Data Communications Company

Switching Change Proposal: SLAs & Exclusions

R0092

We believe in making Britain more connected, so we can all lead smarter, greener lives.

June 2023

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Overview

Following the successful go-live of the Switching Service, and subsequent understanding of user and system behaviour, DCC initiated a REC Change Proposal (R0092) to align the Switching SLAs (originally defined early in the design process) with this real-world behaviour.

The following slides give context and specific suggestions of how these SLAs could be changed to enable an accurate and tangible measurement of the performance levels in the areas outlined below.

DCC welcomes the opportunity to discuss and refine these suggestions with the appropriate interested parties.

Category	Metric	Service Definition Ref.
CSS Message Targets	Synchronous Messages	CSS 6.1
	Asynchronous Messages	CSS 6.2
	Gate Closure	CSS 6.3
Incident Management Targets	CSS (Landmark) Incidents	CSS 5.2
	ERDS Incidents	ERDS 6.2
	GRDS Incidents	GRDS 6.2
	SO (DCC) Incidents	SO 5.2
	SO (DCC) Service Requests	SO 5.4
Performance Measurement Exclusions	Relevant to all areas	

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Actions

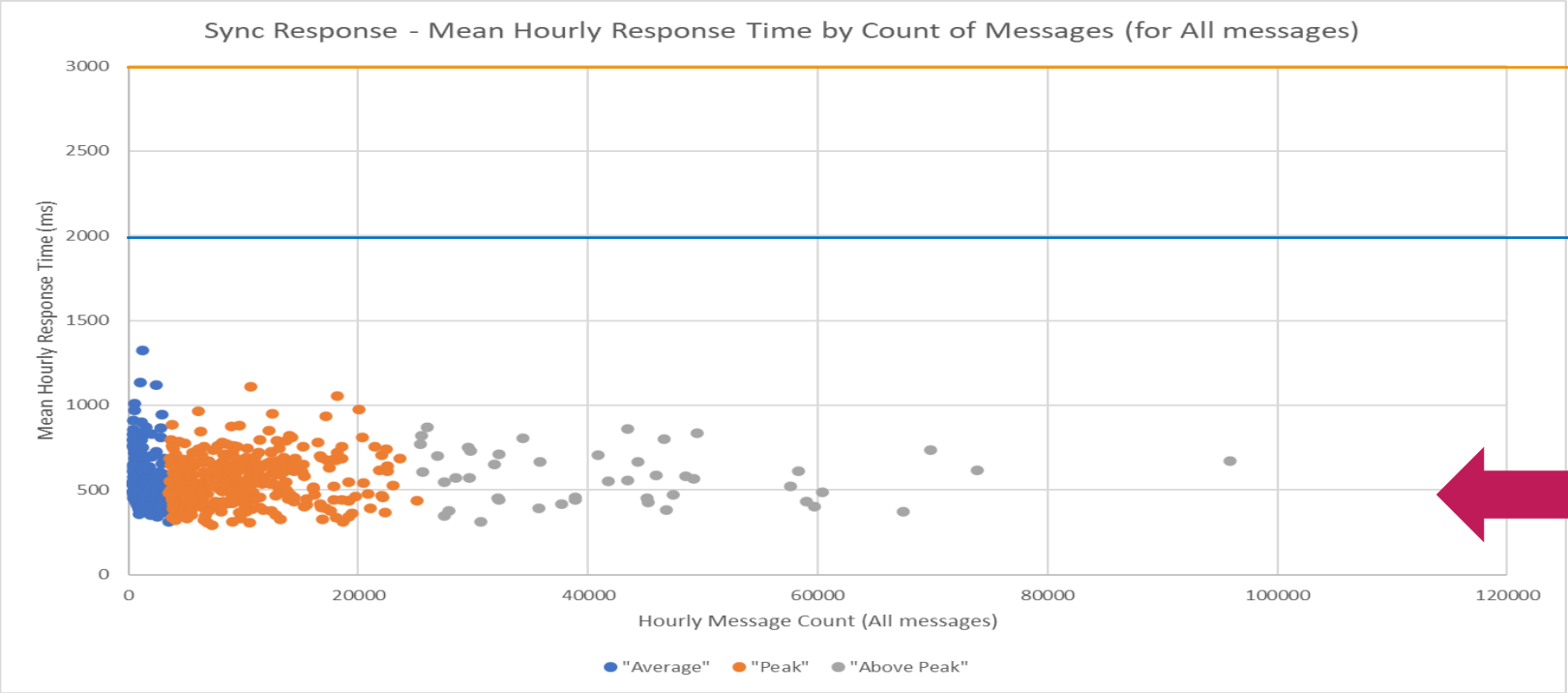
Action Ref	Action	Action Update
1506_01	The Code Manager to reconcile any differences identified through proceedings of the R0092 workgroup between the REC obligations and performance assurance reporting.	Action is ongoing.
1506_02	The DCC to confirm the required timescales to process synchronous and asynchronous responses during peak demand volumes.	Action to be discussed under agenda item four.
1506_03	The DCC to confirm how long in-hour scaling processes takes to account for unexpected peak volumes.	Action to be discussed under agenda item four.
1506_04	The DCC to produce a slide demonstrating the dependencies on user response versus dependencies on the DCC to complete processes regarding gate closure.	Update to be provided at the meeting.
1506_05	LB to provide data on open incidents, their associated priority categories, volumes and any on hold.	Action to be discussed under agenda item five.

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1506_02 - Synchronous Response – Mean Hourly Response for ALL messages

Action 1506_02: The DCC to confirm the required timescales to process synchronous and asynchronous responses during peak demand volumes.

The data below shows the Mean hourly response for ALL message types in May 2023. It shows that there is no obvious correlation between mean response time and the volume of messages processed in any hourly period.



