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Enduring Testing Approach Document

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Contents

Document History

Version	Date	Comment	Author
0.1 – 0.6	May - Jun 15	Initial development drafts for DECC / DCC review	DECC / DCC
0.7	08/06/15	Updated following internal review	DCC
0.8	10/06/15	Updated following internal review	DCC
0.9	11/06/15	Updated following review with DECC & DCC	DCC
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0.13	03/07/15	Re-introduction of DCCKI content	DCC
0.14	03/07/15	Revision to DCCKI content following internal review	DCC
0.15	06/07/15	Updated following review with DECC & DCC	DCC
0.16	08/07/15	Updated following further review and re-introduction of Remote Test Lab requirements	DCC
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0.19	N/A	Not issued - combined content from part1 and part1 consultations	DCC
0.20	12/08/15	Updated with input from responses to consultation	DCC
0.21	19/08/15	Updated with comments from DCC & DECC	DCC
0.22	20/08/15	Updated to address residual comments from DECC	DCC
0.23	20/08/15	References to 'section' and 'paragraph' changed to 'clause'	DCC
0.24	20/08/15	Updated to address two-way communication between Remote Test Lab and DCC, other minor changes.	DCC
0.25	24/08/15	Include RDP systems for separation in 2.2a	DCC
0.26	25/08/15	Include RDP functions for separation in 2.1	DCC
0.27	18/01/16	Updated obligation for use of Remote Test Labs, introduction of obligations for use of CSP Test Labs, UEPT, SREPT, Device and User System Tests, DCC Internal System Testing, Modification Testing & Use of Testing Issue Management Tool.	DCC
0.28	27/01/16	Updated following DCC and DECC review.	DCC

1 Introduction

Scope

1.1   The Enduring Testing Approach Document (ETAD) describes the detailed procedural and technical requirements for the Testing Services, as defined in Section H14.1, that the DCC will make available to Testing Participants on an enduring basis. The security requirements and requirements for provision of Test Certificates will also be applicable for RDPs for the purpose of participating in Systems Integration Testing, as signalled in the Systems Integration Testing Approach Document.

1.2   This document is a subsidiary document of the Smart Energy Code (SEC).

2 Security Requirements

Intentionally blank. The contents of this section were subject to consultation between 12 June 2015 and 3 July 2015 and are removed from this version of the document to focus the consultation on new content.

3   IKI and SMKI Test Certificates

Intentionally blank. The contents of this section were subject to consultation between 12 June 2015 and 3 July 2015 and are removed from this version of the document to focus the consultation on new content.

4 DCCKI Test Certificates

Intentionally blank. The contents of this section were subject to consultation between 10 July 2015 and 31 July 2015 and are removed from this version of the document to focus the consultation on new content.

5 Obligations on Testing Participants using Remote Test Labs

5.1 In accordance with Section H14 Testing Participants are eligible to connect to a test version of the SM WAN to conduct Device and User System Tests by using a Remote Test Service (available for both CSP N and CSP C/S), established on premises of their choice. As well as providing the necessary Communications Hubs, Metering Devices and any other Devices which they choose to test, the Testing Participant may need to establish a connection to the chosen CSP's system (or to both CSPs, if required).

5.2 When requesting that DCC establishes a Remote Test Lab a Testing Participant shall comply with reasonable requests to provide information, which may include but not be limited to:

    (a)   location of intended Remote Test Lab;

    (b)   details of the number of Smart Metering Systems that the Testing Participant wishes to install in the Remote Test Lab;

    (c)   a digital floor plan including the area surrounding the test facility, including dimensions, floors above and below and outside windows; and

    (d)   provide DCC personnel with access to its site to allow the DCC to conduct a site survey.

5.2 5.3 In addition to obtaining the equipment described in 5.1 above, where a Testing Participant requires additional equipment from the DCC to establish a Remote Test Lab the Testing Participant shall:

    (a)   provide a suitably prepared area, with suitable power feeds prior to the installation of any additional equipment by the DCC, as specified by the DCC as part of the site survey or otherwise ahead of an order being confirmed;

    (b)   provide a suitable broadband connectivity as advised by the relevant CSP, based on the CSP's analysis of the Test Participant's requirements and test location following any planning and site survey dedicated phone connection over which an ADSL connection can be established to the CSP N data centre and / or CSP C/S data centre, as required, which enables transmission of data between the Remote Test Lab and the DCC;

    (c)   carry out routine inspection of the equipment supplied by the DCC and maintenance of the environment in which the equipment is located; and

(d)   provide DCC personnel with reasonable access to its equipment at the Remote Test Lab site.

