R0070 - Provision of Enduring Test Environments

Legal text v1.0 – 9 November 2023

Schedule 25 – Central Switching Service

- New section 10 - SO and CSS Provider responsibilities for test environments and data

10. Switching Operator and CSS Provider responsibilities for Test Environments and Test Data

10.1 For any Test Environments the CSS Provider provides, the Switching Operator shall maintain detailed Test Data Management Plan and Environment Management Plan documents, which describe how each Test Environment interacts with CSS Users and the Switching Data Service Providers, what data will be used in each environment and how and when this data is to be refreshed. Responsibilities on all parties should be clearly identified, and must be in accordance with the obligations in the REC.

10.2 The CSS Provider shall provide relevant test streams to manage the appropriate testing and release of operational changes, defects, hot fixes and security patching as well as functional changes. The CSS environments within the test streams should be managed to ensure they are appropriately populated with required data and parties can access them when required.

10.3 Where possible the CSS Provider will employ simulators to emulate other CSS Users and Switching Data Service Providers to minimise the connectivity and test requirements on other parties when appropriate.

10.4 In order to facilitate incident free release implementation, the CSS Provider will maintain appropriate environments for its provided CSS systems in alignment with production environments and data in alignment with the Test Data Management Plan. The implementation path for all changes should be appropriate to best safeguard the integrity of the production environment.

Schedule 26 – Switching Service Management

- New paragraphs 13.3 (j) and (k) – SDSPs shall maintain own test environments and test data

13.3 Without limiting the other obligations set out in this REC Schedule, each Switching Data Service Provider shall:

(a) design, build, test and maintain their services, Systems, processes and tools in accordance with Good Industry Practice;

(b) use the Switching Service Management System, in accordance with Paragraph 7, to support Switching activity;

(c) provide first, second and third line support where required in accordance with this REC Schedule, ensuring that all switching-related tickets are kept up to date on the Switching Service Management System and queries are resolved in timescales to enable Service Levels to be met;

(d) provide system status information to the Switching Service Desk at the start of each day and whenever the status changes, to support a Switching Arrangements dashboard for Market Participants;

(e) identify, create and deliver regular training and produce knowledge and access to data to enable the Switching Service Desk to respond to queries;

(e) provide to the Switching Operator a Major Switching Incident communications contact list and rota of appropriately authorised individuals that are available to be contacted and deployed to Major Switching Incident teams and who will support root cause analysis post resolution;

(f) provide access management control to ensure that the access granted to Systems or data is authorised and is being properly used

(g) support the Switching Operator in development and operation of a requestable service catalogue;

(h) create and maintain a robust change management process to manage changes to their Systems and processes and services to align with the Change Management Schedule and the Operational Switching Service Change process under Paragraph 8;

(i) assess the impact on their Systems and processes of Requests for Change prior to and during planning, build and deployment phases and after deployment, and communicate any concerns relating to such changes to the Switching Operator within required timescales;

(j) maintain the capability to establish their own test environment(s) within their organisation, configured to:

i) in the case of supporting and testing the promotion of that organisation's maintenance and operational releases, align with the application code of the organisation's production instance; or

ii) in the case of supporting and testing Change Proposals to their production environment, align with the target code of that organisation's production instance;

(k) maintain data sets within their non-production environment(s) in line with the Test Data Management Plan including requests or instructions to participate in data refreshes;

(~~j~~l) work with the Switching Operator to implement approved changes impacting multiple Switching Data Service Providers, including planning, testing and post implementation support;

(~~k~~m) submit, at least 10 Working Days before the end of each month, a forward schedule of change to the Switching Operator, for the next month, highlighting any agreed and planned changes and maintenance activity which may impact the Switching Arrangements;

(n~~l~~) create and maintain an asset and configuration management database, holding all information on configurable items relevant to the Switching Arrangements, including specifying the attributes, describing configurable item types and their sub-components, as well as determining their interrelationships, details of which should be made available to the Switching Operator;

(om) make data available to the Code Manager to enable performance reports to be produced for the REC Performance Assurance Board, as required in accordance with the Performance Assurance Schedule. Performance data relating to activities delivered via the Switching Service Management System e.g. Switching Incident resolution timescales, shall be available directly from the Switching Service Management System and provided by the Switching Operator;

(pn) define, analyse, plan, measure and control all aspects of the availability of their own Switching Data Service, ensuring that all infrastructure, processes and tools are appropriate for the availability requirements set out in this Code;

