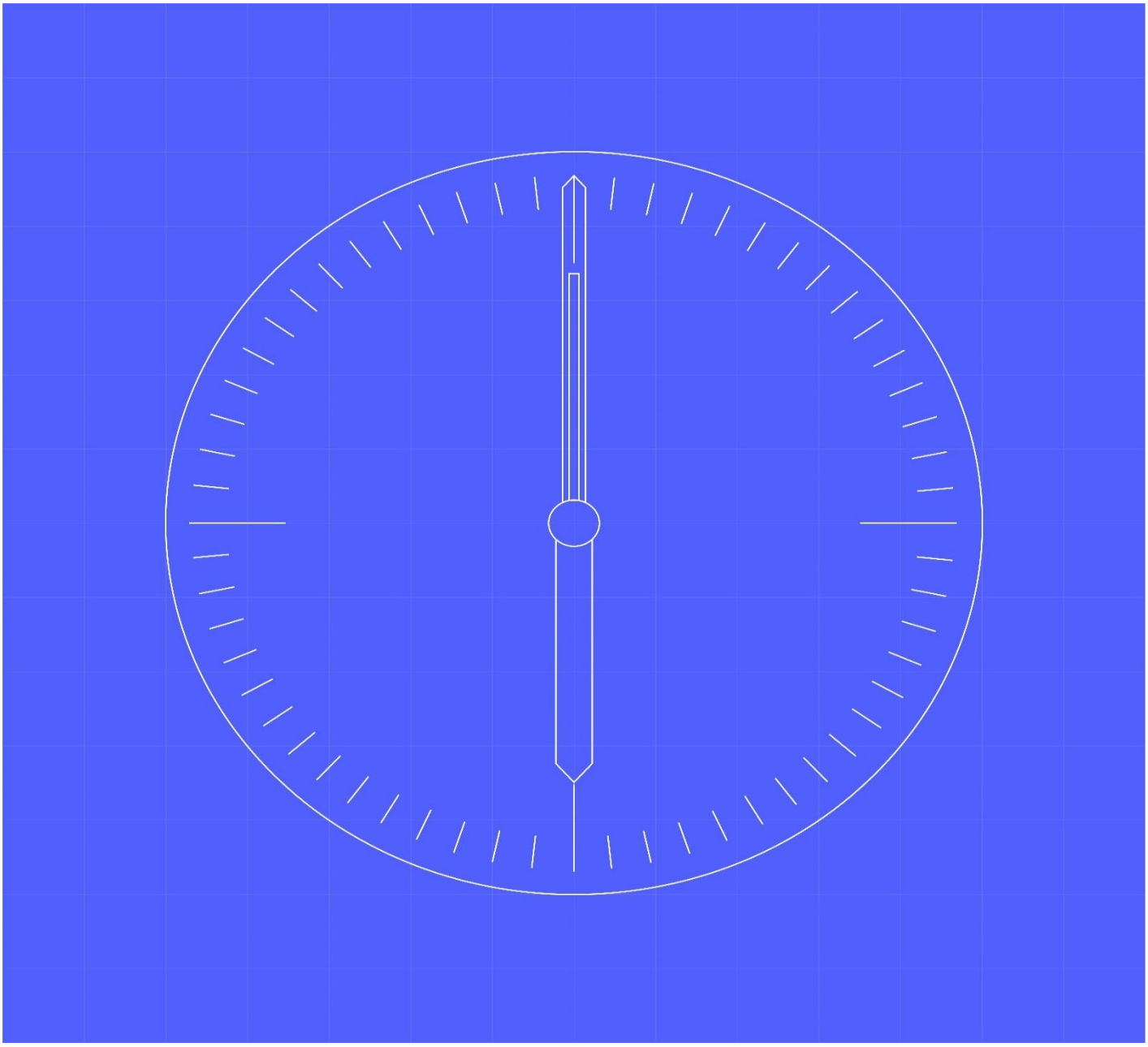
MHHS PROGRAMME
Industry-led, Elexon facilitated