5.35.4 A Testing Participant using a Remote Test Lab shall meet all applicable security requirements that are set out in this Enduring Testing Approach Document.

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6 Requirements for Use of CSP Test Labs

6.1 DCC shall make available CSP Test Labs to Testing Participants to conduct User Entry Process Tests, Device and User System Tests, Modification Proposal implementation testing and DCC Internal Systems change testing.

6.2 For the purposes of clause 6.1 each Party is eligible to be a Testing Participant.

6.3 Where a Testing Participant is performing tests in a CSP Test Lab, it must comply with all terms and conditions that are required by the DCC which may include:

   a) identification and authorisation of the individual(s) requiring access to the CSP Test Lab;

   b) comply with requirements to maintain confidentiality of information;

   c) comply with Acceptable Use Policies; and

   d) comply with requirements to follow:

      (i) Health and Safety and Security guidance for test labs;

      (ii) security training and guidance; and

      (iii) training on use of test labs and installation of Devices in spaces provided.

6.4 DCC reserves the right to instruct any Testing Participant to immediately remove its Devices from the Test Lab. DCC will provide the Testing Participant with:

   a) the reason(s) for this instruction; and

   b) the steps that must be taken and the evidence required, in order for the Participant to re-commence testing.

6.5 Where a Testing Participant wishes to install their own Devices in a CSP Test Lab, the Testing Participant must provide the following to the DCC prior to installing a Device in a CSP Test Lab:

   a) self-declaration that the Devices conform to SMETS2. Supporting information should be provided, including evidence of testing that has been undertaken, which could include the use of GIT for Industry;

   b) evidence that all the supplied Devices are safe to store, install, operate and decommission. This may be in the form of statement of compliance with the relevant parts of the CE marking or equivalent; and

   c) confirmation that the Devices have been produced in accordance with a

defined quality assurance process and a defined testing issue management / configuration management process.

6.6 Where a Testing Participant wishes to install their own Devices in a CSP Test Lab, the Testing Participant must comply with the following additional terms and conditions:

a) reasonable restrictions on Devices that can be used in the CSP Test Lab;

b) requirement to remove Devices from the CSP Test Lab by 17:00 on the last day of the allocated test slot; and

c) any other reasonable restrictions notified by the DCC.

Any additional terms and conditions will be notified when a Testing Participant is informed that their requested test slot is available.

6.7 For the purpose of paragraph 6.6 storage space requirement for spare equipment shall be agreed between the DCC and the Testing Participant when making application to use the Test Lab.

6.8 DCC and Testing Participants shall be responsible for maintaining confidentiality of information relating to testing being undertaken in CSP Test Labs, whereby:

a) Testing Participants shall be responsible for informing DCC where any information that is shared to facilitate testing is confidential;

b) Testing Participants shall be responsible for keeping confidential all other information regarding their testing in the CSP Test Labs;

c) Testing Participants shall not attempt to discover or divulge information regarding testing being conducted by other Testing Participants in the CSP Test Labs; and

d) DCC shall not divulge an confidential information, unless this information is required by the SEC to be shared as part of the Testing Issue Resolution Process.

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7 User Entry Process Tests

7.1 DCC shall enable Testing Participants to conduct User Entry Process Tests in accordance with the most recently published draft of the Common Test Scenarios Document.

7.2 DCC and Testing Participants shall use reasonable endeavours to comply with all requirements set out in the Common Test Scenarios Document.

7.3 User Entry Process Tests shall be conducted against Devices (provided by the DCC) in the CSP Test Labs.

7.4 A Testing Participant shall comply with the requirements of clause 6 of this Enduring Testing Approach Document.

7.5 DCC shall make the test environments available and provide a test support service from 08:00 to 18:00 on each Working Day.

7.6 CSP Test Labs will house sets of Devices, which will be subject to simulated gas or electricity use, with a set consisting of:

    a)   one Communications Hub;

    b)   one Electricity Smart Meter; and

    c)   one Gas Smart Meter.

7.7 DCC shall install, substitute and maintain Devices required for the conduct of User Entry Process Tests, as necessary.

7.8 DCC shall allocate a number of spaces in the CSP Test Lab, together with Device sets to the Testing Participant, as agreed at the User Entry Process Tests initiation meeting, according to the following allocation schedule:

    a)   a Voting Group consisting of Supplier Parties will be allocated 5 Device sets per User Role (except that Import Supplier and Gas Supplier will share a Device set);

    b)   a Voting Group consisting of Network Parties will be allocated one Device set for each of its constituent Parties, with a minimum number of two Device sets; and

    c)   all other Parties conducting User Entry Process Tests will be allocated 5 Device sets per Voting Group.

