

DCC Performance Measurement Methodology

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X

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Contents

1	Introduction	6
1.1	Purpose	6
1.2	Interpretation	6
1.3	Scope	6
1.4	Performance Measures - general principles.....	6
1.5	Code Performance Measures - general principles	8
1.6	Reported List of Service Provider General Principles.....	8
1.6.1	Allowed Exceptions.....	8
2	Code Performance Measures	10
2.1	Scope	10
2.2	Relevant Service Measures	11
2.3	Code Performance Measure 1 – On Demand Service Responses delivered within the applicable Target Response Time.....	11
2.4	Code Performance Measure 2 – Future Dated Service Responses delivered within the applicable Target Response Time.....	12
2.5	Code Performance Measure 3 - Percentage of Alerts delivered within the applicable Target Response Time	14
2.6	Code Performance Measure 4 – Category 1/2 Incident Target Resolution Time	15
2.7	Code Performance Measure 5 – Category 3/4/5 Incident Target Resolution Time ..	16
2.8	Code Performance Measure 6: Percentage Availability – Self Service Interface Service Provider Performance Measures.....	16
2.9	Code Performance Measure 7 – Percentage of Certificates delivered within the applicable Target Response Time for the SMKI Services	17
2.10	Code Performance Measure 8 – Percentage of documents stored on the SMKI Repository delivered within the applicable Target Response Time for the SMKI Repository Service.....	19
2.11	Relevant Service Measures - DSP Target Response Time.....	20
2.12	Relevant Service Measures - CSPN Round Trip Times	21
2.13	Relevant Service Measures - CSPC/S Round Trip Times.....	22
2.14	Relevant Service Measures – CSP Category 1 Firmware Payloads.....	23
2.15	Relevant Service Measures – CSP Category 2 HAN Interface Commands and Category 3 Alerts	23
3	Data Services Provider Performance Measures	25
3.1	Scope	25
3.2	PM 2.1 Percentage Service availability – DCC Data Service (Production Services)	25
3.3	PM 2.2 Percentage Service availability – DCC User Interface (Production Services)	26

3.4	PM2.3 Percentage Service availability – DCC Service Management System	27
3.5	PM2.4 Percentage Service availability – Self Service Interface (Production Services).....	28
3.6	PM2.5 Percentage Service availability – average Interface availability	29
3.7	PM2.7 Percentage Service availability - Externally Exposed Testing Services (08.00 to 20.00 UTC Monday to Saturday).....	30
3.8	PM3 Number of Severity Level 1 or 2 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release	32
3.9	PM7 Notification of Planned Maintenance events within required target	32
3.10	PM11 Percentage of anomalous Service Requests notified within 30 minutes.....	33
4	CSP North Performance Measures	35
4.1	Scope	35
4.2	PM1.1 First time SM WAN connectivity at install.....	36
4.3	PM1.2 First time SM WAN connectivity within 30 days	37
4.4	PM1.3 First time SM WAN connectivity within 90 days	38
4.5	PM1.4 SM WAN Connectivity Level	39
4.6	PM6.2 Percentage availability of DCC WAN Gateway Interface	41
4.7	PM10 Notification of Planned Maintenance events within required target	41
4.8	PM11 Accuracy of Coverage Database provided to Users.....	42
4.9	PM12.1 Percentage of Power Outage Event alerts delivered: 50 Communications Hubs or fewer.....	44
4.10	PM12.2 Percentage of Power Outage Event alerts delivered: Greater than 50 Communications Hubs.....	45
4.11	CH1.1 Percentage of Communications Hubs delivered on time	45
4.12	CH1.2 Percentage of Communications Hubs accepted by DCC Service Users	46
4.13	CH1.3 Percentage of Communications Hubs determined not to be faulty following attempted installation	47
4.14	CH2.1 Percentage of Communications Hub Incidents resolved by remote maintenance	48
5	CSP Central & South Performance Measures.....	49
5.1	Scope	49
5.2	PM1.1 First time SM WAN connectivity at install.....	50
5.3	PM1.2 First time SM WAN connectivity within 90 days	51
5.4	PM1.3 SM WAN Connectivity Level	52
5.5	PM6.2 Percentage availability of DCC WAN Gateway Interface	53
5.6	PM10 Notification of Planned Maintenance events within required target	54
5.7	PM11 Accuracy of installation recommendation provided to DCC Service Users via Coverage Database	54

5.8	PM12.1 Percentage of Power Outage Event alerts delivered: 50 Communications Hubs or fewer.....	55
5.9	PM12.2 Percentage of Power Outage Event alerts delivered: Greater than 50 Communications Hubs.....	56
5.10	CH1.1 Percentage of Communications Hubs delivered on time	57
5.11	CH1.2 Percentage of Communications Hubs accepted by DCC Service Users	58
5.12	CH1.3 Percentage of Communications Hubs determined not to be faulty following attempted installation	58
5.13	CH2.1 Percentage of Communications Hub Incidents resolved by remote maintenance	59
6	Initial Operating Capability Performance Measures.....	61
6.1	Scope	61
6.2	PM 2.1 Percentage Service availability – DCC Data Service (Production Services).....	61
6.3	PM2.4 Percentage Service availability – S1SP Management Interface (Production Services).....	62
6.4	PM2.7 Percentage Service availability - Externally Exposed Testing Services (08.00 to 20.00 UTC Monday to Saturday).....	63
6.5	PM3.1 Number of Severity Level 1 or 2 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release	64
6.6	PM3.2 Number of Severity Level 3, 4 or 5 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release	64
6.7	PM7 Notification of Planned Maintenance events within required target	65
7	Middle Operating Capability Performance Measures.....	67
7.1	Scope	67
7.2	PM 2.1 Percentage Service availability – DCC Data Service (Production Services).....	67
7.3	PM2.4 Percentage Service availability – S1SP Management Interface (Production Services).....	68
7.4	PM2.7 Percentage Service availability - Externally Exposed Testing Services (08.00 to 20.00 UTC Monday to Saturday).....	69
7.5	PM3.1 Number of Severity Level 1 or 2 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release	70
7.6	PM3.2 Number of Severity Level 3, 4 or 5 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release	70
7.7	PM7 Notification of Planned Maintenance events within required target	71
8	Final Operating Capability Performance Measures.....	73
8.1	Scope	73
8.2	PM 2.1 Percentage Service availability – DCC Data Service (Production Services).....	73
8.3	PM2.4 Percentage Service availability – S1SP Management Interface (Production Services).....	74

8.4	PM2.7 Percentage Service availability - Externally Exposed Testing Services (08.00 to 20.00 UTC Monday to Saturday).....	75
8.5	PM3.1 Number of Severity Level 1 or 2 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release	76
8.6	PM3.2 Number of Severity Level 3, 4 or 5 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release	77
8.7	PM7 Notification of Planned Maintenance events within required target	77
9	Dual Control Organisation (security) Performance Measures	79
9.1	Scope	79
9.2	PM 2.1 Percentage Service availability – DCC Data Service (Production Services).....	79
9.3	PM3.1 Number of Severity Level 1 or 2 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release	80
9.4	PM3.2 Number of Severity Level 3, 4 or 5 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release	81
9.5	PM7 Notification of Planned Maintenance events within required target	81
10	Communication Service Provider Performance Measures (Vodafone)	83
10.1	Scope	83
10.2	Monthly availability of the radio network across VF-UK network	83
10.3	Combined monthly IoT Core and management service availability	84
10.4	Monthly IoT Core availability (Voice/Data/SMS).....	85
10.5	Monthly Management Service Availability (API, Reporting, Provisioning, GUI, Portal).....	85
10.6	Monthly Availability of DCC dedicated fixed links	86
11	Performance Indicators	87
11.1	Performance against the times set out in the DCC's Power Outage and Restoration Alerts Delivery Management Document.	87
12	Governance.....	88
	Appendix A –Interpretation.....	89

1 Introduction

1.1 Purpose

1. Pursuant to Section H13.6 of the Smart Energy Code (SEC), this document details the Performance Measurement Methodology, by which DCC and the DCC Service Providers shall calculate the Service Level for each Performance Measure which DCC is required to report upon following the end of each Performance Measurement Period, in accordance with Sections H13.4 and H13.5 of the SEC.
2. The Performance Measurement Methodology is therefore the documented methodology for establishing the performance against each Performance Measure. As per Section A1 of the SEC, it may include sampling and/or test communications.

1.2 Interpretation

3. The document terms shall be interpreted in accordance with the provisions in Appendix A.
4. Italics have been used through this document for terms that have been defined for the purposes of this document alone as defined in Appendix A.
5. The outline methodology for the Reported List of Service Provider Performance Measures and the Relevant Service Measures is defined within the DCC Service Provider contracts; where terms used within the DCC Service Provider contracts are not defined within the SEC they will be reproduced within this document.

1.3 Scope

6. The scope of the Performance Measurement Methodology is defined within SEC H13 of the SEC; that is the Code Performance Measures and such DCC Service Provider Performance Measures as are specified in the Reported List of Service Provider Performance Measures.

1.4 Performance Measures - general principles

7. In line with the SEC definition of Service Level, the Performance Measures shall be separated into two broad categories of measure which shall shape the methodology accordingly:
 - a) measures that are time based and assess activity over a period of time, such as availability; or
 - b) measures that are event based and assess activity that is performed on a number of separate occasions, such as the number of Incidents that are raised.
8. For each Performance Measure, the methodology will describe:
 - a) the mechanism that is used to monitor the activity;
 - b) the data used in the calculation of the Service Level;
 - c) the calculation to be applied to determine the Service Level; and

- d) the duration of the Performance Measure Period.
9. For each Performance Measure used to assess an activity that is performed over a period of time, the methodology will also describe the period of time in which that activity would have been performed, if it had been performed in accordance with the relevant Service Level Requirement.
 10. For each Performance Measure used to assess an activity that is performed on a number of separate occasions, the methodology will also describe the event that is to be measured including (and where relevant):
 - a) the event to be measured;
 - b) the total number of occasions on which the event occurred;
 - c) the test or process steps necessary to generate the event;
 - d) the frequency of the event;
 - e) the period of time when the event was measured, the Activity Period, where this is different to the Performance Measurement Period as illustrated in figure 1.

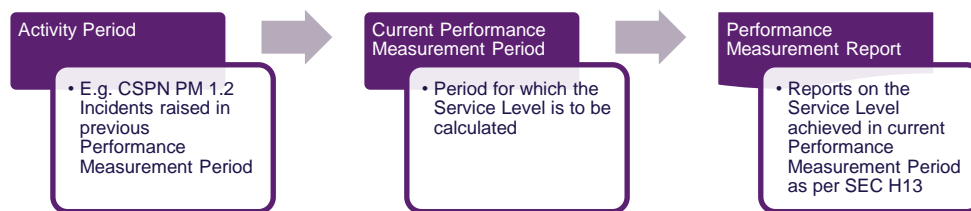


Figure 1 Activity Period and Performance Measurement Period

11. Service Levels shall be reported on following the end of each Performance Measurement Period in accordance with Section H13 of the SEC; that is following the end of the calendar month or the calendar quarter or other defined Performance Measurement Period.
12. Service Levels may be draft until all measurements can be taken for the Performance Measurement Period;

E.g. PM CH1.3 'final fault diagnosis' can only be determined once a Communications Hub has been returned, the fault analysis completed and the dispute period elapsed which may be several months after the *Attempted Communications Hub Installation*.
13. Each Performance Measure is categorised as a Service Measure or Key Performance Indicator. The meaning of Service Measure (SM) and Key Performance Indicator (KPI) within this document shall correspond to the meaning given in the DCC Service Provider contracts, summarised below:
 - a) Service Measures are subject to Service Credits where Target Service Levels are not met;

- b) Key Performance Indicators are not subject to Service Credits where Target Service Levels are not met.

1.5 Code Performance Measures - general principles

14. Where defined within the document, the Performance Measurement Methodology for a Code Performance Measure shall use the Service Levels for one of more Relevant Service Measures, where a Relevant Service Measure shall be a Service Provider Performance Measure which underpins (or is directly related to) a Code Performance Measure according to the DCC Service Provider contract.

1.6 Reported List of Service Provider General Principles

15. This document contains proposed amendments that have yet to be contractually formalised with the DCC Service Providers. Where there is a conflict between the terms of this Performance Measurement Methodology and the DCC Service Provider contracted agreement, the DCC Service Provider contract shall take precedence.
16. The DCC Service Provider shall have no liability to DCC for any failure to meet or delay in meeting any Target Service Level (and shall be deemed to have met the applicable Target Service Level) to the extent that such delay or failure is directly attributable to DCC.
17. DCC shall manage the levels of DCC Service Provider *Allowed Exceptions* and other exceptions as part of the DCC Service Provider performance management regime.

1.6.1 Allowed Exceptions

18. *Allowed Exceptions* allow for an event or activity over a period of time to be removed from the Service Level calculation. The DCC Service Provider shall not be accountable for the performance of the event or the performance during the period of time and therefore the event or period of time shall be removed from the Service Level calculation.
19. *Allowed Exceptions* may include an event or activity over a period of time that results from the failure of a SEC Party (other than the DCC) to act in accordance with the provisions in the SEC. DCC is to ensure the SEC Party is informed of the failure.
20. For each Performance Measure the Service Levels' calculations may be subject to *Allowed Exceptions* as detailed in the DCC Service Provider contracts and as agreed from time to time between the DCC and the DCC Service Provider.
21. *Allowed Exception* events:
- a) Where a Performance Measure relates to an activity that is performed on a number of separate occasions, *Allowed Exception* events shall not be counted in the total number of occasions during the Performance Measurement Period on which that activity was performed.
 - b) An *Allowed Exception* event may include a Services Force Majeure event.

To the extent that the DCC's ability to provide services is impacted by a Services Force Majeure event, the provisions under Section M3 of the SEC will apply.

22. *Allowed Exception* periods: where a Performance Measure relates to an activity that is performed over a period of time, *Allowed Exception* periods shall not be counted in the period of time during the Performance Measurement Period on which that activity would have been performed if it had been performed in accordance with the relevant Service Level Requirement.
23. For each Performance Measure the contracted, or notable, *Allowed Exceptions* shall be reproduced within this document as part of the relevant Performance Measure Methodology.
24. The *Allowed Exception(s)* impacting a Performance Measure(s) in a Performance Measurement Period shall be reported in the performance measurement report required under Section H13.4 of the SEC.
25. The DCC shall maintain a full list of *Allowed Exceptions* in a Performance Measure Exceptions List (PMEL) that shall document, at a minimum, for each agreed *Allowed Exception*:
 - a) the impacted Performance Measures(s);
 - b) a description;
 - c) the business rules or criteria that define the Allowed Exception;
 - d) an exception validity period start date; and
 - e) an exception validity period end date.
26. The PMEL shall be maintained by DCC in agreement with the DCC Service Providers and shared from time to time with Users via the appropriate forum.
27. Service Level calculations may be subject to other exceptions as detailed in the DCC Service Provider contracts and as agreed between the DCC and the DCC Service Providers from time to time.

2 Code Performance Measures

2.1 Scope

28. The Code Performance Measures provide a numerical assessment of the compliance of the DCC against a set of Target Service Levels and Minimum Service Levels as defined in the Sections H13.1 and L8.6 of the SEC as listed in Table 1.

SEC Ref	Code Performance Measure	Performance Measurement Period	Target Service Level	Minimum Service Level
1	Percentage of On-Demand Service Responses delivered within the applicable Target Response Time.	monthly	99%	96%
2	Percentage of Future-Dated Service Responses delivered within the applicable Target Response Time.	monthly	99%	96%
3	Percentage of Alerts delivered within the applicable Target Response Time.	monthly	99%	96%
4	Percentage of Incidents which the DCC is responsible for resolving and which fall within Incident Category 1 or 2 that are resolved in accordance with the Incident Management Policy within the Target Resolution Time.	monthly	100%	85%
5	Percentage of Incidents which the DCC is responsible for resolving and which fall within Incident Category 3, 4 or 5 that are resolved in accordance with the Incident Management Policy within the Target Resolution Time.	monthly	90%	80%
6	Percentage of time (in minutes) when the Self-Service Interface is available to be accessed by all Users during the Target Availability Period.	monthly	99.5%	98%
7	Percentage of Certificates delivered within the applicable Target Response Time for the SMKI Services.	monthly	99%	96%
8	Percentage of documents stored on the SMKI Repository delivered within the applicable Target Response Time for the SMKI Repository Service.	monthly	99%	96%

Table 1 Code Performance Measures

2.2 Relevant Service Measures

29. Code Performance Measures 1, 2, 3, 6, 7 and 8 shall be derived from the Service Levels of the Relevant Service Measures as detailed within this document.
30. The methodology used by each DCC Service Provider for calculating the Service Level for each Relevant Service Measure is outlined in:
 - a) sections 2.11, 2.12, 2.13, 2.14 and 2.15 for Relevant Service Measures relating to Target Response Times; and
 - b) section 3.5 for Relevant Service Measures relating to the Self Service Interface Availability
 - c) the Code Performance Measure Methodology for SMKI related Relevant Service Measures.
31. Each DCC Service Provider shall report to the DCC the value of the Service Levels achieved for each Relevant Service Measure in accordance with the Service Provider's performance monitoring approach agreed between the Service Provider and DCC and in accordance with SEC section H13.

2.3 Code Performance Measure 1 – On Demand Service Responses delivered within the applicable Target Response Time

32. The Service Level for Code Performance Measure 1 shall be calculated using the Service Levels achieved by the DCC Service Providers for the set of measures relevant to On-Demand Services; these Relevant Service Measures shall be the *On-Demand Relevant Service Measures* and are listed in Table 2.

Service Provider Contractual Reference	On Demand Relevant Service Measure	Category	Service Provider
1.1	Percentage of DSP Service Request Times within relevant TRT	Events	DSP
1.1	Percentage S1SP Countersigned Service Request Times within relevant Target Response Time	Events	SIE
1.1	Percentage S1SP Countersigned Service Request Times within relevant Target Response Time	Events	Secure
1.1	Percentage S1SP Countersigned Service Request Times within relevant Target Response Time	Events	DXC
1.1	Percentage S1SP Countersigned Service Request Times within relevant Target Response Time	Events	Capgemini
1.4	Percentage of DCC Service Request Times within relevant TRT	Events	DSP
2	Percentage of Category 1 Firmware Payloads completed within the relevant Target Response Time	Events	CSPN

2	Percentage of Category 1 Firmware Payloads completed within the relevant Target Response Time	Events	CSPC
2	Percentage of Category 1 Firmware Payloads completed within the relevant Target Response Time	Events	CSPS
4.3	Round Trip Time 4 Test HAN Interface Command Time: percentage delivered within 25 seconds	Events	CSPN
4.3	Round Trip Time 4 Test HAN Interface Command Time: percentage delivered within 25 seconds	Events	CSPC
4.3	Round Trip Time 4 Test HAN Interface Command Time: percentage delivered within 25 seconds	Events	CSPS

Table 2 Relevant Service Provider Performance Measures – Code Performance Measure 1

33. In respect of each Performance Measurement Period (p), the Service Level for the Code Performance Measure shall be the arithmetic mean of the reported Service Levels for the On-Demand Relevant Service Measures, calculated as follows:

$$CPM1_p = \frac{1}{n} \times \sum_{odrsm=1}^n ODSL_{p,odrsm} \%$$

Where:

n = the number of On Demand Relevant Service Measures reported to DCC in this Performance Measurement Period

$ODSL_{p,odrsm}$ = the Service Level in respect of each *On Demand Relevant Service Measure* (odrsm).

