

Industry-led, Elexon facilitated

Testing and Migration Advisory Group (TMAG) #14 15 February 2023

Version 1.0

MHHS-DEL950

Agenda

#	Item	Objective	Туре	Lead	Time	Page
1	Welcome			Chair	10:00-10:05 5 mins	2
2	Minutes and actions	Approve minutes. Update on open actions, closing where appropriate	Decision	Chair and Secretariat	10:05-10:10 5 mins	3
3	Programme updates	Provide updates from L2/3 governance groups and wider Programme activity		Programme (PMO)	0 mins	5
4	Data Assessment Report Overview	port Discuss draft Data Assessment Report Overview		John Wiggins	10:10-10:20 <i>10 mins</i>	7
5	Environments Approach and Plan v2.2	proach Approve the updated draft of the Environments Approach and Plan		Simon Berry	10:20-10:30 <i>10 mins</i>	10
6	The future of TMAG	Discuss industry representation in Testing and Migration in MHHS decision-making	Discussion	Chris Welby	10:30-10:40 <i>10 mins</i>	23
7	Working group progress updates	Qualification updateSITWG updateNFTWG mobilisation	Information	Anna Millar Dom Mooney Nigel Hunt	10:40-10:55 <i>15 mins</i>	25
8	Working group report	Provide updates from discussion at the DWG, MWG, EWG, QWG, and SITWG	Information	Programme (Working group leads)	0 mins	29
9	Summary and next steps	Summarise actions/decisions and look ahead to the next TMAG	Information	Chair and Secretariat	10:55-11:00 5 mins	31
	Attachments	 Attachment 1 Environments Approach and Plan v2.2 Attachment 2 Data Assessment Report v0.2 				



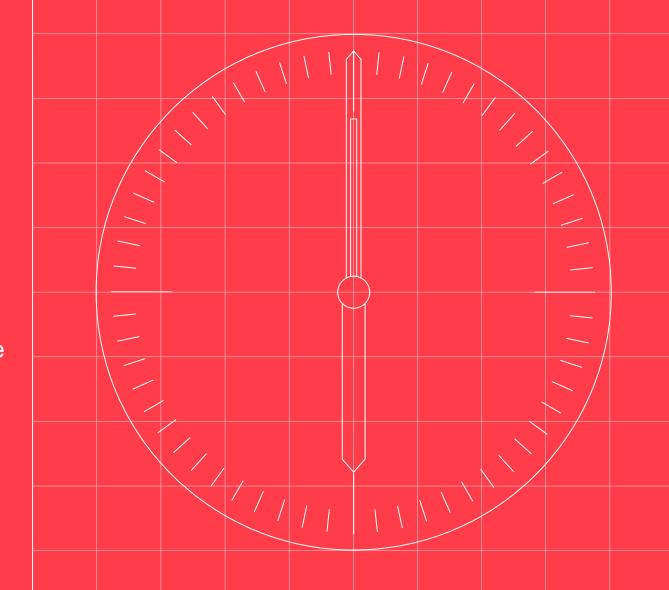
Minutes and actions

DECISION/INFORMATION: Approve minutes. Update on open actions, closing where appropriate

Chair and Secretariat

5 mins

2





Minutes and Actions review

1. Approval of Minutes from last TMAG

2. Open Actions and Actions from previous TMAG (actions will be discussed by exception. Please review the action updates ahead of the meeting)

Ref	Date	Action	Owner	Due	Status	Latest Update
TMAG08-02	17/08/22	Respond to Programme replan consultation. Encourage constituents to respond to the consultation	TMAG members	26/08/22	Recommend closed	Round 3 consultation closed at the end of January.



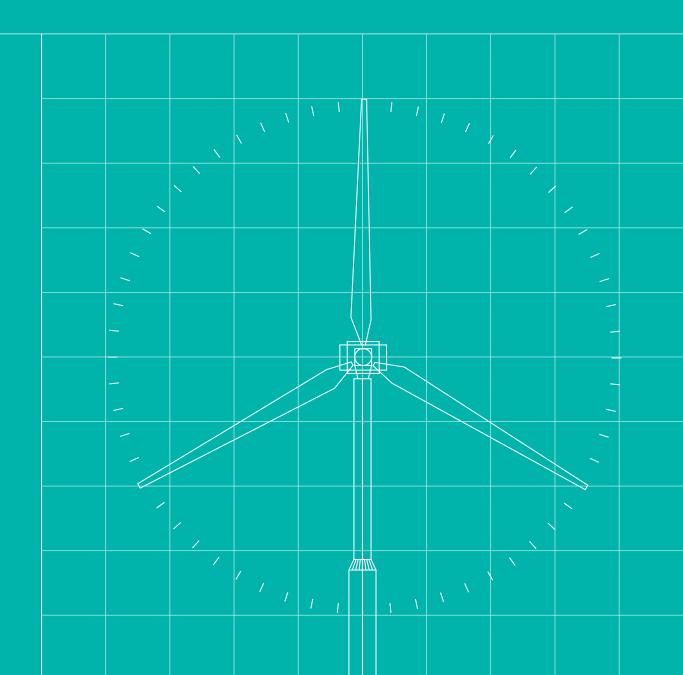
Programme updates

INFORMATION: Provide updates from L2/3 governance groups and wider Programme activity

