

SCHEDULE 1

Key Contract Information

TfL Mast Locations	See Annex E of this Schedule 1
Insurances	See Annex A of this Schedule 1
Supplier's IPR, including any Supplier Software	<p>All source code embedded in Equipment and Alternative Equipment and Spares ;</p> <p>All patents, trademarks, design rights, know-how and registered intellectual property rights in the Equipment;</p> <p>All copyright in Supplier prepared documentation and deliverables;</p> <p>Methodologies; and techniques used in delivering the Services and/or Further Services;</p> <p>Test tools and equipment;</p> <p>Training manuals (save those TfL specific guides in which the copyright in the final version of TfL manuals shall rest with TfL);</p> <p>Enable Suite of tools and software including Enable Fleet, EnableInsight, EnableReport; and</p> <p>Supplier Unify Platform and Suite of Products including UnifyVehicle.</p>
Third Party IPR, including any Third Party Software	<p>All patents, trademarks, design rights, know-how and other registered intellectual property rights in Third Party equipment;</p> <p>All copyright in Third Party produced documentation and deliverables; and</p> <p>Methodologies and techniques used in delivering the services by the Third Party.</p> <p>Refer to Schedule 20 for full Third Party licensing information</p>
Details of Software Licences for Third Party Software and which party is going to procure them	Refer to Schedule 20 for full Third Party licensing information
Details of agreed back-ups to be provided by the Supplier in respect of	The DMR core database will be automatically backed up

the Data and Software, if any, and intervals in which they are to be performed on a daily basis. The TfL design has 2 DMR Control Nodes and, therefore, duplicate backups will be made on each server. Other devices where configurations remain mostly static, e.g. base stations, will be backed up at the point of commissioning and after each subsequent configuration change. These backups will be appropriately archived in the event they are required for subsequent use.

Is the solution (being everything to be provided to TfL by the Supplier under the Agreement) for business critical or safety critical parts of the TfL Group, its estate or services, or otherwise for services, equipment or software which require continuous uninterrupted service? Yes, parts of the New System and/or Services supplied by the Supplier are for business critical and/or safety critical parts of the TfL Group, its estate or services or which otherwise required continuous uninterrupted service.

Address to send TfL Notices to

For attention of: **REDACTED**

Address: 10th Floor (10Y7) Palestra, 197 Blackfriars Road, London, SE1 8NJ

Copy to: **REDACTED**

Address: Floor 6 R2, 14 Pier Walk, North Greenwich, LONDON, SE10 0ES.

Address to send Supplier Notices to

For attention of: **REDACTED**

Address: *Unit A Trinity Court, Buckingway Business Park, Anderson Road, Swavesey, Cambridge, CB24 4UQ*

Copy to: **REDACTED**

Address: *245 Wooldridge Road, Harewood, Christchurch 8051, New Zealand*

ANNEX A

INSURANCES

Insurances to be held by the Supplier in accordance with **clause 25**:

- (a) employer's liability insurance in respect of the Supplier's liability for death, personal injury or occupational disease of any person in the Supplier's employment in the sum of not less than five million pounds (£5,000,000) as a minimum per incident or such other minimum level as may from time to time be required by law;
- (b) public liability insurance in respect of the Supplier's liability for loss or damage to property (including property of the TfL Group or for which it is responsible), breach of any Intellectual Property Rights and against liability for death, injury or occupational disease in the sum of not less than two million pounds (£2,000,000) per incident with no annual aggregate limit, with financial loss extension and shall be endorsed to provide that no act or omission on the part of the Supplier shall prejudice the TfL Group's rights under such policy as principal;
- (c) professional indemnity insurance in a sum normal and customary for a Supplier in the business of providing services of a similar scope, nature and complexity to the Services but not less than two million pounds (£2,000,000) per incident and in the aggregate per annum for the Services Term and for six (6) years after expiry or termination of this Agreement;
- (d) product liability insurance in the sum of not less than two million pounds (£2,000,000) in the aggregate per annum with financial loss extension; and
- (e) All Risks Insurance for the replacement value of any TfL assets shall be the sum of not less than six million, five hundred thousand pounds (£6,500,000).

ANNEX B**SUPPLIER KEY PERSONNEL****Supplier's Key Personnel:**

Name and position	Contact details	Area of responsibility	Areas of Project Allocation
REDACTED	Tait EMEA Unit A Trinity Court Buckingway Business Park Anderson Road Swavesey Cambridge CB24 4UQ Email: REDACTED Telephone: REDACTED	REDACTED	Throughout the project and product lifecycle as required
REDACTED	Tait EMEA Unit A Trinity Court Buckingway Business Park Anderson Road Swavesey Cambridge CB24 4UQ Email: REDACTED Telephone: REDACTED	REDACTED	Sponsor throughout the project and product lifecycle
REDACTED	Tait EMEA Unit A Trinity Court Buckingway Business Park Anderson Road Swavesey Cambridge CB24 4UQ Email: REDACTED Telephone: REDACTED	REDACTED	Throughout the project and product lifecycle
REDACTED	Tait 245 Wooldridge Road Harewood Christchurch 8051 New Zealand Email : REDACTED	REDACTED	Security throughout the project and product lifecycle
REDACTED	Tait EMEA	REDACTED	Service management

	Unit A Trinity Court Buckingway Business Park Anderson Road Swavesey Cambridge CB24 4UQ Email: REDACTED Telephone: REDACTED		throughout the project and contract duration
REDACTED	Tait EMEA Unit A Trinity Court Buckingway Business Park Anderson Road Swavesey Cambridge CB24 4UQ Email: REDACTED Telephone: REDACTED	REDACTED	Project Management lead for implementation and handover to Service Operation
REDACTED	Tait EMEA Unit A Trinity Court Buckingway Business Park Anderson Road Swavesey Cambridge CB24 4UQ Email: REDACTED Telephone: REDACTED	REDACTED	Throughout the project and product lifecycle

ANNEX C

TFL KEY PERSONNEL

TfL's Key Personnel:

Name and position	Contact details	Area of responsibility	Areas of Project Allocation
REDACTED	Transport for London 10th Floor Palestra (10Y6), 197 Blackfriars Road, Southwark, London, SE1 8NJ Email : REDACTED Tel: REDACTED	REDACTED	Throughout product lifecycle
REDACTED	Transport for London 10th Floor Palestra (10Y5), 197 Blackfriars Road, Southwark, London, SE1 8NJ Email: REDACTED Tel: REDACTED	REDACTED	Throughout product lifecycle
REDACTED	Transport for London Floor 6 (Y3), 14 Pier Walk, North Greenwich, London, SE10 0ES Email: REDACTED Tel: REDACTED	REDACTED	Overall and throughout project delivery until handover to Service Operation
REDACTED	Transport for London 10th Floor Palestra (10Y5), 197 Blackfriars Road, Southwark, London, SE1 8NJ Email: REDACTED Tel: REDACTED	REDACTED	Throughout project delivery until handover to Service Operation
REDACTED	Floor 5 (Y6), 14 Pier Walk, North	REDACTED	Throughout project delivery until

REDACTED	Greenwich, London, SE10 0ES Email: REDACTED		handover to Service Operation
REDACTED	Transport for London	REDACTED	Throughout product lifecycle
REDACTED	Transport for London, 10th Floor Palestra (10Y7), 197 Blackfriars Road, Southwark, London, SE1 8NJ Email: REDACTED Tel: REDACTED	REDACTED	Formally from hand-over to Service Operation but shall have an involvement throughout project and product delivery.
REDACTED	Transport for London, 10th Floor Palestra (10Y5), 197 Blackfriars Road, Southwark, London, SE1 8NJ Email: REDACTED Tel: REDACTED	REDACTED	Throughout the project and product lifecycle
REDACTED	Transport for London, 10 th Floor Palestra (10Y8), 197 Blackfriars Road, Southwark, London, SE1 8NJ Email: REDACTED Tel: REDACTED	REDACTED	Throughout the project and product lifecycle

ANNEX D

LBSL AVL MPT System Architecture

REDACTED

ANNEX E

TFL MAST LOCATION ADDRESSES

REDACTED

SCHEDULE 2

Service Requirements

This **Schedule 2** captures the requirements and obligations in relation to the delivery, management and performance of the Services as agreed between the parties.

Definitions

In this **Schedule 2** only, the following expressions shall have the following meanings unless inconsistent with the context:

Term	Description
At Risk Percentage	The percentage of the Service Charge attributed to each KPI that is or may be payable by the Supplier as Service Credits in the event of the Supplier's failure to achieve that KPI.
Availability	The ability of the New System and/or Services and/or Further Services (if any) (or a particular CI as appropriate) to correctly perform its function, as and when required, including by reference to reliability, maintainability, serviceability, performance and security of the New System and/or Services and/or Further Services (if any) (or a particular CI as appropriate).
Availability Management	The process responsible for defining, analysing, planning, measuring and improving all aspects of the Availability of the New System and the Services and Further Services (if any), as further described in paragraph 8 of this Schedule.
Back Out Plan	A plan describing Recovery of a CI, the Operating Environment and/or Services and Further Services (if any) to the previous known state after a failed Change.
Capacity	The maximum throughput that a CI, the New System or Services can deliver whilst meeting the System KPIs. For some types of CI, Capacity may be the size or volume (for example a disk drive).
Capacity Management	The process of ensuring that the Capacity of the New System as a whole and the Services and/or Further Services (if any) shall meet the System KPIs in a cost effective and timely manner, as further described in paragraph 11 .
Capacity Plan	A plan used to manage the resources required to deliver the New System and the Services and/or Further Services (if any) such that they meet the System KPIs.
Change	The addition, modification or removal of anything that could have an effect on the New System and/or the Services and Further Services (if any).
Change Advisory Board (CAB)	A group of people involved in the assessment, prioritisation, approval and scheduling of Changes and made up of representatives from TfL, the Supplier, and other contractors of TfL from time to time.
Change and Release Management	The process for controlling the lifecycle of all Changes, as further described in paragraph 12 of this Schedule 2 .
Configuration Item (CI)	Any component of the New System. CIs include Services and Further Services (if any), hardware, software, buildings, people and formal documentation such as process documentation.
Configuration Management	The process of maintaining information about CIs required to deliver the New System, Services and Further Services (if any), including their relationships and as further described in paragraph 13 .
Configuration Management Database (CMDB)	A database to store Configuration Records throughout their lifecycle. The CMDB shall store Attributes of CIs and relationships with other CIs.
Configuration Record	A record containing the details of a Configuration Item.

Downtime	The time when a Configuration Item, the New System, Service or Further Services (if any) are not available during the agreed service time.
First Line Support	The first level in a hierarchy of support groups involved in the resolution of Incidents.
Incident	An unplanned interruption or a reduction in the quality of a Service (of Further Service, if any) or any failure with the New System so that the Services and Further Services (if any) and/or New System fail to comply with the Service KPI and/or the New System, or any part thereof, fails to comply with the System KPIs.
Incident Management	The process of managing the lifecycle of all Incidents, as more particularly described in paragraph 9 .
Incident Record	A record containing the details of an Incident. Each Incident Record documents the lifecycle of a single Incident.
Information Technology Infrastructure Library (ITIL)	A set of best practice guidelines for IT service management.
IT Service Continuity Management	The process for managing, updating and (where necessary) implementing the IT Service Continuity Management Plan.
IT Service Continuity Management Plan	A plan defining the steps required to recover the system (which during transition shall include the Existing System and/or the New System and any shared elements of each), the Services and Further Services (if any).
Joint Session	A meeting involving the Supplier and other relevant contractors of TfL in order to progress a business process, which may be required as part of (but not confined to) an Incident or Problem.
Key Performance Indicators (KPIs)	A set of computable measures as described at paragraph 1.4.1 and as otherwise set out in this Schedule 2 .
Known Error	A Problem that has a documented Root Cause and a Workaround.
Known Error Log	A reference document maintained by TfL for cascade to the Supplier and contractors, where applicable.
Maintenance Services	All processes associated with day-to-day support and maintenance activities required to provide the new System, Services and Further Services (if any).
Monitoring	Repeated observation of a Configuration Item, the New System, Services and Further Services (if any) or a process to detect events and to ensure that the current status is known.
Performance Indicators	A set of computable measures as described at paragraph 1.4.2 and as otherwise set out in this Schedule 2 .
Planned Downtime	Agreed time when the New System, Services and Further Services (if any) shall not be available and shall be used for upgrades or testing.
Planned Maintenance	A programme of regular checks, tests and maintenance tasks agreed with TfL.
Priority 1 Incident (also known as P1)	Shall have the definition given to it in paragraph 5.1 of this Schedule 2 .

Incident)	
Priority 2 Incident (also known as P2 Incident)	Shall have the definition given to it in paragraph 5.1 of this Schedule 2 .
Priority 3 Incident (also known as P3 Incident)	Shall have the definition given to it in paragraph 5.1 of this Schedule 2 .
Problem	Unknown underlying Root Cause of one or more Incidents.
Problem Management	The detection of the underlying causes of an Incident and their subsequent resolution and prevention, as further described in paragraph 10 of this Schedule 2 .
Problem Record	A record containing the details of a Problem. Each Problem Record documents the lifecycle of a single Problem.
Recovery	Returning a CI, the Operating Environment, Services and Further Services (if any) and/or the New System to a working state. This will include where necessary, recovering data to a known consistent state and any further steps needed to make the CI, the Operating Environment, Services and Further Services (if any) available to the users.
Release	A collection of hardware, software, documentation, processes or other components required to implement one or more approved Changes to the New System, Services and Further Services (if any).
Release Management	The process of planning, scheduling and controlling the movement of Releases to test and the Operating Environment.
Request for Change (RFC)	A formal proposal for a Change to be made. A RFC shall include details of the proposed Change, and shall be recorded electronically.
Resolution	Any repair, correction, adjustment, replacement, fix, work-around, patch or other modification or addition taken to repair the Root Cause of an Incident or Problem that results in the New System and/or Services (and Further Services, if any) achieving the System KPIs and meeting the requirements of the Functional Specification. ("Resolve" and "Resolving" shall be interpreted accordingly).
Root Cause	The underlying or original cause of an Incident or Problem.
Second Line Support	The second level in a hierarchy of support groups involved in the Resolution of Incidents and investigation of Problems. Each level contains more specialist skills, or has more resources.
Security Management	The process of ensuring the confidentiality, integrity and Availability of TfL's information, data (including the New System), as further described in Schedule 9 (Cyber Security Management).
TfL Period	A four-week period, that synchronises with the TfL accounting periods from time to time.
TfL Service Desk (SD)	The first point of contact for TfL departments, and other contractors of TfL, with regard to Problems and Incidents.
TfL Service Management Tool	the service management tool-suite used by TfL (currently Remedy 7.2) to manage Incidents, Problems, Changes and Configuration Records.

Third Line Support	The third (and highest) level in a hierarchy of support groups involved in the Resolution of Incidents and investigation of Problems, involving more specialist skills or more resources than the levels below it.
Workaround	Reducing or eliminating the impact of an Incident or Problem for which a full Resolution is not yet available; for example, by restarting a failed Configuration Item.
Worklog	A freeform text field within the TfL Service Management Tool which allows the Supplier and other contractors to track all actions taken in respect of an Incident, Problem or a Change.

1.0 INTRODUCTION

1.1 This **Schedule 2** describes:-

- 1.1.1 the Maintenance Services to be provided to TfL by the Supplier;
- 1.1.2 how the performance of the Maintenance Services shall be computed, measured, reported and presented by the Supplier;
- 1.1.3 the Service Key Performance Indicators (also referred to as KPIs) and Performance Indicators (also referred to as PIs) against which the Supplier's performance of the Services and Further Services (if any) will be measured.; and
- 1.1.4 the System KPIs and PIs against which the performance of the New System will be measured.

1.2 **Paragraphs 3 to 6** of this **Schedule 2** sets out the Service Levels, KPIs and PIs against which the Supplier shall measure and report.

1.3 **Paragraphs 7 to 15** of this **Schedule 2** sets out the way in which the Supplier shall provide the Maintenance Services to TfL from the Operational Commencement Date.

1.4 The measurement of the performance of the New System, Services and the Further Services (if any) shall be based on KPIs and PIs, as follows:

- 1.4.1 KPIs are a set of computable measures derived from the operation of the New System and the Services and Further Services (if any). Each KPI shall require a minimum level of performance to be achieved for each TfL Period and shall be used to evaluate the performance of the New System and the Services and Further Services (if any) provided by the Supplier. These measures shall help TfL to arrive at a fair, accurate and consistent view of the performance of the New System and the Services and Further Services (if any) and shall be linked to Service Credits and other remedies; and
- 1.4.2 PIs are a set of computable measures derived from the operation of the New System and shall be used to understand performance of the New System provided by the Supplier. However, these measures shall not be linked to Service Credits.

- 1.5 Service Credits shall become due from the Supplier to TfL if there is a failure to achieve the KPIs, as further described below, from the Operational Commencement Date.
- 1.6 KPIs and PIs shall start to be applied and measured from the Operational Commencement Date.

2.0 Structure of this Schedule

- 2.1 Performance Management and Reporting: **Paragraph 3** describes the elements that need to be in place to manage the performance of the New System and the Services and/or Further Services (if any).
 - 2.1.1 Reporting: outlines how the reporting of KPIs and PIs shall be undertaken by the Supplier.
 - 2.1.2 Non Compliance: outlines the non compliance aspect of the KPI.
 - 2.1.3 Changes to KPI and PI: describes how the changes to KPIs and PIs shall be discussed and implemented.
 - 2.1.4 KPI review: describes how and when KPIs shall be reviewed.
 - 2.1.5 Mitigating circumstances: describes the circumstances under which the KPI measurements shall be excluded.
- 2.2 Service Credits: **Paragraph 4** describes how the Service Credits shall be calculated and applied in case of a failure to achieve the KPIs.
- 2.3 Service KPI: **Paragraph 5** lists the Service KPIs and PIs, and how they shall be measured.
- 2.4 System KPI: **Paragraph 6** lists the System KPIs and PIs, and how they shall be measured.
- 2.5 Service Overview and Descriptions: **Paragraphs 7 to 14** set out the service overview and the service description that constitute the New System, Services and Further Services (if any) to be provided to TfL.
- 2.6 All processes that constitute the New System, Services and Further Services (if any) to be provided to TfL shall conform to the Information Technology Infrastructure Library (ITIL) guidelines unless otherwise agreed to the contrary.

3.0 PERFORMANCE MANAGEMENT AND REPORTING

3.1 Service Performance Reporting

The Supplier shall provide, implement, maintain and use the necessary measurement and monitoring tools, algorithms and procedures required to measure and report on the Supplier's performance of the Services and Further Services (if any) against the Service KPIs and Service PIs. The data source for these measurements shall be the TfL Service Management Tool.

3.2 System Performance Reporting

3.2.1 The measurement, monitoring tools and procedures to be used by the Supplier shall be at a level of detail sufficient for TfL to establish compliance of the New System with the KPIs and PIs. Following a request by TfL, such measurement, monitoring tools and procedures shall be subject to audit by TfL.

3.2.2 The Supplier shall commence measurement of the KPIs and PIs from the Operational Commencement Date.

3.2.3 The Supplier shall measure KPIs and PIs during each TfL Period.

3.2.4 The Supplier shall produce reports on its performance against KPIs and PIs after each TfL Period in respect of that TfL Period.

3.2.5 For KPI reporting, such reports shall be produced within five (5) Business Days after the last day of the TfL Period and shall report on performance against each and all KPIs and shall, as a minimum, contain: KPI reference number & period ID; KPI title; KPI target; achieved performance against KPI for the TfL Period; any KPI defaults; details of any applicable Service Credits which are payable; and reasons for any failure to meet the KPI target.

3.2.6 For PI reporting, such reports shall be produced within five (5) Business Days after the last day of the TfL Period and shall report on performance against each and all PIs and shall as a minimum contain: PI reference number & period ID; PI title; PI requested output(s), changes in performance to meet PI from previous period; comments on any significant changes in performance to meet PI (if applicable).

3.2.7 The Supplier shall provide a draft set of reports prior to Operational Commencement Date for approval by TfL with a description of how all KPI and PI reports will be produced.

