Schedule 6.2 - Lot 3

Testing and Assurance Procedures

Version 4.0

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CHANGE HISTORY

Version No.	Date	Details of Changes included in Update	Author(s)	Document Number
4.0	21.10.15	Execution version	ESMCP	35419288.22

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1 Schedule Background

1.1 This Paragraph 1 (Schedule Background) describes, at a high level, the ESMCP and Authority approach to testing and assuring the ESN Services, primarily as part of Mobilisation. It also describes the approach taken by User Organisations to confirm that their operations and business processes are appropriate to live operations with ESN as the communications service.

1.2 Paragraph 1 (Schedule Background) is provided for information only and shall have no contractual effect.

1.3 The management of the multi-lot procurement and operation of the network will evolve as the transition of User Organisations advances. The Intelligent Client Function (ICF) will be key to this approach and comprises:

(a) the Delivery Partner who will carry out test assurance on behalf of the Authority; and

(b) the Authority who provides on-going supplier management of the steady-state service and act as the client for the Delivery Partner.

1.4 Testing is a key process for both the Authority and Users. Ultimate responsibility for assurance of testing and acceptance of the ESN will lie with the ICF. The detailed test responsibility will sit with individual suppliers, with the Delivery Partner being responsible for undertaking assurance of this testing and managing Trials/Pilot Tests.

1.5 To meet the Authority delivery timescales, the approach to testing is optimised, whilst always ensuring that the overall integrity and performance of the deployed service meets the Authority requirements.

1.6 To optimise delivery of a high quality testing and assurance programme, the Supplier acknowledges and agrees to apply the following principles:

(a) each ESN Supplier will be responsible for testing their own systems and subsystems with Assurance of testing provided by the Delivery Partner;

(b) each ESN Supplier will be responsible for developing and complying with their own Test schedules and Test Plans to meet the overall mobilisation process, as assured by and issued to the Delivery Partner;

(c) the Supplier shall be cognisant that each Other ESN Supplier is required to adopt a risk based testing approach and test early;

(d) where commercial off-the-shelf (COTS) equipment and services have already been tested and proved, Assurance can be provided through access to pre-existing test reports;

(e) the US Supplier as system integrator will be responsible for planning, scoping, coordinating and managing specified Test Stages for ESN as a whole;

(f) Users will support Service Acceptance Test during Mobilisation and shall have the ability to pilot before their individual migration; and

(g) all ESN Supplier test teams will be expected to take an open book approach to testing.

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2 Introduction

2.1 In this Schedule where there is an obligation on any Other ESN Supplier, the relevant obligations of that Other ESN Supplier will be detailed in their respective agreements with the Authority to provide the ESN Tested Services. The Authority shall provide a copy of the Other ESN Suppliers' respective executed Schedule 6.2 (Testing and Assurance Procedures) to the Supplier in order to assist with its understanding of the scope of the Assurance and testing activities and the Supplier agrees that the Authority may provide copies of this Schedule 6.2 (Testing and Assurance Procedures) to the Other ESN Suppliers to assist with their understanding of the assurance and testing process as undertaken by the Other ESN Suppliers.

2.2 The Parties acknowledged and agree that:

(a) it is the responsibility of the respective Other ESN Suppliers as described under their contractual arrangements with the Authority to comply with the Test Policy, Test Strategies and Test Plans for any and all ESN Service Components they provide; and

(b) it is the responsibility of the US Supplier to perform specified Test Stages for the ESN Tested Services with the support of the Supplier; and

(c) that the Delivery Partner, for the purposes of Assurance is acting as the limited agent of the Authority. For the purposes of this Schedule 6.2 (Testing and Assurance Procedures) only, any obligation or right of the Authority owed by the Supplier to the Authority or any obligation of the Authority owed to the Supplier may be exercised or discharged by the Delivery Partner for and on behalf of the Authority.

2.3 The Supplier shall:

(a) collaborate in the development of the Assurance policy, Assurance strategies and Assurance plans with the Other ESN Suppliers in accordance with this Schedule 6.2 (Testing and Assurance Procedures) and Schedule 6.1 (Implementation);

(b) develop the Test Policy, Test Strategies and Test Plans in collaboration with the Other ESN Suppliers in accordance with this Schedule 6.2 (Testing Procedures) and Schedule 6.1 (Implementation).

2.4 If, having used its best endeavours, the Supplier reasonably believes it will fail to agree the Test Policy, Test Strategies and Test Plans with the Delivery Partner in the required timescales due to the actions or inactions of the Other ESN Suppliers then the Supplier acknowledges and agrees that the Authority may in its absolute discretion require the Supplier to act in accordance with any Test Policy, Test Strategies and Test Plans that the Authority provides to it and the Supplier shall undertake Testing in accordance with these documents whilst the Parties shall review the reasons for non-agreement (including without limitation any liability where the Other ESN Supplier can demonstrate that the Delivery Partner or Other ESN Supplier was not acting reasonably) in accordance with Schedule 8.8 (Operating Level Agreement).

2.5 Unless explicitly stated to the contrary in Schedule 4.1 (Supplier Solution) it will be the Supplier's sole responsibility and liability to provide and operate any and all equipment including without limitation Test Tools and Test Assets necessary in order to perform its Test obligations without additional charge to the Authority or (unless agreed otherwise to the contrary under paragraph 2.9) Other ESN Suppliers. This includes without limitation where

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any ESN Service Component as being tested by the Other ESN Suppliers requires the Supplier to have such equipment Test Tools and Test Assets

2.6 This Schedule specifies the procedures:

(a) that apply to the assurance by the Authority of Documentary Deliverables (as set out in Part A of this Schedule);

(b) that apply to the Test Policy, Test Strategies and Test Plans (as set out in Part B of this Schedule);

(c) that apply to the Testing by the Supplier of ESN Tested Services or Changes to existing ESN Tested Services (as set out in Part C and D of this Schedule); and

(d) that apply to test improvement processes (as set out in Part E of this Schedule).

2.7 Unless specified to the contrary in Schedule 2.1 (Services Description) or Schedule 4.1 (Supplier Solution), the Testing and Assurance Process for ESN Tested Services shall apply to any ESN Deliverables, any Change to the Services and/or Services that relate to the Achievement of a Milestone.

