MHHS PROGRAMME

Industry-led, Elexon facilitated

Design Advisory Group #3
12 January 2022

Version 0.1

In case of an emergency

An alarm will sound to alert you.
The alarm is tested for fifteen seconds every Wednesday at 9.20am.

Evacuating 350 Euston Road

- If you discover a fire, operate one of the fire alarms next to the four emergency exits.
- Please do not tackle a fire yourself.
- If you heard the alarm, please leave the building immediately.
- Evacuate by the nearest signposted fire exit and walk to assembly point.
- Please remain with a member of Elexon staff and await further instruction from a fire warden.
- For visitors unable to use stairs, a fire warden will guide you to a refuge point and let the fire brigade know where you are.

When evacuating please remember

- Do not use the lifts.
- Do not re-enter the building until the all clear has been given by the fire warden or ground floor security.

Our team on reception is here to help you,

If you have any questions, please do ask them.

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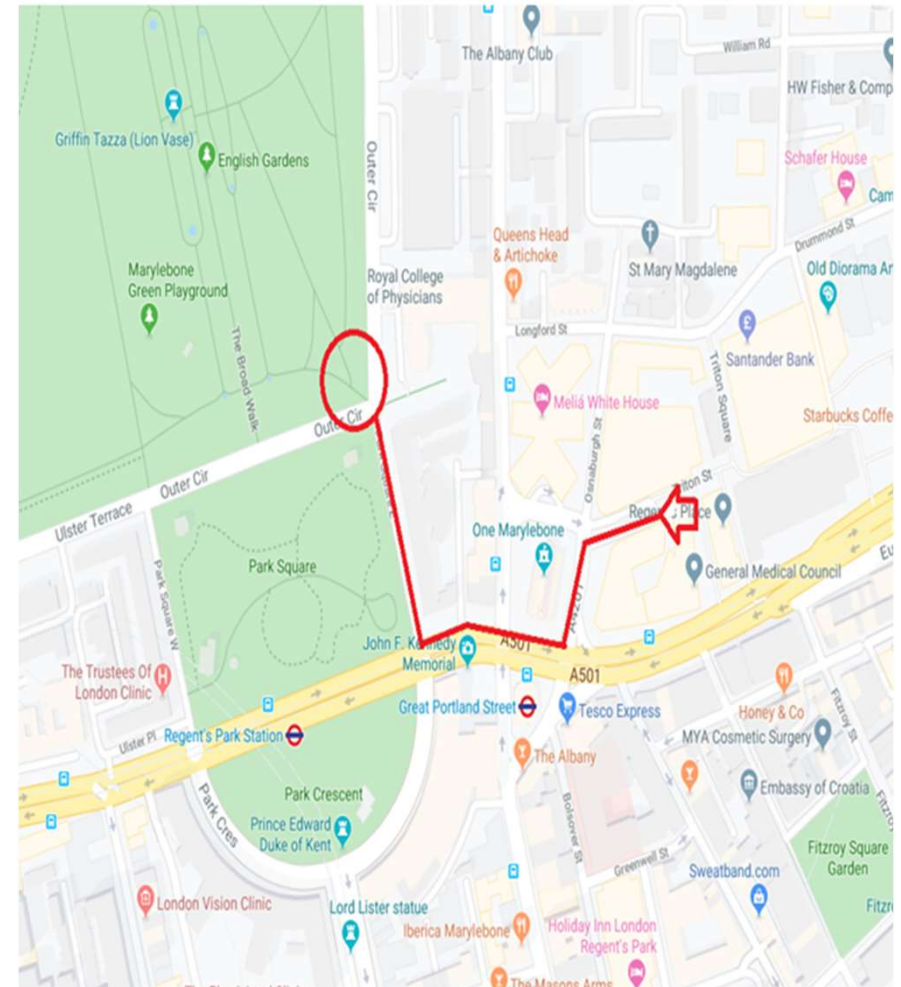
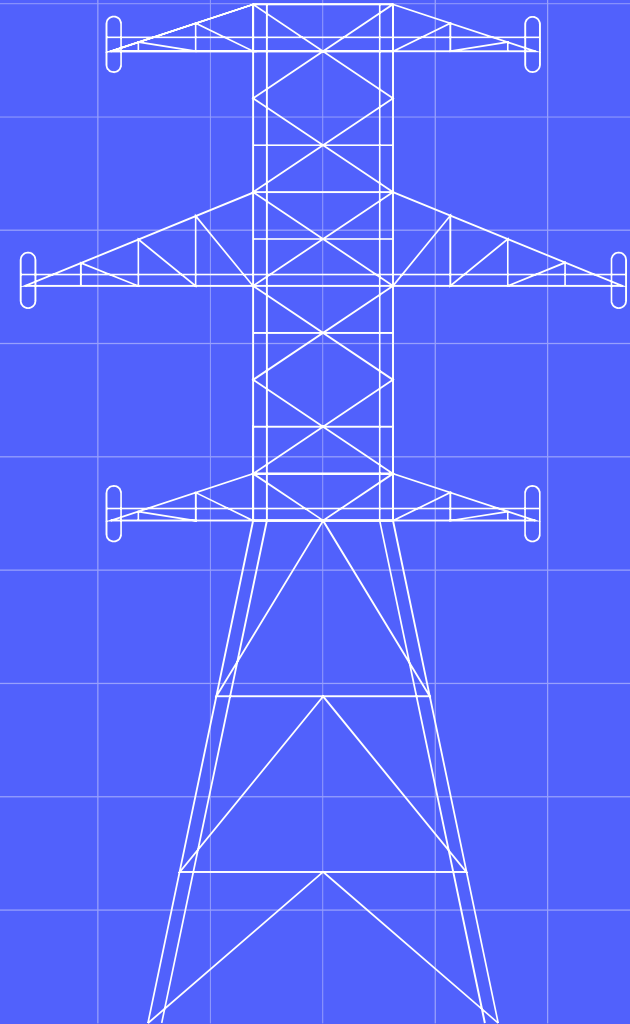|			
1. Welcome and Introductions	**2. Minutes agreement and Actions update**	**3. Design Principles: Review and agreement**	**4. Level 4 working group progress update**
5. MHHS Design Roadmap	**6. AOB**	**7. Meeting Summary & Next Steps**	

