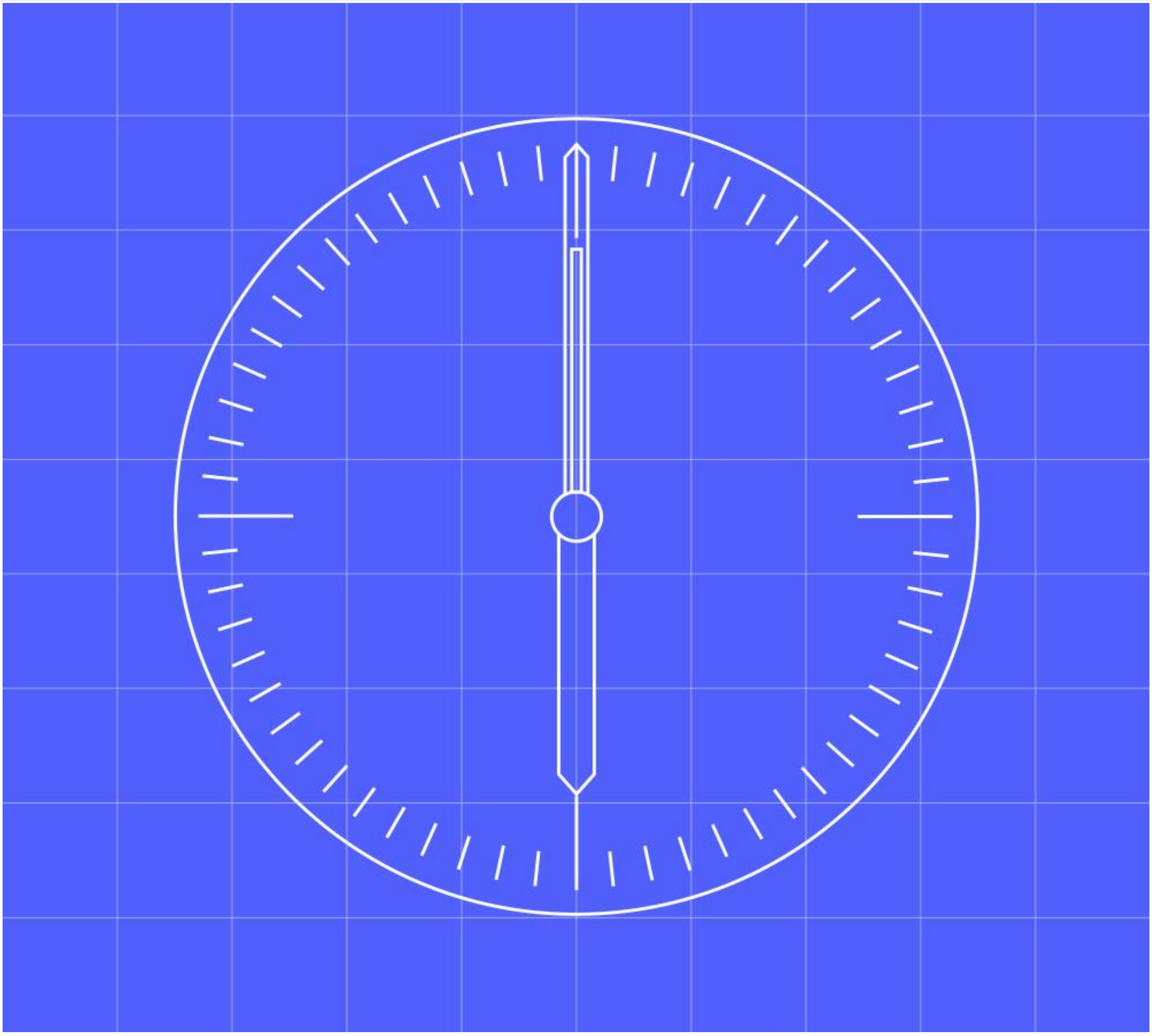
# Qualification Approach & Plan



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|---|---|---|
| Document owner | Document number | Version |
| **BSC and REC Code Bodies** | **MHHS-DEL1118** | **0.2** |
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| **Draft** | **2nd May 2023** | **Public** |

# 1 Contents

# 2 House Keeping

## 2.1 Change Record

| Date | Author | Version | Change Detail |
|---|---|---|---|
| 27/03/2023 | Balancing and Settlement Code Company (BSCCo)and REC Code Manager | 0.1 | First draft version – this document has not been through the BSC and REC PAB governance process yet. The information provided may change, subject to review. |
| 02/05/2023 | BSCCo and REC Code Manager | 0.2 (Current Version) | Second draft version – this document has been updated to reflect consultation comments for QWG review ahead of submission to TMAG, BSC and REC PABs for approval. |

## 2.2 Linked Documents

| Name | Link |
|---|---|
| Pre-Integration Testing Guidance | MHHS-DEL852 Pre-Integration Testing Guidance v1.1 |
| Environment Approach and Plan | MHHS-DEL618 Environment Approach and Plan v2.2 |
| MHHS Placing Reliance Policy | MHHS-DEL1064 MHHS Placing Reliance Policy V1.0 |
| End-to-End Solution Architecture | MHHS-E2E001 MHHS TOM – End-to-End Solution Architecture v3.0 |

# 3 Executive Summary - Applicable to all participants

The Qualification Approach and Plan (QA&P) sets out the purpose of MHHS Qualification during the Market-wide Half Hourly Settlement Programme (MHHSP) and the high-level plan and requirements for Programme Participants to undertake in relation to the BSC and REC.

MHHS Qualification will be approved by the Balancing and Settlement Code (BSC) Performance Assurance Board (PAB) and Retail Energy Code (REC) Code Manager. The purpose of MHHS Qualification is to confirm that participants are ready to operate in the MHHS market, and to protect both electricity settlement and retail markets from participants who are not able to deliver the required industry processes and standards.

Code Bodies are preparing and managing the MHHS Qualification process to assess whether Programme Participants have sufficient evidence to demonstrate they have the appropriate systems, processes and controls in place to meet the MHHS requirements. It is the responsibility of Programme Participants to demonstrate the required evidence in the timescales set out in the MHHSP plan. It is the MHHSP's responsibility to monitor Programme Participants' progress against the required MHHSP milestones and take any necessary escalation steps or other action if a Programme Participant is at risk of not meeting the MHHSP timescales.

Programme Participants are expected to have completed Pre-Integration Testing (PIT) to a satisfactory level prior to entering Qualification Testing (QT).

In case a participant is 'placing reliance' for SIT/QT - If system is completely outsourced and has been tested by the 3rd party in their DBT1, 1 set of tests can be provided as PIT evidence as a part of the submission.

MHHS Qualification will require testing of the key requirements set out in the MHHS baselined design for each Programme Participant's role, including the business processes and systems, as well as the Programme Participant's security and organisational controls that they will be operating with. Business and system processes from within participants' organisation will be considered as evidence that these changes have been incorporated robustly.

Testing will be completed by Programme Participants either during System Integration Testing (SIT) for those Programme Participants that have volunteered for it or during QT. QT will consist of tests adapted from those prepared for SIT. Therefore, the Code Bodies encourage all Programme Participants to engage with the MHHS Programme SIT Working Group (SITWG). To join the SITWG and subscribe to the artefacts developed, please contact pmo@mhhsprogramme.co.uk.

The majority of this document applies to all participants that are required to complete MHHS Qualification, whether they plan to undertake testing through the SIT or QT route.

MHHS Qualification will also require documented evidence on governance, resourcing, organisational and system controls on areas considered as higher risk by Code Bodies for each role. MHHS Qualification evidence will be provided by Programme Participants in the Qualification Assessment Document (QAD) and a common template for this document will be prepared jointly by the Code Bodies.

QT will be organised into tranches which allow the QT to be completed efficiently. Each tranche will provide Programme Participants with a six-month window to complete the process. The allocation to tranches will, wherever possible, be based on Programme Participant readiness. There is additionally a separate non-SIT LDSO QT tranche.

To become MHHS Qualified in an MHHS Role, a Programme Participant must complete all elements of the QAD relevant to that role; the QAD must be approved by all Code Bodies that have governance over that role, specifically the BSC PAB and REC Code Manager where relevant.

# 4 Introduction - Applicable to all participants

The purpose of this document is to set out the approach that will be taken to MHHS Qualification and the high-level plan of activities and requirements in relation to the BSC and REC. As Code Bodies responsible for MHHS - Qualification, BSCCo and the REC Code Manager have worked together on a joint approach and plan and will continue to work closely for the duration of the MHHS Programme. Qualification for other energy codes, such as the Smart Energy Code (SEC), is not within the scope of this document.

The Qualification phase within the MHHSP is in place to assess that Programme Participants operating within the current arrangements, that plan to operate in MHHS (and any new participants that wish to start operating at the start of MHHS), have the appropriate systems, processes and controls in place to undertake the new MHHS requirements.

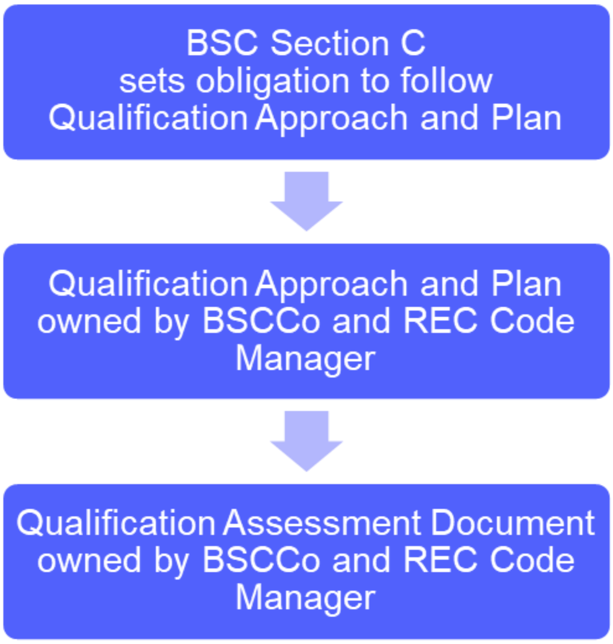
This MHHS Qualification process is not set out in Section J or BSCP537 "Qualification Process for SVA Parties, SVA Party Agents and CVA MOAs". Instead, BSC Section C 12.12.7 requires BSC Parties and Party Agents to complete MHHS Qualification and comply with the MHHS Qualification Plan. Therefore, this document sets out the MHHS Qualification requirements required under the BSC for all relevant roles to move to the MHHS arrangements.

