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# MP122B 'Operational Metrics – Part 2'

## Modification Report

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Corporate member of  
Plain English Campaign  
Committed to clearer  
communication

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## About this document

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This document is a draft Modification Report. It currently sets out the background, issue, solution, impacts, costs, implementation approach and progression timetable for this modification, along with any relevant discussions, views and conclusions. This document will be updated as this modification progresses.

## Contents

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1. Summary .....	3
2. Issue .....	3
3. Solution.....	7
4. Impacts .....	11
5. Costs.....	13
6. Implementation approach .....	15
7. Assessment of the proposal.....	16
Appendix 1: Performance Measurement Report process .....	31
Appendix 2: Progression timetable .....	32
Appendix 3: Glossary .....	33

This document also has two annexes:

- **Annex A** contains the business requirements for the solution.
- **Annex B** contains the full Data Communications Company (DCC) Preliminary Assessment response.

## Contact

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## 1. Summary

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This proposal has been raised by Gemma Slaney from Western Power Distribution.

Issues with transparency of reporting and relevance of the measures contained within the DCC Performance Measurement Report (PMR) have arisen. In its monthly review of the PMR, the Operations Group has found it increasingly difficult to report to the Smart Energy Code (SEC) Panel on the issues within the report.

As a result of the issues encountered, the Operational Metrics Review (OMR) was undertaken to better understand the PMR measures, consider amendments and recommendations of new performance indicators. Through workshops and User surveys, it is clear that Users want to see reporting that reflects the business processes that the DCC supports.

To realise the full set of reporting sought, changes are needed to the DCC Systems and Service Provider contracts. To ensure the reporting elements that did not require these changes could be delivered sooner, the original modification was split into two and progressed under [MP122A](#) 'Operational Metrics'. MP122B seeks to progress the DCC System and Service Provider changes to improve reporting on several business processes as well as improve the timeliness of the PMR.

This modification's impacts will be limited to the DCC, the DCC Systems and its Service Providers. If approved, it will also provide positive impacts across all SEC Party categories.

The DCC has provided two solution methods for each reporting area (other than for improving the timeliness of the PMR):

- DCC Change Requests that directly impact the DCC's Service Providers
- DCC Technical Operations Centre (TOC) changes that are far less reliant on the DCC's Service Providers

The costs to deliver the requirements against each solution method can be found in Section 5 and is highly dependent on the options taken forward. All of the quoted DCC implementation costs have only been provided in a Preliminary Assessment and do not include Application Support costs or costs associated with contractual changes. These will be investigated during the Impact Assessment.

The targeted implementation approach has not yet been determined due to the multiple solution options for each area of reporting and the varying impacts they have on the DCC's lead-times.

## 2. Issue

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### What are the current arrangements?

#### The Performance Measurement Report

SEC Section H13.4 requires the DCC to produce a report setting out the Service Levels achieved in respect of each Performance Measure. The Performance Measure Service Levels are set out in SEC Sections D11.3, H13.1 and L8.6. The report also provides details of the Service Provider Performance Measures specified in the Reported List of Service Provider Performance Measures document<sup>1</sup>.

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<sup>1</sup> This is a DCC Controlled document and is available via the DCC's SharePoint.

The report that the DCC produces in accordance with SEC Section H13.4 is known as the PMR and is presented to the Operations Group on a monthly basis.

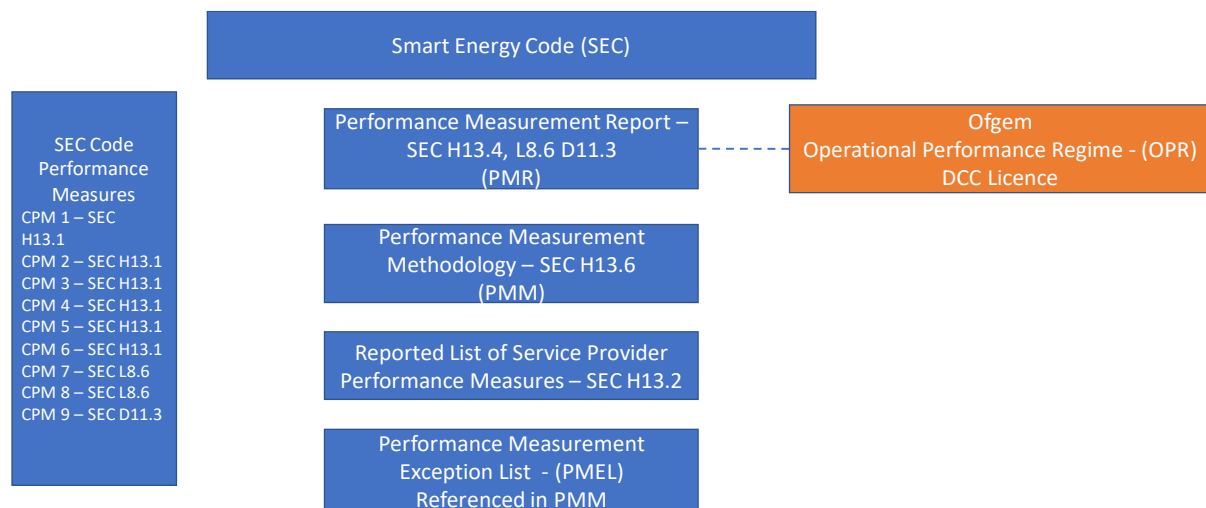
## The Operational Metrics Review

In October 2019, work commenced on the OMR, overseen by the Operations Group, to identify improvements in the metrics used to measure the DCC service. The Operations Group raised the need for the review following issues raised by its members in relation to the DCC's monthly PMR. This was where it was felt that what the DCC were reporting wasn't aligned with DCC User experience.

The purpose of the OMR was to identify improvements to the operational metrics related to the SEC Performance Measures to measure the delivery of DCC Services. The improvements would reflect User requirements and priorities. The review was resourced and managed by the Smart Energy Code Administrator and Secretariat (SECAS) and was conducted between October 2019 and March 2020.

Ofgem was engaged throughout the review and has reviewed its Operational Performance Regime (OPR) structure. The aim of the Ofgem review was to ensure incentives placed on the DCC are adequate and effective, and therefore the outcomes of this project would help to ensure that the most appropriate subset of SEC defined measures fed into the OPR.

The diagram below provides a pictorial view of the performance reporting documents provided and maintained by the DCC in accordance with the SEC and utilised by Ofgem as part of its annual OPR review.



## Outcomes and recommendations

The project undertook a review of the Performance Measurement Methodology (PMM). The review was not a forensic examination of the calculations. The project, instead, tried to understand if the PMR metrics and supporting methodology remain appropriate and made recommendations for potential amendments and changes.

The review recommended that the DCC Operational Performance Reporting is addressed for the following areas:

- Measure and report service performance by User business processes using Service Reference Variants (SRVs).
- Measure and report the Target Response Time for all Alerts.
- A measure of end-to-end DCC Service Availability across the DCC environment reported by Communications Service Provider (CSP) Region.
- A change to improve the timeliness of production of the PMR, to ensure the PMR remains operationally relevant to Users.
- Changes or additions to Smart Metering Equipment Technical Specifications (SMETS) 2 arrangements for the PMR are, where appropriate, taken forward for SMETS1. This would ensure consistency across SMETS Device types and make sure that reports are focussed on outcomes, reflective of the experience of Users at an industry reported level.
- A change is made to Code Performance Measure (CPM) 5 to report resolution times of Incident Categories 3, 4 and 5 individually per Reporting Period.

### MP122A 'Operational Metrics'

[MP122A 'Operational Metrics'](#) was implemented into the SEC on 25 February 2021 (February 2021 SEC Release). It sought to improve the transparency of the PMR by implementing the DCC operational and Technical Operations Centre (TOC) changes, as well as interim approaches for the most affected metrics recommended in the OMR. The MP122A solution will not impact, nor will it extract data from, any of the DCC's Service Providers and is solely dependent on the DCC's TOC.

The MP122A legal text implemented all the required changes to the SEC, irrespective of whether the DCC's capability to comply with those changes were dependent on this MP122B. This approach was agreed with the Proposer of MP122A and MP122B, the DCC and Working Group members.

The enhanced reporting resulting from MP122A will only include data derived from the DCC's TOC. This reporting will be presented to the Operations Group from May 2021 looking back at data from April 2021.

### What is the issue?

During the development of MP122A, it became clear there would not be enough time to implement any of the changes concerning data not already held within the TOC and that would impact the DCC Service Providers in time to start reporting from the 2021/22 regulatory year. Specifically, the areas of improvement are:

- Enhanced reporting on Alerts
- Enhanced reporting on Incident Categories 3, 4 and 5
- Reduced delivery timescales of the PMR
- Enhanced reporting on Communications Hub firmware
- Enhanced reporting on SMETS1 Device firmware

## Reporting on Alerts

Currently, the reporting that the DCC produces in relation to CPM 3 only provides a single average against the combination of all Alerts that are delivered within the Target Response Time. Existing reporting for Alerts includes the time spent in the following phases and does not use a proxy:

- Time from receipt on the Communications Hub to onward transmission to the DSP
- Time from receipt from the CSP to onward Transmission to the Service User Gateway

However, the Target Response Time for the two phases are reported separately and the DCC cannot currently link the two. In addition, the DCC reports the average Target Response Time for the combination of all Alerts, not for each Alert type.

Therefore, Parties do not think the current reporting on Alerts is a fair reflection of the DCC's performance in this area. However, this is not the view of the DCC which notes that its responsibility begins at the point that the Alert reaches the Communications Hub and ends when it attempts to send it to the Service User. The DCC is not responsible if the Service Users system or gateway is down.

## Reporting on Incident Categories 3, 4 and 5

Currently, the DCC reports on Incident Categories 3, 4 and 5 as an average against the three Categories combined and only measure those that are resolved within the Target Resolution Time. However, consideration is not given to each Category on its own and the Target Initial Response Time is not measured.

Parties have fed back that this does not provide enough granularity.

## Reducing the delivery timescales of the PMR

Prior to the implementation of MP122A, SEC Section H13.4 required the DCC to produce the PMR within 25 Working Days following the end of each Performance Measurement Period. MP122A shortened this to 10 Working Days following the end of each Performance Measurement Period.

However, the DCC identified in June 2020 that it is unable to meet the new timescales without making contractual amendments with all 13 of its Service Providers. Consequently, until these contractual changes are made, the DCC will continue to use the 25 Working Day service level agreement (SLA). The Authority subsequently granted a derogation against the new 10 Working Day SLA in the SEC.

This means that when the Operations Group reviews the PMR, it is effectively looking at data from two months previous. This makes it harder for those reviewing the report to understand the reasons for any drops in performance in a timely manner.

## Reporting on Communications Hub firmware

MP122A introduced new CPM 6B and CPM 6C. These relate to metrics measuring the percentage of firmware images successfully delivered as well as activated on Communication Hubs respectively. However, the DCC cannot currently report on either of these two elements until the necessary DCC System and Service Provider contractual changes are made as well as the implementation of [SECMP0007 'Firmware updates to IHDs and PPMIDs'](#).

### Reporting on SMETS1 Device firmware

Note, reporting on SMETS1 Device firmware is the only reporting area under MP122B depended upon by Ofgem's OPR.

MP122A introduced both CPM 6A and SEC Section H13.4, both of which are interlinked. Section H13.4 lists the business processes and associated SRVs for which the DCC is to report against, including a breakdown by Region or SMETS1.

Business process 'Update Device Firmware' contains two SRVs which the DCC is to measure:

- SR11.1 'Update Firmware'
- SR11.3 'Activate Firmware'

However, the DCC cannot report on the above two Service Requests in respect to SMETS1 until the necessary DCC System and Service Provider contract changes are made.

### What is the impact this is having?

Without the DCC System and Service Provider changes being made, the DCC will not be able to provide the enhanced and accurate reporting for the above areas. This will mean that current reporting in these areas will not be a true reflection of the DCC and Service Providers performance.

Furthermore, the DCC will continue to produce the PMR 25 Working Days following the end of each Performance Measurement Period, making it harder for the Operations Group to assess any drops in performance in a timely manner.

### Impact on consumers

If this issue is not resolved, it may make it harder for those reading the PMR to identify and address drops in DCC performance in the given areas. This could impact consumers if those areas are not performing as well as they should and consequently impact the consumer experience of smart metering.

## 3. Solution

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### Proposed Solution

The Proposed Solution is for the DCC to design solutions for each of the five areas not addressed under MP122A:

- Enhanced reporting on Alerts
- Enhanced reporting on Incident Categories 3, 4 and 5
- Reduced delivery timescales of the PMR
- Enhanced reporting on Communications Hub firmware



- Enhanced reporting on SMETS1 Device firmware

Any solutions to the above areas that do not rely upon the DCC's Service Providers have been considered in order to maximise cost effectiveness.

**The only one of the above reporting areas depended upon by Ofgem's OPR is reporting on SMETS1 Device firmware.**

The business requirements for the full MP122 solution can be found in Annex A and were formed from the recommendations made by the OMR.

## Reporting on Alerts

### *DCC System impacting solution*

The reporting resulting from CPM 3 will be expanded. Instead of measuring the Target Response Time for the combination of all Alerts, the average success rate and Round Trip Time for each individual Alert type will be measured. The points at which the Alerts are measured from and to will also be expanded as follows:

- From when the Alert is generated by the Device;
- When the Alert reached the Communications Hub;
- When the Alert entered the CSP/SMETS1 Service Provider systems;
- When the Alert left the CSP/SMETS1 systems to the DSP;
- When the DSP sends the alert to the Service User; and
- When the DSP receives a handshake from the Service User system confirming receipt.

### *Alternative TOC solution*

The DCC TOC proposed an alternative solution for CR1418 and CR1438, both titled 'Throughput of Alerts', by using the following as a proxy measure instead:

- The time in the Wide Area Network (WAN) (and Device) of Service Requests that target a Communications Hub; and
- the time in the WAN (and Device) of Service Requests that target the Gas Proxy Function (GPF) and Electricity Smart Metering Equipment (ESME).

By dividing the Round Trip Time by two, this would give an approximation of the time associated with the Alerts. These times could be broken down by CSP Region, and SMETS1 Service Provider.

This method does not fully meet the original business requirement and cannot measure SMETS1 Service Provider WAN time. Also, for both SMETS1 and SMETS2, no information on the handshake to Service User would be available. However, if it provides a measure acceptable to Parties then it does provide a more cost-effective solution.

It has not been decided which option is the best approach. However, the Working Group did not feel that this was an appropriate proxy but wish to seek wider views. As a result, SECAS is seeking views from the Refinement Consultation to support the Proposer's decision.



### **Reporting on Incident Categories 3, 4 and 5**

Incident Categories 3, 4 and 5 shall be reported by Category, with statistics identifying the number of Incidents per Category, the number that met the Target Initial Response Time and the number that met the Target Resolution Time. These statistics will be broken down by resolver group where the resolver is the DCC, DSP, CSP, SMETS1 Service Provider, Dual Control Organisation (DCO) or other Service Providers. This reporting will support CPM 5 and CPM 5A.

After investigation, the DCC has found that its own internal Remedy Systems already hold the required data and the Working Group agreed this met the original business requirement. The DCC will therefore provide its own reporting to SECAS for CPM 5 and CPM 5A.

At present the Service Providers dispute a fairly small number of Incident resolution timescales each month where they have needed to stop the clock and go back to the Service User for additional information. The DCC will now no longer exclude those that would have met the TRT if the Service User had responded to the request for additional information immediately. Therefore, although this data will not be reconciled or validated by the DCC's Service Providers, it provides a more cost-effective solution and one with a shorter DCC lead-time. In addition, this solution will not require any Service Provider contract renegotiation.

### **Reducing the delivery timescales of the PMR**

The original business requirement seeks for the DCC to reduce the time it takes to create the PMR, and any associated TOC reporting, to within 10 Working Days from the end of the measurement reporting period. This is to ensure the PMR remains operationally relevant to Users and will support SEC Section H13.4.

The effect would be that, depending on bank holidays and month end falling on Working Days, the report could be reviewed by the Operations Group during the month following the end of the reporting period. For example, a report for the month of February could be reviewed at the end of March at the Operations Group report review meeting.

Currently, the fastest SLA which all the Service Providers could meet and align to is 18 Working Days from the end of the measurement reporting period. Note that the CSP South and Central is the only Service Provider preventing this from being reduced to 14 Working Days. However, the CSP South and Central has advised that it could meet a 10 Working Day SLA at a cost of at least £15m, which the Proposer and the Working Group deem to be unreasonable.

Therefore, the two options available are as follows:

- Revert the SEC to the previous 25 working day SLA
- Implement a new 18 working day SLA

As a result, SECAS is seeking views from the Refinement Consultation to support the Proposer's decision

## Reporting on Communications Hub firmware

The DCC will report both the percentage of firmware images successfully delivered and the percentage of firmware images successfully activated on Communication Hubs.

This reporting will support CPM 6B and CPM 6C.

### *DCC Systems impacting solution*

The CSPs shall provide data to the TOC daily identifying throughput of attempts and success of Communications Hub targeted firmware updates. This will be achieved by the DSP building a mechanism for which the CSPs can send the status of a Communications Hub firmware update carried out by the CSP. The mechanism to track progress of Communications Hub firmware will make use of (and is dependent upon) the tracking solution pending implementation under [SECMP0007 'Firmware updates to IHDs and PPMIDs'](#). This will avoid the need for an interface specifically for tracking Communications Hub firmware updates.

[SECMP0024 'Enduring Approach to Communication Hub Firmware Management'](#) contains a requirement for a new DCC Alert upon firmware activation. This is also covered under the MP122 requirement for this reporting area. If SECMP0024 is approved the impact will be reflected in the MP122B Impact Assessment with an expected cost reduction.

### *Alternative TOC solution*

The alternative TOC solution to this requirement would require the DCC to obtain data from the CSPs and SMETS1 Service Providers for their Communications Hub updates. The DCC would then match the firmware updates (SR11.1s) to the firmware activations (SR11.3s) and provide a time to activate and a success rate of activations. This data could then be split by the CSP, Communications Hub Manufacturer, firmware version before and after the update.

The costs for DCC to secure the required data were not known at the most recent Working Group meeting. However, the DCC has now provided these in its updated Preliminary Assessment and are document in Section 5 of this report.

SECAS is seeking views from the Refinement Consultation to support the Proposer's decision on which solution to take forward.

## Reporting on SMETS1 Device firmware

Note, reporting on SMETS1 Device firmware is the only reporting area under MP122B depended upon by Ofgem's OPR.

The SMETS1 firmware process is different from the SMETS2+ firmware process. The requirement has therefore been updated to reflect this and gain a better measure of DCC's performance in this area.

For SMETS1 firmware updates, SR11.1 'Distribute Firmware' delivers the Image to the SMETS1 Service Provider. The Supplier then has to send an SR11.3 which sends the Image down from the SMETS1 Service Provider to the Communications Hub. In some cases, dependent on the SMETS1 Service Provider, another SR11.3 will need to be sent to transfer the Image from the Communications Hub to the target Device. As a result, SR11.3 alone will be used to measure the DCC's performance for SMETS1 firmware updates.

### ***DCC System impacting solution***

The DSP will build a firmware tracking mechanism that records and reports the firmware distribution status of all SMETS1 Devices (ESME, GSME, PPMIDs and Communications Hubs). This tracking shall be in line with the SMETS2+ firmware distribution tracking mechanism proposed under SECMP0007 and CR1423 'Comms Hub Firmware Image Data'. The DCC has already assessed on the basis that SR11.1 and SR11.3 would be tracked. However, in light of the updated requirement for the measuring of SMETS1 firmware, going forward it will assess on the basis that only SR11.3 needs to be measured.

### ***Alternative TOC solution***

The TOC solution would only allow the measure of firmware updates to SMETS1 Communications Hubs, **not SMETS1 meters or SMETS1 PPMIDs**. It would therefore not meet the requirement of the OPR.

The DCC's Preliminary Assessment provided a solution that would see the DCC to obtaining data from the SMETS1 CSPs and Communications Hub updates, match the firmware updates (SR11.1) to the firmware activations (SR11.3), and provide a time to activate and a success rate of activations from updates. This data could then be split this by the CSP, Communications Hub Manufacturer, firmware version before and after update from. However, in light of the updated requirement, the DCC would instead use the TOC to measure the success rate of SR11.3 for SMETS1 Communications Hubs only. Again, this solution would not allow the measure of firmware updates to SMETS1 meters or SMETS1 PPMIDs.

## **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

### **The DCC**

The DCC will be required to facilitate the necessary changes to the DCC System and/or TOC depending upon which solutions are taken forward, to implement and report on the areas highlighted in this report.

These will also impact all its Service Providers, including the SMETS1 Service Providers, and require contractual changes to be made. This is especially relevant when trying to reduce the SLA of the PMR.

### Consequential impacts on SEC Parties

SEC Parties will not be impacted in implementing this modification, and should see the following improvements:

- Enhanced reporting on Alerts
- Enhanced reporting on Incident Categories 3, 4 and 5
- Reduced delivery timescales of the PMR
- Enhanced reporting on Communications Hub firmware
- Enhanced reporting on SMETS1 Device firmware

### DCC System

The DCC Systems will be impacted by this modification, as well as the DSP, the CSPs and all of the SMETS1 Service Providers. However, any solutions that are not reliant upon the DCC's Service Providers will be considered to maximise cost effectiveness. This is the intent of the DCC alternative solutions which utilise its TOC.

### Consequential DCC contract changes

In order for the DCC to reduce the time it takes to produce the PMR, it will need to negotiate contract changes with all of its Service Providers, including the SMETS1 Service Providers.

Some, if not all, of the enhanced reporting sought by this modification will also require contractual changes.

Several DCC Change Requests have been raised to assess these impacts further (see Section 5 below for estimated costs); the Preliminary Assessment against these Change Requests can be found in Annex B.

### Testing

The DCC's Preliminary Assessment has indicated that Pre-Integration Testing (PIT), Systems Integration Testing (SIT) and User Integration Testing (UIT) will be required to implement some of the Change Requests. PIT is included in the Preliminary Assessment. The testing impacts will be fully investigated in the DCC Impact Assessment.

### SEC and subsidiary documents

The following parts of the SEC will be impacted:

- SEC Section H 'DCC Services'
- Performance Measurement Methodology as required by SEC Section H (13.6)

SECAS and the DCC will investigate the full extent of the SEC impacts once it has been decided which Change Requests are progressed and an Impact Assessment is carried out. Some of the Change Requests may also impact the SEC Technical Specifications.

## Consumers

Consumers are likely to indirectly benefit from this modification. The improved reporting resulting from this modification will provide a better view of the DCC's actual performance in relation to Alerts, Incidents and Device firmware. Improved reporting should lead to easier and earlier identification of issues that are impacting the service consumers receive, and trigger resolution actions to improve the performance and the consumer experience. The increased speed of reporting should also aid the Operations Group in identifying issues earlier.

## Other industry Codes

This modification will not impact any other industry Codes.

## Greenhouse gas emissions

This modification will not impact greenhouse gas emissions.

# 5. Costs

## DCC costs

The DCC has raised five Change Requests to implement the full Proposed Solution as outlined in Section 3 above and in the business requirements in Annex A.

The DCC's Service Providers have provided a rough order of magnitude (ROM) cost for each Change Request, and the breakdown of these costs, including the implementation timescales, are set out below. Systems Integration Testing (SIT) and User Integration Testing (UIT) is out of scope of its Preliminary Assessment, but PIT is included where appropriate. **Note, these do not include additional Application Support costs or costs to factor for contractual changes.**

In addition, the DCC has, where possible, referenced and included costs for cheaper alternative solutions utilising the TOC. In the case of CR1420, the Proposer and the Working Group have already confirmed they would like to progress with the TOC option.