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Welcome & Introductions

MHHS DAG attendance meeting #03

Constituent	Who	Organisation	Attend
Elexon Representative (BSC central systems)	Matt Hall	Elexon	Y
DCC Representative (smart meter central system)	Stuart Scott	DCC	Y
Large Supplier Representative	Craig Hanford	Energy UK	Y
Medium Supplier Representative	Gurpal Singh	Shell	Y
Small Supplier Representative	Jo Bradbury	ESG Global	Y
I&C Supplier Representative	Andrew Green	Waters Wye	Y – Alternate for Gareth Evans.
Supplier Agent Representative (Independent)	Seth Chapman	Callisto	Y
Supplier Agent Representative	Robert Langdon	SMS Plc	Y
DNO Representative	Gemma Slaney	Western Power Distribution	Y
iDNO Representative	Morven Hunter	Last Mile Asset Management	Y - Alternate for Donna Townsend
National Grid ESO	Keren Kelly	National Grid ESO	Y
Consumer Representative	Ed Rees	Citizens Advice	N
Ofgem	Anna Stacey Danielle Walton	Ofgem project sponsor	Y
MHHS Programme	Justin Andrews Ian Smith Claire Silk Simon Chidwick Simon Harrison	MHHS Design Team LDP	Y

# Minutes agreement and Actions update
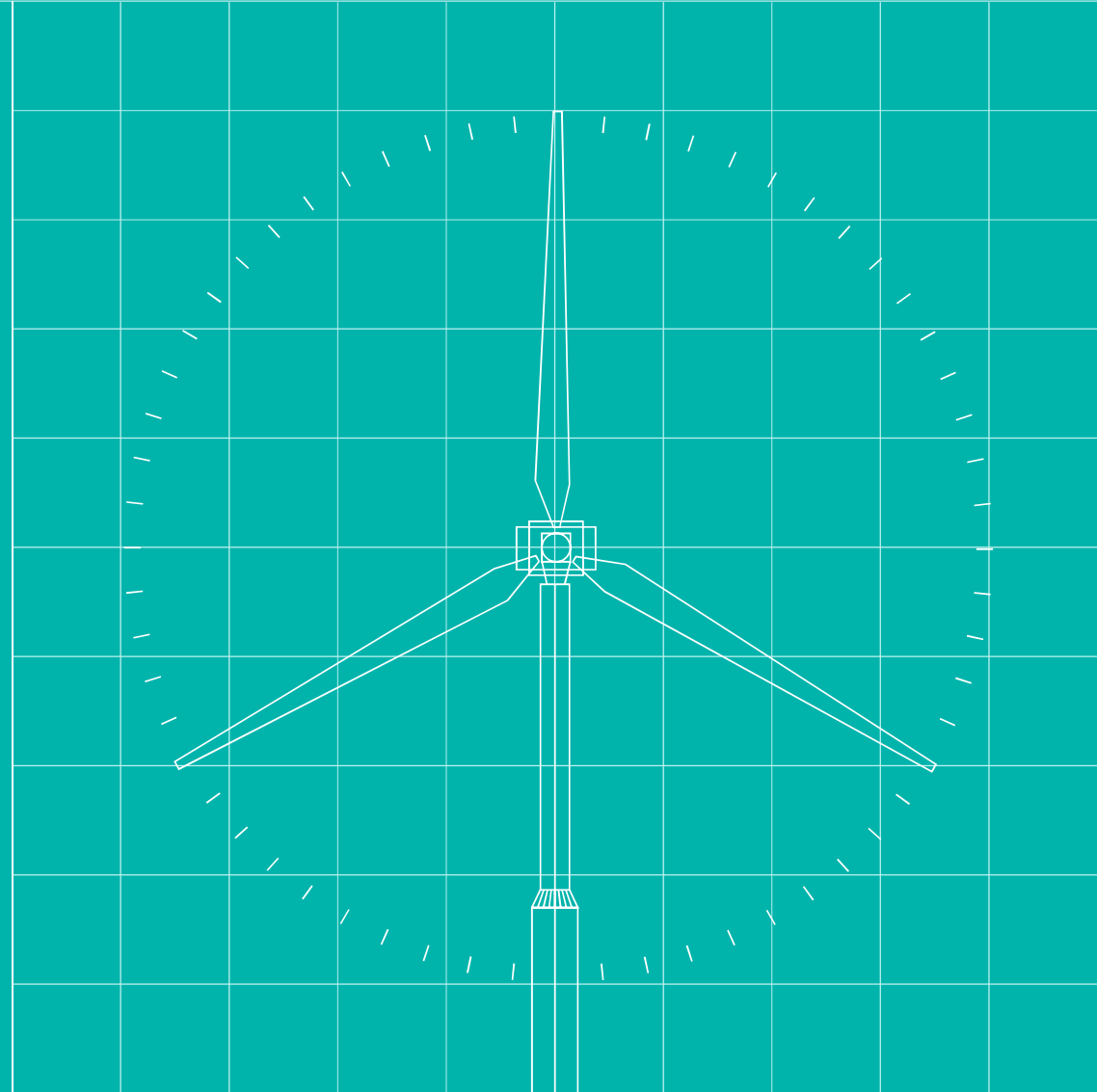
MHHS DAG- Actions Update 1 of 2

Reference	Action	Owner	Update
DES-01-04	IS to ensure DAG members are able to easily review Level 4 working groups and sub group output	Ian Smith	In Progress
DES-01-05	SC to ensure DAG TOR are reviewed in February 2022	Simon Chidwick	To be reviewed in Feb 2022
DES-02-01	KG to ensure the Security Design Working Group Terms of Reference provide clarity on how it will interact and work with the Technical Design Working Group	Kevan Gleeson	Updated ToR circulated and also included in the appendix
DES-02-02	'Draft Design Principles' – Ensure that: a) they are presented at a higher level in themes and categorised; b) a status for each principle is adopted, so it is clear whether the principle is a draft one or has been formally adopted and agreed; c) separate out assumptions or requirements and (d) draft a governance approach for DAG approval and where they may be published.	Ian Smith	Updated Draft Design Principles to be presented in the meeting
DES-02-03	SC to ensure the Design Principles are in the agenda to be reviewed in January 2022, and that they become a standing agenda item going forwards.	Simon Chidwick	Draft Design Principles being presented in this meeting and will be standard agenda item going forwards.
DES-02-04	DAG members to ask their constituents for feedback on the draft design principles and provide that feedback.	DAG members	Feedback received
DES-02-05	RL to send note to IS regarding principle 002 – Legacy Systems Interaction - and the risks it may pose. IS to discuss with the Design Team.	Robert Langdon/Ian Smith	RL sent email, IS discussed with team as part of Design Principles discussion.
DES-02-06	DAG members to (i) feedback any actions that can be taken or any thoughts on how to ensure constituents are brought up to speed on the programme and (ii) any trade associations or smaller aspects of constituents that may not have the resource to dedicate to working groups but are still very interested in the design and progress of the MHHS programme.	DAG members	Feedback received.

