

SCHEDULE 4

Testing Regime

1. Introduction

1.1 This schedule describes the procedures to be followed by the Service Provider in Testing.

2. Testing Regime General Provisions

2.1 The Service Provider shall, in accordance with:

- (A) the applicable Milestone Dates;
- (B) the relevant Implementation Phase Testing Documents or Operational Phase Testing Documents;
- (C) the Change Control Request Procedure; and
- (D) this schedule,

and so as to achieve all relevant Milestones, perform the Testing so as to ensure that the relevant parts of the Services perform and provide the features, functions and facilities and meet the performance criteria set out in the Specification.

2.2 The Service Provider shall:

- (A) give TfL at least seven (7) Working Days' written notice prior to each Test;
- (B) at all times provide such access, facilities, Information, Data, explanation, Documentation and assistance to TfL and any Third Party nominated by TfL in order for TfL (and/or that Third Party) to participate in such Test Witnessing as TfL may require;
- (C) prepare a detailed Test Report in respect of each Test immediately following the conducting of that Test;
- (D) immediately provide to TfL a copy of each Test Report and the Service Provider agrees that TfL may, notwithstanding anything to the contrary in this Agreement, share the Test Report in form or substance with any Third Party for any purpose in respect of this Agreement, the Services, Additional Services and/or the Schemes;
- (E) if any Incident arises or becomes apparent during Testing, as soon as possible update the Incident Log in respect of each Test following the conducting of that Testing in accordance with paragraph 9 of schedule 10 (Contract Management and Reporting) and ensure that the Incident Log is made available to TfL promptly following each Test with accurate, up to date and complete Information and Test Data (including without limitation, a Severity Level agreed by TfL for each Error or Service Issue); and

- (F) subject to any contrary written instructions from TfL from time to time, ensure that all Test Data containing Personal Data is securely and promptly destroyed once it is no longer needed for Testing purposes and shall confirm to TfL once such destruction has been completed.

2.3 For the avoidance of doubt, those of the Service Provider's obligations under this schedule which are expressed as "including without limitation" or "including but not limited to" are not intended by the Parties to oblige the Service Provider to conduct any Testing not envisaged under the Test Strategy, the Test Plans or the Test Specifications.

3. **Test Strategy**

3.1 The Service Provider shall ensure that the Test Strategy includes at least the following:

- (A) an overall high level plan for the Testing of the Service Systems and Services, including but not limited to the scheduling of all Tests for Release 1 and Release 2;
- (B) a description of the approach to Testing for Release 1 and after the Operational Commencement Date (including but not limited to all later Releases), including the rationale for such approach;
- (C) the names and contact details of TfL's and the Service Provider's representatives for the purposes of the Testing;
- (D) the requirements and objectives of the Testing;
- (E) any dependencies affecting the Testing, including reliance on Third Parties;
- (F) the scope of the Testing;
- (G) any assumptions made that may impact upon Testing;
- (H) the perceived risks to Testing or risks, Service Issues or other issues as a result of Testing together with their impact and methods of mitigation;
- (I) descriptions of the stages of Testing including without limitation the processes for establishing and implementing the relevant Test Specification against which the Testing will be conducted and assessed;
- (J) descriptions of the anticipated processes relating to Testing for achieving a Milestone Notice including the performance of the Service Provider's obligations in respect of Test Witnessing, Test Reports, Incident management and the business process scenarios to be used in determining whether the Test Criteria have been met;
- (K) the entry and exit criteria applicable to each of the Test Stages;
- (L) the roles and responsibilities of all those involved with the Testing programme, including Personnel of TfL or the Service Provider and/or Third Parties where applicable;

- (M) an outline of the resource requirements, including Personnel, Personnel Training, Test Environments, and Testing tools; and how they will be used at each of the Test Stages;
- (N) the location of the Testing at each Test Stage;
- (O) the sources and mechanisms for creation of Test Data for use at the various Test Stages;
- (P) a description of the steps that will be taken to secure the Test Data, to process it in compliance with Data Protection Laws, and to delete it securely;
- (Q) a proposed process for acceptance of Software versions and/or releases for production use during the Operational Phase;
- (R) the quality management tools and processes to be used in Testing including:
 - (1) the standards to be applied to Testing;
 - (2) requirement traceability mechanisms;
 - (3) Incident and Problem management processes;
 - (4) configuration management;
 - (5) release management;
 - (6) Test results capture, logging, and tracking; and
 - (7) Test progress and completion reporting; and
- (S) each of the foregoing in respect of the Business Continuity Test Schedule and Testing of the Business Continuity Plan, Business Continuity Infrastructure and Business Continuity Services.