PMO

3

0 mins – taken as read, questions by exception





Programme Updates

 Programme Steering Group (PSG) Update from PSG 01 February 2023 Avanade introduction – The new DIP provider, Avanade, provided an overview of themselves and their DBT plan Status updates – The PSG heard updates on progress of the M5 Work-Off Plan (which was being proposed for sign off at DAG) and Round 3 of consultation on the Programme plan (which had an excellent response rate with a positive outlook for SIT). Benefits Realisation Plan – The PSG discussed the approach to benefits realisation post-go live and approved the updated Benefits Realisation Plan Change Control – The PSG approved CR013, agreed to raise CR015 to Impact Assessment, and heard an update on the outcome of CR016 Working Group Engagement – The PSG discussed analysis on 	ry Design Advisory Group (DAG)	
 Update from PSG 01 February 2023 Avanade introduction – The new DIP provider, Avanade, provided an overview of themselves and their DBT plan Status updates – The PSG heard updates on progress of the M5 Work-Off Plan (which was being proposed for sign off at DAG) and Round 3 of consultation on the Programme plan (which had an excellent response rate with a positive outlook for SIT). Benefits Realisation Plan – The PSG discussed the approach to benefits realisation post-go live and approved the updated Benefits Realisation Plan Change Control – The PSG approved CR013, agreed to raise CR015 to Impact Assessment, and heard an update on the outcome of CR016 Working Group Engagement – 	Design Advisory Group (DAG)	Cross Code Advisory Group (CCAG)
the engagement of constituencies and the organisations within them at the various MHHS Working Groups. PSG papers available <u>here.</u>	 Updates from DAG 11 January 2023 Actions Review: An in depth review of outstanding actions was undertaken, with updates provided on the approach to performance assurance requirements, implementation of the Enduring Design Hub, and classification of the Meter Point Registration Service (MPRS) as a central system. M5 Work-Off Plan: Updates were provided on the M5 Work-Off Plan and the Programme Change Requests needed to facilitate impact assessment of options for work-off items D-012 (E7/E10 settlement differential) and D-013 (registration service operating hours). Post M5 Design Change Procedure: The DAG approved 	
		 (Data and Metering Services. CCAG papers available here The Programme held a webinar on Delivering Milestone M3 and demonstrating participant readiness for Design, Build and Test (DBT). Slides and recordings are available on the Events page of the MHHS website



Data Assessment Report Overview

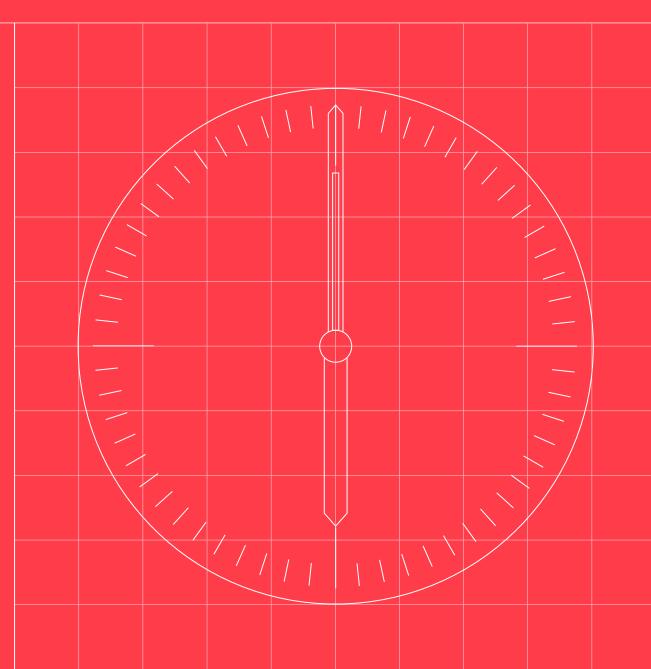
DISCUSSION: Discuss draft Data Assessment Report Overview

John Wiggins

10 mins

4





- The draft Data Assessment Report has been provided within the meeting papers for this TMAG
- Feedback is requested by the Friday the 17th of Feb, to be sent to the migration mailbox migration@mhhsprogramme.co.uk
- The final report will be published on the 21st Feb which is the paper day for the extraordinary TMAG scheduled for the 28th of Feb