34. The duration of the Performance Measurement Period shall be a calendar month.

2.4 Code Performance Measure 2 – Future Dated Service Responses delivered within the applicable Target Response Time

35. The Service Level for Code Performance Measure 2 shall be calculated using the Service Levels achieved by the DCC Service Providers for the set of measures relevant to Future-Dated Services; these Relevant Service Measures shall be the *Future Dated Relevant Service Measures* and are listed in Table 3.

Service Provider Contractual Reference	Relevant Service Measure	Category	Service Provider
1.2	Percentage of DSP Service Response Times within relevant TRT	Events	DSP
1.3	Percentage of DSP Service Request Scheduling Times within relevant TRT	Events	DSP
3.1	Percentage of Category 2 HAN Interface Commands delivered to the DCC WAN Gateway Interface within the relevant TRT	Events	CSPN
3.1	Percentage of Category 2 HAN Interface Commands delivered to the DCC WAN Gateway Interface within the relevant TRT	Events	CSPC
3.1	Percentage of Category 2 HAN Interface Commands delivered to the DCC WAN Gateway Interface within the relevant TRT	Events	CSPS
4.1	Round Trip Time 2 test HAN Interface Command time: percentage delivered within 22 hours	Events	CSPN
4.1	Round Trip Time 2 test HAN Interface Command time: percentage delivered within 22 hours	Events	CSPC
4.1	Round Trip Time 2 test HAN Interface Command time: percentage delivered within 22 hours	Events	CSPS
4.2	Round Trip Time 3 test HAN Interface Command time: percentage delivered within 2 hours	Events	CSPN
4.2	Round Trip Time 3 test HAN Interface Command time: percentage delivered within 2 hours	Events	CSPC
4.2	Round Trip Time 3 test HAN Interface Command time: percentage delivered within 2 hours	Events	CSPS

Table 3 Relevant Service Provider Performance Measures – Code Performance Measure 2

36. In respect of each Performance Measurement Period (p), the Service Level for the Code Performance Measure shall be the arithmetic mean of the reported Service Levels for the *Future Dated Relevant Service Measures*, calculated as follows:

$$CPM2_p = \frac{1}{n} \times \sum_{fdrsm=1}^n FDSL_{p,fdrsm} \%$$

Where:

n = the number of Future Dated Relevant Service Measures reported to DCC in this Performance Measurement Period

$FDSL_{p, fdrsm}$ = the Service Level in respect of each *Future Dated Relevant Service Measure* (fdrsm).

37. The duration of the Performance Measurement Period shall be a calendar month.

2.5 Code Performance Measure 3 - Percentage of Alerts delivered within the applicable Target Response Time

38. The Service Level for Code Performance Measure 3 shall be calculated using the Service Levels achieved by the DCC Service Providers for the set of measures relevant to Alerts; these Relevant Service Measures shall be the *Alert Related Relevant Service Measures* and are listed in Table 4.

Service Provider Contractual Reference	Relevant Service Measure	Category	Service Provider
1.5	Percentage of DSP Alert Response Times within relevant TRT	Events	DSP
1.5	Percentage of Alert Response Times within relevant TRT	Events	SIE
1.5	Percentage of Alert Response Times within relevant TRT	Events	Secure
1.5	Percentage of Alert Response Times within relevant TRT	Events	DXC
3.2	Percentage of Category 3 Alerts delivered to the DCC WAN Gateway Interface within the relevant TRT	Events	CSPN
3.2	Percentage of Category 3 Alerts delivered to the DCC WAN Gateway Interface within the relevant TRT	Events	CSPC
3.2	Percentage of Category 3 Alerts delivered to the DCC WAN Gateway Interface within the relevant TRT	Events	CSPS

Table 4 Relevant Service Provider Performance Measures – Code Performance Measure 3

39. In respect of each Performance Measurement Period (p), the Service Level for the Code Performance Measure shall be the arithmetic mean of the reported Service Levels for the *Alert Related Relevant Service Measures*, calculated as follows:

$$CPM3_p =$$

$$\frac{1}{n} \times \sum_{ar sm=1}^n ARSL_{p, ar sm} \%$$

Where:

n = the number of Alert Related Relevant Service Measures reported to DCC in this Performance Measurement Period

$ARSL_{p, arsm}$ = the Service Level in respect of each *Alert Related Relevant Service Measure* (arshm).

40. The duration of the Performance Measurement Period shall be a calendar month.

2.6 Code Performance Measure 4 – Category 1/2 Incident Target Resolution Time

41. This Performance Measure measures the Percentage of Incidents which the DCC is responsible for resolving, and which fall within Incident Category (Severity) 1 or 2 that are resolved in accordance with the Incident Management Policy within the Target Resolution Time.
42. This Code Performance Measure measures Incidents which are closed in the Performance Measurement Period.
43. The date and time that the Incident is raised, resolved and closed, used within the Service Measure calculation, will be the date and time as recorded in the DCC Service Management System. The resolution time will be calculated in accordance with the Incident Management Policy.
44. DCC shall be responsible for resolving an Incident where the final responsibility for Incident resolution is determined not to be a User.
45. The Incident Category (Severity) and responsible Party shall be the Incident Category (Severity) and responsible Party applicable to the Incident at the point of the final Incident resolution.
46. In respect of each Performance Measurement Period (p), the Service Level for the Code Performance Measure shall be calculated as follows:

$$CPM4_p = 100 \times \left[\frac{INCCM12_p}{INCC12_p} \right] \%$$

Where:

$INCCM12_p$ = the number of Severity 1 or 2 Incidents which DCC is responsible for resolving, which are closed in the Performance Measurement Period, which met the DCC Target Resolution Time

$INCC12_p$ = the number of Severity 1 or 2 Incidents which DCC is responsible for resolving which are closed in the Performance Measurement Period.

47. The Service Level for this Performance Measure shall be calculated after the end of the Performance Measurement Period.

48. The duration of the Performance Measurement Period shall be a calendar month.

2.7 Code Performance Measure 5 – Category 3/4/5 Incident Target Resolution Time

49. This Performance Measure measures the Percentage of Incidents which the DCC is responsible for resolving and which fall within Incident Category (Severity) 3, 4 or 5 that are resolved in accordance with the Incident Management Policy within the Target Resolution Time.
50. This Code Performance Measure measures Incidents which are closed in the Performance Measurement Period.
51. The date and time that the Incident is raised, resolved and closed, used within the Service Measure calculation, will be the date and time as recorded in the DCC Service Management System. The resolution time will be calculated in accordance with the Incident Management Policy.
52. DCC shall be responsible for resolving an Incident where the final responsibility for Incident resolution is determined not to be the User.
53. The Incident Category (Severity) and responsible Party shall be the Incident Category (Severity) and responsible Party applicable to the Incident at the point of the final Incident resolution.
54. In respect of each Performance Measurement Period (p), the Service Level for the Code Performance Measure shall be calculated as follows:

$$CPM5_p = 100 \times \left[\frac{INCCM345_p}{INCC345_p} \right] \%$$

Where:

$INCCM345_p$ = the number of Severity 3,4 or 5 Incidents which DCC is responsible for resolving which are closed in the Performance Measurement Period, which met the DCC Target Resolution Time.

$INCC345_p$ = the number of Severity 3,4 or 5 Incidents which DCC is responsible for resolving which are closed in the Performance Measurement Period.

55. The Service Level for this Performance Measure shall be calculated after the end of the Performance Measurement Period.
56. The duration of the Performance Measurement Period shall be a calendar month.

2.8 Code Performance Measure 6: Percentage Availability – Self Service Interface Service Provider Performance Measures

57. The Service Level for Code Performance Measure 6 shall be directly equivalent to the Service Level achieved by the DCC Service Provider for the Service Provider Performance Measure relevant to Self Service Interface

Availability; this Relevant Service Measure shall be the *SSI Relevant Service Measure* and is detailed in Table 5.

Service Provider Contractual Reference	Relevant Performance Measure	Category	Service Provider
2.4	Percentage Service availability – Self Service Interface (Production Services)	% Time	DSP

Table 5 Relevant Service Provider Performance Measures – Code Performance Measure 6

58. In respect of each Performance Measurement Period (p), the Service Level for the Code Performance Measure shall be calculated as follows:

$$CPM6_p = SSISM_p$$

Where:

$SSISM_p$ = the Service Level in respect of the *SSI Relevant Service Measure*.

59. The duration of the Performance Measurement Period shall be a calendar month.

2.9 Code Performance Measure 7 – Percentage of Certificates delivered within the applicable Target Response Time for the SMKI Services

60. This Code Performance Measure measures the Service Level of the SMKI Service Interface.
61. The Service Level for Code Performance Measure 7 shall be calculated using the weighted Service Levels achieved by the DCC Service Provider for the set of measures relevant to the SMKI Service detailed in Table 6.

Service Provider Contractual Reference	Relevant Performance Measure	Category	Service Provider
1.1	Batch requests for device certificates maximum 375,000 for RA system received 07:00-18:00 available by 06:59 next day	Events	BT
1.4	Single certificate requests via RA System 100% within 30 seconds	Events	BT
1.7	Single certificate request via system to system interface in Core Service Hours (maximum 12 certificate requests/second) 100% within 15 seconds	Events	BT

Table 6 Relevant Service Provider Performance Measures – Code Performance Measure 7

62. The DCC Service Provider for the SMKI Services shall record the time SMKI certificate signing request is received and the time at which the response is sent via the SMKI Service Interface.
63. For the purposes of this Performance Measure, the concepts of 'sending' and 'receipt' are to be interpreted in accordance with the explanation of those concepts in the SMKI Interface Design Specification.
64. A weighting will be applied in respect to the Service Level for each *Individual SMKI Service Interface (ISSI)* based on the volume and distribution of device certificate signing responses provided in respect of each Performance Measurement Period (p), and that weighting shall be calculated as:

$$\text{ISSI Weighting}_{p,ISSI} = \left[\frac{\text{SMRR}_{p,ISSI}}{\text{SMTR}_p} \right]$$

Where:

$\text{SMRR}_{p,ISSI}$ = the number of certificate signing requests responses sent by the *Individual SMKI Service Interface*

SMTR_p = the total number of certificate signing requests responses sent by the individual interfaces that comprise the SMKI Service Interface.

65. In respect of each Performance Measurement Period (p) and each *Individual SMKI Service Interface (ISSI)*, the weighted Service Level for the *Individual SMKI Service Interface* shall be calculated as follows:

$$\text{ISSI Weighted SL}_{p,ISSI} = 100 \times \left[\frac{\text{SMRMT}_{p,ISSI}}{\text{SMR}_{p,ISSI}} \right] \times \text{ISSI Weighting}_{p,ISSI} \%$$

Where:

$\text{SMRMT}_{p,ISSI}$ = the number of certificate signing requests responses sent by the *Individual SMKI Service Interface*, made available within Target Response Time

$\text{SMR}_{p,ISSI}$ = the number of certificate signing requests responses sent by the *Individual SMKI Service Interface*.

66. In respect of each Performance Measurement Period (p), the Service Level for the Code Performance Measure shall be the arithmetic mean of the weighted Service Levels of the *Individual SMKI Service Interfaces*, calculated as follows:

$$\text{CPM7}_p = \sum_{ISSI=1}^n \text{ISSI Weighted SL}_{p,ISSI}$$

Where:

n = the number of ISSI Service Levels reported to DCC in this Performance Measurement Period.

67. Where the demand exceeds the 375,000 certificate signing requests referenced in BT PM 1.1 and the SEC subsidiary documents, a manual adjustment may be applied to the calculation to ensure the Service Level is reflective of the DCC rather than that of the Service Provider.
68. The duration of the Performance Measurement Period shall be a calendar month.

2.10 Code Performance Measure 8 – Percentage of documents stored on the SMKI Repository delivered within the applicable Target Response Time for the SMKI Repository Service

69. The Service Level for Code Performance Measure 8 shall be directly equivalent to the Service Level achieved by the DCC Service Provider for the Service Provider measure relevant to the SMKI Repository detailed in Table 7.

Service Provider Contractual Reference	Relevant Performance Measure	Category	Service Provider
12	Percentage of documents stored on the SMKI Repository delivered within the applicable Target Response Time for the SMKI Repository Service	Events	DSP

Table 7 Relevant Service Provider Performance Measures – Code Performance Measure 8

70. This Code Performance Measure measures the Service Level of the SMKI Repository Interface.
71. The DSP shall record the time SMKI Repository document request is received.
72. The DSP shall record the time at which the response to the SMKI Repository Request is sent.
73. For the purposes of this Performance Measure, the concepts of ‘sending’ and ‘receipt’ are to be interpreted in accordance with the explanation of those concepts in the SMKI Repository Interface Design Specification.
74. The SMKI Repository Response Time shall be calculated as the time at which the response to the SMKI Repository Request is sent minus the time at which the SMKI Repository Request is received.
75. In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$CPM8_p = 100 \times \left[\frac{SMRT_p}{SMR_q} \right] \%$$

Where:

$SMRT_p$ = the number of SMKI Repository Requests where the SMKI Repository Response Time is less than or equal to the relevant Target Response Time

SMR_p = the number of SMKI Repository Requests received.

76. The duration of the Performance Measurement Period shall be a calendar month.

2.11 Relevant Service Measures - DSP Target Response Time

77. The *Relevant Service Measures* for the DSP in respect of the Code Performance Measures on Target Response Times measure the time taken to provide the DSP processing element associated with the relevant Service Request, Service Response, Acknowledgement or Alert including:
- a) On-Demand Service Requests requiring a message to be sent to the Communication Hub;
 - b) Service Acknowledgements associated with a Future-Dated Service Request;
 - c) Future-Dated Service Responses;
 - d) Scheduled-Services Responses;
 - e) DSP Scheduled Service Requests;
 - f) DCC Only Service Requests; or
 - g) Alert Responses.
78. Each *Relevant Service Measure* shall measure Service Request, Service Response, Acknowledgement and Alert processing times within the DCC Live Systems.
79. The Service Level in respect of each Performance Measurement Period (p) and each DSP *Relevant Service Measure* shall be;

$$DSP \text{ Service Level}_{p, rsm} = 100 \times \left[\frac{TRTT_{p, rsm}}{MSG_{p, rsm}} \right] \%$$

Where:

$TRTT_{p, rsm}$ = the number of Service Request, Service Response, Acknowledgement and Alerts, as appropriate to the Relevant Service Measure, processed by the DSP that met the Target Response Time

$MSG_{p, rsm}$ = the number of Service Request, Service Response, Acknowledgement and Alerts, as appropriate to the Relevant Service Measure, processed by the DSP.

2.12 Relevant Service Measures - CSPN Round Trip Times

80. The *Relevant Service Measures* for the CSPN in respect of the Code Performance Measures on Target Response Times measure the Round Trip Time across the SM WAN using *Test HAN Interface Commands*.
81. The Round Trip Time, for an individual *Test HAN Interface Command*, shall be measured as the total time taken for:
 - a) a *Test HAN Interface Command* to be delivered from the DCC WAN Gateway Interface to a commissioned Communications Hub within the Coverage Area; and
 - b) then delivered back to the DCC WAN Gateway Interface.
82. For each Performance Measurement Period, the CSP shall attempt to deliver *Test HAN Interface Commands* with a minimum total of an average of 0.5 *Test HAN Interface Commands* per commissioned Communication Hubs within the Region.
83. The *Test HAN Interface Commands* will be measured against 3 target Round Trip Times:
 - a) a RTT2 target Round Trip Time of 22 hours;
 - b) a RTT3 target Round Trip Time of 2 hours; and
 - c) a RTT4 target Round Trip Time of 25 seconds.
84. *Test HAN Interface Commands* shall be distributed equally, within a margin of error agreed with the DCC, across:
 - a) all days within the Performance Measurement Period;
 - b) each hour in any one calendar day; and
 - c) all Access Nodes.
85. The Service Level Requirement and Target Response Time exclude the time spent within the HAN.
86. The Service Level in respect of each Performance Measurement Period (p) and each CSPN *Relevant Service Measure* shall be;

$$\text{CSPN Service Level}_{p,rsn} = 100 \times \left[\frac{\text{RTTT}_{p,rsn}}{\text{TRTT}_{p,rsn}} \right] \%$$

Where:

$\text{RTTT}_{p,rsn}$ = the number of *Test HAN Interface Commands* successfully delivered with a Round Trip Time that met the Target Response Time

$\text{TRTT}_{p,rsn}$ = the number of *Test HAN Interface Commands* successfully delivered.

2.13 Relevant Service Measures - CSPC/S Round Trip Times

87. The *Relevant Service Measures* for the CSPC/S in respect of the Code Performance Measures on Target Response Times measure the Round Trip Time across the SM WAN for *Test HAN Interface Commands*.
88. The Round Trip Time, for an individual *Test HAN Interface Command*, shall be measured as the total time taken for:
 - a) a *Test HAN Interface Command* to be delivered from the DCC WAN Gateway Interface to a commissioned Communications Hub within the Coverage Area; and
 - b) then delivered back to the DCC WAN Gateway Interface.
89. For each Performance Measurement Period, the CSP shall attempt to deliver an equal number of *Test HAN Interface Commands* with a minimum total of an average of 0.5 *Test HAN Interface Commands* per commissioned Communications Hub within the Region.
90. *The Test HAN Interface Commands* will be measured against 3 target Round Trip Times:
 - a) a RTT2 target Round Trip Time of 22 hours;
 - b) a RTT3 target Round Trip Time of 2 hours; and
 - c) a RTT4 target Round Trip Time of 25 seconds.
91. *Test HAN Interface Commands* shall be distributed equally, within a margin of error agreed with the DCC, across:
 - a) all days within the Performance Measurement Period;
 - b) each hour in any one calendar day; and
 - c) all Access Nodes.
92. Any *Test HAN Interface Command* for which no response is received back, within an upper limit as agreed between DCC and the DCC Service Provider, will not be included and shall be subject to other message loss measures in accordance with the CSP performance monitoring approach.
93. The Service Level Requirement and Target Response Time exclude the time spent within the HAN.
94. The Service Level in respect of each Performance Measurement Period (*p*) and each CSPC/S *Relevant Service Measure* shall be;

$$\text{CSPC/S Service Level}_{p,rsn} = 100 \times \left[\frac{\text{RTTT}_{p,rsn}}{\text{TRTT}_{p,rsn}} \right] \%$$

Where:

$\text{RTTT}_{p,rsn}$ = number of *Test HAN Interface Commands* successfully delivered with a Round Trip Time that met the Target Response Time

$\text{TRTT}_{p,rsn}$ = the number of *Test HAN Interface Commands* successfully delivered.