2.8 The assurance procedures described in this Schedule shall be followed by the Authority and the Supplier unless agreed otherwise via the Change Control Procedure.

2.9 All risk in the design, development and implementation of the Services and Deliverables and the provision of the Services shall remain with the Supplier.

2.10 In this Schedule, if there is a requirement for the Parties to agree, any failure to achieve agreement within five (5) working days of either Party notifying the other Party of the failure to agree shall be determined by the Authority in its absolute discretion which shall be implemented by both Parties with any impact including without limitation, costs, to be resolved in accordance with the Dispute Resolution Procedure unless otherwise expressly stated to the contrary.

2.11 Where the Parties consider it necessary, the standard requirements set out in this Schedule may be varied by agreement in accordance with the Schedule 8.2 (Change Control Procedure).

2.12 The testing of the ESN Tested Services described in this Schedule are intended to support, and be supported by, effective joint working between the Supplier and all Other ESN Suppliers involved in delivering the ESN Tested Services to the Authority as specified in the Operating Level Agreement.

3 Risk

3.1 The issue of a Milestone Achievement Certificate and/or a conditional Milestone Achievement Certificate shall not:

(a) operate to transfer any risk that the relevant ESN Deliverable or Milestone is complete or will meet and/or satisfy the Authority's requirements for that ESN Deliverable or Milestone; or

(b) affect the Authority's right subsequently to reject:

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(i) all or any element of the ESN Deliverables or ESN Tested Services; or

(ii) any Milestone to which the Milestone Achievement Certificate relates.

3.2 Notwithstanding the issuing of any Milestone Achievement Certificate, 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 Agreement; and

(c) each Minimum Service Threshold is met from the relevant Operational Service Commencement Date.

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PART A: ASSURANCE PROCEDURES FOR DOCUMENTARY DELIVERABLES

4 Introduction to Assurance Procedures for Documentary Deliverables

4.1 Introduction

4.1.1 Part A of this Schedule specifies the Assurance Procedures for Documentary Deliverables.

4.1.2 The Supplier shall ensure that all Documentary Deliverables and Documentary Product Descriptions are identified in the relevant Documentary Deliverables Schedule, as defined in Schedule 6.1 (Implementation Plan) and subject to the Assurance Procedures for Documentary Deliverables (this Paragraph).

4.1.3 The Assurance Procedures for Documentary Deliverables shall commence with agreement of each Documentary Product Description between the Authority and the Supplier, which sets out the Assurance Criteria that the Documentary Deliverables must meet in order to achieve Assurance Success (in accordance with Paragraph 4.2). Following acceptance by the Authority of the Documentary Product Description the Supplier shall then provide to the Authority the relevant Documentary Deliverable (in accordance with Paragraph 4.4).

4.1.4 The Assurance Procedures for Documentary Deliverables are designed to enable the Authority to review draft Documentary Deliverables produced by the Supplier against agreed Assurance Criteria and for the Authority to satisfy itself of the contents of such drafts subject to any required changes being made.

4.2 Documentary Product Description

4.2.1 The Supplier shall produce Documentary Product Descriptions for all Documentary Deliverables included in the Documentary Deliverables Schedule, except where otherwise agreed with the Authority.

4.2.2 The Supplier shall ensure that each Documentary Deliverable's corresponding Documentary Product Description is developed, submitted and agreed with the Authority no later than six (6) months prior to the relevant planned Milestone Date unless otherwise agreed with the Authority.

4.2.3 Other than where the Authority has rejected a properly constituted Documentary Product Description as not being consistent with Assurance Procedures for Documentary Deliverables and or any other document control procedures within the timescale specified in the Documentary Deliverable Schedule or in any event within three weeks of its provision to the Authority, then the Supplier may proceed on the basis of the relevant Documentary Product Description.

4.2.4 The Supplier shall agree and incorporate any changes or additions required by the Authority to the content of the Documentary Product Descriptions, before commencing the production of the draft Documentary Deliverable.

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4.3 Key roles in reviewing Documentary Deliverables

4.3.1 For each Documentary Deliverable review, each Party shall each appoint a suitably qualified and authorised representative to manage the assurance and progression of each draft Documentary Deliverable through to approval.

4.3.2 Where appropriate, the Authority may decide to involve third parties in the review. In this event, and subject to the provisions of Clause 21 (Confidentiality), the Authority may share draft Documentary Deliverables with such third parties, and may invite them to participate in review meetings.

4.3.3 Where authorised by the Authority in advance, if the Supplier considers that a third party would reasonably be considered to be in a position to provide or receive useful and/or necessary input into a Documentary Deliverable, the Supplier shall consult such third party regarding the Documentary Deliverable provided always that this shall be at no additional charge to the Authority.

4.4 Review procedure for Documentary Deliverables

4.4.1 The Supplier shall produce and issue, by the First Draft Delivery Date a complete draft Documentary Deliverable for review by the Authority in accordance with the Documentary Deliverable Schedule and the Documentary Product Description.

4.4.2 The Supplier shall not submit a draft Documentary Deliverable for review by the Authority without first verifying that it complies with, and:

(a) is in accordance with the format, scope and Assurance Criteria specified in the applicable agreed Documentary Product Description;

(b) is clearly written, in language that those parties who will need to refer to the document should be able to understand;

(c) does not refer to any document not provided to, or in the possession of, the Authority unless the parties have previously agreed that such document is not required to be provided;

(d) draws upon the necessary expertise and Good Industry Practice available to the Supplier;

(e) is complete, with an appropriate level of detail and any relevant cross-references; and

(f) has no obvious errors of spelling, grammar, numbering or order, duplications or omissions.

4.4.3 The Supplier shall comply with the review of each Documentary Deliverable in accordance with the timescales specified in the Documentary Deliverables Schedule.

4.4.4 The Supplier shall inform the Authority of any inability to meet a date in the Documentary Deliverables Schedule as soon as it becomes apparent to it. For the avoidance of doubt, notification of any inability to meet a date in the Documentary Deliverables Schedule shall not obviate the Supplier from its obligations under this Agreement unless such change has been agreed between the Parties in accordance with the Change Control Procedure including, without limitation any impact on a Milestone Date.