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Reference	Action	Owner	Update
DES-02-07	AS to Pull together the feedback that was provided to the letter from Energy UK and make available to DAG members.	Anna Stacey	
DES-02-08	SC to send out placeholders for the DAG occurrences for February, March and April.	Simon Chidwick	Closed -Placeholders sent out
DES-02-09	CS to send relevant information and documentation to GSI regarding the Smart Market Segment Sub Group	Claire Silk	Gemma added to Teams channel to view Smart Sub Group documents
DES-02-10	SC to circulate updated DAG minutes with added comment from RL	Simon Chidwick	Closed – circulated following the last DAG.

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Draft Design Principles: Review and agreement
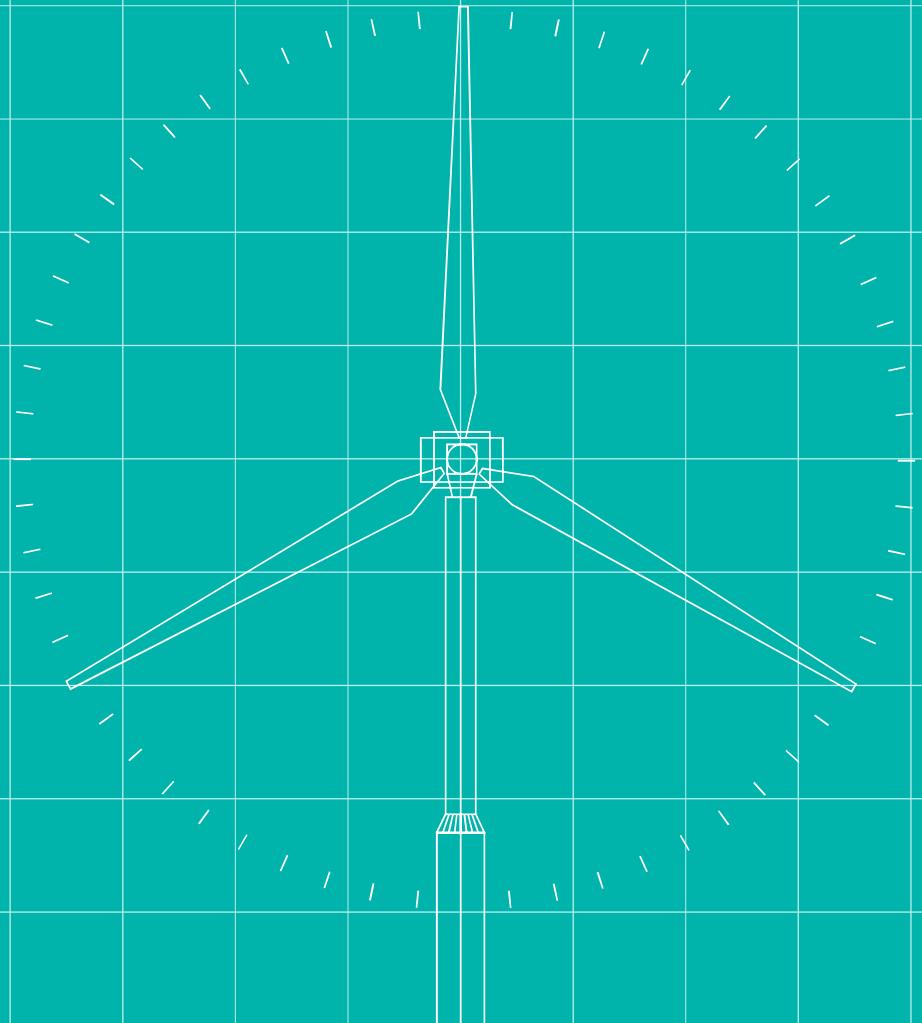
MHHS Design Principles - context

Design principles:

- Draft and will evolve as the design work progresses

- Built upon the work of the CCDG and AWG expert groups on TOM design and architecture

- Developed through the L4 working groups

- Will aid DAG on review and approval of design artefacts, but not solve every issue

Principle ID	Principle Area	Principle Title	Principle Description
PRI-001	Registration	Single View of MPAN data	The Registration Data will be single source of truth for data relating to an MPAN
PRI-002	Data Services	Legacy Service Interaction	The new Data Services will not interact with their legacy predecessor roles (e.g. a Non Half Hourly Data Collector (NHHDC) will not need to interface with a Smart Data Service(SDS)). Commentary- We don't believe this principle is practical and, as such, it is being considered as part of the wider design activity
PRI-003	Registration and Data Services	Two way interactions	Interfaces between the Data Services and the Registration Service will be two-way (to cover acceptance/rejections) Revised Principle: Wherever possible interfaces will be designed such that either an acceptance or rejection will be returned to the sending party, or separate reporting will be implemented to track acceptance/rejection volumes.
PRI-003	Market-wide Data Service	CRA Data access	The Market-wide Data Service (MDS) will not access to Central Registration Agent (CRA) data
PRI-004	Registration	Registration Duplication	BSC data items should not duplicate, or be used as a proxy for Data items that are already held, or should more appropriately be held, by the Registration Service –especially if they are not needed for Settlement and non-Settlement processes can take the data from elsewhere (e.g. if the Meter Point Administration Service (MPAS) already indicates whether the meter is at a domestic or non-domestic premises)
PRI-005	BSC Duplication	Consumption Duplication	BSC data items should not duplicate, or be used as a proxy for attributes of metered data that are already stored with that data (e.g. recording what estimation method has been used to produce the data, as this is already recorded in the estimation codes).

