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PSN CONNECTIVITY

APPENDIX 4

SERVICE LEVELS AND RELATED REMEDIES

1 INTRODUCTION

1.1 This Appendix 4 sets out:

1.1.1 how Service performance will be calculated (see Part A); and

1.1.2 the Service Level Targets and Service Credits (see Part B).

1.2 If a capitalised term or phrase used in this Appendix is not defined in this Appendix, it shall have the meaning as set out in Schedule 1 (Definitions) of the Call-Off Terms.

2 PART A: CALCULATION OF SERVICE PERFORMANCE PRINCIPAL OBJECTIVES

2.1 The objectives of the Service Measures, Service Credits and other related remedies are to:

2.1.1 ensure that the Services are of a consistently high quality and meet the Service Level Targets and other requirements of the Customers;

2.1.2 use Service Credits as a method of price adjustment to reflect poor performance in breach of the required Service Level Targets;

2.1.3 provide a mechanism whereby the Service Credit regime can evolve over the duration of the Framework Agreement and any Call-Off Contracts as the profile of Services change; and

2.1.4 incentivise the Contractor to meet the Service Level Targets and remedy any failure to meet the Service Level Targets promptly.

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2.2 The Parties acknowledge that:

- 2.2.1 Customers will, in all cases, prefer to receive the Services at the Service Level Target in preference to receiving the Service Credits; and
- 2.2.2 the Contractor shall, in all cases, seek to deliver the Services at the Service Level Target in preference to accepting a liability for Service Credits.

3 GENERAL

- 3.1 For the purposes of Clause 10.5.1 of the Call-Off Terms, the aggregate number of Service Failures (whether the Service Failure relates to the same or to different parts of the Services) exceeds the following number and period: four (4) Service Failures in a Service Measurement Period.
- 3.2 For the purposes of Clause 10.8.3 of the Call-Off Terms, the aggregate number of Service Failures shall be: four (4) Service Failures in a Service Measurement Period.
- 3.3 For the purposes of Clause 10.8.4 of the Call-Off Terms, the aggregate number of events giving rise to Service Credits and/or Delay Payments shall be: five (5) Service Failures in a Service Measurement Period.

4 SERVICE LEVEL TARGETS

- 4.1 The Contractor shall ensure that the Services meet or exceed the Service Levels set out in Part B at all times from the Operational Services Commencement Date.
- 4.2 If the Achieved Service Level does not meet the Service Level Target, then Service Credits will be due from the Contractor in accordance with this Part A and Part B of this Appendix.
- 4.3 The Service Level Targets relating to Availability of the Services to be provided by the Contractor are set out in Part B of this Appendix.

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5 SERVICE LEVELS

- 5.1 The Services shall be subject to one or more (as applicable) of the four (4) different types of Service Criteria set out below. These are:
- 5.1.1 Availability (as further set out in Paragraph 6.1 of this Appendix 4);
 - 5.1.2 Incident Resolution (as further set out in Paragraph 6.2 of this Appendix 4);
 - 5.1.3 Quality (as further set out in Paragraph 6.3 of this Appendix 4); and
 - 5.1.4 Provisioning (as further set out in Paragraph 6.4 of this Appendix 4).
- 5.2 Part B of this Appendix identifies the Service Criteria that apply to certain of the Services and/or Service Elements.
- 5.3 Part B of this Appendix identifies which Service Criteria apply to each Service and/or Service Element.
- 5.4 The Contractor shall monitor its performance of each of the Service Criteria set out in Paragraph 5.1 of this Part A by reference to the applicable Service Level Targets and shall send the Customer a Performance Monitoring Report in accordance with Schedule 2.1 (Performance Monitoring) of the Call-Off Terms. Details to be included within the Performance Monitoring Report shall be agreed between the Contractor, the Agency Manager and the Customer Authority within thirty (30) Working Days of the Effective Date, or such other timeframe as may be agreed by the Parties.

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6 SERVICE CRITERIA

6.1 Availability

6.1.1 Availability shall be calculated as a percentage of the total time in a Service Measurement Period in accordance with the following formula:

$$\text{Service Availability} = \frac{(\text{MP} - \text{SD}) \times 100}{\text{MP}}$$

where:

MP = Total time within the Agreed Service Time, excluding Planned Downtime, within the relevant Service Measurement Period; and

SD = Total Service Downtime within the Agreed Service Time within the relevant Service Measurement Period during which the Contractor System, a Service and/or Service Element is not Available, excluding Planned Downtime.

6.1.2 If the Contractor System, Service and/or Service Element are Unavailable and such Unavailability causes a Dependent Service to become Unavailable then the Downtime experienced by such Dependent Service shall not count towards the Service Downtime of that Dependent Service.

6.1.3 The Service Level Targets and Service Credits for Availability are set out in Part B of this Appendix.

6.2 Incident Resolution: Incidents and Problems

6.2.1 Incident and Problem Management shall be conducted in accordance with: (i) the latest version of ITIL; and (ii) the Policies and Processes provided by the Agency Manager.

6.2.2 The Service Level Targets and Service Credits for Incident Resolution are set out in Part B of this Appendix.

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6.3 Quality

6.3.1 For certain Services and/or Service Elements it will be possible for a measure of Quality to be applied in addition to the measure of Availability. The Service Level Targets and Service Credits for Quality are set out in Part B of this Appendix.