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4.5 Approval or rejection of Documentary Deliverables

4.5.1 Following receipt and review of each draft Documentary Deliverable from the Supplier, the Authority shall notify the Supplier in writing that it:

(a) Approves the relevant Documentary Deliverable and the review shall be concluded at this point, and the Authority shall notify the Supplier of Assurance Success in accordance with Paragraph 5; or

(b) rejects the relevant Documentary Deliverable in accordance with Paragraph 6,

in both cases no later than ten (10) Working Days after the date on which the Documentary Deliverable is first submitted to the Authority by the Supplier.

4.5.2 If the Authority rejects a draft Documentary Deliverable:

(a) the Authority shall inform the Supplier in writing of its reasons for its rejection; and

(b) the Supplier shall then revise the draft Documentary Deliverable (incorporating the Authority's comments) and shall re-submit a revised draft of the relevant Documentary Deliverable to the Authority within ten (10) Working Days of the date of the Authority's notice of rejection.

5 Assurance Success

5.1 If the Authority Approves a Documentary Deliverable and it determines that a Documentary Deliverable meets all applicable Assurance Criteria as defined by the Documentary Product Description (that has been agreed by the Authority in accordance with Paragraph 4.2), the Authority shall notify the Supplier of Assurance Success.

5.2 Once Assurance Success has been Achieved, the title and version reference number of the Documentary Deliverable shall be recorded in the Documentary Deliverables Schedule and any changes to such Documentary Deliverable will need be carried out in accordance with the Change Control Procedure.

6 Assurance Failure

6.1 If all applicable Assurance Criteria are not met by the date specified in the Documentary Deliverable Schedule, the Authority shall notify the Supplier of Assurance Failure and, without prejudice to the Authority’s other rights and remedies, the Supplier shall comply with its obligations set out in Clause 27 (Rectification Plan Process).

7 Additional assurance procedures and documentation

7.1 The Authority reserves the right to request, and the Supplier shall promptly supply, any existing Supplier documentation relevant to the delivery of Testing, the Services or a Deliverable or the ESN Tested Services. The receipt of such documentation does not constitute acceptance by the Authority of the contents.

7.2 The Supplier shall include all such documentation described at Paragraph 7.1 above in the Documentary Deliverables Schedule.

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7.3 The Supplier shall follow any additional detailed procedures that the Authority implement relating to how the Supplier shall submit/create Documentary Deliverables, unless the Supplier can demonstrate to the reasonable satisfaction of the Authority that the additional detailed procedures will have a material cost implication whereupon the matter will be resolved in accordance with Clause 29 (Remedial Adviser).

PART B – PREPARATION AND AGREEMENT OF THE TEST PLANS, SUPPLIER'S TEST POLICY AND TEST STRATEGY

8 Introduction To The Test Plans, Supplier's Test Policy and Test Strategy

8.1 The Test Strategy and Test Plans shall be subject to the Assurance Procedures for Documentary Deliverables described in Part A of this Schedule.

9 Supplier Test Policy

9.1 The Supplier shall provide their then current Supplier Test Policy to the Authority on demand by the Authority.

9.2 The Supplier shall regularly review the Supplier Test Policy no less frequently than every six (6) months (commencing from the Effective Date) to ensure it remains current and consistent and notify the Authority of any material changes.

9.3 The Supplier Test Policy shall provide the framework for Testing and should set out, without limitation, the approach, principles, processes, organisation, controls, stakeholders, for the Testing of ESN Tested Services.

9.4 The Supplier shall require that all Sub-contractors implement at least equivalent controls to those set out in the Supplier Test Policy, unless such Sub-contractors are only providing existing COTS items. Where COTS items are customised in anyway by the Sub-contractor then equivalent controls to the Supplier Test Policy shall apply to such customisation. Exceptions to applying such controls to the customisation of COTS items are permissible, where appropriate, upon prior written agreement with the Authority on a case-by-case basis.

10 Preparation and Agreement of a Test Strategy and Test Plans

10.1 The Supplier and the Authority shall each identify a Tests Coordinator for the purpose of coordinating their respective responsibilities in the preparation and agreement of the Test Strategy, Test Plan(s), and the preparation and undertaking of Tests. If a third party/Sub-contractor is involved in any Test(s) or assurance, they will also be asked to identify a Tests Coordinator.

10.2 The Supplier shall consult with the Authority, and/or any third party that may be involved in the Test(s), regarding the preparation of the Test Strategy and Test Plans. In particular, the Supplier shall consult the Authority and any relevant third parties, regarding the acceptability of the proposed scope, duration and timing of the Test, proposed Test Stages, proposed sources of Test Data, test environments and any proposed Authority and/or third party responsibilities in preparing for, monitoring or undertaking the Tests.

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10.3 The Authority reserves the right to create and conduct its own Tests within the Test process, including developing associated Test specifications and directly managing such Tests and the Authority may consult the Supplier on regards to such Tests. The Supplier shall take account of the Authority's requirements in this respect when preparing the Test Plan and allocate the necessary resources and time and include this scope within the Entry Criteria and Exit Criteria of the Test Stage.

10.4 The Authority reserves the right to provide Test Data for use within a Test. The Supplier shall consider and comply with any of the Authority's reasonable requirements in this respect when preparing the Test Plan and allocate the necessary resources and time. The Supplier shall provide all other Test Data that is required to allow the Test to be performed, and shall ensure that such Test Data is both relevant and adequate for the purposes of the Tests for which it is being used. The Supplier (and the Authority where it has supplied the Test Data) shall ensure that the proposed sources and use of Test Data would cause neither the Supplier nor the Authority to breach any of its applicable obligations under the DPA. In particular, the Supplier shall not use any live data for Test purposes without the Authority's prior written consent.

10.5 The Supplier shall design the Test Strategy and Test Plan(s) to ensure as far as is reasonably possible that the proposed Tests minimise any potential disruption to the Authority's business.

10.6 In planning any review of the Tests or Documentary Deliverables, the Authority and the Supplier shall consider and agree what third party involvement is appropriate. The Supplier shall consult such third parties regarding the planning accordingly.

11 Test Strategy

11.1 The Supplier Test Strategy shall define all Supplier test activities including those specified in Paragraph 11.3.

11.2 The Test Strategy shall be updated by the Supplier and delivered to the Authority for approval in accordance with the Milestone defined in Schedule 6.1 (Implementation Plan).