MHHS Design Principles (2 of 6)

Principle ID	Principle Area	Principle Title	Principle Description
PRI-006	Meter Reading Service	Historic Data	The Meter Reading Service (MRS, part of the SDS) will not access historic Meter readings, only an initial read for a non-Smart Meter or for a Smart Meter with a communications issue Revised Principle: The Meter Reading Service will not perform any validation on the meter readings it obtains. The Smart Data Service (Processing Service) will have sole responsibility for determining whether any read obtained by the Meter Reading Service is valid or not.
PRI-007	Appointments	Acception and Rejections	Any rejections of appointments by service providers should go back to the Supplier via the Registration Service rather than directly to the Supplier in order to give visibility of any issues. Commentary- suggest this principle is removed, this is a requirement which can only be finalised alongside the decision on approach to the design for Change of Agent
PRI-008	Central Services	Customer Opt-Out	There is no Settlement need to record customers' opt-out status centrally as a stored parameter. Settlement will simply process the data it receives, the data itself will record how it was derived. Revised Principle: There is no Settlement need to record customers' opt-out status centrally as a stored parameter. The Estimation Reason Code will enable categorization/reporting where customers may have opted out of providing half-hourly data
PRI-009	Central Services	BSC Exception Reporting	Supplier only needs to see exceptions at an aggregate level (i.e. total numbers of each type of exception) while the Data Service needs the detail. Commentary- suggest this principle is removed, this is a reporting requirement

Principle ID	Principle Area	Principle Title	Principle Description
PRI-010	Data Services	Data Service Checks	Data Service should be proactively checking that it has sent all necessary data, rather than waiting for an exception report to tell it what data is missing.
PRI-011	Data Services	Data Assumptions	Registration standing data should be assumed to be correct (single source of truth)
PRI-012	Registration	Validation	Registration standing data should already be validated against Industry Standing Data(ISD) before it's sent
PRI-013	Data Services	Non-zero data for de-energised MPANs	Non-zero data for a de-energised Metering System ID should be accepted (as currently) rather than rejected, as the most likely scenario is that the Meter has been energised without this being recorded
PRI-014	Data Processing	UTC Data	All data will be processed in UTC and will only be converted to Clock Time in BSC Central Services Revised Principle: Whilst on occasion data may be captured and recorded with Local Time, all data will be converted to/processed in UTC and will only be converted to Clock Time in BSC Central Services
PRI-015	Future Proofing	15 Minute Settlement	All participant systems will be future proofed to handle changes to the definition of a Settlement Period Revised Principle: All participant systems will be future proofed to handle changes to the definition of a Settlement Period. This does not mandate the complete re-design of participants existing systems, however, any changes to existing functionality or new functionality introduced to support MHHS should be configurable so as to allow for different settlement period lengths.
PRI-016	Data Services	Service Provision	Suppliers can provide Data Services however they want either themselves or by procuring one or more element of the TOM Services Revised Principle: The TOM clearly defines the roles and responsibilities of a Data Services Provider. Individual Suppliers may choose either to undertake some or all of these responsibilities themselves, or may choose to procure a third party to provide some or all of these services.

MHHS Design Principles (4 of 6)

| Principle ID	Principle Area	Principle Title	Principle Description
PRI-017	Data Services	Internal Data Transfers	It is within the gift Data Services can transfer data internally however the want to Revised Principle: The MHSS design will not specify internal interfaces within a TOM entity. Interfaces will be defined at TOM service level. Commentary- It was suggested that MHHS should offer data transfer services between the MDR and SDS based on consultation thus far no party has expressed a wish to utilize such a service
PRI-018	Registration	UTC Appointments	Appointments will occur on a UTC basis (noting that Meters store data on the basis of UTC days). Commentary- suggest principle removed as covered by Principle 14
PRI-019	Data Services	Validation	The Data Service is responsible for validating its data against Registration standing data before submitting it into Settlement.
PRI-020	Registration	Retrospective Appointments	A retrospective appointment is not allowed and the 'correct' Data Service would only be appointed going forwards. Revised Principle: Appointment start and end dates will not be retrospectively changed/'corrected'. Changes required to the appointed agent will be made only from a point in time going forward, unless in the instance of a new connection where no previous agent exists.

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Principle ID	Principle Area	Principle Title	Principle Description
PRI-021	Message Receipt	Participant Targeted Messaging	For the message flows there will be the requirement to target messages at specific market participants
PRI-022	Message Receipt	Role-based Targeted Messaging	For the message flows there will be the requirement to target messages at specific market roles
PRI-023	Message Receipt	Message Notifications	Any requirement for message notification will be explicitly called out in the business process, i.e. there will be no default message notification process.
PRI-024	Business Logic	Devoid of Business Logic	The DIP(EDA) will not hold any business data and hence will only make routing and message filtering based on the content of the message and the roles of the intended recipients.
PRI-025	Statelessness	Stateless Architecture	The DIP does know the logical history of the data and the data within each message is considered distinct. Although the system itself will be a stateless, messages and events will persist and survive service restarts.
PRI-026	Business Process Orchestration	BP Timings	If any time-outs are required on a BP, i.e. a party does not respond to a message within a defined period, then this will be monitored by the party initiating the BP and the initiating party will have to take ameliorative action Revised Principle: If any time-outs are required on a BP, i.e. a party does not respond to a message within a defined period, then this will be monitored by the party initiating the BP and the initiating party will have to take appropriate action to progress the transaction, dependent upon design options implemented that may involve a restarting of the process

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Principle ID	Principle Area	Principle Title	Principle Description
PRI-027	System Complexity	Minimise costs to market participants	Minimise costs to market participants, and therefore an architecture should not enforce a heavy burden of IT change at each participant. Cost is influenced by complexity and scale and for participants, these should be minimised as much as possible
PRI-028	System Complexity	Centralise Complexity	Necessary (technology) complexity should be centralised, removing it from the participants. The recommendation should primarily meet current needs, but the architecture must be extensible to meet future scale without incurring the expense of re-design.
PRI-029	Peformance Reporting	Performance Reporting	All participant (industry) performance reporting will be delivered by Elexon Central systems, and there are no specific requirments on any serice provider to provide indsutry performance/assurance report(s) over what that service deems necessary to manage thier own obligations and/or commercial agreements
PRI-030	Faults	Faults Processing	Historically, as a result of their Site Visit activites, NHH DC's had an obligation to report possible metering faults both to the supplier and directly to the MOP. Given that DS's will no longer have this 'onsite prensence', it is proposed that Suppliers take ultimate responsibiliy for identifing/diagnosing/progressing any potential metering fault(s) - and that it is the supplier that should initiate any/all fault investigations with the Metering Service, as promotly as possible after becoming aware of a possible metering fault.
PRI-031	Meter Readings	Meter Readings - Trad	All Meter Readings for Traditional (Non-Smart or non-Advanced Meters) will be exchanged using the existing D-Flows, namely the D0010 or D0086.\n\nSubject to further detailed design activity, any COS Reading issued by the incoming Supplier shall be deemed to be the Transfer Reading, until further replaced by that supplier.
PRI-032	Meter Readings	Meter Readings - Non Trad	Where, on the few occasions, consumption information cannot be accessed directly from the meter (No Comms / MEX) a Cumulative Read will be captured and exchanged between relevant parties. The DS will then use this reading in order to estimate any missing consumption periods as required. The read will be validated ONLY by the DS and in accordance with the agreed Method Statement. In instances where a Cumulative Read is suspected to be invalid (based on use of the method statement) the consumption will be estimated inline with the Method Statement rules (i.e. subject to the appropriate Load Shape).

