

# **Schedule 10.1 – Change Management**

**TfL RESTRICTED**

Restricted to: TfL Group, Contractor Group and Consultants with NDA

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# **1 Introduction**

## **1.1 Scope and Purpose**

1.1.1 This Schedule 10.1 (Change Management) describes:

- (a) the obligations of the Contractor relating to each type of Change; and
- (b) the processes and documentation that the Contractor is required to implement and operate in relation to:
  - (i) Change Management;
  - (ii) Configuration Management; and
  - (iii) Release Management.

1.1.2 The objectives of this Schedule are to ensure that:

- (a) TTL and the Contractor effectively co-ordinate and communicate changes to the System, the IRC System and Interfacing Systems;
- (b) TTL, in its role as the Technical Authority, is properly Assured in relation to Technical Changes; and
- (c) Risk associated with Change is avoided where possible, and/or effectively managed.

1.1.3 The Contractor shall provide evidence to Assure TTL that Changes have been suitably assessed and tested and appropriate processes implemented to support Change Management, Release Management and Configuration Management.

## **1.2 Related Contractors**

1.2.1 In respect of any Change, where relevant, the Contractor shall use reasonable endeavours to co-operate with the Related Contractor in relation to such Change.

1.2.2 Where any Related Contractor does not provide reasonable co-operation in relation to a Change the Contractor shall promptly notify TTL and the Contractor may reasonably request, and, upon such request, TTL shall, as a Dependency, procure, the reasonable co-operation of the Related Contractors where such co-operation is required in order for the Contractor to perform its obligations set out in this Schedule.

## 2 Change Management

### 2.1 Generally

2.1.1 From the Service Commencement Date, the Contractor shall implement and operate robust processes to facilitate, manage and successfully implement (as appropriate) Change (“**Change Management**”) which as a minimum shall, where appropriate, include actions to ensure that:

- (a) all Change Requests are logged and a unique identification is assigned to each one which will contain all details associated with that proposed Change;
- (b) all proposed Changes are assessed in relation to their impact on the IRC System, the System, the Services, Interfaces, Projects, Programmes, Fares Revisions and other Changes;
- (c) Assurance is provided to TTL in accordance with Schedule 10.5 (Assurance) in respect of the implementation of Changes and, in relation to Technical Changes, Assurance is achieved in accordance with Schedule 9.1 (Technical Authority);
- (d) all necessary Assurance and testing has been properly conducted prior to the implementation of any Change;
- (e) all Changes are reviewed, the success of their implementation evaluated and any remedial action undertaken and lessons learned are acted upon;
- (f) the TTL Change Manager is informed of all Changes and invited to attend all Change Advisory Board meetings; and
- (g) both the processes for managing Changes and all Changes are fully documented.

Notwithstanding the Contractor's obligations in respect of its performance of the System Integrator role, where the Contractor is unable to perform its obligations under this paragraph in relation to a Related Change due to the action or omission of TTL and/or the relevant Related Contractor, this shall be a Dependency.

2.1.2 The Contractor shall nominate an appropriate individual to be responsible for such Change Management (the “**Change Manager**”).

2.1.3 The Contractor acknowledges and agrees that the principles for Change Management are to:

- (a) reduce technical delivery risk of Changes, regardless of the complexity of the Change or service operations sourcing arrangements;
- (b) operate project delivery through a single process for internal TTL, external contractor(s) and other suppliers;
- (c) align clearly assigned ownership, roles and responsibilities to the process of Change implementation; and

ensure clear accountability between TTL, the Contractor and any other supplier within the overall IRC System.

- 2.1.4 The Contractor acknowledges and agrees that the objectives of Change Management are to ensure:
- (a) Changes to the System and/or Services do not adversely impact the delivery of the Services to TTL business stakeholders and Customers;
  - (b) Changes affecting the Services, the System and Interfaces in multiple domains are subject to processes that enable Change to be managed, Accredited by the Contractor in compliance with Schedule 7.2 (System Integrator) and Assured by TTL prior to being implemented in compliance with this Schedule;
  - (c) TTL, the Contractor and Sub-Contractors consistently follow an agreed Change Management process;
  - (d) the frequency, complexity and speed of Change does not adversely impact TTL live services;
  - (e) confident Project delivery;
  - (f) that the number of System Incidents and Incidents resulting from Change implementation is minimised; and
  - (g) improved planning capability for development and transition of future services.

