



# Future eGates Services

## **SCHEDULE 14**

### **TESTING PROCEDURES**

## Schedule 14 (*Testing Procedures*)

### 1 DEFINITIONS

In this Schedule, the following definitions shall apply:

<b>“Component”</b>	any constituent parts of the infrastructure for a Service, hardware or Software;
<b>“Defect Management Tool”</b>	<p>Either:</p> <p>(i) the tool provided by the Supplier (the “Supplier provided Defect Management Tool”), with access given to the Authority, for the recording and real time viewing and management of Test Defects identified during testing performed in the Supplier’s testing environment; and</p> <p>(ii) the tool provided by the Authority (the “Authority provided Defect Management Tool”), with access given to the Supplier, for the recording and real time viewing and management of Test Defects identified during testing performed in the Authority’s pre-production and production environments</p> <p>as the context may apply;</p>
<b>“Outline Test Strategy”</b>	the test strategy as set out at Annex 6 of this Schedule;
<b>“Material Test Defect”</b>	a Test Defect of Severity Level 1 or Severity Level 2;
<b>“Severity Level”</b>	the level of severity of a Test Defect the criteria for which are described in Annex of this Schedule;
<b>“Requirements Traceability Matrix”</b>	the document produced by the Supplier that maps and traces the Authority’s requirements with the relevant test cases. It captures all relevant Authority requirements and requirement traceability in a single document. The main purpose of the Requirement Traceability Matrix is to validate that all relevant Authority requirements are checked via test cases such that no functionality is unchecked during Testing;
<b>“Test Certificate”</b>	a certificate materially in the form of the document contained in Annex 2 issued by the Authority when

	a Deliverable has satisfied its relevant Test Success Criteria;
<b>“Test Completion Report”</b>	The test report produced by the Supplier (or the Authority as the case may be) for each phase of Testing (functional or non-functional) which sets out the final results of Testing for that phase in a format substantially of the form as described further in the Test Completion Report Product Description at Annex 5;
<b>“Test Defect”</b>	any variance or non-conformity of a Deliverable from its requirements (such requirements being set out in the relevant Test Success Criteria);
<b>“Test Defect Threshold”</b>	in relation to the Tests applicable to a Milestone, a maximum number of Severity Level 3, Severity Level 4 and Severity Level 5 Test Defects as set out in the relevant Test Plan;
<b>“Test Defect Management Log”</b>	a log for the recording of Test Defects as described further in Paragraph 9.1;
<b>“Test Environments”</b>	the Supplier’s test environments (for example: development environments, system test environments, non-functional test environments etc) and the Authority’s Model Port environment;
<b>“Test Passport”</b>	<p>Either:</p> <ul style="list-style-type: none"><li>(i) Passports owned and utilised by the Supplier used as test data for the purposes of testing in the Supplier’s test environment; or</li><li>(ii) Passports issued by HMPO and provided to the Supplier by the Authority for the purposes of testing in the Authority’s pre-production and production environments</li></ul> <p>as the context applies;</p>
<b>“Test Plan”</b>	<p>a plan:</p> <ul style="list-style-type: none"><li>(a) for the Testing of Deliverables; and</li><li>(b) setting out other agreed criteria related to the achievement of Milestones,</li></ul>

	as described further in Paragraph 5 and in the Test Plan Product Description at Annex 5;
<b>“Test Reports”</b>	the interim testing reports to be produced by the Supplier (or Authority as the case may be) setting out the status of Tests against the Test Plan in a format substantially of the form as described further in the Test Completion Report Product Description at Annex 5;
<b>“Test Specification”</b>	the specification that sets out how Tests will demonstrate that the Test Success Criteria have been satisfied, as described in more detail in Paragraph 7;
<b>“Test Strategy”</b>	a strategy for the conduct of Testing as described further in Paragraph 4 and in the Test Strategy Product Description at Annex 5;
<b>“Test Success Criteria”</b>	in relation to a Test, the test success criteria for that Test as referred to in Paragraph 6 and more broadly in this Schedule;
<b>“Test Witness”</b>	any person appointed by the Authority pursuant to Paragraph 10; and
<b>“Testing Procedures”</b>	the applicable testing procedures and Test Success Criteria set out in this Schedule.

## **2 RISK**

- 2.1 The issue of a Test Certificate, a Milestone Achievement Certificate and/or a conditional Milestone Achievement Certificate shall not:
- (a) operate to transfer any risk that the relevant Deliverable or Milestone is complete or will meet and/or satisfy the Authority's requirements for that Deliverable or Milestone; or
  - (b) affect the Authority's right subsequently to reject:
    - (i) all or any element of the Deliverables to which a Test Certificate relates; or
    - (ii) any Milestone to which the Milestone Achievement Certificate relates.
- 2.2 Notwithstanding the issuing of any Milestone Achievement Certificate (including the Milestone Achievement Certificate in respect of Authority to Proceed), the Supplier shall remain solely responsible for ensuring that:

- (a) the Supplier Solution as designed and developed is suitable for the delivery of the Services and meets the Authority Requirements;
- (b) the Services are implemented in accordance with this Contract; and
- (c) each Target Performance Level is met from the relevant Operational Service Commencement Date.