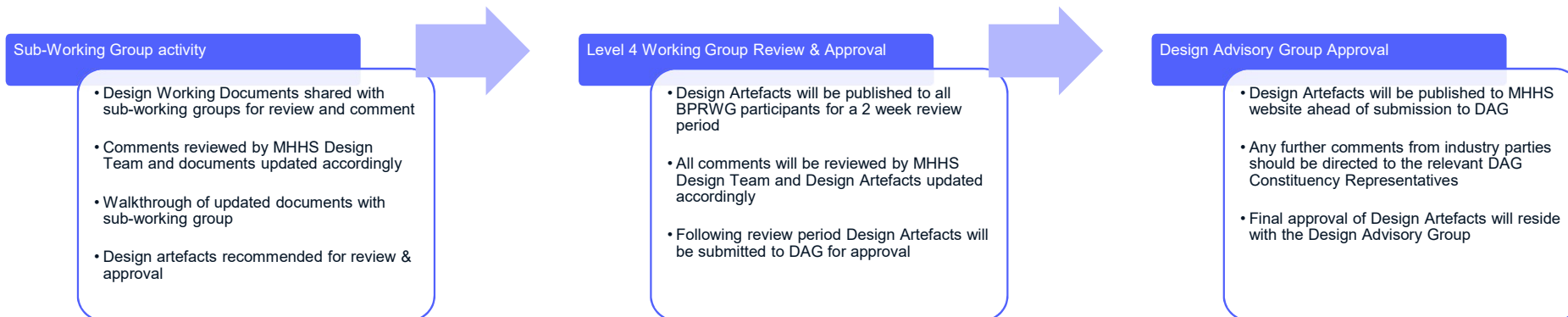# Level 4 working group progress update
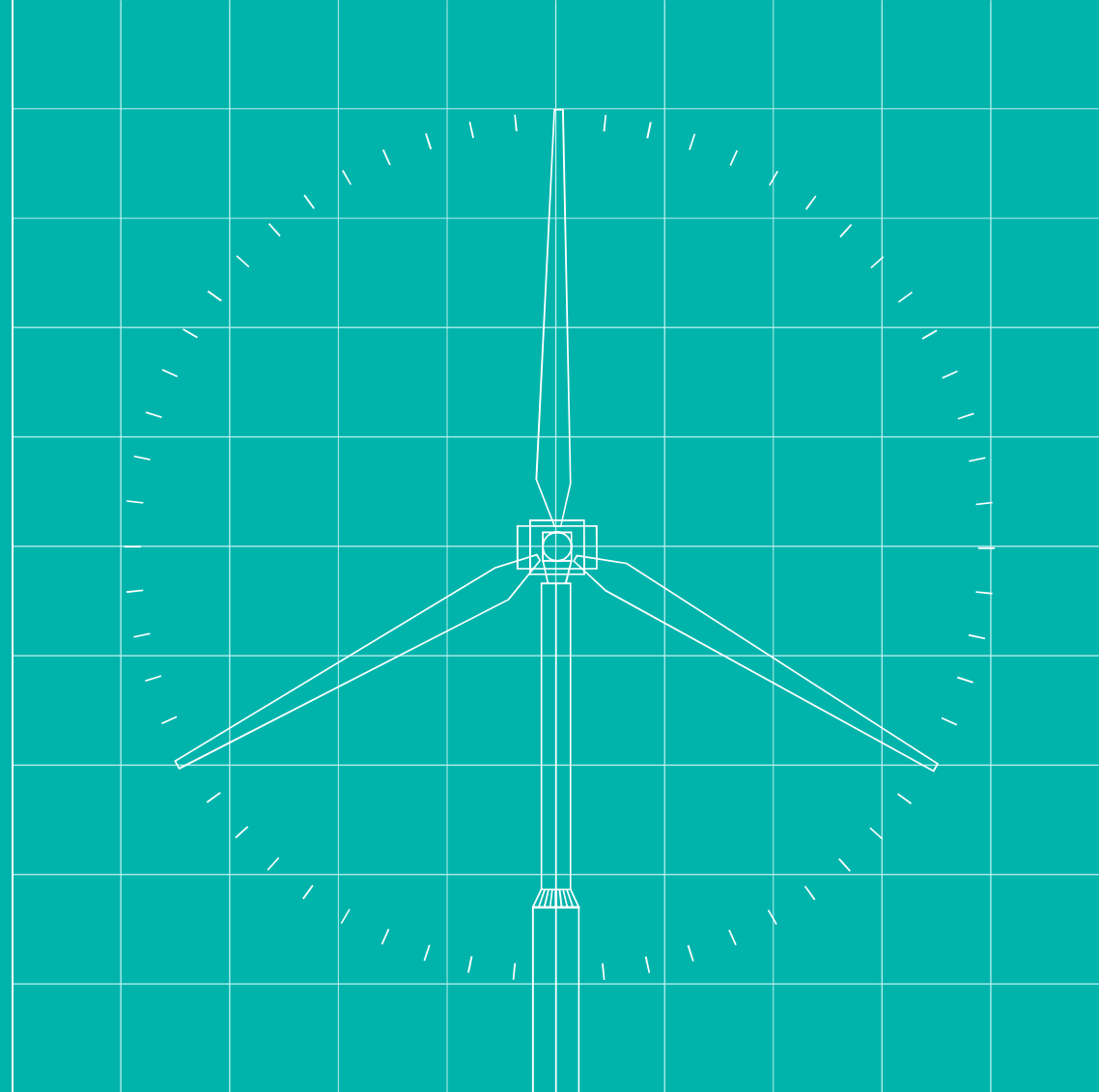
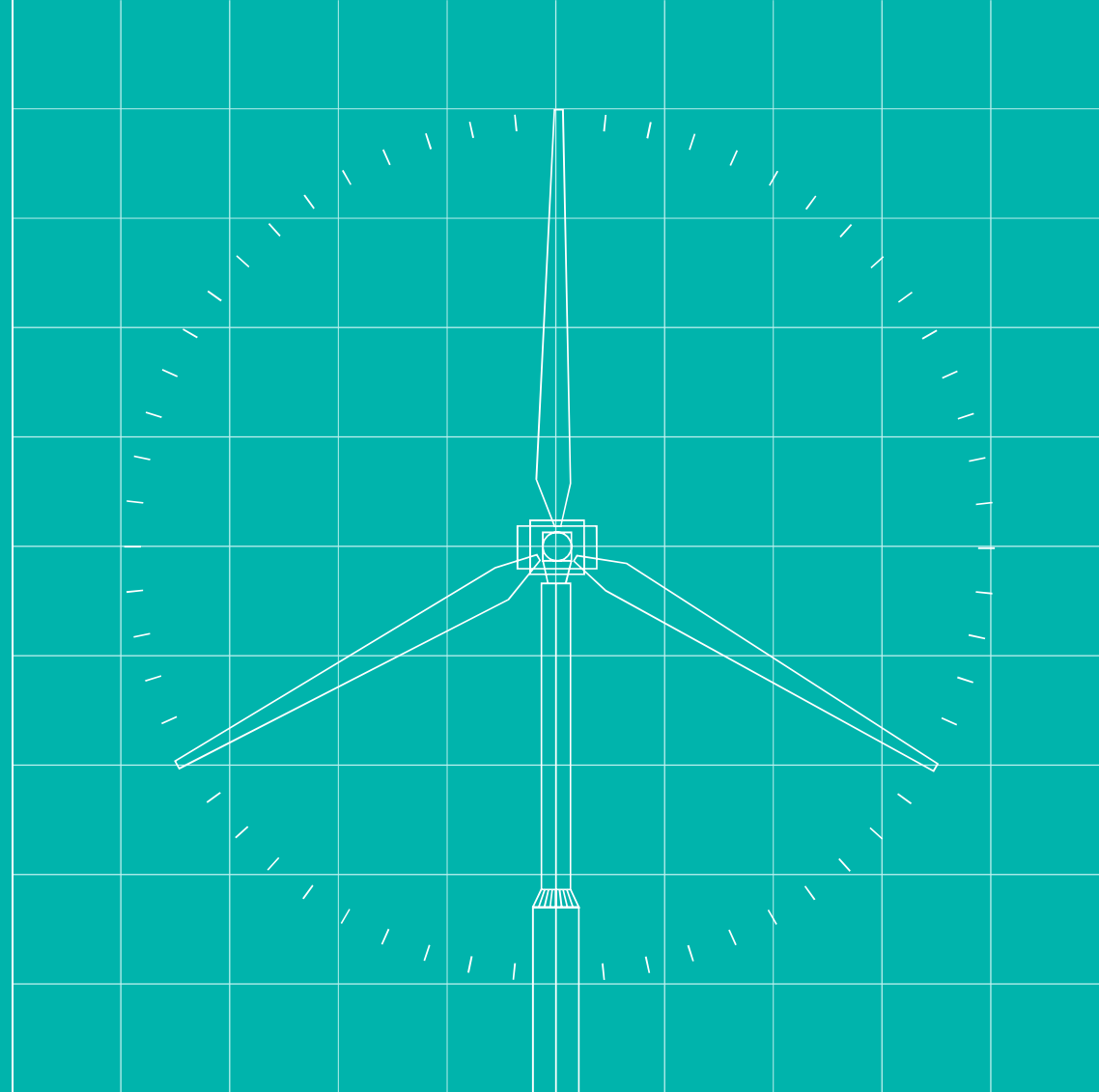**MHHS Design: Level 4 Working Group Progress Update**