Similarly, the 'Systems or Process Change Disclosure' noted in Schedule 9 Section 11.6d of the REC will not apply to MHHS Qualification. Meter Equipment Managers must comply with code changes in line with REC Schedule 15 Section 4.1 to maintain accreditation. The REC Code Manager will gain this assurance through the requirements set out in the QA&P. The Code Manager will also obtain assurance that Suppliers and Licensed Distribution System Operators (LDSOs i.e. DNOs) meet the REC associated MHHS obligations through this route.

Whilst the QA&P sets out the high-level scope and MHHS Qualification requirements, the detailed evidence required will be defined in the QAD and completed by Programme Participants. There are 2 routes to gaining testing evidence, SIT and non-SIT, as outlined in *Section 6 Qualification Routes.* Code Bodies will use this to assess whether Programme Participants have met the MHHS Qualification requirements and are therefore able to be registered or appointed to MHHS migrated metering points.

BSCCo, as the Balancing and Settlement Code Company (BSCCo), and the REC Code Manager will prepare and own the QA&P and the QAD jointly. The PABs for both Codes will be required to approve these documents. In addition to these approvals, the Testing and Migration Advisory Group (TMAG) under MHHSP governance will also be required to approve the QA&P.

### MHHSP – Qualification Obligations


BSC Section C sets obligation to follow Qualification Approach and Plan
Qualification Approach and Plan owned by BSCCo and REC Code Manager
Qualification Assessment Document owned by BSCCo and REC Code Manager

# 5 Purpose and Principles - Applicable to all participants

1. To adapt the current arrangements for Qualification in BAU, which had been appropriate for a mature set of trading arrangements, to reflect the increased risk from new industry wide MHHS interfaces and business processes.
2. To, where possible, efficiently and appropriately, avoid requiring evidence for areas that are entirely unchanged based on the legacy role being undertaken.
3. To avoid the need for repetition of steps that have already been completed to the required standards through MHHSP testing.
4. BSCCo and RECCo are accountable for the implementation and management of a robust and well-governed Qualification process through the MHHS Qualification stage to the enduring MHHS arrangements.
5. All Programme Participants must complete PIT Design Build Test (DBT) 1 prior to the start of QT. For Programme Participants undertaking SIT there is an MHHSP requirement that PIT DBT 1 will be completed prior to SIT. Code Bodies will expect a Requirement Test Traceability Matrix (RTTM) to be produced as part of the PIT process and signed off at a senior level within the organisation prior to the start of QT.
6. Further discussions are required before expectations and timings for PIT DBT2 can be set out. DBT2 has the potential to impact some REC requirements. If this is the case, it is possible that there will be some additional testing required against consequential change that affects any Code obligations. Code Bodies will not undertake assurance for areas of consequential change that are not related to Code requirements.
7. The majority of testing requirements are expected through SIT for SIT participants or through QT in the MHHS Qualification phase for participants that have not completed SIT.
8. BSCCo and the REC Code Manager will develop the MHHS Qualification scope and materials from the MHHSP SIT scope and materials produced by the MHHSP. The aim is for an aligned approach to MHHS Qualification for both routes, providing that the scope and coverage for SIT meets the requirements for MHHS Qualification; MHHS Qualification artefacts will be developed in parallel or after the associated SIT products.

Therefore, the Code Bodies recommend it is beneficial for all Programme Participants to subscribe to the proceedings of the SITWG.

9. The MHHSP will execute SIT on an End-to-End (E2E) basis to prove the MHHS design. MHHS Qualification, however, will be defined on a role-by-role basis and executed on an individual organisation level to assure the robust operation of Programme Participants before they are allowed to start operating in the live MHHS arrangements and migrating MPANs.
10. QT and SIT should execute similar coverage of the design baseline as the level of confidence required is similar. The number of tests for QT are expected to be fewer as SIT is likely to need to repeat some functional testing where the same functions are used in different E2E test scripts.
11. Code Bodies are responsible for undertaking MHHS Qualification for REC Parties, BSC Parties and BSC Supplier Agents. Code Bodies are not responsible for undertaking MHHS Qualification or set up activities for any third-party organisations.
12. Only Programme Participants that complete the entire MHHS Qualification process and have their QAD approved by the relevant Code Bodies will become MHHS Qualified and be able to operate under the new MHHS arrangements; SIT and QT are just one part of the MHHS Qualification process.
13. Changes to the baseline MHHS design will be expected via an MHHS Change Request. Any impact on the MHHS Qualification requirements, processes and procedures will then be fully assessed and the industry notified of any change of approach or further testing required.

# 6 Qualification Routes - Applicable to all participants

Programme Participants can follow either the SIT or non-SIT route for each of their roles to become MHHS Qualified, including the following requirements:

| Route | Entry Requirements[1] | MHHS Qualification | | |
|---|---|---|---|---|
| SIT Participants | PIT DBT1 completion (reviewed by MHHSP) | SIT (reviewed by MHHSP) | Security and Organisational Controls Evidence (Developed by Code Bodies) | DBT 2 PIT as required to meet Code requirements (Code Bodies) |
| Non-SIT Participants | PIT DBT 1 completion (reviewed by Code Bodies) | QT (accountability of Code Bodies but dependent on SIT development) | Security and Organisational Controls Evidence (Developed by Code Bodies) | DBT 2 PIT as required to meet Code requirements (Code Bodies) |

*[1] Programme Participants will also need to connect to the test environments as noted in the Environment Approach and Plan; details will be provided in further iterations of the QA&P.*

# 7 Scope of MHHS Qualification- Applicable to all participants

## 7.1 Market Roles included in MHHS Qualification

The following roles are required to complete MHHS Qualification:

| MHHS Roles | Nearest Equivalent Legacy Roles | Code Body | Programme Milestones to be supported by Qualification activity | |
|---|---|---|---|---|
| Smart Data Service (SDS) | New role but nearest comparator:<br>Non-Half Hourly Data Collector (NHHDC) for traditional and smart metering systems and Half Hourly Data Collector (HHDC) for elective smart metering systems. | BSC | 05/10/2026 - M15 Migration Completion | |
| Metered Data Retriever (MDR)[1] | None | SEC<br>Current assumption- not BSC | 05/10/2026 - M15 Migration Completion | |
| Advanced Data Service (ADS) | Half Hourly Data Collector (HHDC) | BSC | 05/10/2026 - M15 Migration Completion | |
| Unmetered Supply Data Service (UMSDS) | Meter Administrator (MA) | BSC | 05/10/2026 - M15 Migration Completion | |
| Unmetered Supplies Operator (UMSO) | Unmetered Supplies Operator | BSC | 07/03/2025 - M10 Central Systems ready for migration | |
| Licensed Distribution System Operator (LDSO) | Licensed Distribution System Operator (i.e. Distribution Network Operator; DNO) | BSC<br>REC | 07/03/2025 - M10 Central Systems ready for migration | |
| Supplier Meter Registration Agent (SMRA) / Electricity Retail Data Agent (ERDA) | SMRA / ERDA | BSC<br>REC | 07/03/2025 - M10 Central Systems ready for migration | |
| Supplier | Supplier | BSC<br>REC | 16/03/2026 - M14<br>All Suppliers able to accept MPANs under the new TOM | |
| Metering Equipment Manager (Advanced) | Metering Equipment Manager (MEM) | REC | 05/10/2026 - M15 Migration Completion | |
| Metering Equipment Manager (Smart) | Metering Equipment Manager (MEM) | REC | 05/10/2026 - M15 Migration Completion | |

[1] *MDRs are a new role and Qualification will be governed under the SEC; MP162 considers the MDR User Entry Process. For the avoidance of doubt, MDRs do not need to complete the QAD. Suppliers have a responsibility to ensure that they appoint Qualified MDRs and SDS have a requirement to ensure that, where data is received from an MDR, the MDR has successfully completed the SEC User Entry process Testing. This requirement on SDS will be checked during MHHS Qualification. There is an assumption that Code Bodies can check the MDRs used by an SDS against a valid list which Code Bodies expect to be maintained in ISD. However, the design of this process is not yet complete. Code Bodies acknowledge that Smart consumption data will also be received from Suppliers.*

## 7.2 The importance of completing MHHS Qualification

Participants will be required to complete MHHS Qualification in order to operate within the MHHS arrangements.

Suppliers can start to accept MPANs within the MHHS arrangements from the start of the migration window, Milestone M11/M12, when MHHS Qualified. They must be ready to operate in the new arrangements by Milestone M14 which is the requirement for Suppliers to have systems and services in place to accept MPANs under the new TOM. If Suppliers are not MHHS Qualified by M14, they will be prevented from registering new customers using existing functionality within the Central Switching Service (CSS).

Agents can start to be appointed to MPANs within the MHHS arrangements from the start of the migration window, M11/M12, when MHHS Qualified. As all MPANs are due to have moved to the new arrangements by the end of the migration period M15, agents will be unable to continue to operate within the Supplier Volume Allocation (SVA) arrangements if they have not completed MHHS Qualification by this time.

LDSOs will have both MHHS-migrated and non-migrated MPANs on their network between the start and end of migration, therefore must be MHHS Qualified from M10 to be able to operate with the MHHS-migrated MPANs.

MHHS Qualification tranches are staggered, with the final QT tranche scheduled to end 19/01/2026. Programme Participants that do not complete MHHS Qualification but who wish to operate under SVA arrangements will need to complete any updated MHHS Qualification arrangements which are being developed by Code Bodies for enduring operations.

## 7.3 Requirements included in Scope

The Scope of MHHS Qualification set out in the QA&P is aligned with the BSC and REC requirements for the entirety of the MHHS design. As noted above, other Code requirements such as the SEC are out of the scope of this document.

To complete MHHS Qualification successfully, a Programme Participant will be required to demonstrate that it can sufficiently complete all the responsibilities and functions required for the relevant role, as described within the MHHS design artefacts and the Code documentation that will align to that role. The QAD has a linked dependency to the start of the Code drafting Mop Up consultation as it is as that point that the Code and subsidiary documentation will be considered sufficiently completed for Qualification evidence to be reliably assessed against.

Different phases of the MHHS Qualification process can be completed concurrently, such as completing the Security and Organisational Controls section of the QAD whilst also completing PIT/SIT/QT, however prior to entering QT Participants should be confident that they are able to meet these requirements and have tested them sufficiently within their organisations. Specific QT entry requirements are outlined in *Section 11.3 QT Approach*.

The MHHSP is developing SIT requirements to ensure that the MHHS baselined design can operate successfully on an E2E basis. The scope and artefacts for this testing will link to requirements in the design artefacts which will then link to Code requirements.

