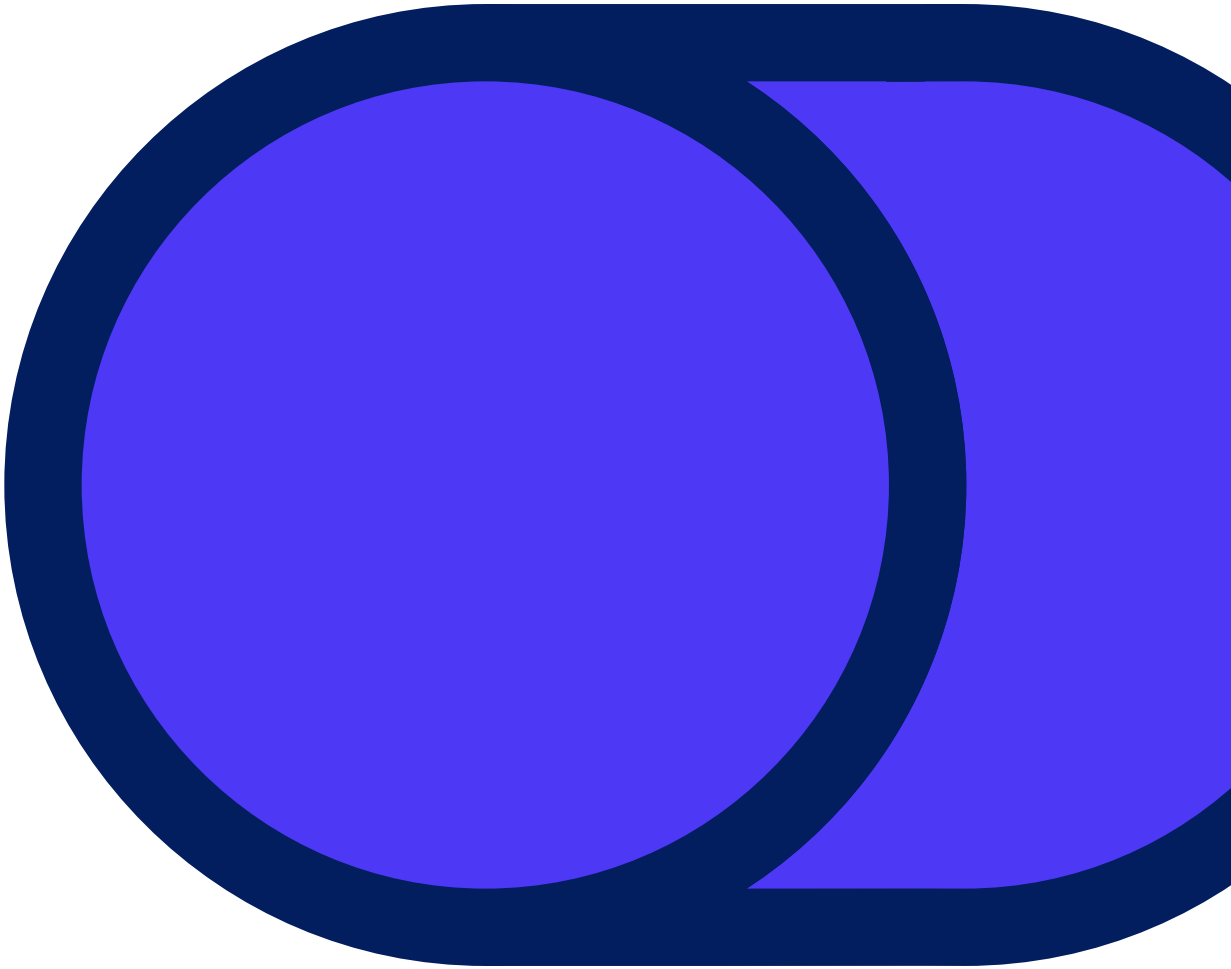
Major Incident Review Report:
P1 (Priority 1)

REF INC0213074 - CSS
July 2023

Retail Energy Code Company
November 2023



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Report Distribution List

Company	Method
RECCo	Electronically
DCC	Electronically
REC Performance Assurance Board	Electronically