## **2.2 Change Request**

- 2.2.1 The Contractor shall report all planned Changes to TTL to enable TTL to be Assured prior to any implementation.
- 2.2.2 The Contractor shall ensure each Change Request (other than in relation to a Related Change) shall as a minimum include the following information:
- (a) Interfaces, Modules, Configuration Items and/or Services affected;
  - (b) Change Initiator and Change implementer;
  - (c) the impact and risk of implementation;
  - (d) the impact and risk of non-implementation; and
  - (e) a plan for rollback if implementation is unsuccessful,
- and in the performance of its role as System Integrator the Contractor shall review all Change Requests relating to a Related Change and advise TTL where any such Change Requests do not include an appropriate level of information having regard to the categories of information described above.
- 2.2.3 The Change Manager shall allocate each Change Request (or, in the case of a Change Request relating to a Related Change, shall review the relevant Change Request and advise TTL on the appropriate allocation of such Change Request) to a category that identifies its operational significance in accordance with the following categories:
- (a) **Interface:** the Change is on an Interface with other systems;

- (b) **Significant:** the impact of the Change not being made or a failure in the implementation of the Change would severely impact or affect the Services;
- (c) **Minor:** the impact of not making the Change or a failure in the implementation of the Change would have minimal impact on the Services; or
- (d) **Standard:** a regularly scheduled and implemented Change where there is evidence of successful prior implementation supported by a documented process or the Change would amend operational processes rather than any element of the IRC System.

## 2.3 Change Review and Assurance

- 2.3.1 For all Technical Changes, the Contractor shall propose an Assurance Level pursuant to Schedule 9.1 (Technical Authority) and if, in TTL's reasonable opinion, TTL disagrees with such Assurance Level, TTL may determine a different Assurance Level and the Contractor shall comply with the same.
- 2.3.2 Change Requests notified by the Contractor according to paragraph 2.2.1 shall be implemented according to the category identified in paragraph 2.2.3, as below:
  - (a) **Interface:** shall be submitted to the TTL Change Advisory Board in accordance with paragraph 2.7 of this Schedule;
  - (b) **Significant or Minor:** shall be evaluated by the Contractor's Change Advisory Board, to which the TTL Change Manager shall be invited;
  - (c) **Standard:** shall be implemented by the Contractor following the Technical Authority's review, if applicable.
- 2.3.3 The Contractor acknowledges that TTL has operational and/or business requirements, including in relation to special events, that may influence the timing of Changes introduced into the live operational environment. The TTL Change Manager shall use reasonable endeavours to supply the Contractor with a forward look of events and closures that may affect the IRC System. The Contractor shall use all reasonable endeavours to accommodate TTL's requirements in relation to the timing of Changes on the basis of this forward look.
- 2.3.4 The Contractor may request that TTL suspends a Change Request if, in its role as System Integrator, it believes deploying the Change would adversely affect or impact the overall operation, effectiveness or security of the IRC System. In all such cases the Contractor shall provide evidence to support its concerns to TTL.

## 2.4 Change Implementation

- 2.4.1 "**Change Implementation**" is the process of promoting Technical Changes from the development or test environment controlled by the Change Initiator to the pre-production and/or live operational environments. These may be controlled by the Contractor or TTL or a Related Contractor.
- 2.4.2 The Change Initiator shall provide to the Contractor approved Configuration Items and any supporting documentation to facilitate the Contractor undertaking functional and/or System Integration Testing as specified in the approved Change Request.

- 2.4.3 The Contractor shall notify the TTL Change Manager of the outcome of any tests which may be required in accordance with Schedule 10.2 (Programme and Project Lifecycle).

## **2.5 Change Evaluation**

- 2.5.1 The Contractor shall evaluate change implementation to enable lessons to be learnt and processes to be refined.
- 2.5.2 The Contractor shall, and in respect of Related Changes shall to the extent practicable, report weekly to the TTL Change Manager on the deployment of Assured Configuration Items or configuration changes to the production environment. The report shall include, but shall not be limited to, details of deployed Changes, the associated category of Change, the outcome of the implementation (successful or otherwise), and any resultant System Incidents, Incidents, System Faults and Faults.