(qo) manage and control the performance and capacity of their services, Systems and processes insofar as relevant to the Switching Arrangements based on volumetrics defined in the relevant Service Definition;

(pr) adopt security principles, and safeguard Systems and data, using recognised standards, frameworks and Good Industry Practice;

(sq) have in place a data security policy describing how the Switching Data Service Provider will secure the data it accesses and/or processes in respect of the Switching Arrangements throughout its lifecycle;

(tr) report all applicable security vulnerabilities and other Switching Incidents that affect the Switching Arrangements to the Switching Operator when identified and assist with the resolution of those Switching Incidents;

(su) identify and where possible, resolve risks to the Switching Arrangements, and communicate any applicable risk that impacts Switching Arrangements to the Switching Operator. Where a solution cannot be identified, put in place mitigating measures to ensure the continuity and continued operations of services; and

(vt) appoint a representative to attend weekly Switching Change Advisory Board meetings, plus emergency meetings, convened by the Switching Operator.

Switching Operator (SO) Service Definition

- New paragraph 1.14 – SO shall ensure functionality is correctly provided

Co-ordination of Switching Activities delivered by Switching Data Service Providers

1.12 Requirements on Switching Data Service Providers to deliver their obligations to support the Switching Operator activities are included in the Switching Service Management Schedule.

1.13 The Switching Operator will co-ordinate its activities and those of Switching Data Service Providers, to deliver the following outcomes:

(a) a co-ordinated process to progress Operational Switching Service Changes that minimises the planned maintenance windows and, where possible, co-ordinates outages for Switching Data Service Providers and schedules these at times of the day that would cause the least disruption to Market Participants;

(b) an accurate and complete, published forward schedule of change that provides details of all planned changes and what effect they will have on the availability of Switching Data Services;

(c) sufficient capacity across all Switching Data Services, at all times, to meet Market Participant demand by collating capacity and headroom information and matching that with expected Market Participant activity. For the avoidance of doubt, each Switching Data Service Provider is responsible for ensuring the capacity of its Systems in accordance with the maximum demand volumes set out in its service definition;

(d) timely publication of accurate reports incorporating data relating to each Switching Data Service Provider, as defined in Paragraph 7;

(e) a review of processes and recommendations for the adjustment of Service Levels to improve the services provided; and

(f) effective and proven business continuity and disaster recovery processes across the end-to-end Switching Arrangements.

Switching Operator responsibilities for Test Environments and Test Data

1.14 The Switching Operator shall ensure that:

(a) CSS simulators that match the production environment and/or updated interfaces as appropriate for the type of change being tested for, are available, in order that Switching Service Data Providers and CSS Users have the capability to test against the relevant CSS interfaces;

(b) the risk of introducing defects into simulators and in code produced by the CSS Service Provider is managed;

(c) Switching Data Service Providers and CSS Users can request connection to Test Environments where required via a Switching Service Request, in line with the Environment Management Plan; and

(d) all CSS Test Environments that Switching Data Service Providers and CSS Users can use for testing changes to REC systems or processes, are populated with / have available for use,

data sets sufficient to support appropriate testing, in line with the Test Data Management Plan.

(e) a CSS simulator is made available to Switching Data Service Providers and CSS Users which they can use in order to test any changes to their own systems in line with the Environment Management Plan.

Support to the Code Manager

1.145 The Switching Arrangements form part of the overall scope of this Code.

[subsequent paragraphs to 1.23 renumbered]

Schedule 5 – Change Management

- New paragraph 27.3 – CSS Users request environment access via Switching Service Request

27 Release Management

27.1. The Code Manager shall set out a Release Plan for each release date which will detail, as a minimum:

(a) the plan for making updates to this Code as a result of Change Proposals approved for that release date, including details of when pre-release information will be published;

(b) where changes are required to systems provided by a REC Service Provider, details of the Service Provider Test Plan set out by that REC Service Provider, including details of relevant Service Provider Test Phases and planned interactions with REC Service Users;

(c) where changes are required to systems maintained by the Code Manager (such as the REC Portal and Energy Market Architecture Repository), details of the Service Provider Test Plan set out by the Code Manager, including details of relevant Service Provider Test Phases and planned interactions with users of those systems;

(d) details of any new training or guidance requirements identified and the plan for delivery; and

(e) details of any planned communications and engagement with impacted Party's and stakeholders to support the delivery of the Release Plan.