2.14 Relevant Service Measures – CSP Category 1 Firmware Payloads

95. The *Relevant Service Measures* for the CSPN or the CSPC/S in respect of the Code Performance Measures on Target Response Times for Category 1 Firmware Payloads, measure the time taken to distribute Firmware Payloads to a number of connected Communications Hubs within the Coverage Area.
96. Successful delivery of the Firmware Payload within Target Response Time shall be defined by the of delivery to the Communications Hub data store and receipt of a subsequent Service Response confirming that the Firmware Payload has been delivered, within the Target Response Time.
97. Each *Relevant Service Measure* shall measure processing times within the DCC Live Systems.
98. The Service Level Requirement and Target Response Time exclude the time spent within the HAN.
99. The Service Level in respect of each Performance Measurement Period (p) and each CSPN or CSPC/S *Relevant Service Measure (rsm)* shall be;

$$\text{CSP N/C/S Service Level}_{p,rsm} = 100 \times \left[\frac{\text{FWTT}_{p,rsm}}{\text{FWSG}_{p,rsm}} \right] \%$$

Where:

$\text{FWTT}_{p,rsm}$ = the number of Communications Hubs with Firmware Payload delivered to Communications Hub within the Target Response Time

$\text{FWSG}_{p,rsm}$ = the number of connected Communications Hubs identified within the Service Requests to have Firmware Payload delivered and where validation was successful.

2.15 Relevant Service Measures – CSP Category 2 HAN Interface Commands and Category 3 Alerts

100. The *Relevant Service Measures* for the CSPN or the CSPC/S in respect of the Code Performance Measures on Target Response Times for Category 2 HAN Interface Commands and Category 3 Alerts, measure the time taken by the CSPN or the CSPC/S to process the relevant Service Response or Alert; these measures excludes any time in the HAN.
101. Category 2 HAN Interface Commands are created in relation to Meter Scheduled: Retrieve Billing Data Log Service Requests.
102. Category 3 Alert HAN Interface Commands are created in relation to a subset of Alerts, which does not include Alerts related to Power Outage events.
103. Each *Relevant Service Measure* shall measure processing times within the DCC Live Systems.

- 104.** The Service Level Requirement and Target Response Time exclude the time spent within the HAN.
- 105.** The Service Level in respect of each Performance Measurement Period (p) and each CSPN or CSPC/S *Relevant Service Measure* shall be;

$$\text{CSP Service Level}_{p,rsn} = 100 \times \left[\frac{\text{CAT23TT}_{p,rsn}}{\text{CAT23}_{p,rsn}} \right] \%$$

Where:

$\text{CAT23TT}_{p,rsn}$ = the number of Category 2 HAN Interface Commands or Category 3 Alerts, as appropriate to the Relevant Service Measure, processed by the CSP that met the Target Response Time

$\text{CAT23}_{p,rsn}$ = the number of Category 2 HAN Interface Commands or Category 3 Alerts, as appropriate to the Relevant Service Measure, processed by the CSP.

3 Data Services Provider Performance Measures

3.1 Scope

- 106.** The Reported List of Service Provider Performance Measures includes a subset of the Data Services Provider (DSP) Performance Measures.
- 107.** Table 8 lists the DSP Performance Measures on the Reported List of Service Provider Performance Measures.

Service Provider Contractual Reference	Performance Measure Title	Category	Service Measure / KPI
2.1	Percentage Service availability – DCC Data Service (Production Services)	%Time	SM
2.2	Percentage Service availability – DCC User Interface (Production Services)	%Time	SM
2.3	Percentage Service availability – DCC Service Management System	%Time	SM
2.4	Percentage Service availability – Self Service Interface (Production Services)	%Time	SM
2.5	Percentage Service availability – Average Interface availability	%Time	KPI
2.7	Percentage Service availability - Externally exposed test services (08.00 to 20.00 UTC Monday to Saturday)	%Time	SM
3	Number of Severity Level 1 or 2 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release	Events	SM
7	Notification of Planned Maintenance events within required target	Events	KPI
11	Percentage of anomalous Service Requests notified within 30 minutes	Events	KPI

Table 8 Reported List of Service Provider Performance Measures – DSP Scope

3.2 PM 2.1 Percentage Service availability – DCC Data Service (Production Services)

- 108.** The *DCC Data Service* means the systems and communications required to provide for the processing of Service Requests, Pre-Commands, Commands, Service Responses and Alerts and the holding or using of Registration Data.
- 109.** Provision of the *DCC Data Service* is an activity that is performed over a period of time.

110. The availability of the components making up the *DCC Data Service*, covering associated DSP servers, interfaces and networks, shall be monitored in real-time by an infrastructure monitoring tool in accordance with Good Industry Practice.
111. Any component unavailability will be automatically alerted to the Service Provider and where this results in an Incident an Incident shall be recorded in the DCC Service Management System; an example where component unavailability would not result in an Incident is where there is redundancy built into the infrastructure and a system 'fail over' has occurred to a back-up component.
112. Periods of unavailability of the *DCC Data Service* shall be recorded in the DCC Service Management System in accordance with the Incident Management Policy.
113. The *Unscheduled Downtime* of the *DCC Data Service* shall be calculated as follows:
- a) the number of complete minutes where the *DCC Data Service* is unavailable for Service Request processing; minus
 - b) the number of minutes of down time due to agreed Planned Maintenance.
114. In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM2.1_p = 100 \times \left(1 - \left[\frac{UDDDS_p}{RT_p} \right] \right) \%$$

Where:

$UDDDS_p$ = the *Unscheduled Downtime* of the *DCC Data Service* in minutes

RT_p = the number of minutes within the Performance Measurement Period.

115. The duration of the Performance Measurement Period shall be a calendar month.

3.3 **PM 2.2 Percentage Service availability – DCC User Interface (Production Services)**

116. This Performance Measure shall be used to assess the amount of time that the DCC User Interface is available to Users.
117. Provision of the DCC User Interface is an activity that is performed over a period of time.
118. The availability of the DCC Gateway Connections and other components making up the DCC User Interface covering servers, interfaces and networks shall be monitored in real-time by an infrastructure monitoring tool in accordance with Good Industry Practice.
119. Any component unavailability will be automatically alerted to the Service Provider and where this results in an Incident an Incident shall be recorded in the DCC Service Management System; an example where component

unavailability would not result in an Incident is where there is redundancy built into the infrastructure and a system 'fail over' has occurred to a back-up component.

120. Periods of unavailability of the DCC User Interface shall be recorded in the DCC Service Management System in accordance with the Incident Management Policy.

121. The *Average Unscheduled Downtime* of the DCC User Interface shall be calculated as follows:

- a) the number of complete minutes each DCC Gateway Connection is unavailable minus the number of minutes of agreed downtime due to Planned Maintenance on each DCC Gateway Connection; divided by
- b) the number of DCC Gateway Connections in the DCC Live Systems.

122. In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM2.2_p = 100 \times \left(1 - \left[\frac{AUDDUG_p}{RT_p} \right] \right) \%$$

Where:

$AUDDUG_p$ = the *Average Unscheduled Downtime* of the DCC User Interface in minutes

RT_p = the number of minutes within the Performance Measurement Period.

123. The duration of the Performance Measurement Period shall be a calendar month.

3.4 PM2.3 Percentage Service availability – DCC Service Management System

124. This Performance Measure measures the amount of time that the DCC Service Management System is available to DCC.

125. Provision of the DCC Service Management System is an activity that is performed over a period of time.

126. The availability of the components making up the DCC Service Management System, covering the associated servers, interfaces and networks shall be monitored in real-time by an infrastructure monitoring tool in accordance with Good Industry Practice.

127. Any component unavailability will be logged on DSP systems and an Incident raised in accordance with the Incident Management Policy and, where appropriate, the business continuity and disaster recovery policies.

128. Periods of unavailability of the DCC Service Management System shall be recorded by the DSP in accordance with the Incident Management Policy.

- 129.** The *Unscheduled Downtime* of the DCC Service Management System shall be calculated as follows:
- a) the number of complete minutes where the DCC Service Management System is unavailable to the DCC; minus
 - b) the number of minutes of down time due to agreed Planned Maintenance.
- 130.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM2.3_p = 100 \times \left(1 - \left[\frac{UDSMS_p}{RT_p} \right] \right) \%$$

Where:

UDSMS_p = the *Unscheduled Downtime* of the DCC Service Management System in minutes
RT_p = the number of minutes within the Performance Measurement Period.

- 131.** The duration of the Performance Measurement Period shall be a calendar month.

3.5 PM2.4 Percentage Service availability – Self Service Interface (Production Services)

- 132.** The percentage availability of the Self Service Interface measures the amount of time, within the Performance Measurement Period that the Self Service Interface is available to Users.
- 133.** Provision of the Self Service Interface is an activity that is performed over a period of time.
- 134.** The availability of the components making up the Self Service Interface covering the associated servers, interfaces and networks shall be monitored in real-time by an infrastructure monitoring tool in accordance with Good Industry Practice.
- 135.** Any component unavailability will be automatically alerted to the Service Provider and where this results in an Incident an Incident shall be recorded in the DCC Service Management System; an example where component unavailability would not result in an Incident is where there is redundancy built into the infrastructure and a system 'fail over' has occurred to a back-up component.
- 136.** Periods of unavailability of the Self Service Interface shall be recorded in the DCC Service Management System in accordance with the Incident Management Policy.
- 137.** The *Unscheduled Downtime* of the Self Service Interface shall be calculated as follows:
- a) the number of complete minutes where the Self Service Interface is unavailable to the DCC; minus
 - b) the number of minutes of down time due to agreed Planned Maintenance.

- 138.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM2.4_p = 100 \times \left(1 - \left[\frac{UDSSI_p}{RT_p} \right] \right) \%$$

Where:

UDSSI_p = the *Unscheduled Downtime* of the Self Service Interface in minutes

RT_p = the number of minutes within the Performance Measurement Period.

- 139.** The duration of the Performance Measurement Period shall be a calendar month.

3.6 PM2.5 Percentage Service availability – average Interface availability

- 140.** This Performance Measure measures the mean average amount of time that a number of the DCC Internal System interfaces are available.

- 141.** For the purposes of this Performance Measure, a *PM2.5 Interface* shall be any one of the following:

- a) Registration System Interface (See Registration Data Interface);
- b) CSP Service Management Interface (See DCC Service Management System Interface);
- c) DCC Enterprise Systems Interface.

- 142.** Provision of the *PM2.5 Interfaces* is an activity that is performed over a period of time.

- 143.** The availability of the components making up each of the *PM2.5 Interfaces*, covering related servers, interfaces and networks, shall be monitored in real-time by an infrastructure monitoring tool in accordance with Good Industry Practice.

- 144.** Any component unavailability will be automatically alerted to the Service Provider and where this results in an Incident an Incident shall be recorded in the DCC Service Management System; an example where component unavailability would not result in an Incident is where there is redundancy built into the infrastructure and a system 'fail over' has occurred to a back-up component.

- 145.** Periods of unavailability of each of the *PM2.5 Interfaces* shall be recorded in the DCC Service Management System in accordance with the Incident Management Policy.

- 146.** The period of time during the Performance Measurement Period which each *PM2.5 Interface* is expected to be available shall be set out in the relevant Service Level Requirement.

- 147.** The *Unscheduled Downtime* of each *PM2.5 Interface* shall be calculated as follows:

- a) the number of complete minutes the *PM2.5 Interface* is unavailable during the expected hours of availability; minus
- b) the number of minutes of agreed downtime due to Planned Maintenance on the *PM2.5 Interface* during the expected hours of availability.

148. In respect of each *PM2.5 Interface* (i) and for each Performance Measurement Period (p), the Interface Availability shall be calculated as follows:

$$\text{Interface Availability}_{p,i} = 100 \times \left(1 - \left[\frac{\text{UDIA}_p}{\text{RT}_p} \right] \right) \%$$

Where:

- UDIA_p = the *Unscheduled Downtime* of the *PM2.5 Interface* in minutes
- RT_p = the number of minutes within the period of time during the Performance Measurement Period which each *PM2.5 Interface* is expected to be available.

149. In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be the arithmetic mean of the Interface Availability Service Levels, calculated as follows:

$$\text{PM2.5}_p = \frac{1}{n} \times \sum_{i=1}^n \text{Interface Availability}_{p,i} \%$$

Where:

- n = the number of Interface Availability Service Measures reported to DCC in this Performance Measurement Period.

150. The duration of the Performance Measurement Period shall be a calendar month.

3.7 PM2.7 Percentage Service availability - Externally Exposed Testing Services (08.00 to 20.00 UTC Monday to Saturday)

- 151.** This Performance Measure measures the availability of the *Externally Exposed Test Environments* that have been requested by DCC and are exposed to Users or an external Party.
- 152.** Provision of the *Externally Exposed Testing Services* is an activity that is performed over a period of time.
- 153.** The availability of the components making up each of the *Externally Exposed Test Environments* which support the *Externally Exposed Testing Services*, covering the servers, interfaces and networks shall be monitored in real-time by an infrastructure monitoring tool in accordance with Good Industry Practice. Any component unavailability will be automatically alerted and an Incident recorded on the DCC Service Management System, where this results in an Incident.

- 154.** Periods of unavailability of the Externally Exposed Testing Services shall be recorded in the DCC Service Management System in accordance with the Incident Management Policy.
- 155.** The period of time during the Performance Measurement Period which each *Externally Exposed Test Environment* is expected to be available shall be set out in the relevant Service Level Requirement for the *Externally Exposed Test Environment*.
- 156.** The *Unscheduled Downtime* of each *Externally Exposed Test Environment* shall be calculated as follows:
- a) the number of complete minutes the *Externally Exposed Test Environment* is unavailable during the Testing Services core service hours; minus
 - b) the number of minutes of agreed downtime due to Planned Maintenance for the *Externally Exposed Test Environment* during the Testing Services Core Service Hours; where
 - c) the Testing Services core service hours are 08:00 to 20:00 Monday to Saturday.
- 157.** In respect of each *Externally Exposed Test Environment* (e) and for each Performance Measurement Period (p), the Test Environment Availability shall be calculated as follows:

$$\text{Test Environment Availability}_{p,e} = 100 \times \left(1 - \left[\frac{\text{UDTE}_{p,e}}{\text{RTE}_p} \right] \right) \%$$

Where:

$\text{UDTE}_{p,e}$ = the *Unscheduled Downtime* of the *Externally Exposed Test Environment* in minutes

RTE_p = the number of minutes in the Testing Services core service hours within the Performance Measurement Period.

- 158.** In respect of each Performance Measurement Period (p) the Performance Measure shall be the arithmetic mean of the Test Environment Availability Levels, calculated as follows:

$$\text{PM2.7}_p = \frac{1}{n} \sum_{e=1}^n \text{Test Environment Availability}_{p,e} \%$$

Where:

n = the number of Test Environment Availability Service Measures reported to DCC in this Performance Measurement Period.

- 159.** The duration of the Performance Measurement Period shall be a calendar month.

3.8 PM3 Number of Severity Level 1 or 2 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release

- 160. This Performance Measure measures the number of Severity Level 1 or 2 Incidents directly related to a *Change Release* occurring within 30 days of the *Change Release*.
- 161. This Performance Measure measures Incidents which are closed in the Performance Measurement Period.
- 162. DCC shall record each *Change Release* in the DCC Service Management System.
- 163. DCC shall log each Incident in the DCC Service Management System and record the relationship between the Change Release and Incident.
- 164. *Severity 1 and Severity 2 Incidents Caused by a DSP Change Release* shall be Incidents:
 - a) categorised as Category (Severity) 1 or Category (Severity) 2 at the point of resolution; and
 - b) where the cause of the Incident was determined to be an issue with a *DSP Change Release*; and
 - c) which have occurred within 30 days of the date of the *Change Release* identified in b) above.
- 165. In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM3_p = \text{Severity 1 and Severity 2 Incidents Closed which were Caused by a DSP Change Release}$$

- 166. The duration of the Performance Measurement Period shall be a calendar month.

3.9 PM7 Notification of Planned Maintenance events within required target

- 167. This Performance Measure measures the percentage of Planned Maintenance events, which are notified by the DSP to DCC within the required notification target.
- 168. The DSP shall submit a Planned Maintenance request to DCC for approval in accordance with the time scales defined in section H8.4 of the SEC, this time scale shall be the *Target Planned Maintenance Notice*.
- 169. DCC shall record Planned Maintenance events in the DCC Service Management System.
- 170. Planned Maintenance *Notice Period* shall be calculated as follows:
 - a) the date the Planned Maintenance is due to begin; minus
 - b) the date the Planned Maintenance request is received by DCC.

- 171.** Planned Maintenance *Notifications on Target* shall be the number of Planned Maintenance requests received where the Planned Maintenance *Notice Period* is less than or equal to the *Target Planned Maintenance Notice*.
- 172.** In respect of each Performance Measurement Period (pq), the Service Level for the Performance Measure shall be calculated as follows:

$$PM7_p = 100 \times \left[\frac{PNMT_{pq}}{PME_{pq}} \right] \%$$

Where:

$PNMT_{pq}$ = the number of Planned Maintenance *Notifications on Target*

PME_{pq} = the number of Planned Maintenance requests received by DCC.

- 173.** The duration of the Performance Measurement Period shall be a calendar quarter.

3.10 PM11 Percentage of anomalous Service Requests notified within 30 minutes

- 174.** This Performance Measure measures the percentage of anomalous Service Requests notifications which are sent by the DSP to DCC within the required 30 (thirty) minutes notification target.
- 175.** The DSP shall perform Anomaly Detection in accordance with the published Threshold Anomaly Detection Procedures.
- 176.** The DSP shall inform DCC of anomalous Service Requests in accordance with the Threshold Anomaly Detection Procedures.
- 177.** The DSP shall create an Incident in the DCC Service Management System to notify DCC of a breach of a Relevant Anomaly Detection Threshold.
- 178.** The anomalous Service Requests *Notice Period* shall be calculated as follows:
- a) the time at which the DSP notifies the DCC of breach of the Relevant Anomaly Detection Threshold; minus
 - b) the time at which the breach of the Relevant Anomaly Detection Threshold is identified by the DSP.
- 179.** Anomalous Service Request *Notifications on Target* shall be defined as where the anomalous Service Requests *Notice Period* is less than or equal to the 30 (thirty) minutes.
- 180.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM11_p = 100 \times \left[\frac{TADMT_p}{TAD_p} \right] \%$$

Where:

$TADMT_p$ = the number of Anomalous Service Request *Notifications on Target*

TAD_p = the number of anomalous Service Requests notifications sent.

- 181.** The duration of the Performance Measurement Period shall be a calendar month.

4 CSP North Performance Measures

4.1 Scope

- 182.** The Reported List of Service Provider Performance Measures includes a subset of the Communications Service Provider North (CSPN) Performance Measures.
- 183.** The scope of each Performance Measure is limited to the Services provided by the CSP North.
- 184.** Table 9 lists the CSPN Performance Measures on the Reported List of Service Provider Performance Measures.