3.2.8 Upon request by TfL, the underlying data that makes up the reports, as described in this **paragraph 3.2**, for each KPI and PI shall be made available by the Supplier to TfL for a period of three (3) TfL Periods, being the TfL Period to which the report relates (the "**Reporting Period**") and the two consecutive TfL Periods prior to the Reporting Period.

3.2.9 The Supplier shall produce all reports in the agreed formats. TfL shall notify the Supplier from time to time where and to whom the reports should be sent.

3.2.10 The Supplier shall report to TfL all KPI defaults that occurred in the Reporting Period and calculate any amount that TfL shall be entitled to claim under this **Schedule 2** as Service Credits.

3.3 Non Compliance with KPI

The Supplier shall, without prejudice to any other obligations under the Agreement or rights which TfL has under this Agreement or in law generally, take pro-active measures to prevent any failures to meet any KPI. If a KPI default occurs, the Supplier shall:

3.3.1 take appropriate preventive measures in order to minimise the possibility of recurrence;

3.3.2 advise TfL, as and to the extent requested by TfL, of the status of remedial efforts being undertaken with respect to such failures; and

3.3.3 where a KPI report establishes that the Supplier has failed to meet a KPI the Supplier shall be liable to TfL for Service Credits in accordance with the provisions of **paragraph 4** below.

3.4 Change to KPIs

3.4.1 If necessary, the Supplier and TfL shall work together in good faith following the Operational Commencement Date and for the remainder of the Term, in order to identify and establish, through the Contract Change Control Procedure in **Schedule 8**, additional KPIs or PIs that provide a fair, accurate, and consistent measurement of the full range of the Supplier's performance of the Services and/or Further Services (if any) and/or the performance of the New System.

3.4.2 Any new or optional Services which may be brought into the scope of the Agreement, via the Contract Change Control Procedure in **Schedule 8**, may be subject to additional KPIs and/or Performance Indicators and these shall be documented as part of the application of the Contract Change Control Procedure in **Schedule 8**.

3.4.3 Either party may implement the Contract Change Control Procedure in **Schedule 8** to seek to add, remove or substitute KPIs and or PIs in order to ensure that the KPIs and or PIs continue to provide a fair, accurate and consistent measurement of the Supplier's performance of the Services and Further Services (if any) and/or the performance of the New System, throughout the term of the Agreement.

3.5 KPI and PI Review

- 3.5.1 After the expiry of three (3) complete TfL Periods following the Operational Commencement Date, TfL shall carry out a review of the Supplier's performance against all KPIs.
- 3.5.2 After the expiry of six (6) complete TfL Periods following the Operational Commencement Date, TfL shall carry out a first full review (the "**First Review**") of the Supplier's performance against all KPIs and PIs.
- 3.5.3 Following the First Review, further reviews shall be carried out by TfL on a six (6) monthly basis for the first two (2) years after the Operational Commencement Date and annually thereafter ("**Further Reviews**") in accordance with **paragraphs 3.5.4 and 3.5.5**.
- 3.5.4 Without prejudice to any rights which TfL may have in this Agreement, should the First Review or the Further Reviews reveal that the Supplier's performance against any KPI has resulted in the Supplier incurring the maximum Service Credit available to TfL under **paragraph 4** of this **Schedule 2** for more than one TfL Period during the previous six (6) consecutive TfL Periods of the relevant review, then an action plan (the "**Action Plan**") shall be developed by the Supplier and delivered to TfL within ten (10) Business Days of notification of the outcomes of the First Review or the relevant Further Review. Such an Action Plan shall, to the reasonable satisfaction of TfL, demonstrate how the performance of the Supplier shall be improved for all future TfL Periods to ensure performance against all KPIs is achieved.
- 3.5.5 The Supplier and TfL shall, at the First Review and all the Further Reviews, review the KPIs and make adjustments to them (in accordance with the contract Contract Change Control Procedure set out in **Schedule 8**) as agreed and as appropriate. As part of this review process, the parties may jointly determine and agree on the addition, increase and/or removal of any KPI.
- 3.5.6 Every six (6) months for the first two (2) years after the Operational Commencement Date, and annually thereafter, TfL (as provided for in **paragraph 4** below) may adjust the At Risk Percentage associated with each KPI, subject always to:
 - 3.5.6.1 the total of the At Risk Percentage remaining at, or below, 100%; and
 - 3.5.6.2 the At Risk Percentage associated for each KPI remaining at or below the Maximum At Risk Percentage identified in the table at **paragraph 4.4.2** below.
- 3.5.7 Any adjustments to the At Risk Percentage for a KPI in accordance with **paragraph 3.5.6**, shall take effect three (3) months after TfL provides the Supplier with written notice of such an adjustment.

3.6 Mitigating Circumstances

3.6.1 The Supplier shall be excused from a KPI default to the extent the KPI default was caused by one or more of the following:

3.6.1.1 any Planned Downtime and or Planned Maintenance that has been agreed in writing by the parties; and/or

3.6.1.2 a failure by TfL to deliver any TfL Obligation as set out in **Schedule 12**, with the relief to which the Supplier is entitled being subject to **clause 13** (TfL's Obligations) of the Agreement.

4.0 SERVICE CREDITS

4.1 Service Credits may (subject to **paragraph 3.6**) become payable by the Supplier to TfL from the Operational Commencement Date, in accordance with this **paragraph 4**, where there is a KPI default.

4.2 Service Credits shall be calculated in accordance with the steps described below (and as described in further detail in **paragraph 4.4** onwards):

Step 1 – the At Risk Percentage of a KPI is identified.

Step 2 – the At Risk Percentage for that KPI shall then be multiplied by the total Service Charge payable for the TfL Period in which KPI default occurs, with such calculation producing the "**Maximum At Risk Amount Per KPI**" for that KPI in that TfL Period.

Step 3 - the Maximum At Risk Amount Per KPI shall be multiplied by 0.1 and then depending upon the level of degradation of performance for the KPI, multiplied by a Multiplier (as set out at **paragraph 4.6**) to arrive at the Service Credits payable.

4.3 Where two or more KPI defaults which result from the same Incident affect the System KPIs as described in **paragraph 6** of this **Schedule 2**, then Service Credits shall only be calculated for the KPI default to which the higher At Risk Percentage has been allocated.

4.4 Step 1 - Identifying the At Risk Percentage

4.4.1 TfL shall notify what At Risk Percentage it wants to be allocated to each KPI during the Pilot Scheme and the Supplier shall agree to this allocation, subject to the restrictions in **paragraph 4.4.2**.

4.4.2 The At Risk Percentages allocated to each KPI shall not exceed the Maximum At Risk Percentage for a KPI as is set out in the following table:

KPI Number and Title	The Maximum At Risk Percentage
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1	90% or more of all P1 Incidents to be resolved within 4 hours	30%
2	100% P1 Incidents shall be resolved within 24 hours.	20%
3	90% or more of P2 Incidents to be resolved within 8 hours.	30%
4	100% of P2 Incidents to be resolved within 24 hours.	20%
5	90% or more of P3 Incidents to be resolved within 24 hours.	30%
6	100% of P3 Incidents to be resolved within five (5) Business Days.	20%
7	Problem Analysis 90% or more within 5 days.	30%
8	Problem Analysis: 100% within 10 days.	30%
9	CSV file Accuracy	20%
10	Changes completed successfully on time during the period.	30%
11	System Availability	40%
12	Successful call set-up on new radio system	10%
13	Bridge Service Availability	40%
14	DMR coverage	10%
15	Setup of code red requests within 2 seconds per TfL period	40%

4.5 Step 2 - Calculating the Maximum At Risk Amount Per KPI

4.5.1 The table below sets out the At Risk Percentage (for illustration purposes only) which may be applicable for certain KPIs in order to show an example of how the Maximum at Risk Amount per KPI would be calculated. For the purpose of this example, it is also assumed that the total Service Charge for the TfL Period to which the KPI Default occurs is £100,000. All figures provided here are for illustration purposes only.

KPI Number	At Risk Percentage	Maximum At Risk Amount Per KPI (£)
1	10	10,000 (10/100 x 100,000)
3	8	8,000 (8/100 x 100,000)
5	10	10,000 (10/100 x 100,000)
7	2	2,000 (2/100 x 100,000)
9	10	10,000 (10/100 x 100,000)
11	30	30,000 (30/100 x 100,000)
12	30	30,000 (30/100 x 100,000)
Total	100	100,000

4.6 Step 3 - Calculating the Service Credit

4.6.1 The Multiplier required for Step 3 shall be determined by the difference between the KPI achieved and the KPI target. The tables below describe how the different levels of KPI defaults shall be categorised into different

bands. As the business impact of the System KPIs is more significant than the Service KPI, two separate service degradation bands for the System KPIs and the Service KPIs apply.

4.6.2 System KPIs: The table below sets out the applicable Multipliers to be used for the System KPIs:

Service Degradation Band	The difference between KPI achieved and KPI target	Multiplier
A	Less than or equal to 0.5%	1
B	Less than or equal to 1% but more than 0.5%	2
C	Less than or equal to 1.5% but more than 1%	4
D	Less than or equal to 2% but more than 1.5%	8
E	More than 2%	10

Example: If a System KPI target is 99.9% (a minimum required to be achieved) and only 98.3% was achieved (1.6% below the target) for a TfL Period, then it will fall into band D, which has a Multiplier of 8. Hence:

Service Credit = (Maximum At Risk Amount per KPI x 0.1) x 8.

4.6.3 Service KPIs: The table below sets out the applicable Multipliers to be used for Service KPIs:

Service Degradation Band	The difference between KPI achieved and KPI target	Multiplier
A	Less than or equal to 3%	1
B	Less than or equal to 6% but more than 3%	2
C	Less than or equal to 24% but more than 6%	4
D	Less than or equal to 48% but more than 24%	8
E	More than 48%	10

Example: If a Service KPI target is 94% and only 67% was achieved, then the difference between the KPI achieved and the KPI target is 27% which falls into band D, and therefore a Multiplier of 8. Hence:

Service Credit = (Maximum At Risk Amount per KPI x 0.1) x 8.

4.7 Service Credits payment deferral process

4.7.1 KPI default – Single TfL Period of KPI default

When a KPI default occurs during a TfL Period for a particular KPI, provided that a default in relation to the same KPI has not occurred in the preceding TfL Period and does not occur in the TfL Period immediately following the first TfL Period in which the specific KPI default occurs and subject to **paragraph 4.7.2**, the Service Credit due for that KPI default for that TfL Period shall not become payable, no demand for payment shall be made by TfL and TfL shall not deduct any Service Credits from any other sums due to the Supplier.

4.7.2 KPI Default – Two or more consecutive TfL Periods of the same KPI default

When a KPI default occurs for two or more consecutive Tfl Periods in relation to the same KPI:

- 4.7.2.1 the Service Credits for that KPI default for all consecutive Tfl Periods in which the KPI default occurs (including the first such Tfl Period) shall become payable in accordance with **paragraph 4.8**;
- 4.7.2.2 the Service Credits set out at **paragraph 4.7.2.1** will continue to be payable for each consecutive Tfl Period in which the same KPI default occurs and until there is a Tfl Period in which the Supplier achieves the relevant KPI for the KPI which was formerly in default; and
- 4.7.2.3 the Supplier shall have no right to recover the Service Credits paid for the two or more consecutive Tfl Periods of KPI default.

4.8 Service Credits payment

Where Service Credits become payable Tfl may, in its sole discretion, elect to accept payment of the Service Credits as a sum to be payable by the Supplier within 30 days of the Service Credit becoming due, or deduct the Service Credits from any sums due to the Supplier in accordance with **clause 5.7** of this Agreement.

4.9 Service Credits example

The following example illustrates how the Service Credits shall be calculated for KPI Defaults in respect of a Service KPI occurring during two (2) consecutive Tfl Periods. All figures are for illustrative purposes only and the Service Charge for each Tfl Period is assumed to be £100,000.

Total annual Service Charge	£1,300,000
Service Charge for each of the two Tfl Periods	£100,000 (1,300,000/13)
At Risk Percentage for each of the two Tfl Periods	10%
Maximum At Risk Amount Per KPI for each of the two Tfl Periods	£10,000 (100,000 x 10/100)
Baseline amount for each of the two Tfl Periods	£1,000 (10,000 x 0.1)
KPI target	95%
KPI achieved Tfl Period 4	70%
KPI achieved Tfl Period 5	79%

[illegible]

5.0 SERVICE KPI AND PIS

5.1 Priority Categorisation

Priorities shall be assigned to Incidents based upon their impact on TfL and the urgency to Resolve, Recover and restore the New System. Incidents shall be assigned a priority status based upon the criteria set out in this **paragraph 5.1**.

5.1.1 Priority 1 Incidents ("P1")

A P1 Incident arises when there is a critical situation in which conditions exist that are likely to result in life threatening or hazardous or unsafe conditions; or that severely affect service (>25%), monitoring/management capability and require sustained effort using all available resources until resolved; on-call procedures are activated; Supplier support is invoked; or as classified as P1 Incident(s) through mutual agreement.

5.1.2 The following is a non-exhaustive list of examples of Incidents that shall be classed as P1 Incidents:

- 5.1.2.1 Failure of 25% or more of the voice channels available at a radio base station on MPT-IP System or DMR Digital mobile radio system
- 5.1.2.2 Loss of a central radio node
- 5.1.2.3 Complete loss of Centre-Com voice facilities
- 5.1.2.4 Complete loss of any Garage's voice facilities
- 5.1.2.5 Failure that prevents the Digital Audio Switch from operating in full redundant mode
- 5.1.2.6 Failure of system management and monitoring tools;

5.1.3 Priority 2 Incidents ("P2")

A P2 Incident arises when there is a major situation in which conditions exist that are likely to result in hazardous or unsafe conditions; or seriously reduces system operation (<25%) maintenance, usability and administration capability; or is likely to result in the complete failure of the New System or other business critical TfL systems and requires immediate attention as assessed by TfL; significantly impacts the ability of TfL to fully utilise the critical functions of the application; or as classified as P2 Incident(s) by mutual agreement.

5.1.4 The following is a non-exhaustive list of examples of Incidents that shall be classed as P2 Incidents:

- 5.1.4.1.1 system failure affecting multiple users

5.1.4.1.2 Failure of a voice workstation in a Garage with only one voice workstation

5.1.4.2 A New System failure affecting a single user using a critical service, such as:

5.1.4.2.1 reporting;

5.1.4.2.2 any real time management element

5.1.4.3 Failure of non business critical applications; and/or

5.1.4.4 Partial loss of New System critical data.

5.1.5 Priority 3 Incidents ("P3")

A. P3 Incident arises when there is a minor situation in which conditions exist which cause TfL or the New System to experience a negative impact but which do not significantly impair the functions of the system and do not significantly affect the provision of service by TfL to its customers; problems are not traffic impairing or service impacting; or as classified as P3 Incidents by mutual agreement.

5.1.6 A P3 Incident may result from the following reasons. This list shall not be exhaustive:

5.1.6.1 Failure of a mobile radio unit on a Bus

5.1.6.2 Failure of a voice workstation at a Garage

5.1.6.3 Failure of a voice base station at any base site

5.2 Incident Management Service KPI

5.2.1 The Supplier's Performance against Incident Management Service KPIs shall be measured 24 hours a day, 7 days a week across each TfL Period.

5.2.2 The measurement period (also known as the KPI clock) for the KPI shall commence upon acknowledgement of an Incident Record by the Supplier's support team or after ten (10) minutes have elapsed from the assignment of the Incident to the Supplier's support team, whichever is sooner.

5.2.3 The measurement period shall stop at the point at which the Supplier's Third Line Support assigns the Incident to the TfL Service Desk for closure. The resolution of the Incident shall be verified by the TfL Service Desk and if the resolution is not satisfactory, then the Incident shall be re-assigned to the Supplier. In such cases, the measurement period shall continue from the point TfL reassigns the Incident back to the Supplier. For the avoidance of doubt, the time that the Incident was with TfL to verify the resolution is not included in the measurement period.

5.2.4 The measurement period shall be suspended when an Incident is re-assigned by the Supplier (acting in good faith and reasonably) to TfL or by

TfL to another contractor, in order to request more information, to the extent such a re-assignment is permitted by **paragraph 5.2.5**. Once the requested information has been provided to the Supplier, the measurement period shall, subject to **paragraph 5.2.5**, continue from the point at which the requested information was provided.

5.2.5 If it is established in **paragraph 5.2.4** that the requested information was reasonably available within the Supplier's domain, then the duration for which the measurement period was suspended shall be added to the measurement period.

5.2.6 All Incidents raised with the Supplier shall be owned and managed by the Supplier until resolved, regardless of whether the Root Cause of the Incident lies within the New System, the Services or anything else for which the Supplier has responsibility or has provided or is liable for under the Agreement. To the extent that the Root Cause of an Incident does not lie within the New System, the Services or anything else for which the Supplier has responsibility or has provided or is liable for under the Agreement, the Supplier can recover the reasonable costs it has directly incurred in relation to the management and resolution of such Incident from TfL. In accordance with **clause 5.16**, the Supplier shall not be in breach of a KPI to the extent that the Root Cause of an Incident does not lie within the New System, the Services or anything else for which the Supplier has responsibility or has provided or is liable for under the Agreement.

5.2.7 KPI Targets – P1 Incidents

KPI Number	1
KPI Title	90% or more of all P1 Incidents to be resolved within 4 hours
KPI Target	90% or more of all P1 Incidents occurring in a TfL Period shall be resolved within 4 hours
KPI Calculation	<p>(Number of P1 Incidents arising during a TfL Period resolved within 4 hours / Total number of P1 Incidents which arose during the same TfL Period) x 100).</p> <p>For example, where 25 P1 incidents occur in a specific TfL Period and 23 of them are resolved within 4 hours, the KPI calculation shall be as follows:</p> <p>$(23/25) \times 100 = 92\%$</p> <p>92% is equal to or greater than the 90% KPI Target so the KPI would be achieved in this example scenario.</p> <p>The data source shall be the TfL Service Management Tool. For details of the measurement period for resolution of an Incident refer to paragraphs 5.2.1 to 5.2.5.</p>
At Risk %	As described in paragraph 4.5.1 .

KPI Number	2
KPI Title	100% P1 Incidents shall be resolved within 24 hours.
KPI Target	100% of all P1 Incidents occurring in a TfL Period shall be resolved within 24 hours
KPI Calculation	<p>(Number of P1 Incidents arising during a TfL Period Resolved within 24 hours / Total number of P1 Incidents which arose during the same TfL Period) x 100)</p> <p>The data source shall be the TfL Service Management Tool. For details of the measurement period for resolution of an Incident refer to paragraphs 5.2.1 to 5.2.5.</p>
At Risk %	As described in paragraph 4.5.1.

5.2.8 KPI Targets – P2 Incidents

KPI Number	3
KPI Title	90% or more of P2 Incidents to be resolved within 8 hours.
KPI Target	90% or more of all P2 Incidents occurring in a TfL Period shall be resolved within 8 hours.
KPI Calculation	<p>(Number of P2 Incidents arising during a TfL Period resolved within 8 hours / Total number of P2 Incidents which arose during the same TfL Period) x 100</p> <p>The data source shall be the TfL Service Management Tool. For details of the measurement period for resolution of an Incident refer to paragraphs 5.2.1 to 5.2.5.</p>
At Risk %	As described in paragraph 4.5.1.

KPI Number	4
KPI Title	100% of P2 Incidents to be resolved within 24 hours.
KPI Target	100% of all P2 Incidents occurring in a TfL Period shall be resolved within 24 hours.
KPI Calculation	<p>(Number of P2 Incidents arising during a TfL Period resolved within 24 hours / Total number of P2 Incidents which arose during the same TfL Period) x 100</p> <p>The data source shall be the TfL Service Management Tool. For details of the measurement period for resolution of an Incident refer to paragraphs 5.2.1 to 5.2.5.</p>
At Risk %	As described in paragraph 4.5.1.