As set out in *Section 5 Purpose and Principles*, Code Bodies will accept SIT completion as evidence towards a Programme Participant's MHHS Qualification requirements; SIT participants are expected to complete the other requirements in 'Tranche 0' as noted in *Section 11.3.2. QT Schedule*. Code Bodies will also be developing QT based on SIT artefacts for those participants that do not complete SIT. The QT artefacts will be developed from SIT artefacts and adjusted to remove any unnecessary duplication of tests and to ensure that they work on an individual organisation and role basis.

Consequently, the development of QT plans and artefacts are dependent on the development of SIT artefacts. There will therefore be several iterations of this QA&P document to take account of each of the SIT deliverables as set out in the table below.

Additionally, the process for some elements of MHHS Qualification, such as Data Integration Platform (DIP) Onboarding and Service Activation, are still being defined by Code Bodies, in consultation with the Programme and Industry through QWG; the QA&P will be updated as required to reflect decisions taken in these areas.

**QA&P development alongside SIT artefacts development**

| Iteration | Dependency on following SIT Approach and Plans | Expected SIT Artefact Issue Date | Expected QA&P Issue Date |
|---|---|---|---|
| Initial version | N/A | N/A | 31/05/2023 |

| | | | |
|---|---|---|---|
| Second version | SIT Component Integration Testing and Functional Testing | 30/06/2023 and 21/07/2023 | 29/09/2023 |
| Third version | SIT Migration | 20/09/2023 | 30/11/2023 |
| Fourth version | SIT Non-Functional | 03/11/2023 | 22/12/2023 |
| Final version | SIT Operational | 06/12/2023 | 29/02/2024 |

It is expected that SIT and QT will cover the majority of testing related requirements. However, Code Bodies will review the SIT scope and artefacts to confirm that:

- SIT scope is sufficient to cover the key areas of risk for MHHS;
- Areas of duplication in SIT, required to ensure full coverage of the E2E solution but not required for QT, are removed; and
- Areas that do not relate to the BSC or REC requirements for Programme Participants are removed.

Evidence related to governance, operational controls, change management and security will also be required for MHHS Qualification for participants that have completed either SIT or QT. This evidence will relate to the baselined design, an understanding of resourcing considerations for the move to MHHS and good industry practice on implementation. The requirements will be set out in the QAD and participants will receive an early draft of this along with updates on any changes as the document develops.

## 7.4 Interaction with Programme Readiness Assessments

The MHHSP Readiness Assessment is a standalone process which has no direct interaction with the MHHS Qualification process.

Participants can re-use any evidence already provided in readiness assessments to support the operational controls and governance requirements. However, there will be no automatic expectation that specific MHHS Qualification requirements have been met from the readiness assessments. This is because the purpose of the MHHSP Readiness Assessments is to judge overall industry readiness rather than specific participants and the scope of these assessments is not set out now but will be assessed ahead of each assessment phase.

Code Bodies are preparing and managing the MHHS Qualification process and will support participants through this. However, Code Bodies are not responsible for ensuring that all participants have completed MHHS Qualification and will not take steps to escalate and address a lack of progress through MHHS Qualification as this will be the role of the MHHSP. To enable the MHHSP to do this, Code Bodies will share regular reporting of the progress of participants through the MHHS Qualification process.

## 7.5 Interaction with Current Audits and Considerations

During the MHHS Qualification process, some participants may undergo periodic audits under the BSC or REC in order to maintain their Qualification and accreditation status. For the avoidance of doubt, during MHHS Qualification these periodic audits will remain entirely separate from the MHHS Qualification process. MHHS Qualification will be focused on the changes that Programme Participants are making to deliver the revised business processes as a result of MHHSP.

However, there is an opportunity for Code Bodies to use the scheduled periodic audits to build the evidence base to confirm a participant's readiness for MHHS Qualification or to complement evidence required within the QAD.

The decision as to whether to take advantage of periodic audits in this manner will be made by the respective Code Bodies for the Roles within their remit.

Some considerations include:

- Ensuring that the periodic audit is a meaningful exercise that complements the MHHSP Readiness Assessments and the development of the QAD evidence base
- Ensuring that it does not disproportionately increase the time or cost of the periodic audits

- Ensuring that participants are neither advantaged nor disadvantaged by the timing of their periodic audits with respect to both:
    - Maintenance of their current Qualification and accreditation status
    - MHHS Qualification

## 7.6 Activities not in-scope for MHHS Qualification

### 7.6.1 Legacy Agents

As part of MHHS Qualification, Programme Participants will need to demonstrate that they can operate migration and reverse migration processes as defined in MHHS Migration Design forming part of the Code changes that will come into force at M8. Legacy agents will also need to support these processes but there are no obligations on legacy agents to qualify as part of the MHHS Programme activities. Assuring that legacy agents make changes to support these processes is out of the scope of MHHS Qualification, and the Programme has highlighted a reliance on existing Performance Assurance activities to manage this.

### 7.6.2 Design Assurance

The MHHSP is requesting that participants undertaking SIT complete a Design Assurance questionnaire and will be offering voluntary Design Assurance support to non-SIT participants.

Design Assurance will be a useful resource to support Participant's DBT activities, but for the avoidance of doubt there is no interaction between the MHHS Design Assurance process or evidence gathering and the MHHS Qualification process. Programme Participants with questions on the evidence required to satisfy MHHS Qualification requirements should direct these to Code Bodies and not through the Design Assurance activity. It is a participant’s responsibility to ensure it meets the MHHS Qualification requirements.

# 8 Roles and Responsibilities - Applicable to all participants

Note that this will be subject to change in the next version

During the MHHS Qualification process, the aim of the MHHS Programme is to test the E2E MHHS Design and ensure that the new MHHS arrangements function correctly and have been implemented in accordance with the MHHS E2E description. Each Code Body is responsible for qualifying individual Programme Participants against the MHHS design requirements that will be set out in its specific Code.

The following RASCI matrix shows respectively which party is Responsible, Accountable, Supporting, Consulted or Informed for various elements of the MHHS Qualification process, as well as where the governance sits. Where the BSC and REC are delivering jointly, the table has been merged. In the case of dual governance between TMAG and the BSC/REC PABs, the body with final approval is noted with ✓$^{F}$.

| Activity | RASCI | Governance |
|---|---|---|

| Activity | Participant | BSC | REC | MHHS Programme | DIP Manager | QWG | TMAG | BSC & REC PAB |
|---|---|---|---|---|---|---|---|---|
| QA&P | I | R, A | | C | | C | ✓ | ✓$^{F}$ |
| QAD | I | R, A | | C | | C | | ✓ |
| Placing Reliance Policy | C | C | | R, A | | I | ✓ | ✓ |

| Activity | Participant | BSC | REC | MHHS Programme | DIP Manager | QWG | TMAG | BSC & REC PAB |
|---|---|---|---|---|---|---|---|---|
| Environment Approach and Plan[3] | I | C |  | R, A |  |  | ✓ |  |
| Intention to Qualify | R, A | I |  | I |  |  |  |  |
| PIT – Scenarios and Scripts | R, A | I |  | C |  |  |  |  |
| PIT – Data | R, A | I |  | I |  |  |  |  |
| PIT – Environment | R, A | I |  | I |  |  |  |  |
| PIT – Execution | R, A | I |  | I |  |  |  |  |
| PIT – Issue Resolution | R, A | I |  | I |  |  |  |  |
| PIT – Assurance (SIT Participants) | S | I |  | R, A |  |  | ✓ |  |
| PIT – Governance (Non-SIT Participants)[5] | S | R, A |  | I |  | I |  |  |
| SIT – Scenarios and Central Scripts[1] | I | C |  | R,A |  |  |  |  |
| SIT – Participant Scripts | R, A | I |  | S |  |  |  |  |
| SIT – Data Availability and Allocation[1] | S | I |  | R,A |  |  |  |  |
| SIT – Environment Coordination[1, 3] | I | C |  | R, A |  |  |  |  |
| SIT – Environment Connection[1,3] | R, A | I |  | C |  |  |  |  |
| SIT – Execution[1] | R | I |  | A |  |  |  |  |
| SIT – Issue Resolution[1] | S | I |  | R, A |  |  |  |  |
| SIT – Assurance[1] | S | I |  | R, A |  |  |  |  |
| QT – Scenarios and Central Scripts | S | R, A |  | C |  | I |  |  |
| QT – Participant Scripts | R, A | I |  | I |  |  |  |  |
| QT – Data Availability | I | C |  | R, A |  |  |  |  |
| QT – Data Allocation | I | R, A |  | S |  |  |  |  |
| QT – Environment Coordination[3] | I | C |  | R, A |  | I |  |  |
| QT – Environment Connection[3] | R, A | I |  | I |  | C |  |  |
| QT – Execution | R, A | S |  | S |  |  |  |  |

| Activity | Participant | BSC | REC | MHHS Programme | DIP Manager | QWG | TMAG | BSC & REC PAB |
|---|---|---|---|---|---|---|---|---|
| QT – Issue Resolution | R, A | I | | S | | I | | |
| QT – Assurance | S | R, A | | I | | I | | |
| DIP Onboarding[2] | S | TBC | C | TBC | TBC | I | | |
| QAD Completion | R, A | C | | - | | | | |
| QAD Review | S | R, A | | I | | | | |
| QAD Management Assertion | R, A | I | | I | | | ✓ | ✓$^{F}$ |
| Qualification Approval | I | R, A | R, A | | | | | ✓[4] |
| Service Activation | TBC | TBC | C | TBC | | | ✓ | ✓$^{F}$ |

[1] *These items will be a part of the SITWG agenda. Code Bodies will work closely with the Programme to ensure the principle of equivalence is appropriately applied to non-SIT Participant. However, non-SIT Participants are encouraged to join the discussion at SITWG and feed into the consultation processes for SIT.*

[2] *The role of the DIP Manager in MHHS Qualification has not been confirmed.*

[3] *See Environment Approach & Plan for further details on roles and responsibilities for test environment provisioning*

[4] *The decision to approve REC Parties will be made by the REC Code Manager not the REC PAB.*

[5] *Code Bodies will review PIT Completion as part of the entry requirements to QT as noted in Section 11.3.3 QT Entry & Exit Criteria.*

# 9 MHHS Qualification Approach - Applicable to all participants

## 9.1 High-level MHHS Qualification Requirements

Code Bodies will expect participants to provide evidence that they have met the following requirements during the MHHS Qualification process:

- To have robust systems in place which meet the MHHS requirements;
- To be capable of receiving, processing, sending and publishing data as required by the MHHS requirements;
- To be capable of undertaking the business processes required by the MHHS requirements;
- To be capable of undertaking successful migration for MHHS; and
- To have the right resourcing, security and organisational controls in place to manage expected operation under MHHS.

