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S2 TESTING PROCEDURES

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1. DEFINITIONS

In this Schedule S2 (Testing Procedures), the following definitions shall apply:

“Component”	any constituent parts of the infrastructure for a Service, hardware or Software;
“Material Test Issue”	a Test Issue of Severity Level 1 or Severity Level 2;
“Test Certificate”	a certificate materially in the form of the document contained in Annex 2 issued by the Buyer when a Deliverable has satisfied its relevant Test Success Criteria;
“Test Issue Threshold”	in relation to the Tests applicable to a Milestone, a maximum number of Severity Level 3, Severity Level 4 and Severity Level 5 Test Issues as set out in the relevant Test Plan;
“Test Issue Management Log”	a log for the recording of Test Issues as described further in Paragraph 9.1;
“Test Plan”	a plan: (a) for the Testing of Deliverables; and (b) setting out other agreed criteria related to the achievement of Milestones, as described further in Paragraph 5;
“Test Reports”	the reports to be produced by the Supplier setting out the results of Tests;
“Test Specification”	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;
“Test Strategy”	a strategy for the conduct of Testing as described further in Paragraph 4;
“Test Success Criteria”	in relation to a Test, the test success criteria for that Test as referred to in Paragraph 6;
“Test Witness”	any person appointed by the Buyer pursuant to Paragraph 10.1; and
“Testing Procedures”	the applicable testing procedures and Test Success Criteria set out in this Schedule S2 (Testing Procedures).

2. RISK

- 2.1 The issue of a Test Certificate, a Milestone Achievement Certificate and/or a conditional Milestone Achievement Certificate shall not:

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- 2.1.1 operate to transfer any risk that the relevant Deliverable or Milestone is complete or will meet and/or satisfy the Buyer's requirements for that Deliverable or Milestone; or
- 2.1.2 affect the Buyer's right subsequently to reject:
 - (a) all or any element of the Deliverables to which a Test Certificate relates; or
 - (b) any Milestone to which the Milestone Achievement Certificate relates.
- 2.2 Notwithstanding the issuing of any Milestone Achievement Certificate, the Supplier shall remain solely responsible for ensuring that:
 - 2.2.1 the Services are implemented in accordance with this Contract; and
 - 2.2.2 each Service Level is met in accordance with this Contract.

3. TESTING OVERVIEW

- 3.1 All Tests conducted by the Supplier shall be conducted in accordance with the Test Strategy, the Test Plans and the Test Specifications.
- 3.2 The Supplier shall not submit any Deliverable for Testing:
 - 3.2.1 unless the Supplier is reasonably confident that it will satisfy the relevant Test Success Criteria;
 - 3.2.2 until the Buyer has issued a Test Certificate in respect of any prior, dependant Deliverable(s); and
 - 3.2.3 until the Parties have agreed the Test Plan and the Test Specification relating to the relevant Deliverable(s).
- 3.3 The Supplier shall use reasonable endeavours to submit each Deliverable for Testing or re-Testing by or before the date set out in the Implementation Plan for the commencement of Testing in respect of the relevant Deliverable.
- 3.4 Prior to the issue of a Test Certificate, the Buyer shall be entitled to review the relevant Test Reports and the Test Issue Management Log.
- 3.5 Any Disputes between the Buyer and the Supplier regarding Testing shall be referred to the Dispute Resolution Procedure using the Expedited Dispute Timetable of this Contract).
- 3.6 Where automated testing is used in the provision of the Services, the approaches shall be adapted and detailed in the Test Strategy and if necessary, the Test Plans.
- 3.7 The Parties are intending to review the testing procedures in this Schedule S2 during the Implementation Period.

4. TEST STRATEGY

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4.1 The Supplier shall develop the final Test Strategy as soon as practicable after the Commencement Date but in any case no later than twenty (20) Working Days (or such other period as the Parties may agree in writing) after the Commencement Date.