5.2.9 KPI Targets – P3 Incidents

KPI Number	5
KPI Title	90% or more of P3 Incidents to be resolved within 24 hours.
KPI Target	90% or more of all P3 Incidents occurring in a TfL Period shall be resolved within 24 hours.
KPI Calculation	(Number of P3 Incidents arising during a TfL Period Resolved within 24 hours / Total number of P3 Incidents which arose during the same TfL Period) x 100 The data source shall be the TfL Service Management Tool. For details of the measurement period for resolution of a P3 Incident refer to paragraphs 5.2.1 to 5.2.5.
At Risk %	As described in paragraph 4.5.1.

KPI Number	6
KPI Title	100% of P3 Incidents to be resolved within five (5) Business Days.
KPI Target	100% of all P3 Incidents occurring during an TfL Period shall be resolved within five (5) Business Days
KPI Calculation	(Number of P3 Incidents arising during a TfL Period resolved within five (5) Business Days / Total number of P3 Incidents which arose during the same TfL Period) x 100 The data source shall be TfL incident management system. For details of the measurement period for resolution of an Incident refer to paragraph 5.2.
At Risk %	As described in paragraph 4.5.1.

5.3 Problem Management Service KPI

- 5.3.1 The Supplier's Performance against Problem KPIs shall be measured 24 hours a day, 7 days a week across each TfL Period.
- 5.3.2 The measurement period for Problem KPIs shall commence upon the assignment of a Problem Record to the Supplier's Third Line Support by TfL.
- 5.3.3 The measurement period for Problem KPIs shall conclude when the Supplier has analysed the Problem and provided an acceptable plan (the "**Corrective Plan**") to TfL within a maximum of 5 days. TfL shall then review and sign off the Corrective Plan. The Corrective Plan will include corrective actions, that if implemented shall remove the need to apply the Workarounds, and shall resolve the Problem and will have a timescale and final delivery date that shall be agreed with TfL, and implemented via the Change Management procedure in **paragraph 12**. Where the Supplier has

failed to achieve a final delivery date for a Corrective Plan (within 5 business days), the Problem Record shall be re-opened and shall remain open until such time as the Corrective Plan is fully completed.

5.3.4 Where the Supplier's failure to achieve a final delivery date for a Corrective Plan is due to TfL's actions the Problem Record shall remain closed until such time as TfL have confirmed that the effects of its actions no longer apply, after which the Supplier will be allowed such time as was remaining before TfL's actions in order to complete the Corrective Plan.

5.3.5 The measurement period shall be suspended whilst the Problem is re-assigned to TfL by the Supplier or another contractor by TfL to request more information; to the extent such re-assignment is permitted in **paragraph 5.3.6**. Once the requested information has been provided, the measurement period shall, subject to **paragraph 5.3.3**, continue from the point at which the requested information was provided.

5.3.6 The measurement period shall be suspended when the Problem is re-assigned, at the request of the Supplier, to another contractor to investigate. If the appropriate owner of the Problem is subsequently found to be the Supplier, then the duration for which the measurement period was suspended shall be added to the measurement period.

5.3.7 Problem Records shall only be raised when TfL has agreed the proposed Workaround and until such time, the Incident will remain open and the known error database will be updated.

5.3.8 KPI Targets

KPI Number	7
KPI Title	Problem Analysis 90% or more within 5 days.
KPI Target	90% or more of Problems assigned to the Contactor in a TfL Period shall be analysed and an acceptable Corrective Plan shall be made available to TfL within 5 days from the date and time the Problem is assigned to the Supplier by TfL.
KPI calculation	(Number of Problems arising during a TfL Period that were analysed within 5 days / Total number of Problems which were raised and assigned to the Supplier in the same TfL Period) x 100 The data source shall be the TfL incident management system. For details of the measurement period for resolution of a Problem refer to paragraph 5.3 .
At Risk %	As described in paragraph 4.5.1 .

KPI Number	8
KPI Title	Problem Analysis: 100% within 10 days.

KPI Target	100% of the Problems assigned to the Contactor in an TfL Period shall be analysed and an acceptable Corrective Plan shall be made available to TfL within 10 days from the date and time the Problem is assigned to the Supplier by TfL.
KPI calculation	<p>(Number of Problems arising during a TfL Period that were analysed within 5 days / Total number of Problems which were raised and assigned to the Supplier in the same TfL Period) x 100</p> <p>The data source shall be the TfL Period Incident management system. For details of the measurement period for resolution of a Problem refer to paragraph 5.3.</p>
At Risk %	As described in paragraph 4.5.1 .

5.4 Configuration Management Service KPI

5.4.1 For the purpose of the Configuration Management Service KPI the accuracy of the Comma-Separated Values file (also known as the CSV file) shall be calculated based on **paragraph 5.4.6**.

5.4.2 TfL shall periodically audit Configuration Items information provided through the CSV file and uploaded to the CMDB through a comparison with the deployed CI's.

5.4.3 TfL shall issue a report with all the audit findings along with any observations and non-conformities, to the Supplier. The Supplier shall have five (5) Business Days to respond and make all appropriate corrective actions and the resulting Changes to the CI data shall be fed back to TfL through an updated CSV file.

5.4.4 If, following the response from the Supplier, TfL is still of the reasonable opinion that CI information is missing and the accuracy of the CMDB is below the agreed KPI Target of 95% the KPI shall have been deemed to have been failed.

5.4.5 The Supplier shall, at the Operational Commencement date, and then after any System or Software Change provide to TfL the latest CSV file within two (2) Business Days (for the avoidance of doubt this will include any configurable Change to the baseline CSV file).

5.4.6 KPI Targets

KPI Number	9
KPI Title	CSV file Accuracy
KPI Target	The accuracy of the CSV files delivered shall be at least 95% in any individual TfL Period.
KPI Calculation	100% - (Number of accurate CIs as recorded in the CMDB and

	<p>tested via audit / Total number of CIs included in the audit) x 100)</p> <p>e.g. Where 10 inaccurate CIs (as described in paragraph 13) are detected from a total of 200 CIs within an audit in that TfL Period, the KPI calculation shall be as follows:</p> $100\% - ((190/200) \times 100) = 95\%$
At Risk %	As described in paragraph 4.5.1.

5.5 Change and Release Management Service KPI

5.5.1 The Change and Release Management Service KPI measures the percentages of Changes completed successfully and on time during the TfL Period by the Supplier. Changes that fail to be completed on time shall impact this KPI.

5.5.2 For the avoidance of doubt a Change that has been backed out or regressed, does not address or resolve all of the Problems it was intended to, results in new Incidents and Problems or the recurrence of previously resolved Incidents or Problems, shall be considered an **"Unsuccessful Change"**.

5.5.3 TfL shall make the final decision and a Change shall only be closed by the TfL Change and Release Manager.

5.5.4 The scope of any Change should include details of any Changes to other Configuration Items, processes and documentation (as applicable).

5.5.5 KPI targets

KPI Number	10
KPI Title	Changes completed successfully on time during the period.
KPI Target	95% or more of all Changes shall complete successfully on time in the TfL Period.
KPI Calculation	<p>(Number of Changes completed successfully and on time during a TfL Period / Total number of Changes scheduled to complete during the same TfL Period) x 100</p> <p>e.g. Where 95 Changes completed successfully and on time during the TfL Period out of the 100 Changes scheduled to complete during the TfL Period, the KPI calculation shall be as follows:</p> $(95 / 100) \times 100 = 95\%$
At Risk %	As described in paragraph 4.5.1.

6.0 SYSTEM KPIs AND PIs

6.1 System Availability

6.1.1 In a Tfl Period, the service window for the System Availability KPI shall be **24** hours a day, every day of the year

6.1.2 System Availability Is the availability of the processes and associated equipment with the System and Services.

6.1.3 The availability of the New System shall be monitored and measured electronically.

6.1.4 The following Downtime shall, without limitation, be included as Downtime when the New System is unavailable:

6.1.4.1 any Downtime of the System due to an Incident, Problem or Unsuccessful Change caused by but not limited to the New System infrastructure, interfacing systems, operating systems and applications, LAN equipment for servers, firewalls and any connectivity up to the external networks (i.e. up to, but not including, any WAN routers); and/or

6.1.4.2 any Downtime for database merges.

6.1.5 The following Downtime shall be deemed to be time when the New System is available:

6.1.5.1 Planned Downtime that is undertaken in accordance with the process for planning Downtime that is set out in **paragraph 12** and any other downtime caused by emergency Changes that are performed in accordance with **paragraph 12** of this **Schedule 2**.

6.1.6 KPI Targets

KPI Number	11
KPI Title	System Availability
KPI Target	System Availability of 99.5% or more in each Tfl Period.
KPI Calculation	<p>Availability shall be defined as the amount of time all voice channels are available and the New System is functioning according to the Functional Specification. Any non-available voice channels will count proportionally towards unavailability of the New System.</p> <p>Availability of the new System shall be calculated as:</p> $\text{Availability}(\%) = 100 \times \left(1 - \frac{\sum t_u \times \frac{V_u}{V_T}}{V_T \times t_p}\right),$

	<p>Where:</p> <ul style="list-style-type: none"> • t_u is the duration of an outage • V_u is the number of voice channels affected • V_T is the total number of voice channels • t_p is the period over which availability is being calculated <p>In the event a failure is due to a component not provided by the Supplier or the availability of the TfL MPLS network then this failure when agreed by TfL shall be excluded from the availability calculations.</p>
At Risk %	As described in paragraph 4.5.1.

KPI Number	12
KPI Title	Successful call set-up on new radio system
KPI Target	Number of successful calls against the number of calls attempted 95% or more in each TfL Period.
KPI Calculation	<p>Availability shall be defined as number of successful calls against the total number of calls attempted and shall include all calls that are requested but are unsuccessful in establishing full and sustained contact.</p> <p>The calculation will be as follows: (Total number of successful calls made via the New System during a TfL Period / Total number of calls attempted via the New System during a TfL Period) x 100</p> <p>e.g. Where 14,500 calls were successful out of a total number of attempted calls of 15,500, the KPI calculation shall be as follows:</p> <p>$(14,500 / 15,500) \times 100 = 93.55\%$ (a failure)</p> <p>Call end reasons which include:</p> <ul style="list-style-type: none"> • Call pre-emption • Inactivity time-out • Call time limit exceeded • Normal Call Close • Called party unavailable or busy <p>will be considered to be successful calls.</p> <p>In the event a failure is due to a component not provided by the Supplier or the availability of the TfL MPLS then this failure when agreed by TfL shall be excluded from the availability calculations.</p>
At Risk %	As described in paragraph 4.5.1.

KPI Number	13
KPI Title	Bridge Service Availability
KPI Target	Bridge Service Available 99% or more of the time per TfL

	Period.
KPI Calculation	<p>Availability of the Bridge Service shall be calculated as:</p> $\text{Availability}(\%) = 100 \times \left(1 - \frac{\sum t_u \times \frac{V_u}{V_T}}{V_T \times t_p}\right),$ <p>Where:</p> <ul style="list-style-type: none"> • t_u is the duration of an outage • V_u is the number of connection licenses affected • V_T is the total number of connection licenses • t_p is the period over which availability is being calculated <p>In the event a failure is due to a component not provided by the Supplier or the availability of the Tfl provided access to the Internet then this failure when agreed by Tfl shall be excluded from the availability calculations.</p>
At Risk %	As described in paragraph 4.5.1.

KPI Number	14
KPI Title	DMR Coverage
KPI Target	DMR coverage 95% or more in each Tfl Period.
KPI Calculation	<p>This shall be reported as the bus route distance with suitable coverage against total bus route distance.</p> <p>Suitable coverage shall be defined as a signal strength of greater than -115 dbm reported by the bus radio.</p> <p>In the event a failure is due to a component not provided by the selected supplier or the availability of Tfl MPLS then this failure when agreed by Tfl shall be excluded from the availability calculations.</p>
At Risk %	As described in paragraph 4.5.1.

KPI Number	15
KPI Title	Setup of code red requests within 2 seconds per Tfl period
KPI Target	95% or more of code red requests are set up within 2 seconds
KPI Calculation	<p>At least 95% of all code red voice call requests shall be set up within 2 seconds of the call being initiated.</p> <p>This shall be calculated as the time difference between: the initiation of a call back request by the bus driver and the time the radio sets up the call with the emergency dispatch group.</p> <p>In the event a failure is due to a component not provided by the selected supplier or the availability of the Tfl MPLS then this</p>

	failure when agreed by TfL shall be excluded from the availability calculations.
At Risk %	As described in paragraph 4.5.1.

- 6.1.7 **Performance Indicators.** A set of computable measures derived from the operation of the New System, Services and Further Services (if any) and shall be used to evaluate the performance of the New System, Services and Further Services (if any) provided by the Supplier. These measures shall help TfL to arrive at a fair, accurate and consistent view of the performance of the New System, Services and Further Services. These measures are described below and shall not be linked to the Service Credits

Performance Indicator (PI) Number	Performance Indicator (PI) Description
PI-1	For all calls the grade of service shall be such that no more than 5% of calls may be queued for more than 10 seconds in the Busy Hour (being the unique hour in the day that the most call attempts were made) for each of the radio sites.
PI-2	The radio system shall be capable of providing an end-to-end voice quality with a Mean Opinion Score (MOS) of 3 for 95% of the call time (for both the uplink and the downlink paths).
PI-3	The number of successfully ended calls within the system shall be greater than 99.5%.
PI-4	The time between a code red request being made and the call-back being made to the requesting bus shall be less than 10 seconds.

7.0 SERVICE OVERVIEW

7.1 Introduction

- 7.1.1 The Supplier shall perform the Services, using specialist support where required, in order that the Services and/or Further Services (if any) are in compliance with the Service KPIs.
- 7.1.2 The Supplier shall Resolve Incidents, Problems and Changes, which the TfL First and (where appropriate) Second Line Support teams have been unable to Resolve.
- 7.1.3 In addition to the services required from the Supplier in designing, supplying, specifying, procuring, installing or implementing the Equipment and/or the New System and/or building and supplying the Software (the "**Delivery Services**"), the Supplier shall perform any tasks generated by

any of the Services and/or Further Services (if any) described within this **Schedule 2**, in compliance with the Service KPIs and so that the New System operates in compliance with the Service KPIs and the System KPIs (the "**Maintenance Services**").

7.2 Maintenance and Delivery Services

7.2.1 The Maintenance Services describe the day-to-day activities, which the Supplier is required to perform. The Maintenance Services consist of the following:

- advice and guidance;
- Incident Management including the provision of the Supplier's Service Desk (including Incident response, resolution and system monitoring);
- Problem Management (incorporating Problem resolution and application support);
- Change Management (incorporating Moves, Additions and Changes from the requirements); and
- Configuration Management (Asset management).

7.2.2 The Delivery Services describe the services that the Supplier is required to perform to ensure the delivery of the Services and Further Services (if any). These require advance planning and aim to ensure and improve the quality of new System, Services and Further Services (if any) in the long term. It consists of the following:

- Security Management;
- Availability Management;
- Capacity Management for all dimensionable system components (including interfaces and data networks);
- IT Service Continuity Management.

7.2.3 The Service KPIs and the System KPIs are set out in **paragraphs 5 and 6** of this **Schedule 2**. The Supplier shall design, develop, deploy and maintain the relevant elements of the New System to ensure the Service KPIs and System KPIs are met.

7.2.4 The Supplier, in collaboration with TfL, shall manage Incidents and Problems that affect the Availability of the New System through the Delivery Services and Maintenance Services processes. The efficiency of the Delivery Services and Maintenance Services shall be measured through the Service KPIs and the System KPIs.

7.2.5 The Supplier shall monitor and trend the KPIs to forward plan activities to ensure that the New System operates at, or better than, the KPIs required. For example, the Supplier shall monitor a comprehensive set of KPI's relating to utilisation and thus identify and forward plan Capacity requirements.

7.2.6 The Supplier shall act upon the lessons learned/feedback received from the Maintenance Services (e.g. Incident/Problem Management) and use it to maintain or improve the quality of the Services and/or Further Services (if any) and the Delivery Services processes.

7.2.7 The IT Service Continuity Management Plan shall identify the triggers for invocation, people to be involved, communications etc. and shall be part of the Disaster Recovery Plan.

7.3 Relationship between Delivery Services

7.3.1 The Supplier will ensure that Capacity Management, Security Management and IT Services Continuity Management ("ITSCM") work in conjunction with Availability Management, and that Availability Management performance is reflected in the System KPI reporting.

7.3.2 The Supplier will ensure that Availability Management, Capacity Management and Security Management work in conjunction with Incident Management of the Maintenance Services, and that any Incidents affecting these are handled through Incident Management.

7.4 Relationship between Maintenance Services:

7.4.1 The Supplier will ensure that the Service Desk function works in conjunction with Incident Management, Problem Management, Change Management and Release and Configuration Management.

7.4.2 The Supplier will ensure that Incident Management works in conjunction with Problem Management and any Incident without a known cause that requires investigation (but has an agreed Workaround) shall become a Problem Record. (For example, if a repeated server failure is a Problem, rebooting the server and bringing it back to Service shall be considered as the Workaround. The solution shall be the replacement of the server).

7.4.3 The Supplier will ensure that , Incident Management works in conjunction with Configuration Management in order to enable Change(s) to Configuration Item(s) in order to implement a solution to the Incident or Problem (where applicable).

7.4.4 The Supplier will ensure that Problem Management works in conjunction with Change and Release Management, so that solutions to Problems can be implemented through Change and Release Management (where applicable).

7.4.5 The Supplier will ensure that Change and Release Management works in conjunction with Configuration Management to enable Changes to include Changes to CIs (where applicable), which the Supplier shall document through Configuration Management.

- 7.4.6 The Supplier will ensure that both Incident and Problem Management work in conjunction with Configuration Management to enable effective Changes to CI Attributes (as required).

8.0 AVAILABILITY MANAGEMENT

8.1 Introduction

- 8.1.1 Availability Management is driven by and based on the requirements for the Availability of the New System, Services and Further Services (if any) as defined in the System KPIs and Service KPIs in this Schedule.
- 8.1.2 The Supplier shall use all appropriate best practice and processes in order to achieve the **System Availability KPI** Targets and shall ensure that the Supplier is proactive in identifying issues relating to the availability of the New System and Services (and Further Services, if any) to minimise the risk of such issues impacting upon the availability and performance of the New System and/or the Services and/or Further Services.
- 8.1.3 The Supplier is responsible for understanding the **System Availability KPI** and for designing, deploying and maintaining the New System and providing the Services to meet such requirements.
- 8.1.4 The Supplier shall ensure that the Availability Management processes ensure that the New System, tools, roles etc. are appropriate for the agreed KPIs for System Availability and enable the Supplier to meet such KPIs.

8.2 Availability Management

- 8.2.1 For the purpose of Availability Management, the minimum performance to be achieved by the Supplier for the Availability of the System and Services, as described in the System KPIs and Service KPIs, shall be referred to as "**KPI Targets**".
- 8.2.2 The Supplier shall use all appropriate Good Industry Practices and processes in order to achieve the Availability Management (Services and System) KPI Targets.
- 8.2.3 Failure to meet KPI Targets shall result in Service Credits becoming payable in accordance with this **Schedule 2**.

8.3 Availability Monitoring and Reporting

- 8.3.1 The Supplier shall deploy appropriate system monitoring tools to monitor performance against KPI Targets.
- 8.3.2 The Supplier shall liaise with TfL to develop appropriate performance monitoring for KPI Targets.

- 8.3.3 The Supplier shall monitor performance against the KPI Targets by collecting appropriate data in order to report (hereafter referred to as the **"Availability Report"**) upon the performance of the System and the Services and Further Services (if any) to TfL for every TfL Period during the Agreement.
- 8.3.4 The Supplier shall compare the performance data collected for System KPIs and Service KPIs (through monitoring) against the KPI Targets described in this Schedule 2 and shall report the findings of such a comparison to TfL in the Availability Report.
- 8.3.5 The Supplier shall produce an Availability Report for every TfL Period.
- 8.3.6 The Supplier shall demonstrate in detail to TfL the calculation of their performance against the KPI Targets achieved in the Availability Report.
- 8.3.7 The Supplier shall list in the Availability Report any failures to meet KPI Targets, the steps taken to Resolve failures, the reasons for failures and actions that shall be taken to prevent such failures in future.
- 8.4 Changes related to Availability
 - 8.4.1 Details relating to the introduction of new or modifying existing System KPIs or Service KPIs are described in **paragraph 4 of this Schedule 2**.
 - 8.4.2 Where applicable, Incidents impacting the System KPIs (e.g. repeated Incidents with the New System) with an unknown underlying cause shall be handled through the Problem Management Process. Any Resolutions to such Problems shall be handled through the Change and Release Management Process.
 - 8.4.3 The Supplier shall investigate and resolve any Incidents and Problems impacting upon the KPI Targets to ensure that performance against the KPI Targets is maintained in accordance with this **Schedule 2**. The resolution of such Incidents and Problems shall be handled through the Incident and Problem Management Processes.

