SEC
Smart Energy Code

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SECMP0028

‘Prioritising System Messages’

Modification Report

Version 1.1

15 December 2023

Corporate member of Plain English Campaign
Committed to clearer communication
592

About this document

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

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This document also has five annexes:

- **Annex A** contains the business requirements for the solution.
- **Annex B** contains the redlined changes to the Smart Energy Code (SEC) required to deliver the Proposed Solution.
- **Annex C** contains the collated non-confidential Request for Information (RFI) responses.
- **Annex D** contains the Data Communications Company (DCC) Full Impact Assessment response.
- **Annex E** contains the collated Refinement Consultation responses.

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1. Summary

This proposal has been raised by Andy Knowles from Utilita Energy.

Periods of high message volumes going through the DCC Systems will result in message queuing and increased processing times. Consumers may be adversely impacted by increased processing times for messages driven by consumers (prepayment meter top ups, for example). These could cause consumers to lose supply unnecessarily or be delayed in regaining supply.

The Proposed Solution would introduce 'priority level' indicators to messages. During periods of high message volumes, were a queue to form, this would result in the Data Service Provider (DSP) System processing higher priority messages first. Among these high priority messages would be those relating to Prepayment top ups and ensuring supply is available for vulnerable consumers.

This modification will impact all SEC Parties. The cost will be £309,879. This modification is targeted for the November 2024 SEC Release and will be progressed as a Self-Governance Modification.

2. Issue

What are the current arrangements?

Currently, the DCC is required to process all messages in accordance with the Target Response Times (TRTs) outlined in SEC Section H3.14 and SEC Appendix E 'DCC User Interface Services Schedule'.

In situations where there are high volumes of messages the DCC System could approach or exceed processing capacity. This could cause DCC Users to experience variations to service performance and delays to TRT.

Under current arrangements, messages are processed in the order in which they are received in the DCC System and there is no mechanism for prioritising specific messages during high-volume periods. It has also been noted that delays to the processing of consumer-driven Service Requests (SRs) could cause the User to resend the same message until the desired Response is received, which may further exacerbate the high volume of messages and cause further delays to Response times.

What is the issue?

The Proposer believes that the SEC arrangements have been primarily drafted to cater for credit consumers and do not adequately cater for Prepayment consumers. For example, Service Reference Variant (SRV) 2.2 'Top Up Device', could action the enabling or disabling of supply for Prepayment consumers. The Proposer has highlighted that delays to the processing of consumer-driven Service Requests such as this one may lead to negative impacts on the consumer experience.

What is the impact this is having?

In the case of the DCC Systems being overloaded and not processing messages, cost and reputational damage would be caused to Suppliers and to the wider Smart Metering Implementation Programme (SMIP). Without an efficient mechanism of managing the peaks of traffic on the DCC Systems overloading incidents are likely to increase as more smart meters are enrolled and the System is used for increasing services.

Impact on consumers

Without prioritisation of consumer-driven messages during periods of high system traffic, and specifically those messages relating to Prepayment top ups, consumers may experience unnecessary delays to their supplies being made live following periods without power. Depending on the vulnerability of affected consumers, the implications could be severe if not addressed.

3. Solution

Proposed Solution

The Proposed Solution will be applied to Smart Metering Equipment Technical Specifications (SMETS)1 and SMETS2 Devices. 'Southbound' traffic refers to messages being sent from a DCC User to the DCC and out toward the Device. 'Northbound' traffic refers to messages returned from the Device to the User via the DCC. Northbound Prioritisation was introduced by the DCC.

The Proposed Solution would establish multiple tiers of priority in the DSP (southbound) aspect of the DCC Systems that can categorise messages depending on the relative importance of processing them quickly. The DCC provided the below diagram within the Impact Assessment:

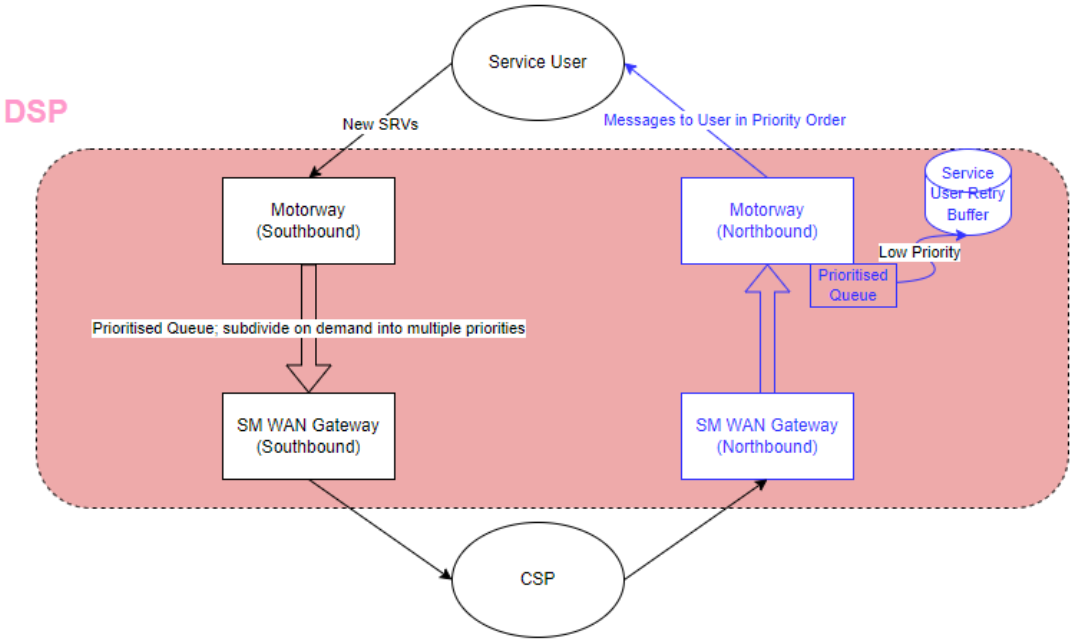

Diagram 1: Proposed Southbound Message Pathway

Messages with a 'Priority Level 1' would essentially be fast-tracked in any queues so that they are resolved ahead of any messages with lower priority levels (subsequently higher numbers denoting lower priority). Messages with lower priority levels would still be processed in the order consistent with their assigned levels. The categories will be configurable to future proof the solution and the priority levels will be defined and agreed by the SEC Panel.

Diagram 2 demonstrates the prioritisation method intended to be delivered by the Proposed Solution:

- Messages will be processed in order of their priority Level, regardless of the order in which they are received.
- Priority Level 2 messages will be processed once there are no priority Level 1 messages waiting, and so on for the remaining priority Levels; and
- newly received messages with a higher Priority Level than the queued messages will be processed ahead of them.

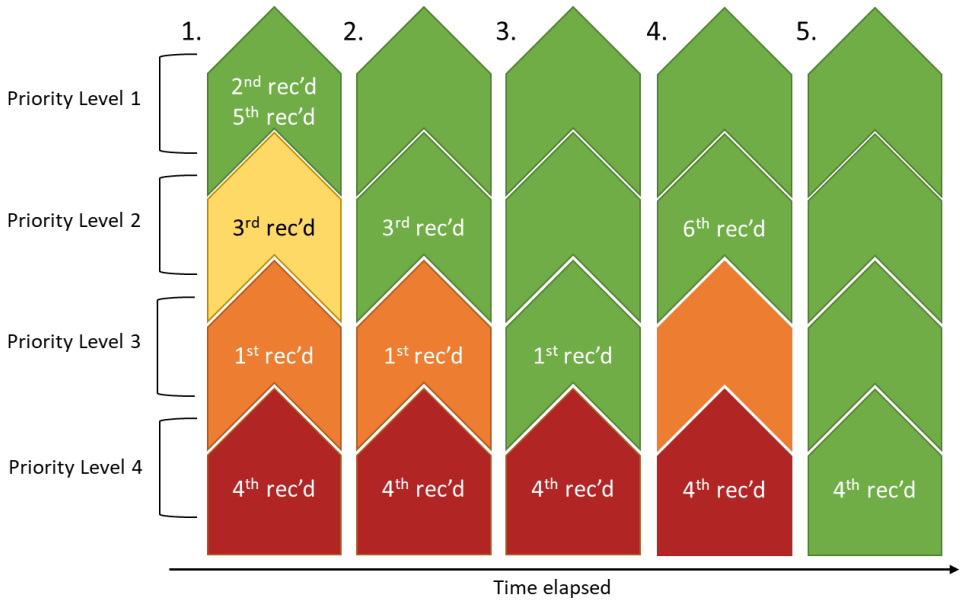

Diagram 2: Proposed Solution pathway

Following the completion of the Refinement Consultation and the DCC Full Impact Assessment, a 5th priority level was suggested to support with the processing of future-dated SRVs and SRVs with 24-hour TRTs. The proposed priority levels are outlined below in Diagram 3, and the complete list can be found in the draft legal text within Annex B.

Mode	Category	Priority
On Demand	SRV relating to the continuity of a consumer's energy supply	1
	SRV required for an engineer to complete on-site activities	2
	SRV in list of messages required to comply with a consumer request	3
	Any other SRVs	4
	SRVs with 24-hour TRTs	5
Any other mode	Future Dated/Scheduled SRVs	5

Diagram 3: Priority level categories

Messages with priority two - five will be promoted to priority one if capacity is available and the DSP's southbound TRT is close to being breached.

4. Impacts

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

SEC Parties

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

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

This modification is expected to have a positive impact on all SEC Parties that send and receive messages which are processed through the DSP System. In periods of high System traffic, the messages associated with time-sensitive processes will be prioritised, better enabling Service Users to efficiently execute those processes.

Three respondents to the Refinement Consultation identified there will be an impact to their respective organisation because of that implementation of SECMP0028. There was concern as to how their operational business processes would be impacted by the assigned priority levels, as this may cause additional work or put stress on their internal systems.

DCC System

The solution will assign a priority to all Southbound messages to be used when selecting work from queues for onward transmission to the Smart Metering Wide Area Network (SM WAN) and to prioritise delivering responses to Service Users.

Further details on the technical architecture and its impacts on the DCC System can be found in the DCC's Full Impact Assessment in Annex D.

SEC and subsidiary documents

The following parts of the SEC will be impacted:

- Appendix AB 'Service Request Processing Document'.

The changes to the SEC and other relevant documents required to deliver the Proposed Solution can be found in Annex B.

Devices

There will be no impact to Device behaviour from this modification.

Consumers

This modification is expected to have a positive impact on consumer experience, as it will ensure consumer-driven SRs and their subsequent Responses are prioritised during high-volume periods. All respondents to the Refinement Consultation felt that consumers would be positively impacted and would benefit if this modification was implemented.

Other industry Codes

There will be no impacts to other Codes from this modification.

Greenhouse gas emissions

There will be no impacts to Greenhouse gas emissions from this modification.

5. Costs

DCC costs

The DCC implementation costs to implement this modification is £309,879. The breakdown of these costs are as follows:

Breakdown of DCC implementation costs	
Activity	**Cost**
Design, Build and Pre-Integration Testing (PIT)	£305,381
Systems Integration Testing (SIT)	£0
User Integration Testing (UIT)	£0
Implement to Live	£1,032
Application Support	£3,466

There will be no SIT or UIT as part of the implementation as the changes are solely within the DSP system. More information can be found in the DCC Full Impact Assessment response in Annex D.

SECAS costs

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

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

SEC Party costs

One respondent to the Refinement Consultation assessed they would incur a cost of £100k-£250k depending on the definition and application of priority levels, and the landscape of the legal text. It was noted however that specifics and details relating to estimated costs would not be accurate until a formal solution was presented. The DCC Full Impact Assessment shows that there should be no impacts to User systems as the DSP changes are all contained within their system. Therefore, there are not expected to be any additional costs for SEC Parties to implement this modification.

6. Implementation approach

Approved implementation approach

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

- **7 November 2024** (November 2024 SEC Release) if a decision to approve is received on or before 7 January 2024; or
- **26 June 2025** (June 2025 SEC Release) if a decision to approve is received after 7 January 2024 but on or before 26 August 2024.

This approach is based on an estimated implementation lead time of ten months following approval of the modification. The proposed legal text changes will be placed in Appendix AB 'Service Request Processing Document' and there will be no impact on Appendix AD 'DCC User Interface Specification' (DUIS) therefore the November 2024 Release can be targeted.

7. Assessment of the proposal

Observations on the issue

When this modification was initially discussed at the Working Group, it was noted that a method to prioritise messages as part of a wider demand management solution was being considered by SECMP0030 'Demand Management of DCC Systems'. The Proposer and the Working Group members agreed that each Modification Proposal should be progressed with overlapping impacts considered, but not merged as they had separate business cases. The Working Group therefore agreed that this question should be considered further following clarification from the DCC on wider demand matters relating to SECMP0030. This consideration is outlined in the 'Support for Change' section below. SECMP0030 was subsequently withdrawn.

Solution development

Data Service Provider system

The Technical Architecture and Business Architecture Sub Committee's (TABASC's) view was that the proposed business requirements should be revised to differentiate between the Communication Service Provider (CSP) and DSP components of the DCC System. The Proposer agreed to the amendment to place the prioritisation in the DSP and CSP into separate business requirements for the Proposed Solution

In March 2022, SECAS again discussed this modification and its business requirements with the Proposer, the DCC and the Service Providers. It was agreed, due to the associated costs of developing a solution which extended the prioritisation mechanism to the CSP or involved creating standalone infrastructure, that the business requirements would be amended to meet a digital solution for prioritising messages at the DSP level only.

Conclusion
Proposed Solution is to only apply prioritisation to processing in the DSP System.

Which Service Requests should be prioritised?

The original Proposed Solution was to prioritise SRV 2.2 'Top Up Device' and Critical Commands during peak demand scenarios. The Proposer also agreed to include SRV 7.4 'Read Supply Status' in the proposal. SECAS asked the Working Group if they are still in agreement that these SRVs should be included, noting that prioritising Critical Commands could cause complexities where Commands are part of message sequences.

The Working Group agreed that Critical Commands should not be prioritised, solely on the basis that they are Critical Commands, as part of this modification. Therefore, it was agreed at that time that the scope of this modification is to prioritise SRV 2.2 and SRV 7.4 only.