### **3 TESTING OVERVIEW**

- 3.1 There are numerous references in this Schedule to Test Plan, Test Specification and Test Completion Report as Deliverables required by this Contract. Annex 7 of this Schedule sets out where these Deliverables are required to be produced by the Supplier (in relation to Supplier led testing activity) and where the Authority will be responsible for the production of equivalent products in relation to testing activity it is leading on. Such Supplier Deliverables shall in all cases be produced and Approved by the Authority as further described in this Schedule.
- 3.2 All Tests conducted by the Supplier shall be conducted in accordance with the Authority approved Test Strategy, the Test Plans and the Test Specifications.
- 3.3 The Supplier shall not submit any Deliverable for Testing:
  - (a) unless the Supplier is reasonably confident that it will satisfy the relevant Test Success Criteria;
  - (b) until the Authority has issued a Test Certificate in respect of any prior, dependant Deliverable(s); and
  - (c) until the Parties have agreed the Test Plan and the Test Specification relating to the relevant Deliverable(s).
- 3.4 The Supplier shall use reasonable endeavours to submit each Deliverable for Testing or re-Testing by or before the date set out in the Site Specific Implementation Plan (or Implementation Plan as the case may be) for the commencement of Testing in respect of the relevant Deliverable.
- 3.5 Prior to the issue of a Test Certificate, the Authority will review and approve the relevant Test Completion Reports and the Test Defect Management Log.
- 3.6 Any Disputes between the Authority and the Supplier regarding Testing shall be referred to the Dispute Resolution Procedure using the Expedited Dispute Timetable.

### **4 TEST STRATEGY**

- 4.1 The Supplier shall develop the final Test Strategy as soon as practicable after the Effective Date but in any case, no later than sixty (60) Working Days (or such other period as the Parties may agree in writing) after the Effective Date. For the avoidance of doubt, the development of the final Test Strategy shall be

performed iteratively with the Parties Test managers (and where required other relevant key stakeholders of the Parties) working collaboratively on its development. The aforementioned sixty (60) Working Days timescale for the development of the final Test Strategy shall include the time required for the Authority to Approve the final version.

- 4.2 The Test Strategy shall conform and align with the Authority's Test Strategy Product Description at Annex 5 and where required by the Authority be consistent with the content set out in the Outline Test Strategy.
- 4.3 The Supplier Test Strategy shall include but is not limited to:
- (a) an overview of how Testing will be conducted in accordance with the Site Specific Implementation Plan and what test phases and types of testing will be conducted;
  - (b) the process to be used to capture and record Test results and the categorisation of Test Defects;
  - (c) the method for mapping the expected Test results to the Test Success Criteria;
  - (d) the procedure to be followed if a Deliverable fails to satisfy the Test Success Criteria or produces unexpected results, including a procedure for the resolution of Test Defects;
  - (e) the procedure to be followed to sign off each Test;
  - (f) the process for the production and maintenance of Test Reports and reporting, including templates for the Test Reports and the Test Defect Management Log, and a sample plan for the resolution of Test Defects;
  - (g) the names and contact details of the Authority's and the Supplier's Test representatives;
  - (h) a high-level identification of the resources required for Testing, including facilities, infrastructure, personnel and Authority and/or third party involvement in the conduct of the Tests;
  - (i) the technical environments required to support the Tests;
- and shall:
- (j) identify any test (including any test automation or performance test) tools that are to be utilised;
  - (k) identify the roles and responsibilities (Responsible, Accountable, Consulted, Informed - RACI) for any testing (to include the Authority and any third parties);
  - (l) identify Risks, Assumptions, Issues and Dependencies (RAID);

- (m) define what international standards and best practices the Supplier adheres to or complies with;
- (n) define the high-level approach to data use and management including the use of obfuscated data;
- (o) define the Test Readiness Review criteria and Test Exit Review criteria for each test phase;
- (p) define the criteria for suspension and resumption of Testing in the event of Test Defects being raised;
- (q) define what test plans will be produced (per test phase, per release, per Port roll-out);
- (r) set out the procedure for managing the configuration of the Test Environments, including details of what environments and connectivity to external systems are being provided and the location of those environments (the 'Test Environments'); and
- (s) set out Test Defect priority level definitions for priority levels ("Urgent", "High", "Medium" and "Low") as referred to in Paragraphs 9.4 and 9.5 of this Schedule.

4.4 Once Approved by the Authority, the Test Strategy shall replace the Outline Test Strategy.

## **5 TEST PLANS**

5.1 The Supplier shall develop Test Plans and submit these for the approval of the Authority as soon as practicable but in any case, no later than twenty (20) Working Days (or such other period as the Parties may agree in the Supplier Test Strategy or otherwise agree in writing) prior to the start date for the relevant Testing (as specified in the Site Specific Implementation Plan). For the avoidance of doubt, a Test Plan tailored to each eGate New Release (or Upgrade and/or Update as the case may be) will be required, and so during Implementation a Test Plan will not necessarily be required for each Phase at each Port. Where the Supplier is responsible for producing a Test Plan, the Supplier shall produce a Test Plan for each relevant test phase and specifically for any New Release, Upgrade and/or Update to be tested at the Authority's Model Port.

