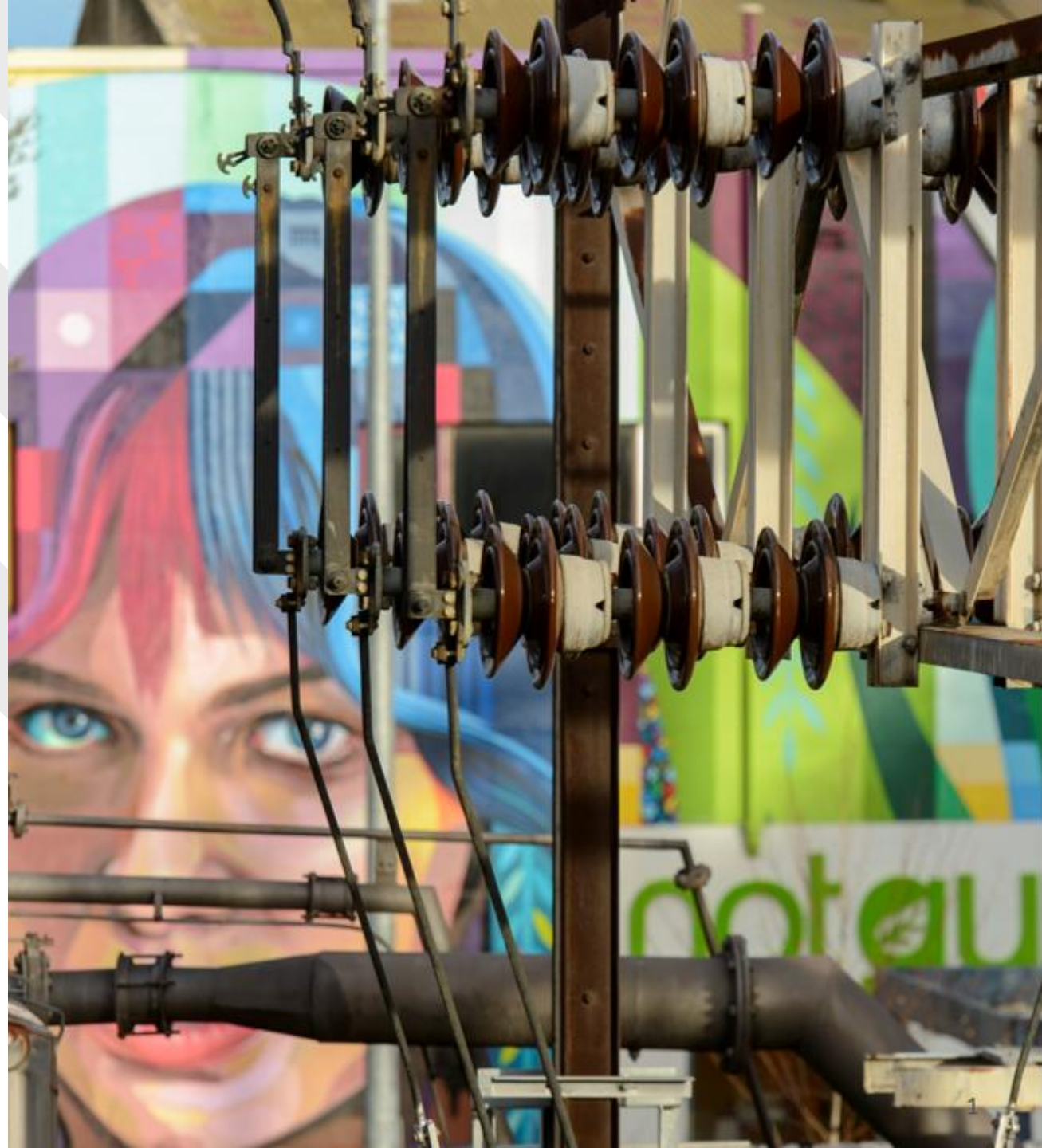


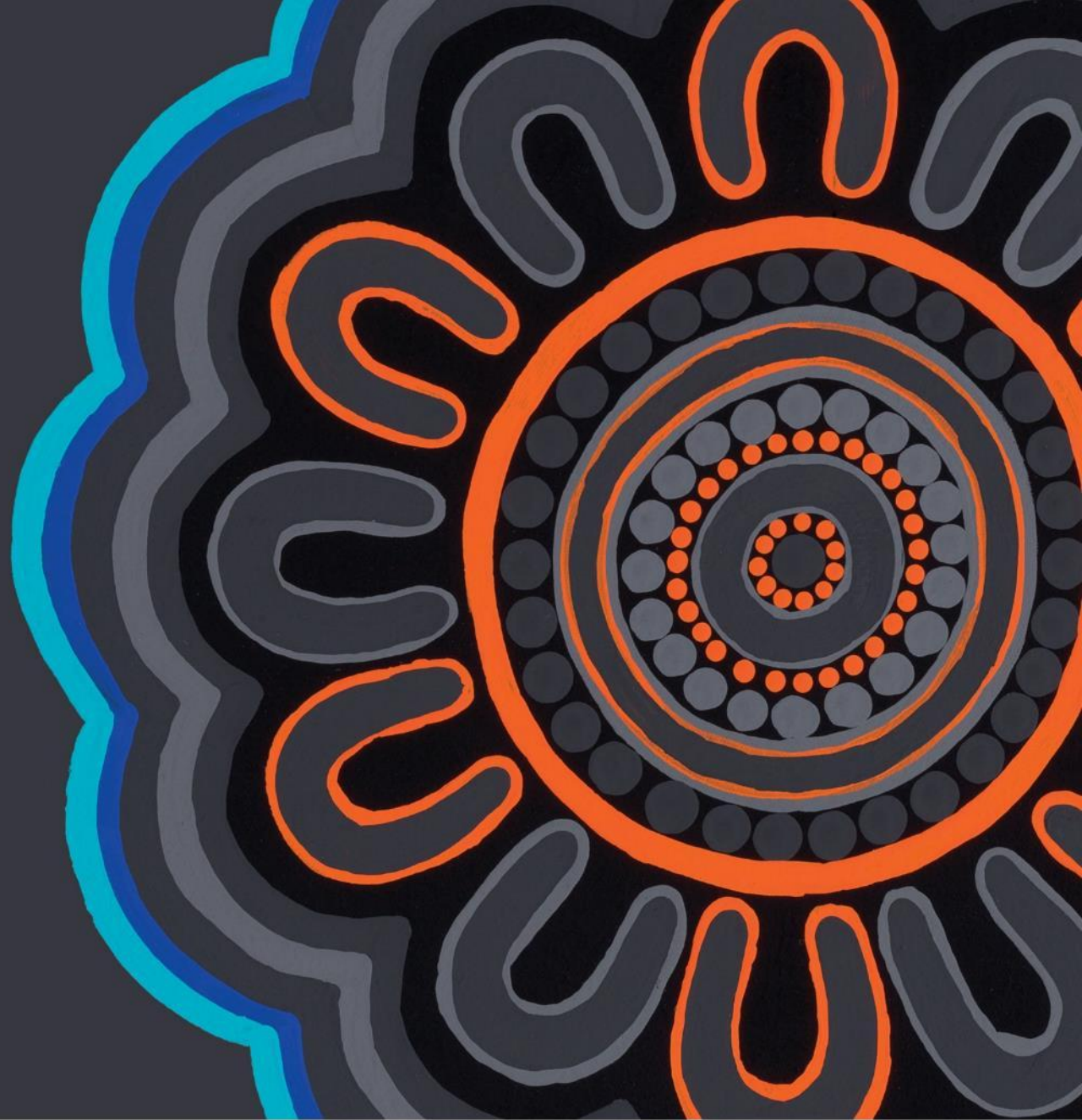
Asset Condition and Risk Advisory Group

Wednesday 30 July 2025



Acknowledgement of Country

SA Power Networks acknowledges the multiple Traditional Owners of the lands that host the South Australian electricity network and their connections to land, sea, and community. We would also like to pay our respects to all First Nations Peoples past and present and acknowledge these living cultures.