Discussions followed on whether SRV 6.15 'Update Security Credentials' should be prioritised as part of this modification. It was agreed that prioritising this Service Request would not mitigate any risk to the consumer experience, and so SRV 6.15 has not been included in the scope.

SECAS asked the Working Group when prioritisation should be utilised. It was agreed that these SRs should be prioritised following a disaster recovery event and when the DCC Systems are experiencing peak bursts in demand. The Working Group also considered what prioritisation means for other Service Requests. It was agreed that SRV 2.2. and SRV 7.4 will be processed first, and the remainder of Service Requests should continue to be processed on a "first come, first serve" basis.

A TABASC member felt that prioritisation should ensure the messages were being delivered within the TRTs rather than prioritising specific messages ahead of others. The Proposer believed the focus on TRTs would not resolve the issues in the event of the DCC Systems not being operational and leaving Prepayment consumers without supply.

One member echoed this and believed that any prioritisation of Service Requests needs to include prioritising Prepayment top-ups, believing they were among the most crucial of Service Requests that need accepting in the event of a DCC System failure. Another member stated that SRV 7.4 'Read Supply Status' should be prioritised given they use it to ensure their consumer's supplies are restored after an outage. Other members believed there were other valid Service Requests related to ensuring Certificates are correctly placed on meters.

During further development of the solution, the Proposer and the DCC agreed to amend the Proposed Solution to include applying prioritisation levels to all messages, based on certain criteria to be agreed with industry Parties during the Refinement Process. When this was discussed with the Working Group, its members noted the difficulties in obtaining agreement on priorities from different Parties and the fact that what is considered a priority at one point in time will not necessarily remain a priority in future.

Northbound prioritisation

The DSP noted that full process pathways should be considered when assigning priority levels, not just standalone messages, as message queueing is a bigger issue when the DSP is sending messages back to the Service User. SECAS and the Proposer agreed to include assigning priority levels to Alerts in discussions on solution development.

However, in November 2023 the DCC delivered Northbound prioritisation processing outside of a modification. Changes for prioritisation of northbound messages (Responses and Alerts) have now been implemented as part of the development of MP208 'Northbound Prioritisation of N56 Alerts' and delivered under the heading of Marketwide Half-Hourly Settlement. Therefore, Northbound processing, (as shown in blue in Diagram 1 within Section 3) shall remain unchanged.

Conclusion
Proposed Solution is to sort all southbound messages into priority levels based on urgency.

Priority levels

The business requirements were discussed with the Proposer, the DCC and the Service Providers. It was agreed that a core business requirement would be the introduction of a prioritisation mechanism within the DSP infrastructure to allow prioritised Service Requests to move to the front of any queues.

The concern was raised that different Party types would have different views on what should be prioritised, which would result in too many types of messages on the prioritisation list.

Attendees noted that even with prioritisation, all messages would be held up if the system went down. It was considered whether any 'fast lane' should have its own dedicated resources or infrastructure to allow priority messages to continue even if the slower lanes became overloaded, e.g. due to an influx of unsolicited messages (such as due to Alert storms, noting a potential link with MP119 'CH Alert Storm Consolidation').

Attendees further agreed that incorporating an 'activation mechanism' was a needless complication, and that priority levels should always apply and be easily configurable to future-proof against potential process changes.

Rather than assigning a 'priority' status to certain messages and keeping all others as 'non-priority', attendees agreed that 'priority levels' should be applied to all messages dependent on their categorisation.

Respondents to the Refinement Consultation gave feedback in relation to that of the priority level definitions. One respondent indicated they felt the wording suggested amongst each priority level could allow for messages to waiver across each level, leaving this open to interpretation. As a result of this feedback, amendments were made to the definitions of each priority level (as defined in Diagram 2), and several messages had their proposed priority levels re-assigned.

As part of this resolution and the DCC Full Impact Assessment, the following headings for each category has been suggested:

Mode	Category	Priority
On Demand	SRV relating to the continuity of a consumer's energy supply	1
	SRV required for an engineer to complete on-site activities	2
	SRV in list of messages required to comply with a consumer request	3
	Any other SRVs	4
	SRVs with 24-hour TRTs	5
Any other mode	Future Dated/Scheduled SRVs	5

SECAS presented the proposed priority levels to the Working Group and TABASC and asked for feedback on the definitions and framework suggested by the DCC from the Full Impact Assessment provided.

The Working Group queried how SECMP0028 fits in with other industry-wide traffic management projects, such as northbound prioritisation. The DCC advised that although the southbound mechanism is a standalone piece of work and should continue, it would look to share a holistic overview of how it's other traffic management initiatives would affect industry, and how they fit together. It stated that any wider piece of work would not be looking to amend this mechanism. The Working Group overall agreed with the proposed priority levels. One member however noted that the proposed levels were a contradiction to the DCC's preferred method of sending SRs, which is to schedule them in advance. The DCC advised they had suggested these bandings as most beneficial option for industry and DCC Users, based on previous feedback. However, they noted the levels must ultimately be determined by industry through the modification process. SEACS notes that this change is not intended to interfere with any existing TRTs.

The TABASC outlined an interest to be provided with an in-depth view of the SRs included within each priority level, which was subsequently provided by SECAS, and how the end-to-end process works with Northbound prioritisation to ensure alignment where possible.

The OPSG noted support for the modification. They noted that the priority levels could be implemented into the legal text of the modification, and be consulted upon and changed prior to, and post, implementation.

Draft legal text

The DSP noted that full process pathways should be considered when assigning priority levels, not just standalone messages, as message queueing is a bigger issue when the DSP is sending messages back to the Service User. SECAS and the Proposer agreed with the point made by the DSP. During solution development SECAS also agreed to include assigning priority levels to Alerts. Initial legal text drafts had included changes within DUIS. Respondents to the Refinement Consultation provided mixed responses as to whether this was the most appropriate place for the changes.

During solution development it was agreed that priority levels should not be defined within the SEC as any subsequent amendments necessitated by changes to business processes would then require a SEC modification to implement. Therefore, it was suggested that the agreed priority levels be detailed in a Code Required Document, and the governance process for agreeing changes be detailed in the SEC.

Subsequent drafting has placed the details within the pre-existing DCC owned document 'Traffic Management Mechanism'. The governance of this document is set out in SEC Section AB 'Service Request Processing Document'. The DCC will outline any prospective changes and look to establish a period of consultation with various parties in relation to the changes. Once completed, the Operations Group and TABASC will review and provide feedback where applicable. The SEC Panel will approve any required changes.

The Proposed Solution is not intended to interfere with the DCC's existing TRTs defined in SEC Appendix E 'DCC User Interface Services Schedule'.

Following the DCC's Full Impact Assessment, SECAS discussed the proposed legal text with the Working Group. During this meeting, no objections or comments were raised in opposition to the proposed text.

The OPSG Chair noted that reporting requirements should be added to the legal text. SECAS will discuss with the DCC and draft up supporting text.

DCC capacity and traffic management

Various respondents to the Refinement Consultation highlighted their concerns in relation to periods of high-volume traffic on the DCC system. Queries focused on the possibility of flexing the total capacity of the System during different periods of demand for example assigning 60% of processing capacity to Priority 1 SRVs, or 20% of capacity to Priority 3 SRVs.

Suggestions were made in relation to assigning a proportion of processing capacity from a DCC perspective to the priority levels so as to support the processing of all message types including through periods of high demand.

SECAS reviewed the responses and made amendments were necessary to the Proposed Solution.

Respondents to the Refinement Consultation noted impacts felt from an operational standpoint in relation to consumer engagement, and the inability to drive core business processes when the DCC system is impacted and caused to be offline. They noted traffic management could help reduce these instances.

Another respondent highlighted the need not just for a prioritisation process, but also that of sufficient system capacity to support the change.

Potential Denial of Service

Working Group members queried asked the if there was a risk that some SRs would never be processed by the DSP if they were a low priority. The Security Sub-Committee (SSC) advised the worst-case scenario would be low priority requests never being processed in times of high-volume traffic. The recommended this be addressed within the solution of SECMP0028, as well as making the priority levels configurable.

A rule was placed into the solution whereas priority 2-5 SRs will be promoted to priority 1 if there is capacity within the DCC System and the TRT for a request is due to expire. Alongside this, the DCC confirmed within the Full Impact Assessment that all five priority levels are configurable.

The SSC queried how priority levels will be assigned to SRs. SECAS confirmed the Working Group will review initially, with TABASC having the final approval.

8. Case for change

Business case

In the case of the DCC Systems being overloaded and not processing messages, cost and reputational damage would be caused to Suppliers and to the industry as a whole. Without an efficient mechanism of managing the peaks of traffic on the DCC Systems overloading incidents are likely to increase as more smart meters are enrolled and the System is used for increasing services. Whilst overall capacity could be increased to deal with peak times this will require a significant cost investment with excess capacity unused for a large amount of time, which would be inefficient.

Without prioritisation of consumer-driven messages during periods of high system traffic, and specifically those messages relating to Prepayment top ups, consumers may experience unnecessary delays to their supplies being made live following a period without power. Depending on the vulnerability of affected consumers, the implications could be severe if not addressed. Prioritisation of commands involved in Install and Commissioning processes could enhance consumer experience and reduce installation times. Distribution of emergency Firmware could also be prioritised as needed, offering security benefits.

Views against the General SEC Objectives

Proposer's views

SEC Objective (a)[1] and (c)[2]

The Proposer believes this modification better facilitates SEC Objective (a) by ensuring that urgent messages will be processed in a timely manner in the DSP System and reducing the risk of Users further exacerbating high-volume periods by resending the same Service Requests.

The Proposer believes this modification better facilitates SEC Objective (c) by prioritising consumer-driven messages and reducing the risk of Prepayment consumers being off supply unnecessarily.

Industry views

SEC Objectives (a) and (c)

The majority of respondents felt that the modification would better facilitate the General SEC Objectives. It was noted that if priority levels were correctly established and the prioritisation mechanism was agreed by the relevant Sub-Committees then Objectives (a) and (c) would be better supported.

Views against the consumer areas

Improved safety and reliability

This modification would have a positive impact on DCC System reliability, as it will prioritise messages which are related to ensuring continuity of supply. It will reduce the likelihood of consumers losing supply unnecessarily or being delayed in regaining supply following an outage.

Lower bills than would otherwise be the case

While this modification would have a neutral impact on lowering consumer bills, it would increase the likelihood of Prepayment transactions being processed on the first attempt and therefore reduce the risk of duplicate payments.

Reduced environmental damage

This modification would have a neutral impact on reducing environmental damage.

Improved quality of service

This modification would have a positive impact on the quality of service, as it would help ensure continuity of supply and timely sending of messages relating to urgent processes.

[1] Facilitate the efficient provision, installation, operation, and interoperability of smart metering system at energy consumers premises within Great Britain.

[2] Facilitate energy consumers management of their use of electricity and gas through the provision of appropriate information via smart metering systems.

Benefits for society as a whole

This modification would have a neutral impact on benefits for society as whole.

Appendix 1: Progression timetable

Timetable	
Event/Action	**Date**
Initial Modification Proposal raised	19 Dec 2016
Presented to Panel for progression to Refinement Process	13 Jan 2017
Initial discussion with Working Group	28 Feb 2017
Potential Solutions discussed with Working Group	10 Oct 2017
SECMP0067 rejected	26 Oct 2020
Business Requirements presented to TABASC	4 Mar 2021
Modification discussed at Working Group	7 Apr 2021
Request For Information (RFI) from Industry Parties	16 Aug 2021 – 6 Sep 2021
RFI Responses presented to Working Group	6 Apr 2022
Preliminary Impact Assessment requested	20 Jul 2022
Preliminary Impact Assessment returned	17 Aug 2022
Modification discussed at Working Group	5 Oct 2022
Modification discussed at TABASC	6 Oct 2022
Refinement Consultation	7 Nov 2022 – 28 Nov 2022
Refinement Consultation responses discussed at Working Group	1 Mar 2023
Impact Assessment costs approved by Change Board	23 Aug 2023
Full Impact Assessment requested	23 Aug 2023
Full Impact Assessment returned	13 Oct 2023
Modification discussed at Working Group	1 Nov 2023
Modification discussed at TABASC	2 Nov 2023
Modification discussed at OPSG	14 Nov 2023
Presented to CSC for progression to Report Phase	21 Nov 2023
Modification Report Consultation	22 Nov 2023 – 13 Dec 2023
Change Board Vote	20 Dec 2023

Italics denote planned events that could be subject to change

Appendix 2: Glossary

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

Glossary	
Acronym	**Full term**
CH	Communications Hub
CSC	Change Sub-Committee
CSP	Communication Service Provider
DCC	Data Communications Company
DSP	Data Service Provider
DUIS	DCC User Interface Specification
PIT	Pre-Integration Testing
RFI	Request For Information
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SM WAN	Smart Metering Wide Area Network
SMETS	Smart Metering Equipment Technical Specifications
SMIP	Smart Metering Implementation Programme
SIT	System Integration Testing
SR	Service Request
SRV	Service Reference Variant
SSC	Security Sub-Committee
TABASC	Technical Architecture and Business Architecture Sub Committee
TRT	Target Response Time
UIT	User Integration Testing

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SECMP0028 'Prioritising System Messages'

Annex A

Business requirements – version 1.0

About this document

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

1. Business requirements

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

Business Requirements	
Ref.	**Requirement**
1	To assign a priority level to all system messages allowing them to be processed in a specific order in the Data Service Provider (DSP) Systems.
2	To make all priority assignations fully configurable.

2. Considerations and assumptions

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

2.1 General

This solution will be applied to Smart Metering Equipment Technical Specifications (SMETS)1 and SMETS2 Devices.

2.2 Requirement 1: To assign a priority level to all system messages allowing them to be processed in a specific order in the DSP Systems.