5.2 Each Test Plan shall conform with the Test Plan Product Description described in Annex 5, shall set out the full scope of the New Release (or Upgrade and/or Update as the case may be) to be tested and shall include but is not limited to:

- (a) the relevant Test definition and the purpose of the Test, the Milestone to which it relates, the requirements being tested and, for each Test, the specific Test Success Criteria to be satisfied;

- (b) the configuration management definition (how fixes/patches will be controlled across environments);
- (c) a detailed procedure for the Tests to be carried out, including:
  - (i) the timetable for the Tests (i.e. Test schedule), including start and end dates;
  - (ii) the Testing mechanism;
  - (iii) dates and methods by which the Authority can inspect Test results or witness the Tests in order to establish that the Test Success Criteria have been met. For the avoidance of doubt, any dates and methods specified in this limb (iii) shall not prevent the Authority's unfettered right to perform Test Witnessing as further described in Paragraph 10 of this Schedule 14 (*Testing Procedures*);
  - (iv) the mechanism for ensuring the quality, completeness and relevance of the Tests;
  - (v) the format and an example of Test progress reports and the process by which the Authority accesses daily Test schedules;
  - (vi) the process which the Authority will use to review Test Defects and the Supplier's progress in resolving these in a timely basis;
  - (vii) the re-Test procedure, the timetable and the resources which would be required for re-Testing;
- (d) the process for escalating Test Defects from a re-Test situation to the taking of specific remedial action to resolve the Test Defect; and
- (e) an explicit statement of what is and what is not in scope.

5.3 The Authority shall not unreasonably withhold or delay its approval of the Test Plans provided that the Supplier shall incorporate any reasonable requirements of the Authority in the Test Plans and that the Supplier has agreed with the Authority a quality review process for addressing and agreeing any review comments, including all Severity Level 1 and Severity Level 2 comments raised by the Authority.

## **6 TEST SUCCESS CRITERIA**

The Test Success Criteria for:

- (a) each Test that must be Achieved for the Supplier to Achieve either the Authority to Proceed (ATP) Milestone or a Contract Performance Point (CPP) Milestone are set out in Annex 4; and



- (b) all other Tests shall be agreed between the Parties as part of the relevant Test Plan pursuant to Paragraph 5.

## **7 TEST SPECIFICATION**

- 7.1 The Supplier shall develop the Test Specification for the relevant Deliverables as soon as reasonably practicable and in any event at least ten (10) Working Days (or such other period as the Parties may agree in the Test Strategy or otherwise agree in writing) prior to the start of the relevant Testing (as specified in the Site Specific Implementation Plan).
- 7.2 Each Test Specification shall include as a minimum:
  - (a) the specification of the Test data, including its source, scope, volume and management, a request (if applicable) for relevant Test data to be provided by the Authority and the extent to which it is equivalent to live operational data, or any other resources the Supplier is dependent on the Authority or associated third parties providing for their testing;
  - (b) a plan to make the resources available for Testing;
  - (c) Test scripts;
  - (d) Test pre-requisites and the mechanism for measuring them;
  - (e) the Requirements Traceability Matrix; and
  - (f) expected Test results, including:
    - (i) a mechanism to be used to capture and record Test results; and
    - (ii) a method to process the Test results to establish their content.
- 7.3 Test Passports will form part of the Test data to be utilised at all phases of Testing (whether Supplier led or Authority led testing).
- 7.4 Test Passports, where provided by the Authority, shall be issued to the Supplier (along with any relevant handling instructions relating to such Test Passports) in accordance with the Authority's Security processes which prevail at the time. The Supplier shall work collaboratively with the Authority, taking into account the lead times required for the production of HMPO passports to ensure that all Testing is completed in accordance with the timescales set out in the Site Specific Implementation Plan. The Supplier shall be wholly accountable and responsible for the security of such passports provided to them whilst in their possession.
- 7.5 The details of Paragraph 7.3 and Paragraph 7.4 to this Schedule shall be set out and approved by the Authority as part of the work to produce the relevant Test Plan, including any workaround in the event where Test Passports cannot be obtained from HMPO.