- The attached MHHS Design Status Report provides a view of the current status and forecast review activity for each of the Design Artefacts.

- A revised approach has been agreed for BPRWG moving forward.

- All Design Artefacts and Comments Logs will be shared on the new MHHS Portal to enable easy access and transparency.

MHHS Design
Status Report

Sub-Working Group activity

- Design Working Documents shared with sub-working groups for review and comment

- Comments reviewed by MHHS Design Team and documents updated accordingly

- Walkthrough of updated documents with sub-working group

- Design artefacts recommended for review & approval

Level 4 Working Group Review & Approval

- Design Artefacts will be published to all BPRWG participants for a 2 week review period

- All comments will be reviewed by MHHS Design Team and Design Artefacts updated accordingly

- Following review period Design Artefacts will be submitted to DAG for approval

Design Advisory Group Approval

- Design Artefacts will be published to MHHS website ahead of submission to DAG

- Any further comments from industry parties should be directed to the relevant DAG Constituency Representatives

- Final approval of Design Artefacts will reside with the Design Advisory Group

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MHHS Design Roadmap

MHHS Business Design High Level Activity View

The following slides provide a forward view of the roadmap of topics requiring engagement from programme participants in order to complete the MHHS Design.

The Design process is dependent on 3 key stages of review and approval.

- **Sub Working Group activity**
  - Relevant subject matter experts in business design, technical design and security are required from al participants to actively engage in the design activity to review lower level detail of design artefacts, resolve issues and recommend options.

- **Level 4 Working Group Review & Approval**
  - Following recommendation of design artefacts for approval by the Sub Working Groups, documents will be published to all participants in the Level 4 Working Groups for a 2 week period to review and provide comments.

- **Design Advisory Group (DAG) Approval**
  - Final approval of Design Artefacts will reside with the Design Advisory Group.
  - We would look to bring forward the May-22 DAG to enable final approval of the design.

Note: This is a roadmap- and is subject to change dependent on further design issues which may arise during the review activity requiring further prioritisation.