Service provider Contractual Reference	Performance Measure Title	Category	Service Measure / KPI
1.1	First time SM WAN connectivity at install	Events	SM
1.2	First time SM WAN connectivity within 30 days	Events	SM
1.3	First time SM WAN connectivity within 90 days	Events	SM
1.4	SM WAN connectivity Level	Events	SM
6.2	Percentage availability of DCC SM WAN Gateway Interface	%Time	SM
10	Notification of Planned Maintenance events within required target	Events	KPI
11	Accuracy of Coverage Database provided to DCC Service Users	Events	KPI
12.1	Percentage of Power Outage Event alerts delivered: 50 Communications Hubs or fewer	Events	KPI
12.2	Percentage of Power Outage Event alerts delivered: greater than 50 Communications hubs	Events	KPI
CH1.1	Percentage of Communications Hubs delivered on time	Events	SM
CH1.2	Percentage of Communications Hubs accepted by DCC Service Users	Events	SM
CH1.3	Percentage of Communications Hubs determined not to be faulty following attempted installation	Events	SM
CH2.1	Percentage of Communications Hub Incidents resolved by remote maintenance	Events	SM

Table 9 Reported List of Service Provider Performance Measures – CSPN Scope

4.2 PM1.1 First time SM WAN connectivity at install

185. This Performance Measure measures the success rate of achieving first time connectivity for Communications Hubs at the point of installation, where the Communications Hub is installed within the Coverage Area according to the agreed installation process as defined in the Communications Hub Installation and Maintenance Support Materials (CHIMSM).
186. This Performance Measure excludes abandoned Communications Hubs installations where the Installer is unable to gain access to the Installation Location.
187. This Performance Measure excludes Communications Hubs that have not been installed.
188. For the purposes of CSP North Performance Measures only, for any given Communications Hub the *CH First Time Installed Date* shall be the installation date of the Communications Hub which shall be:
 - a) the installation date within the Service Request of Service Request Reference Variant 8.14.1 (Communications Hub Status Update – Install Success) received for the Communications Hub; or
 - b) the installation date within the Service Request of Service Request Reference Variant 8.14.2 (Communications Hub Status Update – Install No SM WAN) received for the Communications Hub.
189. For the purposes of all Performance Measures, for any given Communications Hub the *CH First Time Connected Date* shall be the date recorded by the relevant CSP when the Communications Hub is successfully connected to the relevant CSP network for the first time.
190. For the purposes of all Performance Measures, for any given Communications Hub a *Successful First Time Connection At Install* shall occur where:
 - a) the *CH First Time Connected Date* is within the *Performance Measurement Period*; and
 - b) it is the first attempt to install a Communications Hub at the Installation Location within the relevant Coverage Area; and
 - c) a Service Request of Service Request Reference Variant 8.14.1 (Communications Hub Status Update – Install Success) is received for the Communications Hub; and
 - d) the *CH First Time Connected Date* is the same as *CH First Time Installed Date*; and
 - e) the installation is not an *Allowed Exception*.
191. For the purposes of all Performance Measures, for any given Communications Hub an *Unsuccessful First Time Connection At Install* shall occur where:
 - a) the *CH First Time Installed Date* is within the *Performance Measurement Period*; and
 - b) it is the first attempt to install a Communications Hub at the Installation Location within the relevant Coverage Area; and

- c) a Service Request of Service Request Reference Variant 8.14.2 (Communications Hub Status Update – Install No SM WAN) is received; and
 - d) the installation is not an *Allowed Exception*.
- 192.** For the purposes of all Performance Measures, the number of *Attempted First Time Connections* shall be calculated as the sum of:
- a) *Successful First Time Connections At Install*; plus
 - b) *Unsuccessful First Time Connections At Install*.
- 193.** For the purposes of this Performance Measure only, the list of contracted or notable *Allowed Exceptions* in the PMEL shall include *Installation Exceptions*, a defined term within this document to avoid repetition.
- 194.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM1.1_p = 100 \times \left[\frac{FTCI_p}{FTC_p} \right] \%$$

Where:

$FTCI_p$ = the number of *Successful First Time Connections At Install*

FTC_p = the number of *Attempted First Time Connections*.

- 195.** The duration of the Performance Measurement Period shall be a calendar month.

4.3 PM1.2 First time SM WAN connectivity within 30 days

- 196.** This Performance Measure measures the success rate of first time connectivity of Communications Hubs within 30 days, where the Communications Hub is installed within the Coverage Area according to the agreed installation process as defined in the Communications Hub Installation and Maintenance Support Materials (CHIMSM).
- 197.** For the purposes of this Performance Measure only, as 30 days elapse time is required after the *Attempted First Time Connection*, the *Activity Period* shall be the previous Performance Measurement Period; this Performance Measure will measure attempted Communication Hub installations in the previous calendar month, rather than attempted Communication Hub installations in the Measurement Period.
- 198.** This Performance Measure excludes abandoned Communications Hub installations where the Installer is unable to gain access to the Installation Location.
- 199.** This Performance Measure excludes Communications Hubs that have not been installed
- 200.** The number of *First Time Connections Achieving Connectivity Within 30 Days* shall be the aggregate number of *Attempted First Time Connections* where:

- a) *CH First Time Connected Date*; minus
 - b) *CH First Time Installed Date* is less than or equal to 30 (thirty) days.
- 201.** For the purposes of this Performance Measure only, the list of notable or contracted *Allowed Exceptions* in the PMEL shall include *Installation Exceptions*.
- 202.** The *Allowed Exceptions* shall apply to the *Successful First Time Connection At Install, Unsuccessful First Time Connection At Install and the Attempted First Time Connections* as calculated in 192.
- 203.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM1.2_p = 100 \times \left[\frac{FTC30_p}{FTC_p} \right] \%$$

Where:

$FTC30_p$ = the number of *First Time Connections Achieving Connectivity Within 30 Days*

FTC_p = the number of *Attempted First Time Connections*.

- 204.** The duration of the Performance Measurement Period shall be a calendar month. Where the current Performance Measurement Period is February, the Service Level for this Performance Measure shall be calculated following a postponement period after the end of the Performance Measurement Period to accommodate the 30 day target.

4.4 PM1.3 First time SM WAN connectivity within 90 days

- 205.** This Performance Measure measures the success rate of first time connectivity of Communications Hubs within 90 days, where the Communications Hub is installed within the Coverage Area according to the agreed installation process as defined in the Communications Hub Installation and Maintenance Support Materials (CHIMSM).
- 206.** For the purposes of this Performance Measure only, as 90 days elapse time is required after the *Attempted First Time Connection*, the *Activity Period* shall be the previous Performance Measurement Period; this Performance Measure will measure attempted Communications Hub installations in the previous calendar quarter rather than attempted Communication Hub installations in the Performance Measurement Period.
- 207.** The Performance Measure excludes abandoned installations where the Installer is unable to gain access to the Installation Location.
- 208.** This Performance Measure excludes Communications Hubs that have not been installed
- 209.** A number of *First Time Connection Achieving Connectivity within 90 days* shall be the aggregate number of *Attempted First Time Connections* where:
- a) *CH First Time Connected Date*; minus

- b) *CH First Time Installed Date* is less than or equal to 90 (ninety) days.
- 210.** For the purposes of this Performance Measure only, the list of notable or contracted *Allowed Exceptions* in the PMEL shall include:
- a) *Installation Exceptions*; and
- b) *Attempted First Time Connections* where the User does not return to the relevant Installation Locations for the purpose of resolving a connectivity or Communications Hub issue, as requested by the DCC in accordance with any applicable agreed process, within eighty (80) days of such request.
- 211.** The *Allowed Exceptions* shall apply to the *Successful First Time Connection At Install, Unsuccessful First Time Connection At Install and the Attempted First Time Connections* as calculated in 192.
- 212.** In respect of each Performance Measurement Period (pq), the Service Level for the Performance Measure shall be calculated as follows:

$$PM1.3_{pq} = 100 \times \left[\frac{FTC90_{pq}}{FTC_{pq}} \right] \%$$

Where:

$FTC90_{pq}$ = the number of *First Time Connections Achieving Connectivity within 90 days*

FTC_{pq} = the number of *Attempted First Time Connections*.

- 213.** The duration of the Performance Measurement Period shall be a calendar quarter.

4.5 PM1.4 SM WAN Connectivity Level

- 214.** This Performance Measure measures the enduring level of SM WAN connectivity for Communications Hubs that have been successfully installed as defined in the Communications Hub Installation and Maintenance Support Materials (CHIMSM) within the Coverage Area.
- 215.** The SM WAN Connectivity Level shall be measured on the last day of each Performance Measurement Period by comparing the number of commissioned Communications Hubs with the number of Communications Hubs where SM WAN connectivity has been reported as lost during the Performance Measurement Period.
- 216.** DCC shall log each Communications Hub connectivity related Incident in the DCC Service Management System.
- 217.** The CSP shall record the relationship between the Communications Hub and Incident.
- 218.** For the purposes of all Performance Measures, the number of *Communications Hubs Successfully Installed In Coverage Area* shall be all Communications Hubs that:
- a) have been through a successful installation (as defined in the Communications Hub Installation and Maintenance Support Materials (CHIMSM)) within the relevant Coverage Area; and

- b) have a SMI Status of “commissioned” on the last day of the Performance Measurement Period.

219. Any given Communications Hub shall have *Lost Connectivity* when:

- a) the Communications Hub had been through a successful installation (as defined in the Communications Hub Installation and Maintenance Support Materials (CHIMSM)) within the Coverage Area; and
- b) there existed during the Performance Measurement Period a connectivity related Incident associated with the Communications Hub which had remained unresolved for greater than ten (10) days.

220. For the purposes of this Performance Measure only, the list of notable or contracted *Allowed Exceptions* in the PMEL shall include *Exempted Communications Hubs*; these shall be any Communications Hub that is included in the number of *Communications Hubs Successfully Installed In Coverage Area* for which:

- a) a Service Request of Service Request Reference Variant 8.14.4 (Communications Hub Status Update – No Fault Return) has been received during the Performance Measurement Period; or
- b) the Communications Hub has a SMI Status of “withdrawn” during the Performance Measurement Period.

221. For the purposes of this Performance Measure only, the list of notable or contracted *Allowed Exceptions* in the PMEL shall include *Exempted Lost Connectivity Communications Hubs*; these shall be any Communications Hub that has *Lost Connectivity* for which:

- a) the User has failed to visit the Installation Location as requested by the CSP to resolve a connectivity issue within 80 (eighty) days of the request; or
- b) the Communications Hub referenced in the Incident has been returned and has been found to be subject to physical damage, following CH Fault Diagnosis.

222. In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM1.3_p = 100 \times \left[1 - \frac{(CHCL_p - ECHL_p)}{(CHI_p - ECH_p)} \right] \%$$

Where:

$CHCL_p$ = the number of Communications Hubs that have *Lost Connectivity*

$ECHL_p$ = the number of *Exempted Lost Connectivity Communications Hubs*

CHI_p = the number of *Communications Hubs Successfully Installed In Coverage Area*

ECH_p = the number of *Exempted Communications Hubs*.

223. The Performance Measurement Period shall be a calendar month.

4.6 PM6.2 Percentage availability of DCC WAN Gateway Interface

- 224.** The Percentage Availability of the DCC WAN Gateway Interface measures the amount of time, within the Performance Measurement Period, that the DCC WAN Gateway Interface is available to DCC.
- 225.** Provision of the DCC WAN Gateway Interface is an activity that is performed over a period of time.
- 226.** The availability of the components making up the of the DCC WAN Gateway (production services) covering the associated servers, interfaces and networks shall be monitored in real-time by an infrastructure monitoring tool in accordance with Good Industry Practice.
- 227.** Any component unavailability will be automatically alerted to the Service Provider and where this results in an Incident an Incident shall be recorded in the DCC Service Management System; an example where component unavailability would not result in an Incident is where there is redundancy built into the infrastructure and a system 'fail over' has occurred to a back-up component.
- 228.** Periods of unavailability of the DCC WAN Gateway shall be recorded in the DCC Service Management System in accordance with the Incident Management Policy.
- 229.** The *Unscheduled Downtime* of the DCC WAN Gateway Interface shall be calculated as follows:
- a) the number of complete minutes where the DCC WAN Gateway Interface is unavailable to the DCC; minus
 - b) the number of minutes of down time due to agreed Planned Maintenance.
- 230.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM6.2_p = 100 \times \left(1 - \left[\frac{UDDWG_p}{RT_p} \right] \right) \%$$

Where:

$UDDWG_p$ = the *Unscheduled Downtime* of the DCC WAN Gateway Interface

RT_p = the number of minutes within the Performance Measurement Period.

- 231.** The duration of the Performance Measurement Period shall be a calendar month.

4.7 PM10 Notification of Planned Maintenance events within required target

- 232.** This Performance Measure measures the percentage of Planned Maintenance events, which are notified by the CSP to DCC within the required notification target.

- 233.** The CSP shall submit a Planned Maintenance request to DCC for approval in accordance with the time scales defined in the SEC H8.4, this time scale shall be the *Target Planned Maintenance Notice*.
- 234.** DCC shall record Planned Maintenance events in the DCC Service Management System.
- 235.** Planned Maintenance *Notice Period* shall be calculated as follows:
- a) the date the Planned Maintenance is due to begin; minus
 - b) the date the Planned Maintenance request is received by DCC.
- 236.** Planned Maintenance *Notifications on Target* shall be defined as the number of Planned Maintenance requests received where the Planned Maintenance *Notice Period* is less than or equal to the *Target Planned Maintenance Notice*.
- 237.** In respect of each Performance Measurement Period (pq), the Service Level for the Performance Measure shall be calculated as follows:

$$PM10_{pq} = 100 \times \left[\frac{PNT_{pq}}{PME_{pq}} \right] \%$$

Where:

PNT_{pq} = the number of Planned Maintenance *Notifications on Target*.

PME_{pq} = the number of Planned Maintenance requests received by DCC.

- 238.** The duration of the Performance Measurement Period shall be a calendar quarter.

4.8 PM11 Accuracy of Coverage Database provided to Users

- 239.** This Performance Measure assesses the accuracy of the coverage information provided to Users to support the installation process, as detailed in the CHIMSM.
- 240.** This Performance Measure includes *Attempted Communications Hub Installations* that occurred within the Coverage Area during the Performance Measurement Period.
- 241.** The Performance Measure excludes abandoned installations where the Installer is unable to gain access to the Installation Location.
- 242.** This Performance Measure excludes Communications Hubs that have not been installed.
- 243.** For the purposes of all Performance Measures, for any given Communications Hub an *Attempted Communications Hub Installation* shall occur where:
- a) the installation is within the relevant Coverage Area;
 - b) the CH First Time Installed Date is within the Performance Measurement Period;
 - c) a Service Request of Service Request Reference Variant 8.14.1 (Communications Hub Status Update – Install Success) or a Service

- Request of Service Request Reference Variant 8.14.2 (Communications Hub Status Update – Install No SM WAN) is received for the Communications Hub; and
- d) the installation is not an *Allowed Exception*.
- 244.** The CSPN shall make available a SM WAN Coverage Database that shall contain the following information in accordance with the DCC Service Provider contracts, as aligned with Section H8.16 of the SEC, regarding each Installation Location where the User attempts a Communications Hub installation:
- a) whether a SM WAN signal is available at the Communications Hub Installation Point; and
 - b) which Communications Hub WAN Variant should be installed at the Installation Location.
- 245.** Following an *Attempted Communications Hub Installation*, the SM WAN Coverage Database shall be determined to have an *Inaccurate Coverage Database Prediction* for the relevant Installation Location where:
- a) an *Attempted Communications Hub Installation* is unable to be completed and the reason for no SM WAN connectivity is determined to be that SM WAN coverage is not available where the Coverage Database stated that there was coverage; or
 - b) an *Attempted Communications Hub Installation* is unable to be completed and the WAN Variant determined by the Coverage Database was not correct.
- 246.** For the purposes of this Performance Measure only, the *Allowed Exceptions* in the PMEL for shall include:
- a) *Attempted Communications Hub Installations* where an unresolved Incident is affecting coverage at the Installation Location at the date of installation; specifically this shall not be counted as an *Inaccurate Coverage Database Prediction* or an *Attempted Communications Hub Installation*; or
 - b) *Attempted Communications Hub Installations* where, following DCC Service Provider review, it is determined that the User failed to comply with the CHIMSM in relation to the installation.
- 247.** The number of *Attempted Communications Hub Installations* completed in line with CSPN Coverage Database shall be as follows:
- a) the number of *Attempted Communications Hub Installations*; minus
 - b) the number of *Attempted Communications Hub Installations* where it is determined there has been an *Inaccurate Coverage Database Prediction*.

- 248.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM11_p = 100 \times \left[\frac{ACS_p}{CHI_p} \right] \%$$

Where:

- ACS_p = number of *Attempted Communications Hub Installations* completed in line with CSPN Coverage Database
- CHI_p = number of *Attempted Communications Hub Installations*

- 249.** The duration of the Performance Measurement Period shall be a calendar month.

4.9 PM12.1 Percentage of Power Outage Event alerts delivered: 50 Communications Hubs or fewer

- 250.** This Performance Measure measures the percentage of power outage event Alerts which are sent to the DCC WAN Gateway Interface, compared to the number of power loss Alerts received from the Communications Hubs for power outage events affecting 50 (fifty) Communications Hubs or fewer.
- 251.** The CSP shall receive a power loss Alert from a Communications Hub, received when power is not restored within 3 minutes.
- 252.** The data captured by DCC cannot establish a relationship between one or more power loss Alerts and a physical electrical power outage event and therefore for the purposes of this Performance Measure, multiple power loss Alerts shall be related by virtue of the time the power loss Alert is received within a *Power Outage Event Window*.
- 253.** Each calendar day shall be segmented in to 3 minute intervals starting from 00:00 hours and each segment shall be a *Power Outage Event Window*, all power loss Alerts received in this window shall be related.
- 254.** For the purposes of this Performance Measure only, an *Isolated Power Loss Event* shall be where power loss Alerts are received by the CSP from fifty (50) Communications Hubs or fewer within a *Power Outage Event Window*.
- 255.** In respect of each Performance Measurement Period (p) the Performance Measure shall be calculated as follows:

$$PM12.1_p = 100 \times \left[\frac{POE_p}{CHP_p} \right] \%$$

Where:

- POE_p = number of power outage event Alerts transmitted to the DCC WAN Gateway Interface by the CSP in relation to all *Isolated Power Loss Events*
- CHP_p = number of Communications Hub power loss Alerts received by the CSP in relation to all *Isolated Power Loss Events*.

- 256.** The Performance Measurement Period shall be a calendar month.