6.4 Provisioning

6.4.1 The Service Level Targets and Service Credits for Provisioning are set out in Part B of this Appendix.

7 REPEAT FAILURES TO MEET SERVICE LEVEL TARGETS

7.1 If the Contractor fails to achieve a Service Level Target for a particular Contractor System, Service and/or Service Element in a Service Measurement Period more than once; and

7.1.1 Root Cause Analysis conducted by the Agency Manager provides evidence demonstrating that the Root Cause for failing to achieve the Service Level Target is the same in both instances (for the avoidance of doubt, Root Cause Analysis shall be conducted at the Configuration Item level. . For example, if a router is considered a Configuration Item within the Contractor's CMDB, then Root Cause Analysis will need to provide evidence that a Service Level Target could not be met due to issues with the router. (I.e. Root Cause Analysis will not need to investigate further into the router components, e.g. firmware, chassis, memory, power, etc.),

then the second failure shall be a "**Repeat Failure**".

7.2 If the Contractor fails to achieve a Service Level Target for a particular Contractor System, Service and/or Service Element in a Service Measurement Period and then fails to achieve the same Service Level Target in a subsequent Service Measurement Period, the failure in the subsequent Service Measurement Period

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shall be a “**Repeat Failure**”. The Repeat Failure count shall increment by one (1) for each additional failure.

- 7.3 Repeat Failures shall apply to Service Level Targets for Availability, Incident Resolution and Quality. Repeat Failures shall not apply to Service Level Targets for Provisioning.
- 7.4 The Repeat Failure count shall be reset to zero (0) once there have been two (2) consecutive Service Measurement Periods in which the Service Level Target has been met.
- 7.5 In this Paragraph 7 of this Schedule, the reference to Repeated Failures to achieve a Service Level Target shall be to the Service Level Target for one (1) Service Measure.

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7.6 Worked examples of the Repeated Failure regime are set out below.

7.6.1 In-month Repeat Failure example

Service Measurement Period				
	Week1	Week2	Week3	Week4
Failure to meet Service Level Target for a Service (F)	F	F	✓	F
No. of Repeat Failures	0	1		2

7.6.2 Month-on-Month Repeat Failure example

	Service Measurement Period											
	1	2	3	4	5	6	7	8	9	10	11	12
Failure to meet Service Level Target for a Service (F)	F	F	✓	F	✓	✓	F	✓	F	F	✓	F
No. of Repeat Failures	0	1		2			0		1	2		3

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- 7.7 For any failure to meet Service Level Targets which is a Repeat Failure, the Service Credit applicable shall be increased as follows (the “**Repeat Failure Multiplier**”):

Repeat Failure count applicable to the Service Measurement Period	Repeat Failure Multiplier
0	1
1	1.25
2	1.5
3	1.75
4 and above	2

SERVICE CREDITS AND SERVICE CREDIT CALCULATION

- 7.8 Subject to clause 10.5 and clause 11 of the Framework Agreement, Service Credits shall be paid by the Contractor to the Customer Authority in the event that the Achieved Service Level falls below the Service Level Target in a Service Measurement Period.

- 7.9 The amount of any Service Credit shall be determined by the Achieved Service Level, the Service Level Target and the Service Failure Threshold and is calculated by using the straight line formula below:

$$\text{Service Credit \%} = (m \cdot (a - x) + c) \cdot \text{Repeat Failure Multiplier}$$

where:

“**m**” is a coefficient defined for the Contractor System, Service and/or Service Element which is calculated from the formula $m = (d - c) / (a - b)$, that is the slope of the straight line;

“**d**” is the maximum Service Credit (%) payable if the Achieved Service Level reaches the Service Failure Threshold;

“**c**” is the minimum Service Credit (%) payable if the Achieved Service Level falls below the Service Level Target;

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“a” is the Service Level Target (%) below which Service Credits shall become payable;

“b” is the Service Failure Threshold (%);

“x” is the Achieved Service Level (%) for a Service Measurement Period; and

“Repeat Failure Multiplier” shall have the meaning set out in Paragraph 7.7 of this Part A.

7.10 For the avoidance of doubt “**Service Failure Threshold**” shall have the meaning ascribed to it in Schedule 1 (Definitions) of the Call-Off Terms.

7.11 Where applicable, any Service Credits payable by the Contractor shall be subject to the minimum and maximum Service Credits set out in the table setting out the relevant Service Level Target in Part B to this Appendix 4.

7.12 Examples of the application of Service Credits have been provided in Attachment 4-1 to this Appendix 4.

7.13 Unless stated otherwise in this Appendix, the amount of the Service Credit (in pounds Sterling) shall be calculated according to the formula:

$$\text{Service Credit (£)} = \text{Service Credit (\%)} \times \text{Service Charge for the Service Measurement Period.}$$

7.14 For the purposes of this Paragraph 7, the Service Charge shall be the Charge for the Service Measurement Period.

7.15 Service Credits for a particular Service shall be cumulative. For the avoidance of doubt, this means that Service Credits for all four (4) Service Criteria (if specified) will be added together to make the total Service Credit payable by the Contractor in relation to that Service.

