

Annex 1 to Data Communications Company (DCC): Regulatory Instructions and Guidance – Quality of Service Information

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Overview:

This document sets out the regulatory instructions and guidance for DCC's reporting of Quality of Service Information. The information reported is used to determine the outcomes of DCC's Operational Performance Regime.

This document is ancillary to the main Regulatory Instructions and Guidance (RIGs), and should be treated as Annex 1 to that document. Quality of Service Information should be submitted annually by the 31 July, from Regulatory Year 2018, alongside the main Price Control RIGs submission until the end of the Licence term.

Associated documents

- Decision on Operational Performance Regime
https://www.ofgem.gov.uk/system/files/docs/2017/09/1_decision_on_dcc.pdf
- Direction to populate Schedule 4 2017
<https://www.ofgem.gov.uk/system/files/docs/2017/09/direction.pdf>
- DCC Regulatory Instructions and Guidance 2017
<https://www.ofgem.gov.uk/publications-and-updates/data-communications-company-dcc-regulatory-instructions-and-guidance-2017>

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1. Introduction

1.1. This document sets out Quality of Service Reporting requirements. As set out in the executive summary of the Price Control RIGs document, we require this information to monitor and make determinations on incentives and outputs placed on DCC. The information required here must be submitted annually by the 31st July as part of DCC's price control RIGs submission.

1.2. Information from the Quality of Service Information¹ reporting will be used to make determinations on DCC's Operational Performance Regime (OPR), which also may include publication, or distribution to SEC parties, of some information as a reputational incentive. The Quality of Service RIGs should be treated as an Annex of the price control RIGs document.

1.3. As well as monitoring incentives and outputs, the information reported by DCC is used to determine BMOPA (Baseline Margin Operational Performance Adjustment) under the OPR.

1.4. This document is accompanied by a Quality of Service reporting template, which requires the Licensee to report their performance on different outputs. This document is structured to be read alongside the template, in the order of the sheets left-to-right in the template workbook.

1.5. The document is structured as follows:

- Chapter 2 – How the reporting template implements the OPR
- Chapter 3 – General information in the upfront sections of the reporting template
- Chapter 4 – DCC's reporting requirements and template calculations on sheets: i. Summary, ii. Directed Values, iii. Service Levels, iv. Incentive Calculations.
- Chapter 5- DCC's reporting requirements and template calculations for each performance measure. Sheets v. – xi.
- Chapter 6 – DCC's reporting requirements of additional information. Sheets xii. – xvi.

¹ As defined in Condition 31 of the Smart Meter Communication Licence



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- Chapter 7 – Qualitative questions. Accompanying explanation and evidence the Licensee needs to provide.

The reporting template includes space for the Licensee to report performance up until the end of the licence term. The Licensee is only required to report on past performance, up until the submission for the relevant Regulatory Year. For the avoidance of doubt, there is no requirement to forecast future performance.

2. Reporting for the OPR

This chapter sets out how the Quality of Service reporting relates to Authority determinations on DCC’s Operational Performance Regime.

The role of Quality of Service reporting in the OPR

2.1. The Authority consulted and decided on the framework of the OPR in September 2017². The Quality of Service RIGs is where DCC reports on their performance against measures in the OPR. The reporting template then calculates how DCC’s performance will affect the value of BMOPA for that Regulatory Year. BMOPA is a value that is included in the Allowed Revenue formula in the Licensee’s price control framework.

2.2. The reporting template calculates BMOPA to provide transparency on how it is calculated from the Licensee’s performance. However when making final determinations on the OPR, the Authority also may need to take certain factors into account in determining the value of BMOPA. This would only be the case if there were material concerns with accuracy, reliability or errors in reporting. For example:

- Any errors in calculations or values in the RIGs or the Licensee’s submission.
- An unsatisfactory response from the Licensee to qualitative questions relating to quality assurance.
- Issues raised in reports from any independent audits.

2.3. If the Authority does have concerns, it will review the reporting submitted by the Licensee and determine if the information provided is accurate and reliable enough to be used to calculate BMOPA. We may require additional information or assurance from the Licensee. If the Authority is still not assured that reporting is of an acceptable quality, any unreliable or inaccurate data may be discounted or revised.

How the reporting template calculates OPR formulas

² <https://www.ofgem.gov.uk/publications-and-updates/decision-dcc-s-operational-performance-regime>

2.4. The OPR framework consists of a number of formulas to ultimately calculate BMOPA, which is reflected in the Quality of Service reporting.

Step 1: Calculating the incentives. Formulas to calculate performance incentives (Target and Minimum Performance Level Incentives – TPLI, MPLI) are set out in the OPR direction. Performance Level incentives are calculated in sheet iv (Incentive Calculations), using values from sheet ii (Directed Values). See Chapter 4.