3-second Target for Peak Hours

2-second Target for Average Hours

Each dot represents an hour.
The position of the dot on the y-axis (time) does not depend on the message volume in that hour (x-axis)

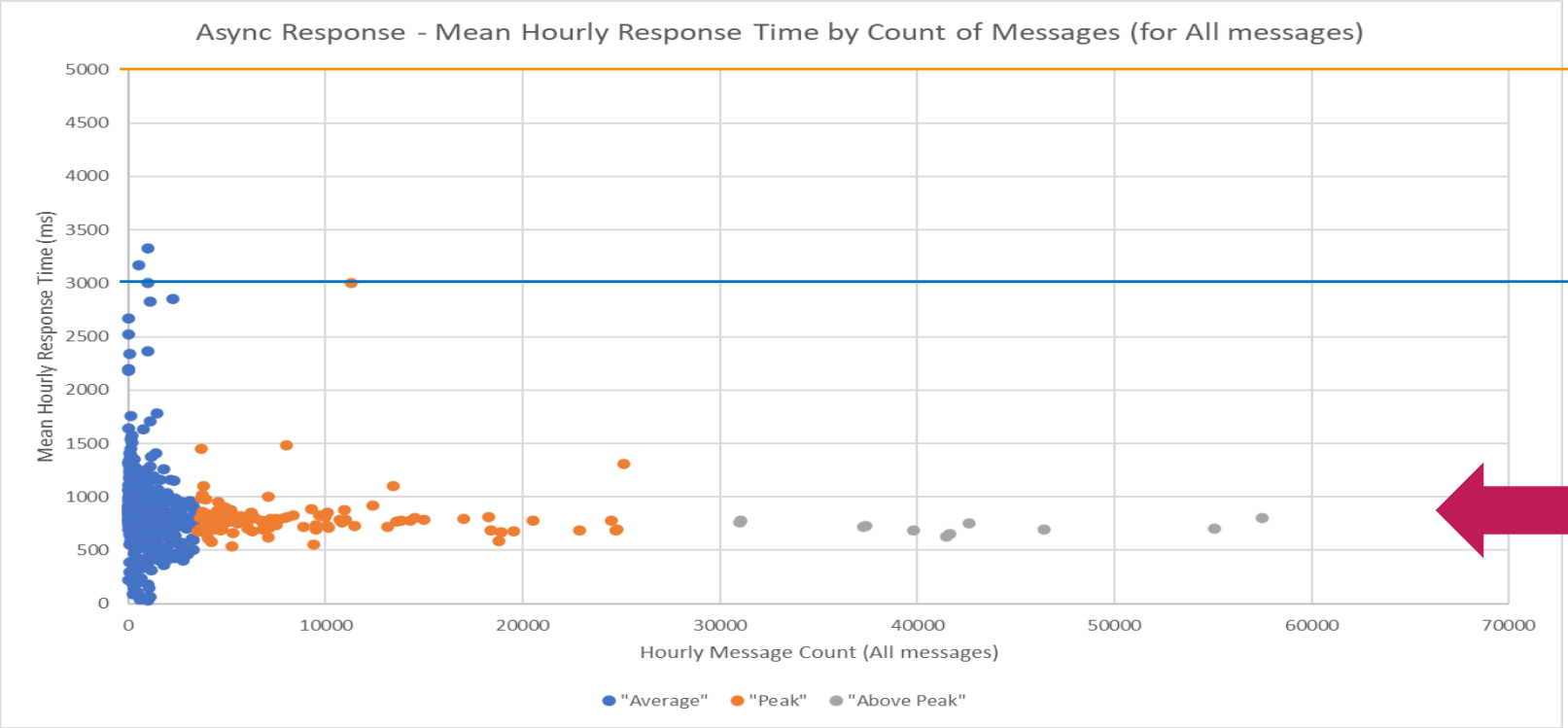
Average hour = 0 - 3,500 messages; Peak = 3,501 - 25,300; Above Peak = 25,301+

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1506_02 - Asynchronous Response – Mean Hourly Response for ALL messages

Action 1506_02: The DCC to confirm the required timescales to process synchronous and asynchronous responses during peak demand volumes.

The data below shows the Mean hourly response for ALL message types in May 2023. It shows that there is no obvious correlation between response time and the volume of messages processed in any hourly period.



5-second Target for Peak Hours

3-second Target for Average Hours

Each dot represents an hour.
The position of the dot on the y-axis (time) does not depend on the message volume in that hour (x-axis)

Average hour = 0 - 3,500 messages; Peak = 3,501 - 25,300; Above Peak = 25,301+

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1506_03 – Time for CSS Instances to Scale-Up

Action 1506_03: The DCC to confirm how long in-hour scaling processes takes to account for unexpected peak volumes.

Microsoft (Azure) do not provide scaling timescales for new function instances, nor do they publish the scaling algorithms.

CSS can specify the **minimum** number of function instances. This is currently set at 4 per data centre (8 in total).

Microsoft keep an **equivalent** number of function instances in the background ready to add – effectively on **hot standby**. Adding these in is a matter of seconds (exact timing is not known).
We can therefore scales from 4 to 8 instances per site quickly (but still in the same order as a 2-second SLA).

Scaling **beyond** the number of instances on hot standby takes longer. Again, MS do not specify and we can only sample at minute intervals. We see it scales-up **within a minute** but exact timing is not known.
Increases in demand of this type will not achieve the SLA.

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Synchronous Message Response Options