4.10 PM12.2 Percentage of Power Outage Event alerts delivered: Greater than 50 Communications Hubs

- 257.** This Performance Measure measures the percentage of power outage event Alerts which are sent to the DCC WAN Gateway Interface, compared to the number of power loss Alerts received from the Communications Hubs for power outage events which detect power loss Alerts from greater than fifty (50) and less than five thousand (5,000) Communication Hubs.
- 258.** The data captured by DCC cannot establish a relationship between one or more power loss Alerts and a physical electrical power outage event and therefore for the purposes of this Performance Measure, multiple power loss Alerts shall be related by virtue of the time the power loss Alert is received within a *Power Outage Event Window* as detailed in 253.
- 259.** The CSP shall receive a power loss Alert from a Communications Hub, received when power loss is not restored within 3 minutes.
- 260.** For the purposes of this Performance Measure only, a *Small Power Loss Event* shall be where power loss Alerts are received by the CSP from between fifty (50) Communications Hubs and five thousand (5,000) Communications Hubs, within a *Power Outage Event Window*.
- 261.** The CSP shall send the first 50 power loss Alerts received and is obligated to send at least 25% of the remaining power loss Alerts received in relation to the *Small Power Loss Event*; the CSP may choose to apply a level of throttling (to reflect the 25% minimum obligation) to protect the performance of the service.
- 262.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM12.2_p = 100\% \times \left[\frac{POE_p}{\{(CHP_p - 50) \times 0.25\} + 50} \right]$$

Where:

POE_p = number of power outage event Alerts transmitted to DCC WAN Gateway Interface by the CSP in relation to all *Small Power Loss Events*.

CHP_p = number of Communications Hub power loss Alerts received by the CSP in relation to all *Small Power Loss Event*.

- 263.** The duration of the Performance Measurement Period shall be a calendar month.

4.11 CH1.1 Percentage of Communications Hubs delivered on time

- 264.** This Performance Measure measures the success of the CSP in delivering the volumes of Communications Hubs required by *DCC Service Users* according to schedule during the Performance Measurement Period.
- 265.** For each Communications Hub delivered, the Communications Hub shall be determined to be a *Delivered On Time Communications Hub* where:

- a) the delivery of the relevant Communications Hub at the designated Delivery Location is completed in accordance with CHHSM;
- b) delivery of the relevant Communications Hub occurred on the scheduled Delivery Date; and
- c) the relevant Communications Hub was not rejected by the relevant *DCC Service User* in accordance with CHHSM.

266. The delivery information shall be recorded by the DCC; the DCC shall store this data in the Communications Hubs Order Management System.

267. In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$CH1.1_p = 100 \times \left[\frac{CHDOT_p}{CHD_p} \right] \%$$

Where:

$CHDOT_p$ = the number of *Delivered On Time Communications Hubs* during the Performance Measurement Period.

CHD_p = the number of Communications Hubs scheduled for delivery during the Performance Measurement Period.

268. The duration of the Performance Measurement Period shall be a calendar month.

269. This Performance Measure shall only apply in relation to the Initial Mass Roll Out Phase and the Unconstrained Mass Roll Out Phase.

4.12 CH1.2 Percentage of Communications Hubs accepted by DCC Service Users

270. This Performance Measure measures the success of the CSP in delivering Communications Hubs that pass the visual inspections carried out by *DCC Service Users* in accordance with the Communications Hub Handover Support Materials (CHHSM) to the designated Delivery Locations.

271. In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$CH1.2_p = 100 \times \left[\frac{CHA_p}{CHD_p} \right] \%$$

Where:

CHA_p = the number of Communications Hubs accepted by *DCC Service Users* in each Performance Measurement Period.

CHD_p = the number of Communications Hub delivered to *DCC Service Users* during the Performance Measurement Period.

272. The duration of the Performance Measurement Period shall be a calendar month.

4.13 CH1.3 Percentage of Communications Hubs determined not to be faulty following attempted installation

- 273.** This Performance Measure measures the degree to which the Communications Hubs supplied by the CSP to the *DCC Service Users* cannot be successfully commissioned as a result of a fault that is determined to be the responsibility of the CSP.
- 274.** For the purposes of this Performance Measure only, as up to 5 months can elapse between the *Attempted Communications Hub Installation* and the completion of the *Fault Analysis Report*, the *Activity Period* shall be the calendar month ending 6 months prior to the start of the Performance Measurement Period. This Performance Measure will measure attempted Communication Hub installations in the calendar month 6 months prior to the start of the Performance Measurement Period, rather than attempted Communication Hub installations in the Performance Measurement Period.
- 275.** This Performance Measure measures all attempted installations; *Attempted Communications Hub Installations* shall be as calculated in 243.
- 276.** Where a Communications Hub is returned it shall be *Determined to be Subject to a CSPN Fault* except where one or more of the following apply:
- after CH Fault Diagnosis, the fault is due to physical damage after delivery;
 - the User failed to correctly follow the agreed installation process as defined in the Communications Hub Installation and Maintenance Support Materials (CHIMSM);
 - the User failed to comply with the Communications Hub Handover Support Materials (CHHSM) in relation to the storage and transit of the relevant Communications Hub;
 - after CH Fault Diagnosis and following any arbitration, there is a fault reason of "No Fault Found"; or
 - on an individual Communications Hubs returns basis, the DCC, the User and the CSP determine that the Communications Hub is not subject to a CSP Fault; volumes shall be monitored under the DCC Service Provider performance management regime.
- 277.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$CH1.3_p = 100 \times \left(1 - \left[\frac{CHF_p}{CHI_p} \right] \right) \%$$

Where:

CHF_p = the number of *Communications Hubs Determined to be Subject to a CSPN Fault*.

CHI_p = the number of *Attempted Communications Hub Installations*.

- 278.** The duration of the Performance Measurement Period shall be a calendar month.

4.14 CH2.1 Percentage of Communications Hub Incidents resolved by remote maintenance

- 279.** This Performance Measure measures the ability of the DCC and the CSP to resolve Communications Hub Incidents remotely.
- 280.** The CSP shall record Incidents in the DCC Service Management System.
- 281.** A *Communication Hub Incident Resolved Remotely* shall be an Incident that is:
- a) raised against a commissioned Communications Hub;
 - b) resolved during the Performance Measurement Period; and
 - c) is identified as being fixed remotely within the DCC Service Management System.
- 282.** A *Remotely Fixable Communications Hubs Incident* shall be an Incident that is capable of being resolved by remote maintenance and identified as:
- a) assigned to the CSP at the point of measure;
 - b) raised against a commissioned Communications Hub;
 - c) being capable of being fixed remotely through the use of remote tools or communications;
 - d) resolved during the Performance Measurement Period; and
 - e) not being an *Allowed Exception*.
- 283.** For the purposes of this Performance Measure only, the list of notable or contracted *Allowed Exceptions* in the PMEL shall include Incidents:
- a) where, after CH Fault Diagnosis, the fault has a been determined to be due to physical damage; or
 - b) where it is determined that the User failed to correctly follow the Communications Hub Installation and Maintenance Support Materials (CHIMSM).
- 284.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:
- $$CH2.1_{pr} = 100 \times \left[\frac{CHIR_p}{CHINC_p} \right] \%$$
- Where:
- $CHIR_p$ = the number of *Communication Hub Incidents Resolved Remotely*.
- $CHINC_p$ = the number of *Remotely Fixable Communications Hubs Incidents*.
- 285.** The duration of the Performance Measurement Period shall be a calendar month.

5 CSP Central & South Performance Measures

5.1 Scope

- 286.** The Reported List of Service Provider Performance Measures includes a subset of the Communications Service Provider Central and South (CSPC /S) Performance Measures.
- 287.** The scope of each Performance Measure is limited to the Services provided by each CSP for the relevant CSP Region.
- 288.** Table 10 lists the CSPC/S Performance Measures on Reported List of Service Provider Performance Measures.

Service Provider Contractual Reference	Performance Measure Title	Category	Service Measure / KPI
1.1	First time SM WAN connectivity at install	Events	SM
1.2	First time SM WAN connectivity within 90 days	Events	SM
1.3	SM WAN connectivity Level	Events	SM
6.2	Percentage availability of DCC SM WAN Gateway Interface	%Time	SM
10	Notification of Planned Maintenance events within required target	Events	KPI
11	Accuracy of installation recommendation provided DCC Service Users via Coverage Database	Events	KPI
12.1	Percentage of Power Outage Event alerts delivered: 50 Communications Hubs or fewer	Events	KPI
12.2	Percentage of Power Outage Event alerts delivered: greater than 50 Communications hubs	Events	KPI
CH1.1	Percentage of Communications Hubs delivered on time	Events	SM
CH1.2	Percentage of Communications Hubs accepted by DCC Service Users	Events	SM
CH1.3	Percentage of Communications Hubs determined not to be faulty following attempted installation	Events	SM
CH2.1	Percentage of Communications Hub Incidents resolved by remote maintenance	Events	SM

Table 10 Reported List of Service Provider Performance Measures – CSPC/S Scope

5.2 PM1.1 First time SM WAN connectivity at install

- 289.** This Performance Measure measures the success rate of achieving first time connectivity for Communications Hubs at the point of installation, where the Communications Hub is installed within the Coverage Area according to the agreed installation process as defined in the Communications Hub Installation and Maintenance Support Materials (CHIMSM).
- 290.** This Performance Measure excludes abandoned Communications Hubs installations where the Installer is unable to gain access to the Installation Location.
- 291.** This Performance Measure excludes Communications Hubs that have not been installed.
- 292.** For the purposes of CSP Central and South Performance Measures only, for any given Communications Hub the *CH First Time Installed Date* shall be the installation date of the Communications Hub which shall be:
- a) the date of receipt of the Service Request of Service Request Reference Variant 8.14.1 (Communications Hub Status Update – Install Success) received for the Communications Hub; or the Service Request of Service Request Reference Variant 8.14.2 (Communications Hub Status Update – Install No SM WAN) received for the Communications Hub.
- 293.** For any given Communications Hub the *CH First Time Connected Date* shall be the date defined in 189.
- 294.** For any given Communications Hub a *Successful First Time Connection At Install* shall occur as defined in 190.
- 295.** For any given Communications Hub an *Unsuccessful First Time Connection At Install* shall occur as defined in 191.
- 296.** The number of *Attempted First Time Connections* shall be calculated as in 192.
- 297.** For the purposes of this Performance Measure only, the list of notable or contracted *Allowed Exceptions* in the PMEL shall include *Installation Exceptions*.
- 298.** The *Allowed Exceptions* shall apply to the *Successful First Time Connection At Install*, *Unsuccessful First Time Connection At Install* and the number of *Attempted First Time Connections* as calculated in 192.
- 299.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM1.1_p = 100 \times \left[\frac{FTCI_p}{FTC_p} \right] \%$$

Where:

$FTCI_p$ = the number of *Successful First Time Connections At Install*

FTC_p = the number of *Attempted First Time Connections*.

- 300.** The duration of the Performance Measurement Period shall be a calendar month unless there are less than 1,000 *Attempted First Time Connections*.

Where there are less than 1,000, the Performance Measurement Period shall be the least number of whole consecutive calendar months required for the *Attempted First Time Connections* to be greater or equal to 1,000 (One Thousand).

5.3 PM1.2 First time SM WAN connectivity within 90 days

- 301. This Performance Measure measures the success rate of first time connectivity of Communications Hubs within 90 days, where the Communications Hub is installed within the Coverage Area according to the agreed installation process as defined in the Communications Hub Installation and Maintenance Support Materials (CHIMSM).
- 302. For the purposes of this Performance Measure only, as 90 days elapsed time is required after the *Attempted First Time Connection*, the *Activity Period* shall be the previous Performance Measurement Period. This Performance Measure will measure attempted Communication Hub installations in the previous calendar quarter rather than attempted Communication Hub installations in the Performance Measurement Period.
- 303. This Performance Measure excludes abandoned installations where the Installer is unable to gain access to the Installation Location.
- 304. This Performance Measure excludes Communications Hubs that have not been installed.
- 305. For any given Communications Hub the *CH First Time Installed Date* shall be the date defined in 292.
- 306. The number of *Attempted First Time Connections* shall be calculated as in 192.
- 307. The number of *First Time Connection Achieving Connectivity within 90 days* shall be calculated as in 209.
- 308. For the purposes of this Performance Measure only, the list of notable or contracted *Allowed Exceptions* in the PMEL shall include:
 - a) *Installation Exceptions*;
 - b) *Attempted First Time Connections* where access to the relevant Installation Locations to inspect the Communications Hub to carry out remedial work is not granted within 90 days (subject to the CSP demonstrating it has used reasonable endeavours to secure such access);
 - c) *Attempted First Time Connections* where third party permissions or planning consents required for remedial work outside of the Installation Location are not granted in a timely manner so as to enable compliance with 90 days (subject to the CSP demonstrating it has used reasonable endeavours to enforce all rights and powers at its disposal to secure such permissions or consents);
 - d) *Attempted First Time Connections* where the User does not replace a Communications Hub, as requested by the CSP in accordance CHIMSM,

for the purpose of resolving a connectivity issue, within 80 (eighty) days of such request; and

- e) *Attempted First Time Connections* where the particular premise is included in the CSP Network Enhancement Plan (“NEP”) in agreement with DCC.

309. The *Allowed Exceptions* shall apply to the *Successful First Time Connection At Install, Unsuccessful First Time Connection At Install and the number of Attempted First Time Connections* as calculated in 192.

310. In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM1.3_{pq} = 100 \times \left[\frac{FTC90_{pq}}{FTC_{pq}} \right] \%$$

Where:

FTC90_{pq} = the number of *First Time Connection Achieving Connectivity within 90 days*

FTC_{pq} = the number of *Attempted First Time Connections*.

311. The duration of the Performance Measurement Period shall be a calendar quarter.

5.4 PM1.3 SM WAN Connectivity Level

312. This Performance Measure measures the enduring level of SM WAN connectivity for Communications Hubs that have been successfully installed as defined in the Communications Hub Installation and Maintenance Support Materials (CHIMSM) within the Coverage Area.

313. The SM WAN Connectivity Level shall be measured on the last day of each Performance Measurement Period by comparing the number of commissioned Communications Hubs with the number of Communications Hubs where SM WAN connectivity has been lost during the Performance Measurement Period.

314. DCC shall log each Communications Hub connectivity related Incident in the DCC Service Management System.

315. The CSP shall record the relationship between the Communications Hub and Incident.

316. The number of *Communications Hubs Successfully Installed In Coverage Area* shall be calculated as defined in 218.

317. A Communications Hub shall have *Lost Connectivity* as calculated in 219.

318. In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM1.3_p = 100 \times \left(1 - \left[\frac{CHCL_p}{CHI_p} \right] \right) \%$$

Where:

$CHCL_p$ = the number of Communications Hubs that have *Lost Connectivity*

CHI_p = the number of *Communications Hubs Successfully Installed in the Coverage Area*.

- 319.** The duration of the Performance Measurement Period shall be a calendar month.

5.5 PM6.2 Percentage availability of DCC WAN Gateway Interface

- 320.** The Percentage Availability of the DCC WAN Gateway Interface measures the amount of time, within the Performance Measurement Period, that the DCC WAN Gateway Interface is available to DCC.
- 321.** Provision of the DCC WAN Gateway Interface is an activity that is performed over a period of time.
- 322.** The availability of the components making up the of the DCC WAN Gateway (production services) covering the associated servers, interfaces and networks shall be monitored in real-time by an infrastructure monitoring tool in accordance with Good Industry Practice.
- 323.** Any component unavailability will be automatically alerted to the Service Provider and where this results in an Incident an Incident shall be recorded in the DCC Service Management System; an example where component unavailability would not result in an Incident is where there is redundancy built into the infrastructure and a system 'fail over' has occurred to a back-up component.
- 324.** Periods of unavailability of the DCC WAN Gateway shall be recorded in the DCC Service Management System in accordance with the Incident Management Policy.
- 325.** The *Unscheduled Downtime* of the DCC WAN Gateway Interface shall be calculated as follows:
- a) the number of complete minutes where the DCC WAN Gateway Interface is unavailable to the DCC; minus
 - b) the number of minutes of down time due to agreed Planned Maintenance.
- 326.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM6.2_p = 100 \times \left(1 - \left[\frac{UDDWG_p}{RT_p} \right] \right) \%$$

Where:

$UDDWG_p$ = the *Unscheduled Downtime* of the DCC WAN Gateway Interface

RT_p = the number of minutes within the Performance Measurement Period.

327. The duration of the Performance Measurement Period shall be a calendar month.

5.6 PM10 Notification of Planned Maintenance events within required target

328. This Performance Measure measures the percentage of Planned Maintenance events, which are notified by the CSP to DCC within the required notification target.
329. The CSP shall submit a Planned Maintenance request to DCC for approval in accordance with the time scales within the defined in section H8.4 of the SEC; this time scale shall be the *Target Planned Maintenance Notice*.
330. DCC shall record Planned Maintenance events in the DCC Service Management System.
331. Planned Maintenance *Notice Period* shall be calculated as follows:
- a) the date the Planned Maintenance is due to begin; minus
 - b) the date the Planned Maintenance request is received by DCC.
332. Planned Maintenance *Notifications on Target* shall be defined as the number of Planned Maintenance requests received where the Planned Maintenance *Notice Period* is less than or equal to *Target Planned Maintenance Notice*.
333. In respect of each Performance Measurement Period (pq), the Service Level for the Performance Measure shall be calculated as follows:

$$PM10_{pq} = 100 \times \left[\frac{PNT_{pq}}{PME_{pq}} \right] \%$$

Where:

PNT_{pq} = the number of Planned Maintenance *Notifications on Target*.

PME_{pq} = the number of Planned Maintenance requests received by DCC.

334. The duration of the Performance Measurement Period shall be a calendar quarter.

5.7 PM11 Accuracy of installation recommendation provided to DCC Service Users via Coverage Database

335. This Performance Measure assesses the accuracy of the coverage information provided to Users to support the installation process, as detailed in the CHIMSM.
336. This Performance Measure includes *Attempted Communications Hub Installations* that occurred within the Coverage Area during the current Performance Measurement Period.

- 337.** The Performance Measure excludes abandoned installations where the Installer is unable to gain access to the Installation Location.
- 338.** This Performance Measure excludes Communications Hubs that have not been installed.
- 339.** The CSPC/S shall make available a SM WAN Coverage Database that shall contain the following information in accordance with section H8.16 of the SEC about each Installation Location where the User attempts a Communications Hub installation:
- a) whether SM WAN signal is available at the Communications Hub Installation Point; and
 - b) which Communications Hub WAN Variant should be installed at the Installation Location.
- 340.** *Attempted Communications Hub Installations* shall be as calculated in 243.
- 341.** For the purposes of this Performance Measure only, the list of notable or contracted *Allowed Exceptions* in the PMEL shall include *Attempted Communications Hub Installations* where an unresolved Incident is affecting coverage at the Installation Location at the date of installation. Specifically such an *Attempted Communications Hub Installation* shall not be counted as an *Inaccurate Coverage Database Prediction*.
- 342.** The number of *Attempted Communications Hub Installations* completed in line with CSPC/S Coverage Database shall be as follows:
- a) the number of *Attempted Communications Hub Installations*; minus
 - b) the number of *Attempted Communications Hub Installations* where it is determined there has been an *Inaccurate Coverage Database Prediction* after *Allowed Exceptions*.
- 343.** The *Allowed Exceptions* shall apply to the *Attempted Communications Hub Installations* as calculated in 243.
- 344.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM11_p = 100 \times \left[\frac{ACS_p}{CHI_p} \right] \%$$

Where:

ACS_p = number of *Attempted Communications Hub Installations* Completed In Line with CSPC/S Coverage Database

CHI_p = number of *Attempted Communications Hub Installations*

- 345.** The duration of the Performance Measurement Period shall be a calendar month.