For each performance measure:

$$TPLI_t = BM(OPR)_t \times PMW_t$$

$$MPLI_t = TPLI_t \times Y_t$$

Where the values of PMW_t and Y_t are set in the OPR Direction. The calculation of $BM(OPR)_t$ is set out in Table 3 of the OPR Direction.

2.5. Definitions of algebraic terms are also included in Appendix 2 of this document.

Step 2: Calculating performance levels. The reporting template calculates Reported, Minimum and Target Performance Levels for each Performance Measure. These are calculated for each measure on the relevant Performance Measure sheet (v.-xi.), in the 'Variables' and 'Inputs' sections. See Chapter 5 and Appendix 3.

Step 3: Calculating performance measure value. Performance incentives (MPLI, TPLI) are then used in each Performance Measure along with the RPL, MPL and TPL to calculate the value of the Performance Measure (n_t) - ie SUM1, SUM2 and so on³. These formulas are set out in the OPR Direction. This is also calculated on the relevant Performance Measure sheet (v.-xi.) in the 'Performance calculations' and 'Performance against levels' sections. See Chapter 5 and Appendix 3.

- I. If $RPL \geq TPL$ then $n_t = \text{Zero}$
- II. If $RPL < MPL$ then $n_t = - TPLI_{nt}$
- III. If $RPL = MPL$ then $n_t = - (TPLI_{nt} - MPLI_{nt})$

³ As explained in Chapter 5, SDM1 has an additional condition in calculating the Performance Measure value.

IV. If $MPL < RPL < TPL$ then:

$$n_t = - [1 - ((RPL_{nt} - MPL_{nt}) / (TPL_{nt} - MPL_{nt}))] * [TPL_{nt} - MPL_{nt}]$$

Step 4: Calculating BMOPA. The BMOPA calculation is set out in the Smart Meter Communication Licence. This is the sum of all Performance Measures. Performance against each measure is set out in the Summary sheet (i.) and totalled to calculate BMOPA for each year.

$$BMOPA_t = [SUM 1-4] + [SDM 1-4] + [DIM 1-4] + [VMM 1-4]$$

Additional reporting

2.1. As well as measures attached to monetary incentives, the Licensee is also required to submit Additional Reporting. This is for monitoring purposes and can be reported to wider industry as a reputational incentive⁴.

Role of Qualitative Questions

2.2. The Licensee will also need to answer a series of qualitative questions set out in Chapter 7. The purpose of these is to:

- Provide the Authority and other interested parties (through the price control consultation process) with reasons for any performance issues. It also allows the Licensee to explain why any issues occurred, and any mitigations or fixes it is undertaking for the future.
- Provide assurance as to the accuracy, reliability and quality of the data submitted.
- Understand if, and how much, reporting was excluded from measures due to exceptional events⁵ as outlined in the Licensee's Performance Measure Exceptions List or in Section M3 of the SEC (Smart Energy Code).

⁴With consideration for commercial sensitivities

⁵ For the purposes of this document, by exceptional events we mean incidents or events that have been excluded from, or considered allowed exceptions to, DCC's Performance Measurement Reporting (where the measures are relevant to the OPR), for example because they are on DCC's Performance Measurement Exceptions List or fall under Section M3 of the SEC.

3. Specified Information- Front Matter, Summary, Directed Values and Service Levels

3.1. Similarly to the main RIGs documents, the General Specified Information covers sign off procedures, logs and universal data requirements. They consist of the first 5 unnumbered sheets in the reporting template. The first four numbered sheets (i.-iv.) set out either inputs or outputs of the BMOPA calculation.

Contents and guidance

3.2. This sheet sets out a list and description of the sheets included in the Quality of Service reporting template. It also sets out a colour coded key for the workbook.

Sign Off, Formula change log, Data change log, Universal data

3.3. These sheets should be completed in the same manner as those with the same name set out in the Price Control RIGs.

Summary (sheet i.)

Purpose: Summarises performance against Performance Measures and the subsequent value of BMOPA.

3.4. This sheet consists of two sections. It summarises the outputs of the reporting template, and does not require any inputs from the Licensee.

3.5. The first section sets out the final value of BMOPA by summing the values of the Service User, Service Delivery, Development and Improvement and Value for Money Measures. These values are drawn from the second section of this sheet.

3.6. This first section is in the same format as the 'Formula B' section in Revenue Reporting sheet (3) in the Price Control RIGs reporting template. The final values in the Quality of Service RIGs should be entered in this section of the Price Control RIGs reporting template.

3.7. The second section summarises the Licensee's performance, as calculated on the respective Performance Measure sheet (sheets v.-xi.).

Directed Values (sheet ii.)

Purpose: Input values directed by the Authority that determine a) the distribution of the margin at risk across Performance Measures (PMW) and b) the proportion retained for reaching Minimum Performance Levels (Y).

