

SEC Modification Proposal, SECMP0053, DCC CR 1084

**Amend Target Response Times for Service
Requests Critical to Installation and
Commissioning Processes**

Preliminary Impact Assessment (PIA)

Version:	0.6
Date:	29th May, 2019
Author:	DCC
Classification:	DCC PUBLIC

Contents

1	Document History	4
1.1	Revision History	4
1.2	Associated Documents	4
1.3	Document Information.....	4
2	Solution Requirements and Overview	5
2.1	Context	5
2.2	Business Requirements	5
2.3	Requirements Summary.....	6
3	Solution Overview	7
3.1	Requirement 1, DSP Impacts	7
3.2	Requirement 1, CSP Impacts	7
3.3	Requirement 2, DSP Impact	7
3.4	Requirement 2, CSP Impacts	7
3.5	DCC Overall Assessment	7
3.5.1	Additional Service Request Changes	8
4	Impact on DCC Systems, Processes and People	10
4.1	Security	10
4.2	Release Approach	10
4.3	Implementation Approach.....	10
4.4	Application Support.....	10
4.5	Service Management Impact.....	10
4.6	Infrastructure Impact	10
4.7	Volumetric Impact.....	10
4.8	Safety Impact	10
4.9	Contract Schedules	11
4.10	DCC Liabilities	11
5	Implementation Timescales.....	12
5.1	Testing and Acceptance.....	12
6	Costs and Charges.....	13
6.1	Design, Build, and Testing Cost Impact.....	13
7	Risks, Assumptions, Issues, and Dependencies	15
7.1	Risks.....	15
7.2	Assumptions	15
7.3	Issues	15

7.4 Dependencies	15
Appendix A: Glossary	16

1 Document History

1.1 Revision History

Revision Date	Revision	Summary of Changes
30/04/2019	0.1	Initial version released to SECAS
02/05/2019	0.21	Minor revisions
13/05/2019	0.3	Updated requirements to match agreed values, removed errors, updated to reflect final business requirements
28/05/2019	0.6	Reviewed and updated with SECAS and Proposer.

1.2 Associated Documents

This document is associated with the following documents:

Ref	Title and Originator's Reference	Source	Issue Date
1	SECMP0053 Solution Design Specifications v1.0	SECAS	11/1/2019

References are shown in this format, [1].

1.3 Document Information

The original Proposer for this Modification was Paul Saker of EDF Energy.

The Preliminary Impact Assessment was requested of DCC in February 2019, after updated requirements were issued by SECAS.

2 Solution Requirements and Overview

2.1 Context

Target Response Times are the target duration for the round-trip journeys for Service Requests (SRs), and are set to either 30 seconds or 24 hours, depending on how time-critical they are.

Through development of installation and commissioning processes it has been identified that some of the Target Response Times set out in SEC Appendix E are not appropriate. For instance, Service Requests which may be required at the point of installation and commissioning to control heating and/or water are currently set to 'within 24 hours' as a Target Response Time, meaning installers may have to leave their sites without knowing if the critical functionality is configured correctly.

The modification seeks to amend the Target Response Times set out in SEC Appendix E and introduce a new Target Response Time of **5600 seconds** to provide a medium speed Target Response Time for Service Requests.

2.2 Business Requirements

This section sets out the business requirements for SECMP0053, and are taken verbatim from the Solution Design [1].

Requirement 1 – Change the Target Response Time for Service Requests 6.14.1, 6.14.2 and 7.9 from 24 hours to 30 seconds

Change the Target Response Times of the following Service Requests from 24 hours to 30 seconds:

- Service Request 6.14.1 – Auxiliary Load Control
- Service Request 6.14.2 – Auxiliary Load Control
- Service Request 7.9 – Add Auxiliary Load to Boost Button

Requirement 2: The DCC will change the Target Response Time for Service Request 4.8.1 from 30 seconds to 5600 seconds

The DCC will implement a **5600 seconds** Target Response Time and use this to replace the existing 30 second Target Response Time for Service Request 4.8.1 – Read Active Import Data.

The DCC have stated that a request to return 13 months' worth of data is technically unfeasible within 30 seconds, so a new Target Response Time is required to provide this information at a faster rate than is currently the case whilst being technically feasible.