## 9.2 High level MHHS Qualification Process

Note that this will be subject to change in the next version

All Programme Participants will be required to complete the QAD that will be jointly developed by the Code Bodies. The QAD will include all the requirements that participants need to complete to qualify, including (but not be limited to) the evidence of successful completion of various testing phases and whilst ensuring sufficient coverage of Code requirements.

The QAD will be split into organisation-specific sections and role-specific sections; a participant's QAD will need to be approved by all Code Bodies relevant to their role(s). The QAD will be jointly administered by the Code Bodies during MHHS Qualification. Code Bodies are currently planning for a single location for participants to submit evidence and receive updates on their QAD, with the details of this to be released in future iterations of this document. The QAD will note which requirements are relevant to which Code Bodies. If participants have questions on a specific section of the QAD they will be able to raise it through the relevant Code Body mailbox (i.e. risk@elexon.co.uk and performanceassurance@recmanager.co.uk)

To test the E2E operation of the MHHSP-scoped systems, the MHHS Programme requires a Minimum Viable Cohort (MVC) to participate in SIT. SIT will be performed by the service providers of the central systems and some other parties, and will involve the SIT participants sending and receiving flows from each other.

The purpose of QT is to gain assurance that each participant is able meet the relevant requirements of their role in the business processes revised as a result of MHHS; part of this assurance will come from the participant's ability to send and receive simulated flows. Participants who have completed SIT will be able to use evidence from SIT to demonstrate their ability to send and receive flows.

SIT is scheduled to run from October 2023 to April 2025, and the Programme is expected to agree the list of SIT participants in May 2023. It is expected that SIT participants will complete the QAD between April 2024 and April 2025, and a governance-only tranche for SIT participants will facilitate this as per *Section 11.3.2 QT Schedule*. However, SIT participants will be able to complete MHHS Qualification up until the deadline noted in *Section 7.1 Market Roles included in MHHS Qualification*.

The first tranche of QT is due to run from January 2025 to August 2025, and Code Bodies will provide a draft list of Tranche 1 participants in August 2024. The seventh and final tranche of QT is due to run from July 2025 to January 2026, and Code Bodies will provide a draft list of Tranche 7 participants in January 2025. There is additionally a non-SIT LDSO QT tranche due to run from July 2024 to January 2025.

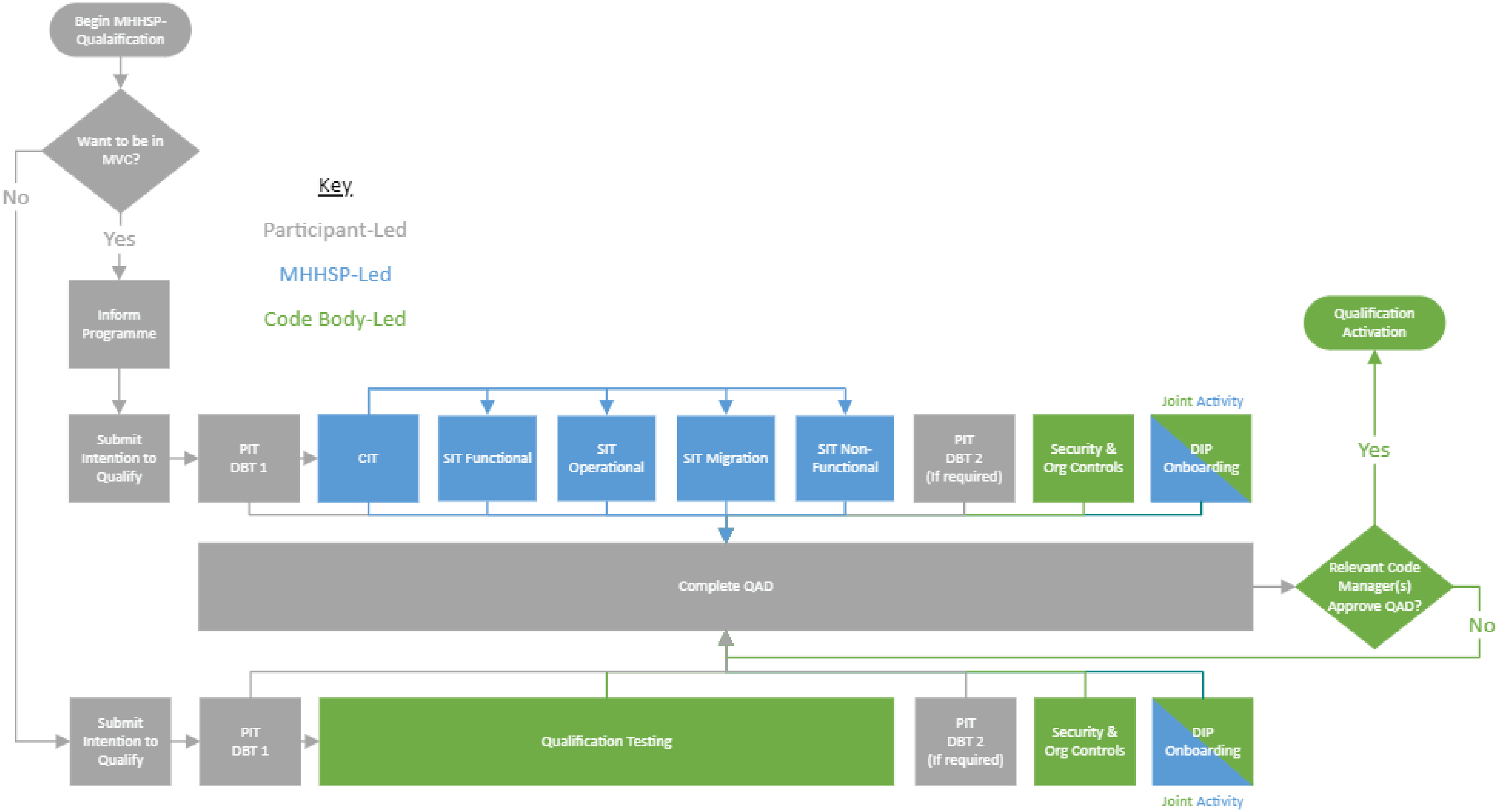
In an 'Intention to Qualify' submission, the process for which is outlined in *Section 11.3.2 QT Schedule*, Programme Participants will note their tranche preference(s). Code Bodies will then allocate on a first-come, first-served basis limited by a quota for the different roles. The Programme Participant's readiness to begin QT will then be monitored through the MHHSP Readiness Assessments and their PIT progress.

For QT participants, the submission date for their PIT completion report will be confirmed in future iterations of the QA&P; it will be aligned to qualification tranches and is expected to be similar to the deadlines for SIT participants, with the draft report submitted two months prior to the start of testing execution and finalised one month prior.

QT Tranche 7 will be the final testing tranche under MHHSP; the final day of testing is therefore expected to be 19/01/2026.

### 9.2.1 High level MHHS Qualification Process Flowchart

High-level flowchart of the MHHS Qualification process for all Programme Participants.



Note: Information can be added to the QAD at any time, but all relevant sections must be completed before the Code Manager can approve it.

### 9.2.2 High level MHHS Qualification POAP

Note that this will be subject to change in the next version

# 10 MHHS Qualification Planning - Applicable to all participants

## 10.1 High Level MHHS Qualification Plan

Note that this will be subject to change in the next version

This high-level QA&P is dependent on the update to the MHHS Programme replan. This section will be updated in future iterations of the QA&P.

## 10.2 Deliverables and Dependencies for Code Body Delivery of MHHS Qualification

Note that this will be subject to change in the next version

- Placing Reliance Policy was approved by BSC and REC PABs in April 2023.
- The QA&P's first iteration is due to be submitted to BSC and REC PABs for approval in May 2023. Further iterations will be published in-line with Programme updates to the SIT scope, Environment Approach and Plan, and DIP Onboarding design updates.
- The target is to release a draft outline of the QAD for consultation after the Programme provides assurance that the requirements in the baselined design are covered through SIT. The QAD will then be discussed and iterated through the QWG, with a final draft expected to be ready in late 2023 and taken to the BSC and REC PABs for approval in early 2024.

## 10.3 Risks for Code Body Delivery of MHHS Qualification

- Changes to the MHHS Design or SIT approach could lead to Code Bodies not being able to deliver the QA&P within the currently planned dates.
- MHHS Programme not being able to coordinate the provisioning of central system test environments could lead to Code Bodies not being able to deliver the QA&P within the currently planned dates.
- Programme risk that Programme Participants do not engage with or complete the required steps to complete Qualification. This is a potential impact on the M10, M14, M15, and M16 milestones, and may also impact Code Body delivery of the QA&P.

## 10.4 Assumptions for Code Body Delivery of MHHS Qualification

- MHHSP will undertake the Qualification required for DIP Connection Providers (see *MHHS-E2E001 End to End Solution Architecture 3.3.2)* and ensure these are set up with the DIP as required.
- QT is expected to mirror SIT but on an individual role/participant basis, testing up to and including the interactions with the DIP and does not require E2E testing with other market participants. Stubs/Simulators will be used as required for test execution and will be aligned to MHHSP policy, Refer section /// 18.1.4
- MHHSP and Code Bodies will work closely together on the development of SIT and QT artefacts.
- Any changes to the Code baseline post M6 will be subject to a CR and impact assessment. Code Bodies will highlight any impacts on MHHS Qualification and the MHHS Qualification timeline as part of this CR process, which may lead to additional regression testing or other assurance for MHHS Qualification.
- Code Bodies will review any issues found in SIT execution and update the QT artefacts or the approach to MHHS Qualification as necessary.

- MHHSP will provide individual SIT Programme Participants reports from each stage of SIT which will be used as MHHS Qualification evidence.
- Code Bodies can check the MDRs used by an SDS against a valid list of SEC Qualified MDRs, which Code Bodies expect to be maintained in ISD.

## 10.5 Dependencies for Code Body Delivery of MHHS Qualification

- QT products have a dependency on associated SIT products and therefore there will be an iterative approach between SIT development and MHHS Qualification. Non-SIT participants are encouraged to join the discussion at SITWG and feed into the consultation processes for SIT. Other Working Groups under the TMAG will also have an impact on MHHS Qualification, so Programme Participants should stay apprised of developments in these Working Groups.
- Code Bodies have a dependency on the MHHSP to produce a clear mapping from SIT scope and testing artefacts to the design artefacts and Code obligations to enable Code Bodies to assess the coverage of the testing.
- There is a dependency on M8 (Code Changes delivered) to be achieved for the BSC and REC PABs to qualify SIT and LDSO Programme Participants against the live Codes which is required for M10, M11, and M12 (start of migration) to take place.