11.3 The Test Strategy shall contain, as a minimum:

(a) the scope, objectives and assumptions of the Test in the form of a description of the applicable Service, ESN Deliverables, or ESN Tested Service from or change to any existing Service, ESN Tested Service, or outputs from an existing Service or ESN Tested Service;

(b) the Test methodology to be used by the Supplier and Sub-contractor(s), ensuring this is consistent with the Supplier Test Policy;

(c) the Testing process and controls;

(d) the Testing lifecycle of the relevant ESN Tested Services, defining what Testing is to be undertaken and why, including at least:

(i) details of the different Test Stages, including without limitation which parties are responsible for each Test Stage in accordance with Annex 3;

(ii) the test types and techniques to be carried out by the Supplier;

(iii) generic Entry Criteria/Exit Criteria;

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(iv) the Test Success Criteria for the relevant ESN Tested Service and/or ESN Deliverable or change to the relevant ESN Tested Service and/or ESN Deliverable, including any Test Issue Thresholds;

(v) typical ESN Tested Service and/or ESN Deliverable inputs and outputs;

(vi) the test environments;

(vii) Test Data strategy;

(viii) test tools strategy (use of stubs, simulators, automated test equipment, test management, test issues, etc.);

(ix) Test Issue management and strategy;

(x) Supplier test organisation;

(xi) test design inputs;

(xii) test deliverables;

(xiii) number of Working Days following successful completion of a Test Stage within which any outstanding Test Issues will be resolved or an acceptable remediation plan is agreed with the Authority;

(xiv) the overall Test period and the timing of key Test Stages;

(xv) test management and details of how/when/what information will be reported to the Authority;

(xvi) test measurement and test process improvement;

(xvii) risk and issues;

(xviii) the role of, and any dependencies on, the Authority;

(xix) the role of, and any dependencies on any third party, including any Other ESN Supplier(s); and

(xx) how information will be communicated to the Authority.

12 Test Plans

12.1 The Supplier shall develop the Test Plans in accordance with the Documentary Deliverable Schedule and Paragraph 12.2 and submit them for approval by the Authority in accordance with Part A of this Schedule and the Documentary Deliverables Schedule in Schedule 6.1.

12.2 The Supplier shall develop Test Plans for each Test Stage or part of Test Stage that it undertakes. Such Test Plans shall be provided to the Other ESN Suppliers to receive their input into such Test Plans. In the event of conflict between the Supplier and Other ESN Suppliers in respect of a Test Plan for a Test Stage managed by the Supplier the Authority's decision shall be final.

12.3 Each Test Plan shall include as a minimum:

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

(b) a detailed procedure for the Tests to be carried out:

(i) the timetable for the Tests, 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;

(iv) test scripts (including a detailed procedure for the Test to be carried out); and

(v) specification of the required 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 data;

(c) test environment(s) to be provided and utilised;

(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 Authority accesses daily Test schedules;

(f) the process which the Authority will use to review Test Issues and the Supplier's progress in resolving these in a timely basis;

(g) the Test schedule;

(h) the re-Test procedure, the timetable and the resources which would be required for re-Testing;

(i) the process for escalating Test Issues from a re-test situation to the taking of specific remedial action to resolve the Test Issue;

(j) Authority Requirements to be tested, and

(k) test resources.

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PART C and D - TESTING AND ASSURANCE PROCESS FOR ESN TESTED SERVICES

13 Introduction

13.1 Part C and D of this Schedule details the Testing carried out by the Supplier in respect of the ESN Tested Services and the assurance process carried out by the Authority in respect of such Testing.

13.2 The Testing and Assurance Process for ESN Tested Services are designed to demonstrate that:

(a) any new ESN Tested Service, or Change to an existing ESN Tested Service, meets the Authority Requirements;

(b) the new or changed ESN Tested Service does not have an adverse impact on the existing ESN Tested Services; and

(c) the new or changed ESN Tested Service does not have an adverse impact on business continuity or the Authority System.

13.3 The Testing and Assurance Process for ESN Tested Services cover the:

(a) preparation and agreement of the Test Strategies and Test Plans - as set out in Part B;

(b) general and specific additional processes for testing a ESN Tested Service - as set out in Paragraphs 14 and 15;

(c) planning, scoping, coordinating and managing of the System Test - as set out in Paragraph 16;

(d) supporting the Integration Test - as set out in Paragraph 16;

(e) planning, scoping, coordinating and managing the Performance Test, and supporting end-to-end parts of the Performance Test - as set out in Paragraph 16;

(f) supporting the User Acceptance Test and the Operational Acceptance Test - as set out in Paragraph 16;

(g) supporting the Trials (Service Acceptance Test) - as set out in Paragraph 17;

(h) supporting the Pilot Tests - as set out in Paragraph 18; and

(i) consequences of Assurance Success and Assurance Failure - as set out in Paragraphs 19 to 22.

13.4 The Supplier shall conduct the Test Stages in accordance with the time scales defined in each applicable Test Plan.

14 General Testing Procedures for Services

14.1 The Supplier shall ensure that all personnel involved in the delivery of Testing under the Supplier Test Policy are suitably trained and qualified.

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14.2 The following procedures shall apply to all Tests of relevant ESN Tested Services:

(a) the Supplier shall conduct the Test in accordance with their respective obligations under the Test Plan and the timescales specified therein;

(b) the Supplier shall provide the Authority with all reasonable necessary assistance and information in connection with the conduct of the Test;

(c) the Supplier shall undertake Tests in accordance with Good Industry Practice and any agreed methods, Standards and processes identified in this Agreement;

(d) where third parties are involved in a Test, the Supplier shall provide them with all reasonable assistance and information in connection with the conduct of that Test; and

(e) where the Supplier, in meeting its obligations under this Schedule, consults or otherwise directly works with one or more third parties, the Supplier shall provide the Authority with reasonable visibility of such interaction.

14.3 The Supplier shall make available to the Authority all information produced for the purposes of a Test. This shall include, but not be limited to:

(a) test approach;

(b) test specifications;

(c) Test Plans;

(d) Test Data;

(e) test scripts;

(f) expected results;

(g) actual results, including all Test Issue reports;

(h) Test Issue resolution plans;

(i) test environment configurations;

(j) configuration of elements passing through the Test (including which versions of what software and hardware are to be tested in each Test);

(k) details and configurations of any tools used, including automated Test tools;

(l) written confirmation that the Test have been conducted in accordance with the relevant security requirements from Schedule 2.4; and

(m) Requirements Traceability Matrix.