Date of Incident	Switching Operator	CSS Provider	Incident Start Date	CSS Requirement	Switching Operator & CSS Provider Requirement	Time to Resolve
06.07.23	DCC	DCC	06.07.23	CSS needs to resume normal service within 1 hour[1]	For P1 Major Switching Incidents there is a 30 minute response time and a 4-hour rectification SLA[2]	1605.6 hours 64 days

Full RECCo report attached (Appendix A)
Yes

1 Central Switching Service (CSS) Service Definition, para 4 Service Availability, 4.4 In the event of an unplanned outage: (b) the CSS shall resume normal operations within one hour.

2 Central Switching Service (CSS) Service Definition, para 5. CSS User Support, 5.2. The CSS Provider shall support the response and resolution times for the following Switching Incident categories. (a) Priority 1 – for Switching Incidents causing critical impact and significant financial loss / disruption - 30-minute response with a four-hour resolution time.
Switching Operator (SO) Service Definition, paragraph 5 Service Levels, 5.2. Switching Incidents will be categorised as follows: A Priority 1 Switching Incident (Major Switching Incident) Target Response Time 30 mins, Target Resolution Time 4 hours.

Executive Summary

On 6th July 2023, a Major Switching Incident occurred with the Central Switching Service (CSS)[3] which prevented the successful changes of energy supply switches and new registrations for gas and electricity. The CSS was stabilised post-incident and any switch and new registration requests submitted after 9 a.m., 6th July were processed successfully. Through the collective action of the Switching Operator and industry parties[4], the CSS sent the missing industry messages to give effect to the intended switches and new registrations during the period of the 2nd to the 8th of August 2023. Priority 1 (P1) Major Switching Incidents of this nature are required to be resolved within 4 hours; however, DCC reported it took 1,605.6 hours in this instance. This incident had significant impacts on multiple industry parties and end consumers. It has demonstrated a clear need for improvement in the arrangements managing switching services and response to major incidents.

The REC Board directed the Retail Energy Code Company (RECCo) to complete an end-to-end review of the incident to identify the root cause; consider the efficiency and effectiveness of the incident management response; assess the improvements required; and identify appropriate actions for risk mitigation, to limit the possibility, or minimise the impact of, any future major switch incidents. DCC's requirement to provide a post incident report was completed on the 6th of October 2023 where it detailed the underlying root cause as an issue with load balancing due to a spike in the Geo–replication across the regions; the load balancer was prioritising live traffic rather than the replication between regions.

This report summarises the findings of RECCo's review. Our analysis, in our opinion, has identified a significant need to develop the capability of the Switching Operator to manage incidents. As a result, we make the following overarching recommendations. Further detailed analysis and the recommendations that sit beneath this are set out in the remainder of this document.

Overarching Recommendations

1. DCC, in its role as Switching Operator & CSS Provider, should ensure that it maintains the appropriate levels of industry knowledge and technical competency within its own organisation, (and that of its service providers), to ensure that the correct levels of monitoring, operational governance and process controls are established, and maintained, to prevent any Major Switching Incidents occurring in the future. As part of these arrangements, it should produce a preventative plan, and detecting controls model, mapped to ensure that potential incidents are identified and resolved to prevent actual incidents occurring. It should review the current arrangements for test environment availability to ensure the right levels of testing of any proposed changes can be achieved without any risk of incidents occurring in the live environment, across the entire switching landscape. It should also review its plans on improving its systems and data collection to ensure the appropriate levels of performance can be maintained. The REC Performance Assurance Board (PAB) should approve the DCC's proposals (in its role as Switching Operator & CSS Provider) on handling conflict of interest between the Switching Operator and CSS Provider services.

