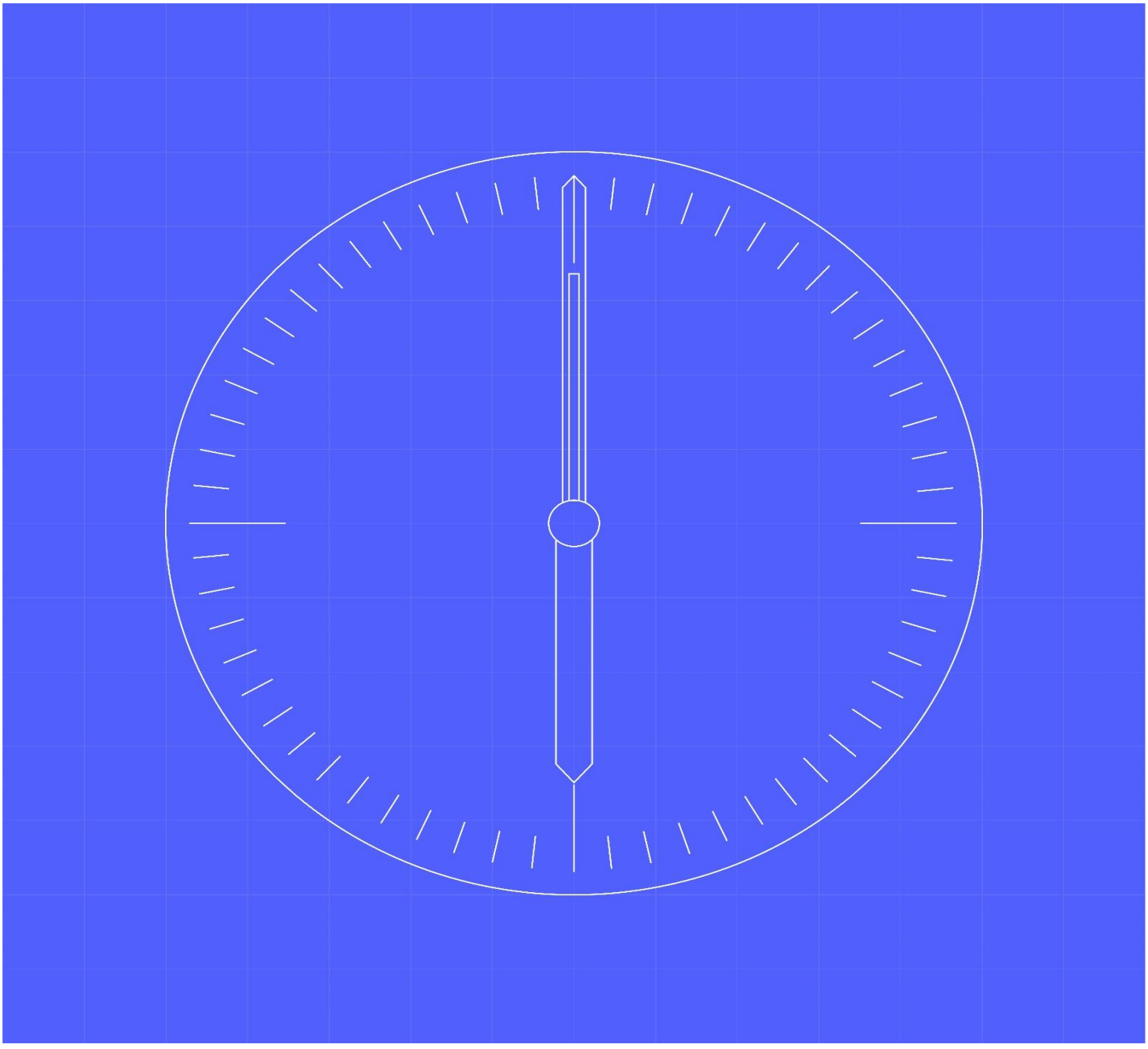
[03] Migration Capacity Calculations - Method Statements



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1 Contents

1.1 Change Record

Date	Author	Version	Change Detail
18/03/2024	Migration Team	0.1	Draft for Industry Consultation
19/04/2024	Migration Team	0.2	Revised Draft for Assurance Meeting
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25/07/2024	Migration Team	2.0	Version Uplifted following MCAG Interim Approval
26/11/2024	Migration Team	2.1	Draft for Industry Consultation 3