# [02] Migration Framework - Principles and Guidelines



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## 1.1 Change Record

| Date | Author | Version | Change Detail |
|---|---|---|---|
| 18/03/2024 | Migration Team | v0.1 | Draft for Industry Consultation |
| 19/04/2024 | Migration Team | V0.2 | Revised Draft for Assurance Meeting |
| 08/05/2024 | Migration Team | V1.0 | Version uplifted following MCAG Interim Approval |
| 13/06/2024 | Migration Team | V1.1 | Draft for Industry Consultation 2 |
| 28/06/2024 | Migration Team | V1.2 | Updated following Industry Consultation comments |
| 25/07/2024 | Migration Team | V2.0 | Version uplifted following MCAG Interim Approval |
| 20/12/2024 | Migration Team | V2.1 | Draft for Consultation 3 |
| 31/01/2025 | Migration Team | V2,2 | Updated following Consultation 3 Industry Review |
| 25/02/2025 | Migration Team | V3.0 | Interim Approved by MCAG |
| 14/03/2025 | Migration Team | V3.1 | Draft for Consultation 4 |
| 11/04/2025 | Migration Team | V3.2 | Updated following Industry Review |
| 29/04/2025 | Migration Team | V4.0 | Upversioned following MCAG Approval |

## 1.2 References

| Document | Publisher | Published | Additional Information |
|---|---|---|---|
| REF-1 MHHS-DEL2426-[01] Migration Framework Foundations v4.0 | Migration Team | 29/04/2025 | Migration FW |
| REF-2 MHHS-DEL2427-[02] Migration Framework - Principles and Guidelines v4.0 | Migration Team | 29/04/2025 | Migration FW |
| REF-3 MHHS-DEL2428-[03] Migration Capacity Calculations - Method Statements v4.0 | Migration Team | 29/04/2025 | Migration FW |
| REF-4 MHHS-DEL2429-[03a] Calculations Monitoring and Control – Parameters v4.0 | Migration Team | 29/04/2025 | Migration FW |
| REF-5 MHHS-DEL2430-[04] Migration Requirements and Processes v4.0 | Migration Team | 29/04/2025 | Migration FW |
| REF-6 MHHS-DEL2431-[04a] Migration Business Process Models v4.0 | Migration Team | 29/04/2025 | Migration FW |
| REF-7 MHHS-DEL2762-[05] Migration Choreography v4.0 | Migration Team | 29/04/2025 | Migration FW |
| REF-8 MHHS-DEL2763-[06] Migration Governance and Escalation Framework v4.0 | Migration Team | 29/04/2025 | Migration FW |
| REF-9 MHHS-DEL2764-[07] Migration Data Requirements and Reports v4.0 | Migration Team | 29/04/2025 | Migration FW |
| REF-10 MHHS-DEL961 – Migration Design Document v1.5 | Migration Team | 26/03/2025 | |
| REF-11 MHHS-DEL953 – Data Assessment Report v1.0 | Migration Team | 21/02/2023 | |
| REF-12 MHHS-DEL1128 – Migration, Cutover and Data Strategy v1.0 | Migration Team | 02/06/2023 | |
| REF-13 MHHS-DEL1648 - Migration Thresholds Document v2.0 | Migration Team | 25/02/2025 | |

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| REF-14 MHHS-DEL813 – Overarching Test Data Approach and Plan v1.0 | Testing Team | 19/07/2023 | |
| REF-15 MHHS-DEL1181 – Data Cleanse Plan v4.1 | Migration Team | 01/04/2025 | |
| REF-16 MHHS-DEL1792 - M15 Acceptance Criteria v2.0 | Migration Team | 25/02/2025 | Migration FW |
| REF-17 MHHS-DEL3359 - Terminology and Glossary v4.0 | Migration Team | 29/04/2025 | Migration FW |