3.8. The values in this sheet are required to reflect the values directed by the Authority. The Licensee needs to ensure the values reflect those most recently directed by the Authority.

3.9. The first section is the Performance Measure Weighting (PMW). This is the percentage of BM (OPR) at risk under each Performance Measure.

3.10. The second section is the Proportion of Target Performance Level Incentive (TPLI) the Licensee is awarded for meeting Minimum Performance Level (MPL) - represented by Y. This sets how much of the margin at risk under each Performance Measure the Licensee can recover for meeting MPL for each Performance Measure.

3.11. These values are used to calculate TPLI and MPLI on sheet iv. Incentive Calculations.

Service Levels (sheet iii.)

Purpose: Input of related service levels and milestones.

3.12. This sheet requires the Licensee to input relevant service levels and milestones from relevant documents. These documents are:

- Statement of Service Exemptions⁶ that has been approved by the Authority and published on the Licensee's website.
- Section H of the Smart Energy Code⁷.
- Service Provider Performance Measures, as set out in the Data and two Communications Service Providers' contracts.

3.13. Appendix 3 references the measures in these above documents relevant to reporting in these RIGs.

⁶ As defined in Condition 17 of the Smart Meter Communication Licence

⁷ <https://www.smartenergycodecompany.co.uk/sec/sec-and-guidance-documents>

3.14. The values entered are required to equate to the corresponding values in the above documents as of 1 April of the reporting Regulatory Year, unless directed otherwise by the Authority.

3.15. These values are used to calculate TPL and MPL on the sheet calculating the related Performance Measure (sheets v.-xi.)

Incentive Calculations (sheet iv.)

Purpose: Calculates monetary incentives tied to each Performance Measure (TPLI and MPLI).

3.16. Part one of this sheet requires the Licensee to report Baseline Margin and Average Specified Rate values as reported in the main price control RIGs submission. The margin at risk for each regulatory year is redistributed according to the calculation of BM(OPR), the formula for which is set out by the Authority by direction.

3.17. Part two is the calculation of TPLI and MPLI per Performance Measure, calculated as set out by Authority direction. TPLI and MPLI values for each Performance Measure sheet (v.-xi.) draw from this sheet.

4. Specified Information- Performance Measures

4.1. These seven sheets (v.-xi.) calculate performance and consequential monetary values (n_t) for each Performance Measure. All seven sheets follow a similar structure. Therefore this chapter will set out this structure, and notes where there are any variations in this structure for particular measures.

Performance Measure calculations (sheets v.-xi.)

Purpose: To calculate the value of the relevant Performance Measure from the Licensee's reported performance

Inputs

4.2. The inputs for each measure correspond algebraically to the formulas set out in DCC's Performance Measurement Methodology⁸. This is the only section of these sheets in which the Licensee is required to report performance.

4.3. There are seven Performance Measures, which reflect different areas of DCC Service and Delivery outputs. This section sets out the general description of how performance is calculated. Detail of the algebraic formulas are included in Appendix 3:

- **SUM1: Service Desk**

4.4. The Licensee reports on the total number of category 1-5 incidents raised in the Regulatory Year (broken down into monthly periods) that the Licensee was responsible for resolving, and the number of these that were resolved within the Target Resolution Time. This is then expressed as RPL, as a percentage.

- **SUM2a: Communications Hubs (Delivery)**

4.5. The Licensee reports on the number of Communications Hubs scheduled to be delivered in the Regulatory Year (broken down into monthly periods, by

⁸ This document is available to SEC party members via the DCC.

each CSP), and the number of these that were delivered on time. This is then expressed in RPL as a percentage.

- **SUM2b: Communications Hubs (Quality – User accepted)**

4.6. The Licensee reports the number of Communication Hubs delivered to Users during the Regulatory Year (broken down into monthly periods, by each CSP), and of these the number that were accepted by Users. This is then expressed in RPL as a percentage.

- **SUM2c: Communications Hubs (Quality – Not faulty)**

4.7. The Licensee reports the number of Communications Hubs attempted to be installed in the Regulatory Year (broken down into monthly periods, by each CSP), and the number of those determined to be faulty (due to a CSP fault). This is then expressed in RPL as a percentage.

- **SDM1: WAN (Wide Area Network) Connectivity**

4.8. The Licensee reports on the number of first time attempts to connect to the WAN at install in the Regulatory Year (broken down into monthly periods, by each CSP), and of those the number that were successful. This is then expressed in RPL as a percentage. In addition to this, the Licensee must be able to report that all coverage milestones that fall in the Regulatory Year set out in the Statement of Service Exemptions have been met, or the negative value of TPLI automatically applies for SDM1. Note that this is reported by the DCC in sheet iii. Performance Levels.