9.0 INCIDENT MANAGEMENT

9.1 Introduction

- 9.1.1 The Supplier shall use all appropriate Good Industry Practice and processes in order to achieve the Incident Management (Services and System) KPI Targets
- 9.1.2 The process addresses the detection, recording, analysis, resolution and restoration and closure of all Incidents to minimise the disruption of the New System, Services and Further Services (if any) and the impact on TfL.
- 9.1.3 The Supplier shall maintain the New System, Services and Further Services (if any) 24 hours a day, 7 days a week to meet the System KPIs and the

Service KPIs in accordance with the Incident Management process described in this **paragraph 9**.

- 9.1.4 The primary objective of Incident Management shall be to restore the New System or the Services and the Further Services (if any) as quickly as possible.

9.2 TfL Service Desk

- 9.2.1 TfL shall provide the TfL Service Desk and shall provide First Line Support where possible, in accordance with paragraph 9.6.
- 9.2.2 The TfL Service Desk shall be the first point of contact for TfL, the Supplier, users, customers and other contractors in relation to the operation of the New System, Services and Further Services (if any).

9.3 Second Line and Third Line Support

- 9.3.1 For the Bus radios TfL shall provide only a triage based Second Line Support.
- 9.3.2 Subject to **paragraph 9.3.1** the Supplier shall provide Second and Third Line Support (including Incident Management processes) for the New System, Services and Further Services (if any) in accordance with **paragraphs 9.5, 9.6, 9.9 and 9.10**. This support shall include, but not be limited to:
 - 9.3.2.1 reporting any Incidents discovered by the Supplier to the TfL Service Desk in accordance with paragraph 9.5; and
 - 9.3.2.2 subject to paragraph 9.8.2, upon request by the TfL Service Desk, the diagnosis of Incidents and the Resolution of such Incidents.
- 9.3.3 The Supplier will provide proactive monitoring of the New System infrastructure via the Supplier's Service Management Centre function and alert/advise TfL of incidents and issues identified via these tools.

9.4 System monitoring tools

- 9.4.1 The Supplier shall develop and deploy appropriate monitoring tools of the New System, Services and Further Services (if any) for TfL.
- 9.4.2 The Supplier shall, via the Training Services, provide information and training to TfL to assist TfL to Investigate, diagnose, Resolve or assign an Incident to the Supplier or other TfL contractors. This shall include but not be limited to the following:
 - 9.4.2.1 the information required in order to log the Incident;

9.4.2.2 training on the use of the system monitoring/diagnostic tools to diagnose a fault and identify the owner of the Incident at first assignment in order to avoid repeated reassignment to other contractors; and

9.4.2.3 training required in order for TfL to fulfil any of its obligations under **paragraph 9.2.1**.

9.4.3 The Supplier shall deploy specialist software (as identified in **Schedule 1** or as otherwise agreed by TfL) to continuously monitor the New System and shall either raise alerts or initiate auto-correction facilities when an Incident occurs or is likely to occur.

9.4.4 The System monitoring tools shall function as an early warning system with pro-active and predictive systems management helping to identify potential bottlenecks and issues with the New System when, or before, they prevent the System meeting the System KPIs and/or they impact the performance of the Services and Further Services (if any).

9.4.5 All diagnostic tools shall be made available to TfL prior to Operational Commencement to assist with accurate diagnosis, logging, detection of Root Causes, ownership and Resolution of Incidents by TfL First Line Support and Second Line Support.

9.5 System Monitoring and Reporting

9.5.1 Upon becoming aware of an Incident, the Supplier shall notify any Incidents to the TfL Service Desk.

9.5.2 When reporting an Incident to the TfL Service Desk, the Supplier shall advise TfL of the priority and target time for resolution of the Incident, though the actual priority shall be assigned by TfL in accordance with **paragraph 9.6.3** below.

9.5.3 The Supplier shall immediately alert TfL of Incidents that have a significant impact upon the operation of the New System, Services and the Further Services (if any).

9.6 Incident Resolution

9.6.1 TfL shall provide First Line Support 24 hours a day every day of the year (excluding Christmas Day).

9.6.2 TfL First Line Support shall continuously monitor the progress of all Incidents to ensure that Incidents are Resolved.

9.6.3 TfL First Line Support shall attempt to Resolve Incidents. If an Incident is Resolved by the TfL First Line Support then the Resolution shall be verified and the Incident shall be closed in the TfL Service Management Tool by TfL.

- 9.6.4 If an Incident is not Resolved by TfL First Line Support, it shall be assigned to the Supplier's Second Line Support through the TfL Service Management Tool in accordance with **paragraph 9.7**.
- 9.6.5 Upon referral from TfL's First Line Support, the Supplier's Second Line Support shall, with the help of the system monitoring tools, attempt to Resolve the Incident.
- 9.6.6 For Bus Radios, TfL Second Line Support shall attempt to Resolve Incidents. Where this is not possible, Incidents shall be assigned to the Supplier's Second and/or Third Line Support using the TfL Service Management Tool.
- 9.6.7 Once the Incident is assigned to the Supplier's Second Line and/or Third Line Support, TfL First Line Support shall continuously monitor the progress of the Incident, paying particular attention to actions taken by the Supplier's Third Line Support to Resolve the Incident.

9.7 Assignment to Supplier Support Team

- 9.7.1 The Supplier shall provide expert Second Line and Third Line Support for Incident Management 24 hours a day every day of the year for the New System in order to manage the Resolution of Incidents referred to it by TfL or that have been detected by Supplier's own team.
- 9.7.2 When assigning an Incident to the Supplier's support team, the TfL Service Desk shall send a written notice through the TfL Service Management Tool.
- 9.7.3 The Supplier shall use the TfL Service Management Tool to receive, accept, update and Resolve Incident Records.
- 9.7.4 The Supplier shall access the TfL Service Management Tool assigned Incident records through a web interface made available by TfL using PCs with the specifications set out at **paragraph 9.7.5** below.
- 9.7.5 The minimum PC specification requirements for the Supplier to access the TfL Service Management Tool platform via the web shall be:
- OS: Windows 7
 - CPU: 2 GHz
 - Memory: 1 GB
 - Screen resolution: 1024x768

In addition, a fixed IP address on an internet-enabled computer is required to allow access to the TfL Service Management Tool.

- 9.7.6 The Supplier shall provide other means, dedicated to TfL of accepting additional information relating to Incident Records. This shall include, but not be limited to, phone, email and web based forms.

9.7.7 The Supplier shall monitor its TfL Service Management Tool inbox for any Incidents assigned to them by TfL. The Supplier shall acknowledge the Incident within 10 minutes of assignment, as described in **paragraph 9.7.8.**

9.7.8 The Supplier, acting reasonably, may reject the Incident within 10 minutes of assignment by TfL, but shall provide TfL reasons for the rejection. If the Supplier does not reject the Incident within 10 minutes, the Incident shall be deemed to be accepted by the Supplier for investigation and Resolution.

9.7.9 Where the TfL Service Management Tool is not available due to an outage under TfL's responsibility, the Supplier shall accept Incidents from TfL via other means, which may include phone, email and web-based forms.

9.8 Incident Acceptance/Rejection

9.8.1 The Supplier shall be responsible for ensuring that sufficient information is included with the assigned Incident before the Supplier accepts it. The Supplier shall screen all Incidents for completeness of information and that the Incidents have been correctly classified and assigned.

9.8.2 If the Supplier rejects the Incident due to inadequate details, the Incident shall be sent back to the TfL Service Desk, with the Supplier detailing the reasons for the rejection in the TfL Service Management Tool.

9.8.3 If the Supplier reasonably believes that the Incident has been incorrectly assigned to the Supplier as the owner, the Supplier may raise its concerns with the TfL Service Desk as to who the most likely owner of the Incident is. If TfL then considers that the Incident has been incorrectly assigned to the Supplier, TfL shall reassign the Incident to the correct owner.

9.8.4 If TfL considers that the Supplier is the owner of an Incident, TfL shall assign the Incident to the Supplier and the Supplier shall be responsible for investigating and Resolving that Incident

9.8.5 TfL shall be the final arbitrator of the assigned priority of an Incident.

9.9 Investigation, Resolution and closure of Incidents

9.9.1 The Supplier shall progress Resolution of Incidents in compliance with the Service KPIs and System KPIs. The KPI clock for Resolving Incidents shall start running automatically 10 minutes after the assignment of the Incident to the Supplier by TfL in the Service Management Tool.

9.9.2 While investigating and Resolving an Incident, the Supplier shall provide regular updates on the status of the Incident to TfL via the Worklog within the TfL Service Management Tool, using agreed standard terminology to track the progress of an Incident.

9.9.3 The Supplier shall manage the supply and availability of working system units and components and shall maintain available replacement system

units and components at appropriate locations in order to Resolve Incidents in accordance with the Service KPIs.

- 9.9.4 The Supplier shall deploy a suitable number of appropriately trained and knowledgeable Incident response staff to undertake the diagnosis and Resolution of the Incidents in accordance with the Service KPIs and System KPIs. Should TfL have reasonable concerns regarding the proposed Incident response staff, TfL shall, at its discretion, be able to raise its concerns with the Supplier and the Supplier shall replace such staff with appropriately trained and knowledgeable staff.
- 9.9.5 Once Resolved, all Incidents raised by TfL or the Supplier shall be assigned to the TfL Service Desk for closure, stating in detail what was done to Resolve the Incidents.
- 9.9.6 TfL shall monitor and verify Resolution of Incidents. Once the Resolution is successfully verified by TfL, Incidents shall be closed in the TfL Service Management Tool by the TfL Service Desk.
- 9.9.7 If the Resolution is not successfully verified by TfL or acceptable to TfL, it shall be reassigned to the Supplier's Third Line Support.
- 9.9.8 The Supplier shall not put the progress of the Resolution of an Incident as pending in the TfL Service Management Tool without prior written approval from TfL.
- 9.9.9 Where the Supplier has, in good faith and acting reasonably assigned an Incident for closure (in accordance with **paragraph 9.9.5**), which TfL later reassigns back to the Supplier (in accordance with **paragraph 9.9.7**), the KPI clock for Resolving such an Incident shall stop at the point at which the Supplier assigned the Incident for closure in accordance with **paragraph 9.9.5** and shall start again at the point TfL reassigns the Incident back to the Supplier in accordance with **paragraph 9.9.7**.
- 9.9.10 If an Incident cannot be Resolved in accordance with the Service KPIs and System KPIs for the assigned priority, the Supplier's Third Line Support shall initiate the escalation procedure as described at **paragraph 7 of Schedule 11**.
- 9.9.11 The Supplier shall devise and develop a Planned Maintenance programme of regular checks, tests and maintenance tasks to be carried out on the New System, Services and Further Services (if any). This Planned Maintenance shall be at times agreed with TfL. This will be within the system's quiet hours; typically between 1am and 5am.
- 9.9.12 The Supplier shall provide detailed information regarding its Planned Maintenance regime to TfL prior to Operational Commencement. TfL may provide reasonable comments and suggestions to the Supplier on the Planned Maintenance regime and the Supplier shall amend the Planned Maintenance regime in accordance with TfL's reasonable requirements.

9.9.13 When developing the Planned Maintenance regime, the Supplier shall ensure that the impact on the New System, Services and Further Services (if any) is minimal.

9.10 Request for information during investigation

9.10.1 The Supplier shall own all investigations assigned to it by TfL and shall retain ownership of such investigations until the resolution of the Incident or reassignment of the Incident to another Supplier by TfL. If the Supplier is not at fault then the Supplier can recover reasonable costs incurred from TfL. The Supplier's KPI will not be negatively affected as a result of an Incident where the Supplier's solution is not the origin of the Incident.

9.10.2 During the course of the investigation, if the Supplier's Third Line Support reasonably requires more information from either TfL or another contractor in order to Resolve the Incident, then such a request shall be made to TfL at the earliest possible opportunity, detailing the information required and the reasons why it is needed.

9.10.3 The Supplier shall, where possible, provide information to assist the Resolution of an Incident. Where the Supplier is required to investigate and Resolve the Incident, the Incident shall be subject to the Service KPIs and System KPIs. If the Supplier receives a reassigned Incident with a request to provide information in order to assist TfL or another contractor to Resolve an Incident, the Supplier shall, where possible, provide this information within a reasonable time.

9.10.4 If the Supplier reasonably requests additional information from a Third Party supplier to TfL, the Incident shall be reassigned by the Supplier to TfL. Once the additional information has been obtained by TfL from the relevant Third Party supplier, the Incident shall be reassigned to the Supplier. The timescales for Resolving Incidents set out in the Service KPIs and System KPIs, shall continue from the point at which the Incident was reassigned from TfL back to the Supplier. The Supplier shall progress the Resolution of such an Incident in compliance with the Service KPIs and System KPIs. For the avoidance of doubt, the time that the Incident was with TfL to obtain the additional information is not included in the Service KPIs or System KPIs.

9.10.5 When the source and/or nature of the requested information is not clear, TfL shall at its discretion organise a Joint Session involving the Supplier and other relevant contractors to clarify what information is required and who is responsible for providing it.

9.10.6 The Supplier shall make the relevant personnel available to attend such Joint Sessions as and when required. The Joint Session shall include but not be limited to: site visits, teleconferences, e-mail discussions and/or face-to-face meetings.

9.11 Rejection after investigation

9.11.1 During the course of the investigation, if the Supplier discovers that the Incident does not fall within the scope of the New System, Services or Further Services (if any), the Supplier shall notify the TfL Service Desk as soon as possible.

9.11.2 The Supplier shall provide full details of their investigations, corresponding results, where possible, indicate the most likely owner of the Incident and provide any further information to support their decision via the Worklog in the TfL Service Management Tool Incident Record. TfL may, at its discretion, request further information to support this decision.

9.11.3 TfL shall review the evidence given to it by the Supplier under **paragraph 9.11.2** and may decide in its absolute discretion to reassign the Incident to another contractor.

9.12 Major Incident Review

9.12.1 TfL shall undertake a review of any major Incidents that cause large-scale disruption to the New System, Services and Further Services (if any).

9.12.2 This review shall commence no later than 24 hours following the disruption with the production of a preliminary report by the Supplier. This report shall contain, but not be limited to, the following:

- The nature of events that led to the disruption of the New System, Services and Further Services (if any); and
- the actions taken or to be taken to prevent a recurrence.

9.12.3 The Supplier shall produce a full and comprehensive major Incident report in accordance with **paragraph 9.12.4** within five (5) Business Days of the disruption

9.12.4 The major Incident report shall include but not be limited to:

- History of events that caused the disruption;
- Analysis of the Incident;
- Actions taken;
- Likely causes;
- Further actions required/possible solution; and
- Lessons learned.

9.12.5 The Supplier shall complete the resultant actions arising from the major Incident report, to the satisfaction of TfL, within ninety (90) Business Days of the production of the report.

9.12.6 The major Incident review process shall be separate from the Problem Management Process.

10.0 PROBLEM MANAGEMENT

10.1 Introduction

- 10.1.1 The Problem Management process shall include ensuring the identification, analysis and proposing a resolution to remove underlying causes of Incidents in accordance with the Service KPIs. It shall reduce the impact of Incidents on the Services, which are caused by errors and faults in the New System.

10.2 Problem Management Process

- 10.2.1 The Supplier shall provide a service to identify, analyse and propose Resolution for Problems in accordance with the Service KPIs.

Known Errors (including those identified during the development of the New System by the Supplier) shall be identified and managed throughout their lifecycle via the Problem Management process as described in this **paragraph 10.**

10.3 Problem identification and recording

- 10.3.1 Problems may arise from the Incident Management Process, whereby a Problem may be detected through recurring Incidents with the same symptoms, or as a result of a single major Incident with an unknown underlying cause.
- 10.3.2 TfL or the Supplier shall identify Problems. All Problems shall be logged by TfL in the TfL Service Management Tool.
- 10.3.3 The Supplier shall identify a Workaround for an Incident (or recurring Incidents) before this can be logged as a Problem, with TfL .
- 10.3.4 The Supplier shall be pro-active in identifying Problems, which they shall promptly report to the TfL Service Desk; along with the identified Workaround.
- 10.3.5 When assigning a Problem to the Supplier, the TfL Service Desk shall send a written notice through the TfL Service Management Tool; this may be in the form of an automated email notification.
- 10.3.6 Once the Root Cause has been determined and a Workaround is identified and agreed, TfL shall enter the details into the Known Error Log, in order for it to be used to Resolve Incidents until the underlying cause of the Problem can be Resolved.
- 10.3.7 The Known Error Log document shall contain, but not be limited to, all Known Errors, their corresponding TfL Incident Management Tool reference, description, current status and solution, if known.
- 10.3.8 TfL and the Supplier shall monitor progress on a Problem, update the Problem Record in the TfL Service Management tool where appropriate and manage the

information flow to all relevant parties with assistance from the Supplier and other relevant Suppliers.

10.4 Investigation, diagnosis and resolution

10.4.1 The Supplier shall use the TfL Service Management Tool to receive, update, analyse and Resolve Problems.

10.4.2 The Supplier shall analyse and propose Resolution to Problems assigned to it (which shall be all Problems caused by errors or faults of the New System, Services and Further Services (if any) or any part thereof) in accordance with the Service KPIs. The timescales for analysis and proposal of Resolution for Problems set out in the Service KPI, shall start running from the time at which TfL assigns the Problem Record to the Supplier on the TfL Service Management Tool.

10.4.3 The Supplier shall own all Problems assigned to it by TfL and shall retain ownership of such Problems until the resolution of the Problem or reassignment of the Problem to another Supplier by TfL.

10.4.4 Where necessary, the Supplier may seek clarification on the symptoms of the Problem and obtain further details as necessary to facilitate resolution of the Problem assigned to it.

10.4.5 The Supplier shall assess the degree and extent of service and business impact and check for duplicate Incidents or similar Problems to identify any commonality with existing logged Problems when working on Problems assigned to it.

10.4.6 While investigating and resolving a Problem, the Supplier shall provide regular updates on status to TfL via the Worklog within the TfL Service Management Tool, using agreed standard terminology to track the progress of a Problem.

10.4.7 The Supplier shall provide full details of what was done to analyse and Resolve the Problem via the Worklog within the TfL Service Management Tool.

10.4.8 The Supplier shall provide a full and complete Resolution to the Problem, which shall remove the need to apply the Workaround.

10.4.9 The Supplier shall carry out all such tests, in the test environment, as it considers necessary on any Resolutions to ensure that the Resolution rectifies the Problem.

10.4.10 The Supplier shall compile and submit a Request for Change to TfL, using the results from the testing of the Resolution as support for the RFC. If approved by TfL, the tested solution shall be implemented through the Change and Release Management Process.

10.4.11 If a Problem cannot be Resolved in compliance with the Service KPI then either party may initiate the escalation process as described at **paragraph 7 of Schedule 11**.

10.4.12 TfL shall close the Problem Record on the TfL Service management Tool after the Resolution to the Problem has been implemented to the satisfaction of TfL.

10.4.13 If the Resolution has not Resolved the Problem to the satisfaction of TfL, then the problem record shall be re-opened and reassigned back to the Supplier.

10.5 Request for Information/Reassignment

10.5.1 During the course of the investigation, if the Supplier requires more information from either TfL or another Supplier of TfL, then such a request shall be made to TfL at the earliest possible opportunity, detailing the information required and the reasons why it is needed.