**8 TESTING**

- 8.1 Before submitting any Deliverables for Testing the Supplier shall subject the relevant Deliverables to its own internal quality control measures.
- 8.2 The Supplier shall manage the progress of Testing in accordance with the relevant Test Plan and shall carry out the Tests in accordance with the relevant Test Specification. Tests may be witnessed by the Test Witnesses in accordance with Paragraph 10.
- 8.3 The Supplier shall notify the Authority at least ten (10) Working Days (or such other period as the Parties may agree in writing) in advance of the date, time and location of the relevant Tests and the Authority shall ensure that the Test Witnesses attend the Tests, except where the Authority has specified in writing that such attendance is not necessary.
- 8.4 The Authority may raise and close Test Defects during the Test Witnessing process.
- 8.5 The Supplier shall provide to the Authority in relation to each Test:
- (a) a draft Test Report not less than two (2) Working Days (or such other period as the Parties may agree in writing) prior to the date on which the Test is planned to end; and
  - (b) the final Test Report within three (3) Working Days (or such other period as the Parties may agree in writing) of completion of Testing.
- 8.6 Each Test Report shall provide a full report on the Testing conducted in respect of the relevant Deliverables, which conforms to the Test Completion Report Product Description at Annex 5. This includes, but is not limited to:
- (a) an overview of the Testing conducted;
  - (b) identification of the relevant Test Success Criteria that have been satisfied;
  - (c) identification of the relevant Test Success Criteria that have not been satisfied, together with the Supplier's explanation of why those criteria have not been met;
  - (d) the Tests that were not completed, together with the Supplier's explanation of why those Tests were not completed;
  - (e) the Test Success Criteria that were not satisfied or which were not tested, and any other relevant categories, in each case grouped by Severity Level in accordance with Paragraph 9.1;
  - (f) the specification for any hardware and Software used throughout Testing and any changes that were applied to that hardware and/or Software during Testing;

- (g) the residual risks and their recommendation to proceed or not as the case may be; and
  - (h) a plan to resolve and test any outstanding Test Defects.
- 8.7 The Supplier is expected to conform with the Authority Environment Release and Deployment Management process to ensure that there are no conflicts with other projects using the same Test Environments.

## **9 TEST DEFECTS**

- 9.1 Where a Test Report identifies a Test Defect, the Parties shall agree the classification of the Test Defect using the criteria specified in Annex 1. The Test Defect Management Log, to be updated in accordance with Paragraph 9.2 below, shall be updated for the Severity Level and priority level allocated to each Test Defect.
- 9.2 The Supplier shall be responsible for maintaining and updating the Test Defect Management Log via the Supplier provided Defect Management Tool and for ensuring that its contents accurately represent the current status of each Test Defect at all times for all Supplier led test phases (such test phases as set out in the Test Plan). In relation to the Supplier provided Defect Management Tool, the Supplier shall provide the Authority with access to the Test Defect Management Log by providing user accounts for Authority staff to access the Supplier provided Defect Management Tool to review all Test Defects in real time. The provision of any Supplier provided Defect Management Tool shall be in consultation with the Authority to ensure suitable requirements including open standards, cloud based, interoperability and access requirements from the Authority IT network (POISE). For the avoidance of doubt, for Authority led test phases, the Authority shall raise any Test Defect on the Test Defect Management Log via the Authority provided Defect Management Tool. The Supplier shall access the Test Defect Management Log via the Authority provided Defect Management Tool (access to be provided by the Authority to the Supplier in accordance with Schedule 7 (*Authority Responsibilities*)) and the Supplier shall manage the resolution of such Test Defect in accordance with the provisions of this Schedule 14 (*Testing Procedures*) keeping the Defect Management Log updated to reflect the status of each Test Defect and in particular when the Authority can commence the re-Testing required as a result of such Test Defect. In simple terms for Supplier led test phases, the Supplier shall undertake any re-Testing and confirm to the Authority when they have resolved the relevant Test Defect, whereas during Authority led testing the Supplier shall keep the Authority updated in relation to the progress of its Test Defect resolution activity and when the Authority can commence re-Testing.
- 9.3 For Supplier led Test Phases, the Supplier shall be responsible for maintaining traceability between Test Defects and the associated tests and requirements and for ensuring that the contents within the Test Defect Management Log accurately represent the current status at all relevant times. The Supplier shall make the traceability available to the Authority via the Supplier provided Defect Management Tool referred to in Paragraph 9.2 above.

- 9.4 The Authority shall confirm the classification (Severity and priority level) of any Test Defect unresolved at the end of a Test in consultation with the Supplier. If the Parties are unable to agree the classification of any unresolved Test Defect, the Dispute shall be dealt with in accordance with the Dispute Resolution Procedure using the Expedited Dispute Timetable.
- 9.5 For the avoidance of doubt, the Parties shall agree definitions for the priority levels referred to in Paragraph 9.4 above in the Test Strategy.

## **10 TEST WITNESSING**

- 10.1 The Authority may, in its sole discretion, require the attendance at any Test of one or more Test Witnesses selected by the Authority, each of whom shall have appropriate skills to fulfil the role of a Test Witness.
- 10.2 The Supplier shall give the Test Witnesses access to any documentation and Testing environments reasonably necessary and requested by the Test Witnesses to perform their role as a Test Witness in respect of the relevant Tests.
- 10.3 The Test Witnesses:
- (a) shall actively review the Test documentation;
  - (b) will attend and engage in the performance of the Tests on behalf of the Authority so as to enable the Authority to gain an informed view of whether a Test Defect may be closed or whether the relevant element of the Test should be re-Tested;
  - (c) shall not be involved in the execution of any Test;
  - (d) shall be required to verify that the Supplier conducted the Tests in accordance with the Test Success Criteria and the relevant Test Plan and Test Specification;
  - (e) may produce and deliver their own, independent reports on Testing, which may be used by the Authority to assess whether the Tests have been Achieved;
  - (f) may raise Test Defects on the Test Defect Management Log in respect of any Testing; and
  - (g) may require the Supplier to demonstrate the modifications made to any defective Deliverable before a Test Defect is closed.