4. **Implementation Phase Testing Documents**

4.1 The Service Provider shall, in accordance with paragraph 33.1 of schedule 3 (Milestones and Deliverables):

- (A) prepare and submit to TfL a Test Plan and Test Specifications in respect of System Testing which is to be performed during the Implementation Phase as envisaged under paragraph 8.1(B) of this schedule;
- (B) prepare and submit to TfL a Test Plan and Test Specifications in respect of System Acceptance Testing which is to be performed during the Implementation Phase as envisaged under paragraph 8.1(C) of this schedule;
- (C) prepare and submit to TfL a Test Plan and Test Specifications in respect of Systems Integration Testing which is to be performed during the Implementation Phase as envisaged under paragraph 8.1(D) of this schedule;

- (D) prepare and submit to TfL a Test Plan and Test Specifications in respect of Data Migration Testing which is to be performed during the Implementation Phase as it relates to Release 1 as envisaged under paragraph 8.1(E) of this schedule;
- (E) prepare and submit to TfL a Test Plan and Test Specifications in respect of Technical Proving which is to be performed during the Implementation Phase as envisaged under paragraph 8.1(F) of this schedule;
- (F) prepare and submit to TfL a Test Plan and Test Specifications in respect of Ready for Service Testing which is to be performed during the Implementation Phase as envisaged under paragraph 8.1(G) of this schedule including without limitation a Test Plan and Test Specifications for Testing of the Business Continuity Plan, Business Continuity Infrastructure and Business Continuity Services; and
- (G) prepare and, if expressly requested by TfL, submit to TfL a Test Plan and Test Specifications in respect of all other Implementation Phase Testing.

5. **Operational Phase Testing Documents**

5.1 The Service Provider shall, in accordance with paragraph 33.2 of schedule 3 (Milestones and Deliverables):

- (A) prepare a Test Plan and promptly provide a copy of the same to TfL if requested by TfL from time to time;
- (B) prepare and submit to TfL the Test Specifications for Acceptance Testing and the Test Plan (including without limitation details of the scenarios to be used in such Testing) for Acceptance Testing in respect of all Service Systems or Software versions and releases to be implemented pursuant to the Change Control Request Procedure (whether as a result of Changes or Additional Services);
- (C) where relevant to Testing of Service Systems or Software, prepare and provide to TfL release notes describing any new or amended functionality in functional user terms, any outstanding Errors and any operational workarounds required due to those Service Issues or Errors with the Software;
- (D) prepare and, if requested by TfL, submit to TfL detailed Test Specifications in respect of all other Operational Phase Testing as TfL may require; and
- (E) prepare and submit to TfL the Business Continuity Test Schedule and any updated version from time to time as envisaged under paragraph 2 of Schedule 25 (Business Continuity) as well as a Test Plan for Testing of the Business Continuity Plan, Business Continuity Infrastructure and Business Continuity Services.

6. **Test Plans**

6.1 Each Test Plan shall include:

- (A) a detailed process for Testing of Software versions and releases at the applicable Test Stage, including but not limited to a policy and rationale for Regression Testing;
- (B) the identification and details of the Environment(s) to be used in carrying out the relevant Testing;
- (C) the scope of the Testing for the version or release, including without limitation a description of the Software, Systems, constituent parts or functional areas of the Service Systems under test, together with listings of functional requirements, Change Requests or Errors;
- (D) any specific Testing requirements or objectives where this differs from the Test Strategy, together with the reasons and rationale for the differences;
- (E) an overview of the specific Testing approach for the release and applicable Test Stage;
- (F) any specific dependencies, pre-requisites, assumptions and risks related to Testing any Software or System version or release;
- (G) identification of the Test scripts to be executed;
- (H) a detailed schedule for the Testing;
- (I) named roles and responsibilities for all those involved with Testing; and
- (J) a description of the Test Data to be used for Testing.