2. That the REC is changed to clarify the role of the REC Performance Assurance Board (PAB) including the timings, and complementary Performance Assurance Techniques (PATs) associated with the production of a remediation plan from any REC Service Provider, including DCC in its role as Switching Operator and CSS Provider, where there is a failure to resolve Major Incidents within the timescales as

3 Operated by the Switching Operator and CSS Service Provider Licensee, the Smart Data Communication Company (DCC).

4 Including Switching Data Service Providers (SDSPs); the CSS Provider, the Gas Retail Data Agent (GRDA), the Electricity Retail Data Agent (ERDA), and the Enquiry Service Providers (EES and GES), Suppliers (Electricity & Gas, Domestic & Non-Domestic), Distributors.

set out in the Code. This remediation plan must be delivered within 5 Working Days. Failure to submit and deliver such a plan, would be an automatic REC non-compliance to be reported to Ofgem.

3. That the REC PAB monitor the resolution of all Service Providers Priority 1 remediation plans through to completion. This includes tracking actions that are to be delivered by all Service Providers. Failure to deliver without agreed mitigation would lead to an automatic non-compliance to be reported to Ofgem, given its overall duties in respect of the operation of the energy market.

4. That the DCC, in its role as Switching Operator & CSS Provider, work as a more efficient, effective, service combined in its approach for technical solutions, continuous improvement, and market messages. That improvements are holistically beneficial for all organisations e.g., SDSPs, Suppliers, and end consumers. For example, this may involve requiring the Switching Operator to have separate providers manage major incident technical resolution.

5. That a review of the responsibilities of the DCC in its roles as Switching Operator & CSS Provider, and the RECCo is conducted, to ensure there is clarity of roles and to identify means to improve major incident resolution, engagement with stakeholders, and the resolution of technical issues.

6. That the DCC, in its role as Switching Operator, develops a Major Switching Incident Management run book[5] documenting the roles and responsibilities of all impacted parties in a Major Switching Incident. The steps and processes that must be completed and direction on e.g., frequency of communications and meetings. In developing this document, there should be a complete review and refresh of the communication methods and engagement strategy used by the DCC. Consideration should be given to how the contact lists for the CSS Switching Portal can be updated and maintained, this will ensure messaging is both coherent and consistent, ensuring no parties miss vital updates linked to major incidents. Polices and processes currently in place by the DCC need to be reviewed and refreshed, mapped to the Code, with a periodic test with all parties. Any recommendations to be presented to PAB, meaning that all improvement plans can be tracked to completion. For example, this may involve requiring the Switching Operator to have separate providers manage major incident communication.

Incident Review Methodology

In the production of this report RECCo held direct feedback sessions across multiple organisations, gathering and collating feedback. We issued a digital online survey to Supplier parties, and conducted face to face and telephone interviews.

RECCo and the Code Manager would like to extend their thanks to these organisations, as well as all other organisations that supported the resolution of this incident.

5 A **runbook** is a set of instructions that outlines the steps to be taken to complete a specific task.

Table of organisations contacted for feedback

Organisation	Responded to Invite	Directly Impacted	Feedback Provided	Number of Responses
Energy Networks Association (ENA)	Y	N	Y	1
Distributors (DNO & IDNO)	Y	Y	Y	4
Industrial & Commercial Shippers & Suppliers (ICoSS)	Y	N	Y	7
Non-Domestic Suppliers	Y	Y	Y	5
Domestic Suppliers	Y	Y	Y	6
Combined Domestic/Non-Domestic Suppliers	Y	Y	Y	1
Energy UK (EUK) (combined response from its members)	Y	Y	Y	1
Gas Transporters (GT &IGT)	Y	N	Y	2
Third Party Intermediaries & Brokers	Y	Y	Y	1
C&C - Switching Data Service Provider – Electric Enquiry Service	Y	Y	Y	1
Xoserve – Switching Data Service Provider – Gas Retail Data Agent & Gas Service Enquiry	Y	Y	Y	1
St Clements - /Switching Data Service Provider – Electricity Retail Data Service	Y	Y	Y	1
RECCo	Y	Y	Y	1
Association of Meter Operators (AMO)	N	Unknown	N	Unknown
Community of Meter Asset Providers (CMAP)	N	Unknown	N	Unknown
			Total	32

Circa 300 items of feedback and findings gathered were analysed and categorised into three core themes: Compliance, Commercial and Communications. We completed a compliance review of findings against the REC requirements and reviewed current policies, procedures, and processes, both for RECCo, and DCC (in its role as Switching Operator and CSS Provider). We then assessed the performance of the DCC (in its role as Switching Operator and CSS Provider), and RECCo. This supported the compliance findings and aided any recommendations as illustrated in the tables below.