4.2 The final Test Strategy shall include:

4.2.1 an overview of how Testing will be conducted in accordance with the Implementation Plan and may include the following activities

business as usual (BAU) testing

unit / QA testing

smoke testing before SIT

system integration testing (SIT)

regression testing

performance testing

user acceptance testing

operational readiness testing

security testing

post implementation testing

warranty support testing

automated testing

4.2.2 the process to be used to capture and record Test results and the categorisation of Test Issues;

4.2.3 the method for mapping the expected Test results to the Test Success Criteria;

4.2.4 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 Issues;

4.2.5 the procedure to be followed to sign off each Test, including production/storage of supporting documentation in a location to be agreed between the Parties that supports test/re-test sign off.;

4.2.6 the process for the production and maintenance of Test Reports and reporting, including templates for the Test Reports and the Test Issue Management Log, and a sample plan for the resolution of Test Issues;

4.2.7 the names and contact details of the Buyer's and the Supplier's Test representatives;

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- 4.2.8 a high level identification of the resources required for Testing, including facilities, infrastructure, personnel and Buyer and/or third party involvement in the conduct of the Tests;
- (a) the technical environments required to support the Tests; and
 - (b) the procedure for managing the configuration of the Test environments.
- 4.2.9 where automated testing is used to enhance the efficiency and effectiveness of the testing process, the Supplier will develop and execute automated test scripts as part of the overall testing strategy, covering for example repetitive and regression test scenarios, ensuring consistent and rapid validation of the system's functionality. Automated tests will be run continuously as part of the continuous integration/continuous delivery (CI/CD) pipeline, providing immediate feedback on code changes. The results of automated testing will be reviewed regularly, and any defects identified will be logged and tracked to resolution. The Supplier will ensure that the automated testing approach and processes will be documented in the Test Strategy or supporting documents, and agreed with the Buyer, allowing for adjustments based on Supplier and Buyer needs, and technological advancements.

5. TEST PLANS

- 5.1 The Supplier shall develop Test Plans and submit these for the approval of the Buyer 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 Test Strategy or otherwise agree in writing) prior to the start date for the relevant Testing (as specified in the Implementation Plan).
- 5.2 Each Test Plan shall include as a minimum:
- 5.2.1 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;
 - 5.2.2 a detailed procedure for the Tests to be carried out, including:
 - (a) the timetable for the Tests, including start and end dates;
 - (b) the Testing mechanism;
 - (c) dates and methods by which the Buyer can inspect Test results or witness the Tests in order to establish that the Test Success Criteria have been met;
 - (d) the mechanism for ensuring the quality, completeness and relevance of the Tests;
 - (e) the format and an example of Test progress reports and the process with which the Buyer accesses daily Test schedules;
 - (f) the process which the Buyer will use to review Test Issues and the Supplier's progress in resolving these in a timely basis;

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- (g) the Test Schedule;
- (h) the re-Test procedure, the timetable and the resources which would be required for re-Testing; and
- (i) the process for escalating Test Issues from a re-test situation to the taking of specific remedial action to resolve the Test Issue.

5.3 The Buyer shall not unreasonably withhold or delay its approval of the Test Plans provided that the Supplier shall incorporate any reasonable requirements of the Buyer in the Test Plans.

6. TEST SUCCESS CRITERIA

The Test Success Criteria for each Test that must be Achieved for the Supplier to Achieve a Milestone shall be agreed between the Parties as part of the relevant Test Plan pursuant to Paragraph 5 and supporting documentation for each Test to be stored in a location to be agreed between the Parties as evidence of contractual obligations being met.

7. TEST SPECIFICATION

7.1 Following approval of a Test Plan, 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 Implementation Plan).

7.2 Each Test Specification shall include as a minimum:

- 7.2.1 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 Buyer and the extent to which it is equivalent to live operational data;
- 7.2.2 a plan to make the resources available for Testing;
- 7.2.3 Test scripts;
- 7.2.4 Test pre-requisites and the mechanism for measuring them; and
- 7.2.5 expected Test results, including:
 - (a) a mechanism to be used to capture and record Test results; and
 - (b) a method to process the Test results to establish their content.

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.