The Proposed Solution would establish multiple tiers of priority in the DSP aspect of the DCC Systems that can categorise messages depending on the relative importance of processing them quickly. Messages with a 'Priority Level 1' would be fast-tracked in any queues so that they are processed ahead of any messages with lower priority levels (subsequently higher numbers denoting lower priority). Messages with lower priority levels would still be processed in the order consistent with their assigned levels. The categories that determine the priority levels will be defined and agreed during the Modification Proposal's Refinement Stage. The below is an example and final version could contain more priority levels.

The Proposed Solution would establish the following criteria against each priority level:

Proposed Solution	
Priority Level	**Criteria**
1	Messages relating to the continuity of a consumer's energy supply.
2	Messages which are required for an engineer to complete on-site activities.
3	Messages with an indirect impact on a consumer's energy supply, and/or messages required to comply with a consumer request.
4	None of the above criteria apply.

2.3 Requirement 2: To make all priority level assignations fully configurable.

It must be relatively simple to change a message's assigned priority level. In the event that a new process is introduced or there is a change to an existing process, certain messages with a lower priority may become part of a critical pathway for an urgent process. Equally, changes to processes may result in certain messages no longer being crucial to the success of those processes. It is therefore necessary to introduce a method by which priority levels can be reconfigured as and when appropriate.

As part of its Preliminary Assessment, SECAS requested that the DCC investigate the technical solution for changing priorities. SECAS and the Proposer will engage with industry to determine which bodies or committees should have oversight for changes. This could also apply in the hypothetical instance that powers are introduced for Sub-Committees to override priority levels in an infrastructure-critical event.

3. Glossary

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

Glossary	
Acronym	**Full term**
DCC	Data Communications Company
DSP	Data Service Provider
SMETS	Smart Metering Equipment Technical Specifications

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SECMP0028 'Prioritising Service Requests'

Annex B

Legal text – version 1.1

About this document

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

This document contains the changes required to deliver the Proposed Solution.

Appendix AB ‘Service Request Processing Document’

These changes have been redlined against Appendix AB version 9.0.

Amend Section 6 as follows:

6 Obligations of the DCC: Processing Service Requests

6.1 Subject to Clause 18 (Obligations of the DCC: Non-Device Service Requests), where the DCC receives a Service Request from a User, the DCC shall send an Acknowledgement to the User, and (whether before or after such Acknowledgement is sent) apply the following checks:

(a) Verify the Service Request;

(b) confirm that the Service Request has been sent by a User whose right to send that Service Request has not been suspended in accordance with Section M8.5 (Suspension of Rights), and that such User is acting in a User Role which is an Eligible User Role for that Service Request;

(c) in the case of Non-Critical Service Requests (other than an 'Update Firmware' Service Request, an 'Update PPMID Firmware' Service Request, a 'CoS Update Security Credentials' Service Request or a 'Top Up Device' SMETS1 Service Request with a Command Variant value of 2) and SMETS1 Critical Service Requests, confirm that the SMI Status of the Device identified in the Service Request is: (i) 'commissioned'; (ii) 'installed not commissioned'; (iii) 'whitelisted'; or (iv) 'pending';

(d) Check Cryptographic Protection for the Service Request;

(e) Confirm Validity of the Certificate used to Check Cryptographic Protection for the Service Request, and confirm that the Certificate used to Check Cryptographic Protection for the Service Request has a Remote Party Role of “xmlSign”;

(f) subject to Clause 6.2, in the case of Non-Critical Service Requests and SMETS1 Critical Service Requests, confirm (using the Registration Data, the Device ID within the Service Request, and the relationship between the Device IDs and the MPRNs or MPANs in the Smart Metering Inventory) that the User sending the Service Request is a User that is or will be an Eligible User for that Service Request:

(i) for all times within any date range requested;

(ii) where there is no such date range, at the specified time for execution; or

(iii) where there is no date range and no date for execution is specified, at the time at which the check is being carried out;

(g) in the case of a 'CoS Update Security Credentials' Service Request:

(i) confirm that the User ID in the Certificate used to Check Cryptographic Protection of the Service Request is the same as the User ID in the Service Request;

(ii) confirm that the MPID that is used in the carrying out of the check referred to in Clause 6.1(f) above is the same as an MPID that is contained within the Subject X520 Organizational Unit Name field (as described in the Organisation Certificate Policy) of the Certificate used to Check Cryptographic Protection for the Service Request; and

(iii) confirm that the MPAN or MPRN (as relevant) associated with the target Device in the Smart Metering Inventory is the same as the MPAN or MPRN included within the 'CoS Update Security Credentials' Service Request;

(iv) confirm that the number of Organisation Certificates contained within the Service Request is necessary and sufficient for the target Device;

(v) confirm that all of the replacement Organisation Certificates have a Remote Party Role of "supplier";

(vi) confirm that the Key Usage of each such Organisation Certificate is compatible with the Trust Anchor Cell in relation to which the relevant Device Security Credentials are to be replaced;

(vii) where relevant, confirm that the SupplierPrepaymentTopUpFloorSeqNumber data item has been included within the Service Request;

(viii) confirm that the User ID contained within each of the Organisation Certificates included within the Service Request is associated with the User submitting the Service Request; and

(ix) confirm that the MPRN or MPAN included within the Service Request is Associated with the Device identified within the Service Request;

(h) in the case of a 'Restore HAN Device Log' or a 'Restore Gas Proxy Function Device Log' Service Request, confirm that the Device Log Data to be restored originates from a Communications Hub Function or Gas Proxy Function that forms (or formed immediately prior to its replacement) part of a Smart Metering System for which the User making such Service Request is (or, immediately prior to its replacement, was) the Responsible Supplier;

(i) in the case of an 'Update Firmware' Service Request or an 'Update PPMID Firmware' Service Request, confirm that the Hash calculated across the Manufacturer Image contained within the Service Request is the same as the entry within the Central Products List (as identified by the Device ID, information in the Smart Metering Inventory and the firmware version specified in the Service Request);

(j) in the case of any Service Request that contains any Certificates, Confirm Validity of those Certificates;

(k) in the case of any Service Request that is seeking to replace any part of the Device Security Credentials held on or in relation to a Device with information from an Organisation Certificate contained within that Service Request, confirm that:

(i) the Issuing OCA Certificate for each such Organisation Certificate is also contained within that Service Request; and

(ii) each Issuing OCA Certificate contained within that Service Request has been used to Issue at least one of the Organisation Certificates contained within that Service Request;

(l) in the case of an 'Update HAN Device Log' Service Request requesting the addition of a Smart Meter or a Standalone Auxiliary Proportional Controller to the Device Log of a Communications Hub Function confirm (using the Registration Data and the MPRN or MPAN in the Service Request) that the User sending the Service Request is a Responsible Supplier in respect of that MPRN or MPAN;

(m) in the case of a 'Set CHF Sub GHz Configuration' Service Request, that the settings requested would only allow a CHF to use Sub GHz Available Channels (as defined in the GBCS);

(n) in respect of a SMETS1 Critical Service Request, a 'Request Handover of DCC Controlled Device' SMETS1 Service Request, a 'Top Up Device' SMETS1 Service Request, or a 'CoS Update Security Credentials' Service Request relating to either a SMETS1 or SMETS2+ Device, confirm that the Service Request is not a Replay; and

(o) in the case of SMETS1 'Activate Firmware' Service Requests, where the target Device is a SMETS1 CHF or a SMETS1 PPMID, confirm (using the Registration Data, the Device ID within the Service Request, and the relationship between the Device IDs and the MPANs in the Smart Metering Inventory) that the User sending the Service Request is the Import Supplier for the ESME on the same home area network.

6.2 The step set out at Clause 6.1(f) shall not apply in the following circumstances (and, where it is necessary to identify a Responsible Supplier, the DCC shall do so using the Registration Data, the Device ID within the Service Request, and the relationship between the Device IDs and the MPRNs or MPANs in the Smart Metering Inventory):

(a) an Import Supplier that is the Responsible Supplier for a Smart Metering System that shares a Communications Hub Function with a Smart Metering System that includes a Gas Smart Meter sends a 'Join Service' Service Request to join that Gas Smart Meter to a Gas Proxy Function;

(b) an Import Supplier that is the Responsible Supplier for a Smart Metering System that shares a Communications Hub Function with a Smart Metering System that includes a Gas Proxy Function sends a 'Restore GPF Device Log' Service Request to restore the Device Log of that Gas Proxy Function; or

(c) the Service Request has been sent by a User acting in the User Role of 'Other User'.

6.3 Where any of the checks in Clause 6.1 are not satisfied in respect of a Service Request, the DCC shall not be obliged to undertake any of the other checks that remain to be undertaken, and the DCC shall reject the Service Request (and, save where Clause 6.1(d) is not satisfied, notify the User of such rejection and of the reasons for such rejection via the DCC User Interface).

6.4 Clause 6.5 shall apply subject to:

(a) (in relation to SMETS2+ Service Requests only) Clauses 9 (Obligations of the DCC: 'Request Handover of DCC Controlled Device' Service Requests), and 11 (User and

DCC Obligations: 'Join Service' and 'Unjoin' Service Requests for Pre-Payment Meter Interface Devices and Gas Smart Meters); and

(b) (for all Service Requests) Clauses 8 (Obligations of the DCC: 'CoS Update Security Credentials' Service Requests and (where relevant) Corresponding Pre-Commands), and 18 (Obligations of the DCC: Non-Device Service Requests).

6.5 Subject to Clause 6.4, where all of the requirements of Clause 6.1 are satisfied in respect of a Service Request, the DCC shall:

(a) where the Service Request is not a SMETS1 Service Request, Transform the Service Request and:

(i) in the case of a Non-Critical Service Request, send the associated Command in accordance with Clause 13 (DCC Obligations: Sending Commands); or

(ii) in the case of a Critical Service Request, send the Transformed Service Request to the User who submitted the Service Request;

(b) where the Service Request is a SMETS1 Service Request and the DCC is holding a stored SMETS1 Future Dated Critical Service Request which:

(i) is addressed to the same Device; and

(ii) has the same Service Reference Variant,

delete the stored SMETS1 Future Dated Critical Service Request;

(c) where the Service Request is a SMETS1 Service Request but is not a SMETS1 Future Dated Critical Service Request:

(i) identify the relevant SMETS1 Service Provider using the target Device ID within the Service Request;

(ii) create the contents of a Countersigned Service Request and Countersign it; and

(iii) send the Countersigned Service Request to the relevant SMETS1 Service Provider; and

(d) where the Service Request is a SMETS1 Future Dated Critical Service Request:

(i) create a stored SMETS1 Future Dated Critical Service Request (unless the execution date/time has been set by the User to Never); and

(ii) unless removed in the interim in accordance with Clause 6.5(b), at the execution date/time specified in the stored SMETS1 Future Dated Critical Service Request, re-apply all requirements of Clause 6.1 except for Clause 6.1(m) and, where all of the requirements of Clause 6.1 (other than 6.1(m)) are met:

(A) create the contents of a Countersigned Service Request and Countersign it;

(B) send the Countersigned Service Request to the relevant SMETS1 Service Provider; and

(C) once the DCC (including, where relevant, the SMETS1 Service Provider) has completed its processing in relation to the Countersigned Service Request, delete the stored SMETS1 Future Dated Critical Service Request.

6.6 Where the DCC receives a Service Request to be processed, the request will be subject to the Southbound prioritisation mechanism.

~~6.6~~6.7 The Southbound prioritisation mechanism referred to in Section 6.6 and the applicable priority levels are specified in the 'Traffic Management Mechanism Document'. Any changes to this document shall be prepared and consulted upon by the DCC and approved by the Panel.

This document has a Classification of **Clear**

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SECMP0028 'Prioritising System Messages'

Annex C

Request for information responses

About this document

This document contains the collated non-confidential responses received to the SECMP0028 Request for Information.

Summary of the proposal

What is the issue?

The Proposer notes that periods of high Service Request (SR) volumes going through the DCC Systems will result in Service Request queuing and increased processing times. As a consequence, consumers may be adversely impacted. This is because increased processing times for Service Requests driven by Energy Consumers (prepayment meter top ups) could cause consumers being off supply for longer periods than necessary.

Under current arrangements, Service Requests are processed in the order of which they are received and there is no mechanism for prioritising SRs during high volume periods. The Proposer believes that the SEC arrangements have been primarily drafted to cater for Credit customers and do not adequately cater for Prepayment customers.

The Proposer has highlighted that delays to the processing of SRs driven by Consumers, i.e. SR 2.2 'Top Up Device', may lead to negative impacts on the Consumer experience. This is because this SR could action the enabling or disabling of supply for Prepayment customers. It has also been noted that delays to the processing of these SRs could also cause the User to resend the same SR until the desired response is received, which may amplify the high volume periods further, causing further delayed Target Response Times.

Links to SECMP0067 'Service Request Traffic Management'

SECMP0067 'Service Request Traffic Management' sought to define a maximum system capacity, operating threshold and appropriate Service User allocations. The solution was that when the DCC System reaches this operating threshold, traffic management of the Service Requests would become active. Service Users who exceeded their allocation when the System was working at near maximum capacity would then have their requests managed down to either their stated allocation or the operating threshold (whichever was greater). This was meant to prevent Service Users crowding out others who are using the System by adhering to the allocations.

SECMP0067 was rejected by the Authority, who reasoned that evidence had not been provided to adequately demonstrate that the modification would better facilitate the General SEC Objectives. The Authority were of the view that the positive effects identified by the Change Board against SEC Objective (a) did not justify the costs of this modification given the outstanding issues.

Solution

To reduce potential impacts on consumers, the Proposer suggests adding a priority ranking to each Service Request. During periods of high Service Request volumes, were a queue to form, this would result in the DCC processing higher priority Service Requests first. Among these high priority Service Requests would be Service Requests relating to pre-payment top up and ensuring supply is available for vulnerable consumers.

Question 1: Has your organisation encountered a problem with Consumer-driven SRs being delayed during periods of high system traffic?

SECMP0028 aims to introduce a prioritisation system at times of high DCC System traffic, to ensure that Service Requests driven by Consumers are processed in a timely manner. This is intended to avoid potential delays when Consumers attempt to top up their Prepayment meters.