CSS 6.1

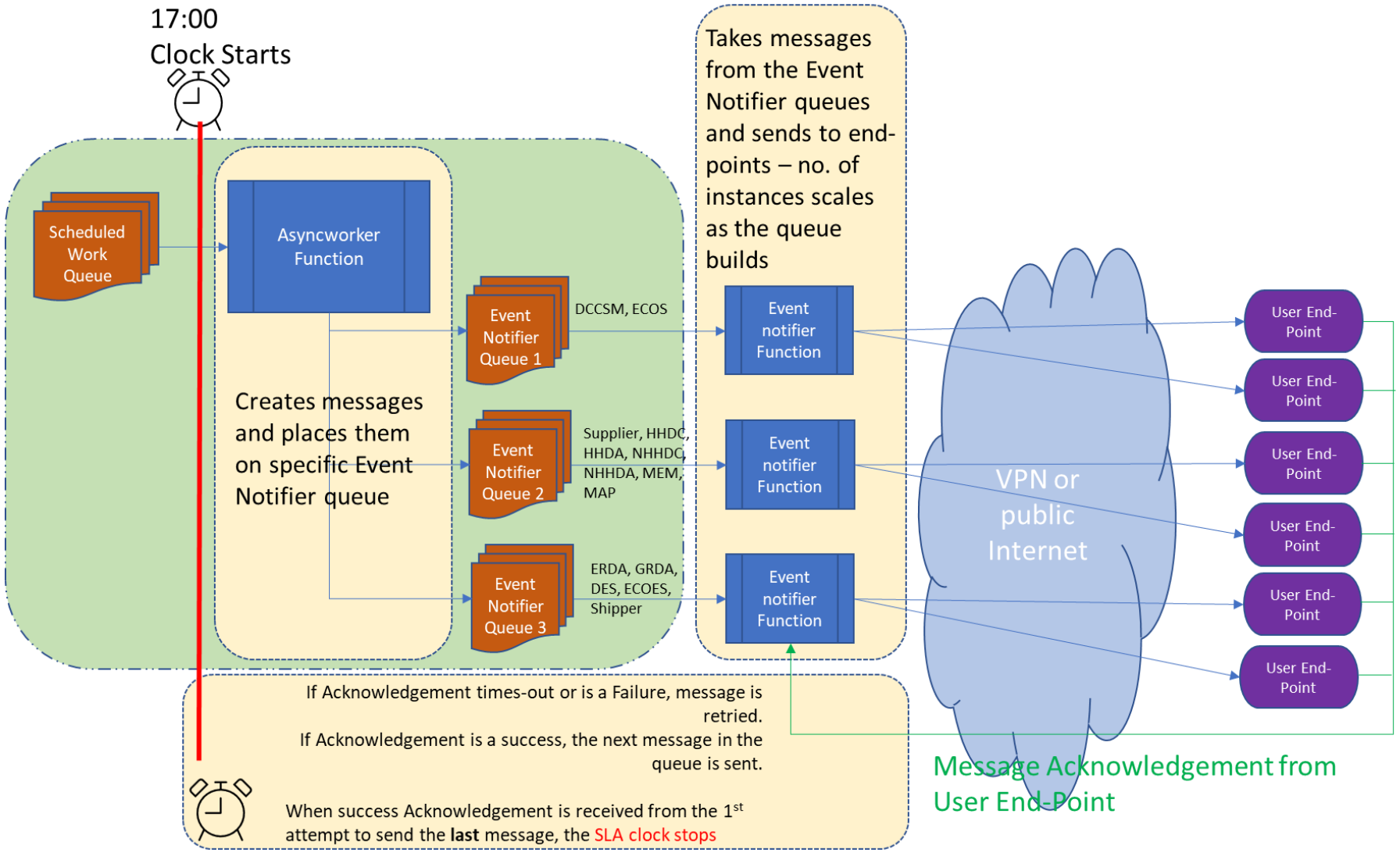
Option	Change	Measurement Definition	Target
Option 1	Replace all current 6.1 measures with 1 **Mean Daily** Response Target for **All** messages; and 1 **90th Percentile Daily** Response Target for **All** messages.	**Mean** Daily Response = 100 * [Count of Days where Mean Response Time for All Message <= 2 seconds] / [Count of Days in the Month] **90th Percentile** Daily Response = 100 * [Count of Days where 90th Percentile Response Time for All Message <= 4 seconds] / [Count of Days in the Month] ….where Daily volume of All messages received <= 281,600	Mean = 100% (of days) 90th Percentile = 100% (of days) As daily volumes are sufficiently high to avoid single anomalies causing a failure for the month, a 100% Target is realistic.
Option 2	Replace all current 6.1 measures with 1 **Mean Hourly** Response Target for **All** messages; and 1 **90th Percentile Hourly** Response Target for **All** messages.	**Mean** Hourly Response = 100 * [Count of Hours where Mean Response Time for All Message <= 2 seconds] / [Count of Hours in the Month] **90th Percentile** Hourly Response = 100 * [Count of Hours where 90th Percentile Response Time for All Message <= 4 seconds] / [Count of Hours in the Month] ….where Hourly volume of All messages received <= 25,300	Mean = 99% (of hours) 90th Percentile = 99% (of hours) As hourly volumes are vary greatly, to avoid single anomalies causing a failure for the month, a 99% Target is realistic.

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1506_04 – Gate Closure Diagram

Action 1506_04 DCC to produce a slide demonstrating the dependencies on user response vs dependencies on the DCC to complete processes regarding gate closure



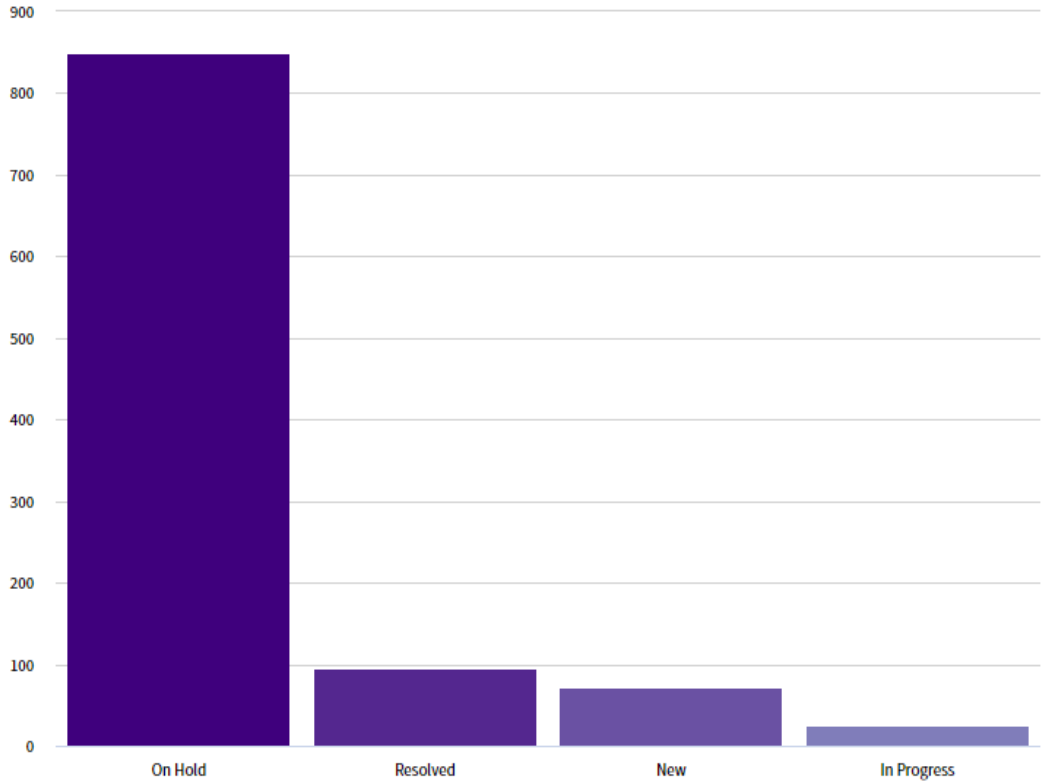
Boundary of DCC's exclusive control

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1506_05 – DCC to provide data on open incidents, volumes, priority categories and any on hold.