# 11 MHHS Qualification Evidence

This section describes the overall process for the validation and approval of MHHS Qualification evidence through PIT, SIT and QT phases. Completion of this section is dependent on a number of future MHHSP documents (which are referenced below as applicable). This QA&P will therefore be updated when the dependent source documents are published by the Programme.

In summary, the high-level MHHS Qualification evidence requirements will include:

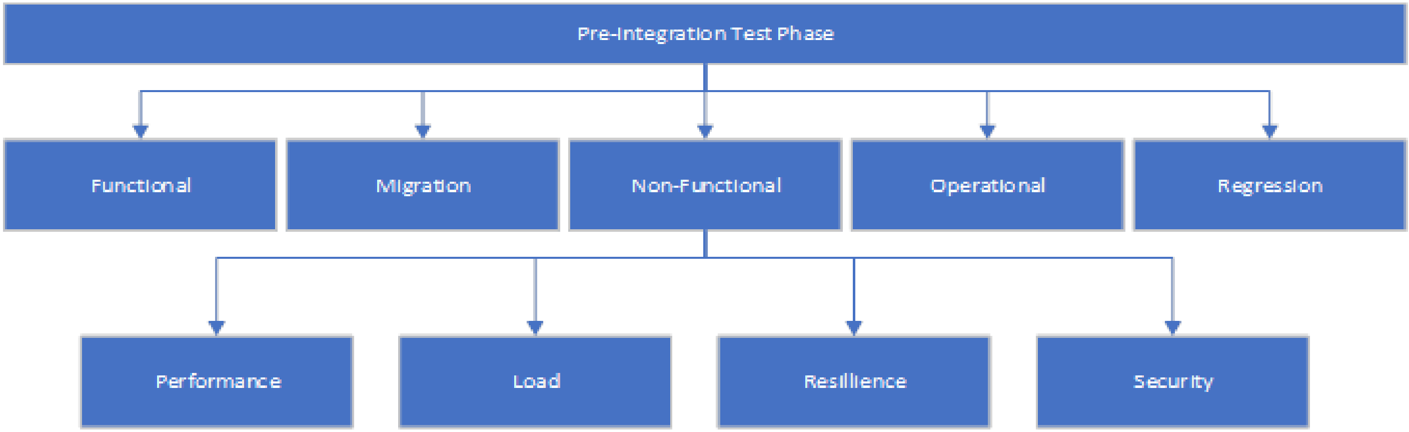
- PIT DBT1: Evidence PIT DBT1 completion (*Section 11.1 PIT Overview*) in the QAD to enter QT which will prove specific functional, non-functional and migration-related characteristics of systems and processes.
- PIT DBT2: Evidence of DBT2 testing in order to exit MHHS Qualification where applicable.
- SIT/QT: Participants are expected to complete either SIT or QT, and document evidence in the QAD in line with *Section 11.2 SIT Overview* and *Section 11.3 QT Approach* respectively.
- Placing Reliance: A high-level policy for placing reliance was approved by BSC and REC PABs in April 2023 and will be further developedi  to reduce unnecessary duplication of effort for Programming Participants when completing and evidencing testing as set out in *Section 11.4 Placing Reliance Policy*.
- Procedural & Governance: All participants are expected to adhere to the processes and procedures of the Code Bodies governing MHHS Qualification; evidence for this will be documented in the QAD as set out in *Section 11.5 Operational Controls and Governance*.

## 11.1 PIT Overview - Applicable to all participants

Note that this will be subject to change in the next version

The PIT phase is focused on the new settlement arrangements and aims to validate that every system or service required to be developed by Programme Participants is in place and can meet the E2E MHHS design (and its interfaces/publications).

The PIT phase is expected to comprise of different types of testing as detailed in MHHS-DEL852 Pre-Integration Testing Guidance v1.1 Figure 1:



### 11.1.1 PIT Deliverables- Applicable to all participants

Programme Participants are responsible for managing their own testing process and will be required to demonstrate completion of their own PIT.

Each Programme Participant undertaking PIT will be expected to provide the following test artefacts (as referred to in the PIT Guidance) to be validated by MHHSP & Code Bodies for MHHS Qualification governance.

- MHHS-DEL1049 PIT Approach and Plan
- MHHS-DEL1050 PIT Requirements to Test Traceability Matrix
- MHHS-DEL1052 PIT Test Completion Report

### 11.1.2 PIT Exit Criteria - Applicable to all participants

All participants must successfully complete PIT testing as defined in MHHS-DEL852 Pre-Integration Testing Guidance v1.1 and produce evidence of testing for review and approval; MHHSP will provide assurance over the PIT exit of SIT Participants, and Code Bodies will provide governance over the PIT exit of non-SIT participants.

- All planned tests must be run to completion, or any exceptions documented and agreed with the MHHSP Test Team and/or Code Bodies;
- There are no outstanding severity 1 or 2 defects, or any exceptions are documented and agreed with the MHHSP SI Test Team and/or Code Bodies;
- Mitigation plans for any outstanding defects have been produced and agreed with the MHHSP SI Test Team and/or Code Bodies;
- A PIT Test Execution Completion Report has been submitted and assurance completed by MHHSP Test Team and/or Code Bodies. The Code Bodies will be taking a risk-based approach to assuring the various stages of PIT, with the methodology to be outlined in future versions of the QA&P.
- Participants have proven interfaces as a minimum based on market role. This includes evidence generated by the DIP Simulator test tool to show that all relevant IFs and PUBs have been successfully exercised (dependent on industry test plan from MHHSP) and evidence that changes to existing DTN messages have been tested.

## 11.2 SIT Overview - SIT participants only

The tests to be covered in SIT to verify the correct functioning of each Service (according to its role) are described in the MHHS-DEL872 - SIT Scope for Voluntary Participants' Planning v0.6. A summary of the SIT requirements from this document is set out below for information only and participants should review the source document to understand the requirements.

On completion of SIT, MHHS Programme is expected to share the below artefacts with Code Bodies.

- SIT Completion Report
- SIT RTTM

Code Bodies will review the artefacts as part of a SIT participant's QAD submission. On approval of its QAD, the Programme Participants will be MHHS Qualified. This review will be completed as part of Qualification tranche zero. The completion dates for tranche zero will be provided in a future iteration of the QA&P.

Further details on the different phases of SIT for which the Code Bodies will require confirmation of completion are noted in the *Appendix C Section 17.1 SIT Testing Details*.

## 11.3 QT Approach - Applicable to all participants

Note that this will be subject to change in the next version

This section outlines the high-level QT approach for Programme Participants. The detailed QT plan is outlined later in *Section 11.3.3 QT Entry & Exit Criteria*. Technical details for QT are also noted in the *Appendix D Section 18.1 QT Technical Details.*

**Scenarios for QT**

Code Bodies expect the testing scenarios for Programme Participants will be as follows:

Scenario 1 - Participants completing SIT

- All participants completing SIT will, subject to a review of artefacts by the relevant Code Body, not be required to go through the QT phase, but will still need to complete all other MHHS Qualification requirements.

Scenario 2 - Non-SIT participants joining direct to QT

- All participants joining direct to QT (i.e., not having first started SIT) will first have to produce evidence of PIT-DBT 1 completion (QT Entry Criteria) and then successfully complete QT (QT Exit Criteria) as defined by Code Bodies governing MHHS Qualification.
- Participants will be allocated to a tranche as per the process set out in *Section 11.3.2 QT Schedule*.
- In the event that a Programme Participant intends to join QT after the tranches have been allocated (*Late entry*), dependent on the QT window and cut-off time defined for tranches, Code Bodies will respond with the slot availability. However, a confirmation cannot be assured, and the participant should be prepared to accept Scenario 6 for the enduring Qualification solution.

Scenario 3 - Participants requesting QT inflight from SIT.

- Process to be defined for participants intending to join QT in middle of a tranche.
- Participant A was in SIT but couldn't complete testing and dropped out of SIT
- Code Bodies will require the participant to follow all entry criteria for QT, however QT scope will be defined based on below additional considerations:
  - SIT report outlining the execution status and coverage achieved
  - Defect status report with outstanding issues/ impacts and timeline for resolution in readiness for QT
- Based on above, Code Bodies will recommend a full/subset of testing scope and/or regression testing for MHHS Qualification.
- Allocation to a tranche will be based on the current capacity.

Scenario 4 - Participants undertake SIT for one role or MPID and request QT for remaining roles or MPIDs

- The areas that were undertaken via SIT will, subject to a review of artefacts by the relevant Code Body, not be required to go through the QT phase, but will still need to complete all other MHHS Qualification requirements

- For roles and MPIDs that have not completed SIT, these will first have to produce evidence of PIT-DBT 1 completion (QT Entry Criteria) and then successfully complete QT (QT Exit Criteria) as defined by Code Bodies governing MHHS Qualification.
- For roles and MPIDs that have not completed SIT, participants will be allocated to a tranche as per the process set out in *Section 11.3.2 QT Schedule*.
- For roles and MPIDs that have not completed SIT, in the event that a Programme Participant intends to join QT after the tranches have been allocated (*Late entry*), dependent on the QT window and cut-off time defined for tranches, Code Bodies will respond with the slot availability. However, a confirmation cannot be assured, and the participant should be prepared to accept Scenario 6 for the enduring MHHS Qualification solution.

Scenario 5: Participants requesting QT inflight from QT Tranches

- Participant B was in tranche 1 for QT but couldn't complete testing within the tranche and needs a re-entry to complete testing.
- Code Bodies will require the participant to follow all entry criteria for re-entry to QT, however QT scope will be defined based on below additional considerations:
    - MHHS Qualification report outlining the execution status and coverage achieved in current tranche
    - Defect status report with outstanding issues/ impacts and timeline for resolution in readiness for re-entry to QT
- Based on the above, Code Bodies will recommend a full/subset of testing scope and/or regression testing for Qualification.
- Allocation to a tranche will be based on the current capacity.

Scenario 6 - Enduring Qualification solution

- The process for participants wishing to Qualify after the completion of the MHHS Qualification process in Spring 2026 will be managed by the Code Bodies and defined in the future. It is expected that Qualification applications will be accepted from Spring 2025, but that there may be a delay to testing activity for enduring Qualification whilst QT is being operated.
- The enduring Qualification process can be completed by new entrants, or Programme Participants that did not complete MHHS Qualification. The dates for the enduring Qualification solution have not been finalised, and there is no guarantee on the timeframes for Programme Participants to complete the enduring Qualification arrangements. Programme Participants wishing to form part of the MHHS arrangements should complete MHHS Qualification within the Programme-defined timelines.

Scenario 7: New participant who intends to Qualify with MHHS.