Question 1			
Respondent	**Category**	**Response**	**Rationale**
Western Power Distribution	Networks Party	No	We don't believe we have yet experienced any issues as a result of high system traffic. Note that we are still in the early stages of understanding smart meter data that is available and therefore are not sending SRV's in the volumes that we expect to. It is also worth noting that the penetration levels of smart meters is still low.
Bulb	Large Supplier	No	At current traffic rates Bulb has not been negatively impacted by high traffic. [Confidential information omitted.] As we start to see this level of increase for DCC enabled meters we will become more susceptible to potential traffic issues. Looking at the most common reasons for our members to contact us, queries related to top ups are the highest. If top ups become impacted by traffic issues, suppliers will be more at risk in having to deal with more member enquiries.
Utilita Energy Limited	Large Supplier	N/A	This question is premature. This modification looks to provide an element of futureproofing and safeguarding to the DCC network for when it is operating at its maximum, given that DCC capacity is not infinite. This question is focussed on User experience to date, which will not be reflective of User experience in upcoming years. The volume of Service Requests travelling through the DCC network at this current time is considerably less than the volume of Service Requests which will travel through the DCC network in the future - there are still millions of SMETS1 meters to be migrated to the DCC, millions of SMETS2 meters to be installed onto the DCC network, and undoubtedly new DCC Users still to enter the market utilising the DCC. All scenarios will lead to a considerable increase in traffic, and

Question 1			
Respondent	**Category**	**Response**	**Rationale**
			once these scenarios are realised, there will be far greater risk of consumer driven SRs such as top ups being delayed. The impact of this could see vulnerable customers going off supply.
British Gas	Large Supplier	No	Delays experienced haven't been related to system traffic issues.
Octopus Energy	Large Supplier	Yes	This is particularly problematic when it affects I&C, as it results in requirements to remote commission (if the meter has this capability) and a poor customer experience i.e. a delay in full smart capability.
ScottishPower Energy Retail Ltd.	Large Supplier	No	We have not encountered any such problem and, given the likely costs to implement these proposals, would call upon those who would support SECMP0028 to provide evidence that they have been affected by the issues it identifies.

Question 2: Do you think the issues SECMP0028 seeks to resolve are similar to the issues SECMP0067 sought to resolve?

The rationale for SECMP0067 was to activate a traffic management system when the DCC System reaches its operating threshold. SECMP0067 was rejected by the Authority, as the operational benefit was thought to be outweighed by the implementation costs.

Question 2			
Respondent	**Category**	**Response**	**Rationale**
Western Power Distribution	Networks Party	Yes	SECMP0028 is similar to the SECMP0067 Proposed Solution of creating a Priority Service Request List, and posed the same issues as before, only that individual Service Request activity couldn't be constrained.
Bulb	Large Supplier	Yes	The fundamental issues that SECMP0028 and SECMP0067 are trying to tackle is ensuring that the right service requests are unaffected. Service requests that are marked as critical, such as Top Up Device, should have security in performance. Without this, it causes a higher risk for members with Smart PAYG to lose energy supply. At Bulb, we view this as one of the worst possible scenarios for our members.
Utilita Energy Limited	Large Supplier	No	SECMP0067 looked to throttle Users who were exceeding their allocation and scale those Users back when the DCC was reaching its operational threshold. This modification does look at a working model for when the DCC is reaching its operational limits but doesn't look to throttle any Users. The modification enables priority SR's, particularly SR's around supply continuation, to be prioritised during periods of high traffic. Scaling back of Users is not suggested, only that the most important SRs are granted priority status and not subject to any delays - delays which could result in consumers' being off supply for longer than necessary if no solution is implemented.
British Gas	Large Supplier	No	SECMP0028 is specific to prioritising PP SRs. SECMP0067 was to manage capacity.
Octopus Energy	Large Supplier	Yes	For differing reasons, but the expectation would be that the solution could cover both eventualities.

Question 2			
Respondent	**Category**	**Response**	**Rationale**
ScottishPower Energy Retail Ltd.	Large Supplier	Yes	Fundamentally, the proposers' concerns seem to be the same: i.e. that at times of network stress a risk will be introduced that prepayment customers will be unable to vend. However, we are not persuaded that this is the case. In April 2020, we responded to the Modification Consultation for SECMP0067 with the suggestion that it be rejected. That view was, in part, based on the costs, which simply did not appear to have been weighed against the benefits in any meaningful way. We were also not persuaded that the change was really needed, particularly as other initiatives were already seeking to reduce levels of extraneous network traffic; nevertheless, we indicated our willingness to revisit the matter once these initiatives had time to deliver. In our view, these initiatives did yield the improvements expected of them and, as a consequence, numbers of Device Alerts have reduced greatly while network capacity has increased. This has been particularly noticeable in C&S, where the promise of 4G Hubs will serve to further improve capacity.

Question 3: If SECMP0028 were to progress, what do you believe are the criteria by which SRs should be awarded 'priority' status?

SECMP0028 was presented to the Working Group on 7 April 2021. While one member agreed that any prioritisation of Service Requests would need to include prioritising Prepayment top-ups, believing they were among the most crucial of Service Requests that need accepting in the event of a DCC System failure, other members highlighted different Service Requests they believed should be given priority. One member stated that SRV 7.4 'Read Supply Status' should be prioritised given that Network Operators use it to ensure their consumer's supplies are restored after an outage. Other members believed there were other valid Service Requests related to ensuring Certificates are correctly placed on meters.

Question 3			
Respondent	**Category**	**Response**	**Rationale**
Western Power Distribution	Networks Party		Priority 1 Supply affecting (i.e. top up and read supply status) Priority 2 Certificate Activity Priority 3 Outage and extreme over voltage alerts Priority 4 Everything else
Bulb	Large Supplier	Yes	The main criteria are ensuring that a member has continuity of supply. Any SR that affects this functionality should be marked as 'priority'. This logic can be seen through the following SR's. 'Top Up Device' which delivers positive credit balance to the meter. 'Activate Emergency Credit' which gives Bulb the ability to prevent members from going off supply in the event of any financial difficulties a member can be experiencing.
Utilita Energy Limited	Large Supplier	Criteria and priority ranking	We have applied a priority ranking system to Service Requests from 1-4, with 1 being the highest priority. 1 – any Service Request relating to customers' continuation of supply should be the highest priority. This will ensure that during periods of high traffic, prioritisation is appropriately applied to prevent potentially vulnerable customers from going off supply 2 – any Service Request relating to on-site activities where there are engineers actively waiting for Service Responses to complete installations. 3 – any Service Request which could indirectly impact supply and/or is likely to be being

Question 3			
Respondent	**Category**	**Response**	**Rationale**
			sent in response to a customer request (potentially live, such as during call centre contact) 4 – any other Service Request which doesn't fall into the above 3 categories. **Please see full ranking in the table on Page 9 of this document.**
British Gas	Large Supplier		A yes or no response isn't relevant for the question. We do not believe PP SRs need to be prioritised. Customers can top up and the message land later to the supplier. Our view is that any Install and Commission messages whilst an engineer is on site should take precedence. We also believe that managing messages via capacity allocated, to date, has been effective. We are also concerned that prioritising SRs could increase the risk of denial of service security breaches or make a DoS achieved quicker.
Octopus Energy	Large Supplier	Yes	Agreed that there should be a priority for prepay commands (specifically reconnections and top ups to allow reconnections). However, we should also be mindful of SRs relating to the I&C process, as these can result in additional visits to resolve and a poor customer experience that has a detrimental effect on the Smart program.
ScottishPower Energy Retail Ltd.	Large Supplier	No	A significant drawback with the proposals is that all Users will have their own view as to what is critical. As all Users pay for the system, it would be inappropriate to assess the priorities of one User over another.

Service Request Name	Service Reference	Service Reference Variant	Critical	Modes of Operation				Eligible User Roles	Priority
				On Demand	Future Dated Response Pattern	DCC Scheduled	Non-Device Request		
Update Import Tariff (Primary Element)	1.1	1.1.1	Yes	Yes	Device	No	No	IS GS	3
Update Import Tariff (Secondary Element)	1.1	1.1.2	Yes	Yes	Device	No	No	IS	3
Update Price (Primary Element)	1.2	1.2.1	Yes	Yes	Device	No	No	IS GS	3
Update Price (Secondary Element)	1.2	1.2.2	Yes	Yes	Device	No	No	IS	3
Update Meter Balance	1.5	1.5	Yes	Yes	No	No	No	IS GS	3
Update Payment Mode	1.6	1.6	Yes	Yes	Device	No	No	IS GS	3
Reset Tariff Block Counter Matrix	1.7	1.7	Yes	Yes	No	No	No	IS	3
Update Prepay Configuration	2.1	2.1	Yes	Yes	Device	No	No	IS GS	1
Top Up Device	2.2	2.2	No	Yes	No	No	No	IS GS	1
Update Debt	2.3	2.3	Yes	Yes	No	No	No	IS GS	3

Activate Emergency Credit	2.5	2.5	Yes	Yes	No	No	No	IS GS	3
Display Message	3.1	3.1	No	Yes	DSP	No	No	IS GS	4
Restrict Access For Change Of Tenancy	3.2	3.2	No	Yes	DSP	No	No	IS GS	4
Clear Event Log	3.3	3.3	No	Yes	No	No	No	IS GS	4
Update Supplier Name	3.4	3.4	No	Yes	DSP	No	No	IS GS	4
Disable Privacy PIN	3.5	3.5	No	Yes	No	No	No	IS GS	4
Read Instantaneous Import Registers	4.1	4.1.1	No	Yes	DSP	No	No	IS GS ED GT	4
Read Instantaneous Import TOU Matrices	4.1	4.1.2	No	Yes	DSP	No	No	IS GS ED GT	4
	4.1	4.1.3	No	Yes	DSP	No	No	IS	4

Read Instantaneous Import TOU With Blocks Matrices								ED	
Read Instantaneous Import Block Counters	4.1	4.1.4	No	Yes	DSP	No	No	GS	4
Read Instantaneous Export Registers	4.2	4.2	No	Yes	DSP	No	No	ES ED	4
Read Instantaneous Prepay Values	4.3	4.3	No	Yes	DSP	No	No	IS GS	3
Retrieve Change Of Mode / Tariff Triggered Billing Data Log	4.4	4.4.2	No	Yes	DSP	No	No	IS GS	4
Retrieve Billing Calendar Triggered Billing Data Log	4.4	4.4.3	No	Yes	DSP	No	No	IS GS	4
Retrieve Billing Data Log (Payment Based Debt Payments)	4.4	4.4.4	No	Yes	DSP	No	No	GS IS	4
Retrieve Billing Data Log (Prepayment Credits)	4.4	4.4.5	No	Yes	DSP	No	No	GS IS	4
Retrieve Import Daily Read Log	4.6	4.6.1	No	Yes	DSP	Yes	No	IS GS	4
Retrieve Export Daily Read Log	4.6	4.6.2	No	Yes	DSP	Yes	No	ES	4
Read Active Import Profile Data	4.8	4.8.1	No	Yes	DSP	Yes	No	IS GS ED	4

								GT OU	
Read Reactive Import Profile Data	4.8	4.8.2	No	Yes	DSP	Yes	No	IS ED OU	4
Read Export Profile Data	4.8	4.8.3	No	Yes	DSP	Yes	No	ES ED OU	4
Read Network Data	4.1	4.1	No	Yes	DSP	Yes	No	IS GS ED GT	4
Read Tariff (Primary Element)	4.11	4.11.1	No	Yes	No	No	No	IS GS OU	4
Read Tariff (Secondary Element)	4.11	4.11.2	No	Yes	No	No	No	IS OU	4
Read Maximum Demand Import Registers	4.12	4.12.1	No	Yes	DSP	Yes	No	IS ED	4
Read Maximum Demand Export Registers	4.12	4.12.2	No	Yes	DSP	Yes	No	ES ED	4
Read Prepayment Configuration	4.13	4.13	No	Yes	DSP	No	No	IS GS	4
Read Prepayment Daily Read Log	4.14	4.14	No	Yes	DSP	Yes	No	IS GS	4

Read Load Limit Data	4.15	4.15	No	Yes	DSP	Yes	No	IS ED	4
Read Active Power Import	4.16	4.16	No	Yes	No	Yes	No	IS ED	4
Retrieve Daily Consumption Log	4.17	4.17	No	Yes	DSP	Yes	No	IS GS ED GT OU	4
Read Meter Balance	4.18	4.18	No	Yes	DSP	No	No	IS GS	3
Create Schedule	5.1	5.1	No	No	No	No	Yes	IS ES GS ED GT OU	4
Read Schedule	5.2	5.2	No	No	No	No	Yes	IS ES GS ED GT OU	4
Delete Schedule	5.3	5.3	No	No	No	No	Yes	IS	4

								ES GS ED GT OU	
Read Device Configuration (Voltage)	6.2	6.2.1	No	Yes	No	No	No	IS RSA ED	4
Read Device Configuration (Randomisation)	6.2	6.2.2	No	Yes	No	No	No	IS RSA ED	4
Read Device Configuration (Billing Calendar)	6.2	6.2.3	No	Yes	No	No	No	IS RSA GS	4
Read Device Configuration (Identity Exc MPxN)	6.2	6.2.4	No	Yes	No	No	No	IS ES GS RSA ED GT OU	4
Read Device Configuration (Instantaneous Power Thresholds)	6.2	6.2.5	No	Yes	No	No	No	IS RSA	4
Read Device Configuration (MPxN)	6.2	6.2.7	No	Yes	No	No	No	IS ES GS RSA ED GT OU	4
Read Device Configuration (Gas)	6.2	6.2.8	No	Yes	No	No	No	GS RSA GT	4