Agenda

Time	Topic	Lead	IAP2 Level of engagement
9.30-9.40am (10 mins)	Welcome and CAF Update	Davis Veremu	Consult
9.40-9.55am (15 mins)	Executive Update	Mark Vincent	Consult
9.55-10:35am (40 mins)	Reliability Update •Outages, response times •Performance targets •Regional insulator washing plan	Kym Williams/ Darren Milligan	Consult
10:35-10.50am (15 mins)	MORNING TEA		
10:50-11:05am (15 mins)	CBD Reliability	Elisia Reed	Inform
11:05-11:20am (15 mins)	Open Wire Service Replacement Program	Elisia Reed	Inform
11.20-11:40pm (20 mins)	Strategic Measures and Asset Management Objectives	Travis Kauschke/ Ali Walsh	Involve
11:40–12pm (20 mins)	Customer Outcomes	Chair	Collaborate
12-12.30pm (30 mins)	Other Business and next meeting • ACRAG bus tour • Innovation Pathways and IAG Update	ALL	Collaborate

Welcome and Introductions

- CAF update

Davis Veremu

9:30-9:40am (10 minutes)



Empowering South Australia

Executive Update

Mark Vincent

9:40-9:55am (15 mins)



Reliability Update

Outages and response times

Performance targets

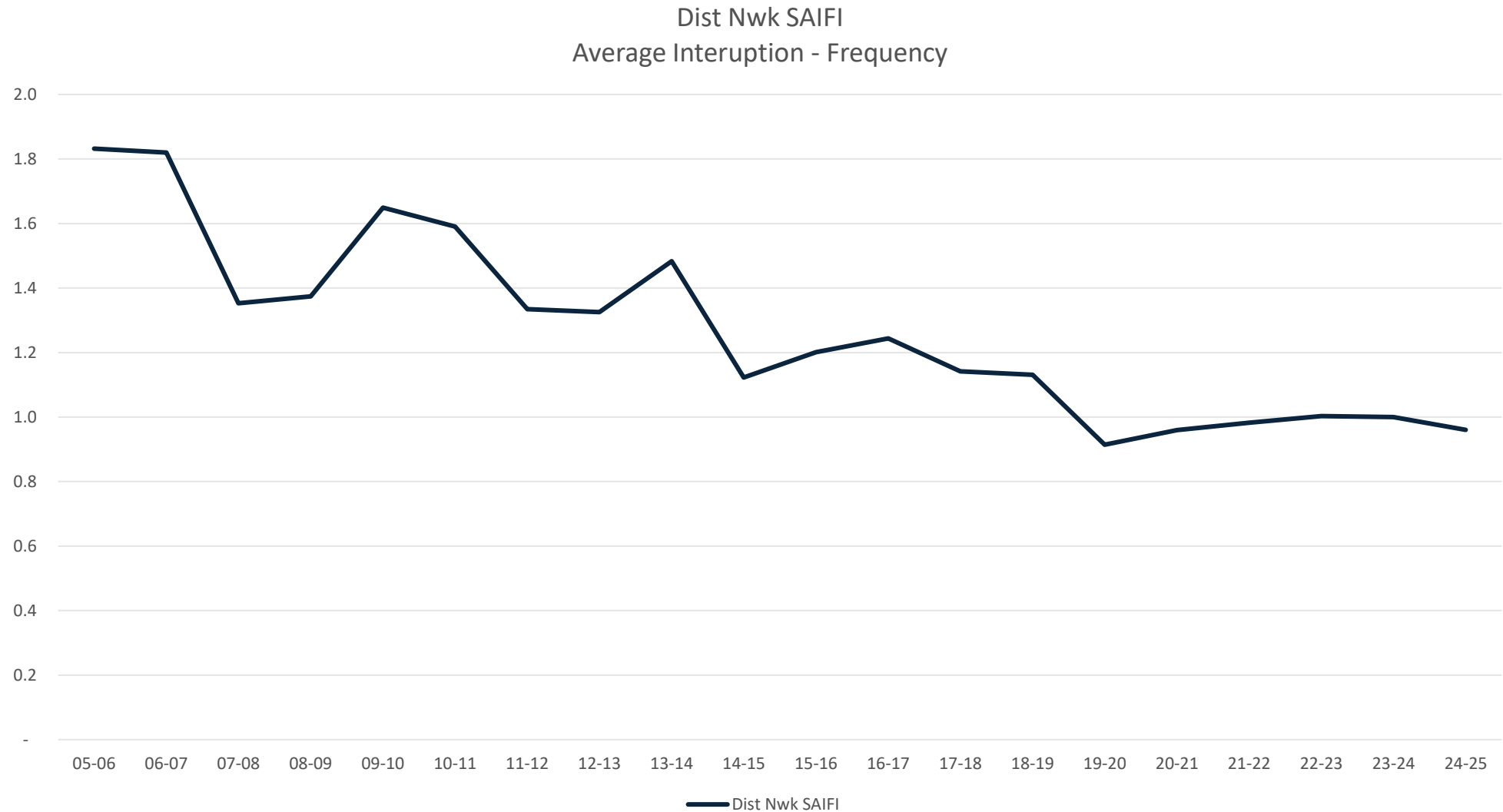
Insulator pollution mitigation plan

Kym Williams and Darren Milligan

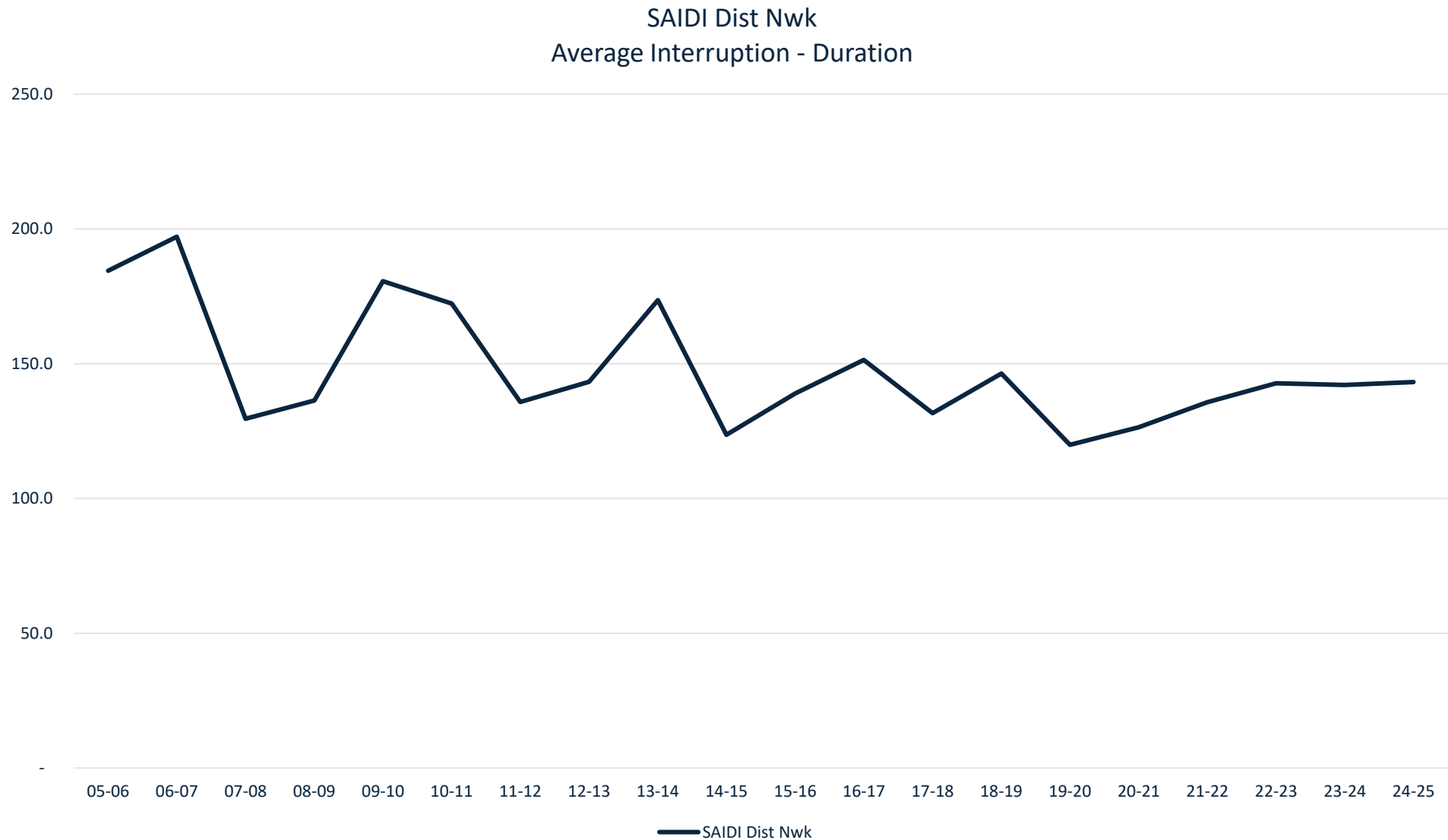
9:55-10:35am (40 minutes)