1.2 References

Document		Publisher	Published	Additional Information
REF-01	MHHS-DEL2426-[01] Migration Framework Foundations v2.1	Migration Team	20/12/2024 (Draft)	Migration FW
REF-02	MHHS-DEL2427-[02] Migration Framework - Principles and Guidelines v2.1	Migration Team	20/12/2024 (Draft)	Migration FW
REF-03	MHHS-DEL2428-[03] Migration Capacity Calculations - Method Statements v2.1	Migration Team	20/12/2024 (Draft)	Migration FW
REF-04	MHHS-DEL2429-[03a] Calculations Monitoring and Control – Parameters v2.1	Migration Team	20/12/2024 (Draft)	Migration FW
REF-05	MHHS-DEL2430-[04] Migration Requirements and Processes v2.1	Migration Team	20/12/2024 (Draft)	Migration FW
REF-06	MHHS-DEL2431-[04a] Migration Business Process Models v2.1	Migration Team	20/12/2024 (Draft)	Migration FW
REF-07	MHHS-DEL2762-[05] Migration Choreography v2.1	Migration Team	20/12/2024 (Draft)	Migration FW
REF-08	MHHS-DEL2763-[06] Migration Governance and Escalation Framework v2.1	Migration Team	20/12/2024 (Draft)	Migration FW
REF-09	MHHS-DEL2764-[07] Migration Data Requirements and Reports v2.1	Migration Team	20/12/2024 (Draft)	Migration FW
REF-10	MHHS-DEL961 – Migration Design Document v1.4	Migration Team	12/06/2024	
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 v1.1	Migration Team	20/12/2024 (Draft)	
REF-14	MHHS-DEL813 – Overarching Test Data Approach and Plan v1.0	Testing Team	19/07/2023	
REF-15	MHHS-DEL1181 – Data Cleanse Plan v2.1	Migration Team	04/06/2024	
REF-16	MHHS-DEL1792 - M15 Acceptance Criteria v1.1	Migration Team	20/12/2024 (Draft)	
REF-17	MHHS-DEL3359 – Terminology and Glossary v2.1	Migration Team	20/12/2024 (Draft)	Migration FW

1.3 Terminology

Term	Description
BAU Process	This refers to a process within the MHHS arrangements as set out within the MHHS Core Design.
BSC	Balancing and Settlement Code
Central Services / Systems	MHHS Programme term referring to the parties and systems that comprise the supporting infrastructure for MHHS business processes and services, namely the Elexon Central Services, Electricity Enquiry Service, Data Service Provider, Central Switching Service, Data Transfer Network, and the Data Integration Platform.
CoA	Change of Agent
CoS	Change of Supplier
CSS	Central Switching Service
Daily Planned Migration Threshold	This is an industry-wide limit on the maximum planned for number of migrations that can take place on a given day under normal circumstances (200,000).
Data Cleanse Plan	The approach and activities required to improve and populate data prior to Migration start.
DC	Data Collector
DIP	Data Integration Platform
DS	Data Service
DSP	Data Services Provider
ECS	Elexon Central Services
EES	Electricity Enquiry Service
Export MPAN	An MPAN that exports energy to the grid from a premises.
Forward Migration	The process through which MPANs will move from legacy arrangements to MHHS arrangements.
IDNO	Independent Distribution Network Operator
Import MPAN	An MPAN that imports energy from the grid to a premises
ISD	Industry Standing Data
LDSO	Licensed Distribution System Operator
LDSO Portfolio Thresholds	Limits set for each LDSO based on the size of their portfolio, ensuring balanced migration across different operators See MHHS-DEL1648 - Migration Thresholds Document v1.~~MHHS-DEL1648 - Migration Thresholds Document v1.0~~
Legacy Arrangements	The existing arrangements set out under the BSC and REC. For the purposes of the Migration Design, this is primarily the REC Metering Services Schedule and the Balancing and Settlement Procedures related to Data Collection.
MCC	Migration Control Centre
MFW	Migration Framework
MHHS	Market-Wide Half-Hourly Settlement
MHHS Arrangements	The new MHHS arrangements as set out in the MHHS Core Design Artefacts.
Migration Design	The technical articulation of how MPANs will move from legacy to new MHHS arrangements. See MHHS-DEL961 – Migration Design Document v1.
Migration Period	The period denoted by the Programme as occurring between the M11 and M15 milestones.
Migration Planning and Management Tool (MPMT)	Application to be developed for use by the MCC to manage the end to end migration process
MOP	Meter Operator
MPAN	Meter Point Administration Number
MPID	Market Participant Identifier
MS	Metering Service
MWG	Migration Working Group
NFR	Non-Functional Requirement