## 1.3 Terminology

Please see MHHS-DEL3359 - Terminology and Glossary v4.0

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# 2 Introduction

## 2.1 Document purpose

The purpose of this document is to inform and guide Participants through the essential aspects of planning and managing migration activates in collaboration with the MCC. This document brings together the foundational principles and operational guidelines critical for the successful execution of the MHHS migration, including:

1. **Migration Thresholds:**
   - An extension and elaboration of the Thresholds defined in MHHS-DEL1648 - Migration Thresholds Document v2.0
2. **Core Principles:**
   - Essential tenets that align with the overarching MHHS Programme and migration goals.
3. **MCC and Migration Schedule Principles:**
   - Outlining the Migration Control Centre's approach to integrating individual Supplier Migration Plans into a single MHHS Migration Schedule that meets the Migration Framework Principles and aligns with the Migration Framework Core Principles.
4. **Modelling Assumptions:**
   - A set of assumptions that can help predict and inform how the migration phase will operate to support modelling.
5. **Guidelines:**
   - Operational instructions for daily migrations, capacity management, MHHS plans creation and submission and plan adherence.

This document should be read in conjunction with the following supporting artefacts.

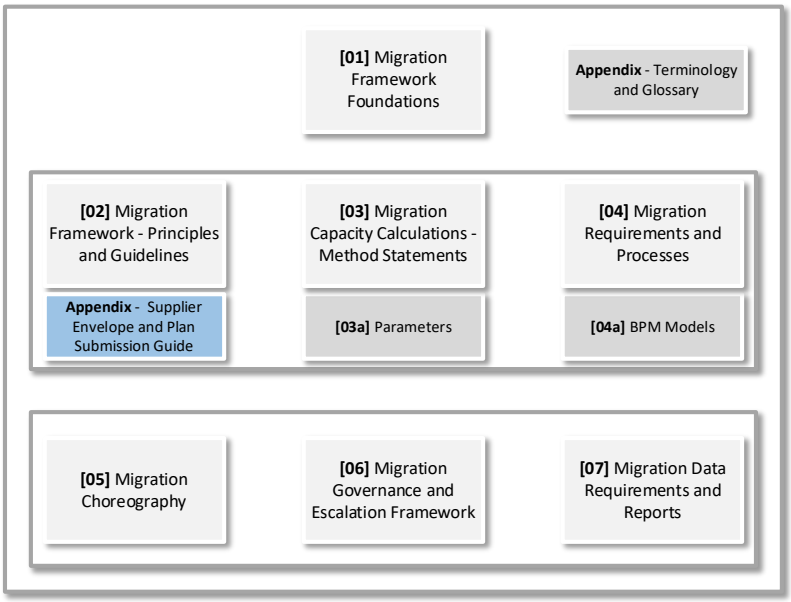


*Figure 1 - Migration Framework Document architecture*

The Migration Framework, overseen by the Migration Control Centre, will primarily focus on the initial setup of the Migration Schedule and its ongoing maintenance. This includes adapting to changes such as adjustments in qualification timelines and any deviations from the planned schedule.

This document, and supporting documents as listed in the References section, together with the migration timetable, form the MHHS Migration Plan that details the obligations, as defined in Section C12 of the Balancing and Settlement

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Code Section C, that defines the obligations on MHHS Market Participants relating to participation in the Migration of MHHS Metering Systems.

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# 3 Intended Audience

These parties are:

- The Registration Services (including Service Providers);
- Suppliers;
- Data Collectors / Aggregators;
- Meter Operators;
- The DIP Service Provider;
- Metering Services (i.e., MSS, MSA);
- Data Services (i.e., SDS, ADS, UMSDS);
- EES;
- LDSOs (i.e., DNOs and iDNOs);
- Meter Administrators;
- The DCC, operating Smart Metering and CSS;
- NESO;
- Elexon Central Services (ECS);
- Electralink (DTN);
- REC and BSC Performance Assurance Boards; and
- UMSOs.