As part of this assessment, the DCC should explain how they intend to manage these Service Requests and deliver half hourly data as soon as is reasonably practicable so that Users know they won't be waiting **5600 seconds** for each request, instead the time depending on the amount of half hourly data being requested.

2.3 Requirements Summary

Based on the discussions at the Working Group and the Business Requirements as set out in the Solution Design Document, DCC consider the requirements for SECMP0053 to be **STABLE**.

However it should be noted as discussed in the Solution Overview following, Requirement 2 may be difficult or even impossible to achieve, and as such, we would expect a review of this requirement.

3 Solution Overview

In the following sections, potential solutions for the requirements are assessed, and their impacts on the system and supporting processes are analysed.

3.1 Requirement 1, DSP Impacts

An initial technical change has been made for Requirement 1 under DCC Internal SCR148. This initial change amended the processing pattern and retry/timeout configuration for the relevant SRs so that they are processed as standard On Demand messages and are not deferred for slower, 24 Hour processing.

The remaining technical change for Requirement 1 is to amend the formal Target Response Times (aka SLAs) for these SRs to be 30 seconds rather than 24 hours. This requires a change to the DSP configuration parameters for Service Level Agreement (SLA) measurement and reporting, with associated changes to DSP Contract Schedule 2.2.

3.2 Requirement 1, CSP Impacts

At the highest level, the solution will have impact on the following CSP North resources:

- Service and Operations will be impacted on the Service and Operations Providers
- Business Sub-Systems (BSS) will be impacted by the Business Sub-System business requirements, performance measures, and customer reporting.
- Platform Test on the BSS up to the end of PIT, including regression and functionality testing
- Platform Build
- Release programme

3.3 Requirement 2, DSP Impact

To make the specific change described in Requirement 2 would be a very similar process to Requirement 1. The DSP configuration parameters for SLA measurement and reporting would need to be changed for SR4.8.1, Read Active Import Profile Data, with associated changes to DSP Contract Schedule 2.2.

The ROM price includes the specific change described in Requirement 2.

3.4 Requirement 2, CSP Impacts

The impacts on the CSPs for Requirement 2 are essentially the same as those identified in section 3.2 above.

3.5 DCC Overall Assessment

Internal DCC discussions and investigations around Requirement 1 have identified no particular risks or problems that should concern the Modification beyond those documented in Section 7 below.

The origin of the requirement is that DCC have serious concerns about the ability to meet the SR 4.8.1 performance levels originally required in the SEC. Initial investigations and analysis

have been difficult to carry out as there is no Pre-Production system available for wholesale testing, but capacity planning¹ has suggested that:

- If there is a low system load, it might be possible to retrieve and download 13 months of data for a selected user in about 2 hours²
- Under normal load, a maximum of one and a half weeks' worth of half-hourly data could be retrieved and downloaded in 30 seconds

In the instance where a Service User, such as a Third Party Intermediary, requires data for a specific customer, when there is a time constraint, we do not believe the data retrieval would not be completed in a timely manner for such data requirements.

We believe there are three potential solution options that might be explored in a standalone or combination form, to meet similar Modification requirements:

1. SECAS to facilitate discussions between end users, such as Third Party Intermediaries, to investigate the type of data that might help Service Users meet their needs. For example, weekly samples of data, or a limited annual sampling of data over an extended period.
2. A stipulation that extended Target Response Times should be applied to further Service Requests, thus reducing the overall system load. Specific SRs are identified in the following section.
3. Creation and maintenance of a separate database of customer data, perhaps in a cloud-hosted environment that could be queried and retrieved by authorised Service Users. Such data would need to be encrypted, with decryption as part of the data retrieval process, along with other security controls to ensure customer data privacy.

The third option would be a significant change from existing design, build and implementation approaches, and would form a significant piece of work. It is possible that DCC would consider these requirements as part of a wider data strategy approach.

3.5.1 Additional Service Request Changes

The prioritisation of any SRs with the same performance requirements might impact system performance to a greater or lesser degree, and such a problem might not be remedied by simply adding further infrastructure. It should be noted that an investigation of Target Response Times revealed further Service Request Variants (SRV) that are unlikely to be completed in the expected 30 second period.