10.5.2 When the source and/or nature of the requested information is not clear, TfL may at its discretion organise a Joint Session involving the Supplier and other relevant Suppliers to clarify what information is required and who is responsible for providing it.

10.5.3 Where TfL is in doubt as to the ownership for investigating and resolving a Problem, TfL shall organise a Joint Session involving the Supplier and other relevant Suppliers of TfL, to identify ownership. Following the Joint Session, TfL's decision on the owner of the Problem, is final.

10.5.4 The Supplier shall make the relevant personnel available to attend such Joint Sessions as and when required. The Joint Session may include but is not limited to site visits, e-mail discussions, teleconferences and/or face-to-face meetings.

10.5.5 If the Supplier receives a reassigned Problem with a request to provide information, then the Supplier shall progress the Problem in compliance with the Service KPIs.

10.5.6 If the Supplier has reasonably requested information, without which the Supplier is unable to Resolve the Problem, then once the additional information has been obtained, the Problem shall be reassigned to the Supplier. The timescales for Resolving Problems set out within the Service KPI shall continue from the point at which the Problem is passed back to the Supplier. The Supplier shall progress the Resolution of such a Problem in compliance with the Service KPI.

10.6 Rejection after investigation

10.6.1 During the course of the investigation, if the Supplier discovers that the Problem does not fall within the scope of the New System or the Services or the Further Services (if any), the Supplier shall notify TfL as soon as possible.

10.6.2 The Supplier shall provide full details of their investigations, corresponding results, and the likely owner of the Problem and any further information to support its opinion via the Worklog in the TfL Service Management Tool Problem record. TfL may, at its discretion, request further information to support the Supplier's opinion that they are not the owners of the Problem.

- 10.6.3 On reviewing the evidence given to it by the Supplier TfL may decide, in its absolute discretion, to reassign the Problem to another owner.

11.0 CAPACITY MANAGEMENT

11.1 Capacity Plan

- 11.1.1 The Supplier shall produce a strategic Capacity Plan which shall be used as the baseline for the Capacity Management and the Capacity Plan shall be updated annually by the Supplier or as the result of a Change.
- 11.1.2 The Supplier shall analyse each of the infrastructure components that constitute the New System and shall assess the Capacity of each component in terms of how it affects the delivery of the Services and Further Services (if any).
- 11.1.3 In relation to the Capacity Management process the Supplier shall consider all resources required to deliver the New System, Services and Further Services (if any), and plans for short, medium and long term business requirements.
- 11.1.4 In the Capacity Plan, the Supplier shall list all the components to be monitored for the Capacity Management Process.
- 11.1.5 If components are excluded from the process, the Supplier shall formally document the reasons for exclusion in the Capacity Plan.
- 11.1.6 The Supplier shall analyse performance usage and utilisation thresholds for component resources to indicate at which point performance shall be degraded or where Capacity thresholds shall be breached. These thresholds shall be documented in the Capacity Plan.
- 11.1.7 The Supplier shall calculate performance usage and utilisation thresholds for component resources to provide advance warning to TfL so that preventive action or further investigation can be performed. These thresholds shall be documented in the Capacity Plan.
- 11.1.8 The Capacity Plan shall be made available to TfL prior to Operational Commencement.
- 11.1.9 TfL shall review and agree the Capacity Plan with the Supplier. TfL may require changes to the Capacity Plan and the Supplier shall make such changes in accordance with TfL's requirements.
- 11.1.10 The agreed Capacity Plan shall be used as the baseline for the Capacity Management Process.

11.2 Capacity Monitoring and Reporting

- 11.2.1 The Supplier shall deploy appropriate system monitoring tools to monitor all the components listed in the Capacity Plan.
- 11.2.2 The Supplier shall monitor the Capacity elements listed in the Capacity Plan by collecting appropriate data at pre defined intervals. The Supplier shall review this data with TfL after every TfL Period during the Term of the Agreement.
- 11.2.3 The Supplier shall keep the data described in **paragraph 11.2.2** for a period to be agreed with TfL during the development of the Capacity Plan, as described in paragraphs **11.1.1** and **11.1.9**.
- 11.2.4 The Supplier shall compare the data collected in **paragraph 11.2.2** through monitoring for Capacity components against the established thresholds from the Capacity Plan.
- 11.2.5 The Supplier shall produce a report (known as the "**Capacity Report**") for every TfL Period documenting findings of the comparison described in **paragraph 11.2.4**.
- 11.2.6 The Supplier shall notify TfL promptly in writing of any component identified as having reached the alert thresholds established in the Capacity Plan.
- 11.2.7 For components identified in **paragraph 11.2.6**, the Supplier shall promptly recommend short, medium and long-term solutions to manage demand for Capacity, document such recommendations and promptly publish such information to TfL for its assessment.
- 11.2.8 The Supplier shall predict the impact of any proposed Changes shall have on the current Capacity of the System by simulation or trend analysis.

12.0 CHANGE AND RELEASE MANAGEMENT

12.1 Introduction

- 12.1.1 Change and Release Management shall provide the mechanism to authorise, control, plan and manage the successful implementation of Changes to the New System and Services and/or Further Service (if any), whilst protecting the quality of operational service and minimising the risks and impacts of the Changes.
- 12.1.2 The primary objective of Change Management is to enable beneficial Changes to be made with minimum disruption to the Operating Environment, the Services and Further Services (if any).
- 12.1.3 Release Management shall be part of the Change and Release Management Process.

12.1.4 The primary objective of Release Management shall be to ensure that the integrity of the Operating Environment is protected and that the correct components are released.

12.2 Change Management

12.2.1 The Supplier shall be responsible for delivering the Changes/Releases necessary to meet the requirements of the Agreement.

12.2.2 For the avoidance of doubt, this process refers to the ITIL definition of Change and Release Management and should not be confused with **Schedule 8** (Contract Change Control Procedures) in the Agreement.

12.2.3 TfL shall oversee the Change and Release Management Process, with assistance from the Supplier, to understand the impact of Changes and to coordinate activities such as planning, building, testing and implementation of Changes to ensure minimum impact to the New System and/or Services and Further Services (if any).

12.2.4 Through consultation with the Supplier and other relevant Suppliers, TfL shall assess the feasibility, impact and risk of the Change prior to giving the authorisation to proceed. There shall be a list of competent authorities able to conduct impact assessments relating to Change and Release Management. The Supplier shall provide all necessary assistance with the assessment as required by TfL.

12.2.5 Where it is necessary to implement a Change in order to meet the System KPIs then the Supplier shall proceed to plan, build test and implement such Changes as are necessary in accordance with the Change and Release Management Process. TfL shall work with the Supplier to facilitate approvals in such timescales as may be reasonably necessary to enable the Supplier to meet the System KPIs and the Service KPIs. Any changes to the requirements of the Agreement shall be subject to **Schedule 8** (Contract Change Control Procedure)

12.2.6 The Supplier shall deliver Change and Release Management activities in accordance with the Service KPIs and shall wherever possible implement Changes during Planned Downtime.

12.2.7 Project-based activity shall not be subject to the standard Change and Release Management Service KPIs. A project is defined by TfL as eleven or more Change Requests of the same type and requirement to be implemented in the same timeframe.

12.2.8 The contents of each Release shall be managed, tested, and deployed as a single entity unless otherwise agreed or requested by TfL (at its sole discretion).

12.3 Request for Change

12.3.1 Templates for Changes (i.e. standard, emergency, retrospective) shall be provided by TfL. Templates may vary depending on the type of Change.

12.3.2 The Supplier shall use the templates provided by TfL in paragraph 12.3.1 to provide information about the Change when submitting a Change to TfL. TfL shall only process Changes received from the Supplier in an authorised template.

12.3.3 The information provided by the Supplier shall be adequate and relevant and shall help TfL to assess the nature of the Change and its impact on the System and/or Services.

12.3.4 When submitting a Change for approval, the Supplier shall provide information, including but not limited to, the

- Technical nature of the Change;
- Impact to the System/Services;
- Estimated Downtime;
- Tasks involved and ownership of tasks;
- Risks involved;
- Test plan;
- Back Out Plan;
- Migration Plan;
- Documents/procedures Processes to be updated as result of Change (e.g. training manual or technical manual);
- Communication during and after Change; and
- Timeline for implementation with specific dates.

12.3.5 Through the Change and Release Management Process TfL requires a test plan, implementation plan and Back Out Plan to be produced prior to authorisation being given to implement the Change to the System and Services. The Supplier shall provide all necessary assistance with producing these plans, as required by TfL.

12.3.6 TfL shall work with the relevant contractors to scope the proposed Change in more detail, including scoping detailed Back Out Plans and resource availability. The Supplier shall provide all necessary assistance, as required by TfL.

12.3.7 When preparing the Change, the Supplier shall ensure that their proposal is compliant with technical specifications, operational standards, security requirements and the terms of the Contract.

12.3.8 TfL shall check the Change submitted by the Supplier for its validity and that the necessary and relevant information has been provided. If it is incomplete or inaccurate, TfL shall return it to the Supplier. The Supplier shall promptly provide all information and take such corrective measures as required by TfL to ensure the Change submitted by the Supplier is complete and accurate.

12.3.9 If the details are complete and accurate in the Change submitted by the Supplier, TfL shall raise a Request for Change (RFC) in TfL's Remedy system.

12.4 Change Advisory Board (CAB)

12.4.1 The CAB members shall review and approve the RFC.

12.4.2 If necessary, the Supplier shall be invited to participate in CAB meetings. When invited, the Supplier shall make the relevant resources available for such meetings. The Supplier's participation may be through conference call.

12.4.3 The Supplier shall provide all additional information as required by TfL if the CAB members have concerns with the RFC. Such concerns shall be conveyed to the Change requester via the TfL Change and Release Manager.

12.4.4 The Supplier shall resubmit the RFC in order to address the CAB member(s) concerns. If this resubmission fails to address the concerns raised by CAB member(s), such RFCs shall be rejected by the CAB.

12.5 Rework RFC

12.5.1 The Supplier shall address any concerns/shortcomings expressed by the CAB by reworking the RFC to TfL's requirements.

12.5.2 The Supplier shall resubmit any amended RFCs to the CAB for approval via the TfL Change and Release Manager.

12.6 Change Implementation

12.6.1 After obtaining the approval for the RFC, the Supplier shall implement the Change as detailed in the RFC.

12.6.2 Before the implementation of the Change, the Supplier shall carry out testing of the proposed Change using the Reference System to ensure that the Change will not cause the System to not comply with any System KPIs.

12.6.3 If the implementation is unsuccessful, the Supplier shall promptly ensure that the Back Out Plan, as detailed in the RFC, shall be implemented to recover the System to its previous state before the implementation of the Change.

12.6.4 Regardless of the outcome of the Change, the Supplier shall inform TfL about the implementation of the Change.

12.6.5 TfL shall verify the implementation of the Change or, in case of failure, the implementation of the Back Out Plan.

12.6.6 Upon completion of the Change, Tfl shall close the RFC on Remedy and inform the relevant parties to enable the updates to be performed on the Configuration Management Database (CMDB).

12.6.7 The Supplier shall deliver the Change and Release Management activities in accordance with the Service KPIs.

13.0 ASSET & CONFIGURATION MANAGEMENT

13.1 Introduction

13.1.1 Configuration Management shall provide management control, visibility, accuracy and completeness of records of Configuration Items (CIs).

13.1.2 Information about each CI shall be recorded in an individual Configuration Record by the Supplier and shall be maintained throughout its lifecycle and stored in a Configuration Management Database via the Configuration Management process described in this **paragraph 13.0**.

13.1.3 Configuration Management, as further described in this **paragraph 13.0** shall be part of the overall Asset management Process described in Schedule 18 (Asset Management).

13.1.4 The CMDB shall be managed through the Configuration Management process.

13.2 Configuration Management Processes

13.2.1 This process shall have links with many of the other processes described in this **Schedule 2** as it provides the basis of the information used to support Incident and Problem logging, diagnosis, Resolution and impact analysis. It is also used in conjunction with Change and Release Management to provide information for impact analysis. Configuration Management shall be maintained and updated by all these processes.

13.2.2 Tfl shall use the information referred to at **paragraph 13.2.1** to maintain the accuracy of the Configuration Management Database (CMDB) which is part of the Tfl Service Management Tool.

13.2.3 Tfl shall be in control of Configuration Management and shall maintain the Configuration Item information and the CMDB. All changes to this information shall be managed by Tfl.

13.3 Collection, validation and export of Asset information

13.3.1 The Supplier shall establish and collect the baseline information required to populate the CMDB. This shall be provided to Tfl in CSV format using the templates supplied by Tfl.

13.3.2 The CSV file shall contain, the agreed Configuration Items and their Attributes as described in Paragraph 5 of Schedule 18

13.3.3 The Supplier may use the existing process where the Bus Radio's Electronic serial number (ESN) will be interfaced into the iBus data depot manager (DDM) and automatically uploaded with the iBus CI's into the CMDB on a daily basis.

13.3.4 If the process in paragraph 13.3.3 cannot be followed the Supplier must provide an alternative methodology and utilise the CSV file detailed in 13.3.1

13.3.5 If the Supplier's actions during the operation and support of the New System impact any information relating to the CIs or CMDB then these Changes shall be reported within five (5) Business Days to TfL through the provision of a CSV file.

13.3.6 TfL shall use this information to track all Changes to a CI during the Term of the Agreement.

13.3.7 The Supplier shall carry out validation checks to ensure the accuracy of the CSV file meets the Service KPIs.

13.3.8 The Supplier shall make their latest uploaded CSV file available to TfL within two (2) Business Days of the end of a TfL Period.

13.3.9 Where there are no Changes to CIs in a particular TfL Period, the Supplier will inform TfL via email that there have been no Changes in that TfL Period. The email shall be sent to TfL within two (2) Business Days of the end of the TfL Period.

13.3.10The Supplier shall identify CIs that are no longer required and shall obtain approval from TfL to remove these Assets from the New System.

13.3.11Removal of such Assets shall be undertaken through the Change and Release Management Process.

13.3.12The Supplier shall, when assigned tasks by TfL that result in the removal of CIs, notify TfL with all relevant details via an updated CSV file.

13.4 Data Reconciliation

13.4.1 Upon receipt of the CSV file, TfL, where necessary, shall carry out its own basic check for completeness on Asset information.

13.4.2 When discrepancies are found, TfL shall request clarifications from the Supplier.

13.4.3 The Supplier shall investigate such queries and respond to TfL within a timescale specified by TfL.

- 13.4.4 If the investigation is not completed by the time specified in then the agreed escalation Process shall be followed as described at **paragraph 7 of Schedule 11..**
- 13.4.5 TfL shall load the reconciled or checked Asset information on to the CMDB.
- 13.4.6 TfL shall periodically audit the CI information provided through the CSV file and uploaded to the CMDB through a comparison with the deployed CIs.
- 13.4.7 TfL shall issue an audit report with the audit findings along with any observations and non-conformities to the Supplier. The Supplier shall have five (5) Business Days to respond and make all appropriate corrective actions and the resulting Changes to the CI data shall be fed back to TfL through an updated CSV file
- 13.4.8 If, following the response from the Supplier TfL is of the reasonable opinion that CI information is still missing and the accuracy of the CMDB is below the agreed KPI Target of 95%, the KPI shall have been deemed to have been failed and will continue to be deemed to be failed until rectified to TfL's satisfaction.

14.0 NEW SYSTEM MAINTENANCE

14.1 Introduction

- 14.1.1 The objective of New System Maintenance is for the Supplier to provide a New System maintenance regime to ensure that the New System deployed is kept in alignment with the Interfacing Systems.
- 14.1.2 At Operational Commencement the Supplier shall provide a Planned Maintenance timetable setting out any planned maintenance releases for the following 12 months.
- 14.1.3 The Supplier shall wherever possible ensure any Changes are incorporated into Planned Maintenance releases.

15.0 TRAINING

- 15.1 Training provided in response to ICT 12549 includes System Maintenance and System Management for the DMR Tier 3 System. The Supplier will work collaboratively with TfL to fully analyse their training requirements and needs, and will adapt the following training courses according to TfL's specific requirements and participants. The training included in this response are as detailed in para 15.4 and 15.6. An additional training cost option is detailed in para 15.5.
- 15.2 Technical training courses are designed for technicians and engineers who have a responsibility to manage and/or maintain the trunking system.
- 15.3 The training delivered by the Supplier will use a model that will include the main system components at TfL locations, subject to suitability of the venues

and facilities. This will maximise convenience and minimise disruption for TfL attendees. The Supplier will allow for six students per course.

15.4 The Supplier's System Maintenance training courses include the following modules:

15.4.1 Overview of the DMR System architecture and its components, including:

- The TN9300 Node
 - The TB9300 Base Station
 - The TN9500 Intersystem Gateway
-
- a) Introduction to DMR network facilities
 - b) Introduction to subscriber operations in the system
 - c) Overview of different call types on the network
 - d) Practical operation of the Web User Interface of the system components for configuring, operating and monitoring
 - e) Key features of the terminals and their programming application
 - f) Configuring the system and terminals for operation on the network
 - g) Fault-finding and diagnostic tools for both terminals and infrastructure, along with practical exercises
 - h) System maintenance tasks

15.4.2 Training material included:

- 15.4.2.1 For technical training, a paper based training manual and workbooks are provided, along with each attendee receiving a USB drive with the official Tait manuals to support the system.

15.5 The Supplier's System Maintenance training features a strong practical element so that participants can implement and test their configurations.

15.5.1 The Supplier's System Management training includes:

- a) The System Architecture and Component Configuration elements,
- b) Includes a detailed study of the factors used:
 - I. Planning and implementing the network,
 - II. The configurable parameters featured within the system and terminals.
- c) The network management tools provided with the system,
 - I. The Network Management Tools training will include, but are not limited to:
 - i. BMC Remedy 9.1
 - ii. EnableInsight
 - iii. EnableFleet
- d) A review of the reports available and,
- e) How to manage system performance.

Annex 1 - Additional Services

3RD PARTY SUPPLIERS

There are currently no 3rd Party Suppliers.

SCHEDULE 3

Charges

1. Scope

1.1 This **Schedule 3** sets out the following provisions related to this Agreement:

- 1.1.1 System Milestone payments;
- 1.1.2 Rollout Period Milestone payments;
- 1.1.3 Service Charges;
- 1.1.4 annual indexation;
- 1.1.5 exit costs;
- 1.1.6 termination charges; and
- 1.1.7 Supplier invoicing.

1.2 This **Schedule 3** also contains the following appendices and annexes:

Appendix 1 – Invoicing Template (Milestone Charges)

Appendix 2 – Invoicing Template (Non-Milestone Charges)

Annex A – Not used

Annex B – Not used

Annex C – Licencing

Annex D – Rate Card

Annex E – Change Request Benchmarks

2. System Milestone Payments

The maximum Charges payable by TfL in relation to the Supplier's successful delivery of the Mobilisation Complete Milestone, FAT Milestone, Pilot Scheme Acceptance Milestone and the Final Acceptance Milestone (together the "**System Milestones**") shall be **REDACTED**, such Charges being payable in instalments as individual Milestone Payments (as set out in the table below) following Acceptance for each relevant Milestone in accordance with **Schedule 7** (Testing and Acceptance).

Milestone Ref	Milestone Name	Milestone Payment (£)
RR-001	Mobilisation Complete	REDACTED
RR-002	Factory Acceptance Test Milestone (FATM)	REDACTED
RR-003	Pilot Scheme Acceptance Milestone (PM)	REDACTED
RR-005	Final Acceptance Milestone (FA)	REDACTED

3. The Rollout Period – Critical Mass Acceptance Milestone, Tranche Payments and Per Bus Radio Payments

- 3.1 Subject to **paragraph 3.6**, the Charges in respect of the Rollout Period relate to the rollout activities and the Equipment costs, and become payable as follows: (i) the Milestone Payment as set out in **paragraph 3.2** becomes payable on the Acceptance of the Critical Mass Acceptance Milestone ("**CMM**"); (ii) the per Bus Radio payments become payable in accordance with **paragraph 3.3**; and (iii) the tranche payments and Base Site payments set out at **paragraphs 3.4** and **3.5** become payable following acceptance by TfL of the relevant tranche activity or Base Site installation (unless specified otherwise).