7. **Test Specifications**

7.1 The Service Provider shall:

- (A) in accordance with the applicable Milestone Dates and the Test Strategy, develop a Test Specification for each Test Stage;
- (B) ensure that each Test Specification is at all times accurate, up to date and complete, including without limitation in respect of the changing functionality of the Service Systems, Changes and Internal Changes;
- (C) include in each Test Specification at least the following information:
 - (1) the Test Criteria with a reference back to the Specification, the Functional Requirements, the Design Documents and any other documents relevant to the Testing as applicable to the Test Stage;
 - (2) a set of Test scenarios (including without limitation business process scenarios (where applicable)) and Test Cases designed to exercise all the Test Criteria identified within the Test Specification, each with a reference to the Test Criteria covered by the Test scenario;
 - (3) a set of Test scripts corresponding to the Test scenarios and Test Cases describing the purpose of the Test, the Data requirements for the Test, any pre-requisites for the Test, the actions to be taken during the

Test, and the expected results for each step or action of the Test against which success or failure of the Test shall be judged; and

- (D) ensure that all requirements specified in this Agreement in respect of Testing are properly and adequately covered by the Test Criteria so as to meet the Specification.

8. **Testing during the Implementation Phase**

8.1 The Service Provider shall in accordance with paragraph 2 of this schedule:

- (A) carry out Unit Testing during the development of the Software units in order to demonstrate that each of the Software units of the Service Systems (including without limitation the lowest level of those units) is in accordance with the Design Documents, complies with the relevant Test Specification envisaged under paragraph 4.1 of this schedule and meets the Specification, including but not limited to ensuring that:
 - (1) those units meet the Specification related to those units;
 - (2) Data and input validation works in accordance with the Design Documents and meets the Specification;
 - (3) Data display formatting works in accordance with the Design Documents and meets the Specification;
 - (4) screen/report layout are in accordance with the Design Documents and meet the Specification;
 - (5) all boundary value Data conditions and equivalence partitions including, but not limited to, maximum, minimum, null and zero (0) Data values are processed correctly;
 - (6) process and screen navigation and the management of context Data meets the Specification and works in accordance with the Design Documents;
 - (7) Errors and exceptions are handled and reported correctly;
 - (8) Data contention and Data locking are correctly handled; and
 - (9) transactional integrity and Data integrity and Data replication work correctly;
- (B) carry out System Testing of each of the Systems comprised in the Service Systems prior to integration of the Service Systems in order to demonstrate that the features, functions and facilities associated with the Hardware, Software, System or constituent parts of the Service Systems (including but not limited to all Interfaces), are in accordance with the Design Documents, comply with the relevant Test Specification envisaged under paragraph 4.1(G) of this schedule and meet the Specification, including but not limited to ensuring that:
 - (1) Data and process flows across each System comprising the Service Systems meet the Specification;

- (2) Data and process integrity across the Systems or constituent parts of the Service Systems works in accordance with the Specification;
- (3) continuity of processing across the Systems or constituent parts of the Service Systems works in accordance with the Specification;
- (4) negative and positive Tests for all functionality implemented within the Systems or constituent parts of the Service Systems are performed;
- (5) defined Tests are performed to verify that potentially damaging transactions cannot be performed;
- (6) the handling of maximum, minimum, null and zero (0) Data values across the Systems or constituent parts of the Service Systems and its Interfaces works in accordance with the Specification;
- (7) Data representative of operational conditions are used for the Testing;
- (8) technical integration Tests of the Interfaces between the constituent parts of each System and between the Service Systems and Other Service Providers, using Test harnesses where necessary, are performed to demonstrate compliance with the Specification, and the Testing of all Interface failure conditions, exception conditions and recovery mechanisms is carried out;
- (9) load and stress Tests are performed to establish that the Software, Systems or constituent part of the Service Systems can reliably process the maximum expected volumes of events or transactions to at least meet the Service Levels and to establish that the Capacity and scalability of the relevant Hardware, Software, Systems or constituent parts of the Service Systems are met:
 - (a) in relation to the Business Operations Systems and Enforcement Operations Systems, in each case using stored data volumes comparable with the Scenario 1 Volumes in appendix 5 (Channels) and appendix 31 (Enforcement Operations Volumes) to the Statement of Requirements; and
 - (b) in relation to the Core IT Systems, using the Scenario 1 Volumes set out in appendix 39 (Core IT Volumes) to the Statement of Requirements,and the results shall prove that each System comprised in the Service Systems will function at 150% of those volumes set out in paragraphs 8.1(B)(9)(a) and 8.1(B)(9)(b) of this schedule and takes into account the effect of bow-wave volumes;
- (10) all Management Information is correctly recorded, stored and reported on;
- (11) all systems, security, access and audit trail logs are appropriately and correctly updated;