5.8 PM12.1 Percentage of Power Outage Event alerts delivered: 50 Communications Hubs or fewer

- 346.** This Performance Measure measures the percentage of power outage event Alerts which are sent to the DCC WAN Gateway Interface, compared to the

number of power loss Alerts received from the Communications Hubs for power outage events affecting 50 (fifty) Communications Hubs or fewer.

347. The CSP shall create a power loss Alert following receipt of a Communications Hub power loss notification that is not followed by a successful communication from the effected Communications Hub within 3 minutes of receipt of the power loss notification.
348. The data captured by the DCC cannot establish a relationship between one or more power loss Alerts and a physical electrical power outage event and therefore for the purposes of this Performance Measure, multiple power loss Alerts shall be related by virtue of the time the power loss Alert is received.
349. A *Power Outage Event Window* shall be as defined in 253.
350. For the purposes of this Performance Measure only, an *Isolated Power Loss Event* shall be where power loss Alerts are created by the CSP for fifty (50) Communications Hubs or fewer within a *Power Outage Event Window*.
351. In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM12.1_p = 100 \times \left[\frac{POE_p}{CHP_p} \right] \%$$

Where:

- POE_p = number of power loss Alerts transmitted by the CSP to the DCC WAN Gateway Interface by the CSP in relation to all *Isolated Power Loss Events*.
- CHP_p = number of Communications Hub power loss Alerts created by the CSP in relation to all *Isolated Power Loss Events*.

352. The duration of the Performance Measurement Period shall be a calendar month.

5.9 PM12.2 Percentage of Power Outage Event alerts delivered: Greater than 50 Communications Hubs

353. This Performance Measure measures the percentage of power outage event Alerts which are sent to the DCC WAN Gateway Interface, compared to the number of power loss Alerts received from Communications Hubs for power outage events which detect power loss Alerts from between 50 (fifty) Communication Hubs and 5,000 (five thousand) Communications Hubs.
354. The CSP shall create a power loss Alert following receipt of a Communications Hub power loss notification that is not followed by a successful communication from the effected Communications Hub within 3 minutes of receipt of the power loss notification.
355. The data captured by the DCC cannot establish a relationship between one or more power loss Alerts and a physical electrical power outage event and therefore for the purposes of this Performance Measure, multiple power loss Alerts shall be related by virtue of the time the power loss Alert is received.

- 356.** For the purposes of this Performance Measure only, a *Small Power Loss Event* shall be where power loss Alerts are created by the CSP for between fifty (50) Communication Hubs and five thousand (5,000) Communications Hubs, within a Power Outage Event Window.
- 357.** The CSP shall send the first 50 power loss Alerts created and is obligated to send at least 25% of the remaining power loss Alerts created in relation to the *Small Power Loss Event*; the CSP may choose to apply a level of throttling (to reflect the 25% minimum obligation) to protect the performance of the service.
- 358.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM12.2_p = 100\% \times \left[\frac{POE_p}{\{(CHP_p - 50) \times 0.25\} + 50} \right]$$

Where:

POE_p = number of power outage event Alerts transmitted to the DCC WAN Gateway Interface by the CSP in relation to a *Small Power Loss Event*.

CHP_p = number of Communications Hub power loss Alerts created by the CSP in relation to all *Small Power Loss Event*.

- 359.** The duration of the Performance Measurement Period shall be a calendar month.

5.10 CH1.1 Percentage of Communications Hubs delivered on time

- 360.** This Performance Measure measures the success of the CSP in delivering the volumes of Communications Hubs required by *DCC Service Users* according to schedule during the Performance Measurement Period.
- 361.** The delivery information shall be recorded by the DCC; the DCC shall store this data in the Communications Hubs Order Management System.
- 362.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$CH1.1_p = 100 \times \left[\frac{CHDOT_p}{CHD_p} \right] \%$$

Where:

$CHDOT_p$ = number of *Delivered On Time Communications Hubs* during the Performance Measurement Period.

CHD_p = number of Communications Hubs scheduled for delivery during the Performance Measurement Period.

- 363.** The Performance Measurement Period shall be a calendar month.
- 364.** The Performance Measure shall only apply in relation to the Initial Mass Roll Out Phase and the Unconstrained Mass Roll Out Phase.

5.11 CH1.2 Percentage of Communications Hubs accepted by DCC Service Users

- 365.** This Performance Measure measures the success of the CSP in delivering Communications Hubs to the designated Delivery Location that pass the visual inspections carried out by *DCC Service Users* in accordance with the Communications Hub Handover Support Materials (CHHSM).
- 366.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$CH1.2_p = 100 \times \left[\frac{CHA_p}{CHD_p} \right] \%$$

Where:

- CHA_p = the number of Communications Hubs accepted by *DCC Service Users* in each Performance Measurement Period.
- CHD_p = the number of Communications Hub delivered to *DCC Service Users* during the Performance Measurement Period.

- 367.** The duration of the Performance Measurement Period shall be a calendar month.

5.12 CH1.3 Percentage of Communications Hubs determined not to be faulty following attempted installation

- 368.** This Performance Measure measures the degree to which the Communications Hubs supplied by the CSP to the *DCC Service Users* cannot be successfully commissioned as a result of a fault that is determined to be the responsibility of the CSP.
- 369.** For the purposes of this Performance Measure only, as up to 5 months can elapse between the *Attempted Communications Hub Installation* and the completion of the *Fault Analysis Report*, the *Activity Period* shall be the calendar month ending 6 months prior to the start of the Performance Measurement Period. This Performance Measure will measure attempted Communication Hub installations in the calendar month 6 months prior to the start of the Performance Measurement Period, rather than attempted Communication Hub installations in the Performance Measurement Period.
- 370.** This Performance Measure measures all attempted installations; *Attempted Communications Hub Installations* shall be as calculated in 243.
- 371.** Where a Communications Hub is returned it shall be *Determined to be Subject to a CSPC/S Fault* except where one or more of the following apply:
- after CH Fault Diagnosis, the fault is due to physical damage after delivery;
 - the User failed to correctly follow the agreed installation process as defined in the Communications Hub Installation and Maintenance Support Materials (CHIMSM);
 - the User failed to comply with the Communications Hub Handover Support Materials (CHHSM) in relation to the storage and transit of the relevant Communications Hub;

- d) after CH Fault Diagnosis and following any arbitration, there is a fault reason of “No Fault Found”; or
- e) on an individual Communications Hubs returns basis, the DCC, the User and the CSP determine that the Communications Hub is not subject to a CSP Fault; volumes shall be monitored under the DCC Service Provider performance management regime.

372. For the purposes of this Performance Measure only, and for the avoidance of doubt, where a Communications Hub is returned where a cellular WAN Variant is successfully installed at Installation Location, and the CSP subsequently wishes to install a cellular + RF mesh WAN Variant in its place in order to enable other Communications Hubs with a cellular + RF mesh WAN Variant to connect to the SM WAN it shall be *Determined to be Subject to a CSPC/S Fault*.

373. In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$CH1.3_p = 100 \times \left(1 - \left[\frac{CHF_p}{CHI_p} \right] \right) \%$$

Where:

CHF_p = number of *Communications Hubs Determined to be Subject to a CSPC/S Fault*

CHI_p = number of *Attempted Communications Hub Installations*.

374. The duration of the Performance Measurement Period for shall be a calendar month.

5.13 CH2.1 Percentage of Communications Hub Incidents resolved by remote maintenance

375. This Performance Measure measures the ability of the DCC and the CSP to resolve Communications Hub Incidents remotely.

376. The CSP shall record Incidents in the DCC Service Management System.

377. A *Communication Hub Incident Resolved Remotely* shall be as calculated in 281.

378. A *Remotely Fixable Communications Hubs Incident* shall be as calculated in 282.

379. For the purposes of this Performance Measure only, the list of notable or contracted *Allowed Exceptions* in the PMEL shall include Incidents:

- a) where, after CH Fault Diagnosis, the fault has a been determined to be due to physical damage; or
- b) where it is determined that the User failed to correctly follow the Communications Hub Installation and Maintenance Support Materials (CHIMSM).

380. In respect of each Performance Measurement Period (p) the Service Level for the Performance Measure shall be calculated as follows:

$$CH2.1_{pr} = 100 \times \left[\frac{CHIR_p}{CHINC_p} \right] \%$$

Where:

$CHIR_p$ = the number of *Communication Hub Incidents Resolved Remotely*.

$CHINC_p$ = the number of *Remotely Fixable Communications Hubs Incidents*.

381. The duration of the Performance Measurement Period shall be a calendar month.

6 Initial Operating Capability Performance Measures

6.1 Scope

- 382.** The Reported List of Service Provider Performance Measures includes a subset of the SMETS 1 Services Provider (S1SP) Performance Measures.
- 383.** Table 11 lists the IOC Performance Measures on the Reported List of Service Provider Performance Measures.

Service Provider Contractual Reference	Performance Measure Title	Category	Service Measure / KPI
2.1	Percentage Service availability – DCC Data Service (Production Services)	%Time	SM
2.4	Percentage Service availability – Management Service Interface	%Time	SM
2.7	Percentage Service availability - Externally exposed test services (08.00 to 20.00 UTC Monday to Saturday)	%Time	SM
3.1	Number of Severity Level 1 or 2 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release	Events	SM
3.2	Number of Severity Level 3, 4, or 5 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release	Events	SM
7	Notification of Planned Maintenance events within required target	Events	KPI

Table 11 Reported List of Service Provider Performance Measures – IOC Scope

6.2 PM 2.1 Percentage Service availability – DCC Data Service (Production Services)

- 384.** The *DCC Data Service* means the systems and communications required to provide for the processing of Service Requests, Pre-Commands, Commands, Service Responses and Alerts and the holding or using of Registration Data.
- 385.** Provision of the *DCC Data Service* is an activity that is performed over a period of time.
- 386.** The availability of the components making up the *DCC Data Service*, covering associated S1SP servers, interfaces and networks, shall be monitored in real-time by an infrastructure monitoring tool in accordance with Good Industry Practice.

- 387.** Any component unavailability will be automatically alerted to the Service Provider and where this results in an Incident an Incident shall be recorded in the DCC Service Management System; an example where component unavailability would not result in an Incident is where there is redundancy built into the infrastructure and a system 'fail over' has occurred to a back-up component.
- 388.** Periods of unavailability of the *DCC Data Service* shall be recorded in the DCC Service Management System in accordance with the Incident Management Policy.
- 389.** The *Unscheduled Downtime* of the *DCC Data Service* shall be calculated as follows:
- a) the number of complete minutes where the *DCC Data Service* is unavailable for Service Request processing; minus
 - b) the number of minutes of down time due to agreed Planned Maintenance.
- 390.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM2.1_p = 100 \times \left(1 - \left[\frac{UDDDS_p}{RT_p} \right] \right) \%$$

Where:

$UDDDS_p$ = the *Unscheduled Downtime* of the *DCC Data Service* in minutes

RT_p = the number of minutes within the Performance Measurement Period.

- 391.** The duration of the Performance Measurement Period shall be a calendar month.

6.3 PM2.4 Percentage Service availability – S1SP Management Interface (Production Services)

- 392.** The Percentage Availability of the S1SP Management Interface measures the amount of time, in any given Measurement Period, that the Management Interface is available to the DCC.
- 393.** The Contractor shall, as part of their Performance Monitoring Approach, record the number of minutes of Management Interface Downtime, equal to the total number of minutes where the Management Interface is unavailable to the DCC.
- 394.** The methodology for measuring the Management Interface Downtime is further described in the Availability Plan (as developed by the Contractor in accordance with Schedule 6.3 (Development Process)).
- 395.** The Percentage Availability of the Management Interface shall be calculated as follows:

$$PM2.4_p = 100 \times \left(1 - \left[\frac{DMI_p}{RT_p} \right] \right) \%$$

Where:

DMI_p = the *Downtime* of the Management Interface in minutes
 RT_p = the number of minutes within the Performance Measurement Period.

396. The duration of the Performance Measurement Period shall be a calendar month.

6.4 PM2.7 Percentage Service availability - Externally Exposed Testing Services (08.00 to 20.00 UTC Monday to Saturday)

397. This Performance Measure measures the availability of the *Externally Exposed Test Environments* that have been requested by DCC and are exposed to Users or an external Party.
398. For any Test Environment provided by the Contractor to the DCC, the Contractor shall, as part of their Performance Monitoring Approach, record the number of minutes of unscheduled Test Environment Downtime, for each Test Environment, equal to the total number of minutes between 08:00 and 20:00 UTC where the Test Environment is unavailable to the DCC.
399. The methodology for measuring the Test Environment Downtime is further described in the Availability Plan (as developed by the Contractor in accordance with Schedule 6.3 (Development Process)).
400. In respect of each UIT Test Environment (e) and for each Performance Measurement Period (p), the Test Environment Availability shall be calculated as follows:

$$\text{Test Environment Availability}_{p,e} = 100 \times \left(1 - \left[\frac{UDTE_{p,e}}{RTE_p} \right] \right) \%$$

Where:

$UDTE_{p,e}$ = the *Unscheduled Downtime* of the *Test Environment* in minutes
 RTE_p = the number of minutes in the Testing Services core service hours within the Performance Measurement Period.

401. In respect of each Performance Measurement Period (p) the Performance Measure shall be the arithmetic mean of the Test Environment Availability Levels, calculated as follows:

$$PM2.7_p = \frac{1}{n} \sum_{e=1}^n \text{Test Environment Availability}_{p,e} \%$$

Where:

n = the number of Test Environment Availability Service Measures reported to DCC in this Performance Measurement Period.

402. The duration of the Performance Measurement Period shall be a calendar month.

6.5 PM3.1 Number of Severity Level 1 or 2 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release

- 403. This Performance Measure measures the number of Severity Level 1 or 2 Incidents directly related to a *Change Release* occurring within 30 days of the *Change Release*.
- 404. This Performance Measure measures Incidents which are closed in the Performance Measurement Period.
- 405. DCC shall record each *Change Release* in the DCC Service Management System.
- 406. DCC shall log each Incident in the DCC Service Management System and record the relationship between the Change Release and Incident.
- 407. *Severity 1 and Severity 2 Incidents Caused by a Change Release* shall be Incidents:
 - a) categorised as Category (Severity) 1 or Category (Severity) 2 at the point of resolution; and
 - b) where the cause of the Incident was determined to be an issue with a *Change Release*; and
 - c) which have occurred within 30 days of the date of the *Change Release* identified in b) above.
- 408. In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM3.1_p = \text{Severity 1 and Severity 2 Incidents Closed which were Caused by a Change Release}$$

- 409. The duration of the Performance Measurement Period shall be a calendar month.

6.6 PM3.2 Number of Severity Level 3, 4 or 5 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release

- 410. This Performance Measure measures the number of Severity Level 3, 4 or 5 Incidents directly related to a *Change Release* occurring within 30 days of the *Change Release*.
- 411. This Performance Measure measures Incidents which are closed in the Performance Measurement Period.
- 412. DCC shall record each *Change Release* in the DCC Service Management System.
- 413. DCC shall log each Incident in the DCC Service Management System and record the relationship between the Change Release and Incident.

- 414.** *Severity 3, Severity 4 and Severity 5 Incidents Caused by a Change Release* shall be Incidents:
- a) categorised as Category (Severity) 3, Category (Severity) 4, or Category (Severity) 5 at the point of resolution; and
 - b) where the cause of the Incident was determined to be an issue with a *Change Release*; and
 - c) which have occurred within 30 days of the date of the *Change Release* identified in b) above.
- 415.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM3.1_p = \text{Severity 3, Severity 4 and Severity 5 Incidents Closed which were Caused by a Change Release}$$

- 416.** The duration of the Performance Measurement Period shall be a calendar month.

6.7 PM7 Notification of Planned Maintenance events within required target

- 417.** This Performance Measure measures the percentage of Planned Maintenance events, which are notified by the S1SP to DCC within the required notification target.
- 418.** The S1SP shall submit a Planned Maintenance request to DCC for approval in accordance with the time scales defined in section Part C of Schedule 2.1 (DCC requirements), this time scale shall be the *Target Planned Maintenance Notice*.
- 419.** DCC shall record Planned Maintenance events in the DCC Service Management System.
- 420.** Planned Maintenance *Notice Period* shall be calculated as follows:
- a) the date the Planned Maintenance is due to begin; minus
 - b) the date the Planned Maintenance request is received by DCC.
- 421.** Planned Maintenance *Notifications on Target* shall be the number of Planned Maintenance requests received where the Planned Maintenance *Notice Period* is more than or equal to the *Target Planned Maintenance Notice*.
- 422.** In respect of each Performance Measurement Period (pq), the Service Level for the Performance Measure shall be calculated as follows:

$$PM7_p = 100 \times \left[\frac{PNMT_{pq}}{PME_{pq}} \right] \%$$

Where:

$PNMT_{pq}$ = the number of Planned Maintenance *Notifications on Target*

PME_{pq} = the number of Planned Maintenance requests received by DCC.

- 423.** The duration of the Performance Measurement Period shall be a calendar quarter.

7 Middle Operating Capability Performance Measures

7.1 Scope

- 424.** The Reported List of Service Provider Performance Measures includes a subset of the SMETS 1 Services Provider (S1SP) Performance Measures.
- 425.** Table 12 lists the MOC Performance Measures on the Reported List of Service Provider Performance Measures.

Service Provider Contractual Reference	Performance Measure Title	Category	Service Measure / KPI
2.1	Percentage Service availability – DCC Data Service (Production Services)	%Time	SM
2.4	Percentage Service availability – Management Service Interface	%Time	SM
2.7	Percentage Service availability - Externally exposed test services (08.00 to 20.00 UTC Monday to Saturday)	%Time	SM
3.1	Number of Severity Level 1 or 2 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release	Events	SM
3.2	Number of Severity Level 3, 4, or 5 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release	Events	SM
7	Notification of Planned Maintenance events within required target	Events	KPI

Table 12 Reported List of Service Provider Performance Measures – MOC Scope

7.2 PM 2.1 Percentage Service availability – DCC Data Service (Production Services)

- 426.** The *DCC Data Service* means the systems and communications required to provide for the processing of Service Requests, Pre-Commands, Commands, Service Responses and Alerts and the holding or using of Registration Data.
- 427.** Provision of the *DCC Data Service* is an activity that is performed over a period of time.
- 428.** The availability of the components making up the *DCC Data Service*, covering associated S1SP servers, interfaces and networks, shall be monitored in real-time by an infrastructure monitoring tool in accordance with Good Industry Practice.