- **SDM2: Service Requests**

4.9. The Licensee reports the number of each type of service request related measure (On-Demand, Future Dated and Alert) during the Regulatory Year (broken down into monthly periods). They also report their performance against each of these as a percentage achievement of target response times. The total number of service requests is then calculated, and the performance percentage for each service type is weighted and then combined. This weighted and combined performance is then totalled to calculate RPL.

- **SMD3: Service Availability**

4.10. The Licensee reports on the number of unscheduled minutes of downtime of each of four services (Data Service, User Interface, Service Management System and Self Service Interface) in the Regulatory Year (broken down into monthly periods). This is then totalled and compared to the number of minutes the service should have been running in the Regulatory Year (four times the number of minutes in the Regulatory Year). RPL is then calculated as the percentage of time there was *not* unscheduled downtime (ie one minus the percentage of unscheduled downtime).

Variables - Reported, Minimum and Target Performance Levels (RPL, MPL and TPL)

4.11. RPL (Reported Performance Level) is calculated on each performance measure sheet. It is a percentage, calculated from the inputs for each individual measure – see Inputs section above.

4.12. TPL and MPL are calculated using inputs from sheet iii (Performance Levels). These inputs correspond to the minimum and target service levels for relevant SEC and Service Provider Performance Measures. Where an OPR Performance Measure draws upon more than one related SEC or Service Provider Performance Measure, MPL and TPL values are weighted to ensure there is consistency in the level of service the Licensee is measured against.

Performance against levels

4.13. This section reflects the calculation of the four potential formulas set out by direction by the Authority to calculate n_t .

4.14. The 'performance against measure' section identifies the relevant formula (I.-IV.). This is reflected in a TRUE/FALSE against each formula. Only one formula should read 'TRUE' for each Regulatory Year.

Performance calculations

4.15. This section calculates the monetary value of each Performance Measure (n_t). This reflects the second half of the four formulas included in the OPR Direction.

4.16. Note that SDM1 has an additional condition for calculating the value of SDM1. This is a TRUE/FALSE condition reflecting whether they met the milestones set out in sheet iii – Performance Levels. This value must read 'TRUE' or the total margin at risk for that measure is lost (Performance Measure value is -TPLI).

Charts

Each Performance Measure has a series of charts to illustrate performance against the incentive structure over the duration of the Licence.

5. Specified Information- Additional Reporting

5.1. The Licensee is also required to report further information on their performance and quality of service. This is referred to as Additional Reporting. If the Licensee is unable to provide reporting, either for all or part of the year, this should be explained in answer to qualitative question 4.

Additional reporting (sheet xii.-xv.)

5.2. Additional reporting requires more granular or further relevant detail relating to the performance measures described in the previous chapter. There are built in checks to ensure this is consistent with reporting under other relevant parts of the template.

- **SUM1 – additional reporting (sheet xii.)**

5.3. This requires a breakdown of the number of incidents raised and resolved in the Target Resolution Time by categories 1-5 within the Regulatory Year.

- **SUM2 – additional reporting (sheet xiii.)**

5.4. This requires a breakdown of Communication Hubs within the Regulatory Year that were:

1. Scheduled for delivery and, of those, delivered on time
2. Delivered and, of those, accepted by Users
3. Attempted to be installed and, of those, found to be to subject to a CSP fault

5.5. Each of these then needs to be broken down by CSP and Communications Hub manufacturer.

- **SDM1 –additional reporting (sheet xiv.)**

5.6. This requires a breakdown for each month of the Regulatory Year:



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1. Number of successful first time installs achieving connectivity within 30 days (North region only)
2. Number of successful first time installs achieving connectivity within 90 days

5.7. Each of these is broken down by CSP.

- **SDM2 – additional reporting (sheet xv.)**

5.8. The Licensee is required to provide, for each Service Reference Variant (SRV) in the Regulatory Year:

1. The number of incidents of each SRV
2. The percentage of each Service Reference Variant delivered within Target Response Time

6. Qualitative questions

6.1. This chapters sets out the qualitative questions the Licensee is required to answer. These can be set out in supporting documents as part of Quality of Service reporting.

1. Where the Licensee has not reached the TPL for any Performance Measure please provide a narrative which explains:
 - a) Any reasons why the Licensee was prevented from reaching TPL
 - b) Any actions or plans to remedy or achieve the TPL in the future.

Why are we asking question 1?

We will use responses to these questions to monitor DCC performance over time and inform any potential future policy changes. Any response to this question will not impact price control determinations (ie the value of BMOPA).

2. Provide a description and supporting evidence of the processes in place to quality assure reporting submitted to the Authority. This may include:
 - a) Assurance the Licensee has undertaken on reporting received from their Service Providers
 - b) Internal policy processes and procedures
 - c) Independent auditor reports
 - d) Consistency with other related reporting (eg Smart Energy Code performance measures)
 - e) Appropriate senior level management and oversight of quality assurance processes.