Term	Description
Primary MPAN	The MPAN, within a Related MPAN arrangement, for which a Switch is initiated, or a forward migration (via an IF-031) is initiated.
Qualified Supplier	A Supplier MPID recognised in ISD as both having passed the relevant BSC qualification requirements; and declared that their service is operational within the MHHS arrangements.
Registration Service	The Registration Service is the LDSO service that holds Meter point standing data information about each MPAN within its Distribution Region. Data includes the BRP the processing and metering services appointed to the MPAN. It also includes information on the type of customer, the Measurement Class, Energisation Status and Line Loss Factor Class.
REC	Retail Energy Code
Reverse Migration	The process through which MPANs will move from MHHS arrangements to legacy arrangements.
Secondary MPAN	The MPAN, within a Related MPAN arrangement, for which a forward migration occurs when an IF-031 is received for a Primary MPAN.
Switch	The process by which a new Supplier Registration supersedes an existing Supplier Registration, managed by the CSS.
Upper Migration Threshold	This is an industry-wide limit on the maximum number of migrations that can take place on a given day under exceptional circumstances (300,000). See MHHS-DEL1648 - Migration Thresholds Document v1.~~MHHS-DEL1648 - Migration Thresholds Document v1.0~~
Supplier Capacity Envelope	A daily profile covering the whole migration period detailing the maximum number of migrations for a given Supplier MPID in a LDSO that may be undertaken. This also includes the submission rules for a Supplier MPIDs deminimus category submissions.
Supplier Submission	A Supplier's forward view of planned migrations by MPID at LDSO Region level that falls within the Supplier Capacity Envelope provided for each LDSO Region and includes all eligible MPANs within their portfolio within each LDSO Region. The aggregate Supplier Submissions shall include all eligible MPANs within the Suppliers portfolio.

2 Supplier Migration Capacity Calculations: Method Statement

2.1 Introduction

This document details the calculations required to set the Scaled Supplier Capacity Envelopes within each LDSO Region (defined by the Supplier Market Participant Identifier: $MPID_{XR}$). These envelopes will inform Suppliers of the Capacity within which it is expected that they shall submit their Migration Schedules. The calculations use the Parameters defined in MHHS-DEL2429-[03a] Calculations Monitoring and Control – ParametersMHHS-DEL2429-[03a] Calculations Monitoring and Control – Parameters v2.1

~~2.2~~ This document, and supporting documents as listed in the References section, form part of the MHHS Migration Plan that details the obligations, as defined in Section C12 of the Balancing and Settlement Code Section C, that defines the obligations on MHHS Market Participants relating to participation in the Migration of MHHS Metering Systems.

~~2.3~~2.2 Load Contention

The calculations accommodate competing ‘thresholds’ set out in the Migration design artefact MHHS-DEL1648-Migration Threshold Documentv1.0. Thresholds are set for both Central System Parties (200-300K per Migration Date) and by each LDSO Region (10-40K per Migration Date).

See the following documents for the actual values MCC controlled parameters including Central Systems Thresholds and LDSO Thresholds:

- MHHS-DEL2427-[02] Migration Framework - Principles and Guidelines v2.1~~MHHS-DEL2427-[02] Migration Framework - Principles and Guidelines v2.1~~
- MHHS-DEL2429-[03a] Calculations Monitoring and Control – Parameters v2.1

~~2.4~~2.3 Approach

These calculations shall be undertaken for each LDSO Region and Supplier combination. The approach set out in the calculations below initially adjust the Central Service Migration Threshold to accommodate small LDSO Market Participant Identifiers (MPIDs) with MPAN Volumes that are below a De-Minimis Threshold. An Adjusted LDSO Migration Threshold is then calculated to include capacity that is reserved for re-tries and re-migrations following reverse Migration activity. The Adjusted LDSO Migration Threshold also excludes Supplier MPIDs that have portfolios that are below a De-Minimis Supplier Threshold. The Adjusted LDSO Migration Threshold Capacity is then split proportionally between qualified Suppliers within the LDSO Region weighted to ensure late qualifying Parties have sufficient capacity to complete their Migration activities by the ‘M15’ Milestone.