Read Device Configuration (Payment Mode)	6.2	6.2.9	No	Yes	No	No	No	IS GS RSA	4
Update Device Configuration (Load Limiting General Settings)	6.4	6.4.1	Yes	Yes	Device	No	No	IS	4
Update Device Configuration (Load Limiting Counter Reset)	6.4	6.4.2	No	Yes	DSP	No	No	IS	4
Update Device Configuration (Voltage)	6.5	6.5	No	Yes	DSP	No	No	ED	4
Update Device Configuration (Gas Conversion)	6.6	6.6	Yes	Yes	No	No	No	GS	4
Update Device Configuration (Gas Flow)	6.7	6.7	Yes	Yes	No	No	No	GS	4
Update Device Configuration (Billing Calendar)	6.8	6.8	Yes	Yes	No	No	No	IS GS	4
Synchronise Clock	6.11	6.11	Yes	Yes	No	No	No	IS GS	2
Update Device Configuration (Instantaneous Power Threshold)	6.12	6.12	No	Yes	DSP	No	No	IS	4
Read Event Or Security Log	6.13	6.13	No	Yes	No	No	No	IS GS ED GT RSA	4
Update Device Configuration (Auxiliary Load Control Description)	6.14	6.14.1	Yes	Yes	No	No	No	IS	4
Update Device Configuration (Auxiliary Load Control Scheduler)	6.14	6.14.2	Yes	Yes	Device	No	No	IS	4
Update Security Credentials (KRP)	6.15	6.15.1	Yes	Yes	Device	No	No	IS	4

								GS ED GT	
Update Security Credentials (Device)	6.15	6.15.2	Yes	Yes	No	No	No	IS GS	4
Issue Security Credentials	6.17	6.17	Yes	Yes	No	No	No	IS GS	4
Set Maximum Demand Configurable Time Period	6.18	6.18.1	No	Yes	DSP	No	No	ED	4
Reset Maximum Demand Registers	6.18	6.18.2	No	Yes	DSP	No	No	ED	4
Set Device Configuration (Import MPxN)	6.2	6.20.1	No	Yes	DSP	No	No	IS GS	4
Set Device Configuration (Export MPAN)	6.2	6.20.2	No	Yes	DSP	No	No	ES	4
Request Handover Of DCC Controlled Device	6.21	6.21	No	Yes	DSP	No	No	IS GS	4
Configure Alert Behaviour	6.22	6.22	No	Yes	No	No	No	IS GS ED	4
Update Security Credentials (CoS)	6.23	6.23	No	Yes	DSP & Device	No	No	IS GS	4
Retrieve Device Security Credentials (KRP)	6.24	6.24.1	No	Yes	No	No	No	IS	4

								GS ED GT	
Retrieve Device Security Credentials (Device)	6.24	6.24.2	Yes	Yes	No	No	No	IS GS	4
Set Electricity Supply Tamper State	6.25	6.25	Yes	Yes	No	No	No	IS	4
Update Device Configuration (daily resetting of Tariff Block Counter Matrix)	6.26	6.26	Yes	Yes	No	No	No	IS	4
Update Device Configuration (RMS Voltage Counter Reset)	6.27	6.27	No	Yes	DSP	No	No	ED	4
Set CHF Sub GHz Configuration	6.28	6.28	No	Yes	No	No	No	IS GS	4
Request CHF Sub GHz Channel Scan	6.29	6.29	No	Yes	No	No	No	IS GS	4
Read CHF Sub GHz Configuration	6.3	6.3	No	Yes	No	No	No	IS GS RSA	4
Read CHF Sub GHz Channel	6.31	6.31	No	Yes	No	No	No	IS GS RSA	4
Read CHF Sub GHz Channel Log	6.32	6.32	No	Yes	No	No	No	IS GS RSA	

Enable Supply	7.1	7.1	Yes	Yes	No	No	No	IS	1
Disable Supply	7.2	7.2	Yes	Yes	No	No	No	IS GS	1
Arm Supply	7.3	7.3	Yes	Yes	No	No	No	IS GS	1
Read Supply Status	7.4	7.4	No	Yes	No	No	No	IS ES GS RSA ED GT	1
Activate Auxiliary Load	7.5	7.5	Yes	Yes	No	No	No	IS	1
Deactivate Auxiliary Load	7.6	7.6	Yes	Yes	No	No	No	IS	3
Read Auxiliary Load Switch Data	7.7	7.7	No	Yes	DSP	No	No	IS OU	4
Reset Auxiliary Load	7.8	7.8	Yes	Yes	No	No	No	IS	1
Add Auxiliary Load To Boost Button	7.9	7.9	No	Yes	DSP	No	No	IS	4
Remove Auxiliary Load From Boost Button	7.1	7.1	No	Yes	DSP	No	No	IS	4
Read Boost Button Details	7.11	7.11	No	Yes	DSP	No	No	IS OU	4
Set Randomised Offset Limit	7.12	7.12	Yes	Yes	No	No	No	IS	4

Commission Device	8.1	8.1.1	Yes	Yes	No	No	No	IS GS	2
Read Inventory (*Current and Future Suppliers may use this Service Request*)	8.2	8.2	No	No	No	No	Yes	IS ES GS RSA ED GT OU	4
Decommission Device	8.3	8.3	No	No	No	No	Yes	IS GS	2
Update Inventory	8.4	8.4	No	No	No	No	Yes	IS ES GS RSA ED GT OU	4
Service Opt Out	8.5	8.5	No	No	DSP	No	No	IS GS	4
Service Opt In	8.6	8.6	No	No	No	No	Yes	IS GS	4
Join Service (Critical)	8.7	8.7.1	Yes	Yes	No	No	No	IS GS	2

Join Service (Non-Critical)	8.7	8.7.2	No	Yes	No	No	No	IS GS OU	2
Unjoin Service (Critical)	8.8	8.8.1	Yes	Yes	No	No	No	IS GS	2
Unjoin Service (Non-Critical)	8.8	8.8.2	No	Yes	No	No	No	IS GS OU	2
Read Device Log	8.9	8.9	No	Yes	DSP	No	No	IS GS OU	2
Update HAN Device Log	8.11	8.11	No	Yes	DSP	No	No	IS GS OU	2
Restore HAN Device Log	8.12	8.12.1	No	Yes	No	No	No	IS GS	2
Restore Gas Proxy Function Device Log	8.12	8.12.2	No	Yes	No	No	No	IS GS	4
Return Local Command Response	8.13	8.13	No	No	No	No	Yes	IS GS	4
Communications Hub Status Update- Install Success	8.14	8.14.1	No	No	No	No	Yes	IS GS	2
	8.14	8.14.2	No	No	No	No	Yes	IS	2

Communications Hub Status Update - Install No SM WAN								GS	
Communications Hub Status Update. – Fault Return	8.14	8.14.3	No	No	No	No	Yes	IS GS	4
Communications Hub Status Update – No Fault Return	8.14	8.14.4	No	No	No	No	Yes	IS GS	4
Request Customer Identification Number	9.1	9.1	No	Yes	No	No	No	OU	4
Update Firmware	11.1	11.1	No	No	No	No	Yes	IS GS	4
Read Firmware Version	11.2	11.2	No	Yes	DSP	No	No	IS ES GS RSA ED GT OU	4
Activate Firmware	11.3	11.3	Yes	Yes	Device	No	No	IS GS	4
Request WAN Matrix	12.1	12.1	No	No	No	No	Yes	IS ES GS RSA ED GT OU	2

Device Pre-notification	12.2	12.2	No	No	No	No	Yes	IS ES GS RSA ED GT OU	2
Record Network Data (GAS)	14.1	14.1	No	Yes	No	Yes	No	GT	4

Data Communications Company

SEC Modification Proposal, SECMP0028, DCC CR4749

Southbound Prioritisation, formerly Prioritising Over The Air Messages

Full Impact Assessment (FIA)

Version:	**0.3**
Date:	**13th October, 2023**
Author:	**DCC**
Classification:	**DCC Public**

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1 Executive Summary

The Change Board are asked to approve:

- Total cost to implement SECMP0028 of £309,879, which comprises:
    - £305,381 in Design, Build and PIT costs
    - £4,498 in release costs (SIT, UIT and Implementation)
- A timescale to complete the implementation of 10 months, including integration testing
- Include SECMP0028 in the November 2024 SEC Release

Problem Statement and Solution

Periods of high Over The Air (OTA) message volumes going through the DCC Systems could result in message queuing and increased processing times. Without prioritisation of consumer-driven OTA messages during periods of high system traffic, consumers may experience unnecessary outages and delays to their supplies being made live following outages. Depending on the vulnerability of affected consumers, the implications could be severe if not addressed.

There have already been instances of Users not receiving important On Demand Responses in time because there was so much Scheduled data collection taking place.

Modification Benefits

The Modification would establish multiple tiers of priority in the Data Service Provider (DSP) that can categorise OTA messages depending on the relative importance of processing them quickly. Southbound OTA messages with a 'Priority Level 1' would be fast-tracked in any DSP queues such that they are resolved ahead of any lower priority level OTA messages. By including commands, responses, and alerts as part of the solution this would help ensure that consumers and Users receive key Smart Metering data and requests before less important OTA messages without a corresponding negative impact on supply and business processes.

Reconfiguring the priority levels will be a relatively simple process, allowing configuration changes as the types of traffic change.

2 Document History

2.1 Revision History

Revision Date	Revision	Summary of Changes
01/03/2023	0.1	Initial compilation
13/10/2023	0.3	DCC review completed

2.2 Associated Documents

This document is associated with the following documents:

#	Title and Originator's Reference	Source	Issue Date
1	SECMP0028 Modification Report v0.4	SECAS	25/07/2022
2	SECMP0028 Business Requirements v0.7	SECAS	25/07/2022
3	SEC Modification Proposal, SECMP0028, DCC CR4749, Prioritising Over The Air Message	DCC	23/09/2022

2.3 Document Information

The Proposer for this Modification is Andy Knowles of Utilita. The proposal was initially submitted in December 2016. An Initial Modification Report was prepared and published in January 2017.

The Preliminary Impact Assessment (PIA) was requested of DCC on 27th July 2022. This is issued as DCC CR4749.

It should be noted that the term "OTA Message" or "OTA message" has been used throughout the Requirements and supporting documentation published by SECAS. The terms 'OTA' and 'Message' are defined terms but not used together. 'OTA' is usually only used in the context of firmware images in the SEC. DCC proposes that the term should be defined using GBCS terminology as follows.

OTA Messages can be:

- A Command, Response or Alert
- Alert: A Message generated by a Device including in response to a problem or the risk of a potential problem
- Command: An instruction to perform a function received or sent via any interface
- Response: A response to a Command received or sent over any interface

Given the nature of this change, and that it follows on from SECMP0208, "Northbound Prioritisation", the document title has been updated.

3 Solution Context and Requirements

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

The problem statement and requirements have been provided by SECAS, the Proposer, and the Working Group.

3.1 Current Arrangements

The Proposer has noted that periods of high Over The Air (OTA) message volumes in the DCC Total System can result in message queuing and increased processing times. As a consequence, consumers may be adversely impacted. This is because increased processing times for OTA messages driven by Consumers, e.g., prepayment meter top ups, could cause a loss of supply or a delay in regaining supply.

3.2 What is the Issue?

Currently, the DCC are required to process all OTA messages in accordance with the Target Response Times (TRTs) outlined in Smart Energy Code (SEC) Section H3.14 and SEC Appendix E 'DCC User Interface Services Schedule'. In situations where there are high volumes of OTA messages the DCC Total System could approach or exceed processing capacity. This could cause DCC Users to experience variations to service performance and delays to TRTs.

Under current arrangements, OTA messages are processed in the order in which they are received across the DCC Total System and there is no mechanism for prioritising specific OTA messages during high volume periods. It has also been noted that delays to the processing of consumer-driven Service Requests could cause the User to resend the same message until the desired Response is received, which may exacerbate the high volume of messages and cause further delays to Response times.

The Proposer believes that the SEC arrangements have been primarily drafted to cater for credit consumers and do not adequately cater for Prepayment Consumers, and has highlighted that delays to the processing of consumer-driven Service Requests, for example Service Reference Variant (SRV) 2.2 'Top Up Device', may lead to negative impacts on the consumer experience. This is because this Service Request could action the enabling or disabling of supply for Prepayment consumers.

3.3 Impact of the Issue

In the case of the DCC Systems being overloaded and not processing OTA messages, cost and reputational damage would be caused to Suppliers and to the industry as a whole.

In a Request for Information issued by SECAS in September 2021, no SEC Parties identified situations where Consumer-driven Service Requests were delayed during periods of high system traffic. Separate consultations conducted with DCC Users and Service Providers as part of the DCC's Network Enhancement Plan concluded that without technical enhancements to mitigate the increases in DCC Total System traffic, instances of process delays were highly likely to increase.

Without prioritisation of consumer-driven OTA messages during periods of high system traffic, and specifically those OTA messages relating to Prepayment top ups, the Proposer believes consumers may experience unnecessary outages and delays to their supplies being made live following outages. Depending on the vulnerability of affected consumers, the implications could be severe if not addressed.

There have already been many instances of Users not getting their important On Demand Responses in time because there was so much Scheduled data collection going on.

3.4 Business Requirements

The business requirements are as follows.

Requirement 1: To assign a priority level to all OTA messages allowing them to be processed and sent in a specific order in the DSP (Systems).

The solution would establish multiple tiers of priority in the DSP that can categorise OTA messages depending on the relative importance of processing them quickly. OTA messages with a 'Priority Level 1' would be fast-tracked in any queues so that they are processed ahead of any OTA messages with lower priority levels (subsequently higher numbers denoting lower priority). OTA messages with lower priority levels would still be processed in the order consistent with their assigned levels. The solution could establish the following criteria against each priority level:

Priority Level	Criteria
1	OTA messages relating to the continuity of a consumer's energy supply.
2	OTA messages which are required for an engineer to complete on-site activities.
3	OTA messages with an indirect impact on a consumer's energy supply, and/or OTA messages required to comply with a consumer request.
4	None of the above criteria apply.

DCC notes that:

1. The number of Priority Levels and their associated Service Requests, responses, and Alerts will need to be determined by the Working Group and industry sub-committees before Go Live. The solution described below suggests the use of five priority levels (or priority bands).

2. The solution will be designed such that the number of Priority Levels is not fixed, and is configurable.

3. The full range of OTA messages should be considered in this solution, such as emergency firmware updates, Business as Usual Device firmware updates, critical and non-critical commands.