## **11 TEST QUALITY AUDIT**

- 11.1 Without prejudice to its rights pursuant to Clause 12.2(b) (*Records, Reports, Audits & Open Book Data*), the Authority (whether Authority personnel or third parties engaged by the Authority to perform such quality audits) may perform on-going quality audits in respect of any part of the Testing (each a “**Testing Quality Audit**”) subject to the provisions set out in the agreed Quality Plan.

11.2 The focus of the Testing Quality Audits shall include but not be limited to:

- (a) adherence to an agreed methodology;
- (b) adherence to the agreed Testing process;
- (c) adherence to the Quality Plan;
- (d) a review of status and key development issues; and
- (e) identification of key risk areas.

11.3 The Supplier shall allow sufficient time in the Test Plan to ensure that adequate responses to a Testing Quality Audit can be provided.

11.4 The Authority will give the Supplier at least five (5) Working Days' written notice of the Authority's intention to undertake a Testing Quality Audit and the Supplier may request, following receipt of that notice, that any Testing Quality Audit be delayed by a reasonable time period if in the Supplier's reasonable opinion, the carrying out of a Testing Quality Audit at the time specified by the Authority will materially and adversely impact the Implementation Plan.

11.5 A Testing Quality Audit may involve document reviews; interviews with the Supplier Personnel involved in or monitoring the activities being undertaken pursuant to this Schedule; the Authority witnessing Tests and demonstrations of the Deliverables to the Authority. Any Testing Quality Audit shall be limited in duration to a maximum time to be agreed between the Supplier and the Authority on a case-by-case basis (such agreement not to be unreasonably withheld or delayed). The Supplier shall provide all reasonable necessary assistance and access to all relevant documentation required by the Authority to enable it to carry out the Testing Quality Audit.

11.6 If the Testing Quality Audit gives the Authority concern in respect of the Testing Procedures or any Test, the Authority shall:

- (a) discuss the outcome of the Testing Quality Audit with the Supplier, giving the Supplier the opportunity to provide feedback in relation to specific activities; and
- (b) subsequently prepare a written report for the Supplier detailing its concerns,

and the Supplier shall, within a reasonable timeframe, respond in writing to the Authority's report.

11.7 In the event of an inadequate response to the Authority's report from the Supplier, the Authority (acting reasonably) may withhold a Test Certificate (and consequently delay the grant of a Milestone Achievement Certificate) until the issues in the report have been addressed to the reasonable satisfaction of the Authority.

## **12 OUTCOME OF TESTING**

- 12.1 The Authority shall issue a Test Certificate as soon as reasonably practicable when the Deliverables satisfy the Test Success Criteria in respect of that Test without any Test Defects.
- 12.2 If the Deliverables (or any relevant part) do not satisfy the Test Success Criteria, then the Authority shall notify the Supplier and:
- (a) the Authority may issue a Test Certificate conditional upon the remediation of the Test Defects;
  - (b) where the Parties agree that there is sufficient time prior to the relevant Milestone Date, the Authority may extend the Test Plan by such reasonable period or periods as the Parties may reasonably agree and require the Supplier to rectify the cause of the Test Defect and re-submit the Deliverables (or the relevant part) to Testing; or
  - (c) where the failure to satisfy the Test Success Criteria results, or is likely to result, in the failure (in whole or in part) by the Supplier to meet a Milestone, then without prejudice to the Authority's other rights and remedies, such failure shall constitute a Notifiable Default for the purposes of Clause 25.1 (*Rectification Plan Process*).
- 12.3 The Authority shall be entitled, without prejudice to any other rights and remedies that it has under this Contract, to recover from the Supplier any reasonable additional costs it may incur as a direct result of further review or re-Testing which is required for the Test Success Criteria for that Deliverable to be satisfied.

### **13 ISSUE OF MILESTONE ACHIEVEMENT CERTIFICATE**

- 13.1 The Authority shall issue a Milestone Achievement Certificate in respect of a given Milestone as soon as is reasonably practicable following:
- (a) the issuing by the Authority of Test Certificates and/or conditional Test Certificates in respect of all Deliverables related to that Milestone which are due to be Tested; and
  - (b) performance by the Supplier to the reasonable satisfaction of the Authority of any other tasks identified in the Site Specific Implementation Plan as associated with that Milestone (which may include the submission of a Deliverable that is not due to be Tested, such as the production of Documentation). For the avoidance of doubt, "performance by the Supplier of any other tasks identified in the Site Specific Implementation Plan as associated with that Milestone" shall include the achievement of the Early Life Support Exit Criteria or Model Port Exit Criteria (as applicable).
- 13.2 The grant of a Milestone Achievement Certificate shall entitle the Supplier to the receipt of a payment in respect of that Milestone in accordance with the provisions of Schedule 15 (*Charges and Invoicing*).