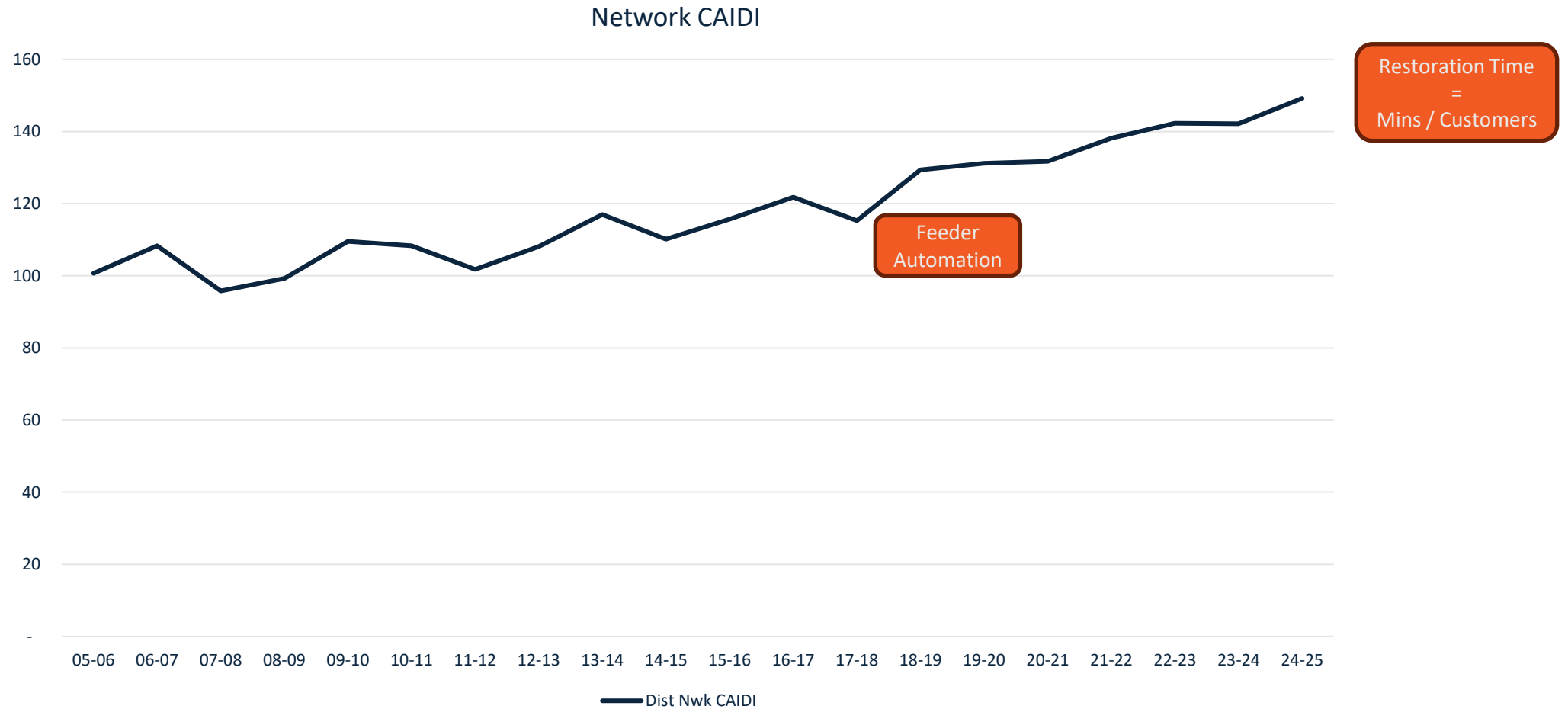
Average number of outages experienced