- 429.** Any component unavailability will be automatically alerted to the Service Provider and where this results in an Incident an Incident shall be recorded in the DCC Service Management System; an example where component unavailability would not result in an Incident is where there is redundancy built into the infrastructure and a system 'fail over' has occurred to a back-up component.
- 430.** Periods of unavailability of the *DCC Data Service* shall be recorded in the DCC Service Management System in accordance with the Incident Management Policy.
- 431.** The *Unscheduled Downtime* of the *DCC Data Service* shall be calculated as follows:
- a) the number of complete minutes where the *DCC Data Service* is unavailable for Service Request processing; minus
 - b) the number of minutes of down time due to agreed Planned Maintenance.
- 432.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM2.1_p = 100 \times \left(1 - \left[\frac{UDDDS_p}{RT_p} \right] \right) \%$$

Where:

$UDDDS_p$ = the *Unscheduled Downtime* of the *DCC Data Service* in minutes

RT_p = the number of minutes within the Performance Measurement Period.

- 433.** The duration of the Performance Measurement Period shall be a calendar month.

7.3 PM2.4 Percentage Service availability – S1SP Management Interface (Production Services)

- 434.** The Percentage Availability of the S1SP Management Interface measures the amount of time, in any given Measurement Period, that the Management Interface is available to the DCC.
- 435.** The Contractor shall, as part of their Performance Monitoring Approach, record the number of minutes of Management Interface Downtime, equal to the total number of minutes where the Management Interface is unavailable to the DCC.
- 436.** The methodology for measuring the Management Interface Downtime is further described in the Availability Plan (as developed by the Contractor in accordance with Schedule 6.3 (Development Process)).
- 437.** The Percentage Availability of the Management Interface shall be calculated as follows:

$$PM2.4_p = 100 \times \left(1 - \left[\frac{DMI_p}{RT_p} \right] \right) \%$$

Where:

DMI_p = the *Downtime* of the Management Interface in minutes

RT_p = the number of minutes within the Performance Measurement Period.

438. The duration of the Performance Measurement Period shall be a calendar month.

7.4 PM2.7 Percentage Service availability - Externally Exposed Testing Services (08.00 to 20.00 UTC Monday to Saturday)

439. This Performance Measure measures the availability of the *Externally Exposed Test Environments* that have been requested by DCC and are exposed to Users or an external Party.
440. For any Test Environment provided by the Contractor to the DCC, the Contractor shall, as part of their Performance Monitoring Approach, record the number of minutes of *Unscheduled Test Environment Downtime*, for each Test Environment, equal to the total number of minutes between 08:00 and 20:00 UTC where the Test Environment is unavailable to the DCC.
441. The methodology for measuring the Test Environment Downtime is further described in the Availability Plan (as developed by the Contractor in accordance with Schedule 6.3 (Development Process)).
442. In respect of each UIT Test Environment (e) and for each Performance Measurement Period (p), the Test Environment Availability shall be calculated as follows:

$$\text{Test Environment Availability}_{p,e} = 100 \times \left(1 - \left[\frac{UDTE_{p,e}}{RTE_p} \right] \right) \%$$

Where:

$UDTE_{p,e}$ = the *Unscheduled Downtime* of the *Test Environment* in minutes

RTE_p = the number of minutes in the Testing Services core service hours within the Performance Measurement Period.

443. In respect of each Performance Measurement Period (p) the Performance Measure shall be the arithmetic mean of the Test Environment Availability Levels, calculated as follows:

$$PM2.7_p = \frac{1}{n} \sum_{e=1}^n \text{Test Environment Availability}_{p,e} \%$$

Where:

n = the number of Test Environment Availability Service Measures reported to DCC in this Performance Measurement Period.

444. The duration of the Performance Measurement Period shall be a calendar month.

7.5 PM3.1 Number of Severity Level 1 or 2 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release

445. This Performance Measure measures the number of Severity Level 1 or 2 Incidents directly related to a *Change Release* occurring within 30 days of the *Change Release*.
446. This Performance Measure measures Incidents which are closed in the Performance Measurement Period.
447. DCC shall record each *Change Release* in the DCC Service Management System.
448. DCC shall log each Incident in the DCC Service Management System and record the relationship between the Change Release and Incident.
449. *Severity 1 and Severity 2 Incidents Caused by a Change Release* shall be Incidents:
- a) categorised as Category (Severity) 1 or Category (Severity) 2 at the point of resolution; and
 - b) where the cause of the Incident was determined to be an issue with a *Change Release*; and
 - c) which have occurred within 30 days of the date of the *Change Release* identified in b) above.
450. In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM3.1_p = \text{Severity 1 and Severity 2 Incidents Closed which were Caused by a Change Release}$$

451. The duration of the Performance Measurement Period shall be a calendar month.

7.6 PM3.2 Number of Severity Level 3, 4 or 5 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release

452. This Performance Measure measures the number of Severity Level 3, 4 or 5 Incidents directly related to a *Change Release* occurring within 30 days of the *Change Release*.
453. This Performance Measure measures Incidents which are closed in the Performance Measurement Period.
454. DCC shall record each *Change Release* in the DCC Service Management System.

- 455.** DCC shall log each Incident in the DCC Service Management System and record the relationship between the Change Release and Incident.
- 456.** *Severity 3, Severity 4 and Severity 5 Incidents Caused by a Change Release* shall be Incidents:
- categorised as Category (Severity) 3, Category (Severity) 4, or Category (Severity) 5 at the point of resolution; and
 - where the cause of the Incident was determined to be an issue with a *Change Release*; and
 - which have occurred within 30 days of the date of the *Change Release* identified in b) above.
- 457.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:
- $$PM3.1_p = \text{Severity 3, Severity 4 and Severity 5 Incidents Closed which were Caused by a Change Release}$$
- 458.** The duration of the Performance Measurement Period shall be a calendar month.

7.7 PM7 Notification of Planned Maintenance events within required target

- 459.** This Performance Measure measures the percentage of Planned Maintenance events, which are notified by the S1SP to DCC within the required notification target.
- 460.** The S1SP shall submit a Planned Maintenance request to DCC for approval in accordance with the time scales defined in section Part C of Schedule 2.1 (DCC requirements), this time scale shall be the *Target Planned Maintenance Notice*.
- 461.** DCC shall record Planned Maintenance events in the DCC Service Management System.
- 462.** Planned Maintenance *Notice Period* shall be calculated as follows:
- the date the Planned Maintenance is due to begin; minus
 - the date the Planned Maintenance request is received by DCC.
- 463.** Planned Maintenance *Notifications on Target* shall be the number of Planned Maintenance requests received where the Planned Maintenance *Notice Period* is more than or equal to the *Target Planned Maintenance Notice*.
- 464.** In respect of each Performance Measurement Period (pq), the Service Level for the Performance Measure shall be calculated as follows:

$$PM7_p = 100 \times \left[\frac{PNMT_{pq}}{PME_{pq}} \right] \%$$

Where:

$PNMT_{pq}$ = the number of Planned Maintenance *Notifications on Target*

PME_{pq} = the number of Planned Maintenance requests received by
DCC.

465. The duration of the Performance Measurement Period shall be a calendar quarter.

8 Final Operating Capability Performance Measures

8.1 Scope

- 466.** The Reported List of Service Provider Performance Measures includes a subset of the SMETS 1 Services Provider (S1SP) Performance Measures.
- 467.** Table 13 lists the FOC Performance Measures on the Reported List of Service Provider Performance Measures.

Service Provider Contractual Reference	Performance Measure Title	Category	Service Measure / KPI
2.1	Percentage Service availability – DCC Data Service (Production Services)	%Time	SM
2.4	Percentage Service availability – Management Service Interface	%Time	SM
2.7	Percentage Service availability - Externally exposed test services (08.00 to 20.00 UTC Monday to Saturday)	%Time	SM
3.1	Number of Severity Level 1 or 2 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release	Events	SM
3.2	Number of Severity Level 3, 4, or 5 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release	Events	SM
7	Notification of Planned Maintenance events within required target	Events	KPI

Table 13 Reported List of Service Provider Performance Measures – FOC Scope

8.2 PM 2.1 Percentage Service availability – DCC Data Service (Production Services)

- 468.** The *DCC Data Service* means the systems and communications required to provide for the processing of Service Requests, Pre-Commands, Commands, Service Responses and Alerts and the holding or using of Registration Data.
- 469.** Provision of the *DCC Data Service* is an activity that is performed over a period of time.

- 470.** The availability of the components making up the *DCC Data Service*, covering associated S1SP servers, interfaces and networks, shall be monitored in real-time by an infrastructure monitoring tool in accordance with Good Industry Practice.
- 471.** Any component unavailability will be automatically alerted to the Service Provider and where this results in an Incident an Incident shall be recorded in the DCC Service Management System; an example where component unavailability would not result in an Incident is where there is redundancy built into the infrastructure and a system 'fail over' has occurred to a back-up component.
- 472.** Periods of unavailability of the *DCC Data Service* shall be recorded in the DCC Service Management System in accordance with the Incident Management Policy.
- 473.** The *Unscheduled Downtime* of the *DCC Data Service* shall be calculated as follows:
- a) the number of complete minutes where the *DCC Data Service* is unavailable for Service Request processing; minus
 - b) the number of minutes of down time due to agreed Planned Maintenance.
- 474.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM2.1_p = 100 \times \left(1 - \left[\frac{UDDDS_p}{RT_p} \right] \right) \%$$

Where:

$UDDDS_p$ = the *Unscheduled Downtime* of the *DCC Data Service* in minutes

RT_p = the number of minutes within the Performance Measurement Period.

- 475.** The duration of the Performance Measurement Period shall be a calendar month.

8.3 PM2.4 Percentage Service availability – S1SP Management Interface (Production Services)

- 476.** The Percentage Availability of the S1SP Management Interface measures the amount of time, in any given Measurement Period, that the Management Interface is available to the DCC.
- 477.** The Contractor shall, as part of their Performance Monitoring Approach, record the number of minutes of Management Interface Downtime, equal to the total number of minutes where the Management Interface is unavailable to the DCC.
- 478.** The methodology for measuring the Management Interface Downtime is further described in the Availability Plan (as developed by the Contractor in accordance with Schedule 6.3 (Development Process)).

479. The Percentage Availability of the Management Interface shall be calculated as follows:

$$PM2.4_p = 100 \times \left(1 - \left[\frac{DMI_p}{RT_p} \right] \right) \%$$

Where:

DMI_p = the *Downtime* of the Management Interface in minutes
 RT_p = the number of minutes within the Performance Measurement Period.

480. The duration of the Performance Measurement Period shall be a calendar month.

8.4 PM2.7 Percentage Service availability - Externally Exposed Testing Services (08.00 to 20.00 UTC Monday to Saturday)

481. This Performance Measure measures the availability of the *Externally Exposed Test Environments* that have been requested by DCC and are exposed to Users or an external Party.
482. For any Test Environment provided by the Contractor to the DCC, the Contractor shall, as part of their Performance Monitoring Approach, record the number of minutes of unscheduled Test Environment Downtime, for each Test Environment, equal to the total number of minutes between 08:00 and 20:00 UTC where the Test Environment is unavailable to the DCC.
483. The methodology for measuring the Test Environment Downtime is further described in the Availability Plan (as developed by the Contractor in accordance with Schedule 6.3 (Development Process)).
484. In respect of each UIT Test Environment (e) and for each Performance Measurement Period (p), the Test Environment Availability shall be calculated as follows:

$$\text{Test Environment Availability}_{p,e} = 100 \times \left(1 - \left[\frac{UDTE_{p,e}}{RTE_p} \right] \right) \%$$

Where:

$UDTE_{p,e}$ = the *Unscheduled Downtime* of the *Test Environment* in minutes
 RTE_p = the number of minutes in the Testing Services core service hours within the Performance Measurement Period.

485. In respect of each Performance Measurement Period (p) the Performance Measure shall be the arithmetic mean of the Test Environment Availability Levels, calculated as follows:

$$PM2.7_p = \frac{1}{n} \sum_{e=1}^n \text{Test Environment Availability}_{p,e} \%$$

Where:

n = the number of Test Environment Availability Service Measures reported to DCC in this Performance Measurement Period.

486. The duration of the Performance Measurement Period shall be a calendar month.

8.5 PM3.1 Number of Severity Level 1 or 2 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release

487. This Performance Measure measures the number of Severity Level 1 or 2 Incidents directly related to a *Change Release* occurring within 30 days of the *Change Release*.

488. This Performance Measure measures Incidents which are closed in the Performance Measurement Period.

489. DCC shall record each *Change Release* in the DCC Service Management System.

490. DCC shall log each Incident in the DCC Service Management System and record the relationship between the Change Release and Incident.

491. *Severity 1 and Severity 2 Incidents Caused by a Change Release* shall be Incidents:

- a) categorised as Category (Severity) 1 or Category (Severity) 2 at the point of resolution; and
- b) where the cause of the Incident was determined to be an issue with a *Change Release*; and
- c) which have occurred within 30 days of the date of the *Change Release* identified in b) above.

492. In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM3.1_p = \text{Severity 1 and Severity 2 Incidents Closed which were Caused by a Change Release}$$

493. The duration of the Performance Measurement Period shall be a calendar month.

8.6 PM3.2 Number of Severity Level 3, 4 or 5 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release

494. This Performance Measure measures the number of Severity Level 3, 4 or 5 Incidents directly related to a *Change Release* occurring within 30 days of the *Change Release*.
495. This Performance Measure measures Incidents which are closed in the Performance Measurement Period.
496. DCC shall record each *Change Release* in the DCC Service Management System.
497. DCC shall log each Incident in the DCC Service Management System and record the relationship between the *Change Release* and Incident.
498. *Severity 3, Severity 4 and Severity 5 Incidents Caused by a Change Release* shall be Incidents:
- categorised as Category (Severity) 3, Category (Severity) 4, or Category (Severity) 5 at the point of resolution; and
 - where the cause of the Incident was determined to be an issue with a *Change Release*; and
 - which have occurred within 30 days of the date of the *Change Release* identified in b) above.
499. In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM3.1_p = \text{Severity 3, Severity 4 and Severity 5 Incidents Closed which were Caused by a Change Release}$$

500. The duration of the Performance Measurement Period shall be a calendar month.

8.7 PM7 Notification of Planned Maintenance events within required target

501. This Performance Measure measures the percentage of Planned Maintenance events, which are notified by the S1SP to DCC within the required notification target.
502. The S1SP shall submit a Planned Maintenance request to DCC for approval in accordance with the time scales defined in section Part C of Schedule 2.1 (DCC requirements), this time scale shall be the *Target Planned Maintenance Notice*.
503. DCC shall record Planned Maintenance events in the DCC Service Management System.
504. Planned Maintenance *Notice Period* shall be calculated as follows:
- the date the Planned Maintenance is due to begin; minus

b) the date the Planned Maintenance request is received by DCC.

505. Planned Maintenance *Notifications on Target* shall be the number of Planned Maintenance requests received where the Planned Maintenance *Notice Period* is more than or equal to the *Target Planned Maintenance Notice*.

506. In respect of each Performance Measurement Period (pq), the Service Level for the Performance Measure shall be calculated as follows:

$$PM7_p = 100 \times \left[\frac{PNMT_{pq}}{PME_{pq}} \right] \%$$

Where:

$PNMT_{pq}$ = the number of Planned Maintenance *Notifications on Target*

PME_{pq} = the number of Planned Maintenance requests received by DCC.

507. The duration of the Performance Measurement Period shall be a calendar quarter.

9 Dual Control Organisation (security) Performance Measures

9.1 Scope

- 508.** The Reported List of Service Provider Performance Measures includes a subset of the SMETS 1 Services Provider (S1SP) Performance Measures.
- 509.** Table 14 lists the DCO Performance Measures on the Reported List of Service Provider Performance Measures.

Service Provider Contractual Reference	Performance Measure Title	Category	Service Measure / KPI
2.1	Percentage Service availability – DCC Data Service (Production Services)	%Time	SM
3.1	Number of Severity Level 1 or 2 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release	Events	SM
3.2	Number of Severity Level 3, 4, or 5 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release	Events	SM
7	Notification of Planned Maintenance events within required target	Events	KPI

Table 14 Reported List of Service Provider Performance Measures – DCO Scope

9.2 PM 2.1 Percentage Service availability – DCC Data Service (Production Services)

- 510.** The *DCC Data Service* means the systems and communications required to provide for the processing of Service Requests, Pre-Commands, Commands, Service Responses and Alerts and the holding or using of Registration Data.
- 511.** Provision of the *DCC Data Service* is an activity that is performed over a period of time.
- 512.** The availability of the components making up the *DCC Data Service*, covering associated S1SP servers, interfaces and networks, shall be monitored in real-time by an infrastructure monitoring tool in accordance with Good Industry Practice.
- 513.** Any component unavailability will be automatically alerted to the Service Provider and where this results in an Incident an Incident shall be recorded in the DCC Service Management System; an example where component unavailability would not result in an Incident is where there is redundancy built into the infrastructure and a system 'fail over' has occurred to a back-up component.

- 514.** Periods of unavailability of the *DCC Data Service* shall be recorded in the DCC Service Management System in accordance with the Incident Management Policy.
- 515.** The *Unscheduled Downtime* of the *DCC Data Service* shall be calculated as follows:
- a) the number of complete minutes where the *DCC Data Service* is unavailable for Service Request processing; minus
 - b) the number of minutes of down time due to agreed Planned Maintenance.
- 516.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM2.1_p = 100 \times \left(1 - \left[\frac{UDDDS_p}{RT_p} \right] \right) \%$$

Where:

$UDDDS_p$ = the *Unscheduled Downtime* of the *DCC Data Service* in minutes
 RT_p = the number of minutes within the Performance Measurement Period.

- 517.** The duration of the Performance Measurement Period shall be a calendar month.

9.3 PM3.1 Number of Severity Level 1 or 2 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release

- 518.** This Performance Measure measures the number of Severity Level 1 or 2 Incidents directly related to a *Change Release* occurring within 30 days of the *Change Release*.
- 519.** This Performance Measure measures Incidents which are closed in the Performance Measurement Period.
- 520.** DCC shall record each *Change Release* in the DCC Service Management System.
- 521.** DCC shall log each Incident in the DCC Service Management System and record the relationship between the Change Release and Incident.
- 522.** *Severity 1 and Severity 2 Incidents Caused by a Change Release* shall be Incidents:
- a) categorised as Category (Severity) 1 or Category (Severity) 2 at the point of resolution; and
 - b) where the cause of the Incident was determined to be an issue with a *Change Release*; and
 - c) which have occurred within 30 days of the date of the *Change Release* identified in b) above.