Snapshot view of the open Incidents by state and priority as of 22/06

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State	Incident Count	Percentage of Count
On Hold	849	81.48%
Resolved	95	9.12%
New	72	6.91%
In Progress	26	2.5%
Total	1,042	100%

Priority Totals		Incident Count Totals	Percentage of Count
4 - Low Total		1,031	98.94%
3 - Moderate Total		11	1.06%
Priority	State	Incident Count	Percentage of Count
4 - Low	New	71	6.89%
	In Progress	23	2.23%
	On Hold	844	81.86%
	Resolved	93	9.02%
3 - Moderate	New	1	9.09%
	In Progress	3	27.27%
	On Hold	5	45.45%
	Resolved	2	18.18%
Total		1,042	100%

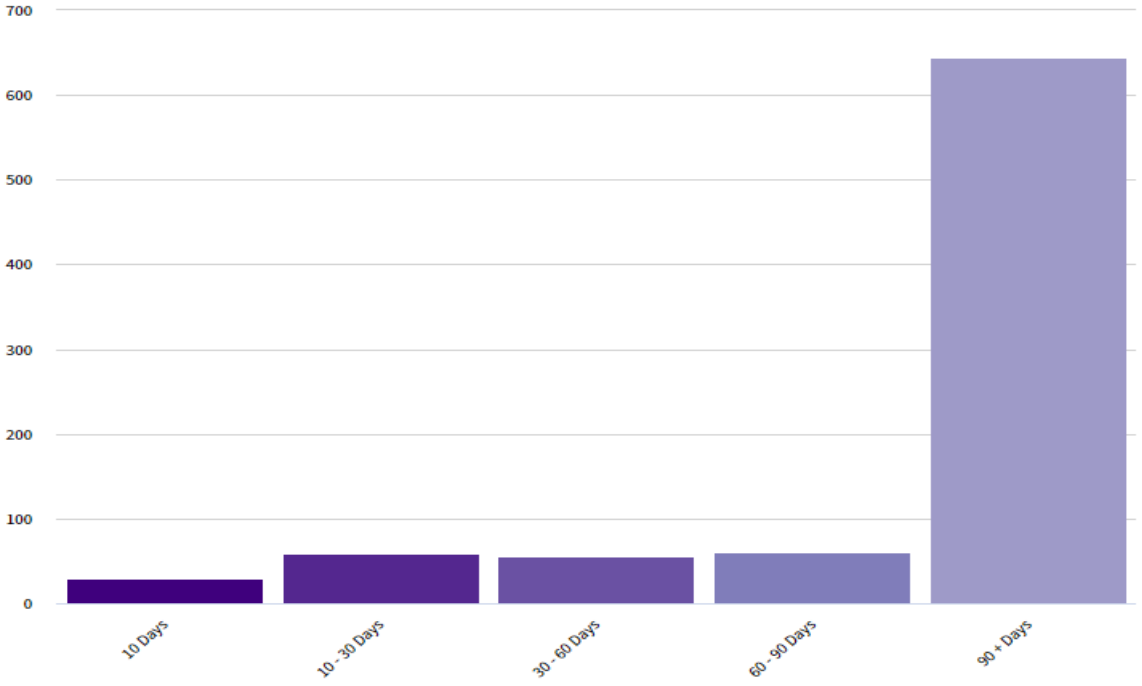
Summary

As of 22/06 there are 1042 incidents in an open state which includes “Resolved” as incidents stay in this state for 3 days to allow users to reject the resolution provided.

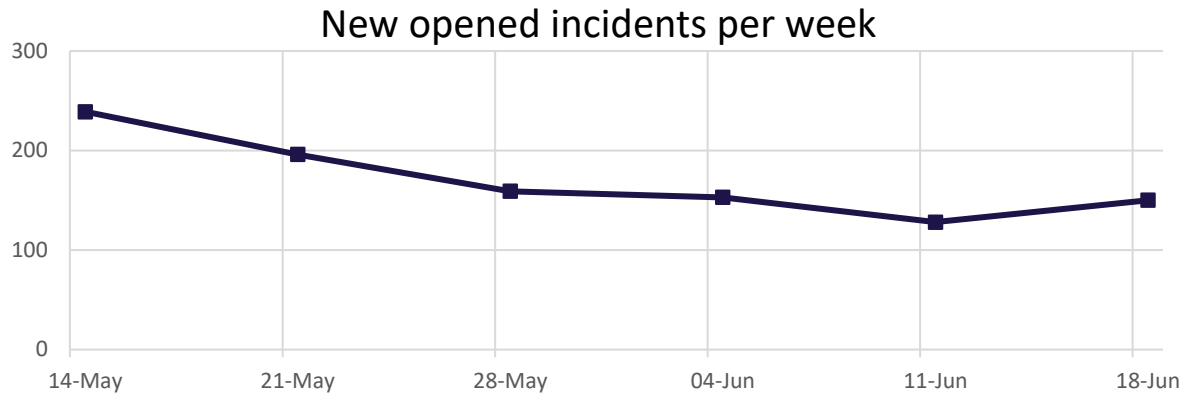
Within this stage 849 are on hold with a market participant, New and In progress states are used for DNO’s and other licensed parties.

Out of the 1042, 98.94% of these are P4 incidents, 1.06% are P3 and we have no current major incidents open.

A view of trending of new incidents coming into the desk and age of current on hold incidents



Created	Incident Count	Percentage of Count
10 Days	29	3.42%
10 - 30 Days	59	6.95%
30 - 60 Days	55	6.48%
60 - 90 Days	61	7.18%
90 + Days	645	75.97%
Total	849	100%