- (C) carry out System Acceptance Testing of the Core IT Systems to demonstrate that all of the relevant Software, Systems and constituent parts of the Core IT Systems (including without limitation the Management Information Systems):
- (1) operate in accordance with the Design Documents, the relevant Test Specification envisaged under paragraph 5.1(D) of this schedule and the Specification;
 - (2) operate in accordance with the Security Policy;
 - (3) comply with and do not and will not prejudice the Business Continuity Services (including without limitation as specified under the Business Continuity Plan);
 - (4) operate in accordance with this Agreement (including without limitation the Service Levels); and
 - (5) can correctly process Legacy Data.
- (D) carry out Systems Integration Testing, at a location to be determined by TfL, in order to demonstrate that all of the Hardware, Software, Systems and constituent parts of the Service Systems fully integrate and fully inter-operate with each other, Other Service Provider Systems and all Systems of TfL and that the Service Systems operate in accordance with the Specification and the Design Documents and comply with the relevant Test Specification envisaged under paragraph 4.1(A) of this schedule, including without limitation by ensuring that:
- (1) Data constructed to cover normal and exception conditions, including but not limited to boundary values, null values and maximum length values, are passed between the Systems comprising the Service Systems, including the constituent parts of the Systems, including without limitation the Other Service Provider Systems, that all Interface failure conditions and recovery from failure are Tested and that the Data are correctly stored by the Service Systems;
 - (2) demonstrate the full end-to-end integration of each element of the Service Systems with the Service Systems Interfaces, Systems of TfL, the Other Service Provider Systems and Systems of all relevant Third Parties by executing Tests based on end-to-end business processes and Data flows across all of those elements as against the business process definitions set out in the Design Documents and the Specification, so as to demonstrate compliance with the Specification;
 - (3) load and stress Tests are performed in a Testing environment on Hardware representative of live operations to establish that the Service Systems, including without limitation the MIS, can reliably process the normal and maximum expected volumes of events or transactions to meet the relevant Service Levels and to ensure that the Capacity and scalability of the Service Systems are met:
 - (a) in relation to the Business Operations Systems and Enforcement Operations Systems, in each case using stored Data volumes, including without limitation, Legacy Data, comparable with the

Scenario 1 Volumes in appendix 5 (Channels) and appendix 31 (Enforcement Operations Volumes) to the Statement of Requirements and the Design Documents and with representative volumes of Data passing via those Systems; and

- (b) in relation to the Core IT Systems, using the Scenario 1 Volumes set out in appendix 39 (Core IT Volumes) to the Statement of Requirements,

and the results shall prove that the Service Systems will function at 150% of those volumes set out in paragraphs 8.1(D)(3)(a) and 8.1(D)(3)(b) of this schedule and take into account the effect of bow-wave volumes;