14.4 The Supplier shall, during the conduct of any Tests, maintain an up-to-date record of all Test results, whether successful or unsuccessful, and shall provide the Authority with access to the Supplier's test results.

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14.5 The Supplier shall keep evidence of the Test results that failed and passed and should ensure all Tests are repeatable.

14.6 The Supplier will provide a copy of any Test Reports to the Authority for inspection by the Authority in accordance with the Test Plan.

14.7 The Supplier shall, on the date specified in the Test Plan for the commencement of the Test, perform the following, as may be required in the Test Plan and Part C and D of this Schedule:

(a) provide evidence that the Supplier has in place the necessary staff, accommodation, equipment, facilities and other resources to provide the new or changed ESN Tested Service and that the Entry Criteria have been met;

(b) demonstrate to the Authority, by means of visits to the Supplier's premises and/or those of third parties, interviews with any Supplier Personnel, inspection of equipment and facilities or other means, that the Supplier has in place the necessary personnel, accommodation, environments, equipment, facilities and other resources to provide the new or changed ESN Tested Service;

(c) undertake the Test, or activities required in connection with the Test, including, where required by the Test Plan, providing the new or changed ESN Tested Service to the Authority; and

(d) provide reasonable and no less than twenty (20) Working Days' notice to the Authority of Test commencement so that, if necessary, the Authority can arrange resources to witness the Test.

14.8 The Authority reserves the right to require the Supplier to provide the Authority with read access to the Supplier test management and Test Issue management tools, to provide the Authority with visibility during the Test Stages. The Supplier shall take account of the Authority's Requirements in this respect when preparing the Test Plan.

14.9 Test Issues

14.9.1 The Supplier's Tests Coordinator conducting the Tests shall document all Test Issues encountered during the Test, and shall categorise each issue as one of the following:

Severity	**Severity Definition**
Severity Level 1 Critical	The failure causes a system to crash, data loss or application failure such that it results in severe impact to one or more business processes, for which no satisfactory workaround exists.
Severity Level 2 High	The failure causes major impairment of one or more critical business functions, irrespective of whether a workaround exists; or the failure causes major impairment to one or more non-critical business functions for which a satisfactory workaround does not exist.

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Severity	Severity Definition
Severity Level 3 Medium	The failure causes minor impairment of one or more critical or non-critical business functions, irrespective of whether a workaround exists; or the failure causes a major impairment to one or more non-critical business functions for which a satisfactory workaround does exist.
Severity Level 4 Low	The failure is a cosmetic inconvenience / annoyance such that it does not hinder a user's ability to carry out business functions or decrease their productivity.

14.9.2 Prior to the commencement of a Test Stage, and subject to Paragraph 14.9.6, the Authority shall propose the Severity Level 3 and Severity Level 4 Test Issue Thresholds for that Test Stage for agreement by the Supplier, which shall not be unreasonably withheld or delayed.

14.9.3 As part of the Testing of the ESN Tested Services the Supplier shall be responsible for setting up and maintaining a Test Issue Management Log and process. The Supplier shall use this Test Issue Management Log and process for ensuring that its contents accurately represent the current status of each Test Issue at all relevant times until Transition is complete. The Supplier shall allow remote access to the Test Issue Management Log to such persons as the Authority may authorise from time to time including without limitation to the Delivery Partner to populate the consolidated Test Issue Management Log.

14.9.4 The Supplier shall be responsible for updating the Test Issue Management Log, in respect of the Test Stages that it is managing, 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 Authority on request in a format reasonably requested by the Authority.

14.9.5 Unless otherwise specified in the Test Plan, the Supplier shall run the Tests as defined by the relevant Test Plan and shall make available to the Authority within three (3) Working Days of the end of each Test the results report from all such Tests.

14.9.6 The Supplier shall ensure that the Test Issue Thresholds proposed for each Test Stage shall be no greater than:

(a) zero (0) Severity Level 1 Test Issues;

(b) zero (0) Severity Level 2 Test Issues; and

(c) Severity Level 3 Test Issues and Severity Level 4 Test Issues at the tolerance levels as agreed pursuant to Paragraph 14.9.2 in respect of each Test Stage.

14.10 The Supplier's Tests Coordinator conducting the Tests shall notify the categorisation of each Test Issue to the Authority's Tests Coordinators.

14.11 The Supplier's Tests Coordinator shall analyse and attempt to resolve each Test Issue according to the testing issue management and strategy procedures (as included within the Supplier's Test Strategy as set out in Paragraph 11.3(d)(ix)).

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14.12 A Test Stage shall be recorded as successful if the number of Test Issues unresolved at the end of the relevant Test Stage period does not exceed the agreed Test Issue Thresholds for that Test Stage.

14.13 If, after undertaking all applicable Tests but before a Test Stage was planned to finish, the number of unresolved issues is below the agreed Test Issue Threshold, the Authority may, after consulting with the Supplier, notify the Supplier in writing that the Test Stage shall be successfully concluded at that point.

14.14 Unless otherwise agreed between the Authority and the Supplier, for any Test, a condition of commencing a Test Stage shall be that any and all preceding Test Stages for the ESN Tested Service were also successful, including that the number of unresolved errors did not exceed the agreed Test Issue Thresholds for any and all preceding Test Stages.

14.15 Where Test Issues remain unresolved at the end of any Test Stage period, but the agreed Test Issue Threshold for that Test Stage has not been exceeded, such Test Issues shall carry forward into the next Test Stage and if still unresolved count towards the Test Issue Thresholds in that next Test Stage. The Supplier shall not be entitled to any relief for the carry forward of test issues caused by any Other ESN Supplier and the liability for such failure shall be determined in accordance with the Dispute Resolution Procedure.

14.16 As and when all relevant Test Stages of a Test have been recorded as successful the Authority shall notify the Supplier of Assurance Success in accordance with Paragraph 19.

