ESO Technology Advisory Council

TAC-12

1st September 2023

Meeting pack

ESO

TAC-12 agenda – 1 Sept 2023

Item	Start	Finish	Time	Item	Presenter	Notes
1	09:00	10:00	60	**Arrival and light breakfast**		
2	10:00	10:45	45	**Tour of the control room gallery**	Daniel Arrowsmith	
3	10:45	10:50	5	**Welcome & Apologies**	Vernon Everitt	
4	10:50	10:55	5	**Minutes of last meeting and matters arising**	Vernon Everitt	
5	10:55	11:00	5	**Feedback from the last meeting**	Vernon Everitt	
6	11:00	11:25	25	**Crowdflex**	Carolina Tortora	
7	11:25	11:50	25	**Customer Centric ESO**	Liezel Botha	
8	11:50	12:05	15	**Open Balancing Platform Update & Roadmap**	Bernie Dolan	
9	12:05	12:10	5	**Subgroups update**	Vernon Everitt	
10	12:10	12:20	10	**Next meeting**	Vernon Everitt	Next meeting: Friday 1 Dec 2023
11	12:20	12:30	10	**AOB**	Vernon Everitt	

Welcome and apologies

Item 3

Vernon Everitt

Minutes of last meeting and matters arising

Item 4

Vernon Everitt

Minutes of last meeting and matters arising

- Minutes of TAC-11 are published (28th July).
- The material from this meeting will also be published.
- This section will be used to discuss any matters arising.

Feedback from the last meeting

Item 5

Cameron Shade

Feedback from the last meeting

The topics discussed at the last meeting were:

- The TAC survey results
- Digital Strategy
- Ways of Working
- Artificial Intelligence COE

Feedback from the TAC:

Survey Results

- Thanks from the chair for the continued support and participation
- The Chair and Cameron to reflect on the feedback

Digital Strategy

- Risk that the ESO could get caught short as the rest of the industry is utilising AI already
- Feedback that the ESO teams at an implementation level don't follow the intentions of the slides

Ways of Working

- Colleagues with experience in WoW have confirmed this is the way to go
- Suggestion to utilise performance and reward to reinforce
- Creating a no blame culture is difficult

AI COE

- The TAC can share some contacts that would be keen to sign up for knowledge sharing
- Excited to see this happening
- Suggestion to utilise AI to find skills in different industries with transferrable skills

Crowdflex

Item 6

Carolina Tortora

Topics to discuss…

- Recommendations for services we should test?
- Any concerns/comments on the limitations of human behavioural modelling?

Flexibility: Challenges and Opportunities

- Challenge:
  - Non-dispatchable renewable generation
  - Increasing demand: electric vehicles and heat pumps
  - Flexibility must shift from supply-side to demand-side
  - A smart, flexible and reliable energy system is needed (Virtual ES)

- Opportunity:
  - Domestic consumers offer an untapped, potentially large flexibility resource
  - Understanding of domestic flexibility is early
  - CrowdFlex explores stochastic nature of domestic flexibility services (modelling)
  - Could enable lower cost and lower carbon system operation and reduce capacity and network investment costs

Crowdflex Beta Overview

- Crowd Flex explores how domestic flexibility can be used in grid operations to help align demand to generation, improve coordination across the network, reduce stress on the system, while empowering consumers to be active players in reducing their energy bills via new tariffs and incentives.
- Domestic flexibility provides a huge opportunity during this energy transition to build a smart flexible energy system by enabling consumers to act as a new source of flexibility on the network.
- 2 year study
  - October/November 2023 Start
  - ~3 Months prep / model dev
  - 18 Months trialling
  - ~6 months analysis & close-out

Crowdflex: Model – Trial Relationship

Gaps in model will inform research questions in trial

Reliable model of domestic demand & flexibility

CrowdFlex will deliver a model that will form one of the key use cases of the VirtualES. It will serve three core purposes:

1. Aggregated view of LCT **assets on the network**
2. Deterministic **forecast of domestic demand**
3. Probabilistic **forecast of domestic flexibility**

Large-scale trial of domestic flexibility

We plan to run two distinct trials in parallel:

1. A **scheduled service** that will be trialled nationally and locally to solve a range of predicted issues including TN & DN constraints and supply/ demand system scarcity
2. A **post-gate closure service** that will focus on providing "real-time" energy balancing with automated domestic assets

Results of trial will be used to train the model

Modelling

- 2 classes of models (1 supplier side & 1 ESO side)
- Trained on trial data
- Test interconnection and interoperability with multiple FSPs

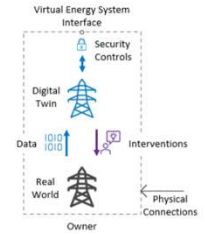
1. Domestic Demand Model

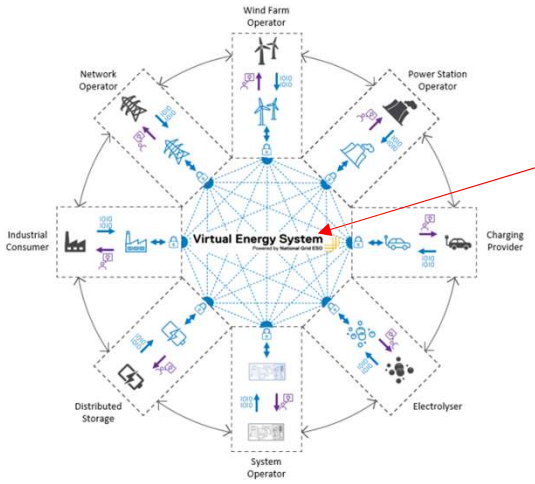
- Deterministic aggregate of a flexibility provider's portfolio
- Held on flexibility provider's side

2. Domestic Flexibility Model

- Probabilistic aggregate of domestic flexibility
- View of consumer LCT assets
- Held on ESO side

CrowdFlex aims to provide a Forecast of Domestic "Flexibility" (Demand Side Response (DSR))





ESO

Flex (DSR) Forecast

Trained using trial events

(Developed by Smith Institute)

Linked Nodes

ESO "Flex" model

Post-project

API

API

API

API

Flexibility Service Providers (FSPs)