- New entrants are likely to be required to qualify through the QT route as the draft list of SIT participants is due to be agreed in May 2023.
- Applications by new entrants will be managed on a case-by-case basis by Code Bodies.
- If a Programme Participant wishes to enter the market before the completion of MHHS migration (M15), it would be required to:
    - Align and follow all Entry and Exit Requirements defined by the Code Bodies and confirm readiness to join one of the MHHS Qualification tranches as per availability.
    - If it wishes to operate with legacy processes, demonstrate its ability to operate in accordance with any required existing (Legacy) systems and Code requirements, in addition to MHHS Qualification requirements.
    - It is expected that a new Supplier or Supplier Agent entrant will be able to enter the market after M11/M12 (start of migration) without having to enact legacy processes. They will however need to be able to demonstrate both forward migration processes and reverse migration processes (as a losing

    supplier); the process for this case of MHHS Qualification will be defined in future versions of the QA&P.
    - LDSOs wishing to enter the market before M14 will need to be MHHS Qualified for both legacy and MHHS processes.
- The MHHS Qualification arrangements for new participants are subject to further development and therefore this section will be reviewed and updated in future iterations of this document.

### 11.3.1 QT Scope - Non-SIT participants only

Note that this will be subject to change in the next version

The QT scope will be fully defined once the final SIT Scope (MHHS-DEL872) has been published by MHHSP. To date, 108 test scenarios for SIT Functional have been identified by MHHSP. Test scenarios will be grouped against each role and participants required to run the specific test suite based on their respective roles.

QT scope will be derived from the SIT scope based on a 'Risk Based Testing' approach. The scope of QT is not expected to be additional to that of SIT, subject to review by the Code Bodies.

| Iteration | SIT related artefacts | Scenarios |
|---|---|---|
| Initial version | SIT Component Integration Testing and Functional Testing. | 108 Approx |
| Second version | SIT Migration | TBC |
| Third version | SIT Non-Functional | TBC |
| Final version | SIT Operational | TBC |

### 11.3.2 QT Schedule - Non-SIT participants only

Note that this will be subject to change in the next version

All participants expecting to qualify through the QT route should align with one of the Qualification Tranches as per the process described below.

Intention to Qualify

The proposed process to validate participants' MHHS Qualification plan and readiness for QT is set out below. This process will apply to all non-SIT participants, any participants wishing to use the 'Placing Reliance' policy (see *Section 11.4 Placing Reliance*) must also align with below process and are expected to provide information on the agreement with the '3rd Party provider' whom they are placing reliance on.

Request for Intention to Qualify

Code Bodies will contact participants who have provided prior notification of their intention to become MHHS Qualified, requesting a date by when the participant expects to complete all Qualification Entry Criteria and be ready for to commence QT.

Code Bodies anticipate sending the Intention to Qualify request to participants in first week of February 2024 (firm dates to be defined in a later iteration of the QA&P).

Participants will have four weeks to respond to this request i.e., by first week of March 2024.

The QT Schedule will then be shared with participants.

The Intention to Qualify process is subject to further development and therefore this section will be reviewed and updated in future iterations of this document.

### Initial allocation of participants to Qualification Tranches

This section provides an initial indication of the tranche allocation approach. However, this process is subject to further development and, therefore, it will be reviewed and updated in future iterations of this document.

After collating the responses, Code Bodies aim to provide participants with the following details in April 2024 (firm dates to be defined):

- Soft allocation for the Programme Participant onto a tranche for QT (done based on First Come First Serve basis with respect to the capacity for each tranche).
- The cut-off date for each participant to provide evidence of its QT readiness to keep the current tranche allocation.

Each participant will have a two-week window (i.e., by first week May 2024) following notification by Code Bodies to acknowledge the proposed tranche allocation and request a change to that allocation (availability permitting).

In the event that a participant fails to produce the required evidence of readiness (refer to *Section 11.1.1 PIT Deliverables)* by the cut-off date, Code Bodies will reassign the participant to a subsequent tranche (based on availability).

### Review and final allocation

Code Bodies will review the artefacts produced by participants in readiness for qualification, confirm if the Qualification Entry Criteria have been met, and confirm the participants tranche slot.

Participants are expected to progress with Environment preparation/ planning by liaising with the Code Body.

### Qualification Tranche timelines

The high level Qualfication Tranche schedule published by MHHS Programme is set out below:

| Environment | Qualification Phase | Start Date | End Date |
|---|---|---|---|
| **TBC[1]** | Testing for Non-SIT LDSOs – Entry Documentation | To be confirmed in future iterations | |
| | Testing for Non-SIT LDSOs – Env Prep | 29/01/2024 | 05/07/2024 |
| | Testing for Non-SIT LDSOs - Execution | 15/07/2024 | 24/01/2025 |
| **N/A** | Tranche 0 - Governance Only for SIT Participants | To be confirmed in future iterations | |
| **UIT** | Tranche 1 - Entry Documentation | To be confirmed in future iterations | |
| | Tranche 1 - Env Prep | 06/08/2024 | 13/01/2025 |
| | Tranche 1 - Execution | 20/01/2025 | 29/09/2025 |
| | Tranche 2 - Entry Documentation | To be confirmed in future iterations | |
| | Tranche 2 - Env Prep | 03/09/2024 | 10/02/2025 |
| | Tranche 2 - Execution | 17/02/2025 | 27/10/2025 |
| | Tranche 3 - Entry Documentation | To be confirmed in future iterations | |
| | Tranche 3 - Env Prep | 01/10/2024 | 10/03/2025 |
| | Tranche 3 - Execution | 17/03/2025 | 24/11/2025 |
| | Tranche 4 - Entry Documentation | To be confirmed in future iterations | |
| | Tranche 4 - Env Prep | 29/10/2024 | 07/04/2025 |
| | Tranche 4 - Execution | 14/04/2025 | 22/12/2025 |
| | Tranche 5 - Entry Documentation | To be confirmed in future iterations | |
| | Tranche 5 - Env Prep | 26/11/2024 | 05/05/2025 |
| | Tranche 5 - Execution | 12/05/2025 | 19/01/2026 |
| | Tranche 6 - Entry Documentation | To be confirmed in future iterations | |
| | Tranche 6 - Env Prep | 24/12/2024 | 02/06/2025 |

|  |  |  |  |
|---|---|---|---|
|  | Tranche 6 - Execution | 09/06/2025 | 16/02/2026 |
|  | Tranche 7 - Entry Documentation | To be confirmed in future iterations |  |
|  | Tranche 7 - Env Prep | 21/01/2025 | 30/06/2025 |
|  | Tranche 7 - Execution | 07/07/2025 | 16/03/2026 |

[1] To be decided in the Environment Working Group, with further details included in the Environment Approach and PlanCode Bodies expect participants to complete testing and qualification with all their MPIDs (associated with a particular role) in SIT or a single Qualification Tranche as this is the most efficient approach, will avoid unnecessary confusion and is aligned with the REC approach of approving Qualification on a legal entity basis.

However, in some exceptional situations, having the flexibility to allow MPIDs for each organisation’s specified role to undertake testing at different times would provide better outcomes and support participants in working through the MHHS Qualification requirements more quickly; in these cases, participants will still complete a single QAD but may set out MHHS Qualification evidence for each role and associated MPID separately.

Where organisations have completed the required MHHS Qualification steps for some MPIDs and not others, the MHHS Qualified MPIDs will be able to proceed into the migration phase. However, as REC Qualification is at an organisational level, it will require a Management Assertion to confirm that the remaining MPIDs will complete MHHS Qualification at a later stage.

MHHS Qualification is undertaken on a role basis and therefore organisations can undertake MHHS Qualification for a given role separately from its others if required, such as via a different QT tranche or SIT/non-SIT route.

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### 11.3.3 QT Entry & Exit Criteria - Non-SIT participants only

Note that this will be subject to change in the next version

This section sets out the QT entry and exit criteria

SIT Participants:

**Entry Criteria:**

- Successful completion of SIT.
- Test Completion Report submitted and approved by Programme

**Exit Criteria:**

- Review of SIT completion report by Code Bodies for assurance and validation of test coverage and scope with respect to Qualification.
- Approval from Code Bodies based on the artefacts produced from SIT Phase.

Non-SIT Participants

**Entry Criteria:**

- PIT (DBT1): All participants MUST complete their PIT (DBT1) testing and submit below artefacts to the Code Body governance team [*submission routes for the artefacts to be confirmed*]
    - Non-SIT Participants will be expected to provide the following documents:
        - MHHS-DEL1049 PIT Approach and Plan
        - MHHS-DEL1050 PIT Requirements to Test Traceability Matrix
        - MHHS-DEL1052 PIT Test Completion Report
    - Non-SIT Participants may find the following documents useful when completing PIT:
        - MHHS-DEL1054 PIT Test Execution Progress Report
        - MHHS-DEL1051 PIT Scenarios
        - MHHS-DEL1053 PIT Test Readiness Report

- Environment Connectivity: All participants must be able to connect to UIT Environment [*LDSO Environment to be decided at a later stage*]
- Test Data: All participants must confirm all test data requirements have been completed and validated.
    - Test data approach and plan is further detailed in *Section 18.1.7 QT Data Approach* and will be refined in accordance with MHHS Data Working Group updates.
- Access: Required access is provided to all users to perform execution during QT phase [*details for access will be defined with Environment and Release management team later*]
- Scenarios: Test cases are approved and loaded onto test management tool – ADO.
    - Test Scenarios will be defined by the Code Bodies from the SIT scope produced by MHHSP by following 'Risk Based Testing' Approach for each of the Programme Participants with respect to their role(s).
    - Code body will be reusing the scenarios and test cases being developed by the Programme, any delta scope required will be included as required by Code Body after review.

**Exit Criteria:**

- Successful completion of testing with:
    - No outstanding Sev1/Sev2 Defects, as defined in *Appendix D Section 18.1.6 QT Defect Severity Definition*.
    - Sev3 and Sev4 Defects are documented with impacts assessment and reviewed with Code Body and a mitigation plan for any outstanding defect agreed with MHHS Programme and Code Body governance.
    - Sev5 defects – mostly cosmetic in nature hence not considered as exit criteria
    - 100% test execution, with approval from Code Body for any de-scoped/ failed test cases.
- QT Completion Report submitted to Code Bodies to feed into wider MHHS Qualification approval decision

### 11.3.4 QT Assurance - Non-SIT participants only

Note that this will be subject to change in the next version

Code Bodies will be performing test assurance during QT by verifying and validating the test execution of participants as per the Entry and Exit Criteria defined above (*Section 11.3.3 QT Entry & Exit Criteria*).

