connected with, the Supply of Energy.

<sup>3</sup> facilitate such innovation in the design and operation of Energy Networks (as defined in the DCC Licence) as will best contribute to the delivery of a secure and sustainable Supply of Energy.

Managed by

## Question 1: Do you agree that the solution put forward will effectively resolve the identified issue?

| Question 1                                    |                |                        |                                                                                                                                                                                                                                                                                                                                |                |
|-----------------------------------------------|----------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Respondent                                    | Category       | Response               | Rationale                                                                                                                                                                                                                                                                                                                      | SECAS Response |
| <b>British Gas</b>                            | Large Supplier | Yes – but with caveats | In principle we are supportive of the introduction of cloud-based connections for DCC adaptors.<br><br>We think this is the right thing to do and agree with helping to unlock lower cost connectivity for existing DCC users, and a shorter onboarding process for any future new DCC users.                                  | -              |
| <b>UK Power Networks</b>                      | Network Party  | Yes                    | The proposed solution delivers an option for new DCC Users to request DCC to provide either a physical or a virtual DCC Gateway connection. Also, for existing DCC Users with a physical DCC Gateway connection, it provides an option to migrate to a virtual DCC Gateway connection without charge or contractual penalties. | -              |
| <b>National Grid Electricity Distribution</b> | Network Party  | Yes                    | -                                                                                                                                                                                                                                                                                                                              | -              |

## Question 2: Do you agree that the legal text will deliver MP277?

| Question 2                             |                |              |                                                                                                                                                          |                |
|----------------------------------------|----------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Respondent                             | Category       | Response     | Rationale                                                                                                                                                | SECAS Response |
| British Gas                            | Large Supplier | Not reviewed | -                                                                                                                                                        | -              |
| UK Power Networks                      | Network Party  | Yes          | The legal text has been appropriately updated to enable the DCC to provide a virtual DCC Gateway connection to DCC Users who wish to choose this option. | -              |
| National Grid Electricity Distribution | Network Party  | Yes          | -                                                                                                                                                        | -              |

### Question 3: Do you agree with the proposed implementation approach?

| Question 3  |                |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------|----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Respondent  | Category       | Response | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                    | SECAS Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| British Gas | Large Supplier | No       | <p>Cloud based connections will be available under the new DSP from 2026, and potentially (according to page 13 in the modification report) from 2025.</p> <p>The TABASC feedback on page 13 of the modification report suggests that the Proposed Solution would only be in place for approximately one year at most. On that basis, using the costs and proposed charging provided in the modification report, we can't find a positive business case.</p> | <p><b>SECAS</b> – As part of the upcoming DCC DSP re-procurement, the TABASC were advised that virtual functionality would be made available as part of the new DSP. However, SECAS and the DCC have been unable to confirm timelines or verify verbal comments relating to a 2025 implementation, so at present SECAS are working on the assumption this functionality could be made available sometime during 2026 by the incoming new DSP without the implementation of MP277, although no specific dates have been provided to SECAS.</p> <p><b>DCC</b> – The DCC believe that by enabling cloud connectivity as soon as possible offers more functionality to DCC Users rather than waiting for the new DSP solution which doesn't yet have a defined timescale for implementation.</p> |



| Question 3                                    |               |          |                                                                                                                                                                                                                                           |                                                                                                             |
|-----------------------------------------------|---------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Respondent                                    | Category      | Response | Rationale                                                                                                                                                                                                                                 | SECAS Response                                                                                              |
|                                               |               |          |                                                                                                                                                                                                                                           | The DCC aim to protect against any possibility of implementation delays with the DSP by implementing MP277. |
| <b>UK Power Networks</b>                      | Network Party | Yes      | UK Power Networks agrees to the implementation approach of a Self-Governance modification because it allows for the earliest implementation date of 27 February 2025, or within one working date from approval if after 26 February 2025. | -                                                                                                           |
| <b>National Grid Electricity Distribution</b> | Network Party | Yes      | -                                                                                                                                                                                                                                         | -                                                                                                           |