- 3.2 The Rollout Period Charges in respect of the Milestones described in **Schedule 6** (Project Plan (Milestones and Deliverables)) and as further set out in the table below are:

Milestone Ref	Milestone Name	Milestone Payment (£)
RR-004	Critical Mass Acceptance Milestone (CMM)	REDACTED

3.3 **Per Bus Radio payments**

- 3.3.1 All Charges in relation to the provision and installation of fifty (50) Bus Radios to be installed during the Pilot Phase are included within the Pilot Scheme Acceptance Milestone Payment set out at **paragraph 2**.
- 3.3.2 The price for each of the first three thousand, six hundred and twenty-five (3,625) Bus Radios installed by the Supplier (excluding those 50 radios described at **paragraph 3.3.1**), including bus radio hardware unit, installation charges, storage costs, shipping and freight costs and import duty (if any), and disposal of the radio forming part of the Existing System, will be **REDACTED** per unit.
- 3.3.3 The price for each of the next five thousand, eight hundred and twenty-five (5,825) Bus Radios that are installed by the Supplier (excluding those 50 radios described at **paragraph 3.3.1** and installed after those first 3,625 Bus Radios described at **paragraph 3.3.2**) including bus radio hardware unit, installation charges, storage costs, shipping and freight costs and import duty (if any), and disposal of the radio forming part of the Existing System, will be **REDACTED** per unit.
- 3.3.4 The price for one hundred (100) spare Bus Radios (including bus radio hardware unit, storage costs, shipping and freight costs and import duty (if any)) will be **REDACTED** in total.
- 3.3.5 Payment of the Charges for the installation of Bus Radios pursuant to **paragraphs 3.3.2** and **3.3.3** will be based on the number of Bus Radios successfully installed in an individual TfL Period and as described in **paragraphs 3.5.2.3** and **3.5.2.4** in **Schedule 7** (Testing and Acceptance).
- 3.3.6 The Charges for the 100 spare Bus Radios as set out at **paragraph 3.3.4** will become payable following receipt by TfL of: (i) the 100 spare Bus Radios; and (ii) an invoice prepared and submitted to TfL by the Supplier in accordance with the terms of the Agreement.

- 3.3.7 Up to and including the date of Final Acceptance, the price of any additional Bus Radios purchased by TfL from the Supplier (excluding those Bus Radios referred to at **paragraphs 3.3.1 to 3.3.4**) will be as set out in the tables below:

3.3.7.1 Bus Radios (including Installation by the Supplier)

Radio unit and radio unit associated costs	Unit cost (£)
Bus Radio Hardware Unit	REDACTED
Install Charges	REDACTED
Storage Costs	REDACTED
Radio Disposal	REDACTED
Shipping & Freight Costs	REDACTED
Total Per Fitted Unit Price	REDACTED

3.3.7.2 Bus Radios (excluding Installation)

Radio unit and radio unit associated costs	Unit cost (£)
Bus Radio Hardware Unit	REDACTED
Storage Costs	REDACTED
Shipping & Freight Costs	REDACTED
Total Per Non-Fitted Unit Price	REDACTED

- 3.3.8 Any Bus Radios that do not require Installation under the Agreement will be delivered to TfL on the date specified in the Project Plan or as otherwise agreed by the parties in writing.
- 3.3.9 To the extent that the Supplier is required to supply but not install any of the 9,500 Bus Radios described in **paragraphs 3.3.1 to 3.3.3**, the price payable by TfL in relation to each such non-installed radio will be reduced by **REDACTED**
- 3.3.10 Following Final Acceptance the price for each Bus Radio will be as set out in **Schedule 4** (the Price Book).

- 3.4 The Charges payable in relation to the installation of Equipment at the specified Installation Locations and other associated Rollout activities are as follows:

Base Site Name	Base Site Payments
Alexandra Palace	REDACTED
Bushey Heath	REDACTED
Crystal Palace	Included in Pilot Milestone Payment
Faggs Lane	REDACTED
Guys Hospital	REDACTED
Hornchurch	REDACTED
Millhouse	REDACTED
Northolt	REDACTED
Shooters Hill	Included in Pilot Milestone Payment
Tolworth	REDACTED
Core Network & Site Equipment Spares	REDACTED

3.5 Project Management and Training

3.5.1 Tranches and tranche payments

Tranche Reference	Number of Radios in Tranche	Other Associated Rollout Activities	Payment
PM001	1	Programme Management PM Design & Test PM Deployment PM Radio Training	Included in Pilot Milestone Payment
PM002	1	Programme Management PM Design & Test PM Deployment PM Radio	Included in Pilot Milestone Payment
PM003	1	Programme Management PM Design & Test PM Deployment PM Radio	REDACTED
PM004	1	Programme Management PM Deployment PM Radio	REDACTED
PM005	1	Programme Management PM Deployment PM Radio	REDACTED
PM006	1	Programme Management PM Deployment PM Radio	REDACTED
PM007	1	Programme Management	REDACTED

3.5.2 Any amendments to the Project Plan which will affect the planned date for the achievement of any of the tranches from PM001 to PM007 set out above will be made in accordance with **clause 24** (Contract Management, Reporting and Change Control) and **Schedule 8** (Change Control Procedure), with any consequent amendments to the project management and training activities to be provided by the Supplier and the Charges in relation to such activities also being subject to such provisions and adjusted (if necessary) based on the rates set out at **Annex D** of this **Schedule 3**.

3.6 When payable in accordance with **paragraph 2** or **paragraph 3** of this **Schedule 3** and **clause 5** of the Agreement, the Supplier shall submit a request for payment of Milestone or Rollout Period Charges in accordance with **paragraph 8** below.

4. **Service Charges**

4.1 TfL shall pay Charges relating to the ongoing operation of the New System and the Services (the "**Service Charges**") in respect of each TfL Period from the Operational Commencement Date until the termination or expiry of the Agreement, as calculated in accordance with **paragraph 4.2**, and as invoiced by the Supplier in arrears pursuant to **paragraph 8**.

4.2 From the Operational Commencement Date the Service Charges shall (subject to the indexation provisions at **paragraph 5** of this **Schedule 3**) be **REDACTED** per year (the "**Annual Service Charge**"), with the Annual Service Charge being pro-rated (on a time basis) for any period of less than twelve months during which the Service Charges are payable during the Term.

4.3 The Service Charges shall be invoiced by the Supplier 4-weekly in arrears, with each 4-week period to coincide with a TfL Period.

4.4 The Service Charges are inclusive of the cost of all licences and maintenance arrangements required in respect of all Third Party Software.

4.5 Where Service Credits become payable, TfL may, in its sole discretion, elect to accept payment of the Service Credits as a sum to be payable by the Supplier within thirty (30) days of the Service Credit becoming due, or deduct the Service Credits from any sums due to the supplier in accordance with **paragraph 4.6** of this **Schedule 3**.

4.6 The Service Charges in any TfL Period shall be reduced (to the extent applicable) by any adjustments due in accordance with this Agreement (including any overpayments made by TfL to the Supplier and Service Credits which have become payable and which TfL has chosen in its discretion to deduct from the Service Charges).

4.7 For the first and the last TfL Periods in period from the Operational Commencement Date to the expiry or termination of the Agreement, the Service Charges for those TfL Periods shall be pro-rated (on a time basis) to reflect the proportion of the days in those TfL Periods which fall within the period from the Operational Commencement Date to the expiry or termination of the Agreement.

4.8 Subject to **paragraph 5**, any changes to the Service Charges must be considered and implemented in accordance with **clause 24** (Contract Management, Reporting and Change Control) and **Schedule 8** (Contract Change Control Procedures).

5. **Annual Contract Indexation**

5.1 On and with effect from the first anniversary of the Operational Commencement Date, on each subsequent anniversary and for the duration of the Agreement, the Service Charges and Day Rates shall be adjusted by a percentage equal to the percentage change in the level of the Consumer Price Index over a period of twelve (12) months, calculated by comparing the CPI figure as published by the Office for National Statistics three months before the relevant anniversary of the Operational Commencement Date with the CPI figure as published by the

Office for National Statistics fifteen (15) months before the relevant anniversary of the Operational Commencement Date.

- 5.2 If the CPI ceases to be published or is compiled in a manner which is materially different to the way it was compiled as at the Commencement Date, the parties will agree upon an alternative index which as near as possible replicates the CPI.
- 5.3 If the parties fail to reach agreement in accordance with **paragraph 5.2** within a period of ten (10) Business Days after the CPI ceases to be published or, as the case may be, the CPI starts to be compiled in a manner which is materially different to the way it was compiled as at the Commencement Date, the matter will be resolved in accordance with **clause 47** of the Agreement.
- 5.4 Without prejudice to **paragraph 7** or **paragraph 8** of **Schedule 4** (Price Book) with regard to the annual review of the prices specified in the Supplier's Price Book, the only Charges subject to adjustment in accordance with this **paragraph 5** are the Service Charges and the Day Rates, and not the Exit Costs (as described in **paragraph 6** below), nor the Termination Charges, the System Milestone payments or the Rollout Period payments (including those amounts set out at **paragraphs 2** or **3**).

6. Exit Costs

- 6.1 Where Tfl exercises its right to terminate this Agreement under **clauses 6.13, 6.16, 6.19** or **31.1**, the Supplier shall provide all assistance and services pursuant to the Exit Plan and **Schedule 10** (Exit Management) free of charge.
- 6.2 Where Tfl is required to pay Charges to the Supplier in accordance with **Schedule 10** (Exit Management) in relation to the Supplier's provision of Termination Services (as defined in that **Schedule 10**) ("**Exit Costs**"), such Exit Costs shall be calculated based on the sum of the Supplier's actual and properly incurred costs of meeting its obligations set out in **Schedule 10** (Exit Management). These Exit Costs will be subject to the overall caps, dependent on how the Exit Plan has been initiated, as set out below:
 - 6.2.1 In the event that Tfl exercises its rights to terminate this Agreement under **clause 31.3**, these Exit Costs will be included as part of the Termination Charges as set out in **paragraph 7.2** below; and
 - 6.2.2 in the event of the expiry of this Agreement, these Exit Costs will be reimbursed in accordance with this **paragraph 6** and **Schedule 10** and are subject to a cap of **REDACTED**
- 6.3 The Supplier agrees that it shall mitigate its costs of compliance with the Exit Plan and/or Service Transfer Plan to the greatest extent possible. Such costs will only become due and payable (where such costs are payable by Tfl) once the Supplier has provided to Tfl reasonable evidence of all such costs to Tfl's reasonable satisfaction.

7. Termination Charges

- 7.1 In the event that Tfl exercises its rights to terminate this Agreement under **clause 31.3** (whether in full, or (subject to **paragraph 7.3** below) on a partial basis under **clause 31.4**), Tfl is required to pay to the Supplier the "**Termination Charges**", which are set out in the table below:

Year termination becomes effective	Termination Charges
From the day after the 5th anniversary of Operational Commencement Date up to 6th anniversary of Operational Commencement Date	REDACTED
From the day after the 6th anniversary of Operational Commencement Date up to 7th anniversary of Operational Commencement Date	REDACTED
From the day after the 7th anniversary of Operational Commencement Date up to 8th anniversary of Operational Commencement Date	REDACTED
From the day after the 8th anniversary of Operational Commencement Date up to 9th anniversary of Operational Commencement Date	REDACTED
From the day after the 9th anniversary of Operational Commencement Date up to 10th anniversary of Operational Commencement Date	REDACTED

- 7.3 The Supplier agrees that, where TfL exercises its right to terminate under **clause 31.3** on a partial basis pursuant to **clause 31.4**, Termination Charges shall be payable but will be calculated on a pro-rata basis relative to the Termination Charges specified in the table at **paragraph 7.2** above, to reflect the proportion of the Services which are the subject of the termination relative to the Services which remain in full force and effect immediately following any such termination.

8. **Supplier Invoicing**

- 8.1 The Supplier shall within ten (10) Business Days after the acceptance of any relevant Milestone prepare an invoice to TfL with the Milestone payment which is due further to Acceptance of that Milestone in accordance with **paragraph 2** or **paragraph 3.2** of this **Schedule 3** and submit it to TfL for payment.
- 8.2 Following the Operational Commencement Date, the Supplier shall:
- 8.2.1 submit an invoice to TfL, within ten (10) Business Days after the end of each relevant TfL Period, with the Service Charges due in relation to that TfL Period (in accordance with **paragraph 4**); and
 - 8.2.2 submit to TfL all relevant Service Level reports (including the relevant TfL Period Service Credit reports) and any other documentation reasonably required by TfL to support the Supplier's invoice for that TfL Period (including as required pursuant to **Schedule 2** (Service Requirements) and **Schedule 11** (Governance, Contract Management and Reporting)).

8.3 With regard to the payment of any other Charges (if any) to which **paragraphs 8.1 and 8.2** do not apply (including for per Bus Radio Charges pursuant to **paragraph 3.3** and the provision of Alternative Equipment and Further Services) and which have been agreed in writing between the parties in advance, unless otherwise agreed the Supplier shall submit an invoice to TfL within ten (10) Business Days after the end of the TfL Period in which the provision of Bus Radios (including or excluding Installation, as applicable), Alternative Equipment, Further Services or other chargeable activities have been completed, detailing the Charges due and including all reasonable details and references to enable TfL to understand the subject matter to which the Charges relate.

8.4 The Supplier shall ensure that each invoice is:

8.4.1 issued:

8.4.1.1 for Milestone and Tranche payments in the format set out in **Appendix 1** of this **Schedule 3**; and

8.4.1.2 for all other Charges (including Service Charges), in the format set out in **Appendix 2** of this **Schedule 3**; and

8.4.2 addressed and sent in hard copy form to the following address (or such other address as may be notified by TfL to the Supplier from time to time in accordance with **Clause 43**):

Accounts Payable, Transport for London (TfL),

1st Floor, PO Box 45276,

14 Pier Walk,

London, SE10 1AJ; or

8.4.3 delivered in PDF format via email to the following email address (or such other email address as may be notified by TfL to the Supplier from time to time in accordance with **Clause 43**):

Accountspayable@tfl.gov.uk

8.5 Following receipt by TfL of the submitted invoice prepared in accordance with **paragraphs 8.1 or 8.2** (as applicable), TfL shall pay such invoices in accordance with **clause 5.5** of the Agreement.

8.6 TfL shall make such payments properly due to the Supplier in accordance with this **Schedule 3** to the following bank account (or such other bank account as may be notified by the Supplier to TfL from time to time in accordance with **Clause 40** (Amendment and Waiver) and **Clause 43** (Notices)):

ACCOUNT NAME: Tait Europe Limited

CURRENCY: GBP

BANK NAME: REDACTED

SORT CODE: REDACTED

ACCOUNT NUMBER: REDACTED

SWIFT ADDRESS (BIC): REDACTED

IBAN NO: REDACTED

LOCATION: UK

APPENDIX 1: INVOICING TEMPLATE (FOR MILESTONE PAYMENTS)**Invoice (Implementation and Rollout Phases)**

TfL	Invoice Date:	[•]
Address	Invoice Number:	[•]
	TfL Purchase Order:	TfL [•]

Milestone Payment*(Refer to Milestones in Schedule 6)***Milestone acceptance date:** [•]

	Amount £ Sterling	Amount £ Sterling
Milestone Payment value	£[•]	
Less other deductions	-£[•]	£[•]

Total charges for the quarter excluding VAT £[•]**Total VAT** £[•]**Total amount payable** £[•]

APPENDIX 2: INVOICING TEMPLATE (FOR ALL OTHER CHARGES NOT COVERED IN APPENDIX 1)

Invoice (operational phase)		
TfL	Invoice Date:	[•]
Address	Invoice Number:	[•]
	TfL Purchase Order:	TfL [•]
Schedule of charges		
Reference – Schedule 3		
	Amount £	Amount £
Service Charges	£[•]	£[•]
Any other charges payable	£[•]	£[•]
Less		
Service Credits	-£[•]	
Adjustments against invoice XX	-£[•]	
		£[•]
Total charges for the quarter		£[•]
Total		£[•]
Total amount		£[•]

ANNEX A: NOT USED

ANNEX B: NOT USED

ANNEX C: LICENCING

Agreed schedule for updates: To be reviewed annually and updated on or within 5 (five) Business Days of the anniversary of the Commencement Date. For the avoidance of doubt, the licences stated in the table below are provided by Tait as part of the Services, and no Charges are payable in relation to these software licences are payable by TFL (subject to TFL's obligation to pay the Service Charges as set out in this **Schedule 3**).

Application Licenses

Manufacturer	Product	Product Description	Supplier SKU (if applicable)	Edition	Version	Licence Type	Licence Metric	Qty	Supported Version End Date
Tait	TN9391	DMR Node Controller			3.00.03	Application	1 per DMR node system	1	
	TNAS300	License TaitNet DMR - Node Enabler without High Availability				Feature Enabler	1 per DMR node system	1	
	TNAS302	License TaitNet DMR - High Availability Node License				Feature Enabler	1 per DMR node system	1	
	TNAS304	License TaitNet DMR - Dispatch (AIS) 1 per call				Feature Enabler	1 per 20 concurrent DMR voice paths	20	
	TNAS311	License TaitNet DMR - Inter DMR network connectivity				Feature Enabler	1 per DMR node system	1	
Tait	TN8921	MPT-IP Node Controller			2.18.03	Application	1 per MPT-IP node system	1	
	TN8281-01	License TaitNet MPT-IP High Availability				Feature Enabler	1 per MPT-IP node system	1	
Tait	TN9500	UnifyNetwork Gateway			1.01.06	Application	1 per ING node system	1	
	TNAS701	TN9500 DMR Tier 3 or MPT-IP node interconnection				Feature Enabler	1 per ING node system	1	
	TNAS703	TN9500 MPT Classic node				Feature	1 per ING node system	1	

Schedule 3_Redacted

		Interconnection					Enabler		
	TNAS702	TN9500 HA Redundancy					Feature Enabler	1 per ING node system	1
	TNAS705	TN9500 Transcoding License x20					Feature Enabler	1 per 20 concurrent DMR voice paths	3
Tait	Q9000ADM	TaitNet Administration Application				1.04.06	Proprietary	1 per node controller	1
Tait	TB9300	TB9300 Base Station				2.40.00	Application	1 per TB9300 base station	80
Tait	TBAS301	TB9300 DMR Air Interface					Feature Enabler	1 per TB9300 base station	80
Tait	TBAS300	TB9300 DMR Trunking					Feature Enabler	1 per TB9300 base station	80
Tait	TM9300	TM9300 mobile radio				34.23.13	Application	1 per bus radio	9600
Tait	TMAS075	SFE Key - OTAP					Feature Enabler	1 per bus radio	9600
Tait	TMAS080	SFE Key - DMR Trunking (93)					Feature Enabler	1 per bus radio	9600
Tait	TMAS083	SFE Key - 20/25kHz Unrestricted Wideband (TB71/TM81/82/91/93/94)					Feature Enabler	1 per bus radio	9600
Tait	TMAS108	SFE Key - Unify API (93/94)					Feature Enabler	1 per bus radio	9600
Tait	TNAS603	License - 100 Users UV Cloud Monthly (moq12)					Feature Enabler	1 per 100 users	3
Tait	TNAS604	(License - UV Transcoders License x1)					Feature Enabler	1 per concurrent user	20
Tait	TNAS609	(License - UnifyVoice per AIS connection)					Feature Enabler	1 per AIS connection	1

ANNEX D - RATE CARD

The Day Rates for the Supplier's Personnel specified below shall form the basis for the calculation of Supplier personnel costs when the Supplier produces cost estimates pursuant to the Change Request Procedure set out at **Schedule 8** (Contract Change Request Procedures). Day Rates are inclusive of expenses, all relevant taxes and employment related expenses and charges, and subsistence and shall be applied as the maximum Day Rate per role for all volumes of work. In accordance with the principles of providing best value for money to TfL, the Supplier will apply discounted Day Rates to larger volumes of work unless it can demonstrate to TfL's reasonable satisfaction that this would not be appropriate in the circumstances:

Role	Description	Day Rate (£)
Programme Manager	Co-ordinates and controls work to the entire solution and its implementations	REDACTED
Project Manager	Co-ordinates and controls work to individual work packages	REDACTED
Administrative Support	Supports the creation of documentation or assisting with administrative functions	REDACTED
Senior Developer	Solution developer with in excess of five years' experience, in depth solution knowledge	REDACTED
Developer	Solution developer with in excess of three years' experience, average solution knowledge	REDACTED
Solution Architect	Developer with specific experience and knowledge in systems architecture	REDACTED
Vehicle Commissioning Engineer	Engineer with specific experience and knowledge in vehicle radio fitting and commissioning	REDACTED
Radio Engineer	Engineer with specific experience and knowledge in radio and base site maintenance & installation	REDACTED
Compliance Specialist	Specialist in BCP / DR / Health & Safety / SLNT	REDACTED
Cyber Security Specialist	A person who specialises in Cyber Security	REDACTED
Training Manager	Co-ordinates and controls training packages including Training Needs Analysis (TNA)	REDACTED
RF Coverage and Prediction Engineer	Engineer with associated tools & Equipment	REDACTED

Site Acquisition Manager	Specialist in Site Acquisition	REDACTED
Site Design and Build Consultant	Civil Engineer and design expert	REDACTED

ANNEX E: CHANGE REQUEST BENCHMARKS

The following Supplier descriptions and resource estimates will be used to benchmark future Contract Change Requests in accordance with Schedule 8.