Why are we asking question 2?

The Licensee needs to demonstrate that they have appropriately quality assured their Quality of Service RIGs submission. As explained in Chapter 2, an unsatisfactory response to this question could lead to the Authority requiring additional information or assurance from the Licensee. If the Authority is still not assured that reporting is of the required quality, any unreliable or inaccurate data may be discounted or revised.

3. Please provide an assessment of the number and percent of incidences that have been exempt from reporting due to being exceptional events. Please include:
 - a) Reasons events were excluded from performance reporting, and the number/percentage of exemptions that were for this reason
 - b) Any quality assurance undertaken to ensure that categorisation of incidences as exceptional events was correctly applied.

Why are we asking question 3?

The primary reason for asking this question is to monitor why reporting is excluded from performance reporting. This can also be used to inform any potential future policy on exceptional events. Similarly to question 4, if the Authority is not assured that the exceptional events policy has been applied correctly they may request further information, or review what the appropriate performance values should have been if the policy had been correctly applied.

4. Please specify if, and explain why, additional reporting is not complete, for example because reporting was only developed part way through the year.

Why are we asking question 4?

To understand any gaps or delays in additional reporting. Where there are challenges in providing this information, Ofgem recommends DCC discuss timescales, costs and benefits of this reporting with the SEC Panel Operations sub-group. We will take wider industry's views and priorities into account when considering DCC's explanation.

5. Where the Licencee considers any of the information provided to Ofgem should not be made public due to its sensitivity, please clearly advise upon submission why this is the case. The Authority will then consider it ahead of publication.

Appendix 1 – Glossary

A

Authority

The Gas and Electricity Markets Authority (GEMA).

C

Communications hub

A Device which complies with the requirements of CHTS and which contains two, logically separate Devices; the Communications Hub Function and the Gas Proxy Function.

Communications Service Provider (CSP)

Bodies awarded a contract to be a service provider of the DCC's communications services. Arqiva Limited and Telefónica UK Limited have been appointed to provide these services.

D

Data and Communications Company (DCC)

This is a company that manages the data and communications to and from domestic consumers' smart meters.

Data Services Provider (DSP)

Body awarded the contract to deliver systems integration, application management and IT hosting services to the DCC. CGI IT UK Limited has been appointed to provide these services.

Department for Business, Energy and Industrial Strategy (BEIS)

The UK government department responsible for business, industrial strategy, science, innovation, energy, and climate change.

R

Regulatory Instructions and Guidance (RIGs)

Provide the basis on which the Licensee must report price control information as required under the Smart Meter Communication Licence.

S

Smart Energy Code (SEC)

The SEC is a new industry code which is a multiparty agreement which defines the rights and obligations between the Data and Communications Company (DCC) and the users of its services Suppliers, network operators and other users of the DCC's services who will all need to comply with the Code.

Smart Meter Communication Licence

The Smart Meter Communication Licences granted pursuant to Sections 7AB(2) and (4) of the Electricity Act 1989 and Sections 6(1A) and (1C) of the Gas Act 1986.

Service Reference Variant (SRV)

As listed in the SEC

O

Ofgem

Office of Gas and Electricity Markets

Q

Quality of Service Information

Means such of the Specified Information contained in any RIGs issued by the Authority under Condition 33 of the Smart Meter Communication Licence, as is required to be reported to the Authority in accordance with Condition 31, in such manner, to such extent, and subject to such further definition as may be set out in those RIGs.

Appendix 2 – Algebraic terms

List of Algebraic terms not defined in the Quality of Service reporting template.

- **BM(OPR)_t** – the amount of margin at risk for year t of the OPR
- **BMOPA** – Baseline Margin Operational Performance Adjustment (part of price control Allowed Revenue calculation)
- **DIM 1–4** – Development and Innovation Measures 1 to 4 (part of the BMOPA calculation)
- **MPL** – Minimum Performance Level
- **MPLI** – Minimum Performance Level Incentive (The margin allocated to a measure for reaching the MPL for that measure)
- **n** – the value of a specific performance measure
- **p** – the proportion of BM_t for RY 16/17 and 17/18 allocated equally across the three years RY18/19 to RY20/21.
- **PMW** – Performance Measure Weighting (ie the proportion of $BM(OPR)_t$ allocated to a measure)
- **RPL** – Reported Performance Level
- **SDM 1–4** – Service Delivery Measures 1 to 4 (part of the BMOPA calculation)
- **SUM 1–4** – Service User Measures 1 to 4 (part of the BMOPA calculation)
- **t** – the relevant Regulatory Year
- **TPL** – Target Performance Level
- **TPLI** – Target Performance Level Incentive (The margin allocated to a measure for reaching the TPL for that measure)
- **VMM 1–4** – Value for Money Measures 1 to 4 (part of the BMOPA calculation)
- **Y** – proportion of TPLI the Licensee is awarded for meeting MPL