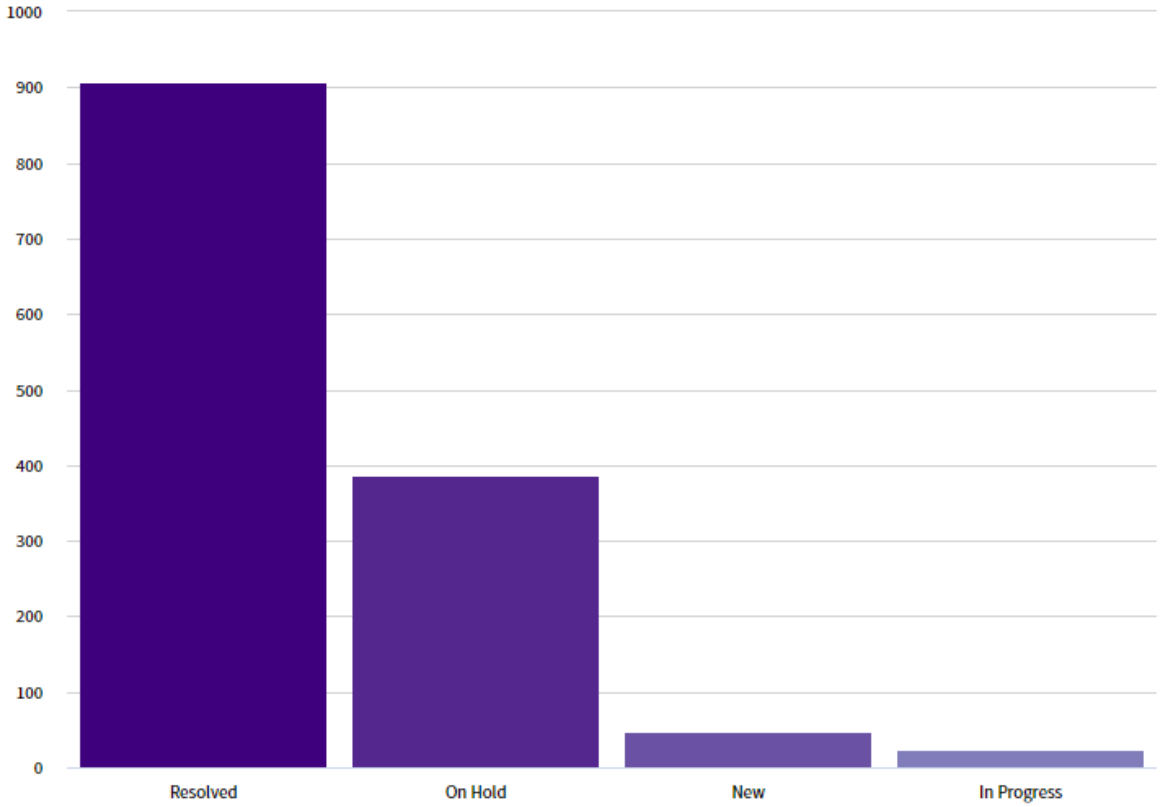
Commentary

Between the 12th June and 18th of June we have received 150 Incidents

- 101 were related to Error API.
- 15 were related to Failed Registration.
- 11 were related to One or more CSS business validation errors
- With the remainder being across several areas.

To the left the graph is showing the age of incidents which are currently on hold awaiting a market participant response.

Snapshot view of the open Incidents by state and priority as of 28/06



State	Incident Count	Percentage of Count
Resolved	907	66.5%
On Hold	386	28.3%
New	48	3.52%
In Progress	23	1.69%
Total	1,364	100%

State	Priority	Incident Count	Percentage of Count
Resolved	2 - High	1	0.11%
	3 - Moderate	1	0.11%
	4 - Low	905	99.78%
On Hold	3 - Moderate	4	1.04%
	4 - Low	382	98.96%
New	3 - Moderate	2	4.17%
	4 - Low	46	95.83%
In Progress	3 - Moderate	3	13.04%
	4 - Low	20	86.96%
Total		1,364	100%

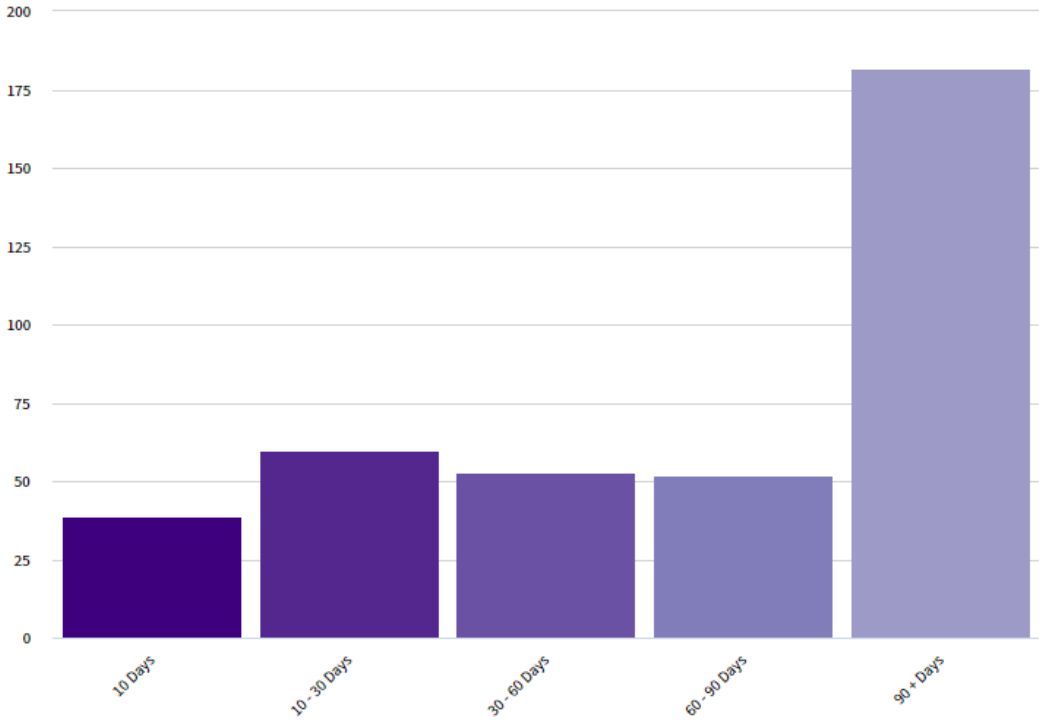
Summary

As of 28/06 there are 1364 incidents in an open state which includes “Resolved” as incidents stay in this state for 3 days to allow users to reject the resolution provided.

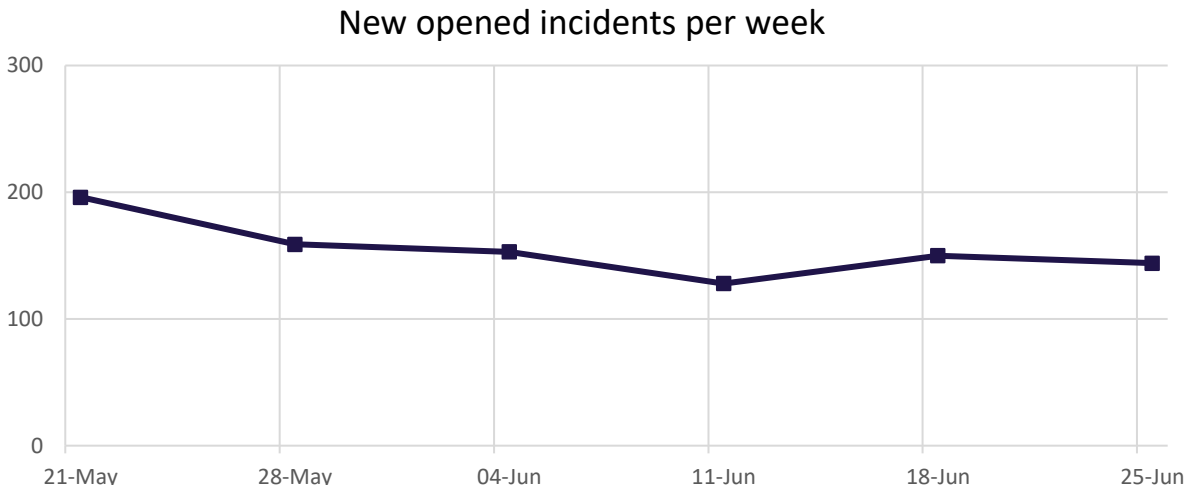
Within this stage 386 are on hold with a market participant, New and In progress states are used for DNO’s and other licensed parties.