- 13.3 If a Milestone is not Achieved, the Authority shall promptly issue a report to the Supplier setting out:
- (a) the applicable Test Defects; and
  - (b) any other reasons for the relevant Milestone not being Achieved.
- 13.4 If there are Test Defects but these do not exceed the Test Defects Threshold, then provided there are no Material Test Defects, the Authority shall issue a Milestone Achievement Certificate.
- 13.5 Without prejudice to the Authority's other remedies the following shall constitute a Notifiable Default for the purposes of Clause 25.1 (*Rectification Plan Process*) and the Authority shall refuse to issue a Milestone Achievement Certificate where:
- (a) there is one or more Material Test Defect(s); or
  - (b) the information required under Schedule 24 (*Reports and Records Provisions, Annex 3: Records To Upload To Virtual Library*) has not been uploaded to the Virtual Library in accordance with Paragraph 3 of that Schedule
- 13.6 If there are Test Defects which exceed the Test Defects Threshold but there are no Material Test Defects, the Authority may at its discretion (without waiving any rights in relation to the other options) choose to issue a Milestone Achievement Certificate conditional on the remediation of the Test Defects in accordance with an agreed Rectification Plan provided that:
- (a) any Rectification Plan shall be agreed before the issue of a conditional Milestone Achievement Certificate unless the Authority agrees otherwise (in which case the Supplier shall submit a Rectification Plan for approval by the Authority within ten (10) Working Days of receipt of the Authority's report pursuant to Paragraph 13.3); and
  - (b) where the Authority issues a conditional Milestone Achievement Certificate, it may (but shall not be obliged to) revise the failed Milestone Date and any subsequent Milestone Date
- 13.7 Where the cumulative effect of outstanding Test Defects (i.e. those Test Defects that have previously been approved conditional on the remediation of the said Test Defects as described in Paragraph 13.4 and/or Paragraph 13.6) are having an impact to the Services which in the Authority's reasonable opinion is unacceptable, the Authority reserves the right to remove the Test Defect Threshold such that the granting of any further Milestone Achievement Certificates are completely at the discretion (without waiving any rights in relation to the other options) of the Authority in relation to any new or persistent Test Defects identified.

## **14 TEST ENVIRONMENTS**

- 14.1 The Test Strategy (as determined in accordance with Paragraph 4 of this Schedule) shall provide comprehensive details of the Test Environments.
- 14.2 The Supplier shall ensure that the Supplier's test environments (for example: development environments, system test environments, non-functional test environments etc) and the Authority's Model Port environment are available and maintained in order to undertake the required testing for all test phases and test types as identified in the Test Strategy and the Supplier's Test Plans (as determined in accordance with Paragraph 5 and Annex 7 of this Schedule).
- 14.3 The Supplier's test environments shall be UK based and accessible in order to support the Authority Test Witnessing during the Supplier's development and test phases.

## **15 MODEL PORT**

- 15.1 The Supplier must ensure the provision of a live-like UK based Model Port representative of a Port with 1 Accessibility eGate and 4 standard eGates operating at the current version in the live port environment (production), with interfaces to applicable systems to enable full end to end testing to test all applicable functional and non-functional requirements to include:
  - 15.1.1 Fully functional eGates and monitoring systems to be able to test interactions with back-end systems, and CCTV monitoring facilities;
  - 15.1.2 Being in a secure UK based Authority owned and defined location where access will be strictly controlled and logged by the Authority;
  - 15.1.3 Full failover and resilience to be in place as per live environment but connected to the Authority pre-production environment;
  - 15.1.4 A facility to be able to check CCTV, Management Information Reports and outcome results;
  - 15.1.5 Regular updates to match the current state of the operational eGates software, including security updates as required, in accordance with the Authority defined Environment Release and Deployment Management process.



## **ANNEX 1: TEST DEFECTS – SEVERITY LEVELS**

- 1      Severity Level 1 (“Critical”) Test Defect:** a Test Defect that causes non-recoverable conditions, e.g. it is not possible to continue using a Component, a Component crashes, there is database or file corruption, or data loss;
- 2      Severity Level 2 (“High”) Test Defect:** a Test Defect for which, as reasonably determined by the Authority, there is no practicable workaround available, and which:
  - 2.1      causes a Component to become unusable; or
  - 2.2      causes a lack of functionality, or unexpected functionality, that has an impact on the current Test; or
  - 2.3      has an adverse impact on any other Component(s) or any other area of the Services;
- 3      Severity Level 3 (“Medium”) Test Defect:** a Test Defect which:
  - 3.1      causes a Component to become unusable; or
  - 3.2      causes a lack of functionality, or unexpected functionality, but which does not impact on the current Test; or
  - 3.3      has an impact on any other Component(s) or any other area of the Services;but for which, as reasonably determined by the Authority, there is a practicable workaround available;
- 4      Severity Level 4 (“Low”) Test Defect:** a Test Defect which causes incorrect functionality of a Component or process, but for which there is a simple, Component based, workaround, and which has no impact on the current Test, or other areas of the Services; and
- 5      Severity Level 5 Test Defect:** a Test Defect that causes a minor problem, for which no workaround is required, and which has no impact on the current Test, or other areas of the Services.