Appendix 3 – Measure methodology (as modelled in the Quality of Service RIGs template)

Performance measure	Relevant DCC reporting measure	DCC's Performance Measurement equations p = Performance measurement period of a calendar month Algebraic terms in this column are defined in DCC's Performance Measurement Methodology	OPR equations (for each regulatory year) a = Annual Performance measurement period of a financial year pm = monthly performance period, where m expresses the month of the period (p) eg 1 = April, 2 = May... N - North C - Central S - South	Weighting performance between combined measures TSL – Target Service Level MSL – Minimum Service Level TPL – Target Performance Level MPL – Minimum Performance Level
SUM1 DCC service desk	SEC - CPM4	$100 \times \left(\frac{INCMT12_p}{INC12_p} \right) \% = CPM4_p$	$\sum_{m=1}^{12} (INCMT12_{pm} + INCMT345_{pm}) = INCMT12345_a$ $\sum_{m=1}^{12} (INC12_{pm} + INC345_{pm}) = INC12345_a$ $\frac{INCMT12345_a}{INC12345_a} = RPL_{SUM1}$	$TPL_{sum1} = \left(TSL_{CPM4} \frac{INC12_a}{INC12_a + INC345_a} \right) + \left(TSL_{CPM5} \frac{INC345_a}{INC12_a + INC345_a} \right)$ $MPL_{sum1} = \left(MSL_{CPM4} \frac{INC12_a}{INC12_a + INC345_a} \right) + \left(MSL_{CPM5} \frac{INC345_a}{INC12_a + INC345_a} \right)$
	SEC - CPM5	$100 \times \left(\frac{INCMT345_p}{INC345_p} \right) \% = CPM5_p$		
SUM2a Comms Hubs - Delivery	North CSP CH1.1	$100 \times \left(\frac{CHDOT_p}{CHD_p} \right) \% = CH1.1_p$	$\sum_{m=1}^{12} (CHDOT_{Npm} + CHDOT_{Cpm} + CHDOT_{Spm}) = CHDOT_a$	$TPL_{sum2a} = \left(TSL_{CH1.1N} \frac{CHSD_{Na}}{CHSD_{Na} + CHSD_{Ca} + CHSD_{Sa}} \right) + \left(TSL_{CH1.1C} \frac{CHSD_{Ca}}{CHSD_{Ca} + CHSD_{Na} + CHSD_{Sa}} \right) + \left(TSL_{CH1.1S} \frac{CHSD_{Sa}}{CHSD_{Ca} + CHSD_{Na} + CHSD_{Sa}} \right)$
	Central CSP CH1.1	$100 \times \left(\frac{CHDOT_p}{CHD_p} \right) \% = CH1.1_p$		

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	South CSP CH1.1	$100 \times \left(\frac{CHDOT_p}{CHD_p} \right) \% = CH1.1_p$	$\sum_{m=1}^{12} (CHSD^9_{Npm} + CHSD_{Cpm} + CHSD_{Spm}) = CHSD_a$ $\frac{CHDOT_a}{CHSD_a} = RPL_{SUM2a}$	$MPL_{sum2a} = \left(MSL_{CH1.1N} \frac{CHSD_{Na}}{CHSD_{Na} + CHSD_{Ca} + CHSD_{Sa}} \right) + \left(MSL_{CH1.1C} \frac{CHSD_{Ca}}{CHSD_{Ca} + CHSD_{Na} + CHSD_{Sa}} \right) + \left(MSL_{CH1.1S} \frac{CHSD_{Sa}}{CHSD_{Na} + CHSD_{Ca} + CHSD_{Sa}} \right)$
SUM2b Comms Hubs – Quality, User Accepted	North CSP CH1.2	$100 \times \left(\frac{CHA_p}{CHD_p} \right) \% = CH1.2_p$	$\sum_{m=1}^{12} (CHA_{Npm} + CHA_{Cpm} + CHA_{Spm}) = CHA_a$ $\sum_{m=1}^{12} (CHD_{Npm} + CHD_{Cpm} + CHD_{Spm}) = CHD_a$ $\frac{CHA_a}{CHD_a} = RPL_{SUM2b}$	$TPL_{sum2b} = \left(TSL_{CH1.2N} \frac{CHD_{Na}}{CHD_{Na} + CHD_{Ca} + CHD_{Sa}} \right) + \left(TSL_{CH1.2C} \frac{CHD_{Ca}}{CHD_{Ca} + CHD_{Na} + CHD_{Sa}} \right) + \left(TSL_{CH1.2S} \frac{CHD_{Sa}}{CHD_{Ca} + CHD_{Na} + CHD_{Sa}} \right)$ $MPL_{sum2b} = \left(MSL_{CH1.2N} \frac{CHD_{Na}}{CHD_{Na} + CHD_{Ca} + CHD_{Sa}} \right) + \left(MSL_{CH1.2C} \frac{CHD_{Ca}}{CHD_{Ca} + CHD_{Na} + CHD_{Sa}} \right) + \left(MSL_{CH1.2S} \frac{CHD_{Sa}}{CHD_{Ca} + CHD_{Na} + CHD_{Sa}} \right)$
	Central CSP CH1.2	$100 \times \left(\frac{CHA_p}{CHD_p} \right) \% = CH1.2_p$		
	South CSP CH1.2	$100 \times \left(\frac{CHA_p}{CHD_p} \right) \% = CH1.2_p$		