27.2. Each REC Service Provider shall provide all relevant information required by the Code Manager to produce and publish the Release Plan. This includes:

(a) the REC Service Provider's plan for the design, build and testing of any changes to its Systems;

(b) the REC Service Provider's plan (referred to as a Service Provider Test Plan) detailing the proposed activities in testing and implementing changes to its Systems, including:

(i) Required Service Provider Test Phases and Test Environments;

(ii) planned timescales and schedules for each Service Provider Test Phase;

(iii) where relevant, confirmation that the plan aligns with the REC Test Strategy set out by the Code Manager;

(iv) entry and exit criteria for each Service Provider Test Phase;

(v) the approach to the use of Test Data in each Service Provider Test Phase;

(vi) details of key personnel relevant to the plan and associated roles and responsibilities;

(vii) any risks, issues, assumptions or dependencies identified in the development of the plan; and

(viii) the approach to managing defects identified in testing including associated acceptance criteria for resolving defects; and

(c) details of any restricted or confidential information in the Service Provider Test Plan that should not be shared with other REC Service Providers and/or REC Service Users as part of the Release Plan.

27.3 Each CSS User that requires a connection to a CSS Test Environment shall request access via a Switching Service Request, in line with the Environment Management Plan.

27.4~~3~~. Each REC Service Provider shall take reasonable steps to deliver changes to its systems and processes in accordance with the Release Plan and shall notify the Code Manager, in a timely manner, of any risks, issues or dependencies that may impact its ability to deliver in accordance with the Release Plan.

27.5~~4~~. The Code Manager shall publish the Release Plan (and any subsequent updates to that Release Plan) on the REC Portal.

27.6~~5~~. Where a Change Proposal is approved for implementation on a date for which a Release Plan has already been published by the Code Manager, the Code Manager shall update the Release Plan and publish the updated version on the REC Portal.

Schedule 1 – Interpretations and Definitions

Relevant defined terms (highlighted grey where they refer to other definitions, all captured in this table) may need removing or redefining for R0070 and to support understanding of testing more generally.

Term	Definition – existing and proposed	Notes
Test Data	means data to be used for agreed and defined testing activities from time to time.~~testing purposes during:~~ ~~a) a Test Phase, as further described in the relevant Test Plan for that Test Phase; or~~ ~~b) a Service Provider Test Phase, as further described in the relevant Service Provider Test Plan.~~	Part a) should be removed as Test Phase and Test Plan are only relevant to the Transition Schedule which has been removed. Part b) is still relevant but we propose making the wording more generic.
Test Environments	means environments used for the testing of CSS functionality by appropriate parties~~the testing environments as described in the E2E Testing Plan~~.	E2E Testing Plan relevant only to v3 CSS go live; proposed to make the definition more generic.
~~Test Phase~~	~~has the meaning given to that expression in Paragraph 4.1 of the Transition Schedule.~~	Remove – no longer relevant. Future test activities may not require phases, if they do that will be detailed in the test plan.
Test Plan	~~has the meaning given in Paragraph 4.3 of the Transition Schedule~~means a plan of testing activities to be undertaken.	Proposed to update the definition now the Transition Schedule has been removed.
~~Test Tools~~	~~means the testing tools and simulators as described in the E2E Testing Plan.~~	Remove – no longer relevant.
~~Testing Artefacts~~	~~means the artefacts to be made available by the SI Provider for testing and issue resolution purposes as further described in the SI Requirements Document.~~	Remove – no longer relevant.

~~Testing Participant~~	~~means, in respect of each Test Phase, the CSS Users required to participate in that Test Phase, or eligible to participate in that Test Phase and which elect to do so, as (in each case) further described in the Test Plan for that Test Phase.~~	Remove – no longer relevant.
Service Provider Test Phase	means, where they are required, each phase of testing set out by a REC Service Provider in a Service Provider Test Plan.	Still valid – refers to releases. Proposed amendment to clarify that test phases may not always be required in a test plan.
Service Provider Test Plan	has the meaning given to that expression in Paragraph 27.1 of the Change Management Schedule.	Still valid – refers to releases, no change proposed.
~~E2E Testing Plan~~	~~means the document or documents designated as such by the Authority from time to time, as amended from time to time in accordance with the procedure for its amendment developed under the Switching Programme.~~	Remove – no longer relevant.
~~SI Requirements Document~~	~~means the document or documents designated as such by the Authority from time to time, as amended from time to time in accordance with the procedure for its amendment developed under the Switching Programme.~~	Remove – no longer relevant.