Out of the 1364, 98.98% of these are P4 incidents, 1.02% are P3 and we have one current major incident open.

A view of trending of new incidents coming into the desk and age of current on hold incidents



Created	Incident Count	Percentage of Count
10 Days	39	10.1%
10 - 30 Days	60	15.54%
30 - 60 Days	53	13.73%
60 - 90 Days	52	13.47%
90 + Days	182	47.15%
Total	386	100%



Commentary

Between the 19th June and 25th of June we have received 144 Incidents

- 75 were related to Error API.
- 14 were related to Failed Registration.
- 29 were related to One or more CSS business validation errors
- With the remainder being across several areas.

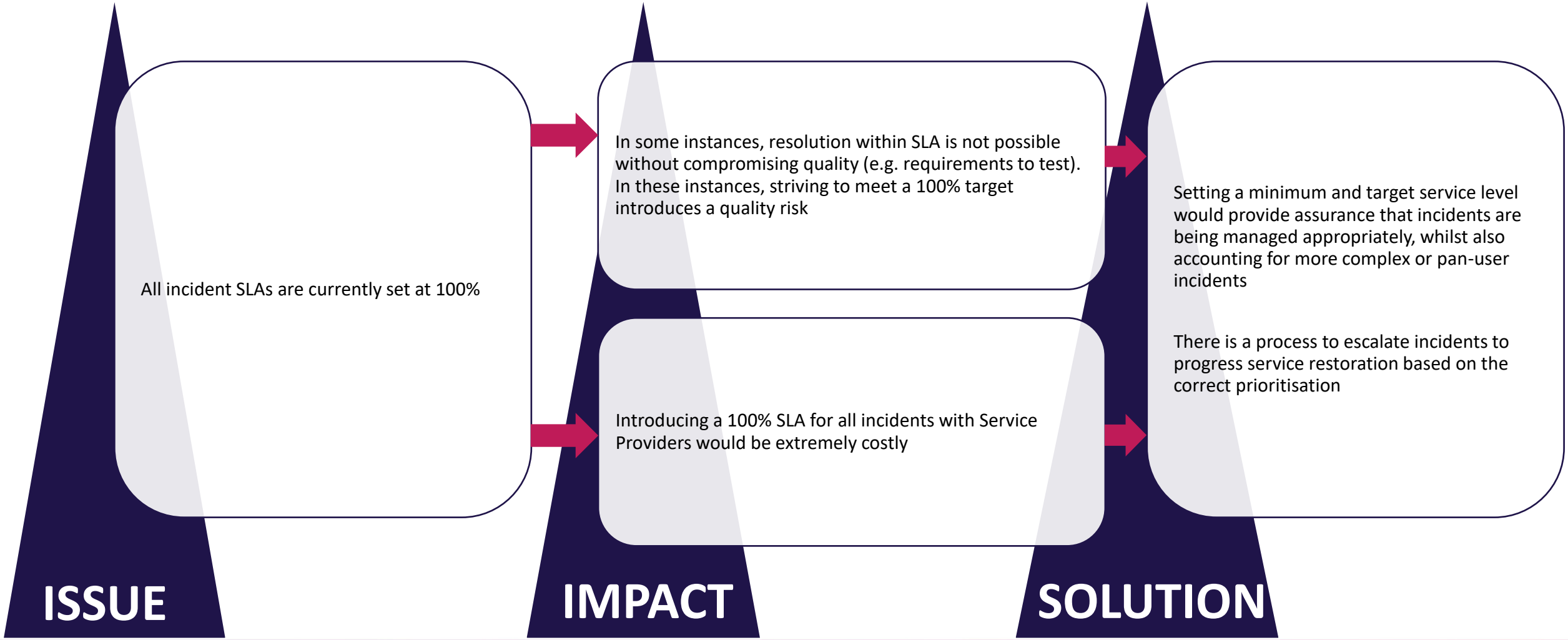
To the left the graph is showing the age of incidents which are currently on hold awaiting a market participant response.

The largest contributing party to the on-hold queue (500 incidents) confirmed closure this week.

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Switching Incidents: Context

CSS 5.2, ERDS & GRDS 6.2, SO 5.2 & 5.4



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Incident Response: Performance Improvement Plan

Target Service Level Achieved

- SLA is passed
- No further action required

Minimum Service Level Achieved

- SLA is **NOT** passed
- Operational intervention will be defined and implemented
- Mitigation and explanation commentary will be provided
- Use of this level helps DCC and REC Manager prioritise missed-SLA events

Below Minimum Service Level

- SLA is **NOT** passed
- Performance reviews will be carried out and results reported
- Action plans will be defined and implemented and, where appropriate, shared with REC/PAB to identify any changes that may be required on the part of DCC or users

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Incident Response: Proposed Service Levels

Target Service Level Achieved

SLA: ☑

	Major Incident		Standard Incident	
	P1	**P2**	**P3**	**P4**
Incident Response:	99% within: 30 mins	1 hour	99% within: 3 working hours	1 working day
Incident Resolution:	100% within: 4 hours	24 hours	90% within: 3 working days	10 working days

Minimum Service Level Achieved

SLA: ☒

	Major Incident		Standard Incident	
	P1	**P2**	**P3**	**P4**
Incident Response:	85% within: 30 mins	1 hour	85% within: 3 working hours	1 working day
Incident Resolution:	85% within: 4 hours	24 hours	80% within: 3 working days	10 working days