## **2.6 Emergency Changes**

- 2.6.1 The Emergency Change process is enacted where an ongoing Major Incident has occurred or is likely to occur and an immediate Change is required to return the System to full operation and/or avoid a Major Incident occurring.
- 2.6.2 In the event of an Emergency Change, the Contractor shall use reasonable endeavours to contact and co-ordinate with the TTL Change Manager or nominated representative regarding the proposed resolution, including attending in person or by phone any emergency Change Advisory Board meeting convened.
- 2.6.3 The Contractor may implement Emergency Changes without TTL's Assurance if, having made reasonable endeavours to coordinate with TTL in accordance with paragraph 2.6.2, it has not been possible to make contact or to reach agreement as to the appropriate Assurance Level for the Change.
- 2.6.4 Where the Contractor implements a Change as an Emergency Change which TTL reasonably considers should not have been an Emergency Change, TTL may notify the Contractor giving its reasons and requesting a Corrective Action Plan within five (5) Business Days in accordance with Schedule 12.4 (Contract Management).

## **2.7 TTL Change Management Processes**

- 2.7.1 TTL operates its own processes to manage change to the TTL System Portfolio. Where requests for changes to Interfacing Systems are made to the TTL Change Manager, TTL will inform and/or consult with the Contractor as appropriate in relation to these processes.
- 2.7.2 Where a request for a change to an Interfacing System is considered by the TTL Change Manager to be significant, the TTL Change Manager shall invite the Change Manager to attend any TTL Change Advisory Board meeting that considers the Change.

## 3 Configuration Management

### 3.1 Generally

- 3.1.1 From the Service Commencement Date, the Contractor shall implement and operate robust processes for maintaining up to date information about the Configuration Items within the System (“**Configuration Management**”) which as a minimum shall include:
- (a) maintaining all configuration and relationship information relating to Configuration Items within the CMDB as at the Service Commencement Date, any Configuration Items that have auto-discovery capability and any Configuration Items added through Variation or Change (as appropriate); and
  - (b) using the CMDB to assess the risk and impact of Technical Changes to Configuration Items within the CMDB as at the Service Commencement Date, any Configuration Items that have auto-discovery capability and any Configuration Items added through Variation or Change (as appropriate).
- 3.1.2 The Contractor shall apply Configuration Management best practices as defined within the Information Technology Infrastructure Library (ITIL) V3 service management framework.

### 3.2 The Configuration Management Database (CMDB)

- 3.2.1 The Contractor shall provide TTL with suitable access to the CMDB throughout the Support Service Day to view the attributes of all Configuration Items in the CMDB, their configuration, relationship to other Configuration Items, their properties (including but not limited to release and version information) and the relationships and dependencies between them.
- 3.2.2 The Contractor shall provide TTL with Assurance of its processes for managing the CMDB in accordance with Schedule 10.5 (Assurance) including recording all Changes made to the IRC System and Interfacing Systems, including their release and version information.
- 3.2.3 All Changes to a Configuration Item shall be auto-discovered where such auto-discovery capability exists and in any event shall be reported in the CMDB in near real time.
- 3.2.4 The Contractor shall maintain a database of System implementation artefacts (Software artefacts and Hardware specifications) deployed in the production environment for reference and auditing purposes (the “**TTL Definitive Media Library**” or “**TTL DML**”).
- 3.2.5 The Contractor shall provide a copy of the TTL DML to TTL within two (2) Business Days of a request from TTL.

### 3.3 Base Data Modification

- 3.3.1 TTL may request changes to the configuration of the System including to fares and Business Rules through a Variation as set out in Schedule 12.3 (Contract Variation Procedure) or a Fares Revision as set out in Schedule 10.3 (Fares Revision) which require the Contractor to modify Base Data (a “**Base Data Modification**”).