7.9   The Device sets allocated for the conduct of User Entry Process Tests shall not be used for other testing without the agreement of DCC.

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8   SMKI and Repository Entry Process Tests

8.1   DCC shall enable Testing Participants to conduct SMKI and Repository Entry Process Tests in accordance with the most recently published draft of the SMKI and Repository Test Scenarios Document.

8.2   DCC and Testing Participants shall use reasonable endeavours to comply with all requirements set out in the SMKI and Repository Test Scenarios Document.

8.3   DCC will make the test environments available and provide a test support service from 08:00 to 18:00 on each Working Day.

9 Device and User System Tests

9.1 DCC shall provide a Testing Service to enable Testing Participants to undertake Device and User System Tests to:

    a)   test the interoperability of Devices (other than those comprising Communications Hubs) with the DCC Systems and with the Communications Hubs provided as part of the Testing Services, such that those Devices are able to respond to Commands received from or via the DCC in accordance with the requirements defined in the GB Companion Specification;

    b)   test the interoperability of User Systems with the DCC Systems, including via the DCC User Interface and the Self-Service Interface; and

    c)   test simultaneously the interoperability of User Systems and Devices (other than those comprising Communications Hubs) with the DCC Systems and with the Communications Hubs provided as part of the Testing Services.

9.2 Provision of such Testing Services shall be subject to the Testing Participant agreeing to pay any applicable Charges, including for the provision of:

    a)   SM WAN for testing;

    b)   Test Communications Hubs; and

    c)   Smart Meter for testing, selected via the Device Selection Methodology, being the same Device Model used in UEPT

9.3 A Testing Participant may undertake Device and User System Tests in a Remote Test Lab and / or a CSP Test Lab. Each Testing Participant shall comply with the requirements of clause 5 and / or clause 6 of this Enduring Testing Approach Document, as appropriate.

9.4 A Testing Participant undertaking Device and User System Tests shall provide confirmation that all applicable security requirements that are set out in this Enduring Testing Approach Document have been met.

9.5 Each Party is eligible to undertake Device and User System Tests once the following entry criteria have been achieved:

    a)   for a Testing Participant conducting User System Testing:

        (i)   confirmation from the DCC that the Testing Participant has successfully completed SREPT and UEPT.

    b)   for a Testing Participant conducting Device Testing, either:

> (i)   confirmation from the DCC that the Testing Participant has successfully completed SREPT and UEPT; or
>
> (ii)   confirmation from the DCC that the DUIS Connectivity Test has been successfully completed, if the Testing Participant is not eligible to conduct UEPT.

> c)   for a Testing Participant using the CSP Test Labs for User System and/or Device Testing:
>
> > (i)   evidence the Testing Participant can and will comply with requirements for using the CSP Test Labs as set out in clause 6.3; and
> >
> > (iii)   confirmation that Devices meet requirements set by the DCC as set out in clause 6.5.

9.6   For the purpose of User System Testing DCC shall provide upon request Device(s), as selected via the Device Selection Methodology, or a Testing Participant may supply its own Device(s) provided prior agreement has been obtained from the DCC and providing that the Device(s) complies with the following:

> (a)   the Device(s) can be accommodated in the space allocated; and
>
> (b)   the Device(s) meet the entry criteria.

9.7   Each Testing Participant shall be responsible for ordering the Communications Hubs and Metering Devices for testing and installing them in the space allocated, as well as for their removal at the end of the testing slot. Any physical interaction with the Communications Hubs or metering Devices must be carried out by the Testing Participant's staff and in accordance with Health and Safety guidance and any other reasonable instruction.

9.8   The following alerts may be generated by Devices and Communications Hubs from within a CSP Test Lab:

> (a)   Supply Armed (GBCS reference 0x8F32);
>
> (b)   Device Joined SMHAN (GBCS reference 0x8183);
>
> (c)   Average RMS Voltage above Average RMS Over Voltage Threshold (current value over threshold, previous value below threshold) (GBCS reference 0x8089);
>
> (d)   Future - date HAN Interface Command Successfully Actioned (GBCS reference 0x8F66);
>
> (e)   Update Security Credentials (GBCS reference 0x8F70);

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(f)   Supply Interrupted (GBCS reference 0x8157);

(g)   Supply Outage Restored (GBCS reference 0x8F35);

(h)   Supply Outage Restored – Outage >= 3 minutes (GBCS reference 0x8F36);

(i)   Device Identity Confirmation (DUIS reference N16);

(j)   Schedule removal because of CoS (DUIS reference N17);

(k)   Device CoS (DUIS reference N27); and

(l)   PowerOutageEvent (DUIS reference AD1).