Below Minimum Service Level

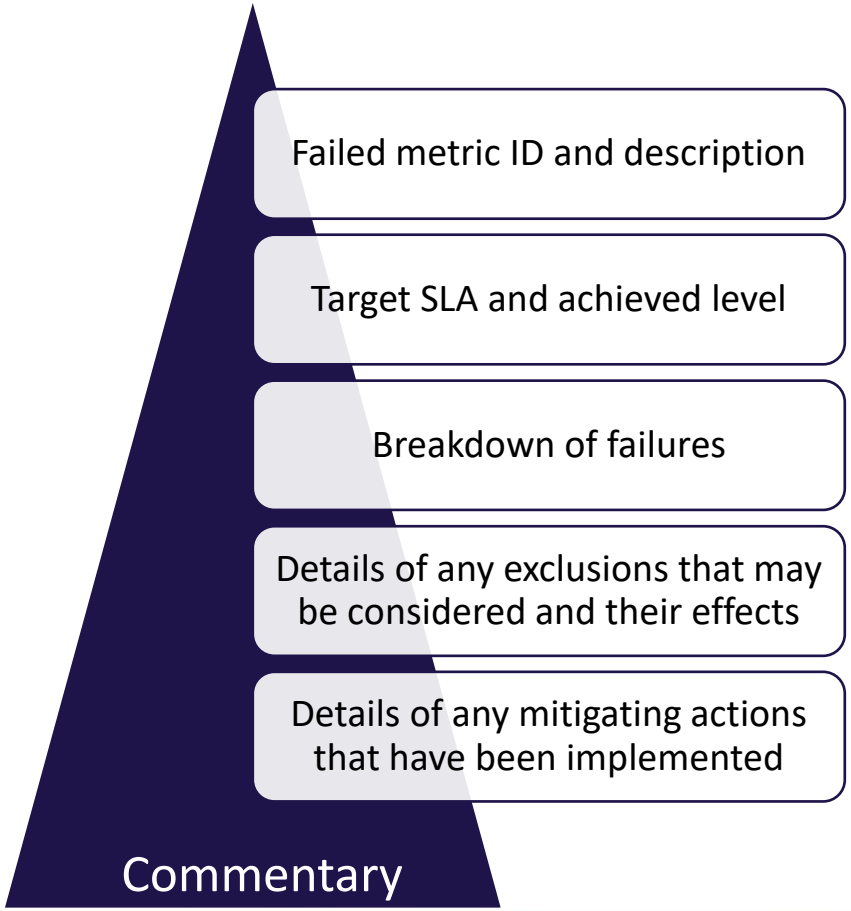
SLA: ☒

Incident Response: below levels detailed above
Incident Resolution: below levels detailed above

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SLA-Related Commentary

DCC currently supply a commentary regarding any elements of the PAB report that have failed SLA. We see this as a vital part of improving performance, as well as providing insight into each event.



	Example Commentary
Failed metric ID and description	"5.2.7 - Percentage of Priority 4 Landmark Switching Incidents Responded to within SLA (1 working day)"
Target SLA and achieved level	"100% target, 99.48% achieved"
Breakdown of failures	"194 incidents, 1 failed SLA. Of these: 83 duplicates, 16 non-CSS Impacting, 5 known defect (Error 1069), 4 user responsibility (expired TLS certificates)"…etc
Details of any exclusions that may be considered and their effects	"If the exclusions were applied, performance against SLA would be 98.70%. (77 incidents, 1 failed SLA)"
Details of any mitigating actions that have been implemented	"On review, the failed incident was responded to in time by Landmark (less than 1 minute); however, the stop trigger was not activated. Landmark have been reminded about the need to change the incident Status as well as providing the Response."

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CSS (Landmark) Switching Incidents

CSS 5.2

Measure ID	REC Service Definition		Current PAB Measure	Proposed Change
CSS 5.2.1	The CSS Provider shall support the response and resolution times for the following Switching Incident categories.	Priority 1 – for Switching Incidents causing critical impact and significant financial loss / disruption - 30 minute response with a –four hour resolution time;	Percentage of Priority 1 Landmark Switching Incidents Responded to within SLA (30 mins)	Percentage of Major Incidents (P1 & P2) responded to within SLA (target: 99%, min: 85%) with exclusions applied
CSS 5.2.2			Percentage of Priority 1 Landmark Switching Incidents Resolved within SLA (4 hours)	Percentage of Major Incidents (P1 & P2) resolved within SLA (target: 100%, min: 85%) with exclusions applied
CSS 5.2.3		Priority 2 – for Switching Incidents causing non-critical impact with non-significant financial loss / disruption - one hour response with a 24 hour resolution time;	Percentage of Priority 2 Landmark Switching Incidents Responded to within SLA (1 hour)	Propose to remove - now covered in CSS 5.2.1
CSS 5.2.4			Percentage of Priority 2 Landmark Switching Incidents Resolved within SLA (24 hours)	Propose to remove - now covered in CSS 5.2.2
CSS 5.2.5		Priority 3 – for Switching Incidents causing adverse impact but can be reduced to moderate adverse impact - three Working Hour response with a three Working Day resolution time;	Percentage of Priority 3 Landmark Switching Incidents Responded to within SLA (3 working hours)	Percentage of Standard Incidents (P3 & P4) responded to within SLA (target: 99%, min: 85%) with exclusions applied
CSS 5.2.6			Percentage of Priority 3 Landmark Switching Incidents Resolved within SLA (3 working days)	Percentage of Standard Incidents (P3 & P4) resolved within SLA (target: 90%, min: 80%) with exclusions applied
CSS 5.2.7		Priority 4 – for Switching Incidents causing minimal impact - one Working Day response with a 10 Working Day resolution time.	Percentage of Priority 4 Landmark Switching Incidents Responded to within SLA (1 working day)	Propose to remove - now covered in CSS 5.2.5
CSS 5.2.8			Percentage of Priority 4 Landmark Switching Incidents Resolved within SLA (10 working days)	Propose to remove - now covered in CSS 5.2.6