Breakdown of Preliminary Change Request costs						
CR	IA cost	IA duration (max)	Full impl. cost (est.) <sup>2</sup>	S1SP impl. cost breakdown (est.)	Impl. timescales	TOC alt. Impl. cost
CR1418 'Throughput of Alerts'	£8,702	30 days	£300,000-£450,000	N/A	3 months	£100,000

<sup>2</sup> Implementation costs include Design, Built and PIT only.

Breakdown of Preliminary Change Request costs						
CR	IA cost	IA duration (max)	Full impl. cost (est.) <sup>2</sup>	S1SP impl. cost breakdown (est.)	Impl. timescales	TOC alt. Impl. cost
CR1438 'Throughput of Alerts'	£202,579	60 days	Up to £1,660,000	£600,000-£1,000,000	12 months	
CR1420 'Incident Reporting to Support Revised PMR' <sup>3</sup>	N/A	N/A	N/A	N/A	N/A	£100,000
CR1430 'PMR Reduced Timescales'	£227,500	40 days	£1,160,000 <sup>4</sup>	£328,000	12 months	N/A
CR1423 'Comms Hub Firmware Image Data'	£199,059	50 days	£1,450,000-£1,750,000	N/A	12 months	£180,000
CR1440 'Update Firmware SMETS1 Process'	£70,000	50 days	£1,450,000-£1,850,000	£1,300,000-£1,500,000	12 months	£100,000 + any costs to secure data
<b>Total</b>	<b>£839,796</b>		<b>£6,020,000-£6,870,000</b>	<b>£2,228,000-£2,828,000</b>		<b>£480,000 + any costs to secure SP1SP data</b>

The DCC has challenged all of the submissions from the Service Providers in terms of omissions, the technical content, implementation costs and timescales for producing the Impact Assessment and implementation of the Change Requests. This has resulted in reduced costs from the DCC's first version of the Preliminary Assessment.

### DCC costs

The DCC will also incur costs for the following:

- TOC development to support the new reporting
- To negotiate contractual changes with Service Providers

<sup>3</sup> CR1420 was dropped in favour of the alternative TOC solution.

<sup>4</sup> The CSP South & Central provided an estimated costs of between £15m and £20m that would meet the original business requirement of a 10-working day SLA. However, this was deemed unacceptable by the Working Group and a second quote included a significantly reduced estimate for CSP South and Central in the above costs, but only meeting a 18 working day SLA instead of the 10 working days SLA sought by the Working Group.

- Additional Application Support to support, maintain, and deliver the reporting on a monthly basis

The following costs have been estimated on the basis that all the Change Requests are taken forward. If only some of the Change Requests are taken forward, these costs will be reduced.

DCC costs		
DCC IA cost	Time to complete IA (max)	Implementation ROM
£65,250	40 days	£642,000

More information on the costs can be found in the DCC Change Request Preliminary Assessment response in Annex B.

### SECAS costs

The estimated SECAS implementation costs to implement this modification is one day of effort, amounting to approximately £600. The activities needed to be undertaken for this are:

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

### SEC Party costs

SEC Parties will not incur any costs as a result of this modification.

## 6. Implementation approach

### Recommended implementation approach

There are two possible approaches towards implementing the solutions under this modification:

1. Single implementation approach
2. Phased implementation approach

The single implementation approach would result in all the Change Requests and/or alternative TOC solutions implemented at the same time on a single date. SECAS is provisionally recommending an implementation date of **2 November 2023** (November 2023 SEC Release). Certain Change Requests may be removed from the scope of this modification and this will likely impact the DCC implementation timescales and therefore the implementation date for a single implementation date.

Alternatively, a phased implementation approach is also possible. This is considering that each of the Change Requests have varying implementation timescales. If a split implementation approach is followed, each Change Request would be implemented separately in the soonest possible SEC Release. It is also expected that the alternative TOC options could be implemented far sooner than



the Change Requests and may not require alignment with a SEC Release if no changes to the SEC are required. The DCC will provide these timescales as part of its Impact Assessment.

Both implementation options will be assessed and the Working Group will consider which option(s) to take forward.

## 7. Assessment of the proposal

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### Observations on the issue

#### Panel views on the modification timeline

The initial Preliminary Assessment of the Change Requests under this modification was submitted before MP122 had been split into two separate parts. In order to prevent any delay to the TOC changes and to give the Proposer and the Working Group a chance to scrutinise the Preliminary Assessment, the Change Requests were split out and progressed under MP122B. This allowed the core changes to the DCC TOC and internal processes, already fully assessed, to proceed under MP122A in time to be implemented in the February 2021 SEC Release.

SECAS sought approval from the Panel for this approach, given the high costs and impacts highlighted in the assessment of the Change Requests. The Proposer of MP122 and the Panel agreed with this approach, ensuring Parties could give due scrutiny to the Change Requests.

### Design principles

The DCC and the Working Group agreed that a set of design principles should be used to ensure that the solution is efficient and meets the desired outcomes of the OMR. These were agreed under MP122A but are still applicable under MP122B.

Requirements which were unable to meet design principles (1) and (2) below were progressed via this modification MP122B to prevent delay to MP122A.

#### 1. Using data already held by the DCC and its TOC wherever possible

The first principle that the DCC put forward was that the DCC should use data already held in the TOC and other DCC data sources wherever possible. Its rationale was due to the time it would take to raise and complete an assessment for any Service Provider changes as well as the likely increase in implementation costs.

This was accepted as a principle, although the Proposer was wary of relying solely on the TOC data as without the DCC's Service Providers, the data may not be completely accurate and fully reflect User experience.

#### 2. Minimising DCC contractual changes

The DCC proposed that MP122 should not generate any contractual changes beyond producing the PMR. It noted that if contract changes were required, the DCC would not be able to start negotiations

and implement the agreed changes before April 2021. The Working Group accepted this principle but acknowledged that if DCC Service Provider data was needed then it should not be ruled out.

One of the reasons for MP122B being raised is to assess and implement the contractual changes without delaying MP122A. However, this principle still applies.

### **3. Publication of the operational metrics**

The DCC proposed that all of the new data resulting from this modification should be published in a new and separate report from the PMR. This was due to concerns it had with the consequential size of the PMR if it were to be used to publish the new metrics and publishing it within the 25 Working Day SLA (note MP122A has reduced this SLA to 10 Working Days). Also, the DCC noted that all of the new reporting derived from the TOC could be delivered within the 10 Working Day SLA at no extra cost. However, the Working Group was not in favour of receiving two separate reports at two different times. It agreed the new TOC reporting document would be delivered with the PMR as an annex to it. Therefore, the TOC reporting as well as the PMR will be delivered 25 Working Days from the end of the measurement reporting period until a new SLA is agreed for which the DCC can meet for the PMR.

### **4. DCC exclusions list**

The following design principle is largely relevant to MP122A. However, the DCC could still identify further exclusions for the metrics assessed under this modification MP122B and so this principle remains.

The DCC noted that most processes have a dependence where a successful SRV response is required before the next SRV can be sent. However, it advised that some Users have set automated processes that run for several SRVs without considering the requirement for success of a previous dependent SRV. In this scenario, the DCC believes this business process should not be reported as a DCC failure.

Noting the above example, the DCC agreed to develop a DCC Exclusion List against measures where circumstances identify that the measures are impacted by actions that fall outside DCC's control (i.e. User action/error).

The Working Group accepted this and noted that there must be governance around how the exclusions list is managed. It was agreed that as the DCC builds the new report, it would identify any potential exclusions, and these would be agreed by the Working Group and managed by the Operations Group on an enduring basis.

## **Validating 90-day No SM WAN Incidents (CR1429)**

Following the implementation of MP122A, the DCC is required to report on several Performance Indicators, one of these being:

- Measure daily total volume of Install and Commission versus Install and Leave. The reporting is to include a category for any Communications Hubs awaiting a decision that are still within the 90-day investigation period for Install and Leave.

The DCC advised that it can monitor the volume of SR8.14.1 'Communications Hub Status Update – CHF Install Success SM WAN' against SR8.14.2 'Communications Hub Status Update – CHF Install

Success No SM WAN'. However, it noted that some Suppliers either do not send an SR8.14.1 or SR8.14.2, or where there is no WAN, they raise an Incident rather than send SR8.14.2. Therefore, to validate this data, the DCC raised a Change Request to allow it to see CSP data on all of the Incidents that have been raised against them for no WAN. This would allow the DCC to report the total number of installations against no WAN installations. This was raised under CR1429 'Additional CSP Reporting to validate 90 Day No SMWAN Incidents'.

As part of the assessment of all the Change Requests, SECAS issued a questionnaire to the Working Group members. A common theme amongst respondents on CR1429 was concern over the Impact Assessment and implementation costs for CR1429. The cost to produce an Impact Assessment for this Change Request would have been £87,884 and the ROM implementation cost would have been £550,000. One respondent believed the costs could not be justified or accepted considering the DCC had confirmed it could already measure Install and Leave where SEC Parties are following the SEC Mandated process, which was the main aim. The DCC confirmed that the costs had been challenged.

SECAS questioned the need for CR1429, considering it was raised to mitigate against some Suppliers not following the correct process in an Install and Leave scenario. The DCC confirmed this is the case and that if all Suppliers used SR8.14.2 in no SM WAN, CR1429 would not be needed.

The Working Group agreed that emphasis should be placed on making sure all Suppliers follow the correct process in an Install and Leave scenario. This would prevent significant costs incurred on Parties to pay for enhanced reporting to mitigate this issue.

The Working Group was content with the basic reporting already available and agreed this Change Request could be withdrawn.

Conclusion
CR1429 'Additional CSP Reporting to validate 90 Day No SMWAN Incidents' was withdrawn.

## Reporting on Alerts

### Existing reporting on Alerts

The Proposer highlighted that CPM 3 requires the DCC to report on the Target Response Time of Alerts. They questioned what the DCC is currently reporting, considering the DCC has raised two Change Requests to support this. The DCC explained that CPM 3 requires the DCC to measure the combination of all Alerts, not each Alert individually. The DCC added that the PMM clearly excludes HAN-time from the measure.

Members questioned whether CSP performance is currently measured. The DCC advised that reporting for CPM 3 does represent performance for the relevant Service Providers transmission time, including the CSPs. Specifically, existing reporting for Alerts includes the time spent in the following phases and does not use a proxy:

- Time from receipt on the Communications Hub to onward transmission to the DSP
- Time from receipt from the CSP to onward Transmission to the Service User Gateway

However, the Target Response Time for the two phases are reported separately and the DCC do not have access to the relevant backing data to link the two without CR1418 and CR1438. In addition, the DCC reports the average Target Response Time for the combination of all Alerts, not for each Alert individually.

## CR1418 and CR1438 summary

The DCC has raised two Change Requests for measuring the throughput of Alerts. As both change Requests are interdependent, views given against these are summarised together.

Both are intended to provide greater granularity of CPM 3 of SEC Section H13.1.

- CR1418 'Progressing the DSP changes'
- CR1438 'Progressing the CSP North and SMETS1 Service Provider changes'

The Working Group agreed that the improved performance reporting against Alerts is needed, especially as there is a CPM tied to it. Other views included comments that the measurement of Alerts is critical, and that the success of Alerts being delivered highlights Home Area Network (HAN) performance, which is largely unmonitored.

A member queried why the CSP South & Central have been excluded from CR1438. The DCC confirmed that the CSP South & Central already timestamps its Alerts and that CR1418 has been raised for the DSP to extract these timestamps. However, the DCC does not have timestamp information from the CSP North or the SMETS1 Service Providers and CR1438 has been raised to address this.

Members questioned whether any of the costs under CR1438 were related to the reduction in the DCC's SLA to produce the PMR. The DCC confirmed that the reporting timescales are not seen as a concern with CR1438.

Overall, the main concern from the Proposer and the Working Group over both Change Requests is that the costs do not present a justifiable business case.

## Overlap with power outage / power restoration Alerts

SECAS noted that MP122B is seeking to address the general reporting of all Alerts whilst [MP096 'DNO Power Outage Alerts'](#) is reviewing more specifically the system performance of Power Outage Alerts (POAs) and Power Restoration Alerts (PRAs) only. The enhanced reporting for POAs and PRAs has already been provided in order to support the investigations under MP096. This more detailed reporting under MP096 is separate to, and out of scope of, the reporting under MP122B.

The Proposer advised that the desired reporting is currently being facilitated by the DCC for the following Alerts:

- AD1 'Power Outage Event'
- 8F35 'Supply Outage Restored'
- 8F36 'Supply Outage Restored - Outage >= 3 minutes'

They questioned the delivery costs for these Alerts and whether the same functionality could be utilised under the MP122B Alerts requirement. The DCC advised that the cost for the three Alerts was £269,224 and that the same functionality will be utilised in CR1418 for the remaining Alerts under MP122B but with additional implementation costs. The DCC noted this functionality has been delivered and validated with several Network Parties.

This includes measurements at the following points:

- When the Alert was generated by the Device

- When the Alert reached the Communications Hub
- When the Alert entered the CSP/SMETS1 Service Provider systems
- When the Alert left the CSP/SMETS1 systems to the DSP
- For AD1 Alerts only, from the DSP to the Service User Gateway

### ***Which Alerts are out of scope MP122B?***

Members questioned what types of Alerts were out of scope from the Change Requests. The DCC clarified the following alert types are out of scope:

- DCC Alerts not used to deliver Device Alert information
- SMETS1 Service Provider Alerts
- Alerts reported by MP096:
  - AD1 'Power Outage Event'
  - 8F35 'Supply Outage Restored'
  - 8F36 'Supply Outage Restored - Outage >= 3 minutes'

### ***Security impacts***

The Proposer questioned the DCC's statement that the DSP will be required to inspect the payload of Alerts and if this required Security Sub-Committee (SSC) consideration. The DCC confirmed that the DSP already looks at the message code/Alert code within the payload for existing Alerts. However, the Change Request under MP122B requires the DSP to extract the timestamp from the Alert payload, which the DSP does not currently do. The Working Group did not believe this needed SSC approval.

### ***Time vs success of Alerts***

The Proposer questioned whether Parties were more interested in the timing of Alerts or the success rate of Alerts. Suppliers were unable to give a definitive response but agreed it is usually the success rate they are more concerned with. However, they acknowledged this is not the case for Power Outage Alerts and Power Restoration Alerts which Network Parties are reliant upon receiving as fast as possible.

A Supplier noted there is a big disparity between Network Party and Supplier impacts of Alerts. They noted Alert Code 8F72 'Firmware Verification Status' as an example and as being of interest to Suppliers. They noted this Alert is not always successful and Suppliers have had to build workarounds as a result.

The Proposer is keen to learn wider industry views on this and a question has been included in the Refinement Consultation.

## Alternative TOC solution

The DCC noted that the TOC currently does not receive any data from the CSPs indicating when an Alert reaches the Communications Hub. It cannot currently identify when an Alert has been successfully accepted by the Service User's gateway, only when the DSP tried to send it.

The TOC solution proposed by the DCC involves measuring Service Requests as a proxy for Alerts, not the Alerts themselves. This was based on the understanding that Service Requests and Alerts tend to have very similar timescales, other than POAs and AD1 Alerts, which are a small subset of Alerts and out of scope of MP122B.

One of the drawbacks noted of using the TOC option is that it cannot measure time spent on the SMETS1 WAN or the SMETS1 platform. A member questioned the drawback noting the SMETS1 Service Providers have now been enrolled under the DCC. They considered that the DCC could access the data it needs but that it is just not currently held in the TOC. However, the DCC noted that providing the SMETS1 Alert throughput to the TOC would require SMETS1 System changes in the same way as SMETS2+ reporting. The DCC advised that the proxy for SMETS1 would not have the same effect as for SMETS2+ as each SMETS1 Service Request may result in multiple interactions between the SMETS1 Service Providers and the Device (either the target Device, or the associated Communications Hub), and each interaction may cross multiple interfaces. This could result in dozens of messages in some cases. The same scenario also impacts CR1440 'Update Firmware SMETS1 Process' in regard to SMETS1 firmware reporting.

The Proposer and other members were concerned with this approach and did not believe Service Requests form a good proxy for measuring Alerts. Members noted that the TOC option is significantly cheaper but was unclear if it provided a good enough proxy for the full solution.

Subsequently, the DCC provided a demonstration of the proposed proxy. The DCC advised that on average, the time for an Alert to travel across the DCC's network should effectively half the time in which a Service Request and the associated response would take, as each behave in the same way.

SECAS noted an Alert is an event generated from the Device with no corresponding Service Request, yet the proxy intends to use Service Requests and responses. It questioned how using Service Request times and cutting this by half can be a fair reflection of Alerts. The DCC explained that the proposed proxy would work if you assumed the time to get to the Device is the same as the time to get an Alert back, but acknowledged that this is only an assumption. The DCC noted the limitations of the proposed proxy but noted it proposed this method in response to being asked to find a more economically viable method for measuring Alerts. This was based on the understanding that Service Requests and Alerts, other than POAs and AD1 Alerts, should have very similar timescales. The DCC added that in terms of the delivery of an Alert, it can only be tracked if it gets to the DSP. The TOC cannot see Alerts lost prior to reaching the DSP.

The Proposer noted there must be some way in which an Alert could be measured using the payload within the Alert to gain the generation time and comparing this against the point at which the Alert reaches the User. The DCC advised that the DSP solution under CR1418 would achieve this but only for the CSP South and Central Region, not the CSP North Region. Again, this solution alone was deemed inadequate as it would not address Alerts in the CSP North Region.

Despite the relatively low costs of the proxy compared with the associated Change Requests, there was consensus amongst members from Suppliers and Network Parties that the DCC's proposed proxy for Alerts would not be a viable option. Members noted that if the DCC cannot prove the proxy is adequate then it should not be used. The DCC has since advised that to prove the proxy, it would



have to construct a full solution. The Working Group noted they could not decide without an industry consultation taking place first. As a result, it was agreed to seek views on the following:

- Progressing CR1418 alone (a DSP change only and would allow reporting of CSP South and Central only)
- Progressing CR1418 & CR1438 (to allow reporting on all SMETS1 Service Provider and SMETS2+ CSPs)
- Progressing the TOC proxy option
- Excluding all SMETS1 Alerts from the reporting
- Whether Parties are more interested in the timing or the success rate of Alerts
- What Parties deem as time-critical Alerts

## Reporting on Incident Categories 3, 4 and 5

### Existing reporting on Incident Categories 3, 4 and 5

Currently, the DCC reports on Incident Categories 3, 4 and 5 as an average against the three Categories combined and only measure those that are resolved within the Target Resolution Time. However, consideration is not given to each Category on its own and the Target Initial Response Time is not measured.

MP122A amended to CPM 5 and introduced new CPM 5A to address this. However, the DCC advised it could not achieve these without a Change Request and CR1420 'Incident reporting to support revised PMR' was raised. Specifically, CR1420 sought to provide the mechanism to validate all Incidents raised with each of the Service Providers and for the Service Providers to reduce their validation timescales.

The Preliminary Assessment indicated that CR1420 would impact the DSP, the CSPs and all of the SMETS1 Service Providers.

### CR1420 summary

The ROM implementation cost for CR1420 was £1,080,000 and the cost to undertake an Impact Assessment for this Change Request was £131,956.

The Working Group questioned why the DCC's Service Providers need to be involved in the data provision for CPM 5 and CPM 5A and believed the data should be available within the DCC. The DCC advised currently in the PMR, it collates Incidents and specifies whether service levels have been met. This approach was initially set up by the Department for Business, Energy and Industrial Strategy (BEIS), with an obligation placed on the Service Providers to provide this information to the DCC. If there are any discrepancies with the data, this is returned to the Service Providers to clarify. Therefore, the easiest way to implement this change without effecting existing processes was to ask the Service Providers to break down the Incident data by Incident Categories 3, 4 and 5.



### Alternative TOC solution

In early 2021, the DCC undertook investigations to explore alternative solutions to the Change Requests it had raised. It found that it could source the Incident data internally rather than from its Service Providers, meaning it no longer required CR1420.

The data would be sourced from its own Remedy systems within the TOC, rather relying on the Service Providers. Also, this would not require any contractual negotiation. Therefore, the costs of this solution would be reduced from £1,080,000 to around £100,000.

The Working Group agreed to progress with using the DCC Remedy data to fulfil the business requirement and to drop CR1420.

Conclusion
CR1420 'Incident reporting to support revised PMR' was withdrawn in favour of the alternative TOC solution.

## Reducing the delivery timescales of the PMR (CR1430)

### Amendment to the PMR reporting SLA

The original business requirement is to reduce the SLA of the PMR from 25 working days to 10 working days from the end of the reporting period. This includes the PMR, the TOC reporting resulting from MP122A and the proposed reporting from MP122B. This is not linked to the OPR.

Throughout the progression of MP122A, the DCC advised it would not be able to adhere to the new 10 Working Day SLA to produce the PMR until contractual amendments with all of its Service Providers had been made. This may also include system changes for the Service Providers.

SECAS suggested that this requirement be progressed and implemented under MP122B. This would give the DCC more time to negotiate the contracts and allow them to comply with the obligation once it is implemented. However, the Operations Group did not want to take this approach, and the Working Group agreed. Therefore, the 10 Working Day SLA was implemented into Section H 'DCC Services' under MP122A in the February 2021 SEC Release. Subsequently, the Authority granted the DCC a derogation against this obligation until 30 November 2022.

The necessary changes for the DCC to facilitate this SLA will be progressed under CR1430 'PMR Reduced Timescales'.

### CR1430 summary

The Preliminary Assessment showed that all 13 of the DCC's Service Providers would be impacted, some of which advised the 10 working day SLA would not be possible even with the implementation of a Change Request.

The Working Group raised concerns over the wide-ranging impacts of CR1430 and the limitations raised by the Service Providers. It also raised concern at the high costs and that they do not include the Application Support costs or contractual costs, so assumed these would only increase. However, Operations Group members agreed it is important to drive this forward as much as possible given the importance for it to see the reports sooner than it does now.

The Working Group questioned what impact the reduction in the SLA to produce the PMR was having on the CR1420 cost. The DCC is unable to confirm explicit costs for reducing timescales but noted the CSP North would facilitate CR1420 at no cost if CR1430 'PMR reduced timescales' is implemented. However, this is not the case with the other Service Providers, some of which believe reducing the PMR SLA to 10 Working Days is not possible.

The DCC advised that the CSP North provided costs for CR1420 and CR1430 as a combination. Given that the solution for CR1420 might be changed, it may be that the quoted costs in CR1430 will need to be re-evaluated. This will also be reflected in the Impact Assessment if this option is taken forward.

Noting the limitations from the Service Providers, a member questioned the current SLAs the CSPs must meet to report internally to the DCC. They believed most companies have a regular reporting regime with statistics required to be reported before the month end. The DCC advised it does not have a reporting validation process. However, one of its contracts specifies the CSPs have 10 Working Days to produce the reporting with an additional five Working Days to respond to any queries from the DCC.

### **What are the current timescales for this reporting?**

Ofgem questioned that if the DCC knew several of its Service Providers could not achieve the 10 Working Day SLA, whether it knew what each of their fastest turnaround would be.

The DCC subsequently investigated the fastest SLA that all its Service Providers could achieve to deliver the PMR. It found this would be 18 working days from the end of the measurement reporting period with only the CSP South and Central preventing this from being lowered to 14 working days. The DCC reviewed the existing processes for validating and publishing the PMR and demonstrated this to the Working Group. A diagram can be found in Appendix 1 of this report. The beginning of the month sees both the DCC and its Service Providers raising and responding to queries and generating commentary.