- 1. Smart meter technical data: The MHHS design requires each Registration Service to hold a record of smart meter technical data for each MPAN that has a smart meter installed. A new industry initiative and supporting code changes are required to ensure that all required data is populated by the start of the migration phase.
- 2. Population and Maintenance of industry reference data: The existing industry reference data set is supported within Market Domain Data (MDD), which is mastered by Elexon. A new reference data set has been created to support the new MHHS arrangements, Industry Standing Data (ISD). Both MDD and ISD will be required to co-exist across the testing and migration phases (and possibly longer). The ISD data must be populated to support the testing phases and become a 'live' artefact prior to the start of the migration period, in addition, business processes must be in place to ensure correct maintenance and alignment with MDD.
- **3. Migration Transactional data:** Meter readings and meter technical details (except for smart meters) must be transferred to support migration of each individual MPAN. Missing or low quality data will impact migration, either via high exception rates or subsequent operational failures once a MPAN is in the new arrangements.
- 4. 4. Transformation of MPAN data within the Registration Service: Several new data items will be created within the Registration Services to support the new arrangements. This data will be populated via transformation of existing data. In some cases, the legacy data may be incomplete or incorrect which will prevent the automated transformation (via a defined set of business rules). Exceptions will need to be resolved by the party who masters the specific data which caused the failure.



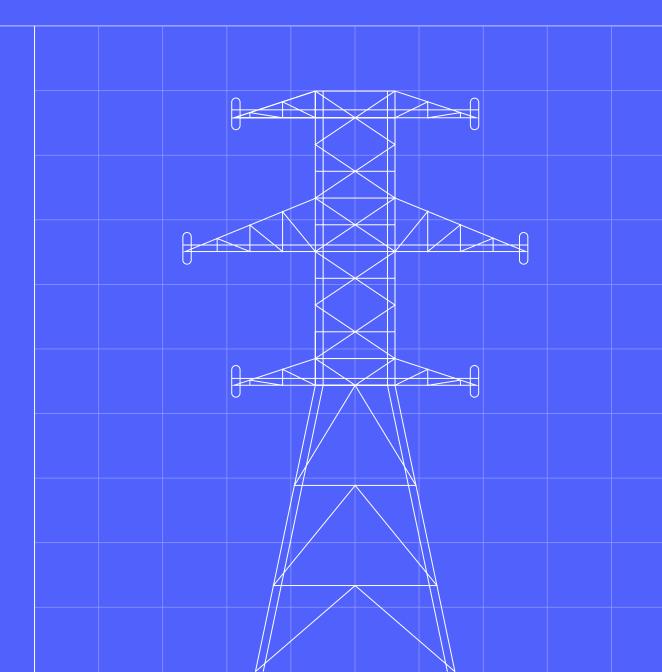
Environments Approach and Plan v2.2

DECISION: Approve the updated draft of the Environments Approach and Plan

Simon Berry

10 mins



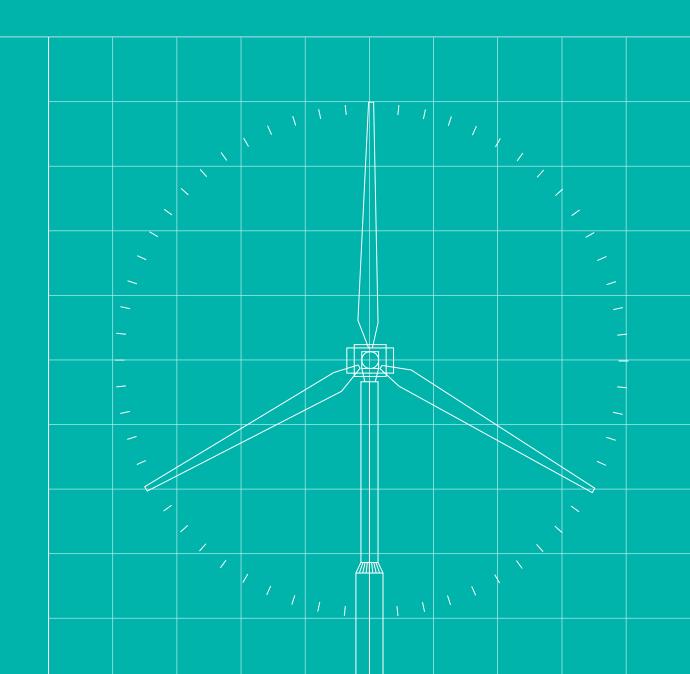


Environments Approach & Plan

- At the point of handover in December the Environment & Release Manager inherited a work-off plan for updates to version 2.1 of the document.
- E2E Test Environment Overview diagram
- Environment Details Template
- In the January EWG we presented the Test Phase timeline that stated when the various test phases would take place. The slides that we discussed in the January EWG and the supplementary slides that were issued in the Headline Report have been incorporated into v2.2 of the document.
- The changes to the document are stated in the Change History.
- The document has been reviewed and approved by LDP and SRO.
- The document is at a status of 'Approved Draft', as the changes from v2.1 are minor I do not propose to issue to Programme Participants for review but to provide a view of the changes in the attached slides with a recommendation that TMAG approve v2.2 for issue.