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# 4 Migration Thresholds and Limits Summary

Where values for Parameters are defined within this document they are for illustrative purposes. The definitive source for the Parameter values is:

- REF-4 MHHS-DEL2429-[03a] Calculations Monitoring and Control – Parameters 4.0
- Also refer Capacity Calculation Methodology in REF-1 MHHS-DEL2426-[01] Migration Framework Foundations v4.0

| # | Threshold Name | Description | Value | Period | Level | Notes |
|---|---|---|---|---|---|---|
| **TH-001** | **Daily Planned Migration Threshold** | Maximum number of MPANs planned for migration each day | 200,000 | Daily | Total Network Volume | The Sum Total of LDSO Portfolio Thresholds for All LDSOs with a planned migration of active MPANs will not exceed this limit |
| **TH-002** | **Upper Migration Threshold** | Absolute maximum number of MPANs that can be migrated on any given day | 300,000 | Daily | Total Network Volume | This limit included the Daily Planned Migration Threshold and the tolerances required for:<br>1) Re-submissions for retries and errors<br>2) Reverse Migration Capacity<br>3) Reserved headroom for exceptional processing<br>4) MCC Discretionary headroom to accelerate Migration during periods of high demand/contention<br>5) Exceptional Capacity in the event of a significant impact/deviation to the Migration Schedule to protect M15 milestone |
| **TH-003** | **LDSO Portfolio Thresholds (5)** | LDSO Portfolio Size < 900K | 10,000 | Daily | LDSO | Limits set for each LDSO based on the size of their portfolio, ensuring balanced migration across different operators |
| **TH-004** | **LDSO Portfolio Thresholds (4)** | LDSO Portfolio Size 900K - 1.4M | 15,000 | Daily | LDSO | Limits set for each LDSO based on the size of their portfolio, ensuring balanced migration across different operators |
| **TH-005** | **LDSO Portfolio Thresholds (3)** | LDSO Portfolio Size 1.4M - 2.0M | 20,000 | Daily | LDSO | Limits set for each LDSO based on the size of their portfolio, ensuring balanced migration across different operators |
| **TH-006** | **LDSO Portfolio Thresholds (2)** | LDSO Portfolio Size 2.0M - 3.0M | 30,000 | Daily | LDSO | Limits set for each LDSO based on the size of their portfolio, ensuring balanced migration across different operators |
| **TH-007** | **LDSO Portfolio Thresholds (1)** | LDSO Portfolio Size > 3.0M | 40,000 | Daily | LDSO | Limits set for each LDSO based on the size of their portfolio, ensuring balanced migration across different operators |

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# 5 Migration Principles

Collected principles from previous migration artefacts, reviewed and refined.

Where values for Parameters are defined within this document they are for illustrative purposes. The definitive source for the Parameter values is:

- REF-4 MHHS-DEL2429-[03a] Calculations Monitoring and Control – Parameters 4.0
- Also refer Capacity Calculation Methodology in REF-1 MHHS-DEL2426-[01] Migration Framework Foundations v4.0

## 5.1 Migration Framework Core Principles

Core principles driving the migration strategy, such as fairness, transparency, and efficiency.