- (4) Testing of the filtering processes to be applied to the records emanating from the Enforcement Infrastructure is carried out;
 - (5) Tests are performed to ensure and assure compliance with the Security Policy and other obligations set out in this Agreement;
 - (6) Tests are performed to demonstrate that the Service Systems comply with all applicable Laws and the Congestion Charging Scheme Order and the LEZ Scheme Order, including without limitation all Data Protection Laws, FOI Legislation, monitoring and interception of communication and similar Laws from time to time in force to the extent applicable;
 - (7) Tests of the MIS are performed to ensure that all Data is correctly provided and presented, including without limitation when accessed via and presented to the Service Systems Interfaces and Hardware, Software and Systems to be used by TfL; and
 - (8) all Management Information is correctly accumulated from each Service Element, stored and reported;
- (E) carry out Data Migration Testing to demonstrate that Legacy Data is correctly transferred to and stored by the Service Systems in accordance with the Data Migration Strategy and the relevant Test Plan and Test Specification envisaged under this schedule including without limitation ensuring that:
- (1) Testing of any required Data cleansing scripts is performed on manufactured Data to validate that such scripts operate correctly prior to being used in connection with Legacy Data;
 - (2) the integrity of the Legacy Data is tested to ensure that it is of the correct format, structure and content;
 - (3) Testing of the Data transformation and transfer scripts is performed on manufactured Data to validate that such scripts operate correctly prior to being used in connection with cleansed Legacy Data;
 - (4) reconciliation of the migrated Legacy Data is performed to verify that the source and target Data reconcile; and

- (5) migrated Data is used during Systems Integration Testing to demonstrate that the Systems comprising the Service Systems function in accordance with the Specification and the Design Documents when processing migrated Legacy Data;
- (F) carry out Technical Proving on the Infrastructure to be used operationally in its final location and involving a period of extended and continuous operation in order to:
- (1) provide assurance to TfL of the reliability and maintainability of the Service Systems through extended and continuous operation;
 - (2) demonstrate the full end-to-end integration of the operational Service Systems with the Interfaces, Systems of TfL, the Other Service Provider Systems and any relevant Third Parties so as to demonstrate compliance with the Specification; and
 - (3) ensure that:
 - (a) the Service Provider shall, at the Service Provider's cost, arrange and participate fully in independent external penetration Tests to demonstrate the security of the Service Systems from intrusion via networks external to those of the Service Provider (including without limitation promptly upon written request from TfL from time to time);
 - (b) all Infrastructure making up the operational Service Systems has been correctly installed, built and configured in accordance with the Design Documents and complies with the relevant Test Specification envisaged under paragraph 4.1(E) of this schedule and meets the Specification, including without limitation by ensuring that:
 - (i) Tests are performed to demonstrate complete network connectivity, capacity and performance between the Service Systems and between the Service Systems, the Other Service Provider Systems and the Systems of TfL;
 - (ii) configuration Tests are performed in relation to all Software and Infrastructure comprised in the Service Systems;
 - (iii) Tests are performed to ensure that all Software is properly installed and functions, interoperates, integrates, interfaces and co-exists with all other relevant elements of the Service Systems (including without limitation the Software referred to in paragraph 8.1(A) of this schedule);
 - (iv) Testing of the technical aspects of the Security Policy is performed successfully;
 - (v) all Service Systems back-ups and Business Continuity mechanisms and functions comply with the provisions of this Agreement including without limitation the Security Plan and the Business Continuity Plan (as applicable);

- (vi) fail-over Tests of all relevant Infrastructure are performed successfully;
 - (vii) load balancing Tests (where relevant) are performed successfully;
 - (viii) the performance of the MIS and Interfaces to TfL's Infrastructure, Software, Systems and the TfL Premises perform to the satisfaction of TfL;
 - (ix) operational Data from any Other Service Provider is accepted and processed correctly whenever possible using the appropriate Interface; and
 - (c) all Tests necessary or desirable to demonstrate that Ready for Service Testing will be representative of live operations are performed;
- (G) carry out Ready for Service Testing involving Tests of business process scenarios (including without limitation as reasonably specified by TfL) using the Service Systems in the operational environment in order to simulate and prove the Operational Services to be provided during the Operational Phase are in accordance with the relevant Test Plan and Test Specification envisaged under paragraph 4.1(F) of this schedule and to demonstrate compliance with the Specification, including without limitation ensuring that:
- (1) full completion of all Technical Proving has occurred;
 - (2) relevant Service Provider Personnel are appropriately trained, used and involved in order to provide the Services;
 - (3) all Management Information is provided;
 - (4) appropriate operational procedures for the Service Provider to perform its obligations under this Agreement are used and complied with and all other processes and procedures are sufficient to support the Service Systems to meet the required Service Levels;
 - (5) sufficient business input volumes are used to demonstrate that the Service Levels can be reliably achieved for all key business processes (as specified in advance of any such Ready for Service Testing by TfL in its absolute discretion):
 - (a) for the Business Operations Systems and Enforcement Operations Systems, the volumes expected during normal operations comparable with the Scenario 1 Volumes in appendix 5 (Channels) and appendix 31 (Enforcement Operations Volumes) to the Statement of Requirements; and
 - (b) for the Core IT Systems, as detailed in the Scenario 1 Volumes set out in appendix 39 (Core IT Volumes) to the Statement of Requirements,