Section 9 – New Section **Test Phases and** Concurrent Environment Requirements





Master

SIT and UIT Test Timelines

Industry-led, Elexon facilitated

	2023	2024	2025		2026		2026
	28 Jul '23 🔶 SIT PPs Ready to			MHHS Test E	invironments –		
	31 Jul '23 - 29 Sep '23 SIT PPs Col	nnectivity Proving		Env	SIT Stage(s)	Required By	
SIT A	21 Aug '23 - 23 Oct '23 Code / 2 Oct '23 - 29 Jan '24			SIT A	CIT Functional Test	Start of CIT	
SILA	30 Oct '23 - 9 Feb '24 SIT CI	Progressive Onboarding & Gove		SIT Staging	Functional Test	Start of Functional Test	
	27 Feb '24 - 7			SIT B	Migration Test Non-Functional Test	Start of Migration Test	
		21 Oct '24 📢	CORE SYSTEMS CODE FREEZE		Operational Test		
	13 Nov '23 🔶 SIT	Central Parties' Ready to Start Conne	ctivity Proving	UIT	E2E Sandbox Test Qualification Test	Start of E2E Sandbox	
SIT	14 Nov '23 - 15 Jan '24	SIT Central Parties' Connectivity Pi	oving	L			
Staging	19 Dec '23 - 19 Feb '24 📒	Code / Data / Reg Test / Gove	rnance				
	27 Feb '24 - 19	Jan '26 Required f	or Code Release Testing (SIT then UIT)				
	26 F	eb '24 🔶 SIT PPs Ready to Start Conn	ectivity Proving				
	27 Feb '24 - 29	Apr '24 SIT PPs Connectivity	Proving				
SIT B		10 Jun '24 - 7 Apr '25 SIT Mig Test (N	VC + Other SIT PPs)				
		2 Sep '24 - 7 Apr '25 SIT N i	T (MVC + Other SIT PPs)				
		7 Oct '24 - 7 Apr '25 🛐	Ops Test (MVC + Other SIT PPs)				
		9 Jul '24 🔶 Central Pa	ties' Ready to Start Connectivity Prov	ing			
		10 Jul '24 - 10 Sep '24 Cen	ral Parties' Connectivity Proving				
UIT		14 Aug '24 - 15 Oct '24 📘	Code / Data / Reg Test / Governance				
		22 Oct '24 - 31 Dec '26		E2E Sandbo	x Testing		
		20 Jan '25	- 19 Jan '26 Qualification	Testing			
	MHHS PROGRAMME						13

Connectivity Proving Phase

Environment Connectivity Proving is essentially establishing Environment Readiness and will include Programme Parties;

- Requesting and installing PKI (TLS and JWS) certificates
- Registering Webhooks
- Demonstrating the use of APIs
- Connecting to each end point for each organisation by Market Role

Lessons learned from previous large scale industry programmes have identified that establishing and proving connectivity prior to the start of testing for Programme Participants has been problematic.

These problems have tended to impact the commencement of test execution.

A dedicated Environment Connectivity Proving stage will enable connectivity activities to be more closely monitored and supported and will act as a Quality Gate for subsequent test activities.



Test Environment Availability Requirements

Environment	Required from	Required to	Sandbox end
SIT-A	23-Jul-23	07-Apr-25	
SIT Staging	13-Nov-23	19-Jan-26	
SIT-B	26-Feb-24	19-Jan-26	
UIT	09-Jul-24	19-Jan-26	31-Dec-26



Concurrent Environments to support SIT & UIT

# concurrent environments	From	То	SIT-A	SIT Staging	SIT-B	UIT	Notes
1	23-Jul-23	13-Nov-23	Y	Ν	N	N	SIT-A is the first environment to be stood up to support SIT Testing.
2	13-Nov-23	26-Feb-24	Y	Y	Ν	Ν	SIT Staging Environment from 13 th November, 2023.
3	26-Feb-24	09-Jul-24	Y	Y	Y	Ν	SIT-B environment from 26 th February, 2024.
4	09-Jul-24	07-Apr-25	Y	Y	Y	Y	UIT environment added. <u>At peak</u> all 4 environments operating in parallel.
2	07-Apr-25	19-Jan-26	Ν	Y	N	Y	SIT-A and SIT-B environments no longer required as SIT Functional, Non-Functional and Migration Testing have completed.
1	19-Jan-26	31-Dec-26	N	N	N	Y	Qualification Testing completed in the UIT Environment. No requirement for additional code releases, therefore no need for the SIT Staging Environment. UIT only used for Sandbox Testing.
0	31-Dec-26		Ν	Ν	Ν	N	Sandbox Testing complete at the end of 2026. No ongoing requirements for environments.



Concurrent Environments to support SIT only

# concurrent environments	From	То	SIT-A	SIT Staging	SIT-B	Notes
1	23-Jul-23	13-Nov-23	Y	Ν	Ν	SIT-A is the first environment to be stood up to support SIT Functional Testing.
2	13-Nov-23	26-Feb-24	Y	Y	Ν	SIT Staging environment from 13 th November, 2023.
3	26-Feb-24	07-Apr-25	Y	Y	Y	SIT-B environment from 26 th February, 2024.
0	07-Apr-25		N	Ν	N	End of SIT Functional, Non-Functional and Migration Testing. Programme Participant has participated in SIT Testing, therefore no need to undertake Qualification Testing, therefore no requirement for UIT environment. All SIT environments stood down.