**ANNEX 2: TEST CERTIFICATE**

To: **[NAME OF SUPPLIER]**

FROM: **[NAME OF AUTHORITY]**

**[Date]**

Dear Sirs,

**TEST CERTIFICATE**

Deliverables: **[insert description of Deliverables]**

We refer to the agreement (the “**Contract**”) relating to the provision of the Services between the **[name of Authority]** (the “**Authority**”) and **[name of Supplier]** (the “**Supplier**”) dated **[date]**.

Capitalised terms used in this certificate have the meanings given to them in Schedule 1 (*Definitions*) or Schedule 14 (*Testing Procedures*) of the Contract.

**[We confirm that the Deliverables listed above have been tested successfully in accordance with the Test Plan relevant to those Deliverables.]**

**OR**

**[This Test Certificate is issued pursuant to Paragraph 12.1 of Schedule 14 (*Testing Procedures*) of the Contract on the condition that any Test Defects are remedied in accordance with the Rectification Plan attached to this certificate.]\***

*\*delete as appropriate*

Yours faithfully

**[Name]**

**[Position]**

acting on behalf of **[name of Authority]**

**ANNEX 3: MILESTONE ACHIEVEMENT CERTIFICATE**

To: **[NAME OF SUPPLIER]**

FROM: **[NAME OF AUTHORITY]**

**[Date]**

Dear Sirs,

**MILESTONE ACHIEVEMENT CERTIFICATE**

Milestone: **[insert description of Milestone]**

We refer to the agreement (the “**Contract**”) relating to the provision of the Services between the **[name of Authority]** (the “**Authority**”) and **[name of Supplier]** (the “**Supplier**”) dated **[date]**.

Capitalised terms used in this certificate have the meanings given to them in Schedule 1 (*Definitions*) or Schedule 14 (*Testing Procedures*) of the Contract.

**[We confirm that all the Deliverables relating to Milestone **[number]** have been tested successfully in accordance with the Test Plan relevant to this Milestone [or that a conditional Test Certificate has been issued in respect of those Deliverables that have not satisfied the relevant Test Success Criteria.]\***

**OR**

**[This Milestone Achievement Certificate is granted pursuant to Paragraph 13.1 of Schedule 14 (*Testing Procedures*) of the Contract on the condition that any Test Defects are remedied in accordance with the Rectification Plan attached to this certificate.]\***

**[You may now issue an invoice in respect of the Milestone Payment associated with this Milestone in accordance with the provisions of Schedule 15 (*Charges and Invoicing*)]\***

*\*delete as appropriate*

Yours faithfully

**[Name]**

**[Position]**

acting on behalf of **[Authority]**

## **ANNEX 4: TEST SUCCESS CRITERIA**

### **Introduction:**

The Authority shall not issue a Test Certificate (and the Test Success Criteria shall not be met) where the relevant Test Completion Report identifies outstanding Test Defects categorised as either Severity 1 “Critical” or Severity 2 “High”, unless agreed workarounds have specifically been Approved by the Authority.

Where Test Defects exceed the Test Defects Threshold (but there are no Material Test Defects), the Authority may at its sole discretion issue a Test Certificate conditional upon the remediation of outstanding Test Defects where such Test Defects:

- (i) identified in the relevant Test Completion Report are categorised as Severity 3 “Medium”, Severity 4 “Low” or Severity 5; and
- (ii) where a Rectification Plan has been Approved by the Authority to resolve all such outstanding Test Defects.

### **1 Tests to be Achieved in order to Achieve the ATP Milestone**

<b>Test</b>	<b>Pre-conditions*</b>	<b>Test Success Criteria**</b>
As approved in the relevant Test Plan	As approved in the relevant Test Plan	As approved in the relevant Test Plan

\* Note: The Pre-Conditions are that e.g. the Test Success Criteria for the previous Tests must be satisfied before the ATP Milestone tests are commenced

### **2 Tests to be Achieved in order to Achieve a CPP Milestone**

<b>CPP Milestone Charge No.</b>	<b>Test</b>	<b>Test Success Criteria**</b>
As approved in the relevant Test Plan	As approved in the relevant Test Plan	As approved in the relevant Test Plan

\*\* Note: Test Success Criteria will be documented and approved by the Authority as part of the Authority’s approval of the relevant Test Plan.