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- 8.3 The Supplier shall notify the Buyer 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 Buyer shall ensure that the Test Witnesses attend the Tests, except where the Buyer has specified in writing that such attendance is not necessary.
- 8.4 The Buyer may raise and close Test Issues during the Test witnessing process.
- 8.5 The Supplier shall provide to the Buyer in relation to each Test:
 - 8.5.1 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
 - 8.5.2 the final Test Report within five (5) 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, including:
 - 8.6.1 an overview of the Testing conducted;
 - 8.6.2 identification of the relevant Test Success Criteria that have been satisfied;
 - 8.6.3 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;
 - 8.6.4 the Tests that were not completed together with the Supplier's explanation of why those Tests were not completed;
 - 8.6.5 the Test Success Criteria that were satisfied, 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; and
 - 8.6.6 the specification for any hardware and software used throughout Testing and any changes that were applied to that hardware and/or software during Testing.

9. TEST ISSUES

- 9.1 Where a Test Report identifies a Test Issue, the Parties shall agree the classification of the Test Issue using the criteria specified in Annex 1 and the Test Issue Management Log maintained by the Supplier shall log Test Issues reflecting the Severity Level allocated to each Test Issue.
- 9.2 The Supplier shall be responsible for maintaining the Test Issue Management Log and for ensuring that its contents accurately represent the current status of each Test Issue at all relevant times. The Supplier shall make the Test Issue Management Log available to the Buyer upon request.
- 9.3 The Buyer shall confirm the classification of any Test Issue 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 Issue, the Dispute shall be dealt with in accordance with the Dispute Resolution Procedure using the Expedited Dispute Timetable of this Contract).

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10. TEST WITNESSING

- 10.1 The Buyer may, in its sole discretion, require the attendance at any Test of one or more Test Witnesses selected by the Buyer, 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:
- 10.3.1 shall actively review the Test documentation;
 - 10.3.2 will attend and engage in the performance of the Tests on behalf of the Buyer so as to enable the Buyer to gain an informed view of whether a Test Issue may be closed or whether the relevant element of the Test should be re-Tested;
 - 10.3.3 shall not be involved in the execution of any Test;
 - 10.3.4 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;
 - 10.3.5 may produce and deliver their own, independent reports on Testing, which may be used by the Buyer to assess whether the Tests have been Achieved;
 - 10.3.6 may raise Test Issues on the Test Issue Management Log in respect of any Testing; and
 - 10.3.7 may require the Supplier to demonstrate the modifications made to any defective Deliverable before a Test Issue is closed.

11. TEST QUALITY AUDIT

- 11.1 Without prejudice to its rights pursuant to Clause 29.2 (Records and Audit), the Buyer 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 be on:
- 11.2.1 adherence to an agreed methodology;
 - 11.2.2 adherence to the agreed Testing process;
 - 11.2.3 adherence to the Quality Plan;
 - 11.2.4 review of status and key development issues; and
 - 11.2.5 identification of key risk areas.

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- 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 Buyer will give the Supplier at least five (5) Working Days' written notice of the Buyer'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 Buyer 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 S2, the Buyer witnessing Tests and demonstrations of the Deliverables to the Buyer. Any Testing Quality Audit shall be limited in duration to a maximum time to be agreed between the Supplier and the Buyer 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 Buyer to enable it to carry out the Testing Quality Audit.
- 11.6 If the Testing Quality Audit gives the Buyer concern in respect of the Testing Procedures or any Test, the Buyer shall:
- 11.6.1 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
 - 11.6.2 subsequently prepare a written report for the Supplier detailing its concerns, and the Supplier shall, within a reasonable timeframe, respond in writing to the Buyer's report.
- 11.7 In the event of an inadequate response to the Buyer's report from the Supplier, the Buyer (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 Buyer.