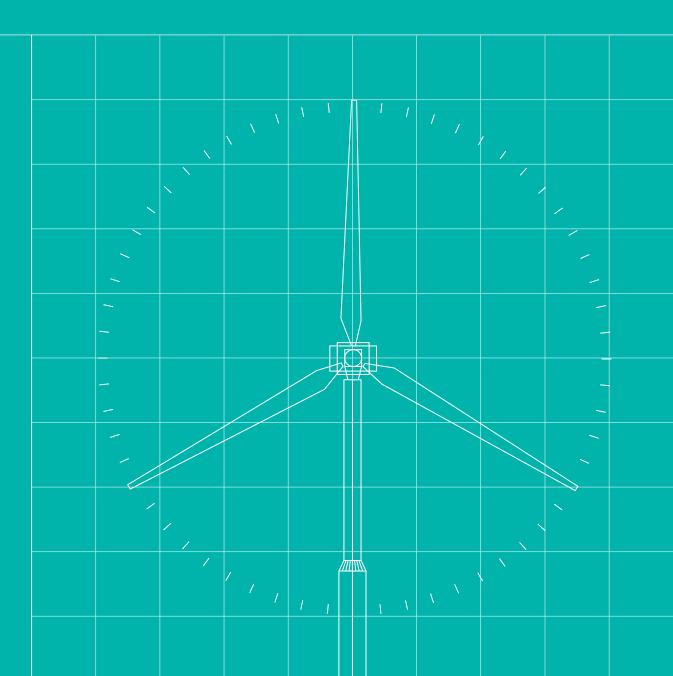


Concurrent Environments to support UIT only

# concurrent environments	From	То	SIT Staging	UIT	Notes
1	13-Nov-23	19-Jan-26	Υ	N	SIT Staging Environment required.
2	09-Jul-24	19-Jan-26	Y	Y	UIT Environment required.
1	19-Jan-26	31-Dec-26	Ν	Y	No more code releases planned. SIT Staging environment no longer required
0	31-Dec-26		Ν	Ν	End of UIT Sandbox testing. No ongoing requirement for environments.



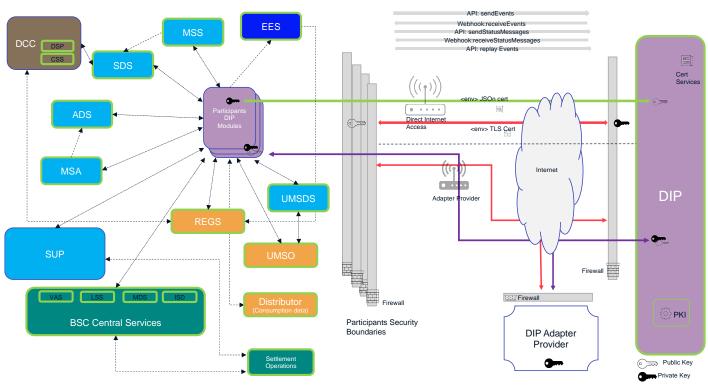
Section 10 Test Environment End to End Overview





Test Environment End to End Overview

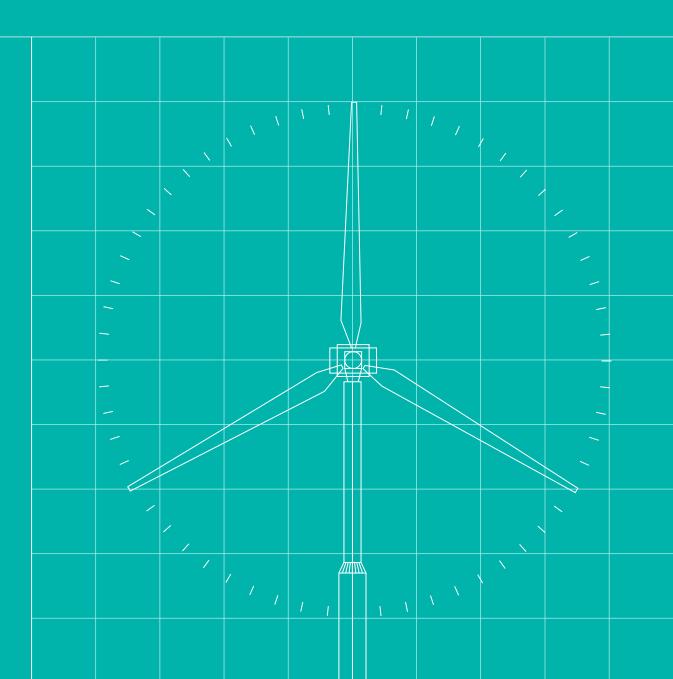
End to End Overview



Abbreviation	Long Description	Abbreviat ion	Long Description
ADS	Advanced Data Services	MSA	Advanced Metering Service
CSS	Central Switching Service	MSS	Metering Service Smart
DIP	Data Integration Provider	REGS	Registration Service
DSP	Data Service Provider	SDS	Smart Data Services
EES	Electricity Enquiry Service	SUP	Supplier
ISD	Industry Standing Data	UMSDS	Unmetered Supplies Data Service
LDOS	LDSO Ops	UMSO	Unmetered Supplies Operator
LSS	Load Shaping Service	VAS	Volume Allocation Service
MDS	Market Wide Data Service		