Octopus Demand Model

OVO Demand Model

Ohme Demand Model

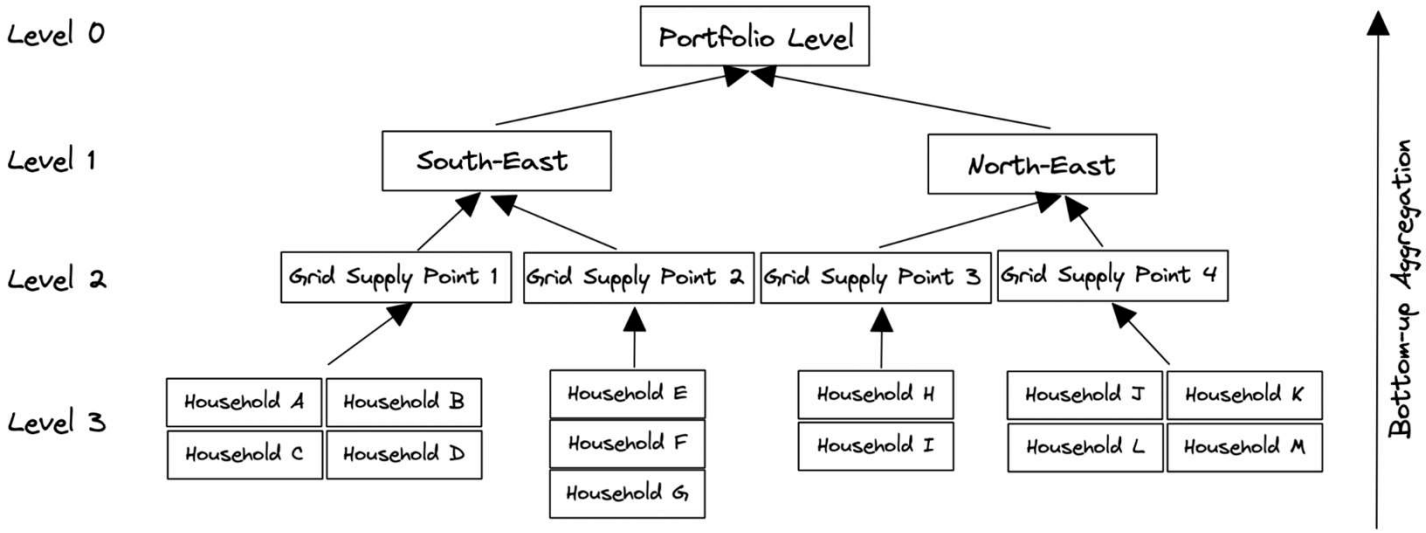
Others

BAU – new/existing markets

In project

Aggregation Levels

An example of aggregation levels for the energy system, from the household up to the “portfolio” of a Flexibility Service Provider (FSP)



Trialling

- 2 arms - in parallel
- Capture 2 winters & 1 summer of trialling
- Built to provide statistical significance
- Randomised Control Trial (RCT)
- Manual override & control

1. Scheduled service

- Addressing Transmission Network & Distribution Network constraints & system scarcity as the example
- Currently ‘pinned’ to thermal constraint management as example for beta application

2. Post-gate closure service

- Providing “real-time” energy balancing with automated domestic assets
- Currently ‘pinned’ to Balancing Mechanism as example for beta application

Summary of “trial service” to be explored in CrowdFlex Trial.

System Operator	Trial Service	Local/National Response	System Need	Dispatch Notice	Response Duration
ESO	Balancing Mechanism	National	ESO Frequency	<1-hour	~30 mins
ESO	Thermal Constraint Management	Local	ESO Thermal	Day Ahead	<4 hours
ESO	Demand Flexibility Service	National	ESO Adequacy	Day-Ahead	1-2 hours
DSO	Sustain-H	Local	DSO Constraint Management	Contract Stage	4 hours
DSO	LMA Secure	Local	DSO Constraint Management	Day Ahead	24 hours

Innovations / Study Questions (Big List)

- Interoperable models - implementing & testing.
- Modelling accuracy and utility.
- Cost-Benefit Analyses.
- Device Usage Data.

- Stacking and Primacy
- Disambiguation – which device did what?
- Secondary Peaks.
- Automation.
- Seasonality.
- Timing (e.g., communication).
- Duration (length of event).

- Demographic breakdowns.
- Baselining – control group to enable assessment of baselining methodologies.
- Social Research – comfort, convenience & satisfaction.
- Price sensitivity (utilisation payments).
- Price sensitivity (availability payment) – what's the delta between payment and compliance?
- Fatigue.

- Flexible Heat in Summer.

- Overlap with other services, projects, research & markets – dynamic & agile project.

Customer Centric ESO

Item 7

Liezel Botha

Topics to discuss…

- Please share your thoughts on our new Customer Service Operating model
- What are the best tools to derive continuous improvement in your organisation?
- We are launching our new Website Help Centre where you can self serve through raising and managing queries online: Can you help us to test our designs and online processes?

Customer Service Operating Model – Why change?

Analysis of our customer service landscape, **feedback** received internally, and **pain points** identified from customers have highlighted that our current operating model it is not working as **efficiently** as it could be.

Inconsistent Customer Service /engagement

- provided by individuals/teams
- no aligned ways of working, tools or strategy

Transformation of our service to deliver a Structured and Governed capability

In the last SAT survey **20%** of passives/detractors voiced "**lack of response and inaccuracy** or information received when a query was raised" as a key pain point

50% of customer facing teams identified simple, repeatable queries.

- Opportunity to digitalise, enhanced Search online, self-serve, managed through centralised triage

The FSO will bring further **accelerated growth and an increase in queries**. Future proofing & protecting the FSO brand, values and vision will be essential

Support our SAT TARGET!