**ANNEX 5: AUTHORITY TEST STRATEGY, TEST PLAN & TEST COMPLETION  
REPORT PRODUCT DESCRIPTIONS**



Product Description  
for Test Strategy.docx



Product Description  
for Test Plan.docx



Product Description  
for Test Completion R

## **ANNEX 6: OUTLINE TEST STRATEGY**



Outline Test  
Strategy.docx

## SCHEDULE 14 (Testing Procedures)

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## ANNEX 7: DELIVERABLES

### Implementation of eGates at a Port

Indicative Timescales		2 weeks		1 week	
DELIVERABLES:	Functional & Non-Functional Testing (Supplier Environment) ***  (Including System and Performance Testing and OAT)	Model Port (Pre Prod)***  SIT1 & SIT 2 AND OAT	Port (Pre Prod)  SIT 1 (Supplier Led Testing) & SIT2 (Authority Led Testing) and OAT**	Port (Prod)  SAT (Authority Led Testing) Blue Line	
	Supplier Authority	Supplier Authority	Supplier Authority	Supplier Authority	
	Supplier Authority	Supplier Authority	Supplier Authority	Supplier Authority	
- Test Plan	Yes No	Yes Yes SIT 1 SIT 2 / OAT	Yes Yes SIT 1 SIT 2 / OAT**	No Yes*	RRR1 RRR2 RRR3
- Test Specification	Yes No	Yes Yes SIT 1 SIT 2 / OAT	Yes Yes SIT 1 SIT 2 / OAT**	No Yes*	
- Test Completion report	Yes No	Yes Yes SIT 1 SIT 2 / OAT	Yes Yes SIT 1 SIT 2 / OAT**	No Yes*	
- Release Note	No No	Yes No	Yes No	Yes No	
Testing Governance:	Daily Defect Review Board (DRB)	Daily Defect Review Board (DRB)	Daily Defect Review Board (DRB)	Daily Defect Review Board (DRB)	
	Test Exit Review	Test Exit Review to exit each release/phase of testing at Model Port	Test Exit Review as part of DRB	Test Exit Review as part of DRB	
	Test Readiness Review for entry to Model Port	Test Readiness Review for entry to Port (SIT1/SIT2 Pre Prod)	Test Readiness Review for entry to SIT2/SAT Prod		

#### Release Readiness Reviews (RRR)

RRR1 - Start of on site Implementation activity.

RRR2 - Switch to Production.

RRR3 - Go live.

#### Test Plans to be delivered (One Test Plan per Phase):

Model Port SIT1 - pre prod - Supplier

Model Port SIT 2 - pre prod - Authority

SIT 1 - pre prod - Supplier

SIT 2 - pre prod - Authority

SAT - prod - Authority

\*Single Test Plan and Test Completion report by Authority covering both SIT & SAT Testing

\*\* OAT where appropriate

\*\*\*The content and Deliverables within these phases of testing activity apply to each New Release, Upgrade and/or

Update which is to be deployed and tested at Model Port prior to the Supplier's Achievement of the second CPP Milestone (see Paragraph 3 of Schedule 13 at Model Port.

## SCHEDULE 14 (Testing Procedures)

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### New Release Process

The following diagram sets out the end to end testing process relating to New Releases. The table sets out the maximum number of steps that may be required for a major change requiring Supplier onsite support at the Port in the pre-prod environment. In this respect the diagram is "worst case" in terms of the required effort and activity. It is important to understand that each New Release will follow the Authority's Release and Deployment Process whereby the Parties will determine the size and complexity of the change and set out via the appropriate Test Plan the scope of testing and support required in relation to the change. In all cases, for a New Release requiring production testing at a Port, this testing activity will be performed by the Authority with support required from the Supplier only by exception. All New Releases shall be tested first at Model Port prior to being released in pre-production and/or production environments at Ports.

Indicative Timescales			xx hours***									
DELIVERABLES:	Functional & Non-Funtional Testing (Supplier Environment)  (Including System and Performance Testing and OAT)		Model Port (Pre Prod)		RRR1	Port (Pre Prod)		RRR2	Port (Prod)		RRR3	
			SIT1 & SIT 2 AND OAT			SIT 1 (Supplier Led Testing) & SIT2 (Authority Led Testing) and OAT**			SAT (Authority Led Testing) Blue Line			
	Supplier	Authority	Supplier	Authority		Supplier	Authority		Supplier	Authority		
	- Test Plan	Yes	No	Yes SIT 1		Yes SIT 2 / OAT	Yes SIT 1		Yes SIT 2 / OAT**	No		Yes*
	- Test Specification	Yes	No	Yes SIT 1		Yes SIT 2 / OAT	Yes SIT 1		Yes SIT 2 / OAT**	No		Yes*
- Test Completion report	Yes	No	Yes SIT 1	Yes SIT 2 / OAT	Yes SIT 1	Yes SIT 2 / OAT**	No	Yes*				
- Release Note	No	No	Yes	No	Yes	No	Yes	No				

#### Release Readiness Reviews (RRR)

RRR1 - New Release uploaded to Port.

RRR2 - Switch to Production.

RRR3 - Go live.

#### Test Plans to be delivered (One Test Plan per Release):

Model Port SIT1 - pre prod - Supplier

Model Port SIT 2 - pre prod - Authority

SIT 1 - pre prod - Supplier

SAT - pre prod & prod combined - Authority

\*Single Test Plan and Test Completion report by Authority covering both SIT & SAT Testing

\*\* OAT where appropriate

\*\*\*e.g. release and testing typically overnight taking hours (rather than days) or where applicable outside of Port operating hours, in any event to minimise disruption to business and operational services at the Port.

Testing Governance:	Daily Defect Review Board (DRB)	Daily Defect Review Board (DRB)	Daily Defect Review Board (DRB)	Daily Defect Review Board (DRB)
	Test Exit Review	Test Exit Review exit Model Port	Test Exit Review as part of DRB	Test Exit Review as part of DRB
	Test Readiness Review for entry to Model Port	Test Readiness Review for entry to Port (SIT1/SIT2 Pre Prod)	Test Readiness Review for entry to SIT2 Prod	