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Business Design Working Groups

Sub Working Group	Jan-22	Feb-22	Mar-22	Apr-22	May-22
Smart Market Segment	Review Business Processes and Interfaces	Sub Group Approval of Business Process and Interfaces	L4 Review and Approval of Business Process & Interfaces	DAG Approval of Business Processes & Interfaces	
		Workshop Business Requirements	Sub Group Approval of Business Requirements	L4 Review and Approval of Business Requirements	DAG Approval of Business Requirements
Registration	Review Options for Supplier Interaction and Change of Agent	DAG Approval of Direction for Change of Agent / Supplier Interaction			
		Workshop Supplier Interaction and Change of Agent Processes & Interfaces	L4 Approval of Change Supplier Interaction and Change of Agent Processes & Interfaces	L4 Review & Approval of Change of Agent and Supplier Interaction Processes & Interfaces	DAG Approval of Change of Agent and Supplier Interaction Processes & Interfaces
	Review Core Processes & Interfaces	Sub Group Approval of Core Processes & Interfaces	L4 Review and Approval of Core Business Process & Interfaces	DAG Approval of Core Business Processes & Interfaces	
		Workshop Business Requirements	Sub Group Approval of Business Requirements	L4 Review and Approval of Business Requirements	DAG Approval of Business Requirements
Advanced Market Segment	Workshop Processes & Interfaces	Sub Group Approval of Business Process and Interfaces	L4 Review and Approval of Business Process & Interfaces	DAG Approval of Business Processes & Interfaces	
		Workshop of Business Requirements	Sub Group Approval of Business Requirements	L4 Review and Approval of Business Requirements	DAG Approval of Business Requirements
Unmetered Market Segment	Workshop Processes & Interfaces	Sub Group Approval of Business Process and Interfaces	L4 Review and Approval of Business Process & Interfaces	DAG Approval of Business Processes & Interfaces	
		Workshop Business Requirements	Sub Group Approval of Business Requirements	L4 Review and Approval of Business Requirements	DAG Approval of Business Requirements
Elexon Central Systems	Workshop Business Processes Interfaces and Requirements	Sub Group Approval of Business Process and Interfaces	L4 Review and Approval of Business Process & Interfaces	DAG Approval of Business Processes & Interfaces	
Common Artefacts- ALL Sub Working Groups		Workshop Common Artefacts	L4 Review of Common Artefacts	DAG Approval of Common Artefacts	

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Technical Design & Security Working Groups

Sub Working Group	Jan-22	Feb-22	Mar-22	Apr-22	May-22
Technical Design	Sub Group Approval of DIP Functional Specification	L4 Review and Approval of DIP Functional Specification	DAG Approval of DIP Functional Specification		
	Sub Group Approval of Architecture Principles	L4 Review and Approval of Architecture Principles	DAG Approval of Architecture Principles		
	Sub Group Approval of Non-Functional Requirements	L4 Review and Approval of Non-Functional Requirements	DAG Approval of Non-Functional Requirements		
		Sub Group Approval of E2E Non-Functional Requirements	L4 Review and Approval of E2E Non-Functional Requirements	DAG Approval of E2E Non-Functional Requirements	
			Sub Group Approval of E2E Solution Architecture	L4 Review and Approval of E2E Solution Architecture	DAG Approval of E2E Solution Architecture
Security	Sub Group Review of DPIA	Sub Group Approval of DPIA		L4 Review and Approval of DPIA	DAG Approval of DPIA
	Sub Group Review of Code of Connections Guidance	Sub Group Approval of Code of Connections Guidance		L4 Review and Approval of Code of Connections Guidance	DAG Approval of Code of Connections Guidance
	Sub Group Review of MHHS E2E Security Requirements		Sub Group Approval of MHHS E2E Security Requirements	L4 Review and Approval of MHHS E2E Security Requirements	DAG Approval of MHHS E2E Security Requirements
	Sub Group Review of MHHS E2E Security Architecture		Sub Group Approval of MHHS E2E Security Architecture	L4 Review and Approval of MHHS E2E Security Architecture	DAG Approval of MHHS E2E Security Architecture

Note: In addition we will also be setting up a Consequential Change Impact Assessment Group during Q1- dates to be confirmed