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- 7.16 Aggregate Service Credits for all Services delivered by the Contractor to the Customer Authority shall be limited in each Service Measurement Period to fifty per cent (50%) of the aggregate Service Charges payable to the Contractor within the same Service Measurement Period. However, as stated in Clause 42.2.4 of the Call-Off Terms, Service Credits (and Delay Payments) shall be limited in each Contract Year to twenty five per cent (25%) of the aggregate annual Service Charges payable to the Contractor under a Call-Off Contract.
- 7.17 Where Service Level Targets exist for Provisioning, Service Credits shall be paid where the Achieved Service Level for Provisioning is in excess of twenty five per cent (25%) longer in duration than the Service Level Target for such Provisioning. The Service Credit shall be fifty per cent (50%) of the first Service Measurement Period's Service Charge for that Service or, if the products are to be purchased, then the Service Credit shall be ten per cent (10%) of the purchase price for such product(s).
- 7.18 The Customer Authority shall use the Performance Monitoring Reports and the Systems Measurement Document (to be agreed between the Contractor, the Customer Authority and the Agency Manager during Transition) to verify the calculation and accuracy of the Service Credits (if any) applicable to each relevant Service Measurement Period.
- 7.19 Service Credits are a reduction of the amounts payable in respect of the Services and shall not include VAT. The Contractor shall set-off the value of any Service Credits against the appropriate invoice in accordance with Schedule 5.1 (Invoicing) of the Call-Off Terms.
- 7.20 Nothing in this Appendix prevents or restricts a Critical Service Failure from arising and affording the Customer Authority the remedies available to it in the Call-Off Terms.

8 NATURE OF SERVICE CREDITS

- 8.1 The Contractor confirms that it has modelled the Service Credits and has taken them into account in setting the level of the Charges. The Contractor agrees that the

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Service Credits are a reasonable method of price adjustment to reflect poor performance in breach of the required Service Level Target.

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OFFICIAL**PART B: SERVICE MEASURES AND SERVICE CREDITS****1 WAN CONNECTIVITY****1.1**

Service Criteria	Service Level Target	Service Failure Threshold
The Agreed Service Time for the provision of WAN Connectivity shall be 00.00-24.00 Monday to Sunday (i.e. twenty-four (24) hours a day, each day of the year (24x7x365)).	The following Service Level Targets shall apply to the corresponding WAN Connectivity 1. Resilient Fully Diverse: 99.99% 2. Resilient Diverse: 99.95% 3. Resilient: 99.95% 4. Non-Resilient: 99.75% 5. Standard DSL: 99.5%	75%

- 1.2 The working hours for all other Services other than WAN Connectivity shall be: (i) 7:00am to 7:00pm, Monday to Friday (excluding any public holidays in England and Wales); and (ii) 7:00am to 5:00pm on Saturdays (such times, together, shall be the **“Working Hours”**).
- 1.3 For the avoidance of doubt, “WAN Connectivity” shall mean all Services set out in Appendix 3 under the heading “WAN Connectivity”.
- 1.4 The required Agreed Service Time for the provision of all Service Level Targets shall be measured over a Service Measurement Period.

2 INCIDENT AND ENQUIRY RESOLUTION**2.1 Service Level Targets**

- 2.1.1 For Incident Resolution the Service Level Targets shall apply to all the Services

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provided to the Customer Authority under a Call-Off Contract. Therefore, the Incident Resolution Service Level Targets are unlike the Service Level Targets for the other Service Criteria (Availability, Quality and Provisioning) which are applicable to a specific Service only.

2.1.2 The “**Incident Severity Levels**” shall be defined as set out in the table below:

Incident Severity Level	Definition
Level 1	<ul style="list-style-type: none"> • Prevents a significant number of End Users from working and where no Workaround exists; • has a critical impact on the ability of the Customer Authority to carry out its statutory obligations; • causes major financial loss to the Customer Authority; and/or • results in material loss or corruption of any Customer Authority Data
Level 2	<ul style="list-style-type: none"> • prevents a group of End Users from working and where no Workaround exists; • has a major (but not critical) adverse impact on the activities of the Customer Authority; and/or • causes some financial loss to the Customer Authority.
Level 3	<ul style="list-style-type: none"> • prevents one or more End Users from working and where no Workaround exists; and/or • has a moderate adverse impact on the activities of the Customer Authority.
Level 4	<ul style="list-style-type: none"> • causes a minor adverse impact on the provision of the Services to End Users.

2.1.3 Incident Resolution Times shall be calculated from the time of first report of the Incident to the Contractor’s Service Desk until the time that the action has been completed by or on behalf of the Contractor to repair the Root Cause of the Incident or an agreed (agreed with the Agency Manager and the Customer Authority) Workaround has been implemented by the Contractor.

2.1.4 An Incident shall be 'closed' only once: (i) Service Restoration has been achieved;

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and (ii) the Customer Authority or Agency Manager has confirmed to the Contractor or Agency Manager that Service Restoration has in fact been achieved. Notwithstanding the foregoing, if the Contractor believes that it has achieved Service Restoration and has made three (3) attempts in good faith to confirm this with the Customer Authority, but has been unable to contact the Customer Authority to obtain such confirmation, then the Incident shall be deemed to be closed.

2.1.5 Incident and Problem Management shall be conducted in accordance with the latest version of ITIL. The Service Level Targets for Incident Resolution shall apply to all the Services provided to the Customer Authority under the Call-Off Contract.