Our approach to the Customer Service Model Design

	Initial Analysis	Analysis output	Pain Points	Options	Recommendation	Validation

Activities	▪ Focus **interviews** with Customer facing teams
	▪ **CRM** data analysis
	▪ Customer Service **maturity assessment** vs industry
	▪ **Inbound contact survey** issued to every customer facing team
	▪ Developed **design principles & aspirational outcomes**
		▪ Created **landscape view of inbound contact** across customer facing teams and departments
		▪ Developed definitions for the **4 inbound contact types**
		▪ Developed **common themes** based on pain points
		▪ **Validated** analysis and initial view of pain points and recommendations in ESOET 121s
			▪ **Categorised pain points** by people, process, data/technology & customer experience
			▪ Service model **design workshops** to validated pain points with customer champions, CSC team and some ESOET members
			▪ **Prioritised** pain points according to **value and effort/complexity**
				▪ **Designed** service model options using prioritised pain points, industry best practice, insights from focus interviews
				▪ Service model **co-creation workshop** with CSC team
				▪ Workshops and **interviews with business SME's and ESOET** members to validate service model options
				▪ Developed **enablers** for service model option
					▪ **Validated recommendation** options against *pain points* to enable biggest impact
					▪ Validated recommended option **against high value aspirational outcomes**
					▪ Validated recommended option with **ESOET members**
					▪ Mapped **key benefits** of recommended options leveraging contact data & recent SAT themes
						▪ **Validated against**:
						  ▪ Design principles
						  ▪ Aspirational outcomes
						  ▪ Pain points
						  ▪ Recommendations
						  ▪ SAT score
						  ▪ Value / Effort
						▪ **Validated with:**
						  ▪ CSC team
						  ▪ Customer Champions
						  ▪ Customers
						  ▪ ESOET members & discussion on 3 April

Rationale	We built a comprehensive view of the customer service inbound landscape to enable more effective design of service model options by highlighting demand, customer experience, internal processes and organisational capability.	To understand and validate pain points that need to be addressed as a priority in the service model options.	To design the potential service model options which are prioritised against the identified pain points and recommendations.	To design an ultimate service model recommendation and roadmap that solves the pain points and enables the validated recommendations.	To validate the recommended service model option to ensure maximum effectiveness.	

Pain points and Aspirational outcomes identified

Pain points identified across 4 areas

People	Processes	Data & Technology	Customer Experience
No consistent customer-centric culture across the ESO	Inconsistent use of CRM to log contact across teams is impacting delivery of a consistent customer experience	Limited opportunities for self-service with large reliance on team members to manage contacts / queries	Customer expectations are not managed effectively against SLAs
No bespoke customer service / complaints management training for customer-facing colleagues	Inefficient ways of working is impacting team productivity and causing inconsistent customer experience	Teams do not consistently use CRM (e.g., to log contact or for reporting)	Customers receive inconsistent service across different teams and channels
Varying levels of role / responsibility / capability level definition for customer-facing roles which causing inconsistent capability levels across teams	Limited understanding of end-to-end customer experience across teams impacting ability to continuously improve service and tailor dedicated interventions	Limited tracking of customer contact received outside of email channel (e.g., telephony)	No centralised knowledge base to improve service response times and accuracy
Generally, contact management responsibilities are seen as an additional responsibility		No centralised resource / workflow management framework	No single voice of the customer across the organisation

Aspirational Outcomes identified across 3 areas

Business Process & Ways of working	First contact resolution for repeatable general enquiries	All customer-facing teams deal with general enquiries	Consistently manage customer interactions for all queries	Accurately track/manage customer interactions through the customer lifecycle	Performance manage compliance with required activities	Consistent customer experience across every contact channel	Continuous improvement processes to ensure service remains relevant and fit-for-purpose
People	Customer interactions are managed across the customer lifecycle	Improving customer experience capability through customer training and quality management	Colleague performance managed through KPIs to drive the right customer outcomes	Repeatable contact better managed to enable SMEs to focus on value-add activities / complex queries	Flexible and scalable workforce to meet customer demands		
Data & *Technology*	Generate actionable customer insight (e.g., customer needs and demand drivers)	Generate consistent performance insight reporting across teams	Consistently manage and track customer interactions through single tech capability	Track and make improvements to customer pain points across the E2E customer lifecycle	Simple, intuitive self-service options for customers to reduce contact demand		

4 Core customer needs

- First time resolution
- Self-serve opportunities
- Consistent service
- Timely service

Our Customer Service Operating model

Centralised Customer Service

+

Strategic intent: Digital First

Centralised Customer Service triage team for initial contact and self-service fall-outs

Relationship Management capability for specific accounts that meet the enhanced relationship criteria

A **shift to digital, enabling more self-serve and automation**, knowledge centers and AI / Chatbots.