The approach to the assurance will be refined in future iterations of the QA&P with further clarification on Migration, Non-Functional and the Operational Testing approach for QT, and is expected to consider the following:

- Assurance of planning
- Assurance of coverage
- Assurance of readiness
- Assurance of execution

## 11.4 Placing Reliance - Applicable to all participants

Note that this will be subject to change in the next version

The MHHS Placing Reliance Policy has been approved by TMAG and the BSC and REC PABs in April 2023. The purpose of the policy is to ensure there is no unnecessary duplication of effort for participants whilst also ensuring that the Code Bodies have sufficient assurance that participants are able to meet their Code requirements.

The criteria for placing reliance will be outlined in future versions of the QA&P and will be focused on operational processes as well as the technology stack. As with other elements of the MHHS Qualification approach, where a participant's role is covered by BSC and REC then both Code Bodies will need to approve the extent to which reliance is placed (and in the case of SIT participants, the Programme will also need to approve).

An organisation choosing to Qualify via the non-SIT route may, where appropriate, “place reliance” on MHHS industry testing already successfully undertaken by another organisation/MPID acting in the same role (i.e. met via [Qualification Testing], [Equivalence] or a combination of [Equivalence] and [Testing on behalf of]).

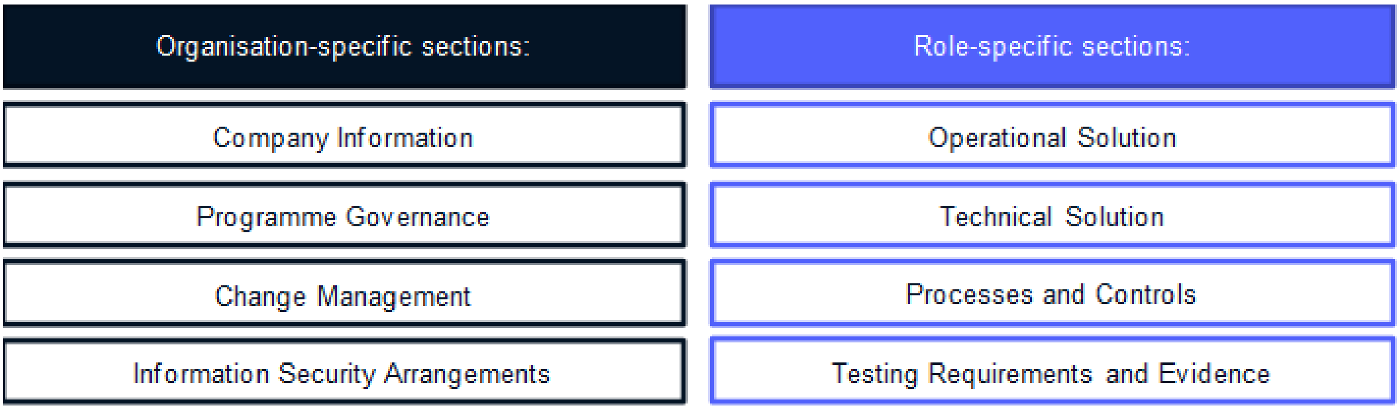
Further definitions of each testing phase is defined in MHHS-DEL1064_-_Placing Reliance Policy_v1.0.

The specific process for placing reliance will also be outlined in future versions of the QA&P; it is expected that when placing reliance, either partially or fully, the Programme Participant will not need to provide a copy of the testing report they are placing reliance on, but will need to reference in their QAD what testing they are placing reliance on.

## 11.5 Operational Controls and Governance - Applicable to all participants

Note that this will be subject to change in the next version

The Operational Controls and Governance Section of the QAD is expected to be split into Organisation-Specific and Role-Specific sections as follows:



| Organisation-specific sections: | Role-specific sections: |
|---|---|
| Company Information | Operational Solution |
| Programme Governance | Technical Solution |
| Change Management | Processes and Controls |
| Information Security Arrangements | Testing Requirements and Evidence |

The QAD requirements relating to operational controls and governance are being developed and updates will be provided through the QWG. It is expected that Programme Participants will provide an explanation and supporting evidence of the operational controls and governance that they have in place over key risk areas identified by the Code Bodies. Code Bodies relevant to the Programme Participant’s Roles may raise observations or findings and request further submission. All Code Bodies with governance responsibility for the Role must approve the operational controls and governance submission for the Organisation and Role. The list of areas below is not intended to be exhaustive compilation of what will be included on the QAD, but to provide an example of some current key considerations:

<u>Business Solution</u>

- People
    - Organisation structure, including reporting and lines of communication
    - Previous experience in the industry
- Internal Resources
    - Expected change in resource requirements and technical capacity
    - Monitoring of the ongoing delivery of your revised service
- External Resources
    - Revised Supplier Agent contracts
    - Subcontractors, third parties, and service providers relationship management

<u>Technical Solution</u>

- Systems
    - In-scope system architecture
    - Elements bespoke or common to other participants
    - Fault, replay, and jeopardy management
- Code Obligations
    - Embedding Code obligations in processes and applications
    - Monitoring for compliance with Code obligations
- Change Risk
    - Risk assessment of changes
    - Change management procedures

    - Business continuity and disaster recovery arrangements
- Testing Policies (where not covered by SIT/PIT/QT)
    - Test Strategy
    - Defect identification and resolution
    - Reporting and oversight of testing
- Information Security and Data Protection
    - Risk assessment of information security and data protection
    - Information security accreditation (e.g. ISO27001 or equivalent)
    - Human resource security, screening and training
    - Incident management

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# 12 DIP Onboarding - Applicable to all participants

Note that this will be subject to change in the next version

Elexon has been appointed as the ‘DIP Manager’ and will be responsible for DIP Onboarding during the MHHS Programme; this will be entirely separate from Elexon’s MHHS Programme role and BSCCo role to allow future portability if a new DIP Manager is appointed.

Programme Participants are responsible for connecting their systems to the DIP Testing Environment; the Programme’s Test Environment Manager is responsible for coordinating the DIP Test Environment, and the Programme will additionally be facilitating the onboarding process to the DIP Test Environment.

Programme Participants will need to be onboarded to the Production DIP Environment to operate; Programme Participants will only be onboarded and receive their Production DIP security certificates after the relevant Code Bodies approve their MHHS Qualification, and this process is also expected to be facilitated by the Programme.

Further details on the DIP Onboarding process for both the Test and Production environment will be released in future iterations of the QA&P. Additionally, further technical information on the connection and security details for DIP will be provided in the MHHS DIP 094 Interface Code of Connection Guide.

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# 13 MHHS Qualification Approval - Applicable to all participants

Note that this will be subject to change in the next version

To become MHHS Qualified, participants must complete all requirements in the QAD. All Code Bodies relevant to the participant’s role(s) as per *7.1 Market Roles included in MHHS Qualification* above will need to approve the participant’s QAD; for the avoidance of doubt, where a participant’s role is governed by both BSC and REC, both will need to individually approve the MHHS Qualification. Both BSC and REC MHHS Qualification is delineated on a role basis, therefore where a participant has multiple roles, each role will be approved separately; there is no requirement for approval of these roles to be concurrent as long as the role is qualified by the timelines set out in ‘7.1 Market Roles included in MHHS Qualification’.

It is acknowledged that there is a Programme risk that individual organisations failing to qualify could impact the timing of M10 (central bodies being ready for migrating MPANs), especially in the case of MVC and LDSO participants. Readiness Assessments will be performed by the Programme throughout the MHHS Qualification process to help monitor this risk. Additionally, these MHHSP Readiness Assessments will be used to monitor the risk that Suppliers and LSDOs fail to meet their licence obligations to complete MHHS Qualification, or that BSC Parties and Party Agents fail to complete MHHS Qualification in line with their BSC Section C.12.12.6 requirements.

MHHS Qualification Approval will be solely within Code Body governance. For BSC, the MHHS Qualification Approval for individual participants will be a PAB Decision. It is expected that participants will be able to appeal BSC PAB decisions on MHHS Qualification to either the BSC PAB or BSC Panel, with the appeal mechanism to be included in future iterations of the QA&P. For REC, the MHHS Qualification Approval for individual participants will be a Code Body decision. It is expected that participants will be able to appeal REC Code Manager decisions on MHHS Qualification to the REC PAB, with the appeal mechanism to be included in future iterations of the QA&P.

For the avoidance of doubt, participants will not be able to appeal Code Body decisions on MHHS Qualification to the MHHS Programme.

To be ‘MHHS Qualified’ (i.e., able to be registered or appointed to MHHS migrated metering points) for a role, the participant must meet the following criteria:

- Be an acceded and Qualified Party in that role for all relevant Codes as per *Section 7.1 Market Roles included in MHHS Qualification*
- Have completed all the requirements in the QAD, with the QAD approved by all Code Bodies relevant to that role
    - All outstanding findings and observations must either be cleared, or an action plan to resolve them agreed between the Code Body who raised it and the participant.
    - It is expected that Code Bodies will approve the QAD within 2 months of submission in line with the MHHS plan, but that is dependent on receiving sufficient traceability from the MHHS Programme between design and testing as per *Section 10.2 Deliverables and Dependencies for Code Body Delivery of MHHS Qualification.*

In the case that the participant has elected to MHHS Qualify MPIDs at different times, a Management Assertion to confirm that the remaining MPIDs will complete MHHS Qualification prior to the required date as per *Section 7.1 Market Roles included in MHHS Qualification*.

# 14 MHHS Qualification and Service Activation - Applicable to all participants

Note that this will be subject to change in the next version

A participant’s MPIDs and DIP ID will be recorded in the Industry Standing Data (ISD), however, it must be clear which organisations and which of their roles are MHHS Qualified. This is necessary to ensure, for example, that Supplier Agents that are not MHHS Qualified are not appointed to MHHS migrated metering points.

One proposed solution by the BSC and REC Code Bodies is for there to be a flag in ISD to distinguish which parties are MHHS Qualified; when the design is confirmed this document will be updated to reflect the Service Activation process for SIT and non-SIT participants.

Service Activation for the DIP will be managed through the process outlined in *Section 12 DIP Onboarding*.