14.17 Where the Authority agrees to defer unresolved Test Issues at the completion of Testing, the failure to resolve those issues shall (in addition to any instance of failure referred to in Clause 27.1) constitute a Notifiable Default and Clause 27 shall apply to the failure accordingly. For the avoidance of doubt, the Supplier shall provide to the Authority for agreement a Rectification Plan of how and by when the Supplier will rectify all remaining unresolved issues. This plan must be agreed before any Milestone Achievement Certificate can be issued or Test Stage can be considered to be complete and exited.

15 Specific additional Testing procedures

15.1 For the Test of any ESN Tested Service the Supplier shall, (unless otherwise agreed between the Parties), ensure that the Test Strategy includes all of the Test Stages that it is responsible for as specified in Annex 3.

15.2 Prior to commencement of the Test the Supplier shall conduct such Testing as is necessary to ensure that the ESN Tested Service is ready for Testing, and shall demonstrate this to the Authority in accordance with any Entry Criteria specified in the Test Plan.

15.3 The Supplier shall hold a formal Test Readiness Review to demonstrate to the Authority that all of the Entry Criteria have been successfully met and that the Supplier is ready to start testing in accordance with Paragraph 15.2. A formal written record of this review shall be provided within two (2) days following completion of the review to the Authority.

15.4 The Supplier shall hold formal Test Completion Reviews to demonstrate to the Authority that the Exit Criteria have been successfully completed and met. A formal written record of this review shall be provided within two (2) days following completion of the review to the Authority.

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15.5 In respect of all Tests undertaken by a Sub-contractor of the Supplier the Authority, and subject to the provisions of Clause 21 (Confidentiality), Other ESN Suppliers shall have the right to have test witnesses attend and observe such Tests.

16 Test Stages

16.1 If the Test Strategy or the Test Plan for a Test Stage specifies that the Test Stage shall require the assistance of Other ESN Suppliers, then unless specified to the contrary in the Test Plan or Test Strategy the Supplier shall be liable for the participation of the Other ESN Supplier in accordance with the Test Plan or Test Strategy.

16.2 The Supplier shall plan, scope, coordinate and manage System Test for the Tested Services, in accordance with the Test Strategy and the Test Plan for the System Test Stage.

16.3 The Supplier shall plan, scope, coordinate and manage the Mobile Services-specific and the Coverage parts of the Performance Test for the Tested Services, in accordance with Annex 4, the Supplier Test Strategy and the Supplier Test Plan for the Performance Test Stage.

16.4 The Supplier shall support the Integration Test, the end-to-end Performance Test, the User Acceptance Test and the Operational Acceptance Test for the ESN Tested Services, in accordance with the Supplier Test Strategy. The Supplier shall engage with the Authority and the US Supplier to determine the scope of support, and shall document the required support, activities, tools and techniques in the Test Strategy. Such support shall include:

(a) Participation in Test Readiness Reviews;

(b) Preparation and configuration of environments to support the Test;

(c) Preparation of Test Data to support the Test;

(d) Provision of advice to support test planning and design;

(e) Execution of agreed Test scripts;

(f) Monitoring of the performance of the Tested Services and recording of Operational Data and Event Logs requested by the Authority;

(g) Logging and resolution of issues affecting the Tested Services;

(h) Participation in Test Completion Reviews; and

(i) Provision of an evaluation report setting out the performance of the Tested Services during the Test and any lessons learned.

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17 Service Acceptance Test

17.1 As part of Service Acceptance Test, the Supplier shall support Trials that will allow Users to see key features demonstrated in large-scale tests and will consist of, without limitation, the following three elements:

(a) Trial Event (of the ESN Tested Service);

(b) Major Operational Trial of the ESN Tested Service; and

(c) Unplanned Operational Trial of the ESN Tested Service.

17.1.2 The Supplier shall engage with the Authority, User Organisations and Other ESN Suppliers to determine the scope of support to the Trials, in accordance with Annex 2, and shall document the required support, activities, tools and techniques in the Test Strategy. Such support shall include:

(a) Participation in Test Readiness Reviews for the Trials;

(b) Preparation and configuration of environments to support the Trials;

(c) Monitoring of the performance of the Tested Services during the Trials and recording of Operational Data and Event Logs requested by the Authority;

(d) Resolution of Issues affecting the Tested Services during the Trials;

(e) Participation in Test Completion Reviews for the Trials; and

(f) Provision of an evaluation report for each Trial setting out the performance of the Tested Services during the Trial and any lessons learned.

18 Pilot Tests

18.1 The Supplier shall support the Pilot Tests.

18.2 The Supplier shall engage with the Authority, User Organisations and Other ESN Suppliers to determine the scope of the Pilot Tests as set out in Annex 2 and shall document the required support, activities, tools and techniques in the Test Strategy. Such support shall include:

(a) Participation in Test Readiness Reviews for the Pilot Tests;

(b) Preparation and configuration of environments to support the Pilot Tests;

(c) Monitoring of the performance of the Tested Services during the Pilot Tests and recording of Operational Data and Event Logs requested by the Authority;

(d) Resolution of Issues affecting the Tested Services during the Pilot Tests; and

(e) Participation in Test Completion Reviews for the Pilot Tests.

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19 Assurance Success

19.1 Following a Test, in accordance with the Testing and Assurance Process for ESN Tested Services and the applicable Test Plan, if the Authority Approves a Test and deems that all applicable Test Success Criteria are met, the Authority shall promptly notify the Supplier of Assurance Success.

19.2 Where there are any issues outstanding at the point where all Test Success Criteria have been met, the Supplier shall resolve such issues in accordance with the timescale specified in the Test Plan.

20 Assurance Failure

20.1 Following a Test, in accordance with the Testing and Assurance Process for ESN Tested Services and the applicable Test Plan, if all applicable Test Success Criteria are not met, the Authority shall promptly notify the Supplier of Assurance Failure and the reasons for such Assurance Failure.

20.2 Where there is an Assurance Failure, the Authority shall extend the Test Plan by such reasonable period or periods as the Authority and the Supplier may reasonably agree (provided always that such extension does not result nor is likely to result in the failure (in whole or in part) of the Supplier meeting any Milestone during the period in which the Supplier corrects the issues which caused the Assurance Failure and the Assurance Procedures shall also be re-performed).