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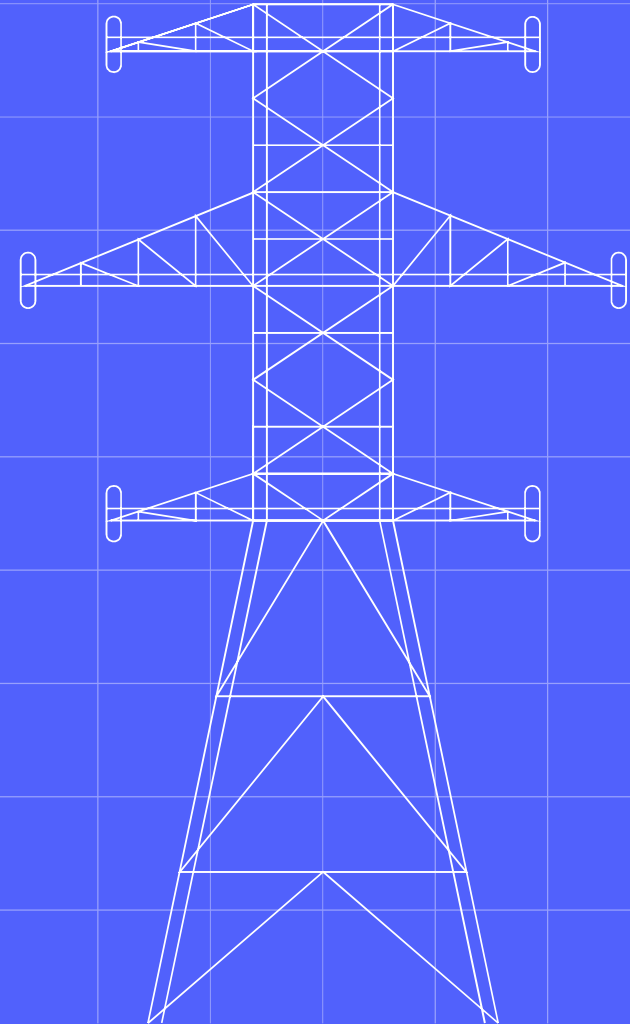
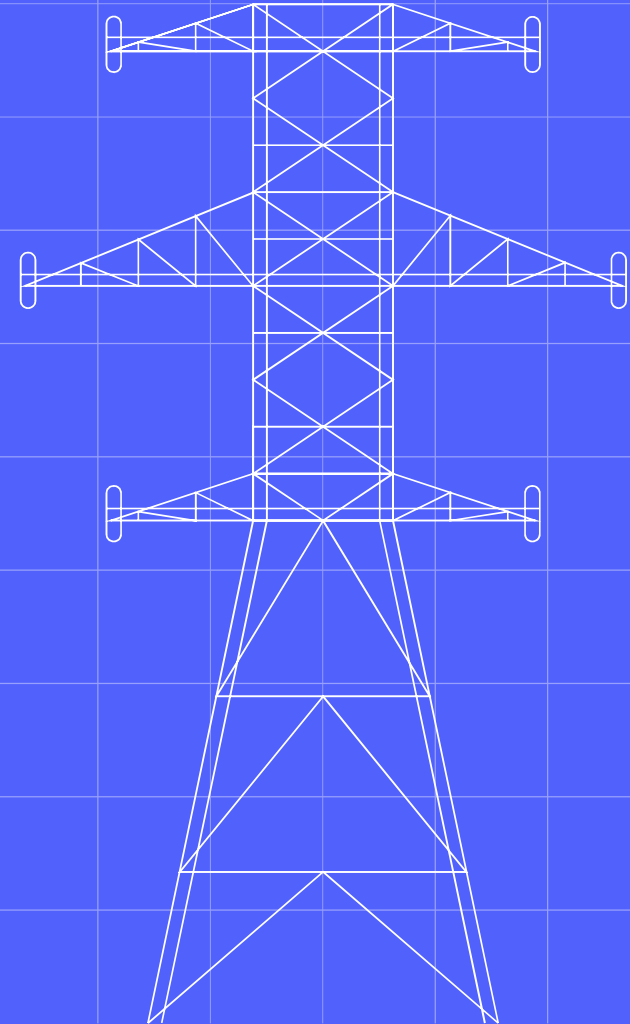# Meeting summary and next steps
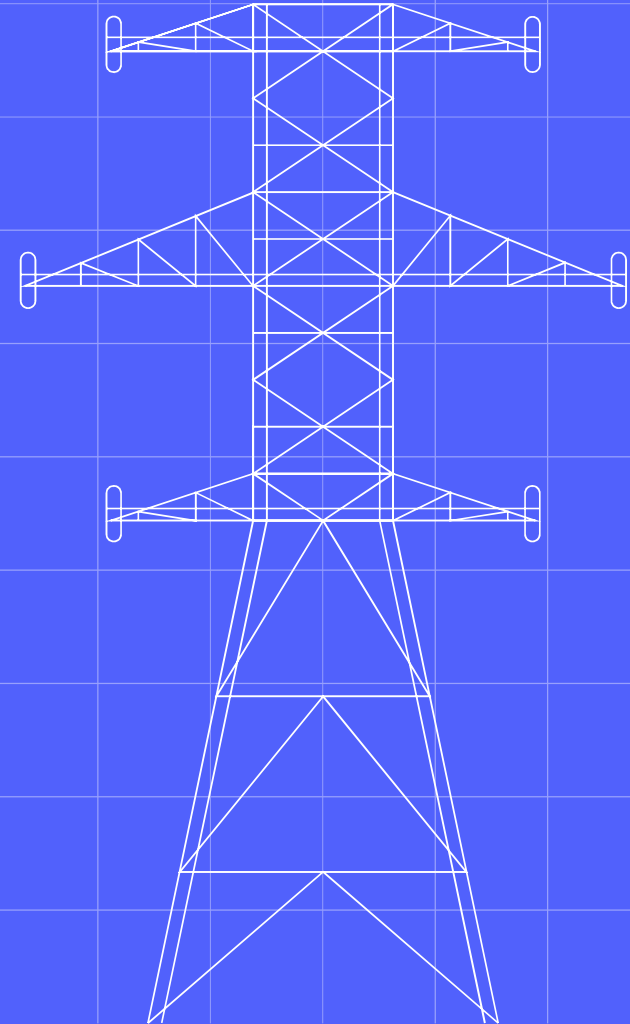
DAG Summary and next steps

Meeting summary and actions
- Confirm actions

Next meeting: 9 February 2022
- Design progress update
- Potential escalations and requests for decision
- Potential design artefacts for approval

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Appendix

Security Design Working Group (SDWG) Terms of Reference (Level 4)- DRAFT

Role:
The SDWG's role is to take the security architecture recommendations made by the AWG to a detailed level that will enable participants to understand the security requirements of the new system.

Purpose and Duties:
SDWG's purpose is to take the security architecture recommendations made by the AWG to a detailed level that enables participants to commence system development. Security subject matter experts will support the work required to procure an architectural partner and work with the organisation(s) chosen to provide security architecture services to ensure the security design is aligned with the design principles and considers all impacted parties.
Ongoing consultation will be carried out to ensure timely reporting of security design artefacts to the DAG for approval.

Decision Making:
The SDWG will report their output to the DAG for approval. This will occur on an ongoing basis and may require engagement with wider industry.
Where the SDWG is unable to reach a consensus on a decision delegated to them by DAG the matter will be escalated to the DAG.

Membership:
MHHS Design Market & Engagement Lead (Chair)
MHHS Design Security Architect,
MHHS Design Solution Architect,
MHHS Design Manager

Industry participants from, but not restricted, to the following parties- Elexon (as Central Systems provider), Smart DCC (as Smart meter central systems provider), Large Suppliers, Medium Suppliers, Small Suppliers, I&C Suppliers, Independent Supplier Agents, Supplier Agents, Distribution Network Operators, Independent Distribution Network Operators, National Grid ESO, Meter Administrator, IT Service Providers.

Meeting attendance is open to all

Objective:
To review the security architecture recommendations developed by the AWG and manage the development of the security architecture and artefacts, maintain compliance with regulatory standards, and ensure adequate performance of the security program at DAG.

The SDWG supports action and coordination of the security program policy, technical, and operational activities. The SDWG is charged with:

- Advising the DAG on security issues and implement their decisions, agree upon implementation patterns for security, and ensure that security is tailored to the needs of the energy industry
- Provide strategic and tactical direction and support, and serve as architects of the DIPs security program.
- Meet monthly, at a minimum, to develop security program approaches and initiatives, monitor progress, schedule and performance, and address current and evolving cyber security issues.
- Develop and monitor the implementation of prioritized plans of actions.
- Enable threat mitigation best practices, incident reporting and analysis, and information sharing across MHHS and Market Participants.
- Ensure that suppliers, third parties and Market Participant's implement adequate controls to safeguard the DIP.

Scope, Deliverables, Roles and Responsibilities:
SDWG's scope is to develop the security design for the end-to-end MHHS design.
This includes the Security & Privacy Requirements.

The MHHS Design Market & Engagement Lead will chair the meetings.
The Secretariat will provide all meeting management services and deliver all regular and ad hoc meetings.
SDWG Members (or nominated alternatives) will attend every meeting.
SDWG Members will be fully meeting prepared before the meeting starts.
SDWG Members should be a mix of business analysts, market architects, solution architects and industry subject matter experts.
SDWG members will be expected to actively contribute to the development and review of collateral required to achieve the deliverables, this is likely to include completing tasks and actions outside of the Security Design Working Group.
Meeting attendance is open to all, unless otherwise determined.