# 15 Appendix A - Applicable to all participants

## 15.1 Glossary

A glossary of acronyms and terms with their definition.

| Term | Definition |
|---|---|
| ADS | Advanced Data Service; governed by BSC and similar to HHDC |
| BAU | Business as usual; refers to before and after MHHSP Transition |
| BSC | Balancing and Settlement Code |
| BSCCo | Balancing and Settlement Code Company |
| Code Bodies | BSC and REC Code Bodies collectively |
| Code Requirements | Where not specified, both BSC and REC Code Requirements collectively |
| CSS | Central Switching Service |
| CVA | Central Volume Allocation |
| DBT | Design Build Test |
| DBT1 | DBT activities required to enter either SIT or QT |
| DBT2 | Changes that will not be tested in SIT or QT but are needed for MHHS |
| DIP | Data Integration Platform |
| DNO | Distribution Network Operator |
| DTN | Data Transfer Network |
| E2E | End-to-End; in reference to entire scope of MHHS Design |

| | |
|---|---|
| ERDA | Electricity Retail Data Agent; governed by REC |
| ISD | Industry Standing Data; will include some data in MDD with new standing data |
| LDSO | Licensed Distribution System Operators; known as DNO in REC |
| MDR | Metered Data Retriever; new MHHS Role governed by BSC |
| MHHS | Market-wide Half Hourly Settlement |
| MHHSP | Market-wide Half Hourly Settlement Programme |
| MHHS Qualification | Qualification completed during the MHHS Programme and governed by Code Bodies |
| MHHS Qualified | A Programme Participant that has been approved by the Code Bodies to operate the new MHHS arrangements |
| MPID | Market Participant Identifier e.g. ABCD |
| MPID/Role | Market Participant Identified with Role e.g. ABCD-X |
| MSA | Metering Services Advanced; known as Metering Equipment Manager (Advanced) under REC |
| MSS | Metering Services Smart; known as Metering Equipment Manager (Smart) under REC |
| MVC | Minimum Viable Cohort; needed by MHHSP to sufficiently test SIT |
| Non-SIT participants | Programme Participants not qualifying via the SIT route; i.e. qualifying via the QT route |
| PABs | BSC and REC Performance Assurance Boards collectively |
| PIT | Pre-Integration Testing; can be split into DBT1 and DBT2 |
| Programme | Market-wide Half Hourly Settlement Programme |
| QA&P | Qualification Approach and Plan; this document |
| QAD | Qualification Assessment Document |
| QT | Qualification Testing |
| QWG | Qualification Working Group |
| REC | Retail Energy Code |
| RECCo | Retail Energy Code Company |
| RTTM | Requirements to Test Traceability Matrix; a PIT document to be produced by participants |
| SDS | Smart Data Service; new MHHS Role governed by BSC |
| SEC | Smart Energy Code |
| SIT | Systems Integration Testing |
| SMRA | Supplier Meter Registration Agent; governed by BSC |
| SVA | Supplier Volume Allocation |
| TMAG | Testing and Migration Advisory Group |
| TOM | Target Operating Model, as augmented by MHHS-DEL622 |
| UMSDS | Unmetered Supply Data Service; governed by BSC and similar to MA |
| UMSO | Unmetered Supplies Operator; governed by BSC |

# 16 Appendix B - Applicable to all participants

## 16.1 Intention to Qualify

Note that this will be subject to change in the next version

BSCCo and the REC Code Manager require Programme Participants to submit a signed declaration confirming their intention to complete MHHS Qualification. This declaration must be signed by an identified member of the Executive team with responsibility for Regulatory Compliance such as a Company Director.

This information will be used for MHHS Qualification planning and must include:

- A list of MPIDs by role that the organisation has acceded to the BSC and/or REC.
- A list of MPIDs by role that the organisation intends to MHHS Qualify.
- Where an organisation opts to not MHHS Qualify all MPIDs, it should provide a rationale and confirm its plans for the remaining MPIDs.
- Whether it intends to complete SIT with the MHHS Programme or will undertake QT via the non-SIT route.
- Whether it intends to delegate a third party to ‘test on behalf of’ or ‘place reliance’ on testing conducted by a third party in compliance with the MHHS Programme Placing Reliance Policy. Where an organisation opts for such arrangements, it must accept the associated risks and remain accountable for meeting Code requirements.

# 17 Appendix C - SIT participants only

## 17.1 SIT Testing Details

For Programme Participants taking the SIT route, Code Bodies will require confirmation by receipt of SIT completion reports that the participant has completed SIT Functional, SIT Non-Functional, SIT Migration, and SIT Operational testing. This will be aligned with Tranche 0 of QT schedule to MHHS Qualify SIT participants.

### 17.1.1 SIT Functional

Each SIT participant will be required to support other SIT participants’ testing.

The identified roles required for SIT are set out in *Section 7.1 Market Roles included in MHHS Qualification*. Please refer to MHHS-DEL872 for detailed Business Processes.

### 17.1.2 SIT Non-Functional

All MHHS Non-Functional Requirements (NFRs) for SIT participants will be verified by one or both of:

- Design assurance – assurance of the participant’s design by the SI Design team.
- Testing – PIT testing conducted by the participant and assured by the SI Test team and/or SIT testing conducted by the participant under the guidance of the SI or directly by the SI.

Some (but not all) non-functional characteristics of MHHS will be tested in SIT. Those tested in SIT can be broadly grouped as tests relating to:

- DIP interface – how the interface to the DIP functions, such as how duplicate messages are to be handled.
- Transaction volumes – the volume of transactions be supported by certain components of the eco-system when acting together.

### 17.1.3 SIT Migration and Operational

Note that this will be subject to change in the next version

This section will be updated in future iterations of the QA&P.

# 18 Appendix D - Non-SIT participants only

## 18.1 QT Technical Details

This section contains further technical details for QT.

### 18.1.1 QT Roles & Responsibilities

Note that this will be subject to change in the next version

This section will be updated in future iterations of the QA&P to expand on the QT responsibilities noted in *Section 8 Roles and Responsibilities*.

### 18.1.2 QT Management & Organisation

Note that this will be subject to change in the next version

This section will be updated in future iterations of the QA&P to expand on the QT management responsibilities noted in *Section 8 Roles and Responsibilities*.

The Code Bodies will be utilizing ADO tool for test management, test evidence and defect management process which will be aligning to MHHS Programme.

All Programme Participants are expected to upload test cases/test evidence and log defects in ADO to facilitate test assurance and governance during QT

### 18.1.3 QT Governance & Reporting

Note that this will be subject to change in the next version

This section will be updated in future iterations of the QA&P to expand on the QT governance responsibilities noted in *Section 8 Roles and Responsibilities*.

### 18.1.4 QT Stubs & Harnesses

Note that this will be subject to change in the next version

Use of Stubs and Harness in Qualification will follow the process defined in MHHS SIT Approach and Plan which is due to be issued by MHHSP in July 2023; this section will therefore be updated in future iterations of the QA&P.

### 18.1.5 QT Defect & Issue Management

Note that this will be subject to change in the next version

The MHHS Issue & Defect Management Plan will be used for QT. In these phases, the testing issues will be managed by the Code Bodies using ADO.

Any defect which requires central triage, or which impacts another participant or the test stage as a whole, will be recorded in the central system and tracked through to closure centrally by MHHSP.

This section will be updated in future iterations of the QA&P.

### 18.1.6 QT Defect Severity Definition

Below mentioned severity definitions are in alignment with MHHS Programme. Code Bodies will follow the same approach for use in QT Exit Criteria defined in *Section 11.3.3 QT Entry & Exit Criteria*

| **Severity** | Description |
|---|---|
| **1** | Issue would:<br>• prevent user from using their systems<br>• have a critical adverse impact on business activities for themselves or other participants<br>• cause significant financial loss<br>• result in any material loss or corruption of data for themselves or other participants<br><br>Non-exhaustive examples are when an issue causes:<br>• non-availability of systems<br>• all test progress to be blocked |
| **2** | Issue would:<br>• have a major (but not critical) adverse impact on use of systems<br>• cause limited financial loss<br><br>Non-exhaustive examples are when an issue causes:<br>• non-availability or loss of resilience of a material part of their systems<br>• large areas of functionality to be unable to be tested<br>• testing to be significantly impacted but not completely blocked |
| **3** | Issue would:<br>• have a major adverse impact on business activities but which can be reduced to a moderate adverse impact through a work-around<br>• have a moderate adverse impact on the business activities<br><br>Non-exhaustive examples are when an issue has:<br>• A work-around that will impact test progress although testing is not blocked |
| **4** | Issue would:<br>• have a minor adverse impact on business activities<br><br>Non-exhaustive examples are when an issue causes:<br>• minor service interruptions in the business process |
| **5** | Issue would:<br>• have minimal impact on business activities<br><br>Non-exhaustive examples are when an issue causes:<br>• trivial Issues with work-around which are noted for future releases but minimal impact on running existing activities<br>• tests to still pass but there are cosmetic issues |

#### 18.1.7 QT Data Approach

Note that this will be subject to change in the next version

Reference: MHHS Data Working Group and the DWG 11 paper published on 20-Apr-2023

Doc link: https://mhhsprogramme.sharepoint.com/sites/Market-wideHalfHourlySettlement/SitePages/DWG.aspx

Dependency: ‘Overarching Test Data Approach & Plan’ expected to be published by the programme on 26-May-2023

In accordance with the Programme Data Working Group (DWG), below mentioned is the initial draft plan for QT Data Approach and Strategy.

Code Bodies will be adopting the same data policy defined by the Programme for QT. Approach mentioned here is subject to change in accordance with the process defined and developed by DWG. As set out in the RASCI, Programme is responsible for determining and managing the data cut process. Any comments on this process should be discussed in the DWG.

**High level Approach and Plan:**

Currently, before any DIP integration, participants have their systems running in PROD environment with their respective databases (where there will be new services and legacy services in operation)

All Programme Participants are required to take a data cut as set out below:

**Data-cut:**

- What: A backup/dump of the current participant systems databases
- Who: Executed by each relevant Programme Participant
- When: **End of August –26th August 2023 (Saturday)** - [Subject to change and will be discussed at next DWG]
- Participants will be given two months' notice to prepare for the data cut on 30th June 2023.

**Test Data Load:**

- What: The data cut is loaded by the participants to their respective test environments
    - Same data cut load on all environments
- Who: The participants Data Processors
    - The participants Data Processors own and manage their respective test environment and data
- When: Firm dates for data load into the UIT environment will be defined at a later stage

**Test Data Cleansing and Generation: Data Cleansing Catalogue**

- It will be used to improve the quality of the data being used for testing purposes.
- It will include the data items that will require cleansing and will detail the ‘Cleansing Owner’ and ‘Date Required By’.
- Executed in cooperation by MHHS Programme and the DWG.
- Acknowledgement of R0066, R0032, BSC CP1558 and the planned deployment in June 2023 for BSC CP1568.
- The MHHS Programme in collaboration with participants will generate required data by the Tests Scenarios if missing from the data cut
- The Participant’s Data Processor will load the new data/attributes before test commencing

### 18.1.8 QT Environment Releases & Configuration Management

Note that this will be subject to change in the next version

This section will be updated in future iterations of the QA&P.

### 18.1.9 UIT Sandbox

Note that this will be subject to change in the next version

This section will be updated in future iterations of the QA&P.