2.1.6 The Maximum Incident Resolution Times for Incidents across all of the Services provided by the Contractor to the Customer Authority shall be as set out in the table at Paragraph 2.1.8 below.

2.1.7 The Service Level Target shall be expressed as a percentage of Incidents to be Resolved within the Maximum Incident Resolution Times

2.1.8

Incident Severity Level	Maximum Incident Resolution Times	Service Level Target	Service Failure Threshold
Level 1	Four (4) Elapsed Hours	99.90%	75%
Level 2	Five (5) Elapsed Hours	99.90%	75%
Level 3	Eight (8) Working Hours	99.50% (100% of Incidents to be Resolved by end of the third Working Day)	75%
Level 4	By the end of the next Working Day	99.50% (100% of Incidents to	75%

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		be Resolved by end of the third Working Day)	
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2.2 Service Credits

2.2.1 The following Service Credits shall be payable if the Service Level Target for Incident Resolutions is not achieved:

Incident Severity Level	Maximum Incident Resolution Times	Service Level Target	Service Failure Threshold	Min Service Credits %	Max Service Credits %
Level 1	Four (4) Elapsed Hours	99.90%	75%	10%	25%
Level 2	Five (5) Elapsed Hours	99.90%	75%	10%	25%
Level 3	Eight (8) Working Hours	99.50%	75%	5%	25%
Level 4	By the end of the next Working Day	99.50%	75%	5%	25%

3 SERVICE LEVEL TARGET AND SERVICE FAILURE THRESHOLD FOR AGGREGATE OF ALL CALL-OFF CONTRACTS

3.1 The Service Level Target is for ninety seven per cent (97%) and the Service Failure Threshold is for eighty five per cent (85%) of Incident Severity Levels 1, 2 and 3 experienced by all Direct Customers of the Contractor to be Resolved within the Maximum Incident Resolution Times as shown in Paragraph 2.1.8 of this Part B.

3.2 Service Credits, where applicable, shall be payable under each Call-Off Contract by the Contractor but no additional Service Credits shall apply to the aggregate of all Call-Off Contracts.

OFFICIAL**4 CONNECTIVITY SERVICE****4.1 Service Level Targets for Provisioning**

4.1.1 The Connectivity Service shall have the following Service Level Targets:

Connection Data Rate (Mbps)	Service Level Targets for Connection (Working Days from receipt of Service Request)
8 and below	30
10, 100, 1000 Ethernet	45
34, 45 SDH	65
155 SDH	90

4.1.2 The above Service Level Targets assume that, where required, fibre is in place to the Customer Sites in respect of which the Connectivity Service can be Provisioned. If this is not the case, Service Level Targets for Provisioning shall be agreed on a case-by-case basis with the Customer Authority.

4.2 Service Level Targets for Availability

4.2.1 For the purposes of calculating Availability of the Connectivity Service the following shall be included:

- 4.2.1.1 the Network Access Service;
- 4.2.1.2 segregated community Service (VPN), if provided;
- 4.2.1.3 segregated Customer-specific Service (VPN), if provided;
- 4.2.1.4 the Encryption Service; and
- 4.2.1.5 Network Address Translation (NAT) Service, if provided.

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- 4.2.2 The Connectivity Service shall be Available twenty four (24) hours a day, seven (7) days a week and the Working Hours shall be as set out in Paragraph 1.2 of this Part B.
- 4.2.3 Availability shall be calculated in accordance with Paragraph 6.1 of Part A of this Appendix 4.
- 4.2.4 The Service Level Targets for a Customer Site are measured over a Service Measurement Period for the five (5) service availability options as follows:

Service Availability Option	Service Level Targets (applicable to Impact Level 2 and Impact Level 3)	Example Implementation
Resilient Fully Diverse	99.99%	Two (2) access circuits, fully diversely routed (i.e. Each circuit enters the Customer's premises via a different duct and originates from a different Contractor telephone exchange) from the Customer's CEs. One circuit connects the Customer's CE to the Contractor's PE and the other circuit connects the Customer's second CE to the Contractor's second PE
Resilient Diverse	99.95%	Two (2) access circuits, diversely routed within the Customer's premises. One circuit connects the Customer's CE to the Contractor's PE and the other circuit connects the Customer's second CE to the Contractor's single PE. Resilient Diverse solution shall be deployed with a single router

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		and will be subject to an SLA of 99.95%.
Resilient	99.95%	Two (2) access circuits, diversely routed, connecting the Customer's CE(s) to the Contractor's single PE.
Non-Resilient	99.75%	Single access circuit connecting the Customer's CE to the Contractor's PE
Standard DSL	99.5%	DSL used for connectivity

4.3 Service Credits for Provisioning

- 4.3.1 The Service Credits for Provisioning shall be calculated in accordance with Part A of this Appendix.

4.4 Service Credits for Availability

- 4.4.1 If the Availability Service Level Targets measured over a Service Measurement Period is not met for a Connectivity Service then Service Credits will become due as shown in the table below. Service Credits shall only become due and payable by the Contractor for resilient connections if both links are Unavailable. Loss of a single link constitutes an Incident Severity Level 3 as described in Paragraph 2.1.2 of this Part A.