¹ 1 packet per ten seconds is 1 hr 50 mins (=6600 seconds) for 200 GBT blocks rounds to 2 hours

² 47 half-hourly meetings in a day, about 18,000 readings in 13 months

These SRVs would have similar constraints on meeting the expected performance levels, and we have calculated a time in which we believe the request should be completed as follows:

SRV	Description	Retry Interval (Seconds)	Maximum Expected Completion Time (Seconds)
4.6.1	Retrieve Import Daily Read Log	1840	3900
4.8.2	Read Reactive Import Profile Data	40:40:40	900
4.8.3	Read Export Profile Data	40:40:40	1400
4.10	Read Network Data	40:40:40	2600

We would request that these SRs be considered for addition as a new Requirement to this Modification, and that these changes would be considered in Performance Measures.

For all the above SRVs, it should be possible to add functionality to the solution that ensures that specified SRVs will return data:

- "as soon as possible"
- Without being added to a queue
- Without being placed in some traffic management process

Business rules and other changes could be added to ensure this is the case, but this has not been included in the PA.

Further discussions with DCC technical staff, the Working Group, and the Proposer will be required to progress this Modification.

4 Impact on DCC Systems, Processes and People

This section describes the impact of SECMP0053 on DCC's Services and Interfaces that impact Users and/or Parties.

4.1 Security

The solution to the two requirements presented in this PIA will require a security review assuming that the functionality does not require a specific security solution.

There is no impact on the DSP security implementation as a result of this change, although the implementation will be subject to security assurance to ensure contract compliance.

4.2 Release Approach

Following discussion, this PIA response is based on the possible delivery of SECMP0053 alongside other similar SEC Modification changes as part of a June 2020 release.

4.3 Implementation Approach

Within the SMIP, the Implementation Approach is referred to as Transition to Operations (TTO).

This change will be implemented as part of a larger release. It is assumed that the activities required for TTO will be minimal following completion of contractual test phases. Some updated service procedures will be implemented.

Any required environment uplifts will take place outside of business hours.

4.4 Application Support

On the basis that updates to configuration will be charged under separate Operational Modifications, it is not expected that there will be any change to ongoing levels of support as a result of the change. There will need to be some updates to service procedures in advance of the new solution being deployed to the Production system.

4.5 Service Management Impact

There will be no changes to reporting obligations as a result of this change, but the SLAs for a set of Service Requests will be changed.

4.6 Infrastructure Impact

No specific infrastructure requirements or changes have been identified.

4.7 Volumetric Impact

This change does not impact the volume of Service Requests received by DSP.

4.8 Safety Impact

No impact is expected, but a full Safety Impact Assessment will be carried out as part of the production of the FIA.

4.9 Contract Schedules

Schedules will require modification to reflect the changes necessitated under this Modification. Contract schedules will be updated as part of a Contract Amendment Note (CAN) which combines schedule updates from other relevant CRs.

Subject to further review as part of the Full Impact Assessment, expected contract schedules to be amended include but are not limited to:

- A change to the DSP configuration parameters for Service Level Agreement (SLA) measurement and reporting, with associated changes to the Service Providers (SP) Contract Schedule 2.2.
- Schedule 1 – Definitions to add
- Schedule 2.1 - Additional DCC requirements to add
- Schedule 2.2 - Performance Measures
- Schedule 7.1 - Charges and Payment

4.10 DCC Liabilities

This formal change will result in a change in DCC liabilities which may or may not impact on the CSP Service or Performance Measures as a result. The impacts will be formally assessed as part of the FIA.

5 Implementation Timescales

Given the need for further elaboration of requirements and discussion with the Working Group, along with subsequent approval of this SEC Modification, the start of work on this Modification has been delayed beyond expectations.

Notwithstanding in which release this change is implemented, based on the currently stated requirements, the elapsed time for Service Provider implementation will be between 3 – 6 months following the provision of full commercial cover.

5.1 Testing and Acceptance

It is assumed that the change will be implemented and tested as part of a major release in the SIT-B environment. The System Integration Test (SIT) team will carry out necessary testing to validate the following aspects of the solution:

- Configuration parameter settings scenarios
- SLA reporting

There is no perceived need to test this change separately in the User Integration Testing (UIT) environment.

6 Costs and Charges

The table below details the cost of delivering the changes and Services required to implement this Modification Proposal.