The activities from 10-15 working days after month-end consisted of the DCC processing data from the Service Providers, responding to queries where necessary and also issuing more questions and identifying the source of problems.

Between 15-20 working days after month-end is the point at which all materials and final reports are submitted to the DCC. The DCC then takes five working days to carry out various activities before finalising and signing off the PMR before issuing it to the Operations Group for review.

The DCC noted that only 80% of the original submissions from the Service Providers are delivered on the tenth working day with the other 20% being received after this timeframe.

Some Service Providers have stated they are unable to change their timescales to meet the 10-working day SLA, details of which can be found in the Preliminary Assessment in Annex B. Therefore, the DCC deemed the producing the PMR on the tenth working day could not be achieved.

The majority of the Service Providers advised that providing selected reports at different timescales would not have any impact on their Preliminary Assessment submissions with no reduction in costs or timelines.

### **Remaining PMR SLA reduction options**

The DCC noted five possible options could be investigated:

1. Compress the whole PMR reporting process to publish after 18 working days at the cost of £1.14m-£1.16m.

The DCC noted that the CSP South and Central was a blocker to reducing this time further to 14 working days. The CSP could reduce its SLA to 18 working days at no cost, but anything less than this would cost £15m. The Working Group deemed this unreasonable and requested the DCC try to re-negotiate the cost of an SLA lower than 18 working days.

2. Reduce the reporting to produce and publish the PMR reports earlier in the cycle with the remaining TOC reporting following on from this.

This would improve the timelines for a few of the Service Providers with a 4% reduction in the ROM costs. This would involve a further element of DCC administration and management for those reports that are not complete at each stage which is not included in the estimated timescales.

3. Break the PMR into sections based on the Service Provider returns and issue iterations on the tenth working day and the fourteenth working day, with the complete PMR provided on the eighteenth working day.

Similar costs to option 1. This would involve a further element of DCC administration and management for those reports that are not complete at each stage.

4. As previously discussed with the Working Group, the DCC TOC could produce the MP122A TOC reports 10 working days from the end of the measurement reporting period. However, this would mean the TOC reports and the PMR being provided to the Operations Group at different times.

5. The as-is option would leave the PMR being produced 25 Working Days from the end of the measurement reporting period.

The Working Group assessed the options considering the current Operations Group reporting regime. SECAS advised the Operations Group will primarily be reviewing the PMR as part of its reporting meetings with the focus being on 15 Service Requests. There will be two separate agenda items. The PMR will still be submitted to the Panel for review but there will be a supplementary report for the Operations Group which will provide a DCC Indicator summary and discussions.

The Proposer highlighted there are around 20 working days in a month, so there is generally 15 working days from the start of the month to the Operations Group reporting meeting. Therefore, even if the reporting period is changed, some Service Provider PA submissions have stated they will still be unable to accommodate the new SLA.

The Proposer queried whether the reporting needs to happen per calendar month. Understanding there was reasoning behind this, they believed there should be flexibility around the reporting period to give an accurate reflection and review. The DCC noted there is a reporting schedule which could be moved to support the change of the reporting period without imposing technical difficulties. If this date was to change then data relating to historical trends month on month would be lost; this should not affect the data being reporting upon mid-month moving forward.

The Proposer felt that in order to seek wider views around suitable reporting times, this should be presented to the Operations Group as this group will be responsible for reviewing the reports. However, the Operations Group likely wouldn't make any decisions against the cost of the modification and would refer such questions back to the Working Group. SECAS noted the Operations Group's preference could be sought, although there is already a strong desire to get the reporting date as close to the appropriate month as possible. Moving the reporting period would not

have any impact on the duration between the reporting period ending and when the reports for this could be produced. There was limited support for pursuing this option further.

### Next steps

In summary, the Working Group suggested the best option is to pursue reducing all reporting timescales down to 14 working days if the CSP South and Central could reduce its cost of £15m for doing so. However, the DCC later advised the Service Provider would not reduce its costs. As a result, option above with an 18 working day SLA remains the only viable option.

#### Conclusion

An 18 working days SLA from the end of the measurement reporting period remains the only viable option to reducing the PMR SLA.

### Reporting SMETS2+ Device firmware (CR1421)

CR1421 'SRV 11.1 (Update Firmware)' was raised to provide improved reporting for SMETS2+ Device firmware by measuring SR11.1. It had significant crossover with the SECMP0007 solution.

SR11.1 is used to send firmware updates to meters and can include requests for multiple meters within a single request. The DCC would need to track the success of this Service Request through all the DCC components. Specifically, the DCC require data to be able to link SR11.1 to the messages and target Device responses sent and received within the CSP Systems to identify whether the firmware Image has been successfully applied to the Device(s). In addition, the Service Providers would provide data to the TOC on a daily basis identifying throughput.

After further investigation and considering the pending implementation of SECMP0007, the DCC advised that CR1421 was no longer required as SECMP0007 would deliver the functionality it needed. However, TOC development and reporting requirements will still need to be carried out to enable firmware update reporting after the implementation of SECMP0007. The costs for this are covered in the DCC estimated implementation costs in Section 5 of this report.

As a result, the Working Group agreed with the DCC that CR1421 should be considered redundant as SECMP0007 has been approved and pending implementation.

#### Conclusion

CR1421 'SRV 11.1 (Update Firmware)' was withdrawn considering the pending implementation of SECMP0007.

### Reporting on Communications Hub firmware

#### Operational Performance Regime (OPR) link

SMETS2+ and SMETS1 Device firmware are linked to and measured by Ofgem's OPR. However, the OPR does not measure or incentivise the DCC for firmware updates targeted at Communications Hubs. Therefore, the following discussions around Communications Hub firmware, CR1423 and alternative TOC solution are not linked to the OPR.

## CR1423 summary

For measuring the Communications Hub Firmware business process, the DCC advised that it does not have data available to report on the delivery of Communications Hub firmware images to the Communications Hub. This is because Communications Hub firmware images are sent directly on the CSP and SMETS1 Service Provider networks.

CR1423 'Comms Hub Firmware Image Data' was raised to provide reporting to the TOC on the attempts and success activations to download Communications Hub firmware images. This Change Request impacts the DSP and the CSPs. The Change Request will make use of (and is dependent on) the firmware tracking mechanism to be introduced by [SECMP0007 'Firmware updates to IHDs and PPMIDs'](#), which will be extended to Communications Hubs.

SECMP0007 will be implemented in two phases. The Working Group questioned when CR1423 would be available as the latter phase of SECMP0007 would not be available until June 2022 at the earliest. The DCC confirmed that if approved in time, CR1423 could be implemented following the first phase of SECMP0007, which will be implemented in the November 2021 SEC Release. However, CR1423 is not dependent on the second phase of SECMP0007.

CR1423 also has some cross-over with (but is not dependent on) [SECMP0024 'Communication Hub Firmware Management'](#). SECMP0024 proposes to introduce a new DCC Alert upon successful activation of Communications Hub firmware images. SECMP0024 could be delivered as a standalone change and is not dependent on CR1423. However, the business requirement in SECMP0024 is covered under CR1423, which has additional CSP impacting requirements. Therefore, whichever modification is implemented first, the other should decrease in cost. Subject to it being approved, it is highly likely that SECMP0024 will be implemented before CR1423 and is targeted for the June 2022 SEC Release.

The DCC advised it would confirm via its Impact Assessment how much CR1423 would decrease in cost if SECMP0024 is approved.

## Alternative TOC solution

In early 2021, the DCC undertook investigations to explore cheaper alternative solutions to the Change Requests it had raised. It found an alternative solution to CR1423 using the TOC. Although the solution contains several limitations compared with CR1423, if what it delivers is considered sufficient for the industry's needs it would be far more cost effective.

If the DCC is able to secure data from the CSPs and the SMETS1 Communications Hub updates, it would be possible for the TOC to match the firmware updates (SR11.1s) to the firmware activations (SR11.3s), provide a time to activate, and provide the success rate of activations from updates. The results could be split by CSP, Communications Hub manufacturer, the firmware version before the update, and the resulting firmware version.

The Working Group could not form a decision on CR1423 as the costs for the DCC to secure the data were not clear at the time. However, since then the DCC has advised a ROM cost of £80,000 for it to secure the additional data from the CSPs with an estimated £18,132 for an Impact Assessment.

Views on both CR1423 and the alternative TOC solution will be sought via the Refinement Consultation.

## Reporting on SMETS1 Device firmware

### Operational Performance Regime (OPR) link

Device firmware in general, including SMETS1 Device firmware, is linked to and measured by Ofgem's OPR. However, given the dependency it has on MP122B, Ofgem decided to not incentivise the DCC for it for the 2021/22 regulatory year.

### SMETS1 firmware reporting requirement

MP122A introduced the requirement for the DCC to report on SR11.1 and SR11.3 with a breakdown for those targeted at SMETS1 Devices.

A change in the SMETS1 firmware requirement was suggested to gain a better measure of the DCC's performance. SECAS explained the SMETS1 firmware process whereby SR11.1 delivers the Image to the SMETS1 Service Provider. The Supplier then has to send an SR11.3 which sends the Image down from the SMETS1 Service Provider to the Communications Hub. In some cases, dependent on the SMETS1 Service Provider, another SR11.3 will need to be sent to transfer the Image from the Communications Hub to the target Device. As a result, SECAS felt measuring SR11.3 instead of SR11.1 for SMETS1 firmware updates would be a better measure of the DCC's performance. The DCC also confirmed it held the data for SR11.3 in relation to SMETS1 firmware updates.

The Proposer and the Working Group subsequently agreed to switch the SMETS1 firmware business requirement to measure SR11.3 only, instead of SR11.1.

### CR1440 summary

The DCC advised that it was unable to provide a breakdown for SMETS1 Devices without making contractual changes with the DSP and the SMETS1 Service Providers. CR1440 'Update Firmware SMETS1 Process' has been raised to address this and impacts the DSP and all SMETS1 Service Providers. Specifically, the SMETS1 Service Providers are to report the success or failure and the Round Trip Time of both the upload and activation of firmware images to SMETS1 Devices (including Communications Hubs). This data will then be made available to the TOC daily.

The DCC has already assessed on the basis that SR11.1 and SR11.3 would be tracked. However, in light of the updated requirement for the measuring of SMETS1 firmware, going forward it will assess on the basis that only SR11.3 needs to be measured.

Note, CR1440 is not covered by SECMP0007. This is because SECMP0007 is only applicable to SMETS2+ Devices and is therefore not making any changes to the SMETS1 Service Providers or SMETS1 systems. However, the DSP would build a firmware tracking mechanism under CR1440 that records and reports the firmware distribution status of all SMETS1 Devices, similar to the SMETS2+ firmware tracking mechanism proposed under SECMP0007.

The DCC noted integration between the SMETS1 Service Providers and the DSP will be required, hence SIT and UIT will be required as part of a SEC Release if CR1440 is approved.

### SMETS1 exclusions

The DCC noted that there are instances where the reporting mechanism will only be available where those Devices support the required Alerts, i.e. they have the necessary functionality, are configured accordingly and communicating successfully. For example, Initial Operating Capability (IOC) and



Morrison Data Services (MDS) PPMIDs do not support the capability of returning an acknowledgement upon receipt of a firmware image during the distribution and/or activation of a new image. As a result, the proposed reporting mechanism for PPMIDs will only report the distribution status to the Communications Hub. Any similar exclusions will be determined during the refinement of this request.

The Working Group agreed with this exclusion.

### Alternative TOC solution

In early 2021, the DCC undertook investigations to explore cheaper alternative solutions to the Change Requests it had raised. It found an alternative solution to CR1440, similar to the alternative for CR1423, using the TOC. The DCC would obtain data from the SMETS1 CSPs and Communications Hub updates, match the firmware updates (SR11.1) to the firmware activations (SR11.3), and provide a time to activate and a success rate of activations from updates. This data could then be split this by the CSP, Communications Hub Manufacturer, and the firmware version before and after the update. However, in light of the updated requirement, the DCC would instead use the TOC to measure the success rate of SR11.3 for SMETS1 Communications Hubs only. Again, this solution would not allow the measure of firmware updates to SMETS1 meters or SMETS1 PPMIDs. Further detail on this alternative will be provided via the Impact Assessment if the Working Group chooses to progress it.

The solution does have limitations compared with CR1440, but with significantly lower implementation costs. The TOC solution would only allow the measure of firmware updates to SMETS1 Communications Hubs, **not SMETS1 meters or SMETS1 PPMIDs**, irrespective of the method used. Therefore, it does not meet the original business requirement. Noting that SMETS1 Device firmware is linked with the OPR, this solution was discussed with the DCC and Ofgem; however, this key point was not fully understood at the time. Therefore, SECAS has since made Ofgem aware of the TOC solution limitations and believes it does not meet the OPR requirement, given it only measures SMETS1 Communications Hub firmware. As a result, the TOC option could be dropped if Ofgem deems it does not meet the OPR requirement.

Views on both CR1440 and the alternative TOC solution will be sought via the Refinement Consultation.

## Views against the General SEC Objectives

### Proposer's views

#### *Objective (b)<sup>5</sup>*

The Proposer believes that MP122B will facilitate SEC Objective (b). It will help provide a clear account of the Service that the DCC is providing to ensure that they are compliant with their obligations.

<sup>5</sup> To enable the DCC to comply at all times with the General Objectives of the DCC (as defined in the DCC Licence), and to efficiently discharge the other obligations imposed upon it by the DCC Licence.



### ***Objective (g)<sup>6</sup>***

The Proposer believes that MP122B will facilitate SEC Objective (g) by providing clear and relevant reports that will detail exactly what is happening with the DCC Systems and performance. It will also highlight any anomalies that might require addressing.

## **Views against the consumer areas**

### **Improved safety and reliability**

This modification will be neutral against this consumer benefit area.

### **Lower bills than would otherwise be the case**

This modification will be neutral against this consumer benefit area.

### **Reduced environmental damage**

This modification will be neutral against this consumer benefit area.

### **Improved quality of service**

This modification will be neutral against this consumer benefit area. However, it could indirectly benefit consumers by providing faster and more detailed reporting on the DCC's performance, including the DCC System and Service Providers. This could help the DCC and Parties identify and resolve any system issues sooner, preventing any knock-on impacts on consumers.

### **Benefits for society as a whole**

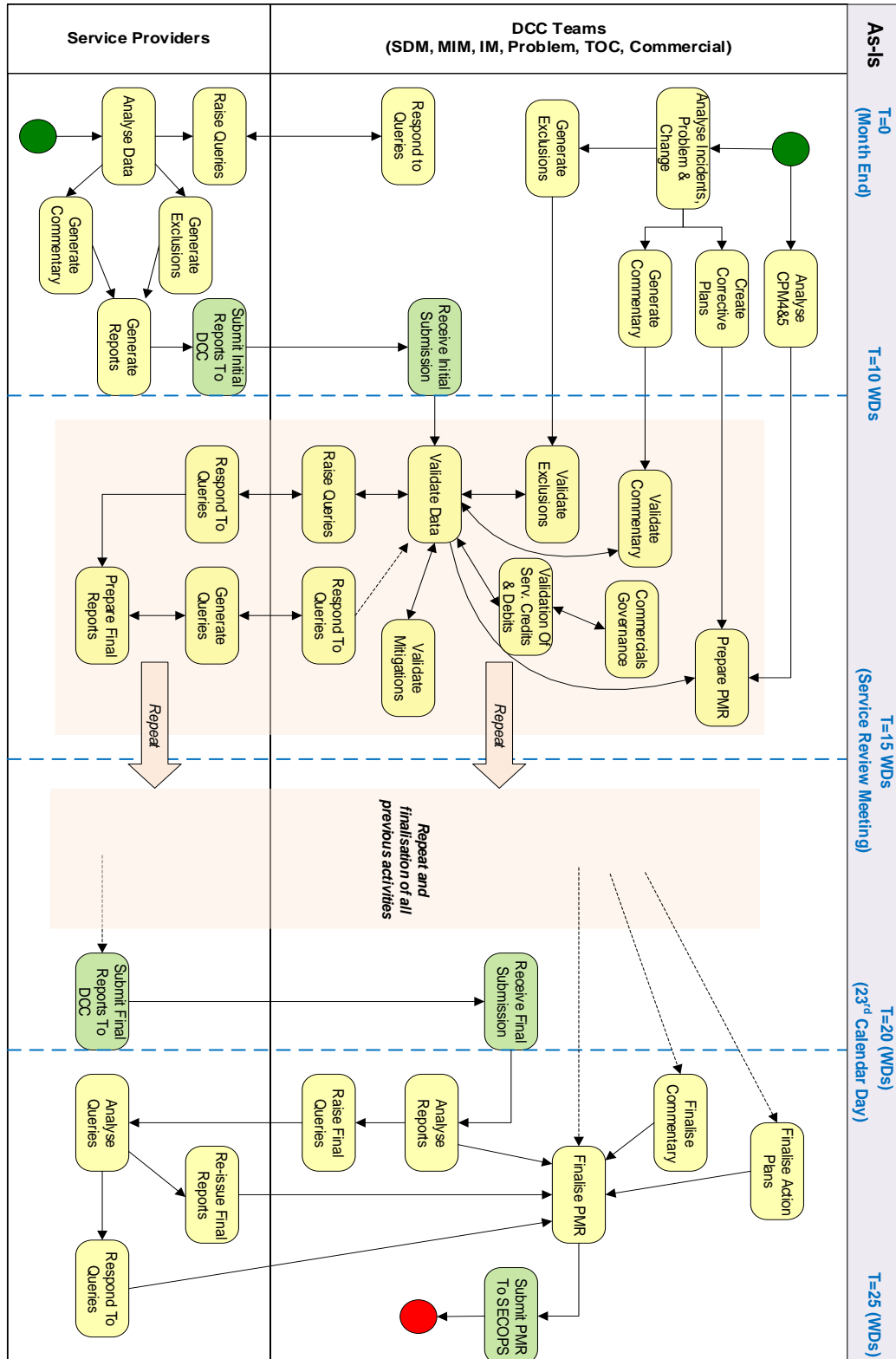
This modification will be neutral against this consumer benefit area.

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<sup>6</sup> To facilitate the efficient and transparent administration and implementation of this Code.

## Appendix 1: Performance Measurement Report process

The following diagram presents the process that form the publication of the PMR.



Managed by

## Appendix 2: Progression timetable

SECAS will issue a Refinement Consultation to gather feedback from Parties on the solution options available. The feedback will then be presented to the Operations Group and the Working Group before the Change Board are asked to approve the cost to carry out an Impact Assessment. A second Refinement Consultation may be issued following the return of the Impact Assessment.

Timetable	
Event/Action	Date
Initial draft Preliminary Assessment returned	4 Sep 2020
MP122 split into MP122A and MP122B	11 Sep 2020
Modification discussed with Working Group	7 Oct 2020
DCC Change Request questionnaire	8 Dec 2020 – 8 Jan 2021
Modification discussed with Working Group	17 Dec 2020
Modification discussed with Working Group	22 Jan 2021
Modification discussed with Working Group	27 Apr 2021
Firmware reporting requirements discussed with Ofgem	20 May 2021
Final iteration of the Preliminary Assessment returned <sup>7</sup>	26 May 2021
Modification discussed with Working Group	8 Jun 2021
Refinement Consultation	5 Aug 2021 – 3 Sep 2021
Modification discussed with Working Group	Sep 2021
Modification discussed with Operations Group	5 Oct 2021
Impact Assessment costs approved by Change Board	27 Oct 2021
Impact Assessment requested	28 Oct 2021

<sup>7</sup> The MP122B Preliminary Assessment has been through several iterations. The first initial draft was produced before MP122 was officially split to show the DCC System impacting changes need to implement the full MP122 solution. The latest iteration was returned on 25 May 2021 following extensive Working Group reviews.

## Appendix 3: Glossary

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

Glossary – Acronyms	
Acronym	Full term
CPM	Code Performance Measure
CR	Change Request
CSP	Communication Services Provider
DCC	Data Communications Company
DCO	Dual Control Organisation
DSP	Data Services Provider
DUIS	DCC User Interface Specification
ESME	Electricity Smart Metering Equipment
FTE	Full Time Equivalent
GBCS	GB Companion Specification
GPF	Gas Proxy Function
GSME	Gas Smart Metering Equipment
HAN	Home Area Network
IHD	In-Home Display
IOC	Initial Operating Capability
KPI	Key Performance Indicator
MDS	Morrison Data Services
OMR	Operational Metrics Review
OPR	Operational Performance Regime
PIT	Pre-Integration Testing
PMR	Performance Measurement Report
PMM	Performance Measurement Methodology
POA	Power Outage Alert
PPMID	Prepayment Meter Interface Device
PRA	Power Restoration Alert
ROM	Rough Order of Magnitude
S1SP	SMETS1 Service Provider
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SIT	Systems Integration Testing
SLA	Service Level Agreement
SMETS	Smart Metering Equipment Specifications
SMKI	Smart Metering Key Infrastructure
SP	Service Provider
SRV	Service Reference Variant

Glossary – Acronyms	
Acronym	Full term
SSI	Self-Service Interface
TOC	Technical Operations Centre
UIT	User Integration Testing
WAN	Wide Area Network

This table lists key terms used in this document and their definitions.

Glossary – Terms	
Term	Full term
Indicator	An “Indicator” is something the DCC is not accountable for but provides a Key Performance Indicator (KPI) that may be of value or use to the industry; it cannot have a target attributed to it.
Measure	A “Measure” is something that the DCC is responsible for providing a level of service for, and against which targets for DCC performance can be set.

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# MP122B ‘Operational Metrics – Part 2’

## Annex A

# Business requirements – version 1.4

### About this document

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This document contains the business requirements that support the solution for this Modification Proposal. It sets out the changes required to the DCC monthly Performance Metrics Report (PMR).

These changes have been requested by the Operations Group (OPSG) following the Operational Metrics Review (OMR). The DCC will use this information to provide an assessment of the changes that will shape the final report.

These changes are targeted for implementation in the February 2021 SEC Release, as required by Ofgem. Therefore, if a manual mechanism of the Proposed Solution can be delivered to enable the DCC to implement these changes on or before 1 April 2021, the DCC is requested to investigate this and advise in its Impact Assessment. Any automated mechanisms could then be implemented at a later date, as and when they are ready.

## 1. Business requirements

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

Business Requirements	
Ref.	Requirement
1	The DCC will report and measure monthly service performance for Service Reference Variants (SRVs) used in User business processes
2	The DCC shall add specific outcome-based measures to the Performance Measurement Report (PMR) to provide a Measure of performance as well as Indicators on the success of the key business processes where they have end to end visibility.
3	The DCC will measure end to end service availability across the DCC environment and report this by Communication Services Provider (CSP) Region
4	The DCC shall reduce the time it takes to create the PMR to within 10 Working Days from the end of the measurement reporting period
5	In relation to Code Performance Measure (CPM) 5, the DCC will improve transparency in the reporting provided for incident Categories 3, 4 and 5

### 1.1 General

The metrics defined in this document are expected to be reported within the DCC's PMR as required by the Code.

The DCC is expected to highlight any changes to the metrics which would impact the contracts with its Service Providers and therefore impact its ability to fulfil Requirement 4 of this document.

### 1.2 Ofgem Operational Performance Regime Review

The review of the Operational Performance Regime (OPR) has been carried out due to concern that the current metrics may not be providing the best DCC incentives. Ofgem proposed to replace them with more outcome-based measures.

These outcome-based measures have been drawn from the OMR and consist of updated metrics for the OPR to target four areas specifically:

- Install and Commission;
- Prepayment;
- Firmware management (covered by sections 2.2.5 'In Life Device Management' and 2.2.6 'Update CH Firmware' below); and
- Service Availability.