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4.4.2

Customer Site Type	Coefficient (m)	Service Level Target % (a)	Service Failure Threshold % (b)	Minimum Service Credit % (c)	Maximum Service Credit % (d)
Resilient Fully Diverse	250	99.99%	75%	10%	25%
Resilient Diverse	83.333	99.95%	75%	10%	25%
Resilient	50	99.95%	75%	10%	25%
Non-Resilient	10	99.75%	75%	10%	25%
Standard DSL	5	99.50%	75%	10%	25%

4.4.3 The Service Credit is calculated by using the straight line formula set out in Paragraph 7.9 of Part A of this Appendix.

4.4.4 The amount of the Service Credit (in pounds Sterling) shall be calculated according to the formula:

Service Credit amount = Service Credit (%) x the Customer Authority's Connectivity Service recurring Charge for the Service Measurement Period.

4.5 Service Level Targets for Quality

4.5.1 This Paragraph 4.5 is subject to the provisions of Paragraph 5 of Category 2 of Part A of Appendix 3.

4.5.2 The Contractor shall provide six (6) PSN Service Classes as follows:

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PSN Service Class
Real Time
Application Class 1
Application Class 2
Application Class 3
Application Class 4
Default

The Authority's list of applications that falls within each Service Class shall be agreed by the Parties during Transition.

4.6 **Service Level Targets for Quality – Connectivity Service – IP Packet Loss Ratio**

4.6.1 The Service Level Targets for IP Packet Loss Ratio (IPLR) measured across the Contractor's network between any two (2) Customer Authority Sites served by the Contractor and located on the UK mainland shall be as follows:

PSN Service Class	Service Level Target – IPLR (measured over a 5 minute period, averaged over a Service Measurement Period)	Service Failure Threshold (measured over a 5 minute period, averaged over a Service Measurement Period)
Real Time	Less than or equal to 0.1%	0.11%
Application Class 1	Less than or equal to 0.2%	0.22%
Application Class 2	Less than or equal to 0.2%	0.22%
Application Class 3	Less than or equal to 0.2%	0.22%
Application Class 4	Less than or equal to 0.2%	0.22%
Default	Less than or equal to 1.0%	Not applicable

OFFICIAL**4.7 Service Level Targets for Quality – Connectivity Service – Inter-Packet Delay Variation**

4.7.1 The Service Level Targets for Inter-Packet Delay Variation (IPDV), or jitter, measured across the network between any two (2) Customer Authority Sites served by the Contractor and located on the UK mainland shall be as follows:

PSN Service Class	Service Level Target - IPDV (measured over a 5 minute period, averaged over a Service Measurement Period)	Service Failure Threshold (measured over a 5 minute period, averaged over a Service Measurement Period)
Real Time	Less than or equal to 10ms	12ms
Application Class 1	Not applicable	Not applicable
Application Class 2	Not applicable	Not applicable
Application Class 3	Not applicable	Not applicable
Application Class 4	Not applicable	Not applicable
Default	Not applicable	Not applicable

4.8 Service Level Targets for Quality – Connectivity Service – Round Trip Delay

4.8.1 The Service Level Targets for round trip delay (for a 60 byte packet) measured across the network between any two (2) Customer Authority Sites served by the Contractor and located on the UK mainland shall be as follows:

PSN Service Class	Service Level Target - Round Trip Delay (measured over a 5 minute period, averaged over a Service Measurement Period)	Service Failure Threshold (measured over a 5 minute period, averaged over a Service Measurement Period)

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Real Time	Less than or equal to 20ms	25ms
Application Class 1	Less than or equal to 25ms	30ms
Application Class 2	Less than or equal to 25ms	30ms
Application Class 3	Less than or equal to 25ms	30ms
Application Class 4	Less than or equal to 25ms	30ms
Default	Less than or equal to 30ms	35ms

4.9 Service Credits for Quality – Connectivity Service

4.9.1 If any Quality targets in any of the three tables in Paragraph 4.9.1.1 below falls below the Service Level Target in any five (5) minute period, then the Connectivity Service to the affected Customer Authority Sites shall be deemed to be Unavailable during that five (5) minute period and such five (5) minute period shall be measured as Service Downtime in the calculation of Service Availability.

4.9.1.1

PSN Service Class	Service Level Target – IPLR (measured over a 5 minute period, averaged over a Service Measurement Period)	Service Failure Threshold (measured over a 5 minute period, averaged over a Service Measurement Period)
Real Time	Less than or equal to 0.1%	0.11%
Application Class 1	Less than or equal to 0.2%	0.22%
Application Class 2	Less than or equal to 0.2%	0.22%
Application Class 3	Less than or equal to 0.2%	0.22%
Application Class 4	Less than or equal to 0.2%	0.22%
Default	Less than or equal to 1.0%	Not applicable

PSN Service Class	Service Level Target - IPDV (measured over a 5 minute	Service Failure Threshold (measured over a 5 minute
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	period, averaged over a Service Measurement Period)	period, averaged over a Service Measurement Period)
Real Time	Less than or equal to 10ms	12ms
Application Class 1	Not applicable	Not applicable
Application Class 2	Not applicable	Not applicable
Application Class 3	Not applicable	Not applicable
Application Class 4	Not applicable	Not applicable
Default	Not applicable	Not applicable

PSN Service Class	Service Level Target - Round Trip Delay (measured over a 5 minute period, averaged over a Service Measurement Period)	Service Failure Threshold (measured over a 5 minute period, averaged over a Service Measurement Period)
Real Time	Less than or equal to 20ms	25ms
Application Class 1	Less than or equal to 25ms	30ms
Application Class 2	Less than or equal to 25ms	30ms
Application Class 3	Less than or equal to 25ms	30ms
Application Class 4	Less than or equal to 25ms	30ms
Default	Less than or equal to 30ms	35ms

5 ENCRYPTION SERVICE**5.1 Service Level Targets for Provisioning**

- 5.1.1 Where the Encryption Service is ordered in association with the Connectivity Service, the Service Level Target for Provisioning the Encryption Service shall be that the Encryption Service is fully operational on the same date as the associated Connectivity Service.