Cellular module fitted to Bus Radio

Schedule 21 Reference: DB2.29

As an option, a cellular module and associated antenna can be fitted to the TM9300 bus radio, to provide voice service over 3G/4G through Tait's PTTtoC service, UnifyVoice. The UnifyVoice service connects to the DMR Core using the AIS protocol.

Antenna Monitor fitted to Base Sites

Schedule 21 Reference: SP3.01, FS5.31

The TB9300 base station is internally able to measure and monitor forward and reverse power, but it is protected behind the Combiner and Isolation system, which means it may not necessarily indicate antenna failures. An antenna monitor system can terminate between the Combining Network and Antenna feeder which would provide an accurate indicator of the transmit and receive performance for the monitored site.

Additional Voice Quality Monitoring

Schedule 21 Reference: SP3.01

An application can be added to the bus radio UnifyVehicle capability to generate fixed recorded messages that would be analysed by an automatic MOS scoring application. These messages would be triggered at quiet times on the network. The application would also measure voice quality in the network to radio direction.

Voice Quality Logging

Schedule 21 Reference: NM7.08

It is possible to activate logging in the bus mobiles, and Tait proposes to capture the log files in the bus computers for later download and analysis. The parameters that can be logged and captured are as follows:

- The radio QoS metric
- Muted codewords per call in the uplink
- Call duration
- Locations
- Received signal strength

Some of these parameters are available through a DMR feature which enables transfer of small amounts of data during an 'over'. Tait already collects RSSI, and makes this available via the Monitoring API.

Tait could work with TfL and the iBus Supplier to identify the best solution, and to scope its development. Implementation options include an enhancement to the in-band data transferred when a driver is PTTing; or using the capabilities of the UnifyVehicle head included with the TM9300 bus radio to collect and transfer logs to the IBIS+ computer.

End-User Familiarisation Training

Schedule 21 Reference: TR8.01

As part of the System Maintenance, Tait believes that a familiarisation package for end users will reduce service calls from users unused to the difference in the audio quality of DMR and Analogue Radio. Tait is willing, and can provide costs for the preparation of a multi-media familiarisation package that TfL can distribute to Garages and make available to Centrecomm staff.

Additional System Resilience

Schedule 21 Reference: BC15.07

Adding additional DMR nodes at other locations, for example at Palestra.

Location Application for PTToc Application

Schedule 21 Reference: FS5.24

The APIs and data that provide this information would be accessed by a mobile app over a broadband connection such as WiFi, 3G or LTE. The existing data feeds available from TfL would be used in addition to location information provided by the PTToc service.

Removing Legacy dependence for Dispatch

The current proposal retains the MPT node, DAS, E1 multiplexing and DIP gateway hosted in the **REDACTED**. While this meets the objective of maximum re-use, it does limit options for reducing hosting and support costs.

The enhancement would:

- Add a transcoding service to the DMR nodes. This allows SIP and AIS voice to be sent as a common G.711 telephony protocol;
- Modify the DIP gateway to direct VoIP streams from the DMR Nodes to dispatcher end-points;
- Add a DMR Standards conforming AIS client to dispatcher work stations to replace the LDT software
- Integrate, in conjunction with the Operators and CentreComm, the AIS client on the Garage or CentreComm work-stations to use the audio interfaces (handset, microphone) currently in use.

Enhanced RCTs

The RCTs provide a third level of back-up to Garage operators and provide communications to buses that bypasses the AVLS and IP infrastructure. However the user interface is very limited for the Operators.

The RCTs could be fitted with a UnifyVehicle smart head and intelligent dispatch software option that emulates the user interface on the existing LDT in the form of a web page. The UnifyVehicle can present the dispatch web pages over WiFi to any mobile device, or over a LAN.

Tait Application Builder license

Tait has a customisable application builder that enables for cost effective application development. This would enable TfL to utilise and build rules for the use of additional functionality with UnifyVehicle, vehicle radios - this includes building behaviour rules for the use of Bluetooth and Wifi. This will enable TfL to create behaviours based upon the connection of third party devices.

Licensing of services

There are a number of functions that were not required by TfL which are however possible through software licensing. This includes functionality such as: Wifi, Bluetooth and Encryption, high speed data polling over the network. These items are listed within the cost model and are licensable per vehicle mobile.

SCHEDULE 4

Price Book

1. The Price Book is located at **Annex 1** of this **Schedule 4** and contains particulars and descriptions of certain equipment, software and services (including Equipment, New Equipment, Third Party Software and Spares) available from the Supplier as at the Commencement Date relevant to the New System.
2. All prices stipulated in **Annex 1** shall remain valid while the Agreement remains in force, subject only to any variations made to this **Schedule 4** in accordance with the Change Control Procedure.
3. All prices for items stipulated in **Annex 1** include any and all available credits, discounts, offsets given by the Supplier to TfL under this Agreement (even though not explicitly shown in the itemised price).
4. Where the Price Book stipulates Lead Times the Supplier will use all reasonable endeavours to achieve such Lead Times, PROVIDED THAT:
 - 4.1 no Lead Times so stipulated will be varied by the Supplier other than to shorten the same in accordance with **paragraph 5**, unless extensions to Lead Times are required for reasons that are outside the reasonable control of the Supplier; and
 - 4.2 the Supplier shall maintain appropriate stock of Equipment, Alternative Equipment, Third Party Software and Spares to cope with day to day business as opposed to project type activity. Where the Equipment, Alternative Equipment, Third Party Software and Spares is drawn down from such stock then the only Lead Times applicable for the installation shall be the Lead Times for the provision of the Services. However, the Parties shall regularly review past practice and likely future trends and agree appropriate stock levels going forward.
5. The Supplier will regularly review the Lead Times stipulated in the Price Book having regard to market conditions and TfL's requirements and will whenever practicable notify improved Lead Times pursuant to **paragraph 4** and this **paragraph 5**.
6. Any changes to Lead Times made pursuant to **paragraph 4.1** or **5** will be made in accordance with the Change Control Procedure.
7. **Annual Price Book Indexation**
 - 7.1 Subject to **paragraph 8**, on and with effect from the first anniversary of the Operational Commencement Date, on each subsequent anniversary and for the duration of the Agreement, the prices in the Price Book shall be adjusted by a percentage equal to the percentage change in the level of the Consumer Price Index over a period of twelve (12) months, calculated by comparing the CPI figure as published by the Office for National Statistics three months before the relevant anniversary of the Operational Commencement Date with the CPI figure as published by the Office for National Statistics fifteen (15) months before the relevant anniversary of the Operational Commencement Date.
 - 7.2 If the CPI ceases to be published or is compiled in a manner which is materially different to the way it was compiled as at the Commencement Date, the parties will agree upon an alternative index which as near as possible replicates the CPI.
 - 7.3 If the parties fail to reach agreement in accordance with **paragraph 7.2** within a period of ten (10) Business Days after the CPI ceases to be published or, as the case may be, the CPI starts to be compiled

in a manner which is materially different to the way it was compiled as at the Commencement Date, the matter will be resolved in accordance with **clause 47** of the Agreement.

8. Notwithstanding the indexation applied to the prices in the Price Book in accordance with **paragraph 7**, the parties will review the Supplier's Price Book on the third anniversary of the Operational Commencement Date and thereafter every three years on the anniversary of the Operational Commencement Date, or such other dates after such anniversaries as agreed between the parties, following written notice ("**Price Review Notice**") given by either party to the other:

8.1 to ensure that the prices stipulated in the Price Book are reviewed to reflect prevailing market prices and remain competitive by reference to prices offered from time to time to other comparable customers of the Supplier (comparable customers being those as further detailed in **paragraph 8.4** below); and

8.2 to add particulars of and prices for new releases of software, new versions of equipment or other additional items or variations or upgrades or replacements for existing items of Equipment, Alternative Equipment, Third Party Software or Spares; or additional Services or replacements of existing Services listed within the Supplier's Price Book,

PROVIDED THAT for the purposes of this paragraph:

8.3 comparisons between prices will be made on a fair and equivalent basis i.e. prices shall not be taken in isolation, and relevant factors such as discount structures, vouchers, free of charge items, and volume requirements shall be taken into account; and

8.4 if at any time the Supplier offers a more favourable price to any comparable customer (being an equivalent size organisation to TfL in relation to the provision of Services or Equipment of an equivalent nature and subject to similar contractual conditions) the Supplier shall extend such price to TfL, and the relevant price in the Price Book shall be reduced accordingly.

9. The parties acknowledge that variations in prices in the Price Book will take effect and will be applied as and from the date twenty (20) Business Days after the date of the Price Review Notice unless otherwise agreed by the parties in writing.

10. All prices are quoted exclusive of VAT which will be charged at the prevailing rate.

11. All prices are quoted on the basis of one delivery to one delivery address per order. Where TfL uses the Supplier's installation services then the delivery location will be the Supplier's commissioning centre and the cost of onward distribution is included within the Supplier's installation prices.

12. Prices quoted for Equipment, Alternative Equipment, Third Party Software and Spares do not include installation costs.

1. EQUIPMENT

REDACTED

ALTERNATIVE EQUIPMENT AND WARRANTY SERVICES

REDACTED

ANNEX 2**EQUIPMENT ORDER FORM**

Contract Number (PRO)	
Date:	
Originator: (Name and organisation)	
Purchase order number: (This form must be accompanied by the SAP Delivery Request Purchase Order)	
Type and quantity of equipment including Lead Time and including Price Book reference: (Volume discount to be considered)	
Delivery date:	
Location of Equipment to be installed: (spreadsheet to be attached if multiple locations)	
Installation cost per unit and total cost including Price Book reference:	
Maintenance costs per year, per unit and total cost:	
Equipment LD Sum (if any)	
Additional comments:	

ANNEX 2**SPARES ORDER FORM**

Contract Number (PRO)	
Date:	
Originator: (Name and organisation)	
Purchase order number: (This form must be accompanied by the SAP Delivery Request Purchase Order)	
Type and quantity of equipment including Price Book reference: (Volume discount to be considered)	
Delivery date:	
Location of Equipment to be delivered: (spreadsheet to be attached if multiple locations)	
Additional comments:	

SCHEDULE 5

Functional Specification



Radio System Design

Surface Transport Narrow Band Radio System Replacement

Contract Number: ICT12549

Tait Project Number: REDACTED

Document Version: Version REDACTED

REDACTED

SCHEDULE 6

Project Plan (Milestones and Deliverables)

REDACTED

MILESTONES

TABLE 1 MILESTONES

M/S Ref	Milestone Name and Description	Acceptance Criteria	Milestone Date	Key Milestone (Y/N)
RR-001	Mobilisation Complete	<p>1. Project teams assembled.</p> <p>2. Initial documentation in place to include, but not be limited to:</p> <ul style="list-style-type: none">• Functional Specification (version 2);• Draft Exit plan;• Risk & Issue Registers;• Initial Diversity Training Plan;• Initial Compliance Plan; and• Draft Test Strategy v0.6 <p>3. All the above submitted and accepted by TfL.</p>	REDACTED	N

RR-002	Factory Acceptance Test Milestone (FATM)	<ol style="list-style-type: none"> 1. Full design documents will be agreed before entry to FAT. 2. Full Test Plans submitted and accepted by TfL. 3. Migration Strategy MPT-DMR accepted. 4. System has passed Factory Acceptance Tests as agreed through the Test Plans. 5. All previous Milestones accepted. 6. Acceptance Certificates agreed by TfL for the New System to enter Pilot Scheme A. 	REDACTED	Y	
RR-003	Pilot Scheme Acceptance Milestone (PM)	<ol style="list-style-type: none"> 1. The agreed number of buses (up to 120) and base stations are installed for the Pilot Scheme. 2. The New System has had 30 calendar days' operation, with no critical issues reported. 3. System has passed Pilot Scheme Acceptance Tests as agreed through the Test Plan. 4. All previous Milestones accepted. 5. Acceptance Certificate(s) agreed by TfL for the New System to enter Operational Commencement. 	REDACTED	Y	
RR-004	Critical Mass Acceptance Milestone (CMM)	<ol style="list-style-type: none"> 1. The agreed number of Bus Radios and Base Stations have been rolled out and performance tests (as agreed in the Test Strategy) successfully completed. 2. System has passed Critical Mass Acceptance as agreed through the Test Plan. 3. All previous Milestones accepted. 4. Acceptance Certificate(s) agreed by TfL that Critical Mass milestone has been achieved. 	REDACTED	N	

RR-005	Final Acceptance Milestone (FA)	<p>1. All Contracted Bus Fleet Bus Radios installed, all Base Sites fully installed and all commissioning activities completed.</p> <p>2. Successful completion of the Stability Period has been accepted by TfL.</p> <p>3. All New System documentation updated and signed off by TfL.</p> <p>4. Acceptance Certificate(s) agreed by TfL for Final Acceptance.</p>	REDACTED	Y
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1. **Milestone Acceptance**

1.1 If, in accordance with the Project Plan, the Supplier requests TfL to confirm whether a Milestone has been achieved, TfL shall consider the Acceptance Procedures for each such Milestone (including any associated Acceptance Tests (each a "**Test**") and the deliverables resulting from the Acceptance Procedures (the "**Deliverables**").

1.2 If:

1.2.1 in respect of the Test(s) which the Supplier has performed in connection with such Milestone:

1.2.1.1 the Supplier has in accordance with **Schedule 7** (Testing & Acceptance) submitted all Testing Documentation (as defined in **Schedule 7** (Testing & Acceptance)) required in relation to such Test(s);

1.2.1.2 TfL has approved all such Testing Documentation; and

1.2.1.3 on the basis of such approval, TfL is satisfied that all elements of the Acceptance Criteria related to such Test(s) have been met;

and, as such, the Supplier has issued an Acceptance certificate to TfL in relation to that Test;

1.2.2 the Supplier has met all the requirements for a Deliverable which the Supplier has delivered in relation to such Milestone set out in the Project Plan and/or this Agreement (including meeting the relevant Acceptance Criteria); and

1.2.3 the Supplier has met all the requirements for all activities which the Supplier has performed in relation to such Milestone set out in the Project Plan and/or this Agreement (including meeting the relevant Acceptance Criteria as set out in **Table 1** in **Annex A** to this **Schedule 6**),

TfL shall issue to the Supplier a notice to confirm that TfL accepts all the criteria for such Milestone having been met (such notice being a "**Milestone Acceptance Notice**") in accordance with **paragraph 1.4**.

1.3 If:

1.3.1 in respect of the Tests which the Supplier has performed in relation to such Milestone, a specified requirement of the Tests or Acceptance Procedures is incomplete, deficient, or there remain Testing Issues (any condition that deviates from the expected result as described in the relevant Test Plan) as follows:

1.3.1.1 one (1) or more Critical Severity Testing issues;

1.3.1.2 two (2) or more Medium Severity Testing issues;

1.3.1.3 four (4) or more Low Severity Testing issues; or

1.3.1.4 one (1) or more Security testing issues,

which have not been resolved to TfL's satisfaction (any and all of the above being "**Testing Issues**"); or

1.3.1.5 where TfL determines (in its absolute discretion) that the cumulative effect of all Testing issues identified (regardless of their respective Severity Levels) adversely affects the operation of the Services, the New System, TfL Equipment or any part of them;

- 1.3.2 a Deliverable associated with such a Milestone in the Project Plan is missing, incomplete, inaccurate, deficient or not fit for purpose (including relevant the Acceptance Criteria);
- 1.3.3 an activity associated with the Milestone in the Project Plan has not been successfully completed to TfL's satisfaction; and/or
- 1.3.4 the Supplier has not met all the requirements for all activities which the Supplier has performed in relation to such Milestone set out in the Project Plan and/or this Agreement (including the relevant the Acceptance Criteria),

TfL shall issue to the Supplier a notice to confirm that TfL rejects that certain or all of the criteria for such Milestone have been met (such notice being a "**Milestone Rejection Notice**") in accordance with **paragraph 1.4**.

- 1.4 Provided that the Supplier has performed all relevant obligations in accordance with **paragraph 1.2** and TfL has received all information it reasonably requires on or before the date specified for such receipt in the Project Plan (as defined below) (or, if relevant, an associated Defect Remedy Plan (as defined below)), TfL shall issue an acceptance certificate (the "**Milestone Acceptance Certificate**") on or before the date specified for such notification in the Project Plan (or Defect Remedy Plan) or, if no such notification date is specified, no more than ten (10) Business Days after the relevant Milestone Date or, (if later) no more than ten (10) Business Days after the Supplier has performed all relevant obligations in accordance with **paragraph 1.2** and TfL has received all information it reasonably requires. To the extent that the Supplier has not performed all relevant obligations in accordance with **paragraph 1.2** and/or TfL is otherwise required to issue a Milestone Rejection Notice in accordance with **paragraph 1.3**, then TfL shall issue such Milestone Rejection Notice on or before the date specified for notification of a Milestone Acceptance Certificate in the Project Plan (or Defect Remedy Plan) or, if no such notification date is specified, no more than ten (10) Business Days after the relevant Milestone Date.
- 1.5 TfL's acceptance of a Milestone pursuant to this **paragraph 1** shall be without prejudice to its rights or remedies under the Agreement or under Applicable Laws.
- 1.6 Notwithstanding the foregoing, the Supplier shall (at no cost to TfL) correct all Testing issues outstanding at the date of a Milestone Acceptance Notice as soon as reasonably practicable and in accordance with a Defect Remedy Plan (as defined below) and shall keep TfL informed of its progress in relation thereto in the progress reports or as otherwise agreed in writing by the parties.
- 1.7 Where TfL does not issue a Milestone Acceptance Certificate or a Milestone Rejection Notice (as applicable) in respect of a Milestone within the period specified in **paragraph 1.4** of this **Schedule 6**, then until such time as an Acceptance Certificate or Milestone Rejection Notice is issued by TfL, the Supplier may proceed as if an Acceptance Certificate has been issued in respect of the relevant Milestone, notwithstanding that Acceptance has not occurred ("**Interim Acceptance**").
- 1.8 Where the Supplier proceeds pursuant to the Interim Acceptance of a Milestone and TfL subsequently issues an Acceptance Certificate, then it shall be deemed that the Acceptance Certificate was issued by TfL within the period specified in **paragraph 1.4** of this **Schedule 6** and TfL shall not be liable for any increased Charges, additional costs of the Supplier or any other additional liability.
- 1.9 Subject to **paragraph 1.10** of this **Schedule 6**, where the Supplier proceeds pursuant to the Interim Acceptance of a Milestone and TfL subsequently issues a Milestone Rejection Notice, then the Supplier may be entitled to recover its additional costs (if any) that it would not have incurred had TfL issued a Milestone Rejection Notice within the period specified in **paragraph 1.4** of this **Schedule 6**. Such additional costs may be recovered through the Change Control Procedure (with any related changes to the Project Plan, the Charges or otherwise to the Agreement also being subject to the Change Control Procedure), providing always that the Supplier:
 - 1.9.1 gives TfL notice at least two (2) Business Day before the expiry of the relevant period (as specified in **paragraph 1.4** of this **Schedule 6**) specifying that TfL

has not issued an Acceptance Certificate or a Milestone Rejection Notice and that the Supplier intends to proceed on the basis of Interim Acceptance;

- 1.9.2 gives TfL notice upon the expiry of the relevant period (as specified in **paragraph 1.4** of this **Schedule 6**) that: (i) the Supplier is proceeding on the basis of Interim Acceptance; and (ii) it is raising a Dispute in accordance with **clause 47** of the Agreement;
 - 1.9.3 uses all reasonable endeavours to prevent, mitigate and/or minimise any increase in the Charges or any of the Supplier's additional costs for which TfL may be liable pursuant to this **paragraph 1.9**; and
 - 1.9.4 will only be entitled to increase the Charges or otherwise recover its additional costs to the extent that such increase in Charges or additional costs are reasonable and can be demonstrated to be directly caused by TfL's delay or failure in relation to issuing an Acceptance Certificate or Milestone Failure Notice in accordance with **paragraph 1.4** of this **Schedule 6**.
- 1.10 TfL shall have no liability to the Supplier for TfL's failure to issue an Acceptance Certificate or a Milestone Rejection Notice within the period specified in **paragraph 1.4** of this **Schedule 6** to the extent that TfL's failure to do so is caused by the Supplier's act or omission, including the Supplier's failure to meet its obligations in accordance with the Project Plan or otherwise under this Agreement.