4. In design discussions for other proposed changes, a priority level for Responses and Alerts has been suggested as follows:

    a. Service Responses other than Scheduled Service Request responses (see item d below)

    b. High Priority Alerts: a configurable list of Northbound[1] High Priority Alerts, which may include both Device Alerts and DCC Alerts

    c. Other Alerts: Device Alerts and DCC Alerts other than high priority alerts

[1] Northbound; Responses and Alerts received by the DSP from Smart Metering Devices
Southbound; Requests received by the DSP from Service Users

d. Scheduled Service Request Responses: responses to commands sent out as a result of a scheduled operation

A detailed piece of work is required prior to implementation to determine the number of priority levels and the assignment of Service Requests, Responses, and Alerts to each. DCC has provided a suggested first pass with a set of five (5) priority bands as described in Table 1 below. DCC recommends this priority setting be carried out and agreed by the Business Proposer, Working Group, and sub-committees as nominated by SECAS.

Requirement 2: To make all priority level assignations fully configurable.

It must be relatively simple to change an OTA message's assigned priority level. In the event that a new process is introduced or there is a change to an existing process, certain OTA messages with a lower priority may become part of a critical pathway for an urgent process. Equally, changes to processes may result in certain OTA messages no longer being crucial to the success of those processes. It is therefore necessary to introduce a method by which priority levels can be reconfigured as and when appropriate.

As part of the PIA, SECAS and the Proposer will engage with industry to determine which bodies or committees should have oversight for changes to the Priority Levels. This could also apply in the hypothetical instance that powers are introduced for Sub-Committees to override priority levels in an infrastructure critical event.

3.5 Other Requirements

At the Requirements Workshop for this Modification, the following points were made:

- Regarding the use of a 'Priority Lane' with dedicated infrastructure, the DCC and Service Providers advised this would likely result in a significant increase to implementation costs. All members agreed that the prioritisation levels should apply at all times to avoid complicating the solution with an 'activation mechanism', and that the solution should be "digital only" i.e., with no added infrastructure.

- Full process pathways should be considered when assigning priority levels, not just standalone OTA messages, as queueing is a bigger issue when DSP is sending messages back to the Service User rather than in the CSP network. Assigning priority levels to Alerts will be discussed and agreed by the Working Group.

4 Solution Overview

The solution will include prioritisation for southbound messages (Requests) as shown in Figure 1 below.

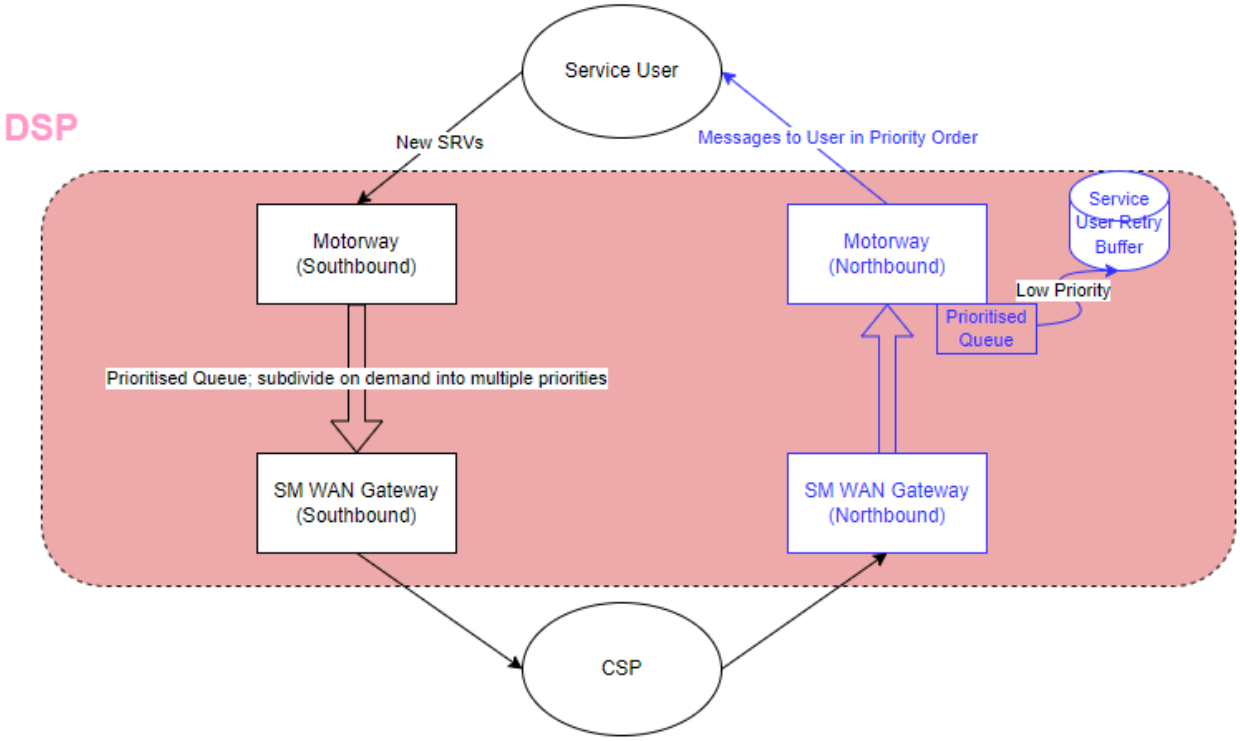

Figure 1: Northbound and Southbound Prioritisation

Northbound processing, as shown in blue on the right-side of the diagram, shall remain unchanged, since changes for prioritisation of northbound messages (Responses and Alerts) have already been implemented as part of SECMP0208, Northbound Prioritisation, under the heading of Marketwide Half-Hourly Settlement. The solution will assign a priority to all southbound messages (based on SRV and mode of operation) to be used when selecting work from queues for onward transmission to both SMETS2[2] and SMETS1 Communications Service Providers (CSPs) through the CSP WAN and S1SP Gateways respectively. This will also include the Comms Hubs and Networks 4G Service Provider.

Messages will be selected in priority order for delivery from the prioritised queue by the SMWAN[3] Gateways (also referred to as the CSP and S1SP Gateways). Table 1 following shows an initial suggestion for assigning priorities to Southbound messages.

[2] SMETS = Smart Metering Equipment Technical Specification
[3] SMWAN = Smart Metering Wide Area Network

Mode	Condition	Priority
On Demand	SRV relating to the continuity of a consumer's energy supply	1
	SRV required for an engineer to complete on-site activities	2
	SRV in list of messages required to comply with a consumer request	3
	Any other SRVs	4
	SRVs with 24-hour TRTs	5
Any other mode	Scheduled	5

Table 1: Suggested Priority Bands for Southbound Prioritisation

Messages with priority 2-5 will be promoted to priority 1 in the event that capacity is available and the DSP's southbound TRT is close to being breached.

It should be noted that the Priority bands and contents for Northbound Prioritisation and Southbound Prioritisation are maintained separate and independent from each other.

4.1 Impacted Components

Southbound Prioritisation requires some changes to the components described following, but after implementation the number of Priority Bands, and their contents can be reconfigured and updated during a maintenance release through the DCC Small Change process.

Feature Switches	Changes will be enabled, and can be disabled, by a Feature Switch.
Data Management	Table definition for the southbound prioritised queue will be changed to accommodate the new priority rules.
Data Communications	When writing messages to the SMWAN queue, compute the message priority according to the rules. When selecting messages from the queue in the SMWAN gateway, the new priority selection rules (as outlined in Table 1) will be used.
Technical Specifications	There are no changes to any of the Technical Specifications including DUIS.
Infrastructure	Assume that no additional infrastructure will be required to implement this Change. Performance testing is required, both to ensure that the performance of the system will allow the Contractor to maintain SLAs and to establish whether there is a material impact on the underlying infrastructure, for example by measuring CPU, memory, and latency. If there is an adverse impact on performance, it is possible that additional costs may apply for infrastructure expansion.
DSP Resilience	No change.
Disaster Recovery	No impact.
Security Team	Will assure the implementation.

4.2 Configuration and Settings

As mentioned in the above sections, DCC is requesting the input and agreement of the Business Proposer, Working Group, and SECAS-led sub-committees for the number of Priority Bands and their contents. While the configuration of these items can be quickly and easily changed, DCC recommends that the final configuration or implementation should be frozen before the start of the Pre-Integration Testing (PIT) as described following.

Any changes to the priority bands or contents after implementation need to be agreed by SEC Panel, who may designate this to the Operations Group.

5 Testing Considerations

This Full Impact Assessment includes the cost to develop, fully test, and deliver this Modification.

5.1 Pre-Integration Testing (PIT)

The PIT team will design and implement the functional updates required to the DSP for the change, and will test to ensure DSP functionality aligns with the solution described in this FIA. PIT testing will include testing both existing updated DSP Use Cases, and new Use Cases development for the Modification implementation. A series of regression tests will also be run.

Automated testing will be used where possible.

This change involves additional work being done by the DSP system in prioritising messages and the resulting queuing and dispatching of those messages. The impact of these changes will be performance tested to evaluate the impact of prioritisation, queuing, and dequeuing to identify possible bottlenecks that need to be investigated and resolved in advance of deployment to Production. One possible scenario to be tested is the potential build-up of lower priority messages due to high volume of higher priority messages and the impact that has on system resources.

5.2 System Integration Testing (SIT)

As the change is non-functional, testing is expected to be completed during the PIT phase. There will be no additional benefit derived from testing this Modification in the SIT environment.

On the basis that the Change is to be included in a wider release, the SIT team expects to execute the SMETS1 and SMETS2 Daily System Regression test packs as part of the release activity, which will verify that the processing of service requests has not regressed as a result of the changes in this Modification.

It is assumed that the Modification will be delivered as part of a SEC System Release.

5.3 User Integration Testing (UIT)

There is no User Integration Testing required, as the change does not introduce any changes to system integrations within the DCC Total System and is within limited components within the DCC Total System.

6 Implementation Timescales and Releases

This Modification is expected to be included in a SEC Release in November 2024. Implementation timescales will be finalised as part of the relevant SEC Release.

6.1 Change Lead Times and Timelines

From the date of approval (in accordance with Section D9 of the SEC), to implement Design, Build and PIT requires a lead time of approximately **six months**.

The Modification will be ready to schedule to a production release after approximately ten months on the basis that it is to be included in a SEC System Release alongside other Modifications and Changes that will be subject to post PIT activities. As this Modification would be scheduled alongside other Modifications and CRs, there might be a period of no activity for this Modification.

6.2 SEC Release Allocation and Other Code Impacts

This Modification is expected to be implemented as part of the November 2024 SEC Release, however the allocation to a release may be dependent on other Modification timings and the suitability of a release. No functionality overlap with other Modifications has been identified at the time of undertaking this FIA.

6.3 Costs and Charges

This section indicates the quote for all phases of application development stage for this Modification. Note these costs assume a release of just this SEC Modification without any other Modifications or Change Requests in the release, which is not truly reflective of what the post-PIT test costs or programme duration will look like. A calculation of those costs will be carried out when the contents of the future Release are finalised, and the post-PIT costs determined through a "Release CR" also referred to as a "Post-PIT CR".

	Design, Build, and PIT	Integration Testing, SIT and UIT	TTO	Application Support	Total
SECMP0028	£305,381	£0	£1,032	£3,466	**£309,879**

Design	The production of detailed System and Service designs to deliver all new requirements.
Build	The development of the designed Systems and Services to create a solution (e.g., code, systems, or products) that can be tested and implemented.
Pre-Integration Testing (PIT)	Each Service Provider tests their own solution to agreed standards in isolation of other Service Providers. This is assured by DCC.
Systems Integration Testing (SIT)	All the Service Provider's PIT-complete solutions for a Release are brought together and tested as an integrated solution, ensuring all SP solutions align and operate as an end-to-end solution.
User Integration Testing (UIT)	Users are provided with an opportunity to run a range of pre-specified tests in relation to the relevant change.
Implementation to Live (TTO)	The solution is implemented into production environments and made ready for use by Users as part of a live service.
Application Support	Expected three (3) calls per day for the first three months of operation. If configuration changes are required in this time, this is included in the costs.

6.4 Changes to the Agreement

The DSP contract updates will be agreed and detailed within the Contract Amendment Note (CAN) and will impact the following schedules:

- Schedule 2.1 (DCC Requirements): addition of new requirements for this change
- Schedule 3 (DCC Responsibilities): update to reflect the addition of new DCC Responsibilities

- Schedule 4.1 (DSP Solution): solution design documents
- Schedule 6.1 (Implementation Planning): addition of new milestones
- Schedule 7.1 (Charges and Payment): revisions to incorporate charges and payment

6.5 Changes to Reporting

Note that DCC believes that this definition and usage would require an exception or acknowledgment within the Performance Measurement Report (PMR) and/or the Performance Measurement Methodology (PMM).

Appendix A: Glossary

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

Acronym	Definition
CAN	Contract Amendment Note
CR	(DCC) Change Request
CSP	Communication Service Provider
DCC	Data Communications Company
DSP	Data Service Provider
DUIS	DCC User Interface Specification
ELS	Early Life Support
ESME	Electricity Smart Metering Equipment
FIA	Full Impact Assessment
GBCS	Great Britain Companion Specification
MGN	Message Gateway North
NMS	Northbound Message Store
OTA	Over the Air
PIA	Preliminary Impact Assessment
PIT	Pre-Integration Testing
PMM	Performance Measurement Methodology
PMR	Performance Measurement Report
RMN	Request Manager North
ROM	Rough Order of Magnitude (cost)
SEC	Smart Energy Code
SECAS	Smart Energy Code Administrator and Secretariat
SIT	Systems Integration Testing
SLA	Service Level Agreement
SMETS	Smart Metering Equipment Technical Specification
SMWAN, SM WAN	Smart Metering Wide Area Network
SR	Service Request
SRV	Service Reference Variant
SU	Service User
SURB	Service User Retry Buffer
TRT	Target Response Time
TTO	Transition to Operations (Implementation to Live)
UIT	User Integration Testing

Appendix B: Assumptions

Solution Assumptions

Ref	Assumption
A1	Assume that “OTA Messages” are all messages that are sent to or received from devices across the SMWAN so, in DSP terms, refer to requests, responses and device alerts.
A2	Assume that no additional physical infrastructure will be required to implement this Change. Further, it is assumed that no changes to existing infrastructure configuration will be required.
A3	Assume this Modification will be delivered as part of a SEC System Release, which is planned for November 2024.
A4	It is assumed that this Change will not result in a material increase in application management support required after the completion of the ELS period.