9.9   Additional alerts or response codes required may also be generated when using metering Devices and Communications Hubs within a CSP Test Lab. Further alerts may be generated, provided they do not require physical interaction with the Devices or change to the power supply in the CSP Test Lab and comply with Health and Safety and any other reasonable instruction.

9.10   A Testing Participant wishing to conduct Device Testing with Devices and which is not eligible to undertake UEPT (e.g. a Device Manufacturer) must first:

(a)   demonstrate that it is capable of sending DUIS Service Requests and receiving Service Responses by establishing a DCC Gateway Connection and performing a DUIS Connectivity Test, as defined in the Interface Testing Approach Document; and

(b)   provide evidence of that all DUIS Service Requests can be generated; the form of this evidence may include test results and will be agreed on an individual basis with each Testing Participant.

9.11   DCC and each Testing Participant shall endeavour to comply with the timetables set out in Table 1 and Table 2, or other timetable reasonably agreed.

9.12   Where the demand for use of the CSP Test Labs is greater than the available spaces the DCC will allocate Testing Participants on a 'first come first served' basis, but will:

(a)   Give priority to any Testing Participant wishing to perform UEPT and SREPT Tests;

(b)   Limit the allocation of slots to 5 sets of Devices (or other number such that use of the CSP Test Labs is optimised) to each Testing Participant for a maximum duration of one calendar month, for Device and User System Testing within the CSP Test Labs; and

(c)   Ensure that each Participant requesting a slot has been given one before any Participant is given a further slot.

Table 1, below, sets out a high-level timetable for initiating testing during the Enduring Testing stage. These activities will be performed for each release, unless agreed by DCC and the relevant Testing Participant. In the From and To columns, where an item is relevant to Test Labs, either "Remote Lab" or "CSP Lab" is shown, to clarify whether it relates to Testing Participants using Remote Test Labs or CSP Test Labs (or both).

Ref	By When	Action	From	To	Information Required	Method
1a	In accordance with lead times described in the Guide for Testing Participants	Order equipment required to commence testing	Testing Participant (Remote Lab)	DCC	This could include ordering • Remote Test Service Components to connect Remote Lab to CSP test system • Network Connection • Communications Hubs	Via DCC Service Desk
1b			Testing Participant (CSP Lab)	DCC	This could include ordering • Network Connection • Communications Hubs	Via DCC Service Desk
2	In accordance with lead times agreed with Device manufacturer (or with DCC if Devices provided by DCC)	Order Devices required to commence testing, including supply of certificates	Testing Participant (Remote Lab + CSP Lab)	Meter Manufacturer (or DCC)	Order Devices	n/a
3	40 working days before Participant intends to commence testing[1]	Notify DCC of intention to commence testing	Testing Participant (Remote Lab + CSP Lab)	DCC	Date to commence testing, whether testing to be conducted in CSP Test Lab (and which) or in remote test lab.	Email

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[1] This notification can be given before a Testing Participant completes UEPT. The Testing Participant may commence User System/Device Testing immediately upon completing UEPT, providing that 40 working days have elapsed since giving notice.

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Ref	By When	Action	From	To	Information Required	Method
4	30 working days before Participant intends to commence testing	Test Initiation Meeting	Testing Participants (Remote Lab + CSP Lab)	DCC	Entry criteria evidenced.	Meeting
5	20 working days prior to the start of Device and User System Testing	Publish Schedule of Available test slots in CSP Test Labs	DCC		Schedule – which will be maintained on an enduring basis	DCC Website
6	15 working days prior to the start of Device and User System Testing	Health/safety & other CSP Lab training	DCC	Testing Participant (CSP Lab)	DCC to deliver training as described in 6.3. Method of training to be agreed.	As set out in Guide for Testing Participants
7	No later than 10 working days prior to the start of testing	Provide test tool to participant to record Testing Issues	DCC	Testing Participant (Remote Lab + CSP Lab)	Testing Issue Management Tool	
8	No later than 5 working days prior to the start of testing	Complete Readiness Verification	Testing Participant (Remote Lab + CSP Lab)	DCC	Completed Quality Gate Checklist	Email
9	No later than 2 working days prior to the start of testing	Confirm Quality Gate Criteria met or request further preparatory work	DCC	Testing Participant (Remote Lab + CSP Lab)	Quality Gate checklist. If DCC requests further preparatory work, it may be necessary to release the test slot and reschedule the testing	Meeting
10a	1st Day of testing	Perform DUIS connectivity test, if necessary, and commence testing	Testing Participant (Remote Lab)		In accordance with terms and conditions provided by DCC.	
10b		Install Devices and commence Testing	Testing Participant (CSP Lab)			

Ref	By When	Action	From	To	Information Required	Method
11	Last day of testing	Remove Devices from Test Lab	Testing Participant (CSP Lab)		Terms and conditions required by DCC	

Table 1 - Timetable for test initiation

Table 2, below, sets out the timetable to be followed for by DCC and Testing Participants on a monthly basis to enable scheduling of Testing Participants into a CSP Test Lab.