20.3 If an Assurance Failure (or any proposed extension to the Test Plan following such Assurance Failure) results in or is likely to result in the failure (in whole or in part) by the Supplier to meet any Milestone, then without prejudice to the Authority's other rights and remedies, the Supplier shall comply with its obligations set out in Clause 27.1 (Rectification Plan Process).

20.4 Subject to Paragraph 20.5, the Authority and the Supplier shall each bear its own costs in respect of any Testing and Assurance Process.

20.5 Save to the extent where the Assurance Failure occurs during a period where Delay Payments are applicable or the Authority […..✂…..] and without prejudice to any other rights and remedies that it has under this Agreement, where there is an Assurance Failure due to Supplier Default the Supplier shall pay to the Authority on demand, any reasonable costs properly and necessarily incurred by the Authority ([…..✂…..]) in further assurance, review or re-testing of the relevant ESN Deliverable which is required for the Test Success Criteria for that Deliverable to be satisfied. For the avoidance of doubt, for the provisions of this Paragraph 20.5 travel, expenses and resources, both internal and external and supported by a valid receipt, shall be deemed reasonable.

21 Issue Of Milestone Achievement Certificate

21.1 The Authority shall issue a Milestone Achievement Certificate in respect of a given Milestone as soon as is reasonably practicable following:

(a) agreement by Authority of Test Reports in respect of all ESN Deliverables related to that Milestone which are due to be Tested in accordance with this Schedule;

(b) a Rectification Plan for any deferred Test Issues agreed by the Authority in accordance with Paragraph 14.17; and

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(c) performance by the Supplier to the reasonable satisfaction of the Authority of any other tasks identified in the Implementation Plan as associated with that Milestone (which may include the submission of a ESN Deliverable that is not due to be Tested, such as the production of Documentation).

21.2 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 7.1 (Charges and Invoicing).

21.3 If a Milestone is not Achieved, the Authority shall promptly issue a report to the Supplier setting out:

(a) the applicable Test Issues; and

(b) any other reasons for the relevant Milestone not being Achieved.

21.4 If there are Test Issues but these do not exceed the Test Issue Threshold, then provided there are no Material Test Issues and a Rectification Plan has been agreed by the Authority for any deferred Test Issues, the Authority shall issue a Milestone Achievement Certificate.

21.5 If there is one or more Material Test Issue(s), the Authority shall refuse to issue a Milestone Achievement Certificate and, without prejudice to the Authority's other rights and remedies, such failure shall constitute a Notifiable Default for the purposes of Clause 27 (Rectification Plan Process).

21.6 If there are Test Issues which exceed the Test Issue Threshold but there are no Material Test Issues, 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 Issues 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 21.3); 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.

21.7 Milestones are detailed in Schedule 6.1 (Implementation Plan).

22 Suspension

Where the Authority believes that the Supplier or any Other ESN Supplier has failed or is likely to fail to meet its obligations under a Supplier Test Strategy or Test Plan, the Authority may treat the failure as a Step-In Trigger Event and the provisions of Clause 30 will apply.

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PART E - Test Process Measurement and Test Process Improvement

23 Test Process Measurement and Test Process Improvement

23.1 Throughout each of the Test lifecycle stage, in line with the Supplier Test Policy, the Supplier shall record and make available to the Authority all necessary measurements, lessons learned logs and other sources as applicable to support the measurement of Tests and improvement of Tests.

23.2 On an on-going basis, the Supplier shall review measurements of tests, lessons learned logs and other sources as applicable for the purposes of confirming performance and to identify potential Supplier improvements.

23.3 No less frequently than on a six-monthly basis from the Effective Date the Supplier shall meet with the Authority to discuss potential Supplier-specific test process improvements, presenting Supplier-specific test process improvement achievements in the period, as well as setting out a roadmap of future improvements.

23.4 The Supplier shall participate in each Authority six-monthly end-to-end test process improvement review meeting comprising all relevant Parties as specified by the Authority, contributing to the discussion of each potential end-to-end test process improvement tabled. The purpose of the review is to record test process improvement achievements in the period and to identify improvements for inclusion in the end-to-end test process improvement roadmap.

23.5 The Supplier shall implement agreed test process improvements, updating the Supplier Test Policy and supporting Test Products and Test processes accordingly.

23.6 No later than four (4) weeks prior to the end of each Authority financial year, the Supplier shall provide to the Authority an assessment report of the maturity of its Test Processes, against the model set out in the Supplier Test Policy. The assessment report shall also set out any plans to improve or increase test process maturity, even where this exceeds the Authority's requirements, for agreement with the Authority.

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Annex 1: 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 "Agreement") 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 6.2 (Testing Procedures) of the Agreement.

[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 6 of Schedule 6.2 (Testing Procedures) of the Agreement 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 7.1 (Charges and Invoicing)]*

*delete as appropriate

Yours faithfully

[Name]

[Position]

acting on behalf of [Authority]

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Annex 2: Trials and Pilots

1 Trial Events

1.1.1 Trial Events are intended to allow Users to functionally test the network. It is anticipated that a Trial Event will focus on key functionality such as: end-to-end service performance, handover (including between the MS Supplier and the ES Suppliers), quality of service, service availability, service continuity and public safety functionality, although this list is not exhaustive. The Test Plan will detail features and functionality to be tested.

1.1.2 The Authority intends that Trial Events shall consist of a Trials 'roadshow' and Trials during 2 major 3ES exercises (Trials exercises). Ground to Air capability will be trialled in at least one of the Trial Events.

1.1.3 A Trials roadshow shall or shall comprise:

(a) up to one per Transition Group in locations around the UK, as directed by the Authority;

(b) take place between 11 months and 13 months from the Effective Date;

(c) typically 1 week in duration (circa 3 weeks for London) in each of designated locations;

(d) capable of including up to 100 Users per Trial Event (circa 300 for London);

(e) include a variety of User Devices and a small fleet of ESN vehicle 'demonstrators'.

1.1.4 Trials Exercises are anticipated to take place between 13 months and 18 months from the Effective Date and to be conducted during up to two major 3ES exercises as directed by the Authority. The major 3ES exercises are anticipated as:

(a) A Fire and Rescue Service training exercise; and

(b) another 3ES training exercise

1.1.5 Trials Events will be managed and delivered by the Delivery Partner on behalf of the Authority and supported by ESN Suppliers and 3ES personnel.