Section 11 Environment Details Template





Environment Details Template

Category	Description	Details			
Participant Name		It is important we know who you are and who to reach out to.			
Test Lead name		This information will be stored centrally on the Programme's			
Environment contact name(s)		CRM			
System/Application name		Fill in a template for each system that will be involved in MHHS testing			
SIT Staging Environment	Name of environment that will connect to SIT staging	Early thoughts and ideas to help us in planning			
SIT A Environment	Name of environment connecting to SIT Component and Functional test	 Let us know initial thinking for each environment Will an environment be provided? 			
SIT B Environment	Name of environment connecting to SIT NFT, Migration and Operational testing	If not provided will an environment be re-purposed?			
UIT Environment	Name of environment connecting to UIT Qualification and E2E sandbox testing	What are your thoughts and constraints in making these decisions			
Platform	Infrastructure e.g. cloud, on prem, operating system, etc	This info will help when building environments are built and aids			
Interfaces	Protocol used connect to integrated systems	connectivity tests			
Sizing, Configuration and Connectivity details	High level understanding of network interfaces e.g how does the environment connect?				
Readiness	What are the set of smoke checks/tests in place?	Despite being early in the process to confirm this level of			
Readiness Time	How long do readiness checks take to execute	information, it would be helpful to understand what is envisaged.			
Scheduled Downtime	Planned environment downtime e.g maintenance, data refreshes, etc				
Support	Support mechanism for environment issues				
Environment Alert Mechanism	Alert process for environment issues e.g. email subscriptions, Teams alert channels, etc				
Monitoring Tool	Tool used to ensure environment is running				
Environment Set up time	Timeframe to prepare environment				
Data Checks	Are there checks in place to ensure data readiness				
Release Mechanism	Release process description including tool	It is important to understand the release process and the time			
Deployment Time	Time taken to deploy code	taken as it ensures sufficient time is given to release code			
Shared Usage	Is the environment used by other functions apart from MHHS testing?	Confirm that the environments being provisioned are solely used for MHHS testing			



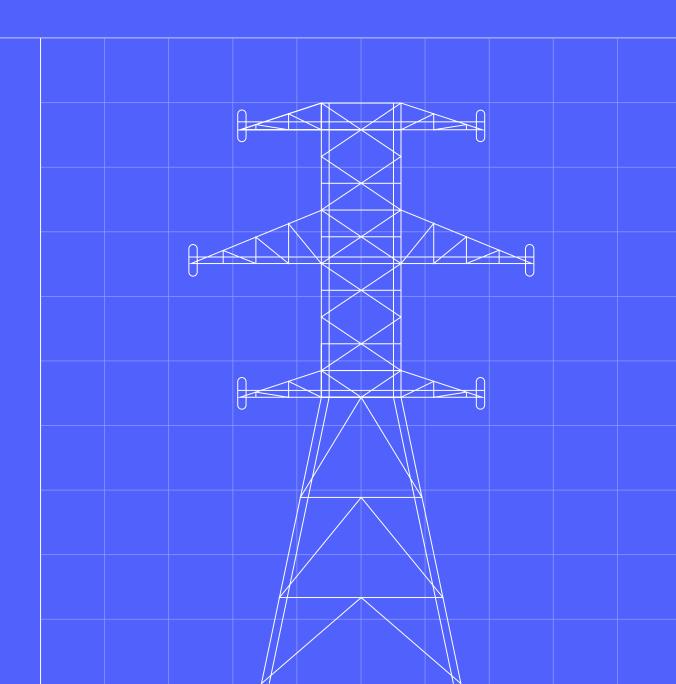
The future of TMAG

DISCUSSION: Discuss industry representation in Testing and Migration in MHHS decision-making

Chris Welby

10 mins





The future of TMAG

Backgrou	ind	•	 Since the Testing and Migration Advisory Group (TMAG) was expanded from just the Testing Advisory Group (TAG), there has been acknowledgement that Testing and Migration may need to split into two separate advisory groups in the future, pending workstream need It has also been noted that different expertise may be required to make decisions on Testing and Migration, and hence industry may require different representatives in MHHS decision-making bodies. This has been raised again recently and we have allowed two members to co-represent Large Suppliers (rather than the seat be vacant). Agreeing a way forward needs the right balance of efficiency and pragmatism (such as minimizing the number of groups we have stood up) while ensuring we have adequate industry representation in decision making 								
		S	ummary	Pros	Cons						
		A	Do nothing and continue as we are. Maintain TMAG and only allow one representative per constituency	Easiest optionNo CR required	 Does not solve problem and issue with representation likely to persist 						
		В	Maintain TMAG but allow two representative attendees per constituency (where separate attendees are required)	Relatively easy to implement	May be complicated when it comes to votingUnclear separation between Migration and Testing						
Options for TMAG going forward		С	Maintain TMAG but allow two representative attendees per constituency. Split TMAG meetings into two parts, with a buffer/break in the middle to allow a rep swap	 Relatively easy to implement Clear separation between Test and Migration 	Minor logistical change						
	D	Separate TMAG into two separate Advisory Groups	 Clear separation between Test and Migration 	 Less efficient – larger workload for Programme and industry, with more groups required May be challenging to fill rep seats in both CR required to change Governance Framework 							