~~2.5~~2.4 Detailed Calculations for Scaled Supplier Capacity Envelopes

The following Identifiers are used in this document:

Identifier	Data item
D	Migration Date
R	LDSO Region
X	Supplier

~~2.6~~2.5 Setting the Central Service Migration Threshold

The daily Central Service Migration Threshold ($CSMT_D$) for Migration Date “D” shall have a default value of 200K. This value may be flexed up to 300K to accommodate peak Migration Periods.

~~2.7~~2.6 Setting the De~~-M~~m~~-M~~inimis LDSO Threshold Flag

Where for an LDSO Region “R” the LSDO Metering Point Count ($LMPC_{RD}$) is less than the De~~-M~~minimis LDSO Threshold ($DMLT_R$) value then the De~~-M~~minimis LDSO Threshold Flag ($DLTF_R$) shall be set as follows:

If $LMPC_{RD} < DMLT_R$
then set the LDSO MPID “R” $DLTF_R$ = “T”,
else $DLTF_R$ = “F”

~~2.8~~2.7 Setting the De~~-M~~m~~inimis~~ Supplier Threshold Flag

Where for a Supplier “X” the Initial Supplier (Group) LDSO Portfolio~~Initial Supplier Portfolio~~ ($ISLPR_X$) is less than the De~~-M~~minimis Supplier LDSO~~Portfolio~~ Threshold ($DMSSLPT_{Rx}$) value then the De~~-M~~minimis Supplier LDSO Threshold Flag ($DSLTF_{XR}$) shall be set as follows:

If $ISLP_{RX} < DMSLT_{RX}$
then set the Supplier MPID “X” $DSLTF_{XR}$ = “T”,
else $DSTLF_{XR}$ = “F”

~~2.9~~2.8 Determining the Adjusted Central Service Migration Threshold

The daily Adjusted Central Service Migration Threshold ($ACSMT_D$) shall be determined using the Central Service Migration Threshold ($CSMT_D$) and the De-Minimis LDSO Factor ($DLFC_{RD}$) as follows:

$$ACSMT_D = CSMT_D * DLFC_{RD}$$

~~2.10~~2.9 Determining the Reserved Capacity

The daily Reserved Capacity (RC_{RD}) shall be determined using the Unadjusted LDSO Migration Threshold ($ULMT_{RD}$) and the Reserved Capacity Factor ($RCFC_{RD}$):

$$RC_{RD} = (ULMT_{RD} * RCFC_{RD}) - ULMT_{RD}$$

~~2.11~~2.10 Determining the Adjusted LDSO Migration Threshold

The daily Adjusted LDSO Migration Threshold ($ALMT_{RD}$) shall be determined using the Adjusted Central Service Migration Threshold ($ACSMT_{RD}$) the LSDO Metering Point Count ($LMPC_D$) the De~~-M~~minimis Supplier LDSO Factor ($DSLFC_{RD}$)~~ (DSPDV$_{RXD}$~~) and the Reserved Capacity (RC_{RD}) as follows:

$$ALMT_{RD} = Min((ACSMT_D * (LMPC_{RD} / \Sigma LMPC_D * 100)) * (1-DSLFC_{RD}) + RC_{RD}, UMLT_{RD})$$

~~2.12~~2.11 Determining the Scaled Supplier Capacity Envelope

The daily Scaled Supplier LDSO Capacity Envelope ($SSLCE_{XRD}$) shall be determined using the Adjusted LDSO Migration Threshold ($ALMT_{RD}$), the Initial Supplier LDSO Portfolio ($ISLP_{RX}$) and the Supplier LDSO Scaling Factor ($SLSF_{XRD}$) as follows:

$$SSLCE_{XRD} = ALMT_{RD} * (ISLP_{RX} * SSF_{XRD} / (\Sigma_{x = 1 \text{ to } n} (ISLP_{RX} * SLSF_{XRD}))$$

Where $SSLCE_{XRD}$ is for Supplier Group MPID "X" for whom the envelope is being calculated and "n" are all the qualified Suppliers migrating on Migration Date "D" and have a $DMLSTF_{XR}$ = "F". The Supplier Scaling Factor ($SSLF_{XRD}$) as defined in the MHHS-DEL2429 - [03a] ~~Migration Capacity~~ Calculation~~s~~ Monitoring and Control - Parameters shall be configured for each Supplier for each Sprint.