(a) Vehicles required for the Trial Events will be acquired by the Authority as needed

(b) Devices and ancillaries for Trial Events (circa 150) are to be provided by the US Supplier

1.1.6 Service costs will be paid for by the US Supplier and airtime costs will be paid for by the MS Supplier as part of the Test Requirement, at no additional cost to the Authority.

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2 Major Operational Trials

2.1.1 Major Operational Trials will be required to demonstrate the ability of the network to deliver Emergency Services traffic at times when the network is congested with public traffic. It is obviously imperative to Users that they can rely on communications when the network is busy. To accurately measure network performance, the Suppliers will need to provide increased system monitoring and logging that will be agreed in the Test Plan.

2.1.2 Possible events for the Major Operational Trials have been identified are contained within Table 1 below, alongside the expected number of Users. At least one trial will be conducted in Scotland and one in Wales, the remainder will be in England. Major Operational Trials will be conducted between […..✂…..] and […..✂…..].

Table 1: Possible events for Major Operational Trial

Item	Event	Date	Location	Estimated No. of Users
1	[…..✂…..]	[…..✂…..]	[…..✂…..]	[…..✂…..]
2	[…..✂…..]	[…..✂…..]	[…..✂…..]	[…..✂…..]
3	[…..✂…..]	[…..✂…..]	[…..✂…..]	[…..✂…..]
4	[…..✂…..]	[…..✂…..]	[…..✂…..]	[…..✂…..]
5	[…..✂…..]	[…..✂…..]	[…..✂…..]	[…..✂…..]
6	[…..✂…..]	[…..✂…..]		[…..✂…..]

2.1.3 Devices, vehicles fits and other equipment required for Major Operational Trials will be acquired by the Authority as needed.

2.1.4 Service costs will be paid for by the US Supplier and airtime costs will be paid for by the MS Supplier as part of the Test Requirement, at no additional cost to the Authority.

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3 Unplanned Operational Trial

3.1.1 To allow the Suppliers' response to an unplanned need for incremental coverage or capacity to be tested, the Programme requires an Unplanned Operational Trial. This will be targeted at testing the response to the need to deploy additional infrastructure. The suppliers will be provided with a time window, to be defined, during which a simulated emergency scenario will be put in action, at a location to be notified at some point during that time window.

3.1.2 This Trial will need to accommodate up to a maximum of 100 Users per service. It is expected to last for at least 24 hours (of live operation). The ESN Tested Service will need to be integrated with user services and platforms for this duration.

4 Pilot Tests

4.1.1 Pilot Tests are required to allow Users to test revised operational and business processes driven by the move to ESN on the live system. Their primary aim will be to test the effectiveness of the training and communication plans, as well as identifying any issues with logistical aspects and integration with user's networks or service platforms.

4.1.2 User Organisations will provide significant input into the scoping, operation and evaluation of these Pilots and will provide test devices. As these are to be operational pilots, it will also be necessary to demonstrate interoperability with legacy networks and Users' communications infrastructure.

4.1.3 It is anticipated that each User Organisation will conduct at least one Pilot Test prior to the start of its migration. Multi-agency Pilots will also be required, with representation from User Organisations that have to cooperate in a geographic area as part of standard operations, to test interworking and interoperability between organisations. This is likely to be limited to representatives of Police, Fire and Ambulance Services.

4.1.4 It is anticipated that both the single agency and multi-agency Pilots Tests will require completion to support Group Transition Entry Criteria. One Transition Group Pilot will be nominated by the Authority as a Transition Commencement Criteria (see para 11.1(f) of Schedule 6.1).

4.1.5 The size of Pilots will vary significantly between User Organisations. Small User Organisations will involve a handful of devices and be run over one (1) week, for very large User Organisations Pilots may involve 100s of Users and be spread over several months. The ESN Tested Service will need to be integrated with user services and platforms for this duration.

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Annex 3 - Test Stages

Test type	Summary description	Responsibility	Assurance
System	Confirm System conforms to specification	Individual Suppliers	Delivery Partner
Integration	Test ESN Services end-to-end	US Supplier supported by Other ESN Suppliers	Delivery Partner
Performance	(1) Lot-specific (2) Coverage (3) End-to-end perrformance tests	(1) Individual Suppliers (2) MS &ES Suppliers (3) US Supplier supported by Other ESN Suppliers	Delivery Partner
User Acceptance Test	Functional testing of service on behalf of users to confirm business processes	US Supplier supported by Other ESN Suppliers and Users	Delivery Partner
Operational Acceptance Test	Confirmation that the service can be operated & monitored day-to-day, and BCDR	US Supplier supported by Other ESN Suppliers	Delivery Partner
Service Acceptance Test	Confirmation of live service performance through operational trials	Users Managed by DP & supported by Other ESN Suppliers	Authority
Pilot Test	Service and process operation Integration with User Organisation systems	Users Managed by DP & supported by Other ESN Suppliers (especially US)	Authority

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Annex 4 –Coverage testing

1 Additional requirements for Coverage testing

1.1.1 As part of the Performance Test Stage the Supplier shall undertake Coverage Testing.

1.1.2 This Coverage testing shall be undertaken by the Supplier as appropriate to the timing of the milestones in Schedule 6.1 and as agreed by the Authority.

1.1.3 The Supplier shall use the User Device Reference Configurations specified in Schedule 2.1 Annex G as the basis for Coverage and performance measurements.

1.1.4 The Supplier shall adopt the method specified by Ofcom, “4G Coverage Obligation Notice of Compliance Verification Methodology: LTE” 12 November 2012 or equivalent for alternative technologies, for verification of the requirement for in-building coverage.

1.1.5 In addition to the requirements set out in this Schedule 6.1, Paragraph 12, the Supplier’s Test Plan shall include methods detailing the following as a minimum:

(a) testing of signal strength, quality and serving cell at all locations specified by Schedule 2.1.

(b) one-to-one, Communication Group and private telephony call testing of such volume that this will provide a statistical confidence level of better that […..✂…..] for call setup and completion.

(c) measurements of minimum up- and downlink data rates specified by Schedule 2.1 Annex F using TCP, UDP and representative application layer protocols at all locations as specified by Schedule 2.1.

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