For all options, we will continue to monitor and adjust the approach as required in future

Next steps

TMAG to agree favoured option
 Programme to implement. If a Change Request is required, the Programme will draft and take to PSG for review as TMAG's parent group



Progress updates

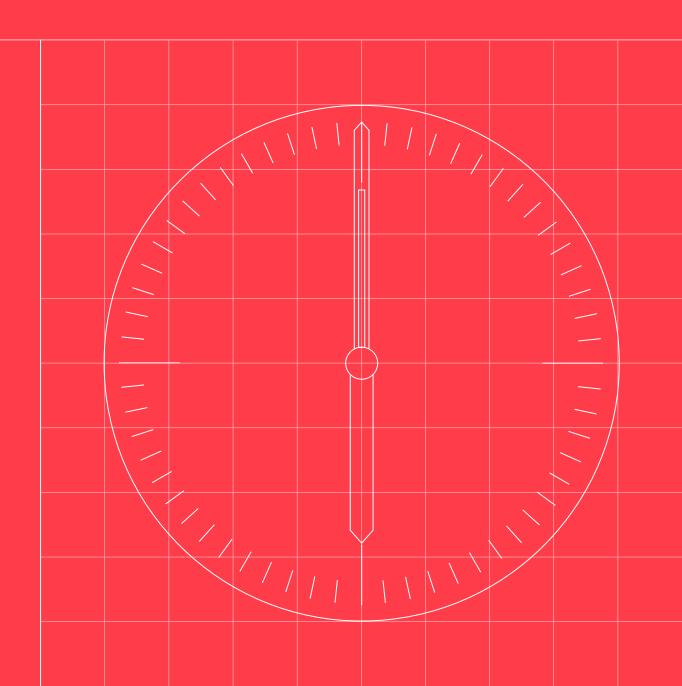
INFORMATION:

- Qualification update
- SITWG update
- NFTWG mobilisation

Anna Millar Dom Mooney Nigel Hunt

15 mins





Qualification Working Group

- Code Bodies set out that the high-level obligation MHHS Qualification phase already in place within the BSC and the REC and that further Code drafting is not required for Qualification activities for the MHHS programme.
- Code Bodies set out the key principles for MHHS Qualification including the interaction between Qualification and MHHSP testing requirements
- Code Bodies set out the roles required to undertake Qualification
- Code Bodies set out a draft high-level structure for the Qualification Assessment Documents participants will complete for the MHHS Qualification process
- The MHHSP provided an overview of the PIT Guidance



SITWG Update

Extraordinary SITWG (held 24th Jan 23)

- Agenda was exclusively consumed by review of initial version of the SIT Scoping document.
- Key actions agreed:
 - SITWG attendees were asked to provide comments in writing on the SIT scoping document by 31st Jan 23
 - Agreed that next WG would be moved to 16th Feb 23
 - SI to address WG comments and issue new version of the Scoping document for review on SITWG paper day (9th Feb 22)

Outlook for next SITWG (16th Feb 23):

- Agenda to cover:
 - SIT Scope Document summary of changes made in latest version
 - PIT Guidance update on published document
 - PIT Completion / SIT Readiness in ref to PP SIT CIT Start proposal on revised timings in line with when parties will enter SIT CIT
 - Placing Reliance current thinking on policy proposal
 - Overarching Test Data Approach update information on document
 - CIT & Functional Scenarios and Test Cases overview on format and structure with a worked example



Work being done currently

- Analysis of NF requirements for each requirement, deciding whether it should be:
 - Assured by the SI Design Team and/or
 - Demonstrated by testing and if so, in which Test Phase(s)
- Clarification queries being raised on Design
- Forming views on SIT NFT

Logistics

- Meetings will be held on the third Tuesday of each month, 1400-1530
- A call for attendees has been issued via the Clock and other MHHS governance groups
- The NFTWG will sit below the TMAG. Decisions and escalations will come to TMAG
- Please contact <u>PMO@mhhsprogramme.co.uk</u> if you would like more information or to join the group