3 Scaled Supplier Capacity Envelope: Worked Example

The following is a worked example for the Distribution Region '$XMPL_R$' and for the Supplier '$MIGR_{RX}$' for Migration Date 'D'. For the purposes of this example:

The Central Service Migration Threshold ($CSMT_D$) = 200,000

The Total LSDO Metering Point Count for active Suppliers who receive Envelopes on Migration Date 'D' = ~~33~~19,000,000

LDSO Data

LDSO MPID	LSDO Metering Point Count (LMPC)	Unadjusted LDSO Migration Threshold (ULMT)	De-~~M~~minimis LDSO Threshold Flag (DLTF)		Reserved Capacity Factor (RCFC)
$XMPL_{RD}$	2,511,500~~3,800,000~~	40,000	F		1.02
DSTB	70,000	10,000	T		N/A
DISTC	50,000	10,000	T		N/A
De-~~M~~minimis LDSO Factor (DLFC)	0.02 (2%)				

Supplier Data

Supplier MPID	Initial Supplier LDSO Portfolio (ISLP)	De-Minimis Supplier LDSO Threshold Flag (DSLTF)		Supplier LDSO Scaling Factor (SLSF)	Scaled Supplier Portfolio (ISLP * SLSF)
$MIGR_{RX}$	950,000	F		**1.0**	**950,000**
SUPB	578,500	F		1.0	578,500
SUPC	533,000	F		0.7	373,100

SUPD	450,000	F		0.7	315,000
SUPE	10,000	T		N/A	N/A
SUPF	5,000	T		N/A	N/A
De-~~M~~minimis Supplier LDSO Factor (DSLFC)	0.06 (6%)				
Total Envelope ISLP$_{RD}$	2,511,500				
Total Scaled Supplier LDSO Portfolio					**2,216,600**

NOTE: The De-Minimis values shown in the above tables are for illustration purposes only.

3.1 Determining the Adjusted Central Service Migration Threshold

The daily Adjusted Central Service Migration Threshold (ACSMT$_D$) shall be determined using the Central Service Migration Threshold (CSMT$_D$: 200,000) and the De-~~M~~minimis LDSO Factor (DLFC$_{RD}$ 2%) as follows:

$$ACSMT_D = 200,000 * (1 - 0.02) = 196,000$$

3.2 Determining the Reserved Capacity for XMPL$_R$

The daily Reserved Capacity (RC$_{RD}$) shall be determined using the Unadjusted LDSO Migration Threshold (ULMT$_{RD}$: 40,000) and the Reserved Capacity Factor (RCF$_{RD}$: 1.02):

$$RC_{RD} = (40,000 * 1.02) - 40,000 = 800$$

3.3 Determining the Adjusted LDSO Migration Threshold

The daily Adjusted LDSO Migration Threshold (ALMT$_{RD}$) shall be determined using the Adjusted Central Service Migration Threshold (ACSMT$_{RD}$: ~~190~~196,000) the LSDO Metering Point Count (LMPC$_D$: ~~3~~2,~~,800~~511,~~000~~500) the De-~~M~~minimis Supplier LDSO Factor (DSLFC$_{RD}$ ~~^*)~~ 0.6) and the Reserved Capacity (RC$_{RD}$: 800) as follows:

$$ALMT_{RD} = (196,000 * (~~3~~2,~~800~~511,~~000~~500)/~~33~~19,000,000) * (1-0.06) + 800 = ~~22~~25,~~015~~154$$

3.4 Determining the Scaled Supplier Capacity Envelope for Supplier MIGR$_{RX}$

The daily Scaled Supplier LDSO Capacity Envelope (SSLCE$_{XRD}$) shall be determined using the Adjusted LDSO Migration Threshold (ALMT$_{RD}$: ~~22~~25,~~015~~154), the Initial Supplier LDSO Portfolio (ISLP$_{RX}$: 950,000), the Supplier LDSO Scaling Factor (SSLFC$_{XRD}$:1.0) and the Total Scaled Supplier Portfolio (TSSP: 2,216,600) as follows:

$$SSLCE_{XRD} = ~~22~~25,~~015~~154 * (950,000/2,216,600) = ~~9~~10,~~440~~780$$

3.5 Final Allocation for Suppliers in LDSO $XMPL_R$ for Migration Date D

Completing the calculations for all Suppliers in the Supplier Data Table above gives the following allocation of Scaled Capacity Envelopes.

Supplier MPID	**Initial Supplier Portfolio**
$MIGR_{RX}$	10,780
SUPB	6,665
SUPC	4,233
SUPD	3,594
Total Allocation	**25,154**