Where relevant performance will be broken down by meter type and Region.



## 2. Business requirements

### 2.1 Requirement 1: The DCC will report and measure monthly service performance for SRVs used in User business processes

The OPSG requested changes to the PMR to enable it to more accurately measure DCC performance of SRVs and associated Service Responses against their business processes.

#### 2.1.1 Measuring SRVs

The following list of SRVs will be included in the monthly PMR with Rate, Speed, Volume, and Payload (RSVP) metrics (see Table 1).

The start point will be the Service User sending the SRV and the end point will be the Service User receiving or not receiving the associated Service Response (success or failure response).

Note that success of an SRV would be if Users received a response to it, irrespective of what the response is. If Users don't receive a response, this would count as a failure against the SRV.

The performance of a business process will depend on whether the SRV relates to a Smart Metering Equipment Specifications (SMETS)1 or SMETS2+ Device and should therefore be reported with SMETS1 and SMETS2 metrics separated and clearly identified. This is due to the different SLAs for each Device type as stated in the SEC.

Note, not all SRVs are applicable for SMETS1 and these are marked within table 1 below.

Table 1: Business process applicability table			
Business Process	SRV	Description	SMETS1 applicable
<b>Install and Commission<sup>1</sup></b>	8.11	Update HAN Device Log	Yes
	6.21	Request Handover of DCC Controlled Device (Update Supplier Certificates)	No
	8.1.1	Commission Device	Yes
	8.7.2	Join Service (Join GPF with GSME)	Yes
	6.20.1	Set Device Configuration' (Import MPxN)	No
	1.1.1	Update Import Tariff (Primary Element)	Yes
	6.8	Update Device Configuration (Billing Calendar)	Yes
	8.14.1	Communications Hub Status Update Install Success	No
<b>Change of Supplier (Gain)</b>	6.23	Update Security Credentials (CoS)	Yes
	1.1.1	Update Import Tariff (Primary Element)	Yes
	6.8	Update Device Configuration (Billing Calendar)	Yes
<b>Change of Tenancy</b>	3.2	Restrict Access for Change of Tenancy	Yes
<b>Tariff Updates</b>	1.1.1	Update Import Tariff (Primary Element)	Yes
<b>Pre-Payment</b>	1.6	Update Payment Mode (Payment Mode = Prepayment)	Yes
	2.1	Update Prepay Configuration	Yes
	2.2	Top Up Device (Update Balance with positive value)	Yes

<sup>1</sup> Note, although some of the SRVs listed under Install and Commission are applicable to SMETS1, the rollout of SMETS1 Devices has ended and therefore the overall Install and Commission business process is not applicable to SMETS1.

Table 1: Business process applicability table			
Business Process	SRV	Description	SMETS1 applicable
Security and Key Management	6.15.2	Update Security Credential (Device) – Credential Type = Digital Signature	No
	6.15.2	Update Security Credential (Device) – Credential Type = Key Agreement	No
	6.17	Issue Security Credentials – Credential Type = Digital Signature	No
	6.17	Issue Security Credentials – Credential Type = Key Agreement	No
Update Device Firmware	11.1	Update Firmware <i>Note: In respect of SMETS2+ Devices the DCC must ensure that the associated firmware update has been delivered to all relevant Communications Hub Functions within five days of receipt of the Service Request.</i>	Yes
	11.3	Activate Firmware (Individual SR for each GUID for firmware activation) <i>Note: SMETS1 five-day Target Response Time.</i>	Yes
Logistics CH Ordering and Returns	8.14.3	Communications Hub Status Update – Fault Return	No
	8.14.4	Communications Hub Status Update – No Fault Return	No
Distribution Networks Post I&C Activity	6.15.1	Update Security Credentials (Update Network Operator Certificates)	Yes
	6.5	Update Device Configuration (Voltage)	Yes
	6.22	Configure Alert Behaviour (Update ENO Alter Configuration)	No
Meter Reads	4.6.1	Retrieve Import Daily Read Log	Yes
	4.6.2	Retrieve Export Daily Read Log	No
	4.8.1	Read Active Import Profile Data	Yes
	4.8.2	Read Reactive Import Profile Data	Yes
	4.8.3	Read Export Profile Data	Yes
	4.10	Read Network Data	Yes
	4.17	Retrieve Daily Consumption Log	No

RSVP metrics will be used as an indicator of performance for identified key User business processes as defined in table 1. The RSVP metrics will measure the relevant SRVs, service responses, acknowledgements and Alerts processing times within the DCC Total Systems.

### 2.1.2 Measuring Alerts

Code Performance Measure 3 of the SEC requires that the DCC measures the percentage of Alerts delivered within the applicable Target Response Time. Therefore, SECAS acknowledge that this requirement is not making any changes to the Code and the DCC should already be providing reporting against all Alerts. However, it is understood that the DCC only reports on a subset of Alerts.

The DCC is to include in its assessment the requirement to measure all Alerts (DCC Alerts and Device Alerts) using the current method for determining how long they took to be delivered.

In addition to the above, the DCC is asked to include in its assessment the requirement to measure for all Alerts the time it takes from when it reaches the Communications Hub to when it enters the Service User's gateway. The DCC does not currently include this phase in its measure.

### 2.1.3 Data representation

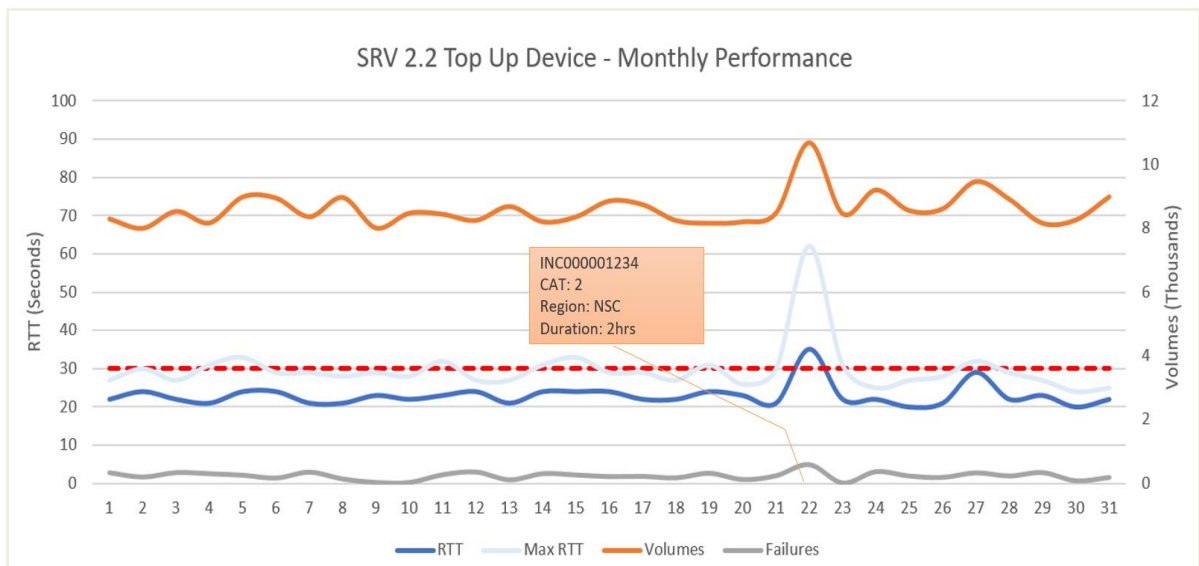
The RSVP metrics shall be reported within the PMR.

#### Daily RSVP metrics

The OMR recommended that the daily RSVP metrics be plotted using a line graph representation with daily data points:

- The x-axis will indicate the day of the month and the y-axis shows response time and volumes.
- Data points are plotted for the SRV daily average RTT, volume of daily requests and daily request failures.
- The average monthly RTT for the SRV or group of SRVs is provided to give a reference point and indicate whether daily response times are above or below the monthly average.

This is shown as a dotted red line on the example provided below:



Note, minimum RTT will also be displayed in the graph. As noted in the Modification Report, the presentation of this graph as well as any other graphs in the PMR will be agreed between the DCC, the Proposer and the Working Group pre-implementation of this modification.

#### Monthly RSVP metrics

The following monthly metrics are to be recorded and reported within the PMR:

The SRVs in table 1 above shall also be reported at a monthly level to provide a summary of performance over the period. The summary will include both Indicators and Measures as defined below. The measures are to be reported for all regions combined for SMETS1 (excluding Install and Commission) and separated by Region for SMETS2+ Devices.

- An Indicator of the Monthly Average (Mean) and Median RTT including time spent within the Home Area Network (HAN). The Median is recommended because, when compared to the

average/mean, this measure is less likely to be skewed by extremely large or small numbers and therefore provides a better idea of the typical response time.

- An Indicator of the range of RTT values measured within the month to show the longest and slowest response time recorded.
- A Measure of the percentage of responses delivered within the Target Response Time is calculated by including the response time for all Service Requests that compose a business process. For example, the Install and Commission process will be represented by the seven common SRVs that make up the SMETS2 Install and Commission process for Electricity Smart Metering Equipment (ESME) Devices. In the case of Install and Commission, the TRT target should also be provided for Gas Smart Metering Equipment (GSME). The TRT has the meaning given to that expression in SEC Section H3.14 'Target Response Times'. Targets are those defined in SEC Appendix E 'DCC User Interface Services Schedule'.
- An Indicator of the total number (volume) of SRV requests (listed in table 1) recorded for the period.
- An Indicator of the percentage of SRVs that failed to be delivered due to a communications failure or timeout (E20<sup>2</sup> or E21<sup>3</sup>) or a subsequent failure alert code (N12<sup>4</sup> or N13<sup>5</sup>).

An illustrative example of these measures is shown in table 2 below:

Table 2: Prepayment – Top Up Device Remotely				
Monthly Performance Measure	Region A	Region B	Region C	SMETS1
Average RTT	29	15	33	12
Median RTT	26	15	35	11
Range (Shortest)(Longest)	(4)(200)	(1)(20)	(20)(49)	(10)(20)
Percentage of Service Responses delivered within the Target Response Time	97%	99%	95%	99%
Volumes	100K	90K	110K	5K
Percentage of Service Requests that failed to be delivered	2%	9%	4%	10%
Percentage of Service Requests that generated N12 or N13 Alerts	-	-	-	-

<sup>2</sup> Communications Failure – Unable to Communicate with Device.

<sup>3</sup> Communications Failure – No Response Received from Device.

<sup>4</sup> Failure to deliver Command to Device.

<sup>5</sup> Failure to receive Response from Device.

## **2.2 Requirement 2: The DCC shall add specific outcome-based measures to provide a Measure of performance as well as Indicators on the success of the key business processes where they have end to end visibility**

The purpose of Requirement 2 is to provide metrics for the overall success of a sub-set of key business processes.

The measure of success will look at the overall outcome of the business process and will be irrespective of the success/failure of each individual common SRV within that process.

The following outcome-based metrics are to be broken down by Device type (not including Install and Commission) and Region.

These metrics have been categorised into Measures and Indicators and are labelled in column “M/I” below.

### **2.2.1 Measuring success of key business processes**

For each business process referenced in table 1 above, the DCC shall measure the combination of SRVs attempted by a Service User for an iteration of that process and report the percentage of those iterations across all Users that returned at least one failure Alert or no response. This metric would be defined as an Indicator.

The DCC shall also use non-communicating Devices identified during each business process as a proxy for gauging estate health.

The DCC is asked to provide a list of error codes for each Service Reference Variant in Table 1, to facilitate the Working Group determining if a business process has been completed successfully if such error codes are received by the User.

## Additional outcome-based metrics:

### 2.2.2 Install and Commission

Note, although some of the common SRVs listed in table 1 for Install and Commission are applicable to SMETS1, the overall measure of success for the outcome of this business process shall not be applicable to SMETS1.

This is because the installation of SMETS1 Devices is prohibited under the Code.

Install and Commission metrics			
ID	Requirement	M/I	Metric
IC1	Provide a greater level of visibility for the time taken for the DCC Total System for the install and commission process.  Note: Install and Commission is a complex process and is orchestrated differently by each User making measurement of the end-to-end process challenging.	M	Measure the Response Times of the common Service Requests and report the percentage that failed to meet the Target Response Times.  Note, this Measure will be provided by the RSVP metrics for the common SRVs listed in table 1 above.
		I	Measure daily total volume of successful and failed installations broken down by CH/ESME/GSME and Region.
		I	Measure daily total volume of installs for the period against the predicted number of installs. This will be broken down by SEC Party and anonymised as a failure to meet historic install volumes could be due to issues outside DCC control. The predicted installations will be based on historic DCC recorded installation volumes data and therefore may only be used for informational purposes.
		I	Measure daily total volume of Install and Commission versus Install and Leave <sup>6</sup> . The reporting is to include a category for any Communications Hubs awaiting a decision that are still within the 90-day investigation period for Install and Leave.
IC2	Provide information on the impact of service degradation and outage on the User.	I	The DCC uses predictive modelling techniques to record and predict behaviour of meter installations in near real-time. The deviation from the norm provides a good indicator of degradation in service and the volume of messages provides a proxy measure of impact on Users. In addition, Sev1 and Sev2 incident data can be combined to provide a more accurate reflection of the User's experience.

<sup>6</sup> The Working Group agreed that for the purpose of this modification, Install and Leave shall include both Proactive Install and Leave and Reactive Install and Leave as defined under the Supply Standard License Conditions.

### 2.2.3 Change of Supplier

The following Change of Supplier metrics could be provided in the form of an anonymised league table of Service Users.

Change of Supplier metrics			
ID	Requirement	M/I	Metric
CoS1	Provide a measure of the success of the Change of Supplier Process.	M	Measure daily total percentage of successful SRV 6.23 'Update Security Credentials (CoS)' SRVs delivered. Where the response erroneously reports a failure, the presence of subsequent critical and non-critical SRs sent by the gaining Supplier will be used as an indicator of success. Include a measure above by Device type and Region.
		M	Measure daily total percentage of successful SRVs 1.1.1 'Update Import Tariff (Primary Element)' and 6.8 'Update Device Configuration (Billing Calendar)' delivered. Include a measure above by Device type and Region.
		I	Provide information on the reason for failure e.g. where a CoS database becomes unavailable or other Service Provider issue materialises.
		I	Measure the overall success of SRV 6.23 on a daily basis aggregated by each Supplier Party.

### 2.2.4 Meter Reads

Meter Reads metrics			
ID	Requirement	M/I	Metric
B1	Provide a measure of the success of the scheduling of meter reads and delivery of meter reads.	M	Measure the combination of SRVs listed for this business process in table 1 and advise the overall percentage that returned a failure response or no response.



## 2.2.5 Prepayment

The following Prepayment metrics could be provided in the form of an anonymised league table of Service Users.

The DCC is also requested to provide commentary to recognise any DCC outages or Category 1/2 Incidents.

Prepayment metrics			
ID	Requirement	M/I	Metric
PP1	Provide a measure of the success of topping up a Device remotely.	M	Measure the percentage of successful SRV 2.2 'Top Up Device' SRVs successfully delivered to the Devices. Include a measure by Device type and Region.
		I	Provide information on the volumes of success and failures within the period.
		I	Provide a table showing the percentage attempts to top up before success. Provide metric for the first and second attempts and the percentage of failures. Where failure is above 5%, provide further details on the reason for the failure.
PP2	Provide a measure of the success for Update Device Change of Mode on Devices.	M	Measure the percentage of successful SRVs 1.6 'Update Payment Mode' and SRV 2.1 'Update Prepay Configuration' successfully delivered to the Devices. Include a measure by Device type and Region.

## 2.2.6 Update Device Firmware

The outcome-based measures for this business process are a subset of the those defined for 'In Life Device Management' in table 1 above. Specifically, these are aimed at providing a measure of success for the process of updating Device firmware.

Update Device Firmware metrics			
ID	Requirement	M/I	Metric
DF1	Provide a measure of the success of delivering the Device image to the Communications Hub.	M	Provide a Measure for the number of target Devices listed in SRV 11.1 'Update Firmware' and how many HANs pertaining to those Devices successfully received an Image.
DF2	Provide information of the success of transferring the Device images from CH to the Device.	I	Measure Device image verification success (0x8F72) and verification failure (0x8F1c) responses to provide information on the percentage of images that are successfully transferred from the CH to the Device. Record Devices that did not issue an Alert after the SLA has elapsed to identify failure to transfer from CH to the Device.
DF3	Provide information on successful activation of Device firmware image.	I	Measure the percentage of success and failure responses to the SRV 11.3 'Activate Firmware' request.

## 2.2.7 Update CH Firmware

This business process is not listed in table 1 above as the DCC is responsible for managing the Communications Hub firmware. Therefore, there are no SRVs for Service Users to use relating to this business process.

Update CH Firmware metrics			
ID	Requirement	M/I	Metric
CHF1	Provide a measure of the success of delivering CH firmware image to the Communications Hub.	M	Measure the percentage of successful CH firmware payload images successfully delivered to the CH.
CHF2	Provide a measure of the successful activation of the CH firmware image.	M	Measure the percentage of successful CH firmware image activations.

### CHF1 implementation

SECAS note that the functionality for CHF1 could be delivered under [SECMP0007 'Firmware updates to IHDs and PPMIDs'](#). However, SECMP0007 would not directly provide the reporting sought by Parties for this measure.

The Proposer and the Working Group have agreed that they would like the DCC to include the measure of CHF1 in its Impact Assessment, irrespective of the progression of SECMP0007. Therefore, the DCC shall assess this requirement against both of the following scenarios:

- CHF1 is implemented as a separate modification separate to SECMP0007; and
- CHF1 is implemented as a change to the reporting only after SECMP0007 is implemented.

## 2.2.8 Alerts Management

Alerts metrics			
ID	Requirement	M/I	Metric
A1	Provide a measure of the success of delivering Alerts.	M	Measure the percentage of Alerts successfully delivered within the required SLA. For Alerts impacted by throttling, i.e. during an Alert storm, this will measure all Alerts sent to the User.
		I	Measure the total number of Alerts that fail to be delivered within the SLA time and a breakdown of the number of failures by Alert code to identify the type of Alert impacting overall performance.

Please see section 2.1.2 of this document for greater detail on what the Proposer and the Working Group are seeking from this business process.

## 2.3 Requirement 3: The DCC will measure end to end Service Availability across the DCC environment and report this by CSP region

### 2.3.1 Defined DCC Services

**Note:** This section refers to the combination of each of the following DCC interface and supporting sub-systems as a 'Service':

- the DCC User Interface
- the Registration Data Interface
- the Smart Metering Key Infrastructure (SMKI) Repository Interface
- the SMKI Services Interfaces
- the Self-Service Interface (SSI)

Service availability shall be measured as a percentage for each of the above Services.

It should be noted that, whilst this approach accounts for overall service availability of each Service, it would not be reflective of instances in which the Service is partially unavailable.

Those key business processes impacted by partial availability shall be reported alongside the metrics and indicators for service availability of a particular Service. An illustrative example of this is provided in Table 3 below. Note that the Service Level percentages reported for each key business process are an indicator, and would quantify the time, during the reporting period, in which the DCC has the capability to successfully process and deliver a particular Service Request that makes up a particular business process, as defined in Table 1 of this document.

### 2.3.2 Service Availability metrics

In addition to the considerations above, the DCC is asked to report on how much cost and effort will be required to include the following elements in the solution.

#### ***Monthly view of end-to-end Service availability***

A monthly view of end-to-end service availability for each of the Services described above is reported on as a single percentage figure, as well as depicted as a line graph across the days of the month. This will enable a higher level of granularity and easier identification of potential issues that might have impacted Users throughout the reported period. As stated before, this measure for end-to-end availability should include sub-systems linked to each individual interface. If a particular sub-system (i.e. server) is responsible for supporting multiple interfaces, and this sub-system experiences an outage, then the availability measure for each of the affected Services should be impacted and reflected in the monthly measure.

#### ***End-to-end Service availability by CSP Region***

The view for service availability, where relevant<sup>7</sup>, is split by CSP Regions, for better correlation with Users operational experience.

<sup>7</sup> Service availability contains some services that are not regionally based, for example SSI availability has no reliance on CSP region and so would not need to be split by regional availability. SMETS1 is not broken down by region.

### **Reporting Service availability by time of day**

Time of day is considered when measuring and reporting on service availability for any particular Service, as this can have a direct impact on User's operations.

The OMR suggests a split (Monday to Friday) between hours where installations are more prominent (08:00-20:00) and hours where other business processes (i.e. CoS) take place (20:00-08:00).

With regards to weekends, the OMR recommends Saturdays to be split between 08:00-12:00 (on-site activities are still performed, i.e. installations) and 12:00 to 08:00. Sundays are generally considered as days of on-site operations inactivity.

### **Measuring Service downtime**

Service downtime for each interface and its supporting system components is measured in minutes, and then expressed in hours over the reporting period (e.g. 235 minutes of unavailability in a month would equate to a total of 3.91 hours).

Note, the Proposer and the Working Group do not want a measure of service downtime to be given as an average as this could skew results.

The DCC shall record the overall downtime for each DCC Interface separately, including a breakdown of Planned Maintenance and Unplanned Maintenance.

Additionally, as each Service provided by the DCC is made up of an interface and multiple supporting sub-systems, a particular Service is to be considered available only when all of its supporting sub-systems are available, and is to be considered unavailable otherwise.

### **Planned Maintenance**

**Note:** In accordance with SEC Section H8, the DCC “*shall (insofar as is reasonably practicable) undertake Maintenance of the DCC Systems in such a way as to avoid any disruption to the provision of the Services (or any part of them).*” The DCC is governed by the SEC Section H ‘DCC Services’ regarding the amount of Planned Maintenance per month. Given this allowance, the OMR acknowledges that Planned Maintenance, complying with Section H8.4 of the SEC, should be excluded from, and not impact, the calculation for Service Availability defined in the formula above.

However, the Proposer and the Working Group request the DCC provide an Indicator for planned downtime as this would show what actual availability is for Users. It is acknowledged that the DCC is permitted to carry out planned maintenance and so it is an Indicator rather than a Measure.

### **Measuring Service reliability**

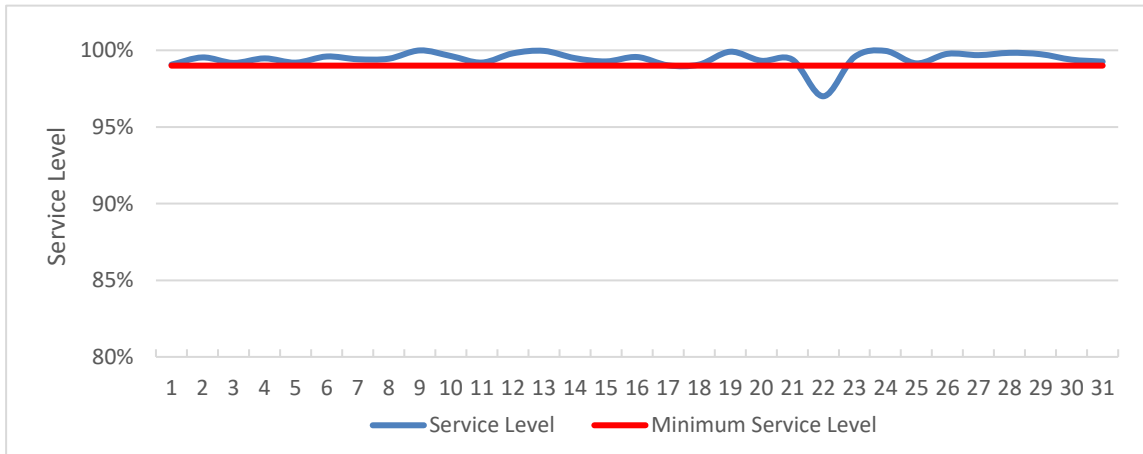
The DCC shall produce reliability measures for each of the interfaces described above and reported alongside the figures for service availability. Recommended measures for reliability of a system are reported below:

- Total Number of Incidents (category 1 to 5) across the reporting period. Additional Indicators to inform Users on the reliability of the DCC services would include the overall number of Category 1 & 2 incidents per Reporting Period (the OMR notes that the DCC already provides summary information about Category 1 & 2 Major Incidents to Users voluntarily). The OMR

also believes the PMR should include the total volume of Category 3, 4 & 5 Incidents in the Reporting Period, where the Incident resolution is attributed to the DCC as the Responsible Party.