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SECMP0028 'Prioritising System Messages'

Annex E

Refinement Consultation responses

About this document

This document contains the full collated responses received to the SECMP0028 Refinement Consultation.

Question 1: Do you agree that the proposed priority levels are consistent with those set out in the proposed solution and reflect industry processes?

Question 1				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
British Gas	Large Supplier	Yes	The proposed priority levels seem sensible in general. We agree with Priority Levels (1) and (2). We are a bit concerned by Priority Level (3), particularly if this could lead to excessive requests from 'Other User' third party apps (such as Loop or Ivie or similar) blocking the system for Priority Level (3) and Priority Level (4) messages.	Amendments to the Service User Retry Buffer (SURB) have been suggested as part of the DCC's CR4879 which should mitigate the potential for Service Users to flood the system. These would only include a Service User in the list of SUs for SURB data retrieval if the number of messages for that Service User in the Northbound Message Store is below an agreed level.
OVO Energy	Large Supplier	-	Challenges to proposed priority levels in Appendix 1.	SECAS will review the challenges and update priority levels accordingly.
Utilita	Large Supplier	Yes	We agree with the proposed priority levels and agree these are consistent with the solution. As per Working Group and previous consultation rounds, messages associated with Install & Commissioning meet supply continuity criteria and therefore should also be assigned a Priority Level of '1'. Updates to Appendix A should be made to reflect the correct assignation.	SECAS will review the challenges and update priority levels accordingly.

Question 1				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
Electricity North West Limited	Network Party	No	The priority levels are not specific enough. Are Power Outage (AD1) alerts Priority 1 or Priority 3? From a DNO perspective these should be P1 Are Power Restore (x8F35, x8F36 etc) alerts Priority 1 or Priority 3? From a DNO perspective these should be P1 Are SR 7.4 Read Supply Status Service Request Responses Priority 1 or Priority 3? From a DNO perspective these should be P1 It is unclear from the proposal how the specific prioritisation list is determined and governed.	SECAS will review the challenges and update priority levels accordingly. Initial Priority Levels are being determined through consultation with SEC Parties. If the modification is implemented, SECAS is suggesting that any subsequent changes to the configuration of the Priority Levels will need to be approved by the Operations Group.
National Grid Electricity Distribution	Network Party	Yes	We agree with the priority levels and criteria as per section 7 of the Modification Report.	-
Scottish and Southern Electricity Networks	Network Party	Yes	We agree that the priority levels are suitable however we cannot see device alerts detailed in this document which will have an impact on the target delivery times and also carry their own priority levels which we need to understand and fully impact assess the solution.	Priority Levels will be updated to include Device Alerts.
UK Power Networks	Network Party	No	The priority levels listed in Appendix 1 of this refinement consultation response document does not show all message types that Network Operators utilise for managing customers electricity supply.	SECAS will review the challenges and update priority levels accordingly.

Question 1				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
			AD1 Power Outage Event is listed as a priority 1 event but equally important are the Power Restore Alerts (x8F35, x8F36 etc). Similarly the SR 7.4 Read Supply Status Service Request Response should be listed as priority 1. The messages/alert types are critical and utilised by network operators for maintaining the electricity supply to customers enabling the correct resources and appropriate actions are taken in the event of customers experiencing a power cut. Any changes delaying these alerts/messages from being sent to network operators will result in customers experiencing a power cut remaining off supply for unnecessary longer periods.	

Question 2: Do you agree that the solution put forward will effectively resolve the identified issue?

Question 2				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
British Gas	Large Supplier	Yes/No	We like the approach in principle but had a few comments. **Different priorities in different situations (high traffic vs following an outage)** There may need to be a different approach to prioritisation (a) during times of high levels of requests, and (b) specifically following a system outage. For example, if a 2.2 vend message can't be processed, the customer may decide to manually enter the UTRN number into their meter. If a lot of customers did this during a system outage, then many of the queued 2.2s might just be rejected once they are eventually sent – in effect there was no point prioritising them. In addition, I&C messages may have timed out, and indeed engineers may have sent repeated attempted I&C messages during an outage. **Different priorities at different times of the week** Prioritisation may need to be different at different times of the week. For example a prepayment vend (2.2) is most critical during 8am-6pm weekdays, which is outside of the 'non-disconnect calendar'. During these weekday times, a failed vend could mean a customer's supply is	Different situations – while the Priority Levels and associated messages will be fully configurable, it is unlikely that it will be possible to agree and implement changes in the necessary timescales to react to an outage event. SECAS notes the concern regarding a priority being 'mooted' and will discuss this with the Proposer and the DCC. Different times of the week – SECAS will discuss this with the Proposer and the DCC. An 'activation mechanism' for priorities has previously been discounted from the solution due to complexity, however this may not be required for the kind of instance described in the response. Security risks - Amendments to the Service User Retry Buffer (SURB) have been suggested as part of the DCC's

Question 2				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
			disconnected, whereas out of these hours, it would be less critical for a vend to be processed so quickly, provided it did eventually go through. So a 2.2 is most critical at some times of the week, and less critical at other times. The same may apply to other messages. **<u>Potential risks</u>** There needs to be Security Sub Committee input, as the introduction of Priority Levels could potentially make the system more vulnerable to a Denial of Service (DoS) attack.	CR4879 which should mitigate the potential for Service Users to flood the system causing Denial of Service. These would only include a Service User in the list of SUs for SURB data retrieval if the number of messages for that Service User in the Northbound Message Store is below an agreed level.
OVO Energy	Large Supplier	-	-	-
Utilita	Large Supplier	Yes	The DCC system is already experiencing issues related to the processing of messages in a timely manner during high periods of system traffic, e.g., during tariff update periods in response to changes in Price Cap; limitations on FW updates; and returning OTA messages in line with TRT's as per MP208. It is important to note these issues are already being experienced without the DCC operating anywhere near its full capability; there are millions of SMETS1 meters still to be migrated into the DCC and millions of SMETS2 meters still to be installed. Completion of these programmes will significantly increase traffic volumes on the DCC network, and likely	-

Question 2				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
			lead to further issues/delays being experienced. It is therefore paramount industry accounts for this and ensures this proposed solution is in place as a safeguard, ensuring energy consumer supply continuity related messages are prioritised to prevent against potential consumer detriment, as per system design. We also note DCC's belief that a prioritisation solution needs to be in place to ensure future CSP N performance, as per their Scaling and Optimisation report. We welcome clarity on how the crossover between that report and this modification will be handled – particularly those in relation to cost.	
Electricity North West Limited	Network Party	No	The issue description cites one reason for increased volumes as being: "*It has also been noted that delays to the processing of consumer-driven Service Requests could cause the User to resend the same message until the desired Response is received, which may further exacerbate the high volume of messages and cause further delays to Response times*." The proposed solution does not address this issue, rather the reverse whereby the proposed solution makes the above more likely as in theory a low priority message could be delayed indefinitely if there is a constant queue	SECAS will discuss the potential for implementing a percentage or 'round robin' approach as part of capacity allocation with the Proposer and the DCC. The DCC will conduct performance testing during Pre-Integration Testing (PIT) to ensure that the performance of the system will allow the DSP to maintain Service Level Agreements (SLAs) for lower priority messages (i.e. ensuring they are not held up indefinitely in practice).

Question 2				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
			of high priority messages thus leading to Users resending the request even more often: • Messages will be processed in order of their Priority Level, regardless of the order in which they are received • Priority Level 2 messages will be processed once there are no Priority Level 1 messages waiting, and so on for the remaining Priority Levels • Newly received messages with a higher Priority Level than the queued messages will be processed ahead of them The solution should instead ensure that a % of processing capacity is dedicated to processing lower priority message queues at all times i.e. • Priority 1 messages are assigned 60% of capacity • Priority 2 are assigned 25% of capacity • Priority 3 are assigned 10% • Priority 4 are assigned 5% This would ensure that lower priority messages are kept moving even if at a lower pace. If the above is not possible based on compute capacity then it could be employed as a 'round robin' processing rule i.e.	

Question 2				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
			• Process 12 Priority 1 messages • Then process 5 Priority 2 • Then process 2 Priority 3 • Then process 1 Priority 4 and repeat.	
National Grid Electricity Distribution	Network Party	No	We have questions regarding how long until a lower priority Service Request would be held to allow higher priority Service Requests to go through. For example, in storm situations where DCC could be flooded with SRV 7.4's, how long until a Priority 2 service request will trump a Priority 1 service request? Would a priority 2 be held indefinitely until all priority 1' are cleared or would there be a time limit and then they be sent? Depending on how this would work this could result in duplicated SRV's being sent by users due to the delay to their original request. We also question if SRV 2.5 Activate Emergency Credit and SRV 1.5 Update Meter Balance should be a higher priority than 3 as delays could result in Prepayment customers losing supply but we would look to suppliers for guidance on this.	SECAS will discuss the potential for implementing a percentage or 'round robin' approach (described in the previous response) as part of capacity allocation with the Proposer and the DCC. The DCC will conduct performance testing during Pre-Integration Testing (PIT) to ensure that the performance of the system will allow the DSP to maintain Service Level Agreements (SLAs) for lower priority messages (i.e. ensuring they are not held up indefinitely in practice). SECAS will review the challenges and update priority levels accordingly, and update to include Device Alerts.

Question 2				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
			We believe that for the solution to be effective it will need a Priority Level mapped to **every** SRV, Response and Alert. We note SRVs and DCC alerts are detailed in Appendix A, however device alerts aren't, however we understand these are still OTA messages that would impact capacity.	
Scottish and Southern Electricity Networks	Network Party	Yes	We do agree with the high-level solution. Without understanding how device alerts will impact the response times and how the queuing of lower priority traffic will function we cannot understand if the full solution will fully resolve the issue.	The DCC will conduct performance testing during Pre-Integration Testing (PIT) to ensure that the performance of the system will allow the DSP to maintain Service Level Agreements (SLAs) for lower priority messages (i.e. ensuring they are not held up indefinitely in practice).
UK Power Networks	Network Party	No	The prioritisation solution presented mentions that messages will be processed in order of their Priority Level, regardless of the order in which they are received and that Priority Level 2 messages will be processed once there are no Priority Level 1 messages waiting, and so on for the remaining Priority Levels. The solution in principle seems a sensible approach however the proposal does not seem to recognise that from a Network Operators perspective, there should be no delays to alerts and messages required for managing the interruption of supply to customers as any delay would result in customers remaining without electricity supply for	The DCC will conduct performance testing during Pre-Integration Testing (PIT) to ensure that the performance of the system will allow the DSP to maintain Service Level Agreements (SLAs) for lower priority messages (i.e. ensuring they are not held up indefinitely in practice).

Question 2				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
			unnecessary longer periods. This is particularly important during times of high volumes activity such as during storms. We suggest the change request is reviewed to develop an alternative method of managing prepayment meters or the prioritisation matrix is revised to accommodate the above.	

Question 3: Do you agree that the legal text will deliver SECMP0028?

Question 3				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
British Gas	Large Supplier	N/A	Not reviewed – apologies	-
OVO Energy	Large Supplier	-	-	-
Utilita	Large Supplier	Yes	We agree the legal text delivers the solution. In recognising the ever-changing landscape of smart metering, and as per development of modification, we also agree that the priority level assignation is held within a subsidiary document to ensure a modification is not required when a system message needs to change priority, e.g., for an emergency FW update release.	-
Electricity North West Limited	Network Party	No	The legal text only refers to a priority list held within the DSP systems. It does not describe how the priority list is maintained and approved which is necessary to ensure appropriate governance and control is applied to the prioritisation. Furthermore, it is unclear how the DCC measure peak bursts in Demand and how this applies to counting against SLA performance measures. The modification should not be allowed to become a mechanism whereby DCC can simply be absolved of any SLA failures.	SECAS will review the challenges and update the legal text accordingly.

Question 3				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
National Grid Electricity Distribution	Network Party	No	We feel it should be clearly stated what the definition of *priority* is, how this is decided on and what OTA messages fall into which of these categories so there is no misinterpretation. We also feel that a governance process is needed (either in the SEC or separate document) around changing priority levels and who assigns the priority levels in the event of a new OTA message being created.	SECAS will review the challenges and update the legal text accordingly.
Scottish and Southern Electricity Networks	Network Party	Yes	We do agree with the legal text which notes the device alerts however there needs to be clear details around the devices alerts as these are not detailed below in this document.	Priority Levels will be updated to include Device Alerts.
UK Power Networks	Network Party	No	The legal text needs to clearly define the prioritisation levels and process for the handling of each level with appropriate governance such performance SLAs with responsibilities for each message type/alert including the mechanism for SLA failures.	SECAS will review the challenges and update the legal text accordingly.

Question 4: Do you agree with the proposed implementation approach?

Question 4				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
British Gas	Large Supplier	Yes	We agree with the proposed implementation approach. However, we recognise that SECMP0028 is a very old Modification, and there are several other more recent Modification Proposals also addressing prioritisation. There may be a need for these to be addressed together, rather than each in turn. What we don't want is for this to introduce changes in one Release, that then need to be modified or reversed just 6 months later. There should be an overall plan of approach.	SECAS notes the concerns regarding implementation approach. SECAS continues to work with the DCC to ensure that any overlap in scope between different prioritisation workstreams is addressed to prevent duplicate costs or efforts.
OVO Energy	Large Supplier	-	-	-
Utilita	Large Supplier	Yes	We would like to see this modification progressed so that it could be implemented in the June 2024 SEC Release, as opposed to November 2024.	-
Electricity North West Limited	Network Party	-	-	-
National Grid Electricity Distribution	Network Party	Yes	We agree with the proposed implementation approach, but note we believe there is still a lot of work to do regarding the solution	-
Scottish and Southern	Large Supplier	Yes	SSEN agrees with the proposed implementation approach.	-

Question 4				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
Electricity Networks				
UK Power Networks	Network Party	Yes	We agree in principle that prepayment meter consumers are not disadvantaged when topping up their credit level but this should not be to the detriment of credit meter consumers who are in the majority who depend on a good level of service from network operators with an expectation that any interruption of supply will be quickly restored.	The DCC will conduct performance testing during Pre-Integration Testing (PIT) to ensure that the performance of the system will allow the DSP to maintain Service Level Agreements (SLAs) for lower priority messages, thereby ensuring no consumers are disadvantaged by this modification.