Table of analysis themes.

Theme	Consideration
Compliance	Compliance with the Licence and the Code, in particular incident management, SLAs, and the technical solution
Commercial	Impacts to Industry Parties and Consumers
Communication	Communication, engagement strategy, roles and responsibilities, existing policies, and procedures

Documents considered during review.

Document/Policy	Owner
Switching Service Management Schedule	RECCo
Central Switching Service Definition	RECCo
Switching Operator Incident Management Policy	DCC
Energy Supply licence Standard Conditions Electricity 11b/Gas 11	Ofgem
Smart Meter communication license	Ofgem
REC Schedule 1 - REC Interpretations and Definitions Schedule	RECCo
Central Switching Service (CSS) Service Definition	RECCo
Switching Operator Service Definition	RECCo

Detailed Recommendations

The tables below provide a summary of; our review recommendations, and a summary of the areas we consider there is REC non-compliance. These apply to the DCC, in both its role as Switching Operator and CSS Provider, and RECCo. These recommendations have been made considering all comments and feedback, and our review of related current documentation, including the REC, key policies/procedures, the Supply Licences, and the Smart Meter Communications Licence. A full description of our findings, linked to each theme, are documented in the detailed conclusions and recommendations, detailing the requirements for the improvements, along with any link to the relevant document/policy, is included in the detailed report (Appendix A).

Table of detailed recommendations.

Ref	Theme	Area	Recommendation
T001	Compliance/ Technical Solution	Preventing Missing Messages	The DCC in its role as CSS Provider, should complete a review of capacity and demand management, to identify how capacity logs are handled, and how this adapts to external events (e.g., BCDR, upticks in switching).
T002	Compliance/ Technical Solution	Preventing Missing Messages	The DCC's Major Switching Incident Management policy, in its role as the Switching Operator, should be updated to include a post conclusion monitoring phase which involves confirming all data has been appropriately handled and directly monitors infrastructure.
T003	Compliance/ Technical Solution	Detecting Missing Messages	The DCC, in its role as Switching Operator, should review the REC requirements and consider any further guidance required by the CSS Provider on when and how to raise a ticket in relation to an incident.
T004	Compliance/ Technical Solution	Detecting Missing Messages	A full review of data logging is required, with logs mapped to the end-to-end switching journey. This should be completed by the DCC, in its role as CSS Provider, and should be reviewed by the REC Technical Expert Group, who should be able to require the CSS Provider to implement additional logging as it determines is required. Where REC Changes are required, these should be prioritised by the REC Code Manager in agreement with RECCo.
T005	Compliance/ Technical Solution	Detecting Missing Messages	The DCC in its role as Switching Operator and CSS Provider, should review the Gate Closure process so that both the CSS Provider and recipients of messages can identify the number of messages expected and sent to each participant. There should be a mechanism to communicate to other participants that all expected messages have been sent that allows Parties to reconcile this with what was received (e.g., a double entry process). Where REC Changes are required, these should be prioritised by the REC Code Manager in agreement with RECCo.