3.3.2 The Contractor shall manage Base Data Modifications in the same way as other Changes.

## 4 Release Management

### 4.1 Generally

- 4.1.1 From the Service Commencement Date the Contractor shall implement and operate robust processes for releasing Software changes into the pre-production environment and into the live/production environment ("**Release Management**") which as a minimum shall include:
- (a) Contractor Release deployment planning;
  - (b) Contractor Release control;
  - (c) Contractor Release build, pack and testing;
  - (d) approval by the Contractor for deployment; and
  - (e) deployment.

### 4.2 TTL Releases

- 4.2.1 TTL is responsible for the design and development of the TTL Modules and consequently retains the need to implement Changes to the TTL Modules and release these Changes to the Contractor for integration testing in compliance with Change Management and subsequent Contractor Release.
- 4.2.2 TTL may decide to implement several Changes to Configuration Items of TTL Modules simultaneously as a TTL Release, which will be managed through Variations and be subject to Release Management.
- 4.2.3 Where System Faults or problems exist in the TTL Modules, TTL may provide unscheduled TTL Releases to the Contractor for integration testing in the pre-production environment and thereafter deployment to the production environment subject to the provisions of Change Management.
- 4.2.4 The TTL Release Manager shall define the scope of each TTL Release under paragraph 4.2.3 and assign one of the categories set out in paragraph 2.2.3 of this Schedule for each TTL Release.
- 4.2.5 Each TTL Release under paragraph 4.2.3 shall be recorded by TTL in a release plan (the "**TTL Release Calendar**") including estimated number of Change Requests and planned System implementation and deployment dates.
- 4.2.6 TTL shall provide the TTL Release Calendar to the Contractor every three (3) months, after any Change Advisory Board meeting where such a TTL Release is considered, or otherwise as considered necessary by TTL.
- 4.2.7 The TTL Release Manager shall consult with the Contractor on TTL Release deployment. The Contractor shall create a plan for the deployment of such TTL Releases (the "**Release Deployment Plan**") within five (5) Business Days of meeting with TTL. The Contractor shall take account of any feedback made by the TTL Release Manager and shall provide such further iterations as required to satisfy the TTL Release Manager.

### 4.3 Contractor Releases

- 4.3.1 For all Contractor Releases, the Contractor shall supply to TTL an integrated plan for Contractor Releases including all Release Deployment Plans (the “**Contractor Release Plan**”) at least every three (3) months and after any Change Advisory Board meeting which has considered any Contractor Release.
- 4.3.2 The Contractor shall supply to TTL a test exit report on completing testing on any Contractor Release at least two (2) Business Days before the date for the Contractor Release, except in relation to an Emergency Change.
- 4.3.3 The Contractor shall supply a Contractor Release implementation plan for each Contractor Release that contains the information set out in paragraph 2.2.2 and additional information on: test scripts; checkpoint communication plans; names and contact details for those members of Contractor Personnel implementing such Contractor Release; escalation process; and Early Life Support details, five (5) Business Days after Assurance of the deployment of any Contractor Release in a Change Advisory Board meeting, except in relation to an Emergency Change.

## **5 Review and Updating**

### **5.1 TTL Review**

- 5.1.1 TTL shall initially review its Change Management, Configuration Management and Release Management processes on the Service Commencement Date and thereafter, every twelve (12) month period.
- 5.1.2 TTL shall supply the processes to the Contractor following each review in accordance with paragraph 5.1.1 and following any change made to the same.
- 5.1.3 Where the Contractor reasonably considers that the impact of the revised processes supplied by TTL under paragraph 5.1.2 will materially increase the cost to the Contractor of delivering the Services it shall provide TTL with a detailed justification and request that TTL issues a Variation in respect of such changes.

### **5.2 Contractor Review**

- 5.2.1 The Contractor shall review its Change Management, Configuration Management and Release Management processes on the Service Commencement Date and thereafter, every twelve (12) month period.
- 5.2.2 The Contractor shall submit its reviewed processes to TTL following each review in accordance with paragraph 5.2.1 and following any change made to the same for Assurance. Where the Contractor fails to review and submit its processes within twenty eight (28) days of the due date the Contractor shall prepare and submit a Corrective Action Plan within ten (10) Business Days in accordance with Schedule 12.4 (Contract Management).