- Average amount of downtime per event (related to the Mean Time To Repair (MTTR) measure, which is defined as total maintenance time divided by the total number of repairs).
- Mean Time Between Failures (MTBF), calculated across the reporting period, as operating time (hours) divided by the total number of failures.

An illustrative example of the recommended Measures (M) and Indicators (I) proposed by the OMR for the reporting of service availability and reliability of each interface is provided in Table 3 below:

Table 3: Service Availability Measures					
Service Availability DCC User Interface – Service Level					M/I
Monthly Performance Measure	Previous Service Level	Service Level	Target Service Level	Minimum Service Level	
Service Availability – DCC User Interface	99.95%	99.40%	99.95%	99.00%	M
Service Availability DCC User Interface – Monthly View					
<div></div>					I
Service Availability DCC User Interface – Time of Day Breakdown					
Monthly Performance Measure	Hours of Operational Activity		Hours of Operational Inactivity		
Service Availability – DCC User Interface	98.80%		100.00%		I
Service Availability DCC User Interface – Service Availability by Region*					
*N/A, regional split not applicable for this interface					
Monthly Performance Measure	Region A	Region B	Region C		
Service Availability – DCC User Interface	99.00%	99.80%	99.40%		I
Service Availability DCC User Interface – Reliability					
Total Number of Incidents (of which cat. 1,2) (of which cat. 3,4,5)			4 (1) (3)		I

Mean Time To Repair (MTTR)		3.02 hours	I
Mean Time Between Failures (MTBF)		8.09 days	I
<b>Service Availability DCC User Interface – Business Processes View</b>			
Monthly Performance Indicator	Previous Service Level	Service Level	Status
Install and Commission (ESME)	99.80%	99.40%	Degraded
Install and Commission (GSME)	98.20%	99.90%	Available
Change of Supplier (Gain)	XX.XX%	XX.XX%	Available
Change of Tenancy	XX.XX%	XX.XX%	Available
Tariff Updates	XX.XX%	XX.XX%	Available
Billing (Scheduled)	XX.XX%	XX.XX%	Available
Billing (Unscheduled)	XX.XX%	XX.XX%	Available
Pre-Payment	XX.XX%	XX.XX%	Available
Security and Key Management	XX.XX%	XX.XX%	Available
In-Life Device Management	XX.XX%	XX.XX%	Degraded
Logistics CH Ordering and Returns	XX.XX%	XX.XX%	Available
Distribution Networks Post I&C Activity	XX.XX%	XX.XX%	Available
Alerts Management	XX.XX%	XX.XX%	Available

#### **2.4 Requirement 4: The DCC shall reduce the time it takes to create the PMR to within 10 Working Days from the end of the measurement reporting period**

The SEC states that the DCC must create the PMR within 25 Working Days. However, the DCC shall reduce the time it takes to create the PMR to within 10 Working Days from the end of the measurement reporting period. This is to ensure the PMR remains operationally relevant to Users.

The effect would be that, depending on bank holidays and month end falling on Working Days, the report could be reviewed by the OPSG the month following the end of the reporting period. For example, a report for the month of February could be reviewed at the end of March at the OPSG report review meeting.



## 2.5 Requirement 5: In relation to CPM 5, the DCC will improve transparency in the reporting provided for incident Categories 3, 4 and 5

Feedback from Distribution Network Operators (DNO) highlighted a lack of transparency in the reporting of Incident Categories 3, 4 & 5 where the DCC is the responsible Party for the resolution of the incident in accordance with the SEC Appendix AG 'Incident Management Policy'.

CPM 5 does not split out the resolution of these per Incident Category. Therefore, in order to improve transparency and confidence in the reporting provided for incident Categories 3, 4 and 5, CPM 5 is to be amended to show individual incident resolution times for each incident category.

Data will be provided in the form of statistics for each Incident Category. The DCC is not expected to provide detail pertaining to each individual Incident raised.

This would be broken down by SMETS1 and SMETS2 and be supplemented by further Indicators detailing;

- the number of Incidents per Category 3, 4 and 5 raised in the reporting period,
- the number that met the Target Initial Response Time<sup>8</sup>; and
- the number that met the Target Resolution Time.

The Categorisation Matrix within SEC Appendix AG 'Incident Management Policy' states the SLAs for each Incident Category.

The Proposer and the Working Group agree to the DCC's recommendation to report the Incidents closed in period instead of opened, as this ensures that all Incidents raised are reported on. Otherwise, if an Incident is raised and not closed in period, it would not appear in a future report. It also means that Incidents raised towards the end of the reporting period that are not resolved but still within SLA are accurately reported on.

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<sup>8</sup> Target Initial Response Time is defined in SEC Appendix AG 'Incident Management Policy' as the time period within which an Incident within each Category should be recorded on the Incident Management Log and assigned to a resolver.

## 3. Definitions

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### 3.1 Definitions

#### Measure

A “Measure” is something that the DCC is responsible for providing a level of service for, and against which targets for DCC performance can be set.

#### Indicator

An “Indicator” is something the DCC is not accountable for but that provides a Key Performance Indicator (KPI) that may be of value or use to the industry but cannot have a target attributed to it.

#### Device Type

Means, in respect of a Device, a generic description of the category of Devices into which the Device falls.

#### Region

Means each of the regions of Great Britain that are subject to different DCC Service Provider Contracts.

#### SMETS1 Device

Means one of the following:

- a SMETS1 ESME;
- a SMETS1 GSME;
- a SMETS1 CHF;
- a SMETS1 GPF;
- a SMETS1 PPMID;
- a SMETS1 IHD; and
- any other device operating on a home area network created by a SMETS1 CHF.

#### SMETS2+ Device

Means a Device which is not a SMETS1 Device.

### 3.2 Rate, Speed, Volume, Payload (RSVP) definitions

#### Rate (R)

The sample period over which the performance is measured. For the purposes of the PMR the rate will be either daily or monthly. A daily measure provides the level of granularity required to capture service degradation or outages that impact a User's business process. A monthly measure will provide a higher-level executive view of service performance.

#### Speed (S)

A measure of the Round-Trip Time (RTT) for an SRV or group of SRVs measured within the rate period. The RTT is measured from receipt of the SRV from the User, to sending a Service Response to the User, and includes time spent within the Home Area Network (HAN). Speed should be measured as an average (mean) as well as a median, as an average can be skewed by extremely large or small values. The OMR acknowledges that measuring RTT excluding the HAN would provide a more useful measure of DCC performance but introduces a number of challenges as this is not currently a technical capability of the system. However, an interim solution would be to calculate a response time using the CSP test message average response time, added to the DSP measured response time for the SRV. This time should be reported and plotted alongside the RTT. This solution is dependent on the CSP test message issues raised in section 3.2.5 of the OMR being addressed.

#### Volume (V)

The total number of Service Requests or group of SRVs processed by the DCC Total System within the period.

#### Payload (P)

The confirmed success or failure of the Service Request within the period. A failure is recorded when a Service Response contains an Error Response Code relating to a communications failure or timeout (E20 or E21), or a subsequent failure Alert code (N12 or N13). This confirms the sending of an SRV and the receipt of a response regardless of whether the response and therefore the request to perform an action has been successful or not.

## 4. Glossary

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

Glossary	
Acronym	Full term
CH	Communications Hub
CoS	Change of Supplier
CPM	Code Performance Measure
CSP	Communication Services Provider
DCC	Data Communications Company
ESME	Electricity Smart Metering Equipment
GSME	Gas Smart Metering Equipment
KPI	Key Performance Indicators
MTBF	Mean Time Between Failures
MTTR	Mean Time To Repair
OMR	Operational Metrics Review
OPR	Operational Performance Regime
OPSG	Operations Group
RSVP	Rate, Speed, Volume and Payload
RTT	Round Trip Time
SMETS	Smart Metering Equipment Specifications
SMKI	Smart Metering Key Infrastructure
SR	Service Request
SRV	Service Reference Variant
SSI	Self-Service Interface
TRT	Target Response Time

# **SEC Modification Proposal, SECMP0122B, multiple Change Requests Operational Metrics Preliminary Impact Assessment (PIA)**

<b>Version:</b>	<b>1.3</b>
<b>Date:</b>	<b>26<sup>th</sup> July, 2021</b>
<b>Author:</b>	<b>DCC</b>
<b>Classification:</b>	<b>DCC Public</b>

# Contents

<b>1</b>	<b>Document History .....</b>	<b>4</b>
1.1	Revision History .....	4
1.2	Associated Documents .....	4
<b>2</b>	<b>About this Document .....</b>	<b>5</b>
<b>3</b>	<b>Change Request CR1418, Throughput of Alerts .....</b>	<b>6</b>
3.1	Business Requirements .....	6
3.2	Solution Context .....	6
3.3	DSP Solution Design .....	9
3.4	Timescales and Costs .....	10
3.5	Working Group Review .....	10
<b>4</b>	<b>CR1438, Throughput of Alerts .....</b>	<b>11</b>
4.1	Business Requirements .....	11
4.2	Solution Context .....	11
4.3	CGI IE Solution Design .....	12
4.4	Other Service Provider Changes .....	12
4.5	Timescales and Costs .....	13
4.6	Alternative Approach for CR1418 and CR1438 .....	13
4.7	Summary for CR1418 and CR1438 .....	14
4.8	Working Group Review .....	14
<b>5</b>	<b>CR1420, Incident Reporting to Support Revised PMR .....</b>	<b>15</b>
5.1	Business Requirements .....	15
5.2	Solution Description .....	15
5.2.1	DSP and CGI IE Service Impact .....	15
5.2.2	CSP South and Central .....	16
5.2.3	Other Service Providers .....	17
5.3	Timescales and Costs .....	17
5.4	Alternative Solution Approach .....	17
5.5	Summary of CR1420 .....	18
<b>6</b>	<b>CR1430, PMR Reduced Timescales .....</b>	<b>19</b>
6.1	Business Requirements .....	19
6.2	Existing PMR Process .....	19
6.3	Solution Description .....	21
6.3.1	Exclusions and Exceptions .....	22
6.3.2	DSP and CGI IE Service Impact .....	23
6.3.3	Other Service Providers .....	23

6.4	Initial Response Timescales and Costs .....	24
6.5	Summary of CR1430 First PIA Review .....	24
6.6	Follow-up Clarifications for CR1430.....	25
6.6.1	Providing the Most Important Reports Earlier .....	26
6.7	CR1430 Options and Conclusion .....	28
7	CR1421, SRV 11.1 (Update Firmware).....	29
8	CR1423, Comms Hub Firmware Image Data .....	30
8.1	Business Requirements .....	30
8.2	DSP Solution.....	30
8.3	CSP Change.....	31
8.4	Relationship with SECMP0024 .....	31
8.5	Alternative Solution Option for CR1423 and 1440 .....	31
8.6	Overall Timescales and Costs.....	32
8.7	Status for CR1423 .....	33
9	CR1440, Update Firmware SMETS1 Process .....	34
9.1	Business Requirements .....	34
9.2	Overall Solution.....	34
9.2.1	DSP and CGI IE Solution.....	35
9.2.2	Other Service Providers.....	35
9.3	Timescales and Costs .....	36
9.4	Alternative Solution Option for CR1423 and 1440 .....	36
9.5	Summary of CR1440 .....	37
10	CR1429, Additional CSP Reporting to validate 90 Day No SMWAN Incidents.....	38
10.1	Requirements .....	38
10.2	CSP Solutions.....	38
10.1	Timescales and Costs .....	38
10.2	Working Group Summary .....	39
11	Impact on DCC Systems, Processes and People .....	40
11.1	DCC Technical Operations Centre Development and Testing .....	40
11.2	DCC Application Support.....	40
11.3	Infrastructure Impact .....	40
11.4	Service Provider Application Support.....	40
11.5	Contractual Change and Data Provision.....	40
12	Implementation Approach and Timescales.....	42
13	Costs and Charges .....	42
	Appendix A: Glossary .....	44



# 1 Document History

## 1.1 Revision History

Revision Date	Revision	Summary of Changes
04/09/2020	0.3	Initial draft version, internal DCC review
02/10/2020	0.51	Changed Mod name to SECMP0122B, interim release to SECAS
24/10/2020	0.8	Added detail on technical sections
24/12/2020	0.96	Updated ROMs and durations, solution notes
9/2/2021	1.0	Reviewed Service Provider responses, changed costs, removed Change Requests as agreed with Working Group in meeting on 22/01/21
15/3/2021	1.05	Revised responses including TOC design suggestions, remove Working Group recommendations
12/4/2021	1.07	Updated costs and contractual renegotiation not required for CR1420
27/4/2021	1.08	Added note from Working Group that CR1418 and 1438 are NOT required for OPR
26/5/2021	1.25	Added section for CR1430 based on Working Group request for review on 10WD submission. Added diagrams for responses and alerts plus explanation of TOC Option
27/5/2021	1.3	Added CSP Responses for data supply for CR1423

## 1.2 Associated Documents

This document is associated with the following documents:

Ref	Title and Originator's Reference	Source	Issue Date
1	MP122 Business Requirements v1.2 (draft6)	SECAS	24/07/2020
2	MP122 Preliminary Assessment Request	SECAS	14/05/2020
3	OPSG OMR Report Final	OPSG	12/05/2020`
4	MP122 DCC Preliminary Assessment v0.5	DCC	25/06/2020
5	SECMP0122 FIA February 2021 Release	DCC	03/09/2020

References are shown in this format, [1].

## 2 About this Document

The Proposer for this Modification is Gemma Slaney from Western Power Distribution. The original proposal was submitted on 24<sup>th</sup> March 2020.

As part of the process of developing a solution for this Modification, two tranches of work were identified:

1. Where the data is identified as being already available to the DCC Technical Operations Centre (TOC), working within the constraints of the current solution should involve no commercial change to the DCC Solution, although there will be a direct impact on support and maintenance. This is referred to as the "February 2021 Release", with the legal text to be released in February 2021 and the completed application (and PDF file) subsequently using April 2021 data. Document [5] contains the Full Impact Assessment for this functionality.
2. Where further "external data" has been identified, it has been separated out with individual DCC Change Requests sent to the relevant Service Providers, as identified in the solution analysis. These Change Requests (CR) are highlighted in this document, and are considered as PIAs with a ROM cost assessed for each requirement. If the Working Group decides it wants to go ahead with this external data and associated development, it will be sent out for a FIA.

Note that these additional external data requests will also require contractual negotiations between the DCC and the impacted Service Providers, which is expected to take at least six months to complete as part of a Full Impact Assessment (FIA). In order to distinguish this document from previous released documents, this "branch" of the Modification is referred to as SECMP0122B.

In some cases, DCC have been able to identify alternative solutions using data already held in the TOC or that DCC believe could be procured. These solution options are identified following. These changes were grouped into an arbitrary release for ease of reference, although detailed planning will be required if DCC is given the go ahead to include this data.

The context, Business Requirements, specific measures and indicators, and supporting material which are the background to this Modification are included in document [5].

### 3 Change Request CR1418, Throughput of Alerts

This Change Request is related to Requirements 2.1.2 and 2.2.8 described in document [1]. The functionality required from Service Providers other than the DSP is covered in CR1438 described following.

The DCC TOC currently does not receive any data from the CSPs containing measurements from when the alert reaches the Comms Hub. The DCC also cannot currently identify when an alert enters the Service User's gateway, only when the DSP tried to send it to the gateway. These changes will require further data supply and contractual change as described in CR1418 and CR1438. To complete this change will require implementation of both CR1418 and CR1438, although delivery of CR1418 alone would give reporting for CSP South and Central. Information from both CRs is not required to implement OPR.

#### 3.1 Business Requirements

DCC require the following requirement is to be assessed to enrich TOC data and a PIA produced:

[A] - DSP shall identify the throughput of all Alerts at the following points: Received by Comms Hub/Devices (where this can be logged), Received by CSP/S1SP, Passed to the DSP, Received by the DSP, Passed to Service User and the Service User handshake received confirming receipt.

[B] - Pursuant to Requirement A, the DSP shall provide data to the TOC at intervals of 15 minutes.

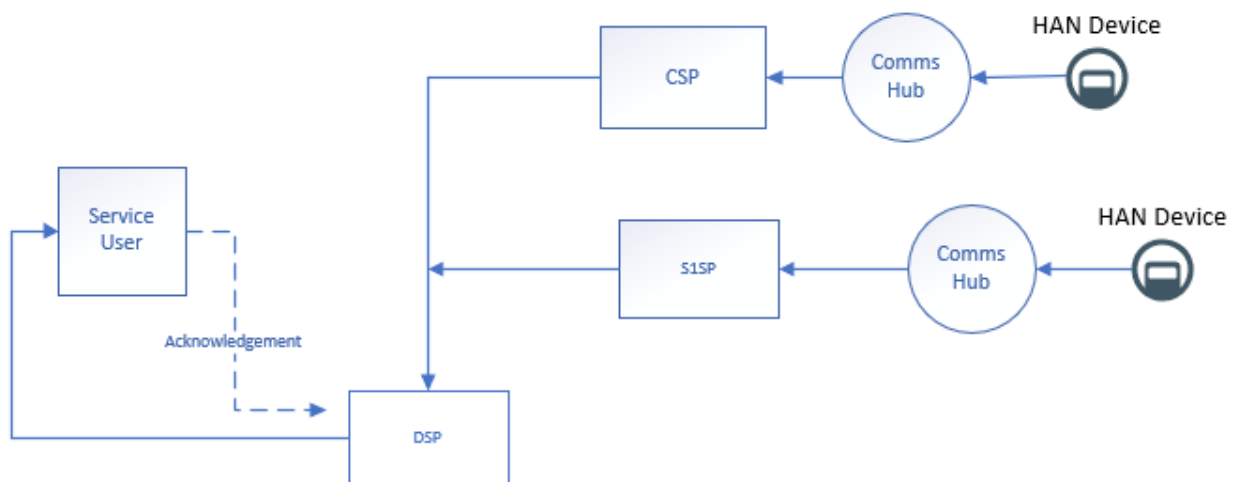


Figure 1: Schematic Diagram of Alert Flow

#### 3.2 Solution Context

This change to the DSP will provide timing information for Device Alerts from SMETS2 Devices, and SMETS1 Alerts associated with SMETS1 Devices. This will enable DCC to improve the logging and understanding of alert performance.

The scope of the solution will include DCC Alerts used to carry Device Alert information when it is not feasible for the Device to target a Device Alert at a User directly, such as Device Alerts from PPMIDs.

The following diagrams give an overview of the processing of Service Requests and the associated responses and alerts for the SMETS1 and SMETS2 systems. Contractual timing points are shown alongside the swimlane diagrams.

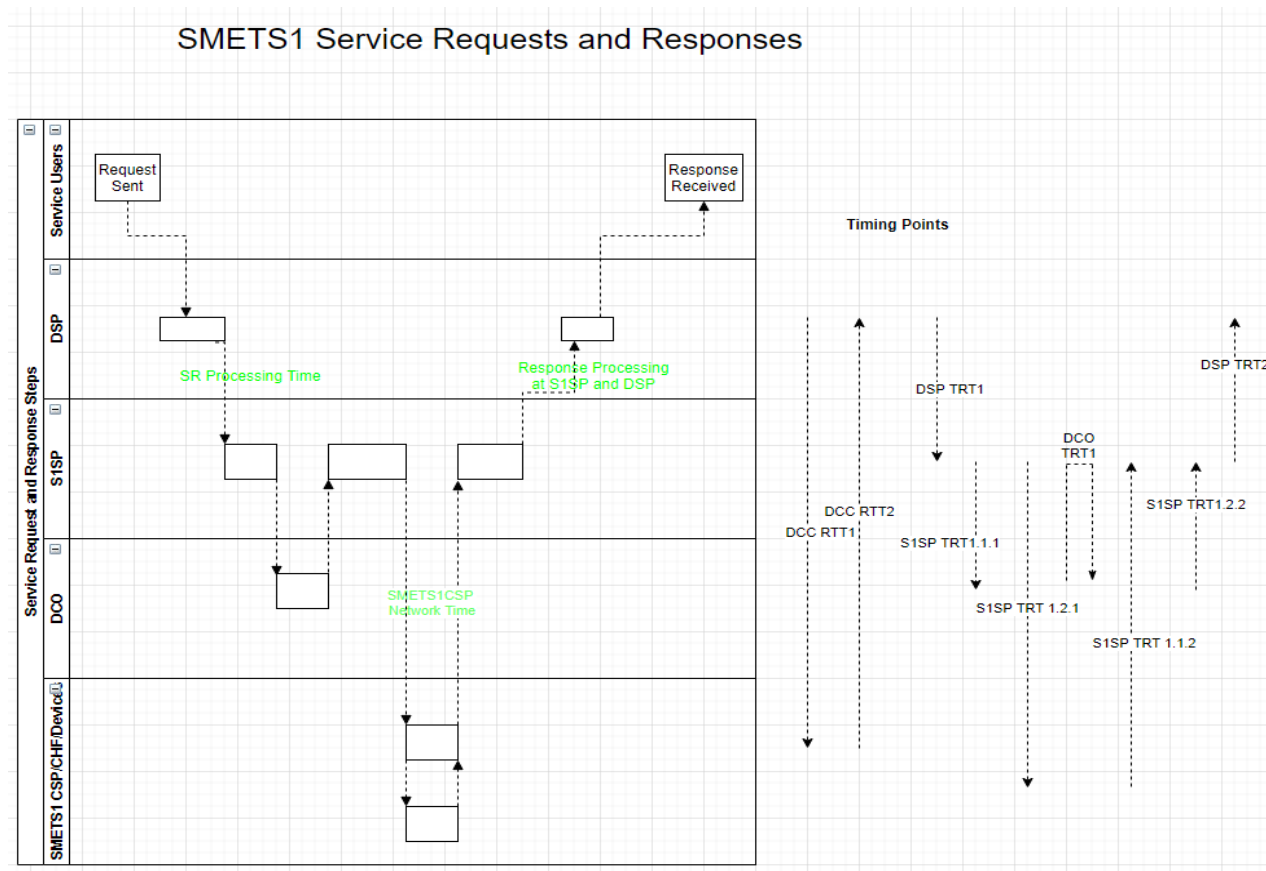


Figure 2: SMETS1 Service Request and Response Processing

Each Service Request results in multiple interactions between the S1SP and Device (either the target device, or the Comms Hub associated with that target) and each interaction may cross multiple interfaces between contractors – dozens of messages in some cases.

For SMETS2 transactions, the situation is slightly simpler, with one Service Request requiring a single processing response.