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5.1.2 Where the Encryption Service is ordered independently of the Connectivity Service, the Service Level Target for Provisioning the Encryption Service shall be thirty (30) Working Days to be fully operational from the date when the Customer Authority's order is confirmed (or should have been confirmed) by the Contractor. The Contractor must provide confirmation of an order within twenty four (24) hours of receipt of the Customer Authority's order.

5.2 Service Level Targets for Availability

5.2.1 For Availability, the Service Level Targets for the Encryption Service shall be considered in conjunction with the associated Connectivity Service. Such associated Service Level Targets shall be measured in relation to the combined Connectivity and associated Encryption Service(s), in accordance with Paragraph 5.1.1 of this Part B.

5.3 Service Level Targets for Quality

5.3.1 For Quality, the Service Level Targets for the Encryption Service shall be considered in conjunction with the associated Connectivity Service. Such associated Service Level Targets shall be measured in relation to the combined Connectivity and associated Encryption Service(s), in accordance with Paragraph 5.1.1 of this Part B.

5.4 Service Credits for Provisioning

5.4.1 The Service Credits for Provisioning of the Encryption Service shall be calculated in accordance with Paragraph 7.17 of Part A of this Appendix 4.

5.5 Service Credits for Availability

5.5.1 For Availability, Service Credits for the Encryption Service shall be considered in conjunction with the associated Connectivity Service. Accordingly, all such Service Credits shall be applied in relation to the

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combined Connectivity and associated Encryption Service, in accordance with Paragraph 4.4 of this Part B.

5.6 Service Credits for Quality

- 5.6.1 For Quality, Service Credits for the Encryption Service shall be considered in conjunction with the associated Connectivity Service. Such associated Service Credits shall be applied in relation to the combined Connectivity and associated Encryption Service, in accordance with Paragraph 4.5 of this Part B.

6 CUSTOMER AUTHORITY PORTAL

6.1 Service Level Target for Availability

- 6.1.1 The Customer Authority Portal shall be Available twenty four (24) hours seven (7) days a week and the Agreed Service Time shall be as set out in Paragraph 1.2 of this Part B.
- 6.1.2 The Service Level Target for the Customer Authority Portal shall be ninety nine point seven five per cent (99.75%) when measured over a Service Measurement Period.

6.2 Service Credits for Availability

- 6.2.1 Service Credits shall not apply in respect of Availability of the Customer Authority Portal Service.

7 CONTRACTOR'S SERVICE DESK

7.1 Service Level Target for Availability

- 7.1.1 The Contractor's Service Desk shall be Available twenty four (24) hours a day, seven (7) days a week and the Agreed Service Time shall be as set out in Paragraph 1.1 of this Part B.

OFFICIAL**7.2 Service Level Target for Quality**

7.2.1 The Contractor's Service Desk shall answer incoming calls within the following times:

Period (Working Day)	Service Level Target (calculated monthly)	Service Failure Threshold (calculated monthly)
All calls recorded by the Contractor's Service Desk during Working Hours	85% of calls answered within 15 seconds	65% of calls answered within 15 seconds
All calls recorded by the Contractor's Service Desk outside Working Hours	75% of calls answered within 15 seconds	Not applicable

7.3 Service Credits for Availability

7.3.1 Service Credits shall not apply in respect of Availability of the Contractor's Service Desk.

7.4 Service Credits for Quality

7.4.1 The Service Credits for the Contractor's Service Desk are as follows:

Period (Working Day)	Service Level Target % (a)	Service Failure Threshold % (b)	Minimum Service Credit % (c)	Maximum Service Credit % (d)
All calls recorded by the Contractor's Service Desk during Working Hours	85%	65%	1%	5%

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All calls recorded by the Contractor's Service Desk outside Working hours	75%	Not applicable	1%	5%
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7.4.2 The Service Credit (%) is calculated by using the straight line formula set out in Paragraph 7.9 of Part A of this Appendix 4.

7.4.3 The amount of the Service Credit (in pounds Sterling) shall be calculated according to the formula:

The Service Credit (£) is equal to the Service Credit (%) multiplied by the Customer's total recurring Service Charges for the month.