| ID | Name | Principle Category | Statement | Rationale | Implications |
|---|---|---|---|---|---|
| **MCP-01** | **Equitable Migration Scheduling** | Business | A Migration schedule will be agreed with participants before M10 and allocation principles will govern the allocation of migration capacity to participants in an objective, fair and transparent manner. | To provide all participants with an equal opportunity to prepare for migration and to ensure the process is considered fair. | Participants must be ready to commit to a schedule by M10 and accept that allocation is based on predefined principles that may require flexibility from participants. |
| **MCP-02** | **Schedule Flexibility** | Architectural | Participants will be required to be flexible with their migration schedules to enable the optimal utilisation of the finite migration capacity and support fair capacity allocation. | Flexibility ensures that unavoidable changes in capacity or participant readiness can be managed without significant disruption to the overall migration. | Participants will need to adapt to potential rescheduling and reallocation of migration capacity and/or start dates as required. |
| **MCP-02a** | **Schedule Flexibility** | Business | The Migration Schedule should seek to provide as much flexibility to Suppliers in their migration planning as constraints allow | Suppliers will have differing approaches as to how they wish to manage their migration, and the approach should cater for that as far as is practicable | The MCC will need to ensure that Capacity Envelopes incorporate available headroom to allow suppliers to flex within that envelope and be able to identify areas where unused capacity may be offered to other participants. |
| **MCP-02b** | **Schedule Flexibility** | Communication | Participants will inform the MCC at the earliest opportunity should any events take place that could impact a party's ability to adhere to their migration schedule. | The MCC will continuously seek to re-allocate unused capacity | Avoid wasted capacity. |
| **MCP-03** | **Maximized Migration Capacity Utilization** | Migration Planning | The MCC will continuously seek to use all available capacity with the management of the migration schedule, monitoring of participant readiness, monitoring migration effectiveness and managing the re-allocation of capacity if required | To prevent any waste of migration capacity and demonstrate fairness according to reallocation principles when adjusting the migration schedule. | The MCC may need to make frequent adjustments to the schedule, and participants must be responsive to these changes.<br>1. Some changes may be at very short notice in exceptional circumstance when another supplier is unable to meet the committed capacity allocated in the migration schedule.<br>2. This can impact allocations on daily, monthly, and per LDSO levels. |

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| ID | Name | Principle Category | Statement | Rationale | Implications |
|---|---|---|---|---|---|
| **MCP-04** | **Delegated Schedule Management** | Governance | The MCC will have delegated authority from the SRO to manage changes to the Migration Schedule and re-allocations as per the MCC framework | Centralised authority allows for swift decision-making and consistent management of the migration process. | The MCC's decisions on schedule changes will be final, requiring participant adherence. |
| **MCP-05** | **Migration Schedule Level** | Data | The MCC will provide the total planned migrations per day, per Licensed Distribution System Operator (LDSO); and will regularly report on migration performance (success, exceptions). | Maintains stakeholder confidence and allows for informed decision-making by participants. | Regular, detailed reports will be made available when key events occur such as:<br>1. Expected Supplier Qualification Date changes and slippage in expected migration start<br>2. Consistent underutilisation of capacity allocation by Supplier.<br>3. New Supplier about to start migration for LDSO<br>4. Migrations schedules allocation defined and communicated per LDSO |
| **MCP-06** | **Performance Metrics Visibility** | Data | The MCC will provide transparency of participant performance to plan. This may be in the form of a RAG status and not participant MPAN volumes. | Openness about performance encourages accountability and continuous improvement, and collaborative, creative problem solving. | Participants will need to regularly provide data related to performance e.g. deviations from planned, routes to green. |
| **MCP-07** | **Migration Schedule Planning** | Migration Planning | The Supplier must appoint a Principal Contact and at least one Planner | The MCC must have an accountable person for Migration and confirmed person responsible for migration planning for each Supplier. | The MCC can escalate expediently when the issues related to migration performance or migration schedule submission arise. |

## 5.2 MCC and Migration Schedule Principles

Principles specific to the creation and maintenance and monitoring of the migration schedule:

| ID | Name | Principle Category | Statement | Rationale | Implications |
|---|---|---|---|---|---|
| **MSP -01** | **Network Levelling** | Thresholds | • The application of Central Services Threshold and Individual LDSO Thresholds ensures that migration modelling adheres to key constraints<br>• Individual LDSO Thresholds are informed by the LDSO's portfolio size, and the Central Systems Threshold caps the aggregate number of migrations at 200k per day, with a provision for up to 280k | • Ensures system stability and efficiency by preventing overload and ensuring equitable distribution of migration capacity among LDSOs | • Migration modelling must account for both individual LDSO capacities and the overall system's capacity, impacting how migration slots are allocated and potentially limiting the number of migrations that can be conducted within a given period |
| **MSP -02** | **Reserved Capacity** | Capacity Allocation<br><br>Migration Planning | • Reserved capacity is essential for handling reverse migrations, erroneous migrations needing retries | • Acknowledges the changeable nature of the migration schedule and the need for flexibility to address unforeseen issues and corrections, and reverse migrations for which we do not have a benchmark | • A portion of the migration capacity is always available to address unexpected requirements, potentially reducing the overall daily migration capacity but increasing the robustness and adaptability of the migration schedule |