Ref	Theme	Area	Recommendation
T006	Compliance/ Technical Solution	Detecting Missing Messages	The DCC in its role as Switching Operator, should provide a plan to the REC PAB of the actions it is taking to develop its capability in delivering its service. This should include: • How it is providing training to its staff on the end-to-end switching journey, not just the elements that relate to CSS. • How it is securing new capabilities, including the ability to communicate appropriately to all interested organisations about technical issues, develop detailed plans to resolve incidents rapidly and identify the impacts on organisations involved in the switching process. • Its plan for test environment availability to enable incident resolution across the entire switching landscape. • How it plans to manage the potential conflict of interest of the Switching Operator, managing incidents caused by the CSS Provider and having impacts well beyond the CSS Provider. This should include considering whether an independent crisis manager must be appointed to deal with the most severe incidents. • How it plans to improve its systems and data collection to avoid an unmanageable volume of tickets • How it determines decision making on proposed resolutions to future Major Switching Incidents.
T007	Compliance/ Technical Solution	The Technical Response	RECCo should raise a change for the DCC, in its role as Switching Operator, to provide information on the root cause identified of incidents, as soon as possible, once it has obtained a reasonable understanding.
T008	Compliance/ Technical Solution	The Technical Response	The REC PAB should approve the DCC, in its role as Switching Operator, the proposal on handling conflict of interest between the Switching Operator and CSS Provider services. For example, this may involve requiring the Switching Operator to have a separate provider to manage major incident communication and technical resolution.
T009	Compliance/ Technical Solution	The Technical Response	RECCo should undertake a review of the data captured as part of a Switch, or otherwise, to help prioritise in the event of a Major Switching Incident.

Ref	Theme	Area	Recommendation
T010	Compliance/ Technical Solution	The Technical Response	Where the DCC in its role as Switching Operator carries out its regular assessment in line with its obligation, within the Switching Operator Service Definition, it should periodically report the emerging issues and trends to RECCo, this is to enable a holistic view to consider if these indicate proactive improvements, or code changes, which might mitigate the risk these issues might culminate in a future incident. A summary of this should be presented at the Switching Operator Forum. Where REC Changes are required, these should be prioritised by the REC Code Manager, in agreement with RECCo.
T011	Compliance/ Technical Solution	Confidence in managing Technical Incidents	In the ongoing performance assurance over reporting, RECCo should review samples of downgraded tickets, or tickets reassigned to different organisations, and their rationale to identify if this indicates issues with capability or REC compliance.
T012	Compliance/ Technical Solution	Confidence in managing Technical Incidents	The DCC, in its role as Switching Operator should provide guidance to industry on the controls it has in place over incident management to build confidence in their capability. Prior to this guidance being issued it should be reviewed by the REC Code Manager Technical Service and approved by the REC PAB.
IM013	Compliance/ Technical Solution	Confidence in managing Technical Incidents	RECCo should raise a Change Proposal to include a requirement for the DCC in its role as Switching Operator to provide end-consumer appropriate information for REC Parties/Non-REC Parties use to determine communication and action for their consumers.
IM014	Commercial	Impact on Consumers	Once a resolution is in flight, the DCC, in its role as Switching Operator, should develop and publish an incident Action Plan to assist understanding and certainty around the proposed resolution and when this is planned.
IM015	Commercial	Impact on Consumers	RECCo should propose a change to code to clarify the DCC as Switching Operator's broader obligation to assess an incidents impact on the wider Switching Arrangements, with the purpose of ensuring the most effective, efficient (time, cost, resource) overall Switching industry solution is promoted and implemented.

Ref	Theme	Area	Recommendation
IM016	Commercial	Impact on Energy Businesses	RECCo should propose the development of a cross-code working group to consider the cross-code implications of a future Major Switch Incident and whether any proactive adjustment to code governance provisions across UNC, BSC, and DCUSA[6] , might better assist energy industry parties fix consequential issues/effects across the wider industry end-to-end Switching landscape. e.g., settlement issues.
IM017	Commercial	Impact on Energy Businesses	RECCo should propose a change to the REC to clarify that if a Major Switching Incident is not going to be resolved within defined Service levels, then the DCC in its role as Switching Operator should determine the impact on compliance with the REC end-to-end Switching Arrangements, and work with Ofgem, and the Code Administrators for BSC, UNC and DCUSA, and RECCo, to identify the cross code impacts/impacts on other Codes when managing an incident and developing an appropriate solution for industry, with least negative impact to end-consumers.
IM018	Commercial	Impact on Licences and Codes	Following the code change resulting from IM017, RECCo should provide guidance to DCC, in both its role as Switching Operator and CSS Provider, on the responsibilities for ensuring appropriate guidance and instruction is given, when working with Ofgem, the Code Administrators (for BSC, UNC and DCUSA, and RECCo), when managing an incident and determining the impact on compliance of the respective organisations within the scope of the REC.
IM019	Commercial	Impact on Licences and Codes	RECCo should review the terms of reference of the Switching Change Advisory Board (SCAB), as well as its membership, so that it could be convened to make decisions on similar incidents, should they occur in the future. As part of the review, consideration is needed around the SCAB role when agreeing the right resolution, with change impacts to multiple SDSPs and market participants. How to convene an emergency Change Advisory Board should be included in any incident plan updates. Once concluded and changes are made, clear guidance and information should be communicated via REC communications channels to market participants.
IM020	Commercial	Impact on Licences and Codes	RECCo, working with the DCC, in its role as the CSS Provider and Switching Operator, should consider the potential to identify and prioritise certain customer groups impacted by a Major Switching Incident, for approval by the PAB. This should be clearly communicated to industry when approved.