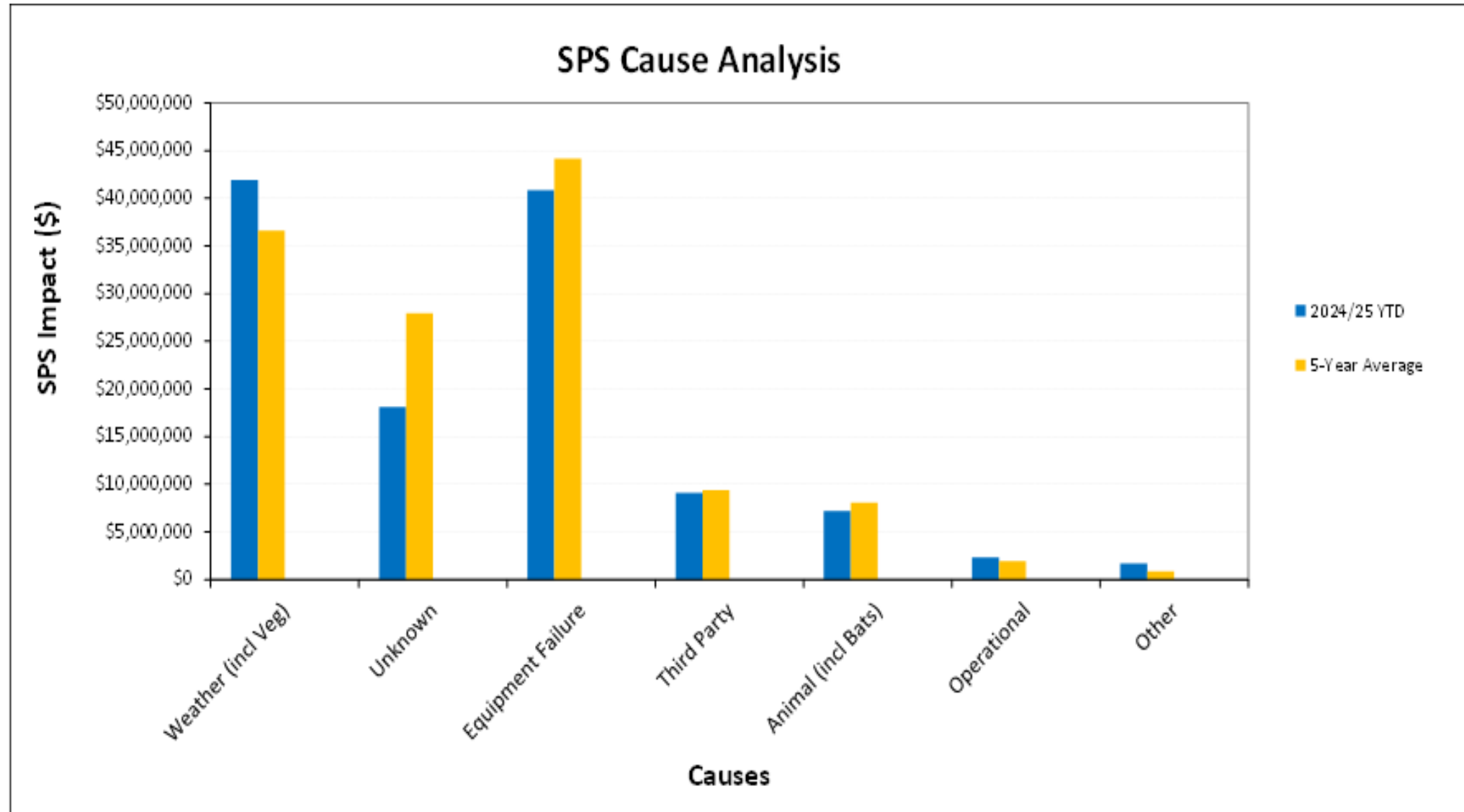
Average Minutes Interrupted p.a.