Triage team contribute to the shift to digital by developing & maintaining the content knowledge base and identifying customer journeys to be digitalised.

Benefit areas identified

Improving SAT Scores

Cost Avoidance

Supporting our Strategy

Launch: Approach and Timeline

In the first 5 months

- Recruitment and onboarding completed
- FAQ's in place for first set of queries
- Reporting in place: Operational and Business benefit
- Technology solution for MVP delivered incl Content management and Telephony
- Training modules delivered for MVP launch
- Business processes mapped and approved/trained
- Identify Business areas to transition into centralised approach e.g.
    - Reception calls
    - Data portal queries
    - DXP and connections service queries
- Enhanced relationship management kicked off with first accounts

Delivery of Phase 1 (MVP)

October 23

- Triage team onboarding from 4 Sept
- Relationship Managers onboarding from 18 Sept
- Training schedule in place
- Technology delivery in Salesforce on track
- Reception calls/Data portal/Connections portal queries in scope

Phase 2

Draft Outline

- Knowledge base extended
- Training modules for Phase 2 delivered
- Telephone system: phase 2 requirements
- Improved FAQ's and Knowledge base
- Chatbot journeys identified
- Enhanced Relationship: additional accounts
- OTF queries undertaken
- First 15.boxes triaged

Phase 3

Draft Outline

- Further 15.boxes triaged
- Continuous improvement in place
- Detailed Knowledge base delivered
- Relationship management focused on detractors and problem solving issues across the customer lifecycle
- Chatbot solution launched
- Full query management through DXP – self serve

Open Balancing Platform Update & Roadmap

Item 8

Bernie Dolan

Progress Update on OBP – Release 1.0

- We have completed PI8, and we are now in PI9
- During PI10 we will make our first production release (Dec 2023)
- *During this quarter industry has asked use to include a new battery zone in our first release*
- *This means we will go live with a two-zone solution*
- *We are incorporating this late change into our release*