6 Energy Industry Codes – the Uniform Network Code (UNC), the Balancing & Settlement Code (BSC), and the Distribution Connection Use of System Code (DCUSA).

Ref	Theme	Area	Recommendation
IM021	Commercial	Impact on Licences and Codes	RECCo should consider the appropriateness of the current arrangements and provide a clear recommendation to Ofgem on the contractual arrangements and governance required to effectively manage the CSS Provider and Switching Operator.
COM022	Commercial	Impact on Licences and Codes	RECCo should raise a change to the Switching Service Management REC Schedule 26, to provide additional direction on a requirement not just to develop a Category 3 procedure, but for DCC, in its role as Switching Operator, to periodically review, reissue and maintain a: • Switching Incident Management Policy, including defined roles & responsibilities (i.e., RACI). • Switching Service Management Policies & Procedures. • Procedure for the review and updating of contact lists for CSS Users, SDSP's and other interested parties. • Annual testing of Incident Management Policies, procedures, processes, and RACI. • RACI clearly setting out hierarchy of needs dependent of Priority of Incident. • Clear communications strategy included channels and cadence of meetings in addition to ongoing SOF. • DCC in its role as Switching Operator should complete annual testing of the incident responses processes for incident management. • A Major Switching Incident run book.
COM023	Communications	Communicating the right message	DCC in its role as Switching Operator should have a clear communication plan in place with the inclusion of. • A suite of standard communications templates for helpdesks to draw upon – i.e., SDSP's and Market Participants. • Separate Channel forum during Major incidents for SDSP's. • A list of Frequently Asked Questions to be maintained by the MIM and made accessible to the Code Manager and Operational Account Manager, reviewed, and agreed utilising a RACI. • MIM needs to have processes to issue standard communications for SDSP's to use, Market Participants, and to be shared with the other interested organisations, namely consumers and their agents, this should include a 'steering committee 'that has clear roles for SDSPs and RECCo defined by a RACI.

Ref	Theme	Area	Recommendation
COM024	Communications	Communicating at the right time	RECCo should consider a "tell us once" contact principle; for example, a single authentication and contacts service to make the process of providing contacts to REC Services simpler and more effective.

Summary of Non-Compliance Areas

The REC Performance Assurance Methodology and Techniques document makes it clear that RECCo will consider contextual information, when assessing the required interventions of any areas where the Code has not been complied with.

Based on our analysis, we have summarised the three areas where we consider that code obligations have not been fully met by the DCC in its role as the CSS Provider and four where we consider that the DCC in its role as the Switching Operator has not met its requirements.

This includes relevant contextual information below, categorising Code failures:

- R (in Red) = directly within the control of the [DCC/DCC in its role as CSS Provider or Switching Operator] as red.
- A (in Amber) = partially in the control of the providers, or not met on a timely basis.

CSS Provider

Requirement	Conclusion		Contextual Information
CSS Service Definition 4.4 *In the event of an unplanned outage: (b) the CSS shall resume normal operations within one hour.*	Based on our assessment, in our opinion is that this was an unplanned outage impacting the availability of specific messages and therefore 4.4 was not met.	R	This was a Priority 1 Major Switch Incident.