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Attachment 4-1

WORKED EXAMPLES OF CALCULATION OF SERVICE CREDITS

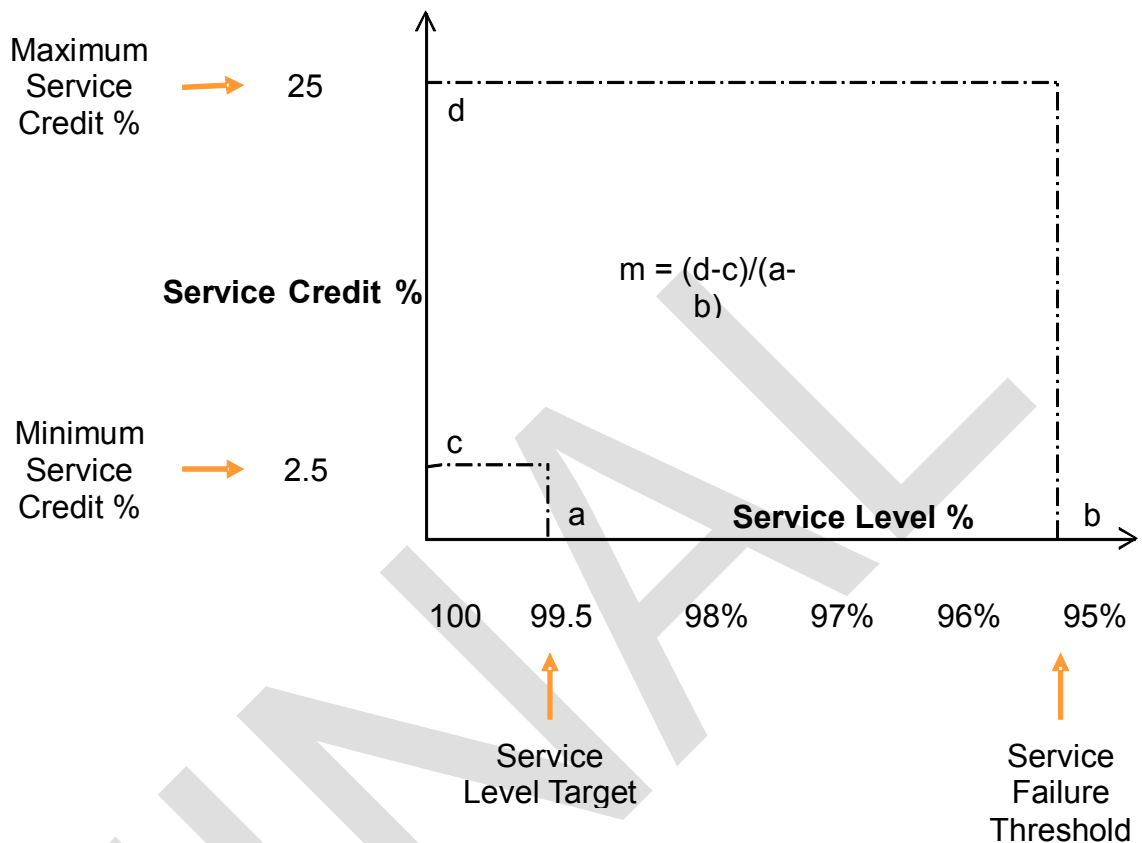
1 Availability – Example Service Credit Calculation

1.1 An example Service Credit regime for the Availability of a service is as follows:

Service	Coefficient (m)	Service Level Target % (a)	Service Failure Threshold % (b)	Minimum Service Credit % (c)	Maximum Service Credit % (d)
Connectivity to a Customer Site	5.0	99.5% (Example only)	95.00% (Example only)	2.5% (Example only)	25% (Example only)

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1.2 The Service Credit regime is shown diagrammatically as follows:



1.3 In accordance with Part A and Part B of this Appendix 4, the amount of any Service Credit shall be determined by the Achieved Service Level, the Service Level Target and the Service Failure Threshold and is calculated by using the straight line formula below:

$$\text{Service Credit \%} = (m \cdot (a - x) + c) \cdot \text{Repeat Failure Multiplier}$$

where:

“**m**” is a coefficient defined for the Contractor System, Service and/or Service Element which is calculated from the formula $m = \frac{d-c}{a-b}$, that is the slope of the straight line;

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“d” is the maximum Service Credit (%) payable if the Achieved Service Level reaches the Service Failure Threshold;

“c” is the minimum Service Credit (%) payable if the Achieved Service Level falls below the Service Level Target;

“a” is the Service Level Target (%) below which Service Credits shall become payable;

“b” is the Service Failure Threshold (%);

“x” is the Achieved Service Level (%) for a Service Measurement Period; and

“Repeat Failure Multiplier” shall have the meaning set out in Paragraph 7.7 Part A of this Appendix.

1.4 Therefore, the example Service Credit calculation is as follows:

1.4.1 The Availability of WAN Connectivity was recorded as ninety seven per cent (97%) for a Service Measurement Period. For this Service, the example Service Level Target is ninety nine point five per cent (99.5%) and the example Service Failure Threshold is ninety five per cent (95%). The Service Charge for the Service Measurement Period is three thousand pounds (£3,000). Previous performance had exceeded the Service Level Target for Availability.