2. **Milestone Rejection**

2.1 If TfL issues a Milestone Rejection Notice in respect of a Milestone:

- 2.1.1 the Supplier shall as soon as reasonably practicable (and at no cost to TfL):
 - 2.1.1.1 complete all corrections of all Testing issues contributing to failure to achieve the Milestone;
 - 2.1.1.2 provide, complete, rectify or amend (as appropriate) any Deliverables;
 - 2.1.1.3 complete all other relevant activity associated with the Milestone in the Project Plan; and
 - 2.1.1.4 perform or re-perform (within a reasonable timeframe) such Tests or alternative tests as may be specified by TfL. Those alternative tests shall be specified on a reasonable basis and with an approach consistent with the Test plan previously approved in order to demonstrate to TfL's satisfaction that the relevant parts of the Services meet (or will meet) the requirements of this Agreement (including the relevant Acceptance Criteria) and the Specification, including in connection with the Supplier implementing any Defect Remedy Plan pursuant to **paragraph 2.1.2**. Any such alternative tests should be agreed in writing by the parties;
- 2.1.2 the Supplier shall upon request from TfL (at no cost to TfL):
 - 2.1.2.1 submit to TfL as soon as reasonably practicable (and in any event within five (5) Business Days) a plan including full details of the steps to be taken by the Supplier to perform its obligations under **paragraph 2.1.1**, taking into account any comments from TfL ("**Defect Remedy Plan**"); and
 - 2.1.2.2 comply with all relevant provisions of this Agreement in relation to such a Defect Remedy Plan;
- 2.1.3 the Supplier shall promptly escalate the matter to the Service and Operations Director or such other level of seniority within the Supplier's Personnel as TfL may reasonably require; and

- 2.1.4 the parties shall repeat the procedure set out in **paragraph 1** and this **paragraph 2** of this **Schedule 6** until the Milestone has been accepted by TfL.
- 2.2. In respect of a Milestone for which a Milestone Rejection Notice has previously been issued and for which subsequent Milestone Rejection Notice(s) are issued, TfL may (at its absolute discretion):
- 2.2.1 exercise any or all of its rights under **clause 31.1** of this Agreement; and/or
- 2.2.2 issue a Milestone Acceptance Notice and refer the matter (without limiting in any way the Supplier's obligations to provide the Services in accordance with this Agreement) to the Dispute Resolution Procedure to determine a reduction in the Charges equal to the adverse financial and other adverse impacts of that failure on TfL.

3. Payment in respect of Milestones

Following receipt of a Milestone Acceptance Certificate in respect of a Milestone, the Supplier may invoice TfL for the amount termed the "Milestone Payment" for that Milestone as set out in **paragraph 3** of **Schedule 3** (Charges), subject to the other provisions of **Schedule 3** (Charges).

4. Supplier Delay

- 4.1 In the event of any actual, likely or unavoidable delay in a Milestone being achieved by the relevant Milestone Date, the Supplier shall:
- 4.1.1 notify TfL in writing as soon as practicable of such circumstances; and
- 4.1.2 take all practicable steps to mitigate its and TfL's Losses, expenditure and costs, pending development and approval of a Delay Plan in accordance with the following provisions of this **paragraph 4**.
- 4.2 If a delay arises in respect of the achievement of one or more Milestones, the Supplier shall promptly provide a delay plan to TfL (and in any event within ten (10) Business Days of receipt of notice from TfL stating that such a delay has occurred or will occur or from when the Supplier first became aware of the delay, whichever is the earlier) (the "**Delay Plan**").
- 4.3 The Delay Plan shall set out:
- 4.3.1 the cause of such delay;
- 4.3.2 the steps that the Supplier:
- 4.3.2.1 has taken to remedy the delay; and
- 4.3.2.2 intends to take to mitigate its and TfL's Losses (including in the case of TfL, any Losses or likely Losses notified by TfL to the Supplier), expenditure and costs; and
- 4.3.2.3 how the delay is to be remedied (if applicable) and the timescales for such remediation so that the relevant Milestones can be achieved by their respective Milestone Dates.
- 4.4 TfL shall have the right to approve, and (acting reasonably) require changes to, the Delay Plan, including changes that are aimed at preserving the Milestone Dates, in preference to minimising cost to the Supplier, which changes the Supplier shall adopt. Such changes shall be incorporated in the Delay Plan by the Supplier within five (5) Business Days (or such other period as may be expressly agreed in writing between the parties) of TfL notifying such changes to the Supplier.
- 4.5 The cost of preparing and implementing the Delay Plan shall be borne by the Supplier at its sole expense.

- 4.6 Once the Delay Plan is approved by TfL, the Supplier shall:
- 4.6.1 carry out its obligations in the Delay Plan promptly (including such changes as TfL may require in accordance with **paragraph 4.4** above);
 - 4.6.2 commence such work within one (1) Business Day of such approval by TfL, unless otherwise set out in the Delay Plan or otherwise agreed in writing between the parties; and
 - 4.6.3 keep a record, supported by relevant documentation of the steps the Supplier has taken to mitigate its and TfL's losses pursuant to the Delay Plan and such records and documentation shall be supplied to TfL promptly upon demand.
- 4.7 Except as a result of a Force Majeure Event or as set out at **clauses 13.3 to 13.6** of the Agreement, TfL shall be under no obligation to give any extension of time in respect of any delay which affects:
- 4.7.1 the Services;
 - 4.7.2 one or more Milestone Dates; or
 - 4.7.3 any of the Supplier's other obligations under this Agreement.

ANNEX B

DELIVERABLES

5. TfL approval and acceptance

5.1 TfL approval of Deliverables

In respect of each Deliverable which the Supplier is required to submit to TfL for approval (as set out in this Agreement, the Project Plan or a Defect Remedy Plan, or as otherwise agreed by the parties):

- 5.1.1 the Supplier shall give TfL not less than three (3) Business Days' notice prior to submitting such a Deliverable to TfL for review (provided that the Supplier shall not delay its submission of a Deliverable to meet this requirement);
- 5.1.2 upon receipt of such Deliverable, TfL shall as soon as reasonably possible and no later than five (5) Business Days after such receipt, provided it has received such Deliverable on or before the date specified for such receipt in the Project Plan (or Defect Remedy Plan) on or before the date specified for its response in the Project Plan (or Defect Remedy Plan):
 - 5.1.2.1 confirm in writing to the Supplier that it approves such Deliverable;
 - 5.1.2.2 request a meeting with the Supplier in order to discuss the changes it requires to such Deliverable (and, provided it has been given at least one (1) Business Day's notice of such meeting, the Supplier shall attend that meeting); or
 - 5.1.2.3 summarise in writing to the Supplier the changes it requires to such Deliverable;
- 5.1.3 following a meeting pursuant to **paragraph 5.1.2.2** or receipt of a summary of required changes pursuant to **paragraph 5.1.2.3**, the Supplier shall:
 - 5.1.3.1 promptly escalate the matter to such level of seniority within the Supplier's Personnel as TfL may require; and
 - 5.1.3.2 within five (5) Business Days (or such other time as may be agreed by the parties in writing) submit a revised version of the relevant Deliverable to TfL incorporating the changes required by TfL; and
- 5.1.4 the parties shall repeat the process set out in **paragraphs 5.1.1 to 5.1.3** (inclusive) until TfL notifies the Supplier that it approves such Deliverable (a **"Notice of Approval"**).

5.2 TfL acceptance of Deliverables

In respect of each Deliverable which the Supplier is required to submit to TfL for acceptance (as set out in the Project Plan or a Defect Remedy Plan, or as otherwise agreed by the parties):

- 5.2.1 the Supplier shall give TfL not less than three (3) Business Days' notice prior to submitting such Deliverable to TfL for review provided that the Supplier shall not delay its submission of a Deliverable to meet this requirement);

5.2.2 following its review of such Deliverable, if TfL considers (in its absolute discretion) that the nature of, or information contained in, such Deliverable:

5.2.2.1 is not fit for purpose;

5.2.2.2 indicates that the Supplier is at risk of not complying with the Project Plan; or

5.2.2.3 indicates that the Supplier is not, or may not be, complying with its obligations under the Project Plan and **Schedule 5** (Functional Specification),

TfL may notify the Supplier that it does not accept such Deliverable.

5.2.3 If TfL does not accept a Deliverable, TfL may require the Supplier to:

5.2.3.1 promptly escalate the matter to such level of seniority within the Supplier's Personnel as TfL may require;

5.2.3.2 provide additional reporting (or more granular reporting) in relation to the Supplier's work on, or relating to, such Deliverable;

5.2.3.3 provide TfL with copies of any data relating to such Deliverable (including data relating to associated elements of the Services);

5.2.3.4 allow TfL personnel (or personnel of TfL's sub-contractors) to witness and/or participate in the Supplier's planning, review and implementation activities in relation to such Deliverable;

5.2.3.5 update the Deliverable so that the Deliverable is fit for purpose and the Supplier complies with its obligations under **Schedule 5** (Functional Specification); and/or

5.2.3.6 submit a revised Project Plan (or Defect Remedy Plan) to TfL for approval which reflects the status of the Supplier's activities in relation to such Deliverable,

and the Supplier shall comply with such request.

5.2.4 If TfL is not satisfied with the Supplier's response to its request pursuant to **paragraph 5.2.3**, TfL may by written notice to the Supplier require it to submit a draft Defect Remedy Plan in relation to such Deliverable.

5.2.5 If TfL:

5.2.5.1 confirms in writing to the Supplier that it is satisfied with the Supplier's activities pursuant to **paragraph 5.2.3**; or

5.2.5.2 does not within ten (10) Business Days of the Supplier's submission of the Deliverable issue the Supplier with a Notice of Approval,

that Deliverable shall be deemed to be accepted.

6. **Required Documents**

6.1 The Supplier shall, in accordance with the applicable Milestone Dates and the Project Plan (as appropriate):

- 6.1.1 create the required documents as specified in **paragraph 4.8 of Schedule 11** (Governance, Contract Management and Reporting) the ("**Required Documents**");
- 6.1.2 ensure that each Required Document is consistent with the Verification Cross Reference Matrix (to the extent relevant) and fit for purpose;
- 6.1.3 confirm in writing to TfL any information which the Supplier reasonably requires to complete a Required Document;
- 6.1.4 perform any other tasks allocated to it in the Project Plan in relation to a Required Document;
- 6.1.5 submit a copy of each Required Document to TfL for approval or acceptance in accordance with this **paragraph 6 of Annex B** of this **Schedule 6**;
- 6.1.6 update each Required Document as required pursuant to this Agreement; and
- 6.1.7 securely store an up-to-date copy of all approved and accepted Required Documents.

7. **Other Documentation**

7.1 The Supplier shall, in accordance with the Project Plan and the Functional Specification:

- 7.1.1 Prepare the following documentation during the period from the Commencement Date to Pilot Scheme Acceptance (the "**Implementation Phase**") (and shall submit such documentation to TfL for acceptance):
 - 7.1.1.1 a training plan in respect of TfL's Personnel in accordance with **Schedule 2** (Service Requirements);
 - 7.1.1.2 any training details;
 - 7.1.1.3 a timetable detailing any downtime of TfL systems required (without prejudice to the Disaster Recovery Plan and **Schedule 9** (Cyber Security Management));
 - 7.1.1.4 any other documentation or Deliverables (other than the Software) to be approved or accepted by TfL under the Agreement, and
 - 7.1.1.5 an updated version of each of the associated documents following a Change so as to incorporate the effects of that Change in the relevant document;
- 7.1.2 if requested by TfL, consult and work in conjunction with TfL (or any third party nominated by TfL) in relation to the preparation of the documentation referred to in **paragraph 7.1.1**;
- 7.1.3 submit a copy of such documentation to TfL for approval (as required pursuant to the relevant provision of this Agreement); and
- 7.1.4 securely store an up-to-date copy of all approved and accepted documentation.

Appendix 1: Required Project Deliverables

1. **Plans**
- 1.1 Level 0 Strategy Plan
 - 1.1.1 The Supplier shall develop document(s) which include(s) planning details and an illustration of the key activity phases during the Implementation Phase and the Rollout Period with their corresponding Milestone Dates (the "**Level 0 Strategy Plan**").
- 1.2 Level 1 High Level Plan(s)
 - 1.2.1 The Supplier shall develop document(s) which include(s):
 - 1.2.1.1 planning details;
 - 1.2.1.2 Gantt chart(s) covering the key activities required to achieve the start of operation of the Services and including without limitation all dependencies on the Supplier and any third party, and the dependencies which apply to those Milestones; and(the "**Level 1 High Level Plan(s)**").
- 1.3 Level 2 Detailed Plan(s)
 - 1.3.1 The Supplier shall develop document(s) which include(s):
 - 1.3.1.1 fully resourced Gantt chart(s) covering all detailed activities required to achieve the start of operation of the New System and the Milestones, including without limitation a level of detail that identifies the individual tasks required before Factory Acceptance and during the Pilot up to the Operational Commencement Date;
 - 1.3.1.2 the dates for production of detailed business process definitions including without limitation development of the processes and procedures required to implement and operate the Services;
 - 1.3.1.3 the dates for release of documents which require review, approval and acceptance by TfL;
 - 1.3.1.4 the processes and requirements for the recruitment of Supplier's Personnel;
 - 1.3.1.5 the dates for all training and roll-out activities; and
 - 1.3.1.6 any associated task details that the Supplier anticipates will be required to complete the Tests, achieve the start of operation of the Services and meet the Milestones.(the "**Level 2 Detailed Plan(s)**").
- 1.4 Project Management Plan
 - 1.4.1 The Supplier shall develop document(s) which include(s):
 - 1.4.1.1 the scope of the project, including a high level architecture diagram indicating what is included in the scope and what it not within the scope of the Services;

- 1.4.1.2 scope and change management processes and procedures;
- 1.4.1.3 project goals, success criteria and project performance indicators;
- 1.4.1.4 project organisation and governance arrangements and in particular, work breakdown structure, supply chain details and the geographical locations where project work will be performed;
- 1.4.1.5 strategy and approach for managing sub-contractors during Implementation Phase and Rollout Period including nominated sub-contractors;
- 1.4.1.6 tools and techniques for project monitoring, control and reporting;
- 1.4.1.7 deliverables and requirements management;
- 1.4.1.8 timescales, project milestones and schedule management;
- 1.4.1.9 approach to resource management;
- 1.4.1.10 approach to budget management, periodic reporting on the financial position, earned value analysis and forecasting of cost to complete;
- 1.4.1.11 approach to risk and issue management
- 1.4.1.12 approach to stakeholder management;
- 1.4.1.13 approach to communications management;
- 1.4.1.14 approach to dependency management particularly if the dependency is outside of the scope of the project;
- 1.4.1.15 project constraints and assumptions and how these will be managed; and
- 1.4.1.16 user requirements document capturing all Approved user requirements.

1.5 Quality Plan

- 1.5.1 The Supplier shall develop document(s) which include(s) details of the processes, procedures, mechanisms and tools that the Supplier proposes to use to assure the quality of the Services (the "**Quality Plan(s)**").

1.6 Dependency Register

- 1.6.1 The Supplier shall develop and keep updated on an ongoing basis during the Implementation Phase and Rollout a record of any dependencies on any third party ("**Dependencies**") that will or may have an impact on provision of the Services from time to time, together with the perceived impact of each dependency (the approved record of Dependencies being the "**Dependency Register**").
- 1.6.2 The Dependency Register shall not document the Supplier's dependencies on TfL, as an exhaustive list of any such dependencies will be recorded separately in **Schedule 12** (TfL Obligations).

1.7 Maintenance and approval of Plans

1.7.1 The Supplier shall submit the Level 0 Strategy Plan, Level 1 High Level Plan(s), Level 2 Detailed Plan(s), the Project Management Plan, the Dependency Register and the Quality Plan for approval to TfL.

1.7.2 Thereafter, the Supplier shall keep these plans and the Dependency Register updated on an ongoing basis to reflect:

1.7.2.1 progress made against the plan in terms of tasks completed and estimates of percentage complete of tasks in progress;

1.7.2.2 resources expended against the resources planned with regard to completed and in progress tasks;

1.7.2.3 material changes to the plans, and

1.7.2.4 material changes to the Dependencies.

1.7.3 The Supplier shall resubmit all plans for approval:

1.7.3.1 on any material change to that plan,

1.7.3.2 in any event:

(a) the approved Level 0 Strategy Plan shall be updated and resubmitted for approval no less frequently than every TfL Period during the Implementation Phase; and

(b) the approved Level 1 High Level Plans shall be updated and resubmitted for approval no less frequently than every TfL Period during the Implementation Phase and until TfL has issued a Milestone Acceptance Notice in respect of the "Operational Commencement" Milestone.

(c) the approved Level 2 Detailed Plan shall be updated and resubmitted for approval no less frequently than fortnightly during the Implementation Phase; and

(d) the approved Project Management Plan shall be updated and resubmitted for approval no less frequently than every TfL Period during the Implementation Phase; and

1.7.3.3 as additionally requested by TfL.

1.7.4 The Supplier shall resubmit the Dependency Register for approval:

1.7.4.1 on any material change to that the Dependency Register or the dependencies documented by it,

1.7.4.2 in any event no less frequently than every TfL Period during the Implementation Phase and until TfL has issued a Milestone Acceptance Notice in respect of the "Pilot Acceptance Scheme" Milestone; and

1.7.4.3 as additionally requested by TfL.

2. Project Risk Register and Issues Register

2.1 The Supplier shall develop, submit for acceptance and keep updated on an ongoing basis a record of all perceived risks during the Implementation Phase and Rollout Phase,

together with the probability of their occurrence (including without limitation a categorisation of each risk as low, medium and high level risk (or as otherwise instructed by TfL) based on the probability of its occurrence), the impact on the programme should they occur, and all preventative, reactive and mitigating actions to be taken by the Supplier to prevent their occurrence or minimise the impact should they occur (the "**Risk Register**").

2.2 The Supplier shall develop and keep updated on an ongoing basis a record of all issues that will or may have an impact on provision of the Services from time to time, together with the perceived impact of each issue and all preventative, reactive and mitigating actions taken by the Supplier or to be taken to resolve it or minimise its impact (the "**Issues Register**").

2.3 The Supplier shall submit each of the Risk Register and Issues Register and updates to each of them from time to time (and, in respect of the Risk Register, in any event no less frequently than upon the identification by the Supplier of each high level risk (or such other category of risk as TfL may instruct from time to time)) to TfL for acceptance.