523. In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM3.1_p = \text{Severity 1 and Severity 2 Incidents Closed which were Caused by a Change Release}$$

524. The duration of the Performance Measurement Period shall be a calendar month.

9.4 **PM3.2 Number of Severity Level 3, 4 or 5 Incidents directly related to a Change Release occurring within 30 days of release of the Change Release**

525. This Performance Measure measures the number of Severity Level 3, 4 or 5 Incidents directly related to a *Change Release* occurring within 30 days of the *Change Release*.
526. This Performance Measure measures Incidents which are closed in the Performance Measurement Period.
527. DCC shall record each *Change Release* in the DCC Service Management System.
528. DCC shall log each Incident in the DCC Service Management System and record the relationship between the Change Release and Incident.
529. *Severity 3, Severity 4 and Severity 5 Incidents Caused by a Change Release* shall be Incidents:
- a) categorised as Category (Severity) 3, Category (Severity) 4, or Category (Severity) 5 at the point of resolution; and
 - b) where the cause of the Incident was determined to be an issue with a *Change Release*; and
 - c) which have occurred within 30 days of the date of the *Change Release* identified in b) above.
530. In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM3.1_p = \text{Severity 3, Severity 4 and Severity 5 Incidents Closed which were Caused by a Change Release}$$

531. The duration of the Performance Measurement Period shall be a calendar month.

9.5 **PM7 Notification of Planned Maintenance events within required target**

532. This Performance Measure measures the percentage of Planned Maintenance events, which are notified by the S1SP to DCC within the required notification target.

- 533.** The S1SP shall submit a Planned Maintenance request to DCC for approval in accordance with the time scales defined in section Part C of Schedule 2.1 (DCC requirements), this time scale shall be the *Target Planned Maintenance Notice*.
- 534.** DCC shall record Planned Maintenance events in the DCC Service Management System.
- 535.** Planned Maintenance *Notice Period* shall be calculated as follows:
- the date the Planned Maintenance is due to begin; minus
 - the date the Planned Maintenance request is received by DCC.
- 536.** Planned Maintenance *Notifications on Target* shall be the number of Planned Maintenance requests received where the Planned Maintenance *Notice Period* is less than or equal to the *Target Planned Maintenance Notice*.
- 537.** In respect of each Performance Measurement Period (pq), the Service Level for the Performance Measure shall be calculated as follows:

$$PM7_p = 100 \times \left[\frac{PNMT_{pq}}{PME_{pq}} \right] \%$$

Where:

$PNMT_{pq}$ = the number of Planned Maintenance *Notifications on Target*

PME_{pq} = the number of Planned Maintenance requests received by DCC.

- 538.** The duration of the Performance Measurement Period shall be a calendar quarter.

10 Communication Service Provider Performance Measures (Vodafone)

10.1 Scope

- 539.** The Reported List of Communication Service Provider Performance Measures includes a subset of the SMETS 1 Services Provider (S1SP) Performance Measures.
- 540.** Table 15 lists the S1SP CSP Performance Measures on the Reported List of Service Provider Performance Measures.

Service Provider Contractual Reference	Performance Measure Title	Category	Service Measure / KPI
	Monthly availability of the radio network across VF-UK network	%Time	KPI
	Combined monthly IoT Core and Management Service Availability	%Time	SM
	Monthly IoT Core availability (Voice/Data/SMS)	%Time	SM
	Monthly Management Service Availability (API, Reporting, Provisioning, GUI, Portal)	%Time	SM
	Monthly Availability of DCC dedicated fixed links	%Time	SM

Table 15 Reported List of Service Provider Performance Measures – S1SP CSP Scope

10.2 Monthly availability of the radio network across VF-UK network

- 541.** Details not available in contract
- 542.** The Percentage Availability of the S1SP radio network measures the amount of time, in any given Measurement Period, that the radio network is available to the DCC.
- 543.** The Contractor shall, as part of their Performance Monitoring Approach, record the number of minutes of radio network downtime, equal to the total number of minutes where the radio network is unavailable to the DCC.
- 544.** The Percentage Availability of the radio network shall be calculated as follows:

$$PM[TBC]_p = 100 \times \left(1 - \left[\frac{DRN_p}{RT_p} \right] \right) \%$$

Where:

DRN_p = the *Downtime* of the radio network in minutes
 RT_p = the number of minutes within the Performance Measurement Period.

- 545.** The duration of the Performance Measurement Period shall be a calendar month.

10.3 Combined monthly IoT Core and management service availability

- 546.** Details not available in contract
- 547.** The Percentage Availability of the S1SP management service measures the amount of time, in any given Measurement Period, that the management service is available to the DCC.
- 548.** The Contractor shall, as part of their Performance Monitoring Approach, record the number of minutes of management service downtime, equal to the total number of minutes where the management service is unavailable to the DCC.
- 549.** In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM(TBC) = 100 \times \left(1 - \left[\frac{UDMP_p \times nIS}{RT_p \times nS} \right] \right) \%$$

$UDMP_p$ = the Inability for active SIMs to be able to use any of the Data/Voice/SMS and management provisioning/reporting services (Data/SMS/Voice and management provisioning/reporting unavailability)
 nIS = number of active SIM(s) impacted by the issue (using or not the service during the issue)
 nS = the number of active SIMs of all live customers
 RT_p = the number of minutes within the Performance Measurement Period.

- 550.** The duration of the Performance Measurement Period shall be a calendar month.

10.4 Monthly IoT Core availability (Voice/Data/SMS)

551. Details not available in contract

552. In respect of each Performance Measurement Period (p), the Service Level for the Performance Measure shall be calculated as follows:

$$PM(TBC) = 100 \times \left(1 - \left[\frac{UDSV_p \times nIS}{RT_p \times nS} \right] \right) \%$$

UDSV_p = the Inability for active SIMs to be able to use any of the Data/Voice/SMS services (Data/SMS/Voice unavailability)

nIS = number of active SIM(s) impacted by the issue (using or not the service during the issue)

nS = the number of active SIMs of all live customers

RT_p = the number of minutes within the Performance Measurement Period.

553. The duration of the Performance Measurement Period shall be a calendar month.

10.5 Monthly Management Service Availability (API, Reporting, Provisioning, GUI, Portal)

554. Details not available in contract

555. The Percentage Availability of the S1SP management service measures the amount of time, in any given Measurement Period, that the management service is available to the DCC.

556. The Contractor shall, as part of their Performance Monitoring Approach, record the number of minutes of management service downtime, equal to the total number of minutes where the management service is unavailable to the DCC.

557. The Percentage Availability of the management service shall be calculated as follows:

$$PM[TBC]_p = 100 \times \left(1 - \left[\frac{DMS_p}{RT_p} \right] \right) \%$$

Where:

DMS_p = the *Downtime* of the Management Service in minutes

RT_p = the number of minutes within the Performance Measurement Period.

- 558.** The duration of the Performance Measurement Period shall be a calendar month.

10.6 Monthly Availability of DCC dedicated fixed links

- 559.** Details not available in contract
- 560.** The Percentage Availability of the S1SP DCC dedicated fixed links measures the amount of time, in any given Measurement Period, that the Management Interface is available to the DCC.
- 561.** The Contractor shall, as part of their Performance Monitoring Approach, record the number of minutes of Management Service Downtime, equal to the total number of minutes where the Management Interface is unavailable to the DCC.
- 562.** The Percentage Availability of the Management Service shall be calculated as follows:

$$PM[TBC]_p = 100 \times \left(1 - \left[\frac{DFL_p}{RT_p} \right] \right) \%$$

Where:

DFL_p = the *Downtime* of the dedicated fixed links in minutes

RT_p = the number of minutes within the Performance Measurement Period.

- 563.** The duration of the Performance Measurement Period shall be a calendar month.

11 Performance Indicators

564. SEC H13.5A and SEC H13.5B allow the Panel to establish Performance Indicators that the DCC shall report on and include in the PMM and PMR.

565. Table 16 lists the Performance Indicators established by the Panel.

<u>Performance Indicator</u>	<u>Relevant performance Indicator</u>	<u>Category</u>	<u>Service Provider</u>
<u>1</u>	<u>Performance against the times set out in the DCC's Power Outage & Restoration Alerts Delivery Management Document</u>	<u>Events</u>	<u>CSP</u>

Table 16 Panel determined Performance Indicators.

11.1 Performance against the times set out in the DCC's Power Outage and Restoration Alerts Delivery Management Document

566. As required under SEC H3.14B, the methodology for these measures is contained in the Power Outage & Restoration Alerts Management Document, which can be found on the DCC website. Note that the performance reported will be based on Round Trip Time. Also note that any changes to the Power Outage & Restoration Alerts Management Document must undergo industry consultation and receive SEC Panel approval before implementation.

567. The DCC will report these measures as described in the Power Outage & Restoration Alerts Management Document which can be found on the DCC website.

4112 Governance

~~564.568.~~ The DCC shall manage the Performance Measurement Methodology in accordance with section H13.6 of the SEC and in order to fulfil these obligations the DCC shall take the steps outlined in the paragraphs below.

~~565.569.~~ The DCC shall distribute the Performance Measurement Methodology as directed by section H13.6 of the SEC.

~~566.570.~~ Prior to first publication of, (and any subsequent modification to) the Performance Measurement Methodology the DCC shall:

- a) undertake reasonable consultation with the Panel, Parties and the Authority regarding its content or any proposed modification thereto;
- b) give due consideration to, and take into account, any consultation responses received; and
- c) publish a statement of its reasons for including or modifying content, as applicable, together with copies of any consultation responses received that are not marked as confidential.

~~567.571.~~ The DCC shall publish the initial Performance Measurement Methodology and any subsequently modified versions as soon as reasonably practicable following the completion of the activities set out in clause ~~570570566.~~

Appendix A – Interpretation

568-572. The following terms shall be interpreted in accordance with the provisions in the Smart Energy Code (SEC):

1. Acknowledgement
2. Alert
3. Authority
4. CH Fault Diagnosis
5. Code Performance Measure
6. Command
7. Coverage Area
8. DCC Gateway Connection
9. DCC Internal Systems
10. DCC Service Provider
11. Delivery Date
12. Delivery Window
13. Device
14. Future-Dated Services
15. Good Industry Practice
16. HAN
17. HAN Interface
18. Installation Location
19. Installation Point
20. Incident Category
21. Minimum Service Level
22. Panel
23. Party
24. On-Demand Services
25. Performance Measurement Methodology
26. Performance Measurement Period
27. Performance Measures
28. Planned Maintenance
29. Region
30. Registration Data
31. Registration Data Interface
32. Relevant Anomaly Detection Threshold
33. Reported List of Service Provider Performance Measures
34. Scheduled Service Requests
35. Self-Service Interface
36. Service Level
37. Service Level Requirements
38. Service Provider Performance Measures
39. Service Request
40. Service Response
41. SM WAN
42. SM WAN Coverage Database
43. Smart Meter

44. Smart Meter Inventory (or SMI)
45. SMKI Services
46. SMI Status
47. SMKI Repository
48. SMKI Repository Interface
49. SMKI Repository Interface Design Specification
50. SMKI Repository Service
51. SM WAN Coverage Database
52. Target Availability Period
53. Target Resolution Time
54. Target Response Time
55. Target Service Level
56. Testing Service

569-573. The following terms shall be interpreted in accordance with the relevant DCC Service Provider contract and is reproduced here for reference:

- | | |
|--|---|
| 1. Category 2 HAN Interface Commands | means a specific Meter-Scheduled Service Response as defined in the DCC Service Provider contracts (CSP) |
| 2. Category 3 Alerts | means a subset of Alerts as defined in the DCC Service Provider contracts (CSP) |
| 3. Communications Service Provider (or CSP) | means the provider of communications services as defined in the Agreement for the provision of communications services in relation to the Smart Metering Programme. |
| 4. Communications Service Provider – North Region (or CSPN) | means the Communications Service Provider for the North Region. |
| 5. Communications Service Provider – Central and South Regions (or CSPC/S) | means the Communications Service Provider for the Central and South Region. |
| 6. Controlled Market Start-up | means a controlled service delivery involving volume deployment constraint during the Initial Mass Roll Out Phase. |
| 7. Data Service Provider (or DSP) | means the provider of data services as defined in the Agreement for the provision of data services in relation to the Smart Metering Programme. |

8. DCC Data System(s) means the software used by or on behalf of the DSP to satisfy the functional and non-functional, interface and security requirements for the Services together with all systems and process documentation, toolsets and parts of DSP CMDDB relating to such software or the use of such software.
9. DCC Enterprise Systems Interface means the connection point(s), supplied by the between [sic] the DCC and the Prime DSP that shall enable the flow of data that passes into the DCC's enterprise systems between the DCC and Prime DSP, and the link which shall be supplied by the DSP.
10. DCC Service Management System means the service management system the DSP shall design, build, test, and operate on behalf the DCC, which meets the requirements for the DCC Service Management System detailed in Schedule 2.1 (*of the DSP Contract*).
11. DCC Service Management System Interface (or CSP Service Management System Interface) means the connection point(s), supplied by the DSP, between the DCC Service Management System and the DSP Solution and that allows External Service Providers to send and receive Service Management information from the DCC Service Management System, and the link supplied by the DCC Service Provider making the connection.
12. DCC User Gateway (or DCC User Interface) means the connection point(s), supplied by the DSP, between the DCC Data Systems and *DCC Service Users* and the link, supplied by the DSP that connects the DCC Data Systems and *DCC Service Users*.
13. DCC WAN Gateway (or DCC SM WAN Gateway) means each connection point, supplied by the CSP (which shall also be operated by the CSP) between the DCC Data Systems and the Systems of each CSP that allows data to be transferred between the DSP and such CSPs and the link supplied by the relevant CSP that connects the DCC Data systems and *DCC Service Users*.
14. DCC WAN Gateway Interface (or DCC SM WAN Gateway Interface) has the same meaning as DCC WAN Gateway.

15. HAN Interface Command	means a message with a payload formatted in line with the protocols defined in the GB Companion Specification from time to time (including messages generated by Service Requests and sent to Smart Meter Devices).
16. Initial Mass Roll Out Phase	mean the phase that continues for so long as any <i>DCC Service Users</i> or part of the Territory in connection with which the CSP provides Services is subject to initial volume deployment constraint under Controlled Market Start-up ("CMSU").
17. Registration System Interface	means the connection point(s), supplied by the DSP, between the DCC Data Systems and industry registration systems (for both the electric and gas industries) and the link, which will be supplied by the DSP.
18. Release	means one or more changes to an IT service that are built, tested and deployed together. A single release may include changes to hardware, software, documentation, processes and other components.
19. Relevant Service Measure	has the meaning provided in section 14 of this document.
20. Round Trip Time 2 or RTT2	means a target Round Trip Time of 22 hours as defined in the DCC Service Provider contracts (CSP)
21. Round Trip Time 3 or RTT3	means a target Round Trip Time of 2 hours as defined in the DCC Service Provider contracts (CSP)
22. Round Trip Time 4 or RTT4	means a target Round Trip Time of 25 seconds as defined in the DCC Service Provider contracts (CSP)
23. Unconstrained Mass Roll Out Phase	means a phase following the end of the Initial Mass Roll Out Phase, where the market moves to unconstrained rollout.
24. UTC	means Coordinated Universal Time (UTC).

570-574. The following terms are defined for the purposes of this document only:

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| 1. Activity Period | means the period of time over which the events or activities are to be measured. |
| 2. Allowed Exception | has the meaning provided in section 21 and 22 of this document. |
| 3. Attempted Communications Hub Installations | has the meaning provided in section 243 of this document. |
| 4. Attempted First Time Connections | has the meaning provided in section 192 of this document. |
| 5. Average Unscheduled Downtime | means the arithmetic mean of the <i>Unscheduled Downtime</i> of all components of a system or service, where the system or service comprises a collection of components and where an <i>Unscheduled Downtime</i> has been calculated for each component. |
| 6. CH First Time Connected Date | has the meaning provided in section b) of this document. |
| 7. CH First Time Installed Date | has the meaning provided in section 187 of this document for CSPN Performance Measures and section 292 of this document for CSPC/S Performance Measures. |
| 8. Change Release | has the same meaning as Release. |
| 9. Communication Hub Incident Resolved Remotely | has the meaning provided in section 281 of this document. |
| 10. Communications Hubs Successfully Installed In Coverage Area | has the meaning provided in section 218 of this document. |
| 11. DCC Data Service | has the meaning provided in section 108 of this document. |
| 12. DCC Service User | means User (SEC defined term). |
| 13. Delivered On Time Communications Hub | has the meaning provided in section 265 of this document. |

14. Exceptional Installation Point	to be finalised following agreement with CSPC/S.
15. Exempted Communications Hubs	has the meaning provided in section 220 of this document.
16. Exempted Lost Connectivity	has the meaning provided in section 221 of this document.
17. Externally Exposed Test Environment	means a set of DCC systems and interfaces made available by the Data Service Provider to DCC to support the Testing Services as defined in SEC Section H14.
18. Externally Exposed Test Services	means the Testing Services provided through the <i>Externally Exposed Test Environment</i> .
19. First Time Connections Achieving Connectivity within 30 Days	has the meaning provided in section 202 of this document.
20. First Time Connections Achieving Connectivity within 90 Days	has the meaning provided in section 208 of this document.
21. Han Interface Command	means the interface command associated with the relevant Service Request.
22. Inaccurate Coverage Database Prediction	has the meaning provided in section 245 of this document.
23. Individual SMKI Repository Interface	means one of the interfaces that comprise the SMKI Repository Interface as defined in the SMKI Repository Interface Design Specification.
24. Isolated Power Loss Event	has the meaning provided in section 254 of this document.
25. Installation Exception	means where the User failed to correctly follow the agreed installation process as defined in the Communications Hub Installation and Maintenance Support Materials (CHIMSM)
26. Lodged Repository Document	means any document of the type listed in definition of The SMKI Repository in SEC Section L5.1 that is stored within the SMKI Repository.

27. Lost Connectivity	has the meaning provided in section 219 of this document.
28. Notice Period	means the time period, prior to or following an event, between the event occurrence and the notification to the DCC of the event occurrence.
29. Notifications on Target	means the number of occurrences where the DCC are notified of an event within the <i>Notice Period</i> .
30. Performance Measure Exceptions List (PMEL)	has the meaning provided in section 25 of this document.
31. PM2.5 Interface	has the meaning provided in section 141 of this document.
32. Power Outage Event Window	means a unique 3 minute period of time with a meaning provided in section 5.8.
33. Pre-Commands	has the meaning provided by the GBCS.
34. Remotely Fixable Communications Hubs Incident	has the meaning provided in section 282 of this document.
35. Round Trip Time	means the time taken from the transmission of the outgoing communication to the receipt of the response communication.
36. Service Measure	has the same meaning as Service Provider Performance Measure.
37. Small Power Loss Event	has the meaning provided in section 356 of this document.
38. Successful First Time Connection At Install	has the meaning provided in section 187 of this document.
39. Target Availability Period	means period of time during the Performance Measurement Period on which that activity would have been performed if it had been performed in accordance with the relevant Service Level Requirement,
40. Target Planned Maintenance Notice	has the meaning provided in section 168 of this document.
41. Test HAN Interface Command	means a <i>Test HAN Interface Command</i> with a median size of 262.5 Bytes.

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| 42. Unscheduled Downtime | means the downtime of a system or service within <i>Core Service Hours</i> and beyond the scope of any periods of Planned Maintenance. |
| 43. Unsuccessful First Time Connection At Install | has the meaning provided in section 191 of this document. |