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| ID | Name | Principle Category | Statement | Rationale | Implications |
|---|---|---|---|---|---|
| **MSP -03** | **Small Portfolio Challenges** | Capacity Allocation | • Below a certain threshold for small Suppliers' and small LDSOs', capacity envelopes are an inappropriate means to provide capacity constraints for the purposes of planning | • Small portfolio sizes generate disproportionately small values for migration planning, complicating the allocation of migration capacities<br>• Similarly, when an LDSO portfolio is < 150K the share of Central Services Capacity the total potential share of central services capacity for these small portfolios is < 1K MPANs per day. | • A separate approach is required to support small portfolios |
| **MSP -04** | **Balancing Migration Initiation & Completion** | Thresholds | • The MCC must consider both the initiation and completion stages of MHHS MPAN migrations. A concentration of load on specific effective start dates may lead to threshold breaches | • Avoid instances where Migration Thresholds breach / or individual systems capacity breach occurs as a result of concentrations of Agent Appointments confirmations having built up by previous days initiation activity | • There must be a fixed duration between initiation and completion in the Core Migration Window and Ramp-Down.<br>• Shorter durations may be used in the Supplier Ramp-up Period or Industry Ramp-up Periods for small migration volumes to allow Participants to gain faster feedback.<br>• Suppliers must include Secondary MPANs counts within their Submissions to allow completions to be tracked. |
| **MSP -05** | **MCC Calendar** | Migration Planning<br><br>Migration Coordination | A Migration Control Centre Calendar will be provided to mark the following:<br>o LDSO Operating hours as defined in the MHHSP_OPC001_Operational_Choreography<br>• Standard working days, weekends,<br>• Public holidays<br>• Non-migration days due to:<br>o Price control events<br>o Contract rounds<br>o Change freezes<br>• Migration Schedule Dates :e.g.<br>o Submission deadlines<br>o Schedule Baseline<br>o Schedule Publication<br>• Migration Schedule calendar dates will be managed outside of the Migration Framework and will be ratified by MCAG | • To support effective migration planning and execution, participants need a clear understanding of the operational and non-operational days within the MHHS Migration environment | • Suppliers must use the Migration Calendar to align their migration submissions with the available operational days, accounting for non-migration periods<br>• To ensure that Suppliers and Agents are prepare to meet the submission deadlines for updated migration plans on a regular basis for the next migration sprint |