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ERDS Switching Incidents

ERDS 6.2

Measure ID	REC Service Definition		Current PAB Measure	Proposed Change
ERDS 6.2.1	The ERDA shall support the response and resolution times for the following Switching Incident categories.	Priority 1 – for Switching Incidents causing critical impact and significant financial loss / disruption – 30 minute response with a four hour resolution time;	Percentage of Priority 1 ERDS Switching Incidents Responded to within SLA (30 mins)	Percentage of Major Incidents (P1 & P2) responded to within SLA (target: 99%, min: 85%) with exclusions applied
ERDS 6.2.2			Percentage of Priority 1 ERDS Switching Incidents Resolved within SLA (4 hours)	Percentage of Major Incidents (P1 & P2) resolved within SLA (target: 100%, min: 85%) with exclusions applied
ERDS 6.2.3		Priority 2 – for Switching Incidents causing non-critical impact with non-significant financial loss / disruption – one hour response with a 24 hour resolution time;	Percentage of Priority 2 ERDS Switching Incidents Responded to within SLA (1 hour)	Propose to remove - now covered in ERDS 6.2.1
ERDS 6.2.4			Percentage of Priority 2 ERDS Switching Incidents Resolved within SLA (24 hours)	Propose to remove - now covered in ERDS 6.2.2
ERDS 6.2.5		Priority 3 – for Switching Incidents causing adverse impact but can be reduced to moderate adverse impact – three Working Hour response with a three Working Day resolution time;	Percentage of Priority 3 ERDS Switching Incidents Responded to within SLA (3 working hours)	Percentage of Standard Incidents (P3 & P4) responded to within SLA (target: 99%, min: 85%) with exclusions applied
ERDS 6.2.6			Percentage of Priority 3 ERDS Switching Incidents Resolved within SLA (3 working days)	Percentage of Standard Incidents (P3 & P4) resolved within SLA (target: 90%, min: 80%) with exclusions applied
ERDS 6.2.7		Priority 4 – for Switching Incidents causing minimal impact – one Working Day response with a 10 Working Day resolution time.	Percentage of Priority 4 ERDS Switching Incidents Responded to within SLA (1 working day)	Propose to remove - now covered in ERDS 6.2.5
ERDS 6.2.8			Percentage of Priority 4 ERDS Switching Incidents Resolved within SLA (10 working days)	Propose to remove - now covered in ERDS 6.2.6

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GRDS Switching Incidents

GRDS 6.2

Measure ID	REC Service Definition		Current PAB Measure	Proposed Change
GRDS 6.2.1	The GRDA shall support the response and resolution times for the following Switching Incident categories.	Priority 1 – for Switching Incidents causing critical impact and significant financial loss / disruption – 30 minute response with a four hour resolution time;	Percentage of Priority 1 GRDS Switching Incidents Responded to within SLA (30 mins)	Percentage of Major Incidents (P1 & P2) responded to within SLA (target: 99%, min: 85%) with exclusions applied
GRDS 6.2.2			Percentage of Priority 1 GRDS Switching Incidents Resolved within SLA (4 hours)	Percentage of Major Incidents (P1 & P2) resolved within SLA (target: 100%, min: 85%) with exclusions applied
GRDS 6.2.3		Priority 2 – for Switching Incidents causing non-critical impact with non-significant financial loss / disruption – one hour response with a 24 hour resolution time;	Percentage of Priority 2 GRDS Switching Incidents Responded to within SLA (1 hour)	Propose to remove - now covered in GRDS 6.2.1
GRDS 6.2.4			Percentage of Priority 2 GRDS Switching Incidents Resolved within SLA (24 hours)	Propose to remove - now covered in GRDS 6.2.2
GRDS 6.2.5		Priority 3 – for Switching Incidents causing adverse impact but can be reduced to moderate adverse impact – three Working Hour response with a three Working Day resolution time;	Percentage of Priority 3 GRDS Switching Incidents Responded to within SLA (3 working hours)	Percentage of Standard Incidents (P3 & P4) responded to within SLA (target: 99%, min: 85%) with exclusions applied
GRDS 6.2.6			Percentage of Priority 3 GRDS Switching Incidents Resolved within SLA (3 working days)	Percentage of Standard Incidents (P3 & P4) resolved within SLA (target: 90%, min: 80%) with exclusions applied
GRDS 6.2.7		Priority 4 – for Switching Incidents causing minimal impact – one Working Day response with a 10 Working Day resolution time.	Percentage of Priority 4 GRDS Switching Incidents Responded to within SLA (1 working day)	Propose to remove - now covered in GRDS 6.2.5
GRDS 6.2.8			Percentage of Priority 4 GRDS Switching Incidents Resolved within SLA (10 working days)	Propose to remove - now covered in GRDS 6.2.6

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SO (DCC) Switching Incidents
SO 5.2

Measure ID	Current Description	Proposed Change
SO 5.2.1	Percentage of Priority 1 DCC Switching Incidents Responded to within SLA (30 mins)	Percentage of Major Incidents (P1 & P2) responded to within SLA (target: 99%, min: 85%) with exclusions applied
SO 5.2.2	Percentage of Priority 1 DCC Switching Incidents Resolved within SLA (4 hours)	Percentage of Major Incidents (P1 & P2) resolved within SLA (target: 100%, min: 85%) with exclusions applied
SO 5.2.3	Percentage of Priority 2 DCC Switching Incidents Responded to within SLA (1 hour)	Propose to remove - now covered in SO 5.2.1
SO 5.2.4	Percentage of Priority 2 DCC Switching Incidents Resolved within SLA (24 hours)	Propose to remove - now covered in SO 5.2.2
SO 5.2.5	Percentage of Priority 3 DCC Switching Incidents Responded to within SLA (3 working hours)	Percentage of Standard Incidents (P3 & P4) responded to within SLA (target: 99%, min: 85%) with exclusions applied
SO 5.2.6	Percentage of Priority 3 DCC Switching Incidents Resolved within SLA (3 working days)	Percentage of Standard Incidents (P3 & P4) resolved within SLA (target: 90%, min: 80%) with exclusions applied
SO 5.2.7	Percentage of Priority 4 DCC Switching Incidents Responded to within SLA (1 working day)	Propose to remove - now covered in SO 5.2.5
SO 5.2.8	Percentage of Priority 4 DCC Switching Incidents Resolved within SLA (10 working days)	Propose to remove - now covered in SO 5.2.6

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SO (DCC) Switching Service Requests
SO 5.4

Measure ID	Current Description	Proposed Change
SO 5.4.1	Percentage of Priority 1 Switching Service Requests Resolved within SLA (1 Working Days)	Percentage of P1 & P2 Switching Service Requests fulfilled* within SLA (target: 100%, min: 85%) with exclusions applied
SO 5.4.2	Percentage of Priority 2 Switching Service Requests Resolved within SLA (2 Working Days)	Propose to remove - now covered in SO 5.4.1
SO 5.4.3	Percentage of Priority 3 Switching Service Requests Resolved within SLA (3 Working Days)	Percentage of P3 & P4 Switching Service Requests fulfilled* within SLA (target: 90%, min: 80%) with exclusions applied
SO 5.4.4	Percentage of Priority 4 Switching Service Requests Resolved within SLA (10 Working Days)	Propose to remove - now covered in SO 5.4.1

* Note wording change: ‘resolved’ changed to ‘fulfilled’ to align with REC SO Service Definition