12. OUTCOME OF TESTING

- 12.1 The Buyer 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 outstanding Test Issues not agreed.
- 12.2 If the Deliverables (or any relevant part) do not satisfy the Test Success Criteria then the Buyer shall notify the Supplier and:
- 12.2.1 the Buyer may issue a Test Certificate conditional upon the remediation of the Test Issues;
 - 12.2.2 where the Parties agree that there is sufficient time prior to the relevant Milestone Date, the Buyer 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 Issue and re-submit the Deliverables (or the relevant part) to Testing; or

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- 12.2.3 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 Buyer's other rights and remedies, such failure shall constitute a material Default.
- 12.3 The Buyer 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 Buyer shall issue a Milestone Achievement Certificate in respect of a given Milestone as soon as is reasonably practicable following:
 - 13.1.1 the issuing by the Buyer of Test Certificates and/or conditional Test Certificates in respect of all Deliverables related to that Milestone which are due to be Tested; and
 - 13.1.2 performance by the Supplier to the reasonable satisfaction of the Buyer of any other tasks identified in the 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).
- 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 2 (Charges and Invoicing).
- 13.3 If a Milestone is not Achieved, the Buyer shall promptly issue a report to the Supplier setting out:
 - 13.3.1 the applicable Test Issues ; and
 - 13.3.2 any other reasons for the relevant Milestone not being Achieved.
- 13.4 If there are Test Issues but these do not exceed the Test Issues Threshold, then provided there are no Material Test Issues, the Buyer shall issue a Milestone Achievement Certificate.
- 13.5 If there is one or more Material Test Issue(s), the Buyer shall refuse to issue a Milestone Achievement Certificate and, without prejudice to the Buyer's other rights and remedies, such failure shall constitute a material Default.
- 13.6 If there are Test Issues which exceed the Test Issues Threshold but there are no Material Test Issues, the Buyer 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 Issues in accordance with an agreed Rectification Plan provided that:
 - 13.6.1 any Rectification Plan shall be agreed before the issue of a conditional Milestone Achievement Certificate unless the Buyer agrees otherwise (in which case the Supplier shall submit a Rectification Plan for approval by the Buyer within ten (10) Working Days of receipt of the Buyer's report pursuant to Paragraph 13.3); and

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- 13.6.2 where the Buyer issues a conditional Milestone Achievement Certificate, it may (but shall not be obliged to) revise the failed Milestone Date and any subsequent Milestone Date.

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ANNEX 1: TEST ISSUES – SEVERITY LEVELS

Severity Level 1 Test Issue: a Test Issue 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;

Severity Level 2 Test Issue: a Test Issue for which, as reasonably determined by the Buyer, there is no practicable workaround available, and which:

- (a) causes a Component to become unusable;
- (b) causes a lack of functionality, or unexpected functionality, that has an impact on the current Test; or
- (c) has an adverse impact on any other Component(s) or any other area of the Services;

Severity Level 3 Test Issue: a Test Issue which:

- (a) causes a Component to become unusable;
- (b) causes a lack of functionality, or unexpected functionality, but which does not impact on the current Test; or
- (c) has an impact on any other Component(s) or any other area of the Services;

but for which, as reasonably determined by the Buyer, there is a practicable workaround available;

Severity Level 4 Test Issue: a Test Issue 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

Severity Level 5 Test Issue: a Test Issue 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

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ANNEX 2: TEST CERTIFICATE

To: [NAME OF SUPPLIER]

FROM: [NAME OF BUYER]

[Date]

Dear Sirs,

TEST CERTIFICATE

Deliverables: [insert description of Deliverables]

We refer to the contract (the “Contract”) relating to the provision of the Services between the [name of Buyer] (the “Buyer”) 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 S2 (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 S2 (Testing Procedures) of the Contract on the condition that any Test Issues 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 Buyer]

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ANNEX 3: MILESTONE ACHIEVEMENT CERTIFICATE

To: [NAME OF SUPPLIER]

FROM: [NAME OF BUYER]

[Date]

Dear Sirs,

MILESTONE ACHIEVEMENT CERTIFICATE

Milestone: [insert description of Milestone]

We refer to the contract (the “Contract”) relating to the provision of the Services between the [name of Buyer] (the “Buyer”) 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 S2 (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 S2 (Testing Procedures) of the Contract on the condition that any Test Issues 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 2 (Charges and Invoicing)]*

**delete as appropriate*

Yours faithfully

[Name]

[Position]

acting on behalf of [name of Buyer]