⁹ The term CHSD (Comms Hubs Scheduled for Delivery) is used in place of CHD, to distinguish the term from Comms Hubs Delivered (CHD) in SUM2b

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SUM2c Comms Hubs – Quality, Not Faulty	North CSP CH1.3	$100 \times \left(1 - \frac{CHF_p}{CHI_p}\right) \% = CH1.3_p$	$\sum_{m=1}^{12} (CHF_{Npm} + CHF_{Cpm} + CHF_{Spm}) = CHF_a$ $\sum_{m=1}^{12} (CHI_{Npm} + CHI_{Cpm} + CHI_{Spm}) = CHI_a$ $1 - \frac{CHF_a}{CHI_a} = RPL_{SUMc}$	$TPL_{sum2c} = (TSL_{CH1.3N} \frac{CHI_{Na}}{CHI_{Na} + CHI_{Ca} + CHI_{Sa}}) + (TSL_{CH1.3C} \frac{CHI_{Ca}}{CHI_{Ca} + CHI_{Na} + CHI_{Sa}}) + (TSL_{CH1.3S} \frac{CHI_{Sa}}{CHI_{Ca} + CHI_{Na} + CHI_{Sa}})$ $MPL_{sum2c} = (MSL_{CH1.3N} \frac{CHI_{Na}}{CHI_{Na} + CHI_{Ca} + CHI_{Sa}}) + (MSL_{CH1.3C} \frac{CHI_{Ca}}{CHI_{Ca} + CHI_{Na} + CHI_{Sa}}) + (MSL_{CH1.3S} \frac{CHI_{Sa}}{CHI_{Ca} + CHI_{Na} + CHI_{Sa}})$
	Central CSP CH1.3	$100 \times \left(1 - \frac{CHF_p}{CHI_p}\right) \% = CH1.3_p$		
	South CSP CH1.3	$100 \times \left(1 - \frac{CHF_p}{CHI_p}\right) \% = CH1.3_p$		
SDM1 DCC WAN coverage	North CSP PM 1.1	$100 \times \left(\frac{FTCI_p}{FTC_p}\right) \% = PM1.1_p$	$\sum_{m=1}^{12} (FTCI_{Npm} + FTCI_{Cpm} + FTCI_{Spm}) = FTCI_a$ $\sum_{m=1}^{12} (FTC_{Npm} + FTC_{Cpm} + FTC_{Spm}) = FTC_a$ $\frac{FTCI_a}{FTC_a} = RPL_{SDM1}$	$TPL_{sdm1} = (TSL_{NPM1.1} \frac{FTC_{Na}}{FTC_{Na} + FTC_{Ca} + FTC_{Sa}}) + (TSL_{CPM1.1} \frac{FTC_{Ca}}{FTC_{Na} + FTC_{Ca} + FTC_{Sa}}) + (TSL_{SPM1.1} \frac{FTC_{Sa}}{FTC_{Na} + FTC_{Ca} + FTC_{Sa}})$ $MPL_{sdm1} = (MSL_{NPM1.1} \frac{FTC_{Na}}{FTC_{Na} + FTC_{Ca} + FTC_{Sa}}) + (MSL_{CPM1.1} \frac{FTC_{Ca}}{FTC_{Na} + FTC_{Ca} + FTC_{Sa}}) + (MSL_{SPM1.1} \frac{FTC_{Sa}}{FTC_{Na} + FTC_{Ca} + FTC_{Sa}})$
	Central CSP PM 1.1	$100 \times \left(\frac{FTCI_p}{FTC_p}\right) \% = PM1.1_p$		
	South CSP PM 1.1	$100 \times \left(\frac{FTCI_p}{FTC_p}\right) \% = PM1.1_p$		