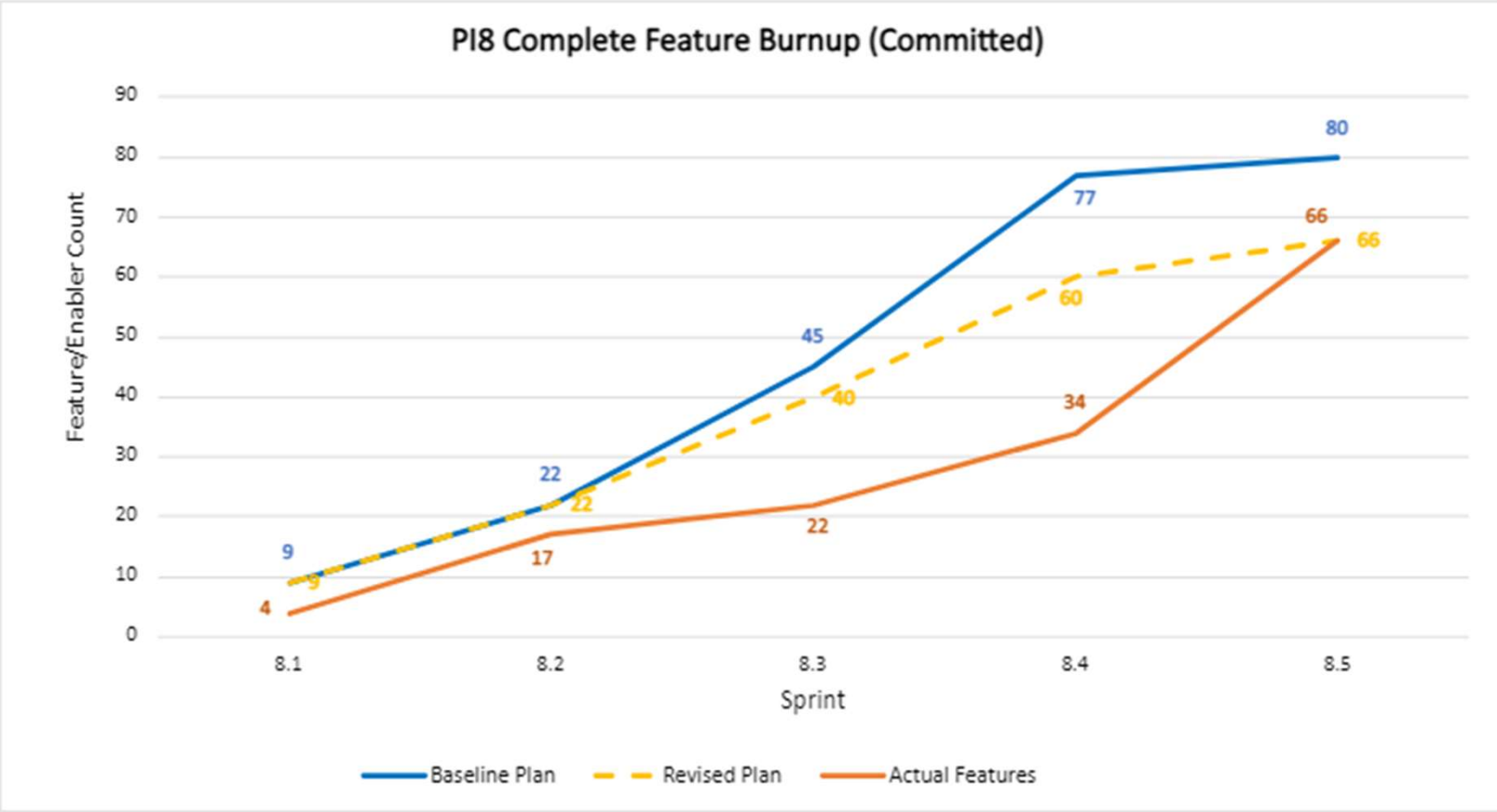
GOAL

A Zonal Balancing Engineer will be able to bulk dispatch fast acting units (“Small BMU” zone) without breaking constraints

Benefits

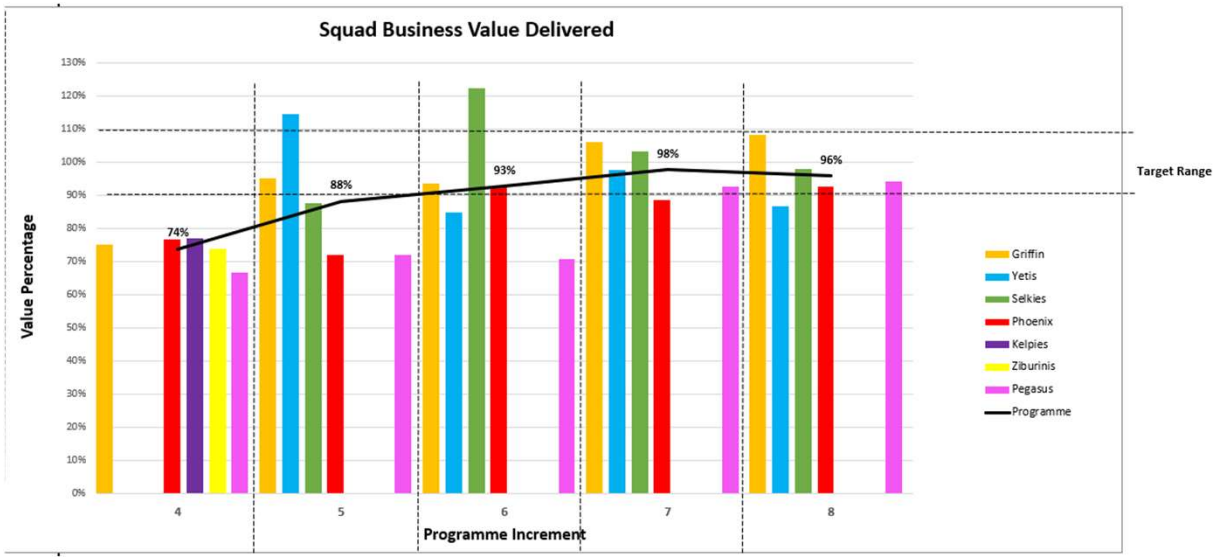
Reduction in skip rates , better economic decisions, reduced workload in the control room