Ref	By When	Action	From	To	Information Required	Method
1	15th of each month (or previous working day)	Request test slot[2]	Testing Participant (CSP Lab)	DCC	Date of commencing test slot, number of meter Devices sets to be tested, duration of testing.	Email
2	First working day after 15th of each month	Publish test slot details	DCC	Testing Participant (CSP Lab)	Confirm that requested test slot is available (for slot commencing following month) or suggest alternative.	Email
3	Within 5 working days of DCC's publication of test slot	Confirm intention to use test slot in CSP Test Lab	Testing Participant (CSP Lab)	DCC		Email
4	Each time a test slot becomes available	Update Test Schedule and notify Testing Participants	DCC	Testing Participants (CSP Lab)	Start and duration of test slot and number of spaces for Device sets	DCC website

Table 2 - Timetable for test slot scheduling

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[2] Note that test slots commence on the first working day of each month. Notice must be given by the 15th of a month (or the previous working day if 15th is not a working day), to obtain a slot commencing the following month.

10 DCC Internal System Change Testing

10.1 DCC shall publish a plan including a reasonable period for Testing Participants to be involved in any testing of the change to the DCC Internal Systems prior to its implementation, which considers the likely impact of the contemplated change upon the security of the DCC Total System, Users' Systems and Smart Metering Systems.

10.2 DCC shall provide Testing Participants the opportunity to conduct testing of the change to the DCC Internal System using Remote Test Labs and / or CSP Test Labs. Each Testing Participant shall comply with the requirements of clause 5 and / or clause 6 of this Enduring Testing Approach Document, as appropriate.

10.3 DCC and each Testing Participant wishing to conduct DCC Internal System Change testing shall endeavour to comply with the timetables set out in Table 1 and Table 2 in clause 9.

10.4 For the period of testing of each DCC Internal System change, as determined via the DCC Release Management Policy, DCC shall make the test environments available and provide a test support service from 08:00 to 18:00 on each Working Day.

11 Modification Proposal Implementation Testing

11.1 Where the SEC Panel determines that testing is required in relation to the implementation of a Modification Proposal, DCC shall provide Testing Participants the opportunity to conduct such testing in accordance with the plan set out by the SEC Panel.

11.2 DCC shall facilitate Testing Participants in conducting Modification Proposal Implementation Testing using Remote Test Labs and / or CSP Test Labs, unless determined otherwise by the SEC Panel. Each Testing Participant shall comply with the requirements of clause 5 and / or clause 6 of this Enduring Testing Approach Document, as appropriate.

11.3 Where the SEC Panel determines that Modification Proposal Implementation Testing is mandatory for any Testing Participant, such testing shall be performed in accordance with the Common Test Scenarios Document and shall be conduced in a CSP Test Lab.

11.4 DCC and each Testing Participant wishing to conduct Modification Proposal Implementation Testing shall endeavour to comply with the timetables set out in Table 1 and Table 2 in clause 9.

11.5 For the period of Modification Proposal Implementation Testing, as determined via the Panel Release Management Policy, DCC shall make the test environments available and provide a test support service from 08:00 to 18:00 on each Working Day to Testing Participants deemed eligible by the SEC Panel.

12 Use of Testing Issue Management Tool

12.1 Where DCC makes available the Testing Issue Management Tool to a Testing Participant, the DCC and each Testing Participant shall comply with the terms of the Testing Issue Management Tool Code of Connection;

12.2 The DCC shall publish the extant version of the Testing Issue Management Tool Code of Connection on the DCC webside and shall provide it to each Testing Participant prior use of the Testing Issue Management Tool in support any period of testing by a Testing Participant;

12.3 The Testing Issue Management Tool Code of Connection shall set out reasonable rights and responsibilities that may include, but is not limited to:

   (a)   Operational Security;

   (b)   Authentication and Access Control;

   (c)   Boundary Protection and Interfaces;

   (d)   Protecting Data at Rest and in Transit;

   (e)   User and Administrator Separation of Data;

   (f)   Users; and

   (g)   Testing Security.