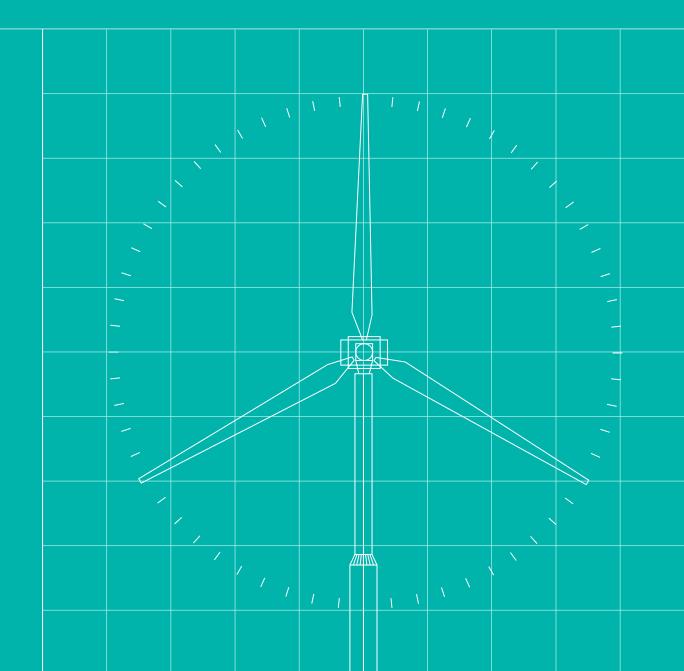


Working group report

INFORMATION: Provide updates from discussion at the DWG, MWG, EWG, QWG, and SITWG

Programme (working group leads as required)

0 mins – taken as read, questions by exception





TMAG Working Group Progress Report – February 2023

	Data Working Group (DWG)	Migration Working Group (MWG)	Environments and Configuration Management Working Group (EWG)	Qualification and E2E Sandbox Working Group (QWG)	Systems Integration Test Working Group (SITWG)	Non-Functional Testing Working Group (NFTWG)
Upcoming deliverables	 Overall Test Data Approach and Plan (planned February 2023, to come to March TMAG) 	 Data Assessment Report (planned 28 February 2023, to come to extraordinary February TMAG) Migration Cutover and Data Strategy (planned 28 April 2023, to come to April TMAG) 	 Environments Approach and Plan (final version planned to come to TMAG for decision) 	 Qualification Test Approach and Plan (planned to come to May 2023 TMAG) 	 CIT & Functional Test Approach & Plans (Apr 23) CIT & Functional Test Scenarios (May 23) CIT & Functional Test Scripts (Aug 23) 	Meeting Terms of Reference (to come to March TMAG)
Next month's agenda items	The February DWG has been stood down due to proximity to the previous DWG and no agenda items	 09 February 2023 Data Assessment Report Advanced Meters Import / Export Meters 	 07 February 2023 Update on Environment Approach & Plan Update on Release & Configuration Management Approach 	 14 February 2023 Code Requirements for qualifications High-level principles for MHHSP Overview of roles to undertake MHHSP Qualification Suggested structure for Qualification Assessment Document PIT Guidance 	 16 February 2023 SIT scope to support participants' planning Policy position on placing reliance and equivalence Initial review of key principles and sections of the CIT & Functional Test Data Approach & Plan 	 21 February 2023 – first meeting NFTWG Terms of Reference NFTWG forward plan
Agenda items from last month	 19 January 2023 1. Data Assessment Report 2. Round 3 Planning Consultation and Data 3. Overall Test Data Approach & Plan 	 January 2023 MWG deliverables PoaP Data Assessment Report Migration Strategy Discussion & Development 	 January 2023 Feedback on Template and Catalogue process Update on Environment Approach & Plan Round 3 replan Release and Configuration Approach and Plan 	 10 January 2023 Briefing on Round 3 replan consultation SIT Plan, Approach and Scope PIT overview 	 24 January 2023 – extraordinary meeting SIT scope to support participants' planning 	N/A
TMAG escalations	None	None	None	None	None	None



Summary and next steps

INFORMATION: Summarise actions/decisions and look ahead to the next TMAG

Chair and Secretariat

5 mins



Summary and next steps

Next steps:

- 1. Confirm actions and decisions from meeting
- 2. Date of next TMAG: 28 February 2023, extraordinary meeting

TMAG Agenda Roadmap – a rolling view of upcoming TMAG agenda items:

Meeting dates	15-Feb	28-Feb – extraordinary meeting	15-Mar	19-Apr
Relevant milestones or activities				
Agenda items	 Data Assessment Report Overview Environments Approach and Plan review The future of TMAG Qualification update SITWG update NFTWG mobilisation 	 Data Assessment Report approval 	 Test Data Approach and Plan Review of E2E Testing & Integration Strategy (scheduled after the replan and other documents have been baselined) 	 Migration, Cutover & Data Strategy approval CIT & Functional Test Approach and Plans approval Data Assessment Report part 2 approval Release and Configuration Management Approach
Standing items	 Minutes and actions review Programme updates Working group report Next steps and agenda roadmap 	Next steps	 Minutes and actions review Programme updates Working group report Next steps and agenda roadmap 	 Minutes and actions review Programme updates Working group report Next steps and agenda roadmap

If you would like to propose an agenda item for TMAG, please contact the PMO (PMO@mhhsprogramme.co.uk)