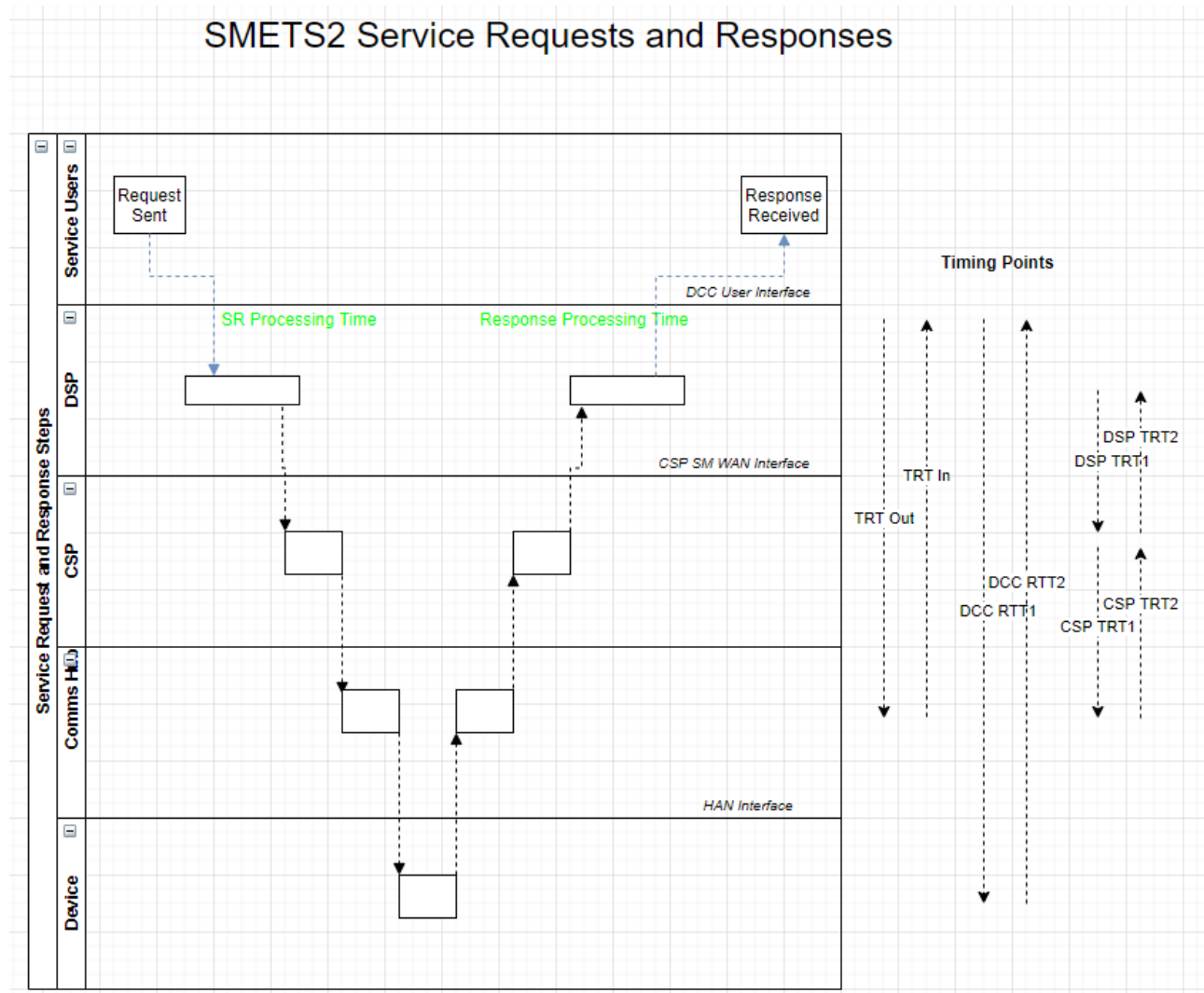


Figure 3: SMETS1 Service Request and Response Processing

This Modification provides additional timing points for the following alert types:

- Device Alerts from SMETS2 Devices, in two categories:
  - those delivered as Device Alerts to the Service User
  - Device Alerts where the target is DSP (i.e. the Access Control Broker (ACB) User ID) and DSP generates DCC Alerts to deliver the information to Users, namely N39, N53 and N54<sup>1</sup>
- SMETS1 Alerts, which are based on alerts from SMETS1 Devices<sup>2</sup>

The following alert types are out of scope:

- DCC Alerts not used to deliver Device Alert information
- SMETS1 Service Provider (S1SP) Alerts

### 3.3 DSP Solution Design

DSP will deliver a new logging facility in addition to the Service Audit Trail (SAT). This log will provide additional data from within the alerts, or additional timing points from the CSP or S1SP to be communicated to DSP along with the alert. This data will show the lifespan of the alerts, including alert generation time (where available), time of arrival at DSP, time of leaving, and time of acknowledgement by the Service User.

Where supported two other timing points will be in the log, namely time received at the Comms Hub and time received at the CSP/S1SP. Changes will be required to the SMWAN interfaces with the Arqiva CSP and with the S1SPs. It should be possible for the CSP North to fully support these but will require changes as detailed in CR1438.

CSP South and Central messages are delivered directly from the Comms Hub to the DSP, and rather than adding the time received at the CSP, the User Datagram Protocol (UDP) packets sent by CSP South and Central already contain the Comms Hub received time and data. This will be extracted from the packets by the DSP.

The two new timing points will be added to the S1SP SMWAN interface and should be supported by S1SPs where feasible, but the ability to support the Comms Hub received time may vary by device model, so that timing points may not be populated in all cases. SMETS1 Alerts are sent to DSP as defined in DUIS and includes a signature by the S1SP. To be able to add metadata to the alert data, it will be necessary to define a new wrapping structure in the S1SP SMWAN interface (note that this is not part of DUIS), which will contain the SMETS1SignedResponse along with the new metadata. Responses to Service Requests are also carried in the SMETS1SignedResponse, so this change will require regression testing of those too.

For DCC Alerts that are used to carry Device Alerts where they cannot be targeted directly at the User by the Device (e.g. from PPMIDs), timing information of the Device Alerts will also be recorded in the SMWAN Gateway, and will be added to logging information from the generation of the DCC Alert.

The **Alert Supplementary Timing Log** is expected to have characteristics as follows:

- Logs will be issued periodically at intervals of 15 minutes (or 50Mb if reached before 15 minutes)

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<sup>1</sup> In some cases there may be more than one DCC Alert triggered by the same Device Alert targeted at the DSP.

<sup>2</sup> SMETS1 Alerts do not always correspond to alerts originated by devices, i.e. they can originate from within a S1SP.

- Where no Device Alerts/SMETS1 Alerts are sent in a reporting period, no logs shall be issued
- A new row will be created for each alert, containing information about the end-to-end timing of the delivery of that alert
- Logs will include data from DSP inspecting alert payload data and lookups in the Smart Metering Inventory (SMI)

The data in the **Alert Supplementary Timing Log** will include the Device Alert Code or SMETS1 Alert Code and supporting information.

The following DSP Components will be affected:

- the two SMWAN Gateways and the SMETS1 SMWAN Gateways
- amendments to the SMETS1 SMWAN interface spec
- Transform
- Enterprise Systems Interface (ESI) reporting to deliver the new logs to the TOC

Security Impact	Assumes that the change will not require a penetration test, changes to the Protective Monitoring solution or any additional encryption. A more detailed Security impact will be carried out as part of the FIA.
Safety Impact	A preliminary safety impact assessment indicated a systems safety impact. An update of the DSP Safety Case deliverables and safety impact assessment of the revised DSP design will also be required – this effort will be part of the Full Impact Assessment.
Infrastructure Impact	This change will require some additional processing to extract information from alert messages and additional disk space to store the logs. DSP will need to analyse additional resource requirements as part of the Full Impact Assessment. No costs have been included in the PIA.
Integration Impact	Significant System Integration Testing (SIT) will be required, which will include the creation of at least two new test scenarios and two new test scripts. It is assumed that no User Integration Testing (UIT) is required as the log is for DCC use only.

### 3.4 Timescales and Costs

As the changes will impact the DCC Total System, this change should be aligned to a scheduled SEC Release. A likely candidate will be identified in the FIA.

SP Costs	Cost to Produce FIA	Required Time for FIA (Max)	ROM	Implementation Duration
CR 1418	£8,702	30 days	£300,000 - £450,000	3 Months

### 3.5 Working Group Review

For this and subsequent Change Requests, the Working Group asked why the proposed rate of supply of information from the DSP was set at every 15 minutes. The DCC advised this is the current rate of supply already provided by the DSP. The respondent advised that if reducing the supply frequency would reduce costs the DCC should do this. The DCC agreed to raise this question in the FIA.



## 4 CR1438, Throughput of Alerts

This Change Request is related to Requirements 2.1.2 and 2.2.8 described in document [1]. The functionality required from Service Providers other than the DSP is covered in this CR1438. Information from both CRs is not required to implement OPR. To complete this change will require implementation of both CR1418 and CR1438.

### 4.1 Business Requirements

DCC require the following requirement is to be assessed to enrich TOC data and a PIA produced:

[A] The Service Provider shall identify the throughput of all Alerts at the following points: Received by Comms Hub/Devices (where this can be logged), Received by CSP/S1SP/DCO, Passed to the DSP.

[B] The Service Provider shall provide reporting to DCC identifying receipt of an alert from HAN Devices, the Communications Hub (where this is available) shall record the date and time.

[C] Pursuant to [A], the Service Provider shall provide data to the TOC at intervals of 15 minutes.

Note these requirements relate only to device alerts while S1SP Alerts are out of scope.

Requirements [A] and [B] above are not part of the OPR requirements.

### 4.2 Solution Context

This change to the CGI IE will provide timing information for Device Alerts from SMETS2 Devices, and SMETS1 Alerts associated with SMETS1 Devices. This will enable DCC to improve the logging and understanding of alert performance.

The scope of the solution will include DCC Alerts used to carry Device Alert information when it is not feasible for the Device to target a Device Alert at a User directly, such as Device Alerts from PPMIDs.

As described for CR1418, this CR provides additional timing points for the following alert types:

- Device Alerts from SMETS2 Devices, in two categories:
  - those delivered as Device Alerts to the Service User;
  - Device Alerts where the target is DSP (i.e. the Access Control Broker (ACB) User ID) and DSP generates DCC Alerts to deliver the information to Users, namely N39, N53 and N54<sup>3</sup>
- SMETS1 Alerts, which are based on alerts from SMETS1 Devices<sup>4</sup>

The following alert types are out of scope:

- DCC Alerts not used to deliver Device Alert information
- SMETS1 Service Provider (S1SP) Alerts

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<sup>3</sup> In some cases there may be more than one DCC Alert triggered by the same Device Alert targeted at the DSP.

<sup>4</sup> SMETS1 Alerts do not always correspond to alerts originated by devices, i.e. they can originate from within a S1SP.

### 4.3 CGI IE Solution Design

CGI IE will be modified to capture additional information to support the requirements, as follows.

The solution will record a timestamp at an additional timing point for those SMETS1 Alerts which are based on alerts from SMETS1 Devices. The additional timestamp will be included in the messages for SMETS1 Alerts passed to the DSP over the SMWAN interface, which will be modified accordingly to include this.

There are multiple device interactions involved in the retrieval of alerts from devices by the IE S1SP, so the additional timing point will be the time at which the final communication from a Device in relation to an Alert Response reaches the S1SP. This is the same time which is used when calculating performance measure PM1.5.

It is assumed that the additional timestamp passed to the DSP will be included in the feed from the DSP to the TOC.

The time at which the IE S1SP passes messages to the DSP is already captured locally by the system in the Security Module audit logs. CR1362 'S1SP/DCO Service Audit Trail Data for TOC' covers the change to feed this information to the TOC. The CR is currently On Hold. The costs are not included here but to meet this requirement CGI IE will have to deliver CR1362 or the same functionality in this Modification. This functionality and the place for delivering it will be assessed as part of the FIA.

Security Impact	Assumes that the change will not require a penetration test, changes to the Protective Monitoring solution or any additional encryption. A more detailed Security impact will be carried out as part of the Full Impact Assessment.
Safety Impact	A preliminary safety impact assessment indicated a systems safety impact. An update of the DSP Safety Case deliverables and safety impact assessment of the revised DSP design will also be required – this effort will be incurred in the FIA.
Infrastructure Impact	Will require some additional processing to extract information from alert messages and additional disk space to store the logs. DSP will need to analyse additional resource requirements as part of the FIA. No costs have been included in the indicative pricing for additional infrastructure.
Integration Impact	No Integration Testing will be required.

### 4.4 Other Service Provider Changes

Secure will provide S1SP's Service Audit Trail (SAT) data to the DCC TOC periodically with the following time-points:

- T1 When alert condition was triggered in device
- T2 When alert was sent by CH and received by SMSO
- T4 When alert condition was notified to IP5B
- T5 When alert was delivered by IP5B to DSP

One SP believes they cannot provide data for alerts received by CHF.

CSP North has indicated a significant impact on their systems including impacts to Message Motorway, Network Traffic and Spectrum requirement, the Business Support Systems (BSS)

including data and structure changes to Billing and Financials, performance measures and service reporting.

## 4.5 Timescales and Costs

As the changes will impact the DCC Total System, this Modification should be aligned to a scheduled SEC Release. A likely candidate will be identified at the Full Impact Assessment stage. The expected time to design, develop, and implement the DSP changes will be approximately 6 months.

SP Costs	Cost to Produce FIA	Required Time for FIA (Max)	ROM	Implementation Duration
CR 1438	£202,579	60 days	up to £1.66million	12 Months

## 4.6 Alternative Approach for CR1418 and CR1438

The DCC TOC proposed an alternative solution for CR1418 and CR1438, and although the DCC TOC cannot meet this requirement fully using existing data sources, it could use the following as a proxy measure;

- the time in the WAN (and device) of SRs that target a Comms Hub
- the time in the WAN (and device) of SRs that target GPF and ESME

By dividing the Round Trip Time by two, this would give an approximation of the time associated with the Alerts. These times could be broken down by CSP, Region, and S1SP.

This approach cannot measure S1SP WAN time. It can establish the time to cross the complete S1SP platform (e.g., for instance CGI IE and Vodafone). For both SMETS1 and SMETS2, no information on the handshake to Service User would be available.

There is a risk that incident data would possibly be unaligned to Performance Measure data. Measuring Comms Hub information is reliant on DCC securing a monthly CSV file from the CSPs.

## 4.7 Summary for CR1418 and CR1438

The TOC currently does not receive any data from CSPs indicating when an alert reaches the Comms Hub. The DCC cannot currently identify when an alert enters the Service User's gateway, only when the DSP tried to send it. These CRs will measure Alerts at all points in the Total System from Device generation through Comms Hub receipt and transmission, CSP networks and systems, to receipt at the DSP, sending from DSP system and handshake from Service User system. It will also identify any Alerts that fail at any point in this process. These are not required for OPR. Note that the TOC Option needs investigation.

	DSP Only Solution (1418)	Full Solution (1438)	TOC Option*
What we get	New logging in SAT files. Lifespan of alerts. Alerts timings from generation at meter to receipt in DSP, transmission from DSP system, handshake from Service User systems, CSP S&C Comms Hub received time and data	1418+Time received at the Comms Hub and time received at the CSP N/S1SP	Proxy measure, the time in the WAN (and device) of SRs that target CH and possibly GPF and ESME. Breakdown by CSP, Region, S1SP
Requirements not met	Time taken at points: receipt and transmission of Comms Hub, receipt and transmission in CSP N and S1SP systems. Will not identify any alerts lost in CSP N and S1SP systems.	None	Can't do S1SP WAN time, we can do time to cross the complete S1SP platform (e.g., for instance CGI IE and Vodafone). No handshake to Service User.
ROM Costs (#SPs) <b>FIA Prod</b>	£300,000-£450,000 (DSP) <b>£8,702</b>	up to £1.66m (CSP N+5 S1SPs) <b>£202,579</b>	£100,000

## 4.8 Working Group Review

For this and subsequent Change Requests, the Working Group asked why the proposed rate of supply of information from the DSP was set at every 15 minutes. The DCC advised this is the current rate of supply already provided by the DSP. The respondent advised that if reducing the supply frequency would reduce costs the DCC should do this. The DCC agreed to raise this question in the FIA.

The Working Group requested CR1438 should be progressed to a FIA.

## **5 CR1420, Incident Reporting to Support Revised PMR**

This Change Request is related to Requirement 5 described in section 2.5 of document [1], with a further breakdown of incidents and an accelerated response time from the Service Providers.

### **5.1 Business Requirements**

DCC require the following requirements to be assessed to support the revised Performance Measurement Reporting (PMR) and a PIA produced:

[A] All Incidents logged in Remedy shall be reported by Category, with statistics identifying number of Incidents per Category, the number that met the Target Initial Response Time and the number that met the Target Resolution Time, broken down by Resolver Group where the resolver is DCC, DSP, CSP, S1SP, DCO or other Service Providers.

[B] Pursuant to [A], the reporting shall be provided to support the revised PMR within 1, 2, 3, 5 Working Days (WD) of Month End (rather than current 10 Working Days).

Requirement [A] meets a requirement of the OPR.

### **5.2 Solution Description**

As the DCC is using data already in the TOC, the impact is mainly focussed on reducing the delivery timescales from 25 to 10 WD and data feed changes from the Service Providers. This requirement does not impact the DCC Total System, but rather Services Teams for each Service Provider, except for CSP South and Central as noted below. For this change, the costs presented are those associated with setting up and delivering the new requirements, rather than the Application Support (ongoing) costs. The latter costs will be established in any FIA.

The Service Providers today receive Performance Measure 025 (PM025) data from DCC, and the Service Providers then provide the following four deliverables as initial submission as part of performance reporting package by WD 10 following measurement period end:

- ESI-101 file
- ESI-102 file
- Service Level Management Report (SLMR)
- Performance Monitoring Report

All the Service Providers noted the intention to change the format and content of the ESI-101 and ESI-102 files, which would entail extra work for all. The details of this work will be established in the Full Impact Assessment.

#### **5.2.1 DSP and CGI IE Service Impact**

For Requirement A: The DSP and CGI IE services will meet this requirement subject to the following dependencies:

- DCC will make the PM025 DCC Service Management System (DSMS) Report available to DSP daily.
- PM025 will contain the Incident Severity for each Incident.

For Requirement B: The DSP and CGI IE services will meet this requirement, producing the Monthly Performance Report by WD 2 instead of WD 10, by following an updated process:

1. DSP will review and provide updates for PM025 on a weekly or ad-hoc basis during each month
2. DSP will provide draft performance measures for PM4.1, PM4.3 and PM4.4 split by Incident Category by WD 2 after month end
3. DCC will respond to the draft performance measures by WD 4
4. DSP and CGI IE will issue the final performance measures by WD 5

The impact on the DSP contract and associated service credits will be reviewed if this change proceeds to Full Impact Assessment.

Both the DSP and CGI IE have indicated a risk in 2 – 5 day cases where they might not be able to meet required turnarounds at the end of the month. DCC have proposed that reporting is included in a monthly return, but commentary and responses from the Service Providers will be included in the following month's report.

### 5.2.2 CSP South and Central

CSP South and Central have indicated that using their existing systems they can only deliver the reports based on current agreed timelines for PM7.4, which is 10 working days from month end. These costs include estimated changes to Performance Measures. However, CSP South and Central believe that a complete overhaul of their performance measures relating to this requirement is required. The anticipated changes include:

- Decommissioning the existing PM7.4 performance measure and associated report for: 'Percentage Incident Resolution of Severity 3, Severity 4 and Severity 5 Incidents within SLA'. Currently, the PM7.4 report is geared towards a combined measure of incident categories 3, 4 and 5. CSP South and Central have indicated that significant effort is required to split these off into 3 individual reports for each category.
- Establish new and separate PM7.x performance measures for: 'Percentage Incident Resolution of **Severity 3** Incidents within SLA', 'Percentage Incident Resolution of **Severity 4** Incidents within SLA' and 'Percentage Incident Resolution of **Severity 5** Incidents within SLA'
- The data feeds from the source platforms into the reporting platform need updating as well and will require the associated testing activities
- Additional batch jobs need to be setup and executed to accommodate the additional reports

As per the PM7.4 report, incidents will be sourced from the CSP South and Central Remedy system rather than the DCC-L Remedy system.

It should be noted that CSP South and Central have noted a dependency on a separate DCC CR1405 before proceeding with this change.

Risks raised include:

- Significant differences between data provided at the stage of 2WD after month end compared to 5 WD.

- Category 3 incidents in a combined view might not meet SLAs whilst under a combined view they appear correct, because some incidents are incorrectly categorised. Further investigation will be provided in the FIA.

### 5.2.3 Other Service Providers

Other Service Providers that were less impacted by these changes identified that some setup would be required, but there would also be a permanent addition to Application Support levels required. The Application Support costs have not been captured at this stage but will be fully assessed in the FIA.

Several SPs noted potential contractual changes required to implement this change. These costs have not been included in the costs below.

Critical Software is dependent on receiving the DSMS data from DCC, and clarification of any questions that may arise during the analysis of the referenced data from the Application Network, and Security Operations (ANSO) and DCC. Critical Software do not have direct access to the DSMS and must obtain this data from these intermediaries for further analysis. They believe they cannot meet these requirements due to data supply concerns, but plan to supply the required reporting within 5 WD.

## 5.3 Timescales and Costs

As the changes do not impact the DCC Total System, this Modification can be scheduled outside the SEC Release dates. A likely candidate will be identified at the Full Impact Assessment stage.

The expected time to design, develop, and implement the DSP changes will be approximately 1 month.

SP Costs	Cost to Produce FIA	Required Time for FIA (Max)	ROM	Implementation Duration
CR 1420	£131,956	30 days	£1,080,000- £1,086,000	3 Months

It should be noted that all Service Providers believed this change should be carried out alongside CR1430, stating both as dependencies. In some cases, it was noted that implementing both CR1420 and CR1430 together will result in synergies and potential economies of scale, thus reducing the costs, and in some cases it was noted that this forms a dependency between the two Change Requests.

## 5.4 Alternative Solution Approach

After investigation DCC Remedy systems already hold this data. The requirement to provide Performance Reporting to SECAS is an obligation on DCC as defined in the SEC (Section H13); DCC can therefore provide their own reporting to SECAS regarding this Performance Indicator (CPM5) to timescales requested under this Modification.

Note that Incidents with a Severity of 3, 4 or 5 do not have any Service Debits or Credits attached to them and appear in the contract as Key Performance Indicators. This will not require contractual renegotiation between the DCC and Service Providers. Any discussion with Service Providers regarding their meeting the KPIs as defined within the existing

contracts should continue via the current Service Delivery Management process independently of this Modification.

## 5.5 Summary of CR1420

	CR1420	TOC Option
What we get	Incident information provided and verified by Service Providers. Impacts on Service Teams and Contractual change not included	DCC can provide this from DCC Remedy systems Will meet timelines These are KPIs not Service Levels. Will not need contractual negotiation
Requirements not met	Several instances where SPs cannot provide the data in the required time.	No reconciliation with, or validation of, SP data
ROM Costs (#SPs) FIA Prod	~£1.08m (8) £132,000	£100,000

At the Working Group meeting on the 22<sup>nd</sup> January these options were reviewed. It was agreed that the Service Provider change should be replaced with the TOC suggested option. A Full Impact Assessment will be carried out on the TOC option.



## 6 CR1430, PMR Reduced Timescales

This Change Request is related to Requirement 4 described in section 2.4 of document [1], with a further breakdown of incidents and an accelerated response time from the Service Providers. Requirement 4 is as follows:

The DCC shall reduce the time it takes to create the PMR to within 10 Working Days from the end of the measurement reporting period

Note that the rest of the SECMP0122 documentation refers to the latest set of reporting produced by the DCC TOC as a result of direction from the Working Group. However this requirement and the associated Change Requests refer to the whole PMR, and is specifically targeted at the case where both the TOC reports and PMR can be generated and published at the same time for review by the SEC Operations Group

### 6.1 Business Requirements

DCC require the following requirement is to be assessed to support the revised PMR timelines and a PIA produced:

[A] All existing reports provided to support the DCC Performance Measures Report which include ESI-101, ESI-102 and the Service Provider Monthly Performance Measurements Report are to be provided to DCC on Working Day 2 following Month End. For clarity, this is to be the initial submission.