and the results shall prove that those processes will function at 150% of those volumes specified in paragraphs 8.1(G)(5)(a) and 8.1(G)(5)(b) of this schedule and take into account the effect of bow-wave volumes;

- (6) Testing of the Security Policy is undertaken and complete;
 - (7) Testing of the Business Continuity Plan, Business Continuity Infrastructure, Business Continuity Services and other Business Continuity and back-up continuity procedures (including without limitation in accordance with paragraph 3 of schedule 25 (Business Continuity)), recovery work areas and overflow resources and Premises is complete, including without limitation the Testing of these aspects to confirm that they comply with the Security Policy as confirmed by an external independent BS7799 audit, and in each case has been Approved by TfL;
 - (8) it has been demonstrated to TfL's reasonable satisfaction that the Evidential Integrity requirements for the Services are met;
 - (9) it has been demonstrated to TfL's reasonable satisfaction that all audit mechanisms and trails are operational and adequate including without limitation by way of an external independent BS7799 audit (to be carried out by the National Computing Centre or such other suitably qualified Third Party as the parties may agree in writing), the cost of which shall be borne by the Service Provider and the Service Provider shall at its own cost and expense promptly rectify any failing areas identified during the course of any such audit;
 - (10) it has been demonstrated to TfL's reasonable satisfaction that the data retention mechanisms are in compliance with Data Protection Laws, the Data Retention Policy and all other policies and procedures of TfL from time to time with which the Service Provider is under an obligation to comply under this Agreement; and
 - (11) it has been demonstrated to TfL that the Services will be provided in accordance with this Agreement to the reasonable satisfaction of TfL; and
- (H) carry out Regression Testing at all Test Stages as necessary to demonstrate that changes to the Software have no adverse impact on the Service Systems, Interfaces, the Other Service Provider Systems or any Hardware, Software or Systems of TfL.

9. **Testing During The Operational Phase**

9.1 The Service Provider shall, in accordance with paragraph 2 and subject to paragraph 9.2 of this schedule, carry out the following Testing as required in relation to each Change, Additional Service or corrected Service Issue or Error:

- (A) Unit Testing as envisaged under paragraph 8.1(A) of this schedule which shall apply *mutatis mutandis* in respect of each Change, Additional Service or corrected Service Issue or Error;

- (B) System Testing as envisaged under paragraph 8.1(B) of this schedule which shall apply *mutatis mutandis* in respect of each Change, Additional Service or corrected Service Issue or Error;
- (C) Systems Integration Testing as envisaged under paragraph 8.1(D) of this schedule which shall apply *mutatis mutandis* in respect of each Change, Additional Service or corrected Service Issue or Error;
- (D) Regression Testing in relation to each Change, Additional Service or corrected Service Issue or Error on the basis of analysis of the impact of the changes made to the Service Systems to demonstrate that the Change, Additional Service or corrected Service Issue or Error has not affected aspects of the Service Systems not subject to the Change, Additional Service or corrected Service Issue or Error, in accordance with the Design Documents, the relevant Test Specification envisaged under paragraph 5.1(D) of this schedule and the Specification;
- (E) Acceptance Testing in relation to each Change, Additional Service or corrected Service Issue or Error to demonstrate to TfL that the Change, Additional Service or corrected Service Issue or Error:
 - (1) is in accordance with the Design Documents, the relevant Test Specification envisaged under paragraph 5.1(B) of this schedule and the Specification;
 - (2) is consistent with the agreed Change Request pursuant to the Change Control Request Procedure;
 - (3) is in accordance with the Security Plan;
 - (4) in relation to Additional Services, complies with clause 28 (Additional Services) and schedule 33 (Additional Services);
 - (5) complies with and does not prejudice the Business Continuity Plan, Business Continuity Infrastructure, Business Continuity Services and other Business Continuity and back-up continuity procedures, recovery work areas and overflow resources and Premises, including without limitation Testing these aspects against the Security Plan in respect of that Change, Additional Service or corrected Service Issue or Error (unless otherwise agreed in writing between the Parties);
 - (6) is consistent with the Service Levels; and
 - (7) is in accordance with Good Industry Practice; and
- (F) Business Continuity Testing as envisaged under paragraphs 8.1(F)(3)(b)(v) and 8.1(G)(7) of this schedule and paragraph 3 of schedule 25 (Business Continuity) which shall apply *mutatis mutandis* in respect of each Change, Additional Service or corrected Service Issue or Error.