Question 5: Will there be any impact on your organisation to implement SECMP0028?

Question 5				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
British Gas	Large Supplier	No	We presume that the change would only be at the DCC end – and would not require any change to the service request format at our end.	-
OVO Energy	Large Supplier	-	-	-
Utilita	Large Supplier	No	This modification is largely a DCC system change and does not alter how we interact with the DCC.	-
Electricity North West Limited	Network Party	Yes	Dependent upon the agreed prioritisation of messages and the issues described in response to question 3 then this could require our systems to be changed. It is not possible to quantify the impact based upon the detail currently provided in the modification proposal.	-
National Grid Electricity Distribution	Network Party	-	We feel this modification could potentially impact users however it is difficult to provide a detailed response due to the fact that we don't feel there is enough detail in the solution regarding timescales around lower level priority service requests. Also, if alerts of a lower level are delayed it might be that we need to change how we handle them.	-
Scottish and Southern	Network Party	Yes	We understand at a high level that this modification will impact traffic delivery times but without understanding	-

Question 5				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
Electricity Networks			priority handling time frames and device alert prioritisation we cannot understand the full impact.	
UK Power Networks	Network Party	Yes	We believe that any change introduced by this proposal will be detrimental to consumers if due consideration is not given to Network Operators processes and procedures. It is therefore not currently possible state how we will be impacted and what changes may be required in our systems based on the information provided in this proposal.	-

Question 6: Will your organisation incur any costs in implementing SECMP0028?

Question 6				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
British Gas	Large Supplier	No	See above – we assume the change would only be at the DCC end.	-
OVO Energy	Large Supplier	-	-	-
Utilita	Large Supplier	No costs but benefits.	As per response to Q5, this modification does not alter how we interact with the DCC, nor require any changes to our systems. The modification does however offer benefits to us as an organisation. The modification could see less time wasted on site for engineers, leading to improvements and savings on engineering related activity. Top-ups being prioritised accordingly and going through right first time via the solution would lead to less consumers going off supply; reducing consumer contact into our call centres when these events occur which would also provide savings to our business and benefits to consumers.	-
Electricity North West Limited	Network Party	£100k-£250k	Refer to Q5	-
National Grid Electricity Distribution	Network Party	-	Potentially, please see response for Q5	-

Question 6				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
Scottish and Southern Electricity Networks	Network Party	No cost	N/A	-
UK Power Networks	Network Party	More than £1m	Refer to Q5 and please note our response to this question may change.	-

Question 7: How long from the point of approval would your organisation need to implement SECMP0028?

Question 7				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
British Gas	Large Supplier	N/A	-	-
OVO Energy	Large Supplier	-	-	-
Utilita	Large Supplier	N/A	We would not require any time to implement SECMP0028.	-
Electricity North West Limited	Network Party	Refer to Q5	-	-
National Grid Electricity Distribution	Network Party	-	We feel we are unable to answer due to incomplete solution, please see response for Q5.	-
Scottish and Southern Electricity Networks	Network Party	N/A	N/A	-
UK Power Networks	Network Party	Refer to Q5	-	-

Question 8: What are the impacts to your organisation when the DCC System is offline?

Question 8				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
British Gas	Large Supplier	Various	Following an unexpected outage: We would have to reprocess anything that failed in that outage period. **I&C issues** The longer the outage, the more issues that will be implemented. If 2000 engineers are unable to send or receive messages for 30 minutes, then they may still be on the same job when the system comes back on. If 2000 engineers are unable to send or receive messages for 2 hours then they will have moved on to the next customer appointment, having had to either abort the job, or carry out an 'install and leave', or not start it at all. (Most of our engineer appointments are 45 mins to 1 hour 30 mins.) If a job needs to be rebooked, then there is time and cost associated with rescheduling that new appointment slot (contacting the customer, etc.) as well as the additional engineer time for the second appointment. We may also need to pay compensation to the customer. **PrePayment Top Ups** Customer top-up vends will not be able to go through, but the customer could alternately enter the 20 digit UTRN code directly into the meter manually. Some customers	SECAS will use this response to inform the business case.

Question 8				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
			will do this, but some won't. Some customers will contact us for advice. **<u>Call Centre teams</u>** In addition to dealing with the above, Call centre agents would be restricted in what they could do for first line fixes/resolutions for customer enquiries, whilst customers are on the phone.	
OVO Energy	Large Supplier	-	-	-
Utilita	Large Supplier	-	Main impacts: • Inability to obtain SMETS1 Top-Up UTRN's which potentially can lead to customer self-disconnections. • Customers do not receive vends automatically. • Inability to retrieve consumer prepayment balances to identify customers in payment difficulty. • Inability on install SMETS2 Smart Metering Systems. • Inability to triage issues in live time which are impacting specific business processes. • Increased incoming call volume for customers. • Increase in customer dissatisfaction as we are unable to resolve any service or meter related queries. • Other specific issues would occur dependant on the time of the DCC outage/being offline.	SECAS will use this response to inform the business case.

Question 8				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
Electricity North West Limited	Network Party	Yes	When DCC is offline then time critical messages such as Power Outage, Power Restore, SR7.4 Read Supply status may be delayed or even lost completely. This can have a real-world impact to reporting and resolving electricity distribution faults as quickly as possible.	SECAS will use this response to inform the business case.
National Grid Electricity Distribution	Network Party	-	If the DCC system is offline there is direct impacts to us, for example we will receive no: POA AD1 PRA 8f35 and 8f36, 0x8F37 Supply Outage Restored on Phase 1 0x8F38 Supply Outage Restored on Phase 1 Restored - Outage >= 3 minutes 0x8F39 Supply Outage Restored on Phase 2 Restored 0x8F3A Supply Outage Restored on Phase 2 Restored `- Outage >= 3 minutes 0x8F3B Supply Outage Restored on Phase 3 Restored 0x8F3C Supply Outage Restored on Phase 3 Restored - Outage >= 3 minutes 0x8F58 Supply interrupted on Phase 1 0x8F59 Supply interrupted on Phase 2 0x8F5A Supply interrupted on Phase 3	SECAS will use this response to inform the business case.

Question 8				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
			alerts and we would be unable to send SRV 7.4 to check supply status to help with fault management on our network.	
Scottish and Southern Electricity Networks	Network Party	-	If the DCC system is offline we will not be able to receive the associated alerts and responses detailed in appendix 1.	SECAS will use this response to inform the business case.
UK Power Networks	Network Party	Yes	When the DCC system is off-line for any reason this will directly impact our operations. We would be unable to utilise BAU processes if the AD1 Power Outage Events and Power Restore Alerts (8F35, 8F36, 8F37, 8F38, 8F3A, 8F3B 8F3C, 8F58, 8F59, 8F5A) are not received as these are integral to our fault management procedures. In addition, if we are unable to send SRV7.4s we would be unable to check energisation status of consumers supply during fault management on the network or when consumers contact us reporting a power cut at their premises.	SECAS will use this response to inform the business case.

Question 9: Do you believe that SECMP0028 would better facilitate the General SEC Objectives?

Question 9				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
British Gas	Large Supplier	Yes	Yes, if it achieved the outcome anticipated, without introducing any unintended consequences. However, Prioritisation should only be part of the answer. Fundamentally, there needs to be sufficient capacity for all messages to be processed within target response times. Priority 4 messages still need to be processed, even if they are lower priority.	-
OVO Energy	Large Supplier	-	-	-
Utilita	Large Supplier	Yes	SEC objective A, as per the modification report.	-
Electricity North West Limited	Network Party	No	For the reasons in our responses to Q2 the solution does not better facilitates SEC Objective (a) rather the reverse whereby the proposed solution makes the situation worse as in theory a low priority message could be delayed indefinitely if there is a constant queue of high priority messages thus leading to Users resending the request even more often.	-
National Grid Electricity Distribution	Network Party	-	We believe that this modification could better facilitate SEC Objective (a) and (c) as per the modification report, however not as it currently stands, due to responses provided in previous questions.	-

Question 9				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
Scottish and Southern Electricity Networks	Network Party	Yes	We agree that this modification will better facilitate SEC Objective (a) and SEC Objective (c) as detailed in the modification report.	-
UK Power Networks	Network Party	No	For the reasons mentioned in our responses above, we believe the proposal in its current format does not facilitate the General SEC Objectives as set out in section C1 and in particular, C1(e): *the fifth General SEC Objective is to facilitate such innovation in the design and operation of Energy Networks (as defined in the Data Communications Company Licence) as will best contribute to the delivery of a secure and sustainable Supply of Energy*	-

Question 10: Do you believe there will be any impacts on or benefits to consumers if SECMP0028 is implemented?

Question 10				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
British Gas	Large Supplier	Yes	Yes, if it helps processes run more smoothly.	-
OVO Energy	Large Supplier	-	-	-
Utilita	Large Supplier	Yes	Consumers will benefit from the increase in system reliability during high periods of DCC traffic. The solution ensures consumers do not experience any unnecessary delay to the delivery of vital messages directly related to consumers' energy supply – it also removes the risk of duplicate vends / failed vends exacerbating capacity related issues. Consumers should also see benefit to the Installation and Commissioning (I&C) process through the solution, both of which should provide a better overall customer service experience for the energy consumer: • Reduction in on-site installation times. • Less consumer disruption through fewer repeat visits to complete installations that otherwise may have been aborted in absence of the solution.	-
Electricity North West Limited	Network Party	-	-	-

Question 10				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
National Grid Electricity Distribution	Network Party	Yes	We believe that consumers could be impacted by the reasons stated in the Modification Report and possibly benefit from prioritising Service Requests as per the criteria table. However, we also feel there could be a negative impact due to consumers having to wait too long for low priority messages to be received.	-
Scottish and Southern Electricity Networks	Network Party	Yes	We believe that consumers will be impacted by the implementation of priority levels without understanding the timings and inclusion of device alerts we are unsure of the benefits or impacts this will bring.	-
UK Power Networks	Network Party	Yes	We believe consumers are likely to be adversely affected by this proposal in its current format for the reasons mentions in our responses as above.	-

Question 11: Noting the costs and benefits of this modification, do you believe SECMP0028 should be approved?

Question 11				
Respondent	**Category**	**Response**	**Rationale**	**SECAS Response**
British Gas	Large Supplier	TBC	This has potential merit, but it needs more thought, particularly in relation to the other changes that are also progressing on capacity issues and prioritisation. We don't think SECMP0028 can be assessed in isolation.	-
OVO Energy	Large Supplier	-	-	-
Utilita	Large Supplier	Yes	-	-
Electricity North West Limited	Network Party	No	Refer to responses above.	-
National Grid Electricity Distribution	Network Party	-	We don't feel at the moment we have enough information to be able to provide a view.	-
Scottish and Southern Electricity Networks	Network Party	No	Without understanding the impacts of the priority levels and impacts to device alerts we cannot approve the modification proposal in its current state.	-
UK Power Networks	Network Party	No	Refer to our responses above.	-

Question 12: Please provide any further comments you may have.

Question 12			
Respondent	**Category**	**Comments**	**SECAS Response**
British Gas	Large Supplier	There needs to be sufficient capacity, not just a prioritisation process. There may be some unintended consequences, especially if a chain of service requests are required, with differing prioritisations for different stages of that change. There may be some issues with Updated Security Credentials. If we are in the middle of doing this, but the response to 6.15.2 is held up, then the device could have been updated, but we wouldn't have received the response. Then we/customer could end up using the wrong credentials in future requests. There could also be issues surrounding price events. SR 1.2.1 to update a price is Category 3, but in a price event, that might need to be temporarily prioritised, to ensure that processes flowed smoothly.	SECAS will review the challenges and update priority levels accordingly.
OVO Energy	Large Supplier	-	-
Utilita	Large Supplier	N/A	-
Electricity North West Limited	Network Party	N/A	-
National Grid Electricity Distribution	Network Party	N/A	-

Question 12			
Respondent	**Category**	**Comments**	**SECAS Response**
Scottish and Southern Electricity Networks	Network Party	N/A	-
UK Power Networks	Network Party	N/A	-

Appendix 1: OVO Energy proposed priority level challenges

Service Request Name	Service Reference	Service Reference Variant	Critical	Modes of Operation				Priority Level	Rationale	Respondent Comments
				On Demand	Future Dated Response Pattern	DCC Scheduled	Non-Device Request			
Update Import Tariff (Primary Element)	1.1	1.1.1	Yes	Yes	Device	No	No	3	Tariff/price updates are commercial only	Challenge - Used in I&C process
Update Price (Primary Element)	1.2	1.2.1	Yes	Yes	Device	No	No	3	Tariff/price updates are commercial only	Challenge - Used in I&C process

Disable Privacy PIN	3.5	3.5	No	Yes	No	No	No	4	Operational - non-urgent	Challenge - if a customer has moved into a property with a pin they will have to wait to be able to access the meter
Read Prepayment Configuration	4.13	4.13	No	Yes	DSP	No	No	4	Commercial/ settlement use only	Challenge - this is used over the phone with customers to understand balances and support calls
Request Handover Of DCC Controlled Device	6.21	6.21	No	Yes	DSP	No	No	4	Certificate related - non-urgent	Challenge - this is used as part of install and commission
Update Security Credentials (CoS)	6.23	6.23	No	Yes	DSP & Device	No	No	4	Certificate related - non-urgent	Challenge - These are vital to the Gain process

Retrieve Device Security Credentials (KRP)	6.24	6.24.1	No	Yes	No	No	No	4	Certificate related - non-urgent	Challenge - These are vital to the OVO install orchestration
Read Inventory (Current and Future Suppliers may use this Service Request)	8.2	8.2	No	No	No	No	Yes	4	Commercial/ settlement use only	Challenge - this is used as part of install and commission