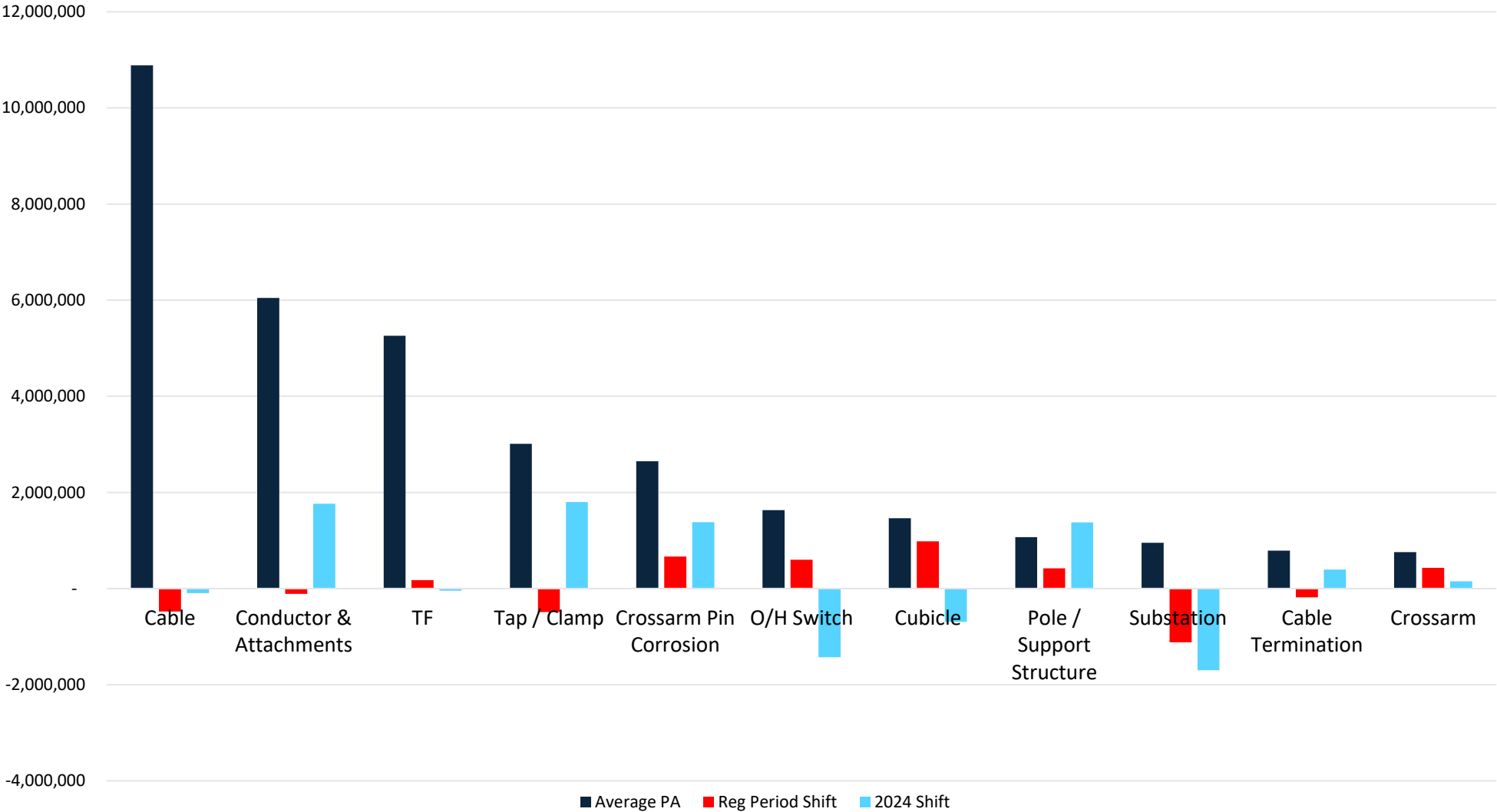
Average Minutes to restore supply