## Question 4: Will there be any impact on your organisation to implement MP277?

| Question 4                             |                |          |                                                                                                                                                                                                                                                                                                                              |                |
|----------------------------------------|----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Respondent                             | Category       | Response | Rationale                                                                                                                                                                                                                                                                                                                    | SECAS Response |
| British Gas                            | Large Supplier | No       | -                                                                                                                                                                                                                                                                                                                            | -              |
| UK Power Networks                      | Network Party  | No       | UK Power Networks will not be immediately impacted by the implementation of MP277 because we already have an operational physical DCC Gateway connection. This will, however, allow UK Power Networks to consider the merits of transitioning to a virtual DCC Gateway connection, should we wish to transfer in the future. | -              |
| National Grid Electricity Distribution | Network Party  | No       | -                                                                                                                                                                                                                                                                                                                            | -              |

## Question 5: Will your organisation incur any costs in implementing MP277?

| Question 5                             |                |                |                                                                                                                                                                                                                                                                                                                         |                |
|----------------------------------------|----------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Respondent                             | Category       | Response       | Rationale                                                                                                                                                                                                                                                                                                               | SECAS Response |
| British Gas                            | Large Supplier | No             | -                                                                                                                                                                                                                                                                                                                       | -              |
| UK Power Networks                      | Network Party  | Less than 100k | In the event that UK Power Networks decides to transition from a physical DCC Gateway connection to a virtual DCC Gateway connection, there will be costs incurred from the commissioning of the new virtual DCC Gateway connection and from the decommissioning of the current physical infrastructure and connection. | -              |
| National Grid Electricity Distribution | Network Party  | No costs       | -                                                                                                                                                                                                                                                                                                                       | -              |

## Question 6: How long from the point of approval would your organisation need to implement MP277?

| Question 6                             |                |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |
|----------------------------------------|----------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Respondent                             | Category       | Response        | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                   | SECAS Response |
| British Gas                            | Large Supplier | N/A             | -                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -              |
| UK Power Networks                      | Network Party  | Circa 12 months | Once MP277 is implemented, UK Power Networks will carry out some analysis as to the benefits of transitioning to a virtual DCC Gateway connection, this will include determining an appropriate timing for any change, the costs that would be incurred and the benefits over a physical DCC Gateway connection. This will allow a decision to be made if we wish to transition from a physical DCC Gateway connection to a virtual DCC Gateway connection. | -              |
| National Grid Electricity Distribution | Network Party  | N/A             | -                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -              |

## Question 7: Do you believe that MP277 would better facilitate the General SEC Objectives?

| Question 7                                    |                |                                                                     |                  |                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------|----------------|---------------------------------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Respondent                                    | Category       | Response                                                            | SEC Objective(s) | Rationale                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>British Gas</b>                            | Large Supplier | No                                                                  | N/A              | We can see longer term benefits to cloud gateway connections, but not to MP277 which would only be in force for up to 1 year.                                                                                                                                                                                                                                                                               |
| <b>UK Power Networks</b>                      | Network Party  | Yes (based on our understanding that the question relates to MP277) | (a), (d) & (e)   | We believe MP277 will better facilitate the General SEC Objectives A, D and E by offering a quicker and cost-efficient virtual DCC Gateway connection. This will benefit all DCC Parties, fostering innovation and delivering new services to energy consumers. It also allows current DCC Users to leverage additional functionalities such as higher data throughput, built-in resilience and redundancy. |
| <b>National Grid Electricity Distribution</b> | Network Party  | Yes                                                                 | (a), (d) & (e)   | -                                                                                                                                                                                                                                                                                                                                                                                                           |

## Question 8: Do you believe there will be any impacts on or benefits to consumers if MP277 is implemented?

| Question 8                                    |                |                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                |
|-----------------------------------------------|----------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Respondent                                    | Category       | Response                     | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | SECAS Response |
| <b>British Gas</b>                            | Large Supplier | Negative impact on Consumers | <p>It depends on whether consumers were keen to use services during 2025, which can only be delivered if the DCC enacts MP277. We think this is likely to be a very small or negligible segment, as there are a range of competitive services that could provide DCC access on an interim basis if needed.</p> <p>From the other perspective, MP277 would incur costs (funded by Suppliers) that would be shared across all energy consumers. This doesn't seem cost beneficial for consumers.</p> | -              |
| <b>UK Power Networks</b>                      | Network Party  | Yes                          | There will be a positive impact on consumers through the provision of a virtual DCC connection, as it will allow organisations to relatively quickly establish a cost-effective solution for connecting to the DCC. This will enable the delivery and expansion of their smart technology services to consumers in the energy market.                                                                                                                                                              | -              |
| <b>National Grid Electricity Distribution</b> | Network Party  | Yes                          | We believe there will be an impact/benefits to consumers for the reasons stated in the Modification Report.                                                                                                                                                                                                                                                                                                                                                                                        | -              |