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SDM2 Core service requests	SEC-CPM1	$\frac{1}{n} \times \sum_{odrs m=1}^n ODSL_{p,odrs m} \% = CPM1_p$	$\sum_{m=1}^{12} (r_{CPM1_{pm}} + r_{CPM2_{pm}} + r_{CPM3_{pm}}) = n_a$ <p>r_a = the number of On-Demand, Future Dates and Alert Related relevant service requests in a year</p>	$\sum_{m=1}^{12} r_{CPM1_{pm}} = r_{CPM1a}$ $\sum_{m=1}^{12} r_{CPM2_{pm}} = r_{CPM2a}$ $\sum_{m=1}^{12} r_{CPM3_{pm}} = r_{CPM3a}$
	SEC-CPM2	$\frac{1}{n} \times \sum_{fdrsm=1}^n FDSL_{p,fdrsm} \% = CPM2_p$	$\frac{r_{CPM1_{pm}} + r_{CPM2_{pm}} + r_{CPM3_{pm}}}{r_a} = pm \text{ (Monthly)Weighting}$ <p>Average <i>monthly</i> performance:</p> $\sum_{m=1}^{12} \frac{CPM1_{pm}r_{CPM1_{pm}} + CPM2_{pm}r_{CPM2_{pm}} + CPM3_{pm}r_{CPM3_{pm}}}{(r_{CPM1_{pm}} + r_{CPM2_{pm}} + r_{CPM3_{pm}})} = CPM123_{pm}$	$TPL_{sdm2} = (TSL_{CPM1} \frac{r_{CPM1a}}{r_{CPM1a} + r_{CPM2a} + r_{CPM3a}}) + (TSL_{CPM2} \frac{r_{CPM2a}}{r_{CPM1a} + r_{CPM2a} + r_{CPM3a}}) + (TSL_{CPM3} \frac{r_{CPM3a}}{r_{CPM1a} + r_{CPM2a} + r_{CPM3a}})$
	SEC-CPM3	$\frac{1}{n} \times \sum_{arsm=1}^n ARSL_{p,arsm} \% = CPM3_p$	$\sum_{m=1}^{12} (CPM123_{pm} \times pm \text{ (Monthly)Weighting}) = W_{CPM123_{pm}}$ $RPL_{SDM2} = \sum_{m=1}^{12} W_{CPM123_{pm}}$	$MPL_{sdm2} = (MSL_{CPM1} \frac{r_{CPM1a}}{r_{CPM1a} + r_{CPM2a} + r_{CPM3a}}) + (MSL_{CPM2} \frac{r_{CPM2a}}{r_{CPM1a} + r_{CPM2a} + r_{CPM3a}}) + (MSL_{CPM3} \frac{r_{CPM3a}}{r_{CPM1a} + r_{CPM2a} + r_{CPM3a}})$

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SDM3 Service/ system availabili ty	DSP PM 2.1	$100 \times \left(1 - \frac{UDDDS_p}{RT_p}\right)\%$ $= PM2.1_p$	<p>Total unscheduled downtime:</p> $\sum_{m=1}^{12} (UDDDS_{pm} + AUDDUG_{pm} + UDSMS_{pm} + UDSSI_{pm}) = TUD_a$ $4 \times \text{Time in Regulatory Year} = RT_a$ $RPL_{SDM3} = 1 - \frac{TUD_a}{RT_a}$	$\sum_{m=1}^{12} UDDDS_{pm} = UDDDS_a$ $\sum_{m=1}^{12} AUDDUG_{pm} = AUDDUG_a$ $\sum_{m=1}^{12} UDSMS_{pm} = UDSMS_a$ $\sum_{m=1}^{12} UDSSI_{pm} = UDSSI_a$	
	DSP PM 2.2	$100 \times \left(1 - \frac{AUDDUG_p}{RT_p}\right)\%$ $= PM2.2_p$		$TPL_{SDM3} = \left(TSL_{PM2.1} \frac{UDDDS_a}{TUD_a}\right) + \left(TSL_{PM2.2} \frac{AUDDG_a}{TUD_a}\right) + \left(TSL_{PM2.3} \frac{UDSMS_a}{TUD_a}\right) + \left(TSL_{PM2.4} \frac{UDSSI_a}{TUD_a}\right)$	$MPL_{SDM3} = \left(MSL_{PM2.1} \frac{UDDDS_a}{TUD_a}\right) + \left(MSL_{PM2.2} \frac{AUDDG_a}{TUD_a}\right) + \left(MSL_{PM2.3} \frac{UDSMS_a}{TUD_a}\right) + \left(MSL_{PM2.4} \frac{UDSSI_a}{TUD_a}\right)$
	DSP PM 2.3	$100 \times \left(1 - \frac{UDSMS_p}{RT_p}\right)\%$ $= PM2.3_p$			
	DSP PM 2.4	$100 \times \left(1 - \frac{UDSSI_p}{RT_p}\right)\%$ $= PM2.4_p$			