[B] If a final submission is applicable, the Service Provider shall provide DCC with an uplifted set of reports which include ESI-101, ESI-102 and the Service Provider Monthly Performance Measurements Report by Working Day 5 following Month End.

[C] Relevant to ESI-101, ESI-102 and the Service Provider Monthly Performance Measurements Report, on request from the DCC the Service Provider shall provide DCC with supporting commentary for any events that impact meeting the SLAs contained within these reports as events occur and are investigated throughout the month on request from the DCC within 2 Working Days.

[D] Relevant to the reports identified in this CR, the Service Provider shall provide commentary as events occur and are investigated throughout the month on request from the DCC within 2 Working Days.

CR1430 is not required for OPR.

### 6.2 Existing PMR Process

The following figure provides a summary of the current PMR process and the interactions between the SPs and indicates the different teams within the DCC which contribute to producing the PMR.

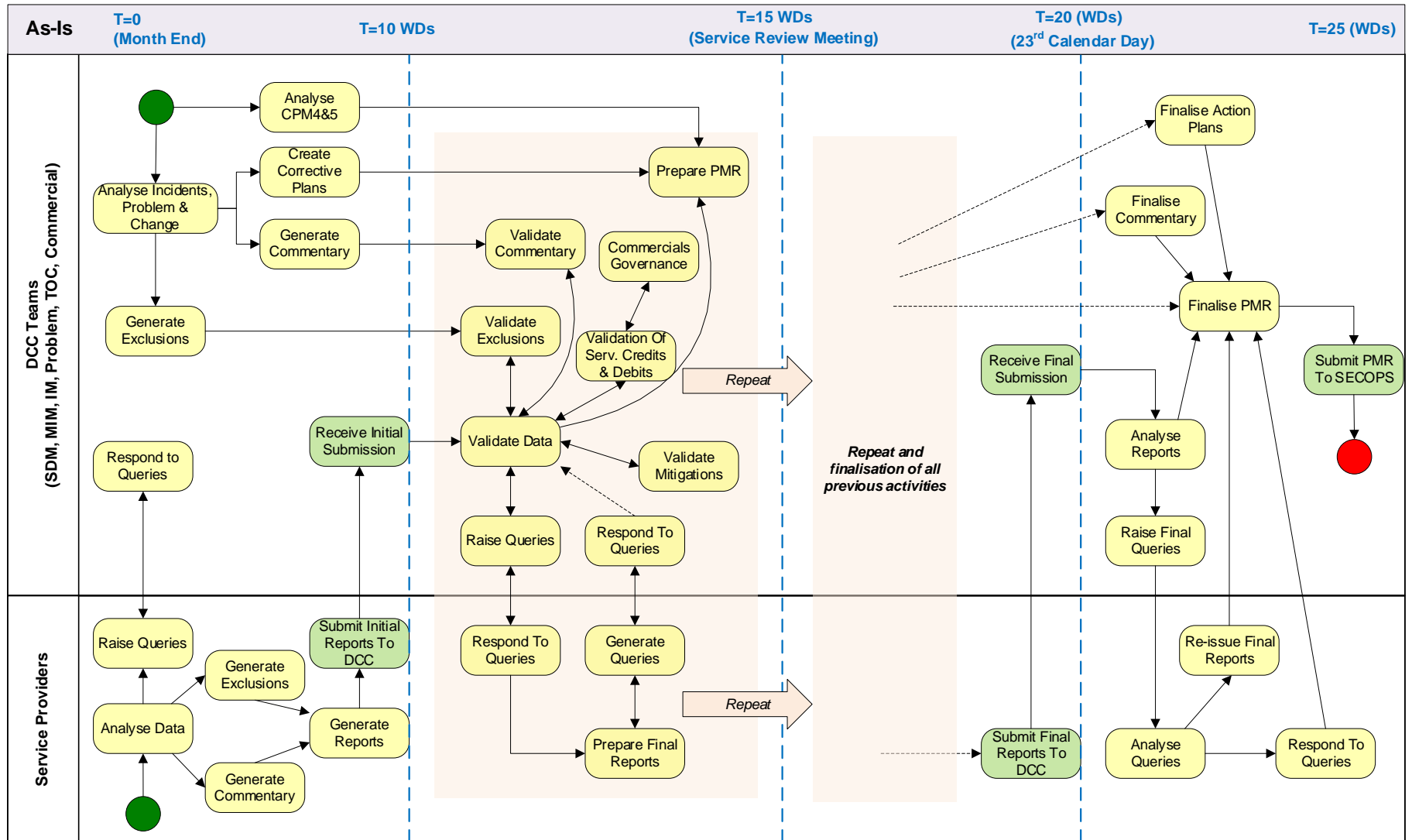


Figure 4: Existing PMR Process

**Notes:**

1. Both DCC and the SPs are operating throughout the processes.
2. About 80% of the initial submissions from the SPs are delivered on WD 10, others subsequently
3. Query and clarification activities are continuous between T=10 WD and T=20 WD
4. It has never been possible to submit the PMR prior to late evening on T=25 WD
5. As-Is contracts, SLAs and timelines were created when there were five SPs. These numbers have doubled, and by the end of May 2021 there will be 15
6. Overall the PMR has trebled in size between July 2017 and March 2021
7. 11 other Regulatory reports that are produced by WD 10 each month – whilst not part of the PMR, it is the same DCC team that produce these reports

Based on an analysis of the existing PMR process (and the above points), DCC believes the process is operating at the limits of capacity and any significant change, such as a reduction in the end-to-end timeline for the production of the PMR, may have a negative impact. Service Providers have responded to CR1430 with analysis of the impacts and required changes which are noted in the following sections. Further analysis will be provided in the Full Impact Assessment.

### **6.3 Solution Description**

Requirement 4 for SECMP0122 does not directly impact the DCC Total System, but rather Services Teams for each Service Provider. As part of this PIA the costs presented are those associated with setting up and delivering the new requirements, rather than the Application Support (ongoing) costs. The latter costs will be established in any FIA.

At the end of each measurement period, the Service Providers today receive PM025 data from DCC, and the following four deliverables as initial submission as part of performance reporting package by WD 10 following measurement period end:

- ESI-101 file
- ESI-102 file
- Service Level Management Report (SLMR)
- Performance Monitoring Report

All the Service Providers noted the intention to change the format and content of the ESI-101 and ESI-102 files, which would entail extra work. The details of this work will be established in the FIA.

### 6.3.1 Exclusions and Exceptions

In specific cases, the Service Providers have indicated they might not be able to support specific reporting by set numbers of days as follows.

Service Provider	Measure	WD	Notes
Capgemini	Reporting the TRT	2	May not be possible due to amount of time taken to prepare the report
CGI IE	Incident Response, Notification and Resolution	2 - 5	More frequent review makes Incidents raised earlier in the month easier to agree on but, as timelines are tight at the start of the month, it makes it harder to agree Incidents that are raised very late in the month. Hence there might be a small number of Incidents that are not agreed by WD 2 and might not be agreed until WD 5.
CGI IE	Problem Management	2 - 5	More frequent review makes Incidents raised earlier in the month easier to agree on but, as timelines are tight at the start of the month, it makes it harder to agree Incidents that are raised very late in the month. Hence there might be a small number of Incidents that are not agreed by WD 2 and might not be agreed until WD 5.
Critical			Will meet this change by changing their reporting methodologies. No change or charge expected.
CSP S&C	Incident Response, Notification and Resolution	2 - 5	There is a risk raised by the CSP South and Central that there may be significant differences between data provided at the stage of two working days after month end compared to five working days.
CSP S&C	Requirements C and D	2+	Responses and commentary relating to the 2 WD taken to quality check and validate figures for requirements C and D would be best endeavours as CSP South and Central need to work with their vendors/contractors to obtain this information, and cannot guarantee a timely turnaround.
DSP	Incident Response, Notification and Resolution	2 - 5	More frequent review makes Incidents raised earlier in the month easier to agree on but, as timelines are tight at the start of the month, it makes it harder to agree Incidents that are raised very late in the month. Hence there might be a small number of Incidents that are not agreed by WD 2 and might not be agreed until WD 5.
Secure	Requirement A	7	With existing system Secure will not be able to reduce this timeline from 7WD following measurement period end because the TRTs of some of the transactions takes up to 48 hours, and is coupled with further reporting server processing and authored report generation. It will take a "major change" to the core S1SP and reporting system and corresponding

			<p>performance testing to reduce the time further which will require significant cost, an in-depth review and technical assessment.</p> <p>Note: CSP reporting which may not be available to Secure earlier, is essential for generation of this performance report package</p>
Secure	Requirement B		<p>Following cannot be reduced below 10 WD after period end:</p> <ul style="list-style-type: none"> <li>a) SLMR reporting</li> <li>b) Operational effective report: Capacity and availability report</li> <li>c) Service failure report</li> <li>d) Quarterly summary report</li> <li>e) Annual summary report</li> </ul>
Secure	Requirement C		Secure believe they could respond to all cases in 3WD, but can attempt to close by 2WD.
Vodafone	All		Can meet Requirements A and B with FTE addition, but cannot meet Requirements C and D

Table 1: Service Provider Exclusions

For 2 – 5 day cases where the Service Providers have indicated they might not be able to meet required turnarounds at the end of the month, DCC have proposed that reporting is included in a monthly return, but commentary and responses from the Service Providers will be included in the following month's report.

Other dependencies and potential issues have been reported, and would be investigated in a FIA.

### 6.3.2 DSP and CGI IE Service Impact

For Requirement A, the DSP and CGI IE Service teams will meet this requirement, producing the Performance Measures Report (initial submission) by WD 2 instead of WD 10, by following an updated process.

The ESI-101 and ESI-102 reports will also be issued by DSP on WD 2.

The expected time to design, develop, and implement the DSP and CGI IE changes will be approximately 3 months.

### 6.3.3 Other Service Providers

CSP South and Central believed that a complete overhaul of their performance measure system relating to this requirement is required. The initial PIA estimate provided was being challenged by DCC; the costs for both the FIA preparation and ROM were not acceptable. The latest submission has acceptable costs, but limited reductions in timescales.

Discussions with CSP North indicated a significant cost with a concern that they might not be able to meet the required time to time taken to quality check and validate figures in many cases.

Several SPs noted potential contractual changes required to implement this change. These costs have not been included in the costs below.

Other Service Providers that were less impacted by these changes identified that some setup would be required, but there would also be a permanent addition to Application Support levels required. The Application Support costs have not been captured at this stage.

Trilliant's Service Level Reporting Service Design involves interaction and a review with DXC and the DCC. The BAU process timeline is 10 WD and determining detailed steps will require a review with DXC. Changes to the ESI reporting will be estimated as part of the FIA.

Secure have indicated significant exclusions to the required reporting as shown above.

## 6.4 Initial Response Timescales and Costs

As the changes do not impact the DCC Total System, this change can be scheduled outside the SEC Release dates. A likely candidate will be identified at the Full Impact Assessment stage.

SP Costs	Cost to Produce FIA	Required Time for FIA (Max)	ROM	Implementation Duration
CR 1430	£227,667	40 days	£1.14- £1.16million	6 Months

The original CSP South and Central response aimed to meet all the requirements but at a significant effort and cost of between £15 and £20million. A second quote included a reduced estimate for CSP South and Central in the above costs, but with this quote will not be able to return all reports within the required timescales.

It should be noted that several Service Providers believed this change should be carried out alongside CR1420, stating both as dependencies. In some cases it was noted that implementing both CR1420 and CR1430 together will result in synergies and potential economies of scale, thus reducing the costs. In some cases it was noted that this forms a dependency between the two Change Requests. The costs have been left as standalone at this stage. Given that the Working Group have directed that DCC should evaluate the "TOC Option" for CR1420, the FIA for CR1430 may be somewhat different when fully evaluated in the FIA.

In addition, this change would have an impact on both contracts and Application Support costs for the Service Providers. These have not been provided in the costs above but will be fully assessed as part of the FIA.

## 6.5 Summary of CR1430 First PIA Review

	CR1430
What we get	Incident information provided and verified by Service Providers. Impacts on Service Teams and Contractual change not included.

Which requirement is not met	Several instances where SPs cannot provide the data in the required time. Half the SPs cannot meet Reqs A and B, while most SPs cannot meet Reqs C and D. Difficult to compress timescales from 25WD to 10WD both in terms of DCC and Service Provider elapsed times.
ROM Costs (#SPs) FIA Prod	£1.14 - £1.16million (9) £227,667

The initial SP PIA responses to CR1430 covered in the sections above raised several questions from the Working Group, and the DCC was asked in the SECMP0122B Working Group Meeting on 15th February 2021 to follow up as stated:

*The DCC will investigate the fastest SLA each of its Service Providers could produce the required information and therefore confirm the fastest SLA that all could meet together. The DCC will provide a breakdown of this information for different reporting timescale options, and state what information would still be outstanding at each potential deadline.*

## 6.6 Follow-up Clarifications for CR1430

Based on the feedback from SECMP0122A an option to add one FTE at each Service Provider and a team at the DCC to enable near real-time compilation of reports and the investigation of any incidents during the month was not followed up as this would have significant impacts on Application Support costs.

The Figure following summarises the clarification responses from the SPs and the potential impact on the end-to-end timeline for the production of the PMR.

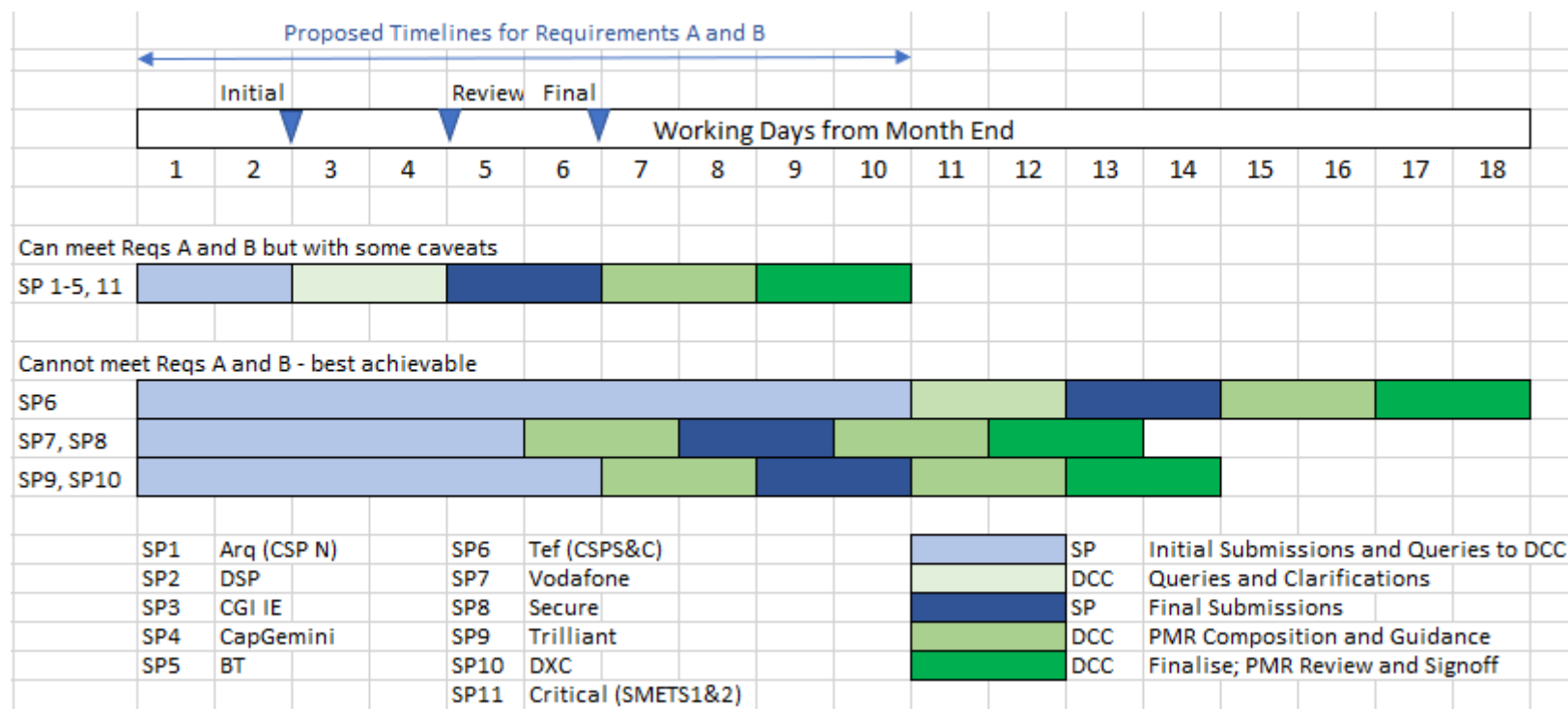


Figure 5: Response Timelines for Each Service Provider including DCC Activities

These timelines refer to the compliance with Requirements A and B only. Almost all the Service Providers indicated that they could not meet Requirements C and D.

### 6.6.1 Providing the Most Important Reports Earlier

The DCC also investigated with the Service Providers if there was an option to provide a reduced set of reports for the PMR in the timescales required by the Working Group. Although there was an early directive from the Working Group that there should only be a single date for the delivery of all reports, this had been suggested as an option.

Each of the SPs provide a different number of reports and have different percentages of these that contribute to the PMR. Analysis of the report numbers, potential reductions in timescale and costs have been collated and are summarised in the following Figure.



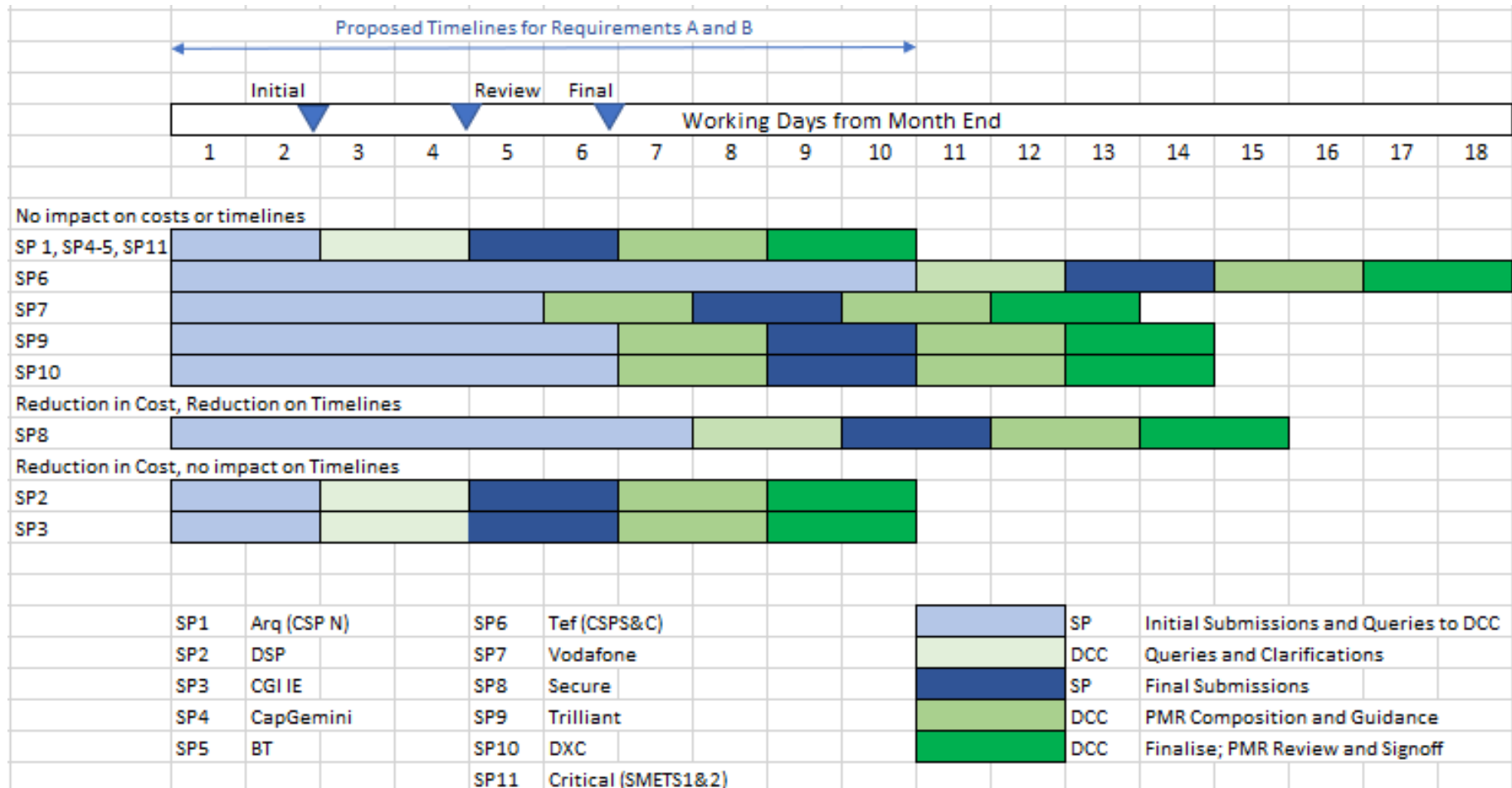


Figure 6: Reduction of Report Numbers

The majority of the SPs indicated that providing selected reports would not have any impact on their PIA submissions with no reduction in costs or timelines. Most importantly, the SP with the longest timelines could not reduce those timelines. The net position arising from the responses to Question 2 is that reducing the reporting burden on the SPs would only improve the reporting times for 3 SPs. The overall ROM would decrease by 4% but there would be no change in terms of those SPs who can, or cannot, meet the new CR1430 timelines (50%).

## 6.7 CR1430 Options and Conclusion

Looking at the change overall, DCC believe there are five options possible at this stage:

1. Reduce the whole PMR reporting process to publish after 18WD at the cost of £1.14-£1.16m. Note that one SP is a blocker to reducing this time further down to 14WD.
2. Reduce the PMR reporting to produce the PMR reports earlier in the cycle. This would improve the timelines for a few of the Service Providers with a 4% reduction in the ROM costs. This would involve a further element of DCC administration and management for those reports that are not complete at each stage which is not included in the estimates.
3. The PMR could be broken down into sections based on the Service Provider returns, and issued on WD10, WD14, with the complete PMR report on WD18. This would involve a further element of DCC administration and management for those reports that are not complete at each stage.
4. As previously identified to the Working Group, DCC TOC could produce the SECMP0122 reports in 10WD separate from the PMR.
5. The as-is option would leave the PMR reporting at 25 Working Days.

## **7 CR1421, SRV 11.1 (Update Firmware)**

CRs 1421, 1423, and 1440 are Smart Metering System dependent, and will have Smart Metering System changes associated with them. The solution for CR1421 (which is included in SECMP0007) forms the basis for CR1423 and CR1440.

As SECMP0007 has now been approved, with expected DSP implementation in November 2021, and CSP implementation in later releases, CR1421 should be considered redundant. However, TOC development and reporting requirements will still need to be carried out to enable firmware update reporting (after SECMP0007 Go Live) and is covered by the DCC estimates stated following.

## 8 CR1423, Comms Hub Firmware Image Data

This Change Request is related to Requirement 2.1.1 and 2.2.7 of document [1], with reporting on the attempts and success of the download of Comms Hub Firmware Images.