## Question 9: Noting the costs and benefits of this modification, do you believe MP277 should be approved?

| Question 9  |                |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------|----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Respondent  | Category       | Response | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | SECAS Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| British Gas | Large Supplier | No       | <p>On the basis that the MP277 Proposed Solution would only be in place for approximately one year at most, before cloud connections were available through the new DSP, we don't understand the business case.</p> <p>For example, assuming an optimistic scenario where 25 companies (10 existing users, 5 high-usage new users, and 10 low-usage new users) are able to set up virtual connections promptly and then benefit from a full extra early year of cloud connectivity, we still only see benefits of £191k, which is lower than the modification cost of £226k.</p> <p>This optimistic scenario assumes volumes close to the "up to 28 users" referred to on page 10 of the modification report. We are still not clear how many companies would want to set up new cloud connections this promptly, and the true number may be much lower than this.</p> <p>Separately, the £226k would be paid for by suppliers, whereas the majority of the £191k benefits would attribute to new Other Users, who wouldn't be contributing to the modification cost.</p> | <p><b>SECAS</b> - SECAS acknowledges the comments provided and will ensure these are reflected in future discussions. The intention of the DCC in relation to implementing MP277 ahead of the upcoming DSP re-procurement was to try and support DCC Users in realising potential cost savings as soon as possible.</p> <p><b>DCC</b> – The DCC have advised they have identified both Large Suppliers and Network Parties who have stated they would look to transition to virtual connectivity as soon as readily available. The DCC have also advised that MP277 will help to prepare for DSP virtual connectivity by implementing the required legal text changes to the SEC as part of MP277.</p> |

| Question 9                                    |               |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                |
|-----------------------------------------------|---------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Respondent                                    | Category      | Response | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | SECAS Response |
| <b>UK Power Networks</b>                      | Network Party | Yes      | UK Power Networks believes that MP277 should be approved because it provides all Parties who wish to establish a DCC connection with two methods for a DCC Gateway. In addition, it will allow existing DCC Users with a physical connection to benefit from a virtual DCC gateway, should they wish to refresh their systems and transition to the newly available technology of online cloud-based platforms and applications. This transition could offer efficient and cost-effective operations for the DCC and its customers. | -              |
| <b>National Grid Electricity Distribution</b> | Network Party | Yes      | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -              |



## Question 10: Please provide any further comments you may have.

| Question 10 |                |                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Respondent  | Category       | Comments                                                                                                                                                                                                                                                                         | SECAS Response                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| British Gas | Large Supplier | <p>Are details available on how many RDPs have come forward for a virtual connection, following the implementation of MP248 in November 2024?</p> <p>Example 'back of the envelope' calculation based on our understanding of the figures shared in the modification report:</p> | <p><b>SECAS</b> - SECAS have asked the DCC to provide figures in relation to the number of RDP's who have taken up virtual connectivity since the implementation of MP248 in November 2024. This will be updated into the Modification Report once received.</p> <p>SECAS have also queried whether the Solution is specific to SMETS2 or will account for SMETS1 Devices too. This will be outlined within the Modification Report once confirmed.</p> |