1.4.2 Therefore, in this example:

$$\text{Service Credit \%} = 5.0 \times (99.5 - 97.0) + 2.5 = 15\%$$

1.4.3 Therefore, this Service Credit calculation is:

$$\text{Service Credit (£)} = \text{Service Charge} \times \text{Service Credit (\%)}$$

$$\text{Service Credit (£)} = £3,000 \times 15\% = £450$$

OFFICIAL**2 Incident Resolution – Example Service Credit Calculation**

An example of the Service Credit calculation for Incident Resolution is as follows:

2.1 Assume that the Customer has selected a Service Measure with the following parameters:

Service	Coefficient (m)	Service Level Target % (a)	Service Failure Threshold % (b)	Minimum Service Credit % (c)	Maximum Service Credit % (d)
All services	0.25	95.0% (example)	85.00% (example)	2.5% (example)	5% (example)

2.2 The example Service Level Target is ninety five per cent (95%) of all Incidents to be Resolved within a specified time, with the example Service Failure Threshold being eighty five per cent (85%). Assume also that the Customer has eighty (80) Incidents within a Service Measurement Period, ten (10) of which were not resolved within the specified time. Therefore, $(80-10 / 80) =$ eighty seven point five per cent (87.5%) of Incidents were resolved within the Service Level Target. The Service Charge for all the Services that the Customer is consuming is fifty thousand pounds (£50,000) per Service Measurement Period. Previous performance had exceeded the Service Level Target for Incident Resolution Times.

2.3 The Service Credit calculation is:

$$\text{Service Credit (£)} = \text{Service Charge} \times \text{Service Credit (\%)}$$

Therefore,

$$\text{Service Credit (£)} = £50,000 \times 4.375\% = £2,187.5$$

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SERVICE CREDIT EXAMPLES

Incident Resolution – Priority 1 incident example (Total remedy <Max monthly aggregate)

Example monthly service charge	£ 83,333
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Max monthly aggregate remedy	£ 41,667
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Month	Service Levels			Service Credit payable if Achieved falls below Target		Service Coefficient	Service Credit		Repeat Failure count	Value of Repeat Failure Multiplier	Total Remedy (£)
	Target (%)	Achieved (%)	Failure Threshold (%)	Min (%)	Max (%)		%	£			
	(a)	(x)	(b)	(c)	(d)						
1	99.50%	98.00%	95.00%	2.50%	5.00%	0.56	3.33%	£ 2,777.78	0	1	£ 2,777.78
2	99.90%	98.00%	95.00%	2.50%	5.00%	0.51	3.47%	£	1	1.25	£

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								2,891.16			3,613.95
3	99.90%	95.00%	50.00%	2.50%	5.00%	0.05	2.75%	£ 2,287.91	2	1.5	£ 3,431.86
4	99.90%	96.00%	95.00%	2.50%	5.00%	0.51	4.49%	£ 3,741.50	3	1.75	£ 6,547.62
5	99.90%	97.00%	95.00%	2.50%	5.00%	0.51	3.98%	£ 3,316.33	4	2	£ 6,632.65
6	99.90%	96.00%	95.00%	2.50%	5.00%	0.51	4.49%	£ 3,741.50	5	2	£ 7,482.99
											£ 30,486.85

Incident Resolution – Priority 1 incident example (Total remedy > Max monthly aggregate)

Month	Service Category	Service Level	Service Levels	Service Credit payable if Achieved falls below Target	Service Coefficient	Service Credit	Repeat Failure count	Value of Repeat Failure Multiplier	Total Remedy (£)
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		Target (%)	Achieved (%)	Failure Threshold (%)	Min (%)	Max (%)		%	£			
		(a)	(x)	(b)	(c)	(d)	(m)					
1	Incident Management	99.90%	98.00%	95.00%	2.50%	5.00%	0.51	3.47%	£ 2,891.16	1	1.25	£ 3,613.95
2	Incident Management	99.90%	99.00%	95.00%	2.50%	5.00%	0.51	2.96%	£ 2,465.99	1	1.25	£ 3,082.48
3	Incident Management	99.50%	96.00%	95.00%	2.50%	5.00%	0.56	4.44%	£ 3,703.70	1	1.25	£ 4,629.63
4	Incident Management	99.50%	95.50%	95.00%	2.50%	5.00%	0.56	4.72%	£ 3,935.19	1	1.25	£ 4,918.98
5	Incident Management	99.50%	95.50%	95.00%	2.50%	5.00%	0.56	4.72%	£ 3,935.19	1	1.25	£ 4,918.98
6	Incident Management	99.50%	95.50%	95.00%	2.50%	5.00%	0.56	4.72%	£ 3,935.19	1	1.25	£ 4,918.98
7	Incident Management	99.50%	95.50%	95.00%	2.50%	5.00%	0.56	4.72%	£ 3,935.19	1	1.25	£ 4,918.98
8	Incident Management	99.50%	95.50%	95.00%	2.50%	5.00%	0.56	4.72%	£ 3,935.19	1	1.25	£ 4,918.98

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9	Incident Management	99.50%	95.50%	95.00%	2.50%	5.00%	0.56	4.72%	£ 3,935.19	1	1.25	£ 4,918.98
10	Incident Management	99.50%	95.50%	95.00%	2.50%	5.00%	0.56	4.72%	£ 3,935.19	1	1.25	£ 4,918.98
11	Incident Management	99.50%	95.50%	95.00%	2.50%	5.00%	0.56	4.72%	£ 3,935.19	1	1.25	£ 4,918.98
12	Incident Management	99.50%	95.50%	95.00%	2.50%	5.00%	0.56	4.72%	£ 3,935.19	1	1.25	£ 4,918.98
Total												£ 55,596.89
Payable												£ 41,666.67