### 8.1 Business Requirements

DCC require the following requirement is to be assessed to support the revised PMR timelines and a PIA produced:

[A] Messages to upgrade Comms Hub Firmware Images are not visible to DCC as they are sent directly on CSP and S1SP networks. DCC need to report on attempts and success of the download of Comms Hub Firmware Images. The Service Provider shall provide data to the Technical Operations Centre (TOC) daily identifying throughput.

This requirement is part of the OPR requirements.

### 8.2 DSP Solution

The requirement for DSP is to build a mechanism using which CSPs can send the status of a Comms Hub firmware update carried out by the CSP. The mechanism to track progress of Comms Hub firmware will make use of (and is dependent upon) the tracking solution proposed under SECMP0007.

The new SMWAN interface built in SECMP0007 can be used by CSPs for reporting the status of the Comms Hubs firmware distribution as well, thus avoiding the need for an interface specifically for this purpose. This interface will support notification of a single Device or a bulk notification of up to 50,000 Devices. The specifics of the interface behaviour will be finalised during the design phase of CR1423.

The statuses applicable for Comms Hubs firmware distribution are a sub-set of the statuses identified under SECMP0007, and may be subject to change at the FIA stage.

DSP components impacted by this change are as follows.

Tech Specs; DUIS, DUGIDS	No changes required under this CR as the DUIS and DUGIDS changes will be handled by SECMP0007.
Request Management	Changes to support firmware tracking of SMETS2+ Comms Hubs.
Data Management	No changes required as they will be handled by SECMP0007.
Transform	No impact as this does not introduce any new GBCS Use Cases.
CSP SMWAN Gateway	The interface introduced in SECMP0007 can be used for reporting the firmware distribution status of Comms Hubs as well. Minor changes are required to the SMWAN Gateway to extend the available device types and status values.
SSI/SSMI	No changes
Security	No impact anticipated, but a more detailed assessment will be carried out in the FIA
Infrastructure	No impact expected.
Service Impact	None expected.

In terms of integration testing, some impact on SIT and UIT with the CSPs is expected, and will be assessed in the FIA.

The DSP believes that the changes associated would take 6 months to implement.

### **8.3 CSP Change**

CSP North noted the following impacts:

- Message Motorway, Network Traffic and Spectrum requirement
- Comms Hub Management; Firmware Updates and Diagnostics requirements
- Business Support Systems; Data and Structure changes to Billing and Financials, performance measures and service reporting
- Service Processes and Service Operations

Note that CSP South and Central provided their PIA response on the basis that the reporting is provided on a monthly basis. This does not meet the requirement of a daily feed to the TOC, but will be addressed as part of the FIA.

Both CSPs expected contract schedules to be amended for at least the following:

- Schedule 2.2 Performance Measures
- Schedule 3 DCC Responsibilities
- Schedule 7.1 Charges and Payments
- Schedule 6.1 Milestones

This is subject to a more detailed review during the FIA stage.

### **8.4 Relationship with SECMP0024**

In terms of the relationship between SECMP0024 and CR1423, it should be noted that the requirement in SECMP0024 is covered as one of the requirements in CR1423. The DSP could deliver the SECMP0024 requirement as a standalone DSP change today, and that has been covered in the latest PIA for that Modification. But it should be noted that CR1423 also includes the same change for creation of a DCC Alert for Comms Hub Firmware Activation.

From a CSP perspective, CR1423 also includes the CSP changes to notify the DSP of the distribution of new firmware to the Comms Hub, so there is CSP change to be made in CR1423. Note: activation is already covered by the Activation command. As the CSPs will already have built the base Firmware Tracking capability under SECMP0007 then adding Comms Hubs to the Notification API should be relatively straightforward.

### **8.5 Alternative Solution Option for CR1423 and 1440**

The DCC have reviewed these requirements to see if there is an alternative approach that could be used. The analysis came up with a solution that would not cover ESME or GSME updates, and hence would not meet the OPR requirements.

If DCC could secure data from the CSP Comms Hub updates, it would be possible to provide code in the TOC that would match the firmware updates (SR11.1s) to the firmware activations (SR11.3s), and provide a time to activate and a success rate of activations from updates. The results could be split by CSP, Comms Hub manufacturer, the firmware version before the update, and the resulting firmware version.

As requested by the Working Group, DCC requested a PIA for the costs of a monthly set of data that identifies:

- CH GUID (DCC format)
- Date of first download for the month
- CSPIId

These costs and FIA estimates were as follows:

<b>CSP Costs</b>	<b>Cost to Produce FIA</b>	<b>Required Time for FIA (Max)</b>	<b>ROM</b>	<b>Implementation Duration</b>
TOC Option Data Retrieval	£18,132	30 days	£80,000	1 Month

The CSPs indicated that contract changes would be required to Schedule 7.1. This would be verified and costed in a FIA.

## 8.6 Overall Timescales and Costs

As this change does impact the DCC Total System, this change should be scheduled alongside the SEC Release dates. A likely candidate will be identified at the Full Impact Assessment stage.

<b>SP Costs</b>	<b>Cost to Produce FIA</b>	<b>Required Time for FIA (Max)</b>	<b>ROM</b>	<b>Implementation Duration</b>
CR 1423	£199,059	50 days	£1.45- £1.75million	6 – 12 Months to PIT Complete

CSP North have indicated that their charges for the FIA could be reduced if this work is carried out in conjunction with SECMP0007.

## 8.7 Status for CR1423

	SECMP0007	CR1423	TOC Option
What we get	Part 1: Firmware Tracking for ESME & GSME Part 2: PPMID/HCALCS firmware distribution and Tracking, available after Comms Hub firmware updates. TOC can develop reports on firmware distribution for PPMID and HCALCS. All device types get the extra alert from the Comms Hub for HAN transfer success/failure. Enables reporting on firmware distribution for CHF/GPF, PPMID, HCALCS, ESME, GSME.	Covers CSP based updates of Comms Hub	<b>NOT ESME/GSME/PPMID. Does not meet OPR.</b> DCC would obtain data from CSPs and SMETS1 CH updates, match the firmware updates (11.1s) to the firmware activations (11.3s), and provide a time to activate and a success rate of activations from updates. Can split this by CSP, CH Manufacturer, firmware version before and after update from.
Requirements not met	Extra Alert for HAN transfer success/failure isn't tracked until Comms Hubs arrive in June 2022+.		Need to secure data Data from SMETS1 SPs may be more difficult to secure and use
ROM Costs (#SPs) <b>FIA</b> <b>Prod</b>		£1.45-£1.75m (3) <b>£199,059</b>	£100,000 + £80,000 to secure data

## 9 CR1440, Update Firmware SMETS1 Process

This Change Request is related to Requirement 2.1.1 and 2.2.6 of document [1].

In SMETS1, SRV 11.1 sends the firmware image to the S1SP rather than the device. The image is sent to the device and activated through SRV 11.3. DCC will report on the success of SRV 11.1 to the S1SP as requested and the sending of the image and activation will be through reporting of SRV 11. 3 per the reporting request for this.

This change impacts the DSP and SMETS1 Service Providers.

### 9.1 Business Requirements

DCC requests that the following requirements be assessed and a PIA produced:

[A] (SMETS1) - DCC require data to be able to link SRV 11.1 to targeted Devices (including Comms Hubs) within the SMETS1 estate.

[B] The SMETS1 Service Provider shall report the success or failure and round trip time of the upload of Firmware Image to individual Devices (including Comms Hubs) .

[C] The SMETS1 Service Provider shall report the success or failure and round trip time of the activation of a Firmware Image to individual Devices (including Comms Hubs).

[D] Pursuant to Requirements A, B and C, the Service Providers shall provide data to the TOC on a daily basis identifying throughput.

Requirements [A], [B], and [C] are part of the OPR requirements.

### 9.2 Overall Solution

The SMETS1 process for updating firmware is different from SMETS2 which be reflected in the reporting.

1. The SR11.1 (Update Firmware) request is sent from the Supplier via the DSP to the S1SP; it contains a list of target Device IDs and the update
  - There is a 24 hour TRT
  - If valid the S1SP sends a firmware validation from the back to the supplier
  - Target ID and the firmware update are stored by the S1SP for 6 months
2. On receipt of the firmware validation the Supplier can send an 11.3 (Activate Firmware) to download the firmware to the target Device ID
  - Some devices activate the update when they get the 11.3, some need a second 11.3
  - If the supplier hasn't sent a matching 11.1 but sends a 11.3, the SR fails with a response showing fail

The DSP will build a firmware tracking mechanism that records and reports the firmware distribution status of all SMETS1 Devices (ESME, GSME, PPMID and Comms Hubs). This tracking shall be in line with the SMETS2+ firmware distribution tracking mechanism proposed under SECMP0007 and CR1423.



For the S1SPs, the proposed solution is to align very closely to the SECMP0007 solution with differences shown in **red** following:

- DSP tracking and notification to Service Users (new DCC Alerts at various stages of distribution: CSP -> Comms Hub -> ESME/GSME/**PPMID**)
- New **S1SP to DSP API or S1SP Alert for S1SPs** to notify success/failure of distribution to the Comms Hub
- New **S1SP to DSP API or S1SP Alerts from the S1SP** to notify success/failure of distribution over the HAN to the end device (**if relevant and available**)
- Existing Activation Responses/Alerts complete the tracking process
- All of the above to be logged by DSP and sent to TOC on a regular basis as part of the Service Audit Trail.

Note while the DSP changes are incremental on top of SECMP0007, for the S1SPs this is a completely new, standalone change.

### 9.2.1 DSP and CGI IE Solution

This requires S1SPs to send updates to DSP at different steps in their processing. The notifications from the S1SPs will be sent using S1SP Alerts. Unlike CR1423 above, these statuses will need to be discussed with the S1SPs as part of their FIA.

Where the reporting is dependent on device alerts, the reporting mechanism will only be available where those devices provide those alerts, i.e. they have the necessary functionality, are configured accordingly and communicating successfully. The SMETS1 IOC/MDS PPMID devices do not support the capability of returning an acknowledgement upon receipt of a firmware image during the distribution/activation of a new image. As a result, for PPMIDs the proposed reporting mechanism will only report the distribution status to the Comms Hub.

The completion of SR11.3 will always be indicated by an asynchronous service response containing the status; this is a change to the current behaviour where an S1SP alert may be used to indicate completion. This will provide clarity to upstream systems and user systems, avoiding complexity that could have been introduced by using various S1SP alerts to indicate completion.

To support the CR1440 changes, a number of existing S1SP specific responses currently issued as S1SP alerts will need to be changed. S1SP alerts currently sent upon processing of an 11.1 will be removed entirely and replaced with the existing failure Firmware Verification alert. S1SP Alerts that currently exist for 11.3 responses will be converted to standard service responses.

The impact of this change in terms of DSP and CGI IE components and Services is limited to Request Management, as the changes implemented in SECMP0007 will cover a large part of the required work.

### 9.2.2 Other Service Providers

The Secure S1SP design for ESME, GSME, CH and PPMID firmware upgrades:

- 1) User provides SRV 11.1 with list of devices and target firmware version to firmware upgrade.
- 2) At SRV 11.1, Secure S1SP authenticates the firmware hash, but does not trigger any firmware image transfer to the device target.

- 3) User provides subsequent SRV 11.3, which triggers firmware image transfer to end device and activation of firmware on the device.

Note that Secure will transfer the S1SP's Service Audit Trail (SAT) file to the TOC periodically in a defined secure File Transfer Protocol (sFTP) folder. The frequency of this will be agreed in the FIA.

The round-trip time of SRV 11.3 can be calculated by DSP as (T14-T1) in the SAT produced by Secure at the end of measurement period.

Trilliant will provide data to DXC to support reporting including:

- Start and end times of the firmware image loading
- Status of the firmware image loading (success or failure)
- Status of the firmware image activation (success or failure)
- End time of the firmware image activation

Note: The firmware activation begins directly when the firmware image loading is finished. Therefore the EndDateTime of the firmware image loading will be used to provide a StartDateTime of the firmware activation. DXC will manage the logs, extract the data and send them to the DCC TOC. The DXC Service Provider is part of the SMETS1 FOC and provided a ROM only.

Integration between the S1SPs and the DSP will be required, hence SIT and UIT will be required as part of a SEC Release to be determined.

### 9.3 Timescales and Costs

As this change impacts the DCC Total System, this change should be scheduled based on the SEC Release dates. A likely candidate will be identified at the FIA stage.

The expected time to design, develop, and implement the DSP changes will be approximately 3 months, but the S1SP durations are expected to be longer.

SP Costs	Cost to Produce FIA	Required Time for FIA (Max)	ROM	Implementation Duration
CR 1440	£70,000	50 days	£1.45- £1.85million	6 – 12 Months to PIT Complete

### 9.4 Alternative Solution Option for CR1423 and 1440

The DCC have reviewed these requirements to see if there is an alternative approach that could be used. The analysis came up with a solution that would not cover ESME or GSME updates, and hence would not meet the OPR requirements.

If DCC could secure data from SMETS1 Comms Hub updates, it would be possible to provide code in the TOC that would match the firmware updates (SR11.1s) to the firmware activations (SR11.3s), and provide a time to activate and a success rate of activations from updates. The results could be split by Comms Hub manufacturer, the firmware version before the update, and the resulting firmware version.

There are likely to be costs associated with securing the additional data for this solution from both sets of Service Providers.

## 9.5 Summary of CR1440

	CR1440	TOC Option
What we get	SMETS1	<b>NOT ESME/GSME/PPMID. Does not meet OPR.</b> DCC would obtain data from SMETS1 CSPs and CH updates, match the firmware updates (SR11.1) to the firmware activations (SR11.3), and provide a time to activate and a success rate of activations from updates. Can split this by CSP, CH Manufacturer, firmware version before and after update from.
Requirements not met		Need to secure data Data from SMETS1 SPs may be more difficult to secure and use
ROM Costs (#SPs) <b>FIA Prod</b>	£1.45-1.85m (5) <b>£70,000</b>	£100,000 + any costs to secure data

## 10 CR1429, Additional CSP Reporting to validate 90 Day No SMWAN Incidents

This Change Request is related to Requirement 2.2.2 of document [1] and impacts both the CSPs. The CSPs are required to provide data relating to 90 Day Install No SMWAN Incidents that they have received and closed.

### 10.1 Requirements

As a result of the changes being made to support SECMP0122, and specifically 2.2.2 Install and Commission: "Measure daily total volume of Install and Commission versus Install and Leave)", DCC are required to measure the daily total volume of Install and Commission versus Install and Leave. This shall include a category for any Comms Hubs awaiting a decision that are still within the 90 Day investigation period for Install and Leave. DCC can report on Communications Hub Status Update – No WAN SRV 8.14.2's seen in the system and can then compare this to Remedy Data to link to Incidents raised by DSP as a result of 8.14.2's. DCC's process for this will rely on matching data from 2 different data sources so this can be used to validate DCC reporting.

[A] The Service Provider shall provide data relating to 90 Day Install No SMWAN Incidents that they have received (including but not limited to Incident ID, Category, submit date, GUID, MPxN and Diagnostics Results, Exception/Exclusion Information).

[B] The Service Provider shall provide data relating to 90 Day Install No SMWAN Incidents that have been closed (including but not limited to Incident ID, Category, submit date, GUID, MPxN and Diagnostics Results, Exception/Exclusion Information).

[C] The Service Providers shall provide this data to the TOC on a daily basis.

### 10.2 CSP Solutions

CSP South and Central believe the requirement can be met, but suggested weekly reporting would be more cost-effective than each Working Day. They also suggested that extracts will be based on the incident status being set to 'resolved' rather than 'closed', because there is a difference in DCC and CSP South and Central business rules. However there is alignment on when an incident is set to resolved.

CSP North have identified changes on Data and Structure changes to Ordering and Logistics, Billing and Financials, performance measures and service reporting.

For both CSPs, integration testing will be required.

#### 10.1 Timescales and Costs

This change does not impact the DCC Total System. A likely candidate date will be identified at the Full Impact Assessment stage.

SP Costs	Cost to Produce FIA	Required Time for FIA (Max)	ROM	Implementation Duration
CR 1429	£87,884	30 days	£550,000	3 – 6 Months to PIT Complete

## **10.2 Working Group Summary**

The DCC and the Working Group agreed that this CR would not be required if Service Users followed the correct process. DCC will provide guidance and supporting materials. This Change Request will be withdrawn.

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

As defined the changes included in this document are confined to changing the DCC TOC systems and the provision of external data with changes impacting both the SMETS1 and SMETS2 Service Providers.

### **11.1 DCC Technical Operations Centre Development and Testing**

The full range of activities required to implement the reporting related to external data elements of the SECMP0122B requirements including design, development, testing, and implementation and would be performed by the DCC TOC in-house contractors and permanent staff.

The DCC Technical Operations Centre development for this release includes:

- Deliver Data Model algorithms, build report, test, document, update database, update interfaces, and document solution

It is expected that the same team used to deliver the SECMP0122A release will move on to this development work. Initial high-level analysis suggests that the development, test, and implementation costs and durations associated with the "external" data requirements will be very similar to those based on data already held in the DCC TOC.

### **11.2 DCC Application Support**

There will be a considerable increase in the number of Full Time Equivalents (FTE) required to support, maintain, and deliver the reporting on a monthly basis. This is not part of the PIA, but will be expanded upon if approval for any of the CRs is given.

### **11.3 Infrastructure Impact**

To meet the requirements stated above may require additional infrastructure, potentially building a new database, while allowing for a new innovative monitoring and alerting solution. These costs will be facilitated by economies of scale, and will be absorbed into TOC running costs.

It should be noted that the solution as proposed should not add noticeable traffic or processing to the Smart Metering System or network.

### **11.4 Service Provider Application Support**

Impacts to Service Design, Service Management and other Application Support functions for the Service Providers are anticipated, and it is expected that further staffing will be required to support some of the PIA changes listed in this Modification. Where these costs have been identified as manual efforts to review or check data returns, they have been included in the Costs section below, unlike typical SEC Modifications.

These costs will be refined as part of the Full Impact Assessment covering external data contractual changes, and will reflect the complexity and other properties of the solution.

### **11.5 Contractual Change and Data Provision**

If the go ahead is given to proceed to FIA for any of the external data changes, DCC staff will need to carry out contractual negotiations with the impacted Service Providers as part of the process.

At this stage it is difficult to predict the level of complexity, duration, or costs associated with any contractual change with resultant negotiations between DCC and the Service Providers. Clearly some of the requirements impact only one or two Service Providers, while others impact all the SPs.

Data provision may be a slight concern as there are some S1SPs who do not send data to the DCC in any form at this time. A ROM has been included for this figure, and these costs will be more fully evaluated as part of the FIA.

## 12 Implementation Approach and Timescales

A key factor in planning and delivering this Modification's implementation and release is that some of the changes are not part of the Smart Metering System, and other changes will impact the Service Management functions for the Service Providers requiring changes to Service Provider's internal systems, which may impact timescales. Planning for assessment, implementation, testing, and deployment will be carried out as part of the FIA.

## 13 Costs and Charges

The table below summarises the cost of delivering the changes and Services required to implement the CRs listed above for this Modification. The scope of supply under this PIA includes design, development (build) and PIT testing. Activities out of scope of this cost include Application Support, infrastructure improvements, and Service Provider contract changes. These would be defined as part of the FIA. Changes such as CR1423, and CR1440 will require changes to the Smart Metering System, and hence will require PIT, SIT and UIT integration testing if these options are selected.

The Rough Order of Magnitude cost (ROM) shown below describes indicative costs. 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. As a result the final price is likely to result in a variation.

Costs are shown as a range where a single Service Provider is impacted, or where at least one SP has provided a range. For cases where S1SPs are involved, a separate ROM for the S1SPs is shown. Where a TOC alternative option is possible it is shown as Yes.

CR	SPs	Cost to Produce FIA	Required Time for FIA (Max)	ROM	S1SP ROM	TOC Option?	Implementation Duration
CR 1418	DSP	£8,702	30 days	£300,000 to £450,000	n/a	Yes	3 Months
CR 1438	CSP North, S1SPs	£202,579	60 days	Up to £1.66million	£600,000-£1,000,000	Yes	12 Months
CR 1420	DSP, CSPs, All S1SPs	£131,956	30 days	About £1,080,000	£350,000-£380,000	Yes (go to FIA)	3 Months
CR 1430	DSP, CSPs, All S1SPs	£227,500	40 days	About £1,160,000	£328,000	No	12 Months
CR 1421		Not applicable	Not applicable	Not applicable	n/a	n/a	Not applicable
CR 1423	DSP, CSPs	£199,059	50 days	£1.45-£1.75million	n/a	Yes	12 Months
CR 1440	DSP, S1SPs	£70,000	50 days	£1,450,000-£1,850,000	£1,300,000-£1,500,000	Yes	12 Months
CR 1429		Not applicable	Not applicable	Not applicable	n/a	n/a	Not applicable



It might be possible to run some of the FIA production and implementation activities in parallel, and to reduce the timescales, but both the costs and durations have been calculated in a standalone format.

DCC costs to support the CR design work as part of the FIA, and the ROM for implementation have been estimated on the basis that all Change Requests have been authorised to go forwards. Naturally if a limited number of CRs are approved or if the TOC options are selected, these costs will be reduced, and will need to be recalculated based on the magnitude of the work required.

<b>DCC Costs</b>	<b>Cost to Produce FIA</b>	<b>Required Time</b>	<b>ROM</b>
DCC	£65,250	40 days	£642,000

## Appendix A: Glossary

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

Acronym	Definition		
BSS	(CSP North) Business Support Systems	PIT	Pre-Integration Testing
CGI IE	CGI Instant Energy (SMETS1 DSP)	PMA	Performance Methodology Approach
CH, Comms Hub	Communication Hub	PMM	Performance Measurement Methodology
CHF	Communications Hub Function	PMR	Performance Measurement Report
CoS	Change of Supplier	PPMID	PrePayment Meter user Interface Device
CPM	Code Performance Measure	ROM	Rough Order of Magnitude (cost)
CSP	Communications Service Provider	RSVP	Rate, Speed, Volume, Payload, a measure of performance of SRVs
DCC	Data Communications Company	RTT	Round Trip Time
DCO	Dual Control Organization	SAT	Service Audit Trail
DSP	Data Service Provider	SEC	Smart Energy Code
DUIS	DCC User Interface Specification	SECAS	Smart Energy Code Administrator and Secretariat
DSMS	DCC Service Management System	SIT	Systems Integration Testing
ESI	Enterprise Systems Interface, a file format	SLA	Service Level Agreement
ESME	Electricity Smart Metering Equipment	SLMR	Service Level Management Report
FIA	Full Impact Assessment	SMETS	Smart Metering Equipment Technical Specification
FTE	Full Time Equivalent (Employee)	SMKI	Smart Metering Key Infrastructure
GBCS	Great Britain Companion Specification	SM WAN, SMWAN	Smart Metering Wide Area Network
GPF	Gas Proxy Function	SP	Service Provider
GSME	Gas Smart Metering Equipment	SR	Service Request
HAN	Home Area Network	SRV	Service Request Variant
IOC	Initial Operating Capability	SSI	Self Service Interface
I&C	Installation and Configuration	S1SP	SMETS1 Service Provider
KPI	Key Performance Indicators	TOC	Technical Operations Centre
MDS	Morrison Data Services	TRT	Target Response Time
MoO	Mode of Operation	TTO	Transition to Operations
MTBF	Mean Time Between Failures	UIT	User Integration Testing
MTTR	Mean Time To Repair	WD	Working Days
OMR	Operational Metrics Review		
OPR	Operational Performance Regime		
OPSG	Operations Sub-Group		
PIA	Preliminary Impact Assessment		