## Question 10

| Question 10                                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        |                 |                   |  |          |                                |         |  |  |  |                                                        |              |  |  |  |             |       |      |   |        |                                            |       |  |  |  |                                                        |              |  |  |  |             |        |     |   |        |                                            |       |  |  |  |                                                       |              |  |  |  |             |       |      |   |        |                       |  |           |  |                |           |                |  |  |        |  |           |  |  |         |                            |  |  |  |                |                                                      |  |  |  |                 |  |
|--------------------------------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-----------------|-------------------|--|----------|--------------------------------|---------|--|--|--|--------------------------------------------------------|--------------|--|--|--|-------------|-------|------|---|--------|--------------------------------------------|-------|--|--|--|--------------------------------------------------------|--------------|--|--|--|-------------|--------|-----|---|--------|--------------------------------------------|-------|--|--|--|-------------------------------------------------------|--------------|--|--|--|-------------|-------|------|---|--------|-----------------------|--|-----------|--|----------------|-----------|----------------|--|--|--------|--|-----------|--|--|---------|----------------------------|--|--|--|----------------|------------------------------------------------------|--|--|--|-----------------|--|
| Respondent                                             | Category       | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | SECAS Response         |                 |                   |  |          |                                |         |  |  |  |                                                        |              |  |  |  |             |       |      |   |        |                                            |       |  |  |  |                                                        |              |  |  |  |             |        |     |   |        |                                            |       |  |  |  |                                                       |              |  |  |  |             |       |      |   |        |                       |  |           |  |                |           |                |  |  |        |  |           |  |  |         |                            |  |  |  |                |                                                      |  |  |  |                 |  |
|                                                        |                | <div><p><b><u>MP277 - example calculation</u></b></p><table><thead><tr><th><u>Exisiting Users</u></th><th><u>£/User</u></th><th><u># of Users</u></th><th></th><th><u>£</u></th></tr></thead><tbody><tr><td>Cost of virtual gateway set up</td><td>- 1,700</td><td></td><td></td><td></td></tr><tr><td><u>Saving for 12 months gateway (£15,000 - £7,000)</u></td><td><u>8,000</u></td><td></td><td></td><td></td></tr><tr><td>Net benefit</td><td>6,300</td><td>x 10</td><td>=</td><td>63,000</td></tr></tbody></table><p><b><u>New Users (High usage)</u></b></p><table><tbody><tr><td>Saving on gateway set up (£6,500 - £1,700)</td><td>4,800</td><td></td><td></td><td></td></tr><tr><td><u>Saving for 12 months gateway (£15,000 - £7,000)</u></td><td><u>8,000</u></td><td></td><td></td><td></td></tr><tr><td>Net benefit</td><td>12,800</td><td>x 5</td><td>=</td><td>64,000</td></tr></tbody></table><p><b><u>New Users (Medium usage)</u></b></p><table><tbody><tr><td>Saving on gateway set up (£5,500 - £1,600)</td><td>3,900</td><td></td><td></td><td></td></tr><tr><td><u>Saving for 12 months gateway (£9,000 - £6,500)</u></td><td><u>2,500</u></td><td></td><td></td><td></td></tr><tr><td>Net benefit</td><td>6,400</td><td>x 10</td><td>=</td><td>64,000</td></tr></tbody></table><table><tr><td><b>Total Benefits</b></td><td></td><td><b>25</b></td><td></td><td><b>191,000</b></td></tr><tr><td>Of which,</td><td>Existing Users</td><td></td><td></td><td>63,000</td></tr><tr><td></td><td>New Users</td><td></td><td></td><td>128,000</td></tr></table><table><tr><td><b>Total Cost of MP277</b></td><td></td><td></td><td></td><td><b>226,000</b></td></tr></table><table><tr><td><b>Net Benefit (Total Benefits, less Total Cost)</b></td><td></td><td></td><td></td><td><b>- 35,000</b></td></tr></table></div> | <u>Exisiting Users</u> | <u>£/User</u>   | <u># of Users</u> |  | <u>£</u> | Cost of virtual gateway set up | - 1,700 |  |  |  | <u>Saving for 12 months gateway (£15,000 - £7,000)</u> | <u>8,000</u> |  |  |  | Net benefit | 6,300 | x 10 | = | 63,000 | Saving on gateway set up (£6,500 - £1,700) | 4,800 |  |  |  | <u>Saving for 12 months gateway (£15,000 - £7,000)</u> | <u>8,000</u> |  |  |  | Net benefit | 12,800 | x 5 | = | 64,000 | Saving on gateway set up (£5,500 - £1,600) | 3,900 |  |  |  | <u>Saving for 12 months gateway (£9,000 - £6,500)</u> | <u>2,500</u> |  |  |  | Net benefit | 6,400 | x 10 | = | 64,000 | <b>Total Benefits</b> |  | <b>25</b> |  | <b>191,000</b> | Of which, | Existing Users |  |  | 63,000 |  | New Users |  |  | 128,000 | <b>Total Cost of MP277</b> |  |  |  | <b>226,000</b> | <b>Net Benefit (Total Benefits, less Total Cost)</b> |  |  |  | <b>- 35,000</b> |  |
| <u>Exisiting Users</u>                                 | <u>£/User</u>  | <u># of Users</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        | <u>£</u>        |                   |  |          |                                |         |  |  |  |                                                        |              |  |  |  |             |       |      |   |        |                                            |       |  |  |  |                                                        |              |  |  |  |             |        |     |   |        |                                            |       |  |  |  |                                                       |              |  |  |  |             |       |      |   |        |                       |  |           |  |                |           |                |  |  |        |  |           |  |  |         |                            |  |  |  |                |                                                      |  |  |  |                 |  |
| Cost of virtual gateway set up                         | - 1,700        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        |                 |                   |  |          |                                |         |  |  |  |                                                        |              |  |  |  |             |       |      |   |        |                                            |       |  |  |  |                                                        |              |  |  |  |             |        |     |   |        |                                            |       |  |  |  |                                                       |              |  |  |  |             |       |      |   |        |                       |  |           |  |                |           |                |  |  |        |  |           |  |  |         |                            |  |  |  |                |                                                      |  |  |  |                 |  |