9.2 The Service Provider shall in conducting the Testing envisaged under paragraphs 9.1(A), 9.1(B), 9.1(C) and/or 9.1(F) of this schedule use the Test Specification (where applicable) and Test Plan to be produced by the Service Provider as part of

the Operational Phase Testing Documents as envisaged under paragraph 5.1 of this schedule.

10. **Delivery Of Documents For Testing**

10.1 The Service Provider shall:

- (A) subject to paragraphs 10.1(B) and 13.2(B) of this schedule deliver all documents required for or relevant to Testing to TfL no less than ten (10) Working Days prior to the relevant Test; and
- (B) deliver Test Specifications to TfL no less than thirty (30) Working Days prior to the relevant Test,

or in accordance with such other timetable as TfL may, in its absolute discretion, agree in writing with the Service Provider from time to time.

11. **Test Witnessing**

11.1 The Service Provider shall, during Test Witnessing:

- (A) follow TfL's reasonable instructions in relation to the form of Test Witnessing and the way in which Test Witnessing is to be carried out, including without limitation TfL witnessing of a solution demonstration, TfL witnessing of the execution of the Testing being carried out by the Service Provider, and TfL carrying out any Testing using a Third Party in conjunction with the Service Provider's Testing;
- (B) follow TfL's reasonable instructions in relation to any specific sets of business process scenario Tests to be carried out by the Service Provider and witnessed as part of Test Witnessing; and
- (C) demonstrate to TfL's reasonable satisfaction that adequate modifications and Testing have been performed leading to closure of the Service Issue, Error or the successful completion of Testing.

12. **Test Reports**

12.1 At the completion of each Test Stage, the Service Provider's Representative will submit a Test Report for that Test Stage to TfL for Approval. The Service Provider shall ensure that each Test Report includes at least the following information:

- (A) the relevant Testing carried out;
- (B) the results of the Testing conducted;
- (C) any deviation from the Test Strategy, applicable Test Plan and/or Test Specifications (or, if applicable, Business Continuity Test Schedule or Business Continuity Plan);
- (D) if the Testing failed in any way, the extent and cause of the failure;
- (E) summary metrics on Service Issues and Errors raised during the Testing;

- (F) the detail of any outstanding Errors or unresolved Service Issues, including references to the Incident Log and the Severity Levels; and
- (G) a Work-off Plan in respect of all outstanding Errors, Service Issues and/or any failed Business Continuity Testing.

13. **Test Reports, Management Of Issues Arising From Testing And Resubmission Of Test Documents**

- 13.1 All Errors and Service Issues arising as a result of or identified during Testing shall be dealt with in accordance with clause 47 (Contract Management and Incident Management).
- 13.2 The Service Provider shall:
- (A) complete and deliver each Test Report to TfL and ensure that the Incident Log is up to date, accurate and complete pursuant to paragraph 2.2(E) of this schedule as agreed in writing between the Parties and in any event at least five (5) Working Days prior to the Milestone Date for successful completion of the relevant Test; and
 - (B) re-submit to TfL any Test document which has been rejected by TfL pursuant to paragraph 34.1 of Part C of schedule 3 (Milestones and Deliverables) within five (5) Working Days following the date that TfL issues its rejection of the relevant document.