Requirement	Conclusion		Contextual Information
CSS Service Definition 10.2 *The CSS shall be able to detect loss and duplication of Market Messages transferred from / to it and shall have facilities for rectification.* ***6.5*** *The relevant data for reporting in the software solution shall be available to generate ad hoc reports within two Working Hours of a request for that data.* ***9.2*** *The CSS shall hold 28 months' worth of transactions online (for auditing purposes); and seven years' worth of transactions in total (online and in archive), from which information can be recovered within 1 Working Day.*	The CSS Provider became aware of the missing messages at 6:29pm, despite the issue occurring around 9:00am, but were unable to identify which they were. This certainly is a lack of data availability, and we interpret this as loss in the context of the REC requirements. The CSS Provider had to develop the facilities for the rectification of market messages which were not available to the CSS Provider or any market participant. This included establishing test systems. Based on our analysis, we conclude that this was not met as it should be considered in the context of this taking 1605.6 hours, with a resolution target of 4 hours. The lack of logs in place to detect the missed messages was the fundamental cause of the extended incident.	A	The lack of the ability to regenerate switching messages lost was not wholly within the CSS Provider's control, as it was a consequence of design decisions by the Switching Programme. However, the Code requirement to detect loss is clear, and this incident has made the CSS Provider aware of this gap. The CSS Provider should take action to bring itself back into compliance.
CSS Provider Service Definition, paragraph 5.2: *P1 Target response Time - 30 minutes*	Immediately after Gate Closure on 06 July, DCC discovered that Gate Closure completed in 53 seconds and having only processed circa 600 messages which is much lower volumes and times than are expected. DCC were engaged at 5:00pm when the issues were noted. However the first ticket in relation to this incident was raised by Xoserve at 6:29pm which was then elevated to a P1 at 7:28pm by the DCC MIM team. A response was sent at 7:56pm, within 1 hour 30 minutes, which exceeds 30 minutes. The Code Manager noted that despite DCC being aware of this incident at 5:00pm, a Switching Incident was not raised by them.	R	None
CSS Provider Service Definition: *P1 Target resolution time - 4 hours*	The total resolution time for this incident was 1605.6 hours, this included data reconciliation activities and exceeded 4 hours.	R	None

Switching Operator

Requirement	Conclusion		Contextual Information
Switching Operator Service Definition 1.4 *The Switching Operator delivers the following outcomes: (a) provision of analysis, and detailed investigations into the root causes of recurring Switching Incidents, as part of its management of Switching Problems, to support the identification of any permanent resolutions that may be required;*	The Switching Operator did complete these activities, but not on a timely basis. The time taken to develop suitable resolution options demonstrates that the Switching Operator needs to develop its capability to meet the outcomes set out in its Service Definition.	A	None.
Switching Service Management schedule. 1.6 *At a high level the Switching Service Management function will be accountable for: ...(b) communication switching service information to all Market Participants and other interested parties.*	This was partially met at the point the Switching Operator provided information on this that was accessible to interested Parties on its Switching Portal.	R	This required a performance assurance action to be set by the PAB for the Switching Operator to move from non-compliance, and the quality of the response was insufficient to meet the information needs of interested parties. The lack of timely information was crucial.
Switching Operator Service Definition: *P1 Target response Time - 30 minutes*	Immediately after Gate Closure on 06 July, DCC discovered that Gate Closure completed in 53 seconds and having only processed circa 600 messages which is much lower volumes and times than are expected. DCC were engaged at 5:00pm when the issues were noted. However the first ticket in relation to this incident was raised by Xoserve at 6:29pm which was then elevated to a P1 at 7:28pm by the DCC MIM team. A response was sent at 7:56pm, within 1 hour 30 minutes, which exceeds 30 minutes. The Code Manager noted that despite DCC being aware of this incident at 5:00pm, a Switching Incident was not raised by them.	R	None
Switching Operator Service Definition: *P1 Target resolution time - 4 hours*	The total resolution time for this incident was 1605.6 hours This included data reconciliation activities and exceeded 4 hours.	R	None