| <u>Saving for 12 months gateway (£15,000 - £7,000)</u> | <u>8,000</u>   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        |                 |                   |  |          |                                |         |  |  |  |                                                        |              |  |  |  |             |       |      |   |        |                                            |       |  |  |  |                                                        |              |  |  |  |             |        |     |   |        |                                            |       |  |  |  |                                                       |              |  |  |  |             |       |      |   |        |                       |  |           |  |                |           |                |  |  |        |  |           |  |  |         |                            |  |  |  |                |                                                      |  |  |  |                 |  |
| Net benefit                                            | 6,300          | x 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | =                      | 63,000          |                   |  |          |                                |         |  |  |  |                                                        |              |  |  |  |             |       |      |   |        |                                            |       |  |  |  |                                                        |              |  |  |  |             |        |     |   |        |                                            |       |  |  |  |                                                       |              |  |  |  |             |       |      |   |        |                       |  |           |  |                |           |                |  |  |        |  |           |  |  |         |                            |  |  |  |                |                                                      |  |  |  |                 |  |
| Saving on gateway set up (£6,500 - £1,700)             | 4,800          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        |                 |                   |  |          |                                |         |  |  |  |                                                        |              |  |  |  |             |       |      |   |        |                                            |       |  |  |  |                                                        |              |  |  |  |             |        |     |   |        |                                            |       |  |  |  |                                                       |              |  |  |  |             |       |      |   |        |                       |  |           |  |                |           |                |  |  |        |  |           |  |  |         |                            |  |  |  |                |                                                      |  |  |  |                 |  |
| <u>Saving for 12 months gateway (£15,000 - £7,000)</u> | <u>8,000</u>   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        |                 |                   |  |          |                                |         |  |  |  |                                                        |              |  |  |  |             |       |      |   |        |                                            |       |  |  |  |                                                        |              |  |  |  |             |        |     |   |        |                                            |       |  |  |  |                                                       |              |  |  |  |             |       |      |   |        |                       |  |           |  |                |           |                |  |  |        |  |           |  |  |         |                            |  |  |  |                |                                                      |  |  |  |                 |  |
| Net benefit                                            | 12,800         | x 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | =                      | 64,000          |                   |  |          |                                |         |  |  |  |                                                        |              |  |  |  |             |       |      |   |        |                                            |       |  |  |  |                                                        |              |  |  |  |             |        |     |   |        |                                            |       |  |  |  |                                                       |              |  |  |  |             |       |      |   |        |                       |  |           |  |                |           |                |  |  |        |  |           |  |  |         |                            |  |  |  |                |                                                      |  |  |  |                 |  |
| Saving on gateway set up (£5,500 - £1,600)             | 3,900          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        |                 |                   |  |          |                                |         |  |  |  |                                                        |              |  |  |  |             |       |      |   |        |                                            |       |  |  |  |                                                        |              |  |  |  |             |        |     |   |        |                                            |       |  |  |  |                                                       |              |  |  |  |             |       |      |   |        |                       |  |           |  |                |           |                |  |  |        |  |           |  |  |         |                            |  |  |  |                |                                                      |  |  |  |                 |  |
| <u>Saving for 12 months gateway (£9,000 - £6,500)</u>  | <u>2,500</u>   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        |                 |                   |  |          |                                |         |  |  |  |                                                        |              |  |  |  |             |       |      |   |        |                                            |       |  |  |  |                                                        |              |  |  |  |             |        |     |   |        |                                            |       |  |  |  |                                                       |              |  |  |  |             |       |      |   |        |                       |  |           |  |                |           |                |  |  |        |  |           |  |  |         |                            |  |  |  |                |                                                      |  |  |  |                 |  |