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| ID | Name | Principle Category | Statement | Rationale | Implications |
|---|---|---|---|---|---|
| **MSP -06** | **Industry & Supplier Ramp-Up Profile** | Capacity Allocation<br><br>Migration Planning | • MHHS Migration should begin with low volumes to initially validate the overall system's performance and, subsequently, the performance of individual parties involved.<br>• Additionally, suppliers starting migration post-initial cohort are required to follow a ramp-up period based on a risk methodology before operating at full capacity to prove successful operation | • Starting with lower volumes allows for the identification and resolution of issues without overwhelming the system | • Suppliers Migration Allocation Envelopes with include Industry Ramp-up profiles and Supplier Ramp-up profiles which allows for system validation and performance assessment before ramping up to full capacity.<br>• This strategy should apply to all suppliers, including those starting after the initial ramp-up phase, to confirm operational readiness before full-scale migration including checks for any potential settlement issues with options to pause/stop migration. |
| **MSP -07** | Supplier Submission Granularity | Migration Planning | • Removed | • | • |
| **MSP -08** | **Core Migration Volume Completion Period** | Migration Planning<br><br>MCC Approach | Migration modelling assumes that parties will use the majority of available capacity and that the period between the start of migration and when it is largely complete will be broadly similar for suppliers.<br>• Suppliers are expected to maximize the use of available migration capacity and aim to have completed 90% of their portfolio by the end of the Core Migration Window.<br>• NOTE: The definition of the Core Migration Window may be adjusted by the MCC with approval from MCAG.<br>• NOTE: Where a suppliers submission falls under de minimis rules the Core Migration Window volume expectations will offer more flexibility. | • Ensuring a timely and efficient migration for all participants by optimizing capacity usage and adhering to a structured timeline. | • Suppliers need to strategically manage their migration submissions to align with the MCC Supplier Migration Capacity Envelopes and completion timelines while planning for the tail-end complexities and exceptions.<br>NOTE: It is expected that Supplier Migration plans will show a significant left-bias with a long tail. The long-tail allowing for migration repair and complex scenarios.<br><br>Challenges in migrating certain MPANs are acknowledged, and provisions for exceptions must be incorporated.<br>Time-bound dependencies exist; such as Export MPAN creation, that impact migration rates for specific MPAN subsets. |
| **MSP -08a** | **Data Driven Approach to the Definition of Scaling Factors** | Capacity Allocation<br><br>MCC Approach | Specific scaling factors relevant to the migration process will be configurable by the MCC and may be adjusted at a later stage, contingent upon the availability of more detailed information, including:<br>• Qualification Timelines.<br>• Suppliers' preferred start dates.<br>• Supplier ecosystem cohort qualification timelines.<br>• Anticipated daily migration volumes. | • Allows for a more accurate and relevant approach to providing the Supplier Migration Capacity Envelopes when more information is available. | • As above |

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| ID | Name | Principle Category | Statement | Rationale | Implications |
|---|---|---|---|---|---|
| **MSP -09** | **Daily Migration Thresholds per Supplier / LDSO** | Capacity Allocation<br><br>Migration Planning | • To manage network and system capacities effectively and maintain fairness, the Migration Control Centre (MCC) will issue Migration Capacity Envelopes at the Supplier (MPID) - LDSO (MPID) level.<br>• These envelopes serve as the upper bounds for planning migration submissions, ensuring that the total submissions do not exceed the daily capacity of individual LDSOs or the overall system.<br>• The envelopes will be calculated based on the supplier's portfolio proportion within a given LDSO against that LDSO's network levelled threshold for a given day.<br>• Over time, as more suppliers become qualified within an LDSO, these envelopes will be scaled down to accommodate new entrants.<br>• Additionally, the envelopes will be tailored with a left bias in accordance with the Core Migration Volume Completion Period.<br>• Spare migration capacity will be identified and communicated to suppliers for potential use in-line with the Unused-Capacity Allocation processes. | • Establishing clear guidelines and capacity envelopes ensures that supplier submissions do not exceed network and system thresholds and constraints, while also allowing the MCC to forecast migration end-dates and uphold fairness principles. | • Suppliers must adhere to their provided Migration Capacity Envelopes when planning submissions, adjusting their plans based on systematic feedback and available spare capacity.<br>• For Suppliers to make use of unused capacity their migration plans need to be able to respond to the short notice of availability of capacity within the Migration Sprint<br>• LDSOs will receive Aggregate views all Supplier plans per LDSO once confirmed. |
| **MSP -10** | **Headroom for Migration Exceptions and Reverse Migrations** | Migration Planning<br><br>MCC Approach | • Migration Exceptions and reverse migration events will inevitably occur and erode the overall migration capacity.<br>• This approach will initially reserve a portion of the Upper Migration Threshold capacity for handling such events.<br>• As migration progresses and a clearer understanding of the impact of errors and reverse migrations emerges, a more informed, risk-based approach will be employed to adjust the headroom within the exceptional circumstances threshold, either by releasing or reducing it based on actual migration outturn. | • Accounting for errors and reverse migrations from the outset ensures that the migration schedule remains robust, resilient and adaptable, without significantly disrupting the overall migration capacity. | • Suppliers and the MCC must plan for and manage the impact of errors and reverse migrations within the predefined exceptional circumstances capacity, adjusting strategies as actual data on these events becomes available. |

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