Story of PI8


PI8 Complete Feature Burnup (Committed)
Feature/Enabler Count
90
80
70
60
50
40
30
20
10
0
8.1
8.2
8.3
8.4
8.5
Sprint
9
22
45
77
80
9
22
40
60
66
4
17
22
34
66
Baseline Plan
Revised Plan
Actual Features

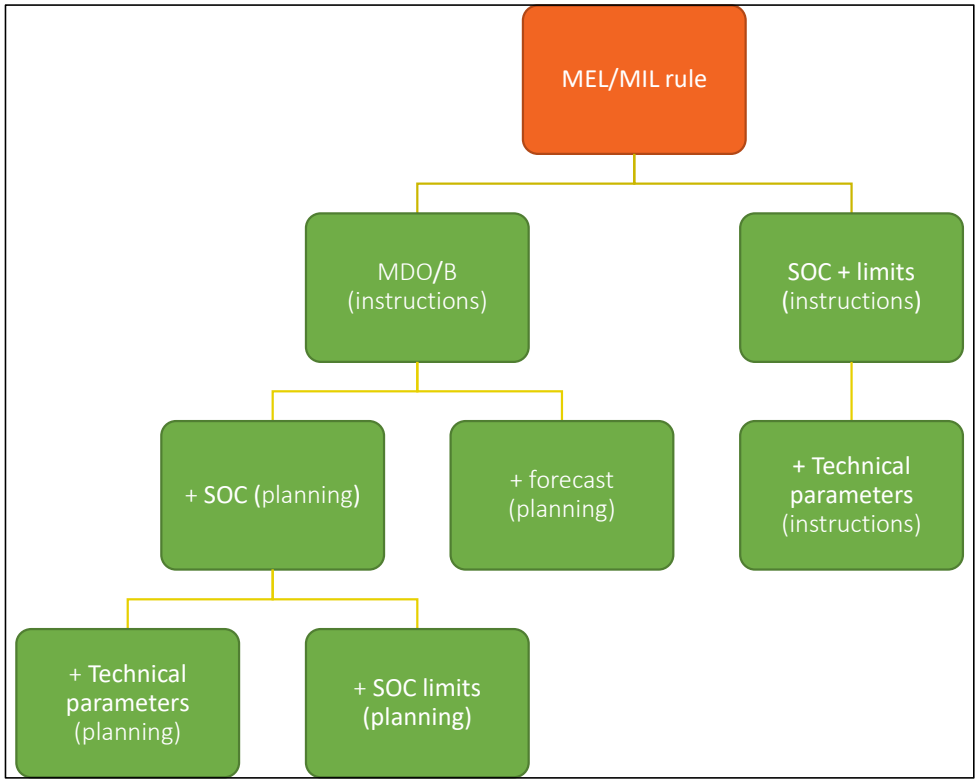
Team Performance

- We now have a rich history of performance
- QUESTION
  - How do members of the TAC continue to encourage continuous improvement in their teams ?
  - How is this measured ?



Managing Limited Duration Storage Assets

- The Balancing Programme has organised a Storage Stakeholder Forum
- This looks at new parameters units can give the ESO to improve our dispatch
- We recently presented these ideas at the Grid Code Development Forum
- QUESTION
  - Do members have experience of how this is managed by other System Operators ?



“Axe the Fax”

- The ESO has initiated a project to replace the use of fax machines in our control room
- Use of PSTN for faxes will be withdrawn by 2025
- We recently presented ideas at the Grid Code Development Forum & the Transmission Charging Methodologies Forum
- QUESTION
  - Do members have experience of replacing faxes with a solution that is secure, has an audit trail and provides a receipt of transmission ?

Subgroups update

Item 9

Subgroups update

- No meetings since last TAC
- Contacted 27th July regarding reinvigoration of the Control Room of the Future and the new Digital and Data strategy subgroups. Please respond with any further member suggestions.

Next meeting

Item 10

Vernon Everitt

Next meeting and calendar

Meetings are every quarter for a half-day on the first Friday morning of the month, 9am-12.30pm

- 1 Dec 2023

AOB

Item 11

Vernon Everitt