| Net benefit                                            | 6,400          | x 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | =                      | 64,000          |                   |  |          |                                |         |  |  |  |                                                        |              |  |  |  |             |       |      |   |        |                                            |       |  |  |  |                                                        |              |  |  |  |             |        |     |   |        |                                            |       |  |  |  |                                                       |              |  |  |  |             |       |      |   |        |                       |  |           |  |                |           |                |  |  |        |  |           |  |  |         |                            |  |  |  |                |                                                      |  |  |  |                 |  |
| <b>Total Benefits</b>                                  |                | <b>25</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                        | <b>191,000</b>  |                   |  |          |                                |         |  |  |  |                                                        |              |  |  |  |             |       |      |   |        |                                            |       |  |  |  |                                                        |              |  |  |  |             |        |     |   |        |                                            |       |  |  |  |                                                       |              |  |  |  |             |       |      |   |        |                       |  |           |  |                |           |                |  |  |        |  |           |  |  |         |                            |  |  |  |                |                                                      |  |  |  |                 |  |
| Of which,                                              | Existing Users |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        | 63,000          |                   |  |          |                                |         |  |  |  |                                                        |              |  |  |  |             |       |      |   |        |                                            |       |  |  |  |                                                        |              |  |  |  |             |        |     |   |        |                                            |       |  |  |  |                                                       |              |  |  |  |             |       |      |   |        |                       |  |           |  |                |           |                |  |  |        |  |           |  |  |         |                            |  |  |  |                |                                                      |  |  |  |                 |  |
|                                                        | New Users      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        | 128,000         |                   |  |          |                                |         |  |  |  |                                                        |              |  |  |  |             |       |      |   |        |                                            |       |  |  |  |                                                        |              |  |  |  |             |        |     |   |        |                                            |       |  |  |  |                                                       |              |  |  |  |             |       |      |   |        |                       |  |           |  |                |           |                |  |  |        |  |           |  |  |         |                            |  |  |  |                |                                                      |  |  |  |                 |  |
| <b>Total Cost of MP277</b>                             |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        | <b>226,000</b>  |                   |  |          |                                |         |  |  |  |                                                        |              |  |  |  |             |       |      |   |        |                                            |       |  |  |  |                                                        |              |  |  |  |             |        |     |   |        |                                            |       |  |  |  |                                                       |              |  |  |  |             |       |      |   |        |                       |  |           |  |                |           |                |  |  |        |  |           |  |  |         |                            |  |  |  |                |                                                      |  |  |  |                 |  |
| <b>Net Benefit (Total Benefits, less Total Cost)</b>   |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        | <b>- 35,000</b> |                   |  |          |                                |         |  |  |  |                                                        |              |  |  |  |             |       |      |   |        |                                            |       |  |  |  |                                                        |              |  |  |  |             |        |     |   |        |                                            |       |  |  |  |                                                       |              |  |  |  |             |       |      |   |        |                       |  |           |  |                |           |                |  |  |        |  |           |  |  |         |                            |  |  |  |                |                                                      |  |  |  |                 |  |

| Question 10                                   |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |
|-----------------------------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Respondent                                    | Category      | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | SECAS Response |
|                                               |               | <p>Can you also confirm why the Firewall text on page 3 of this response document refers to SMETS2 only?</p> <div> <p><b>What is the solution?</b></p> <p>The Proposed Solution will implement a Virtual Routing &amp; Forwarding (VRF) component and new virtual Firewall for each cloud connected DCC Gateway Party. The Firewall will route traffic between each DCC Gateway Party's VRF and the associated Smart Metering Equipment Technical Specifications (SMETS)2 VRF. The Firewall would only allow a DCC Gateway Party to access the DSP, Trusted Service Provider (TSP), testing environments and Service Now (SNOW).</p> </div> |                |
| <b>UK Power Networks</b>                      | Network Party | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | -              |
| <b>National Grid Electricity Distribution</b> | Network Party | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -              |