The ROM shown here describes indicative costs to implement the functional requirements as assumed now. The price is presented as a +/-15% range and is not an offer open to acceptance. It should be noted that the change has not been subject to the same level of analysis that would be performed as part of a Full Impact Assessment and as such there may be elements missing from the solution or the solution may be subject to a material change during discussions with the DCC. As a result the final offer price may result in a variation outside of the indicative range.

6.1 Design, Build, and Testing Cost Impact

The table below details the cost of delivering the changes and Services required to implement this Modification.

Implementation Costs							
Solution Option	Design	Build	Pre-Integration Testing	System Integration Testing	User Testing	Implement to Live	Total
Option 1	£235,000			Not included	Not included	Not included	£235,000
Supplementary Information							
Implementation cost assumptions	<p>A. Costs are exclusive of VAT and any applicable finance charges</p> <p>B. Majority of the costs above represent labour costs.</p> <p>C. Costs provided for Design, Build and Pre-Integration Testing are quotes provided by the Service Providers with specific exclusions of costs as identified above. DCC have reviewed and challenged the costs from the Service Providers to ensure this reflects best price to date.</p> <p>D. Costs will be refined during future assessments.</p>						
Explanation of Implementation Phases	<p>DCC’s implementation costs are provided by implementation phases. The following describes the purpose of each phase:</p> <ul style="list-style-type: none">Design: The production of detailed System and Service design 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: Each Service Provider tests its own solution to agreed standards in isolation of other Service Providers. This is assured by DCC.						

	<ul style="list-style-type: none"> • <i>System Integration Testing (SIT): All Service Providers' PIT-complete solutions are brought together and tested as DCC's Total Solution, ensuring all Service Provider solutions align and operate as an end to end solution.</i> • <i>User Integration Testing (UIT): Users are provided with an opportunity to run a range of pre-specified tests in relation to the relevant change.</i> • <i>Implementation to Live Costs: The solution is implemented into Production environments and ready for use by Users as part of a live service. This service is subject to implementation costs.</i>
--	---

For the existing requirements, the fixed price cost for a Full Impact Assessment is **£14,295** and would be expected to be completed in 30 days.

7 Risks, Assumptions, Issues, and Dependencies

In the following sections, Risks, Assumptions, Issues, and Dependencies have been identified, and Clarifications are requested from the Proposer and Working Group.

It is likely that further risks, assumptions, issues and dependencies will be established as part of the Working Group reviews and FIA.

7.1 Risks

Ref.	Area	Description	Impact
MP53-RA01	Requirements and Cost	Risk that any elaboration of Requirement 1 or 2 will change them significantly from those currently stated, with a consequent impact on the validity of the ROM price.	M

7.2 Assumptions

Ref.	Area	Description	Accept
MP53-AD01	SIT	Assume that the change will be implemented and tested as part of a major DCC release, in the SIT-B environment	
MP53-AD02	UIT	There will be no requirement to test this change separately in the UIT environment.	
MP53-AA03	Performance Measures	Assumes that changes to response times might impact the RTT PM4 Calculation	
MP53-AA04	SR Priority	Any changes will not require a change in Service Request priority.	
MP53-AA05	Performance Measures	Full impact of this change against the current Performance Measures regime will be established in the FIA.	

7.3 Issues

Ref.	Description	Mitigate?
MP53-DI1	Requirements for Requirement 2 are not fully elaborated	
MP53-DW2	On a fully operating Smart Metering system, it may never be possible to match the requirement stated in Requirement 2	

7.4 Dependencies

Ref.	Area	Dependency	Impact
MP53-DT1	General	This Modification cannot be progressed to FIA until requirements have been elaborated and confirmed with the Working Group.	Timescales and Cost

Appendix A: Glossary

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

Acronym	Definition
BSS	Business Sub-Systems
CAN	Contract Amendment Note
CR, SCR	Change Request, Small Change Request
CSP	Communication Service Provider
DCC	Data Communications Company
DSP	Data Service Provider
FIA	Full Impact Assessment
PIA	Preliminary Impact Assessment
PIT	Pre-Integration Testing
ROM	Rough Order of Magnitude (cost)
SEC	Smart Energy Code
SIT	Systems Integration Testing
SLA	Service Level Agreement
SMIP	Smart Metering Implementation Programme
SP	Service Provider
SR	Service Request
TRT	Target Response Time
TTO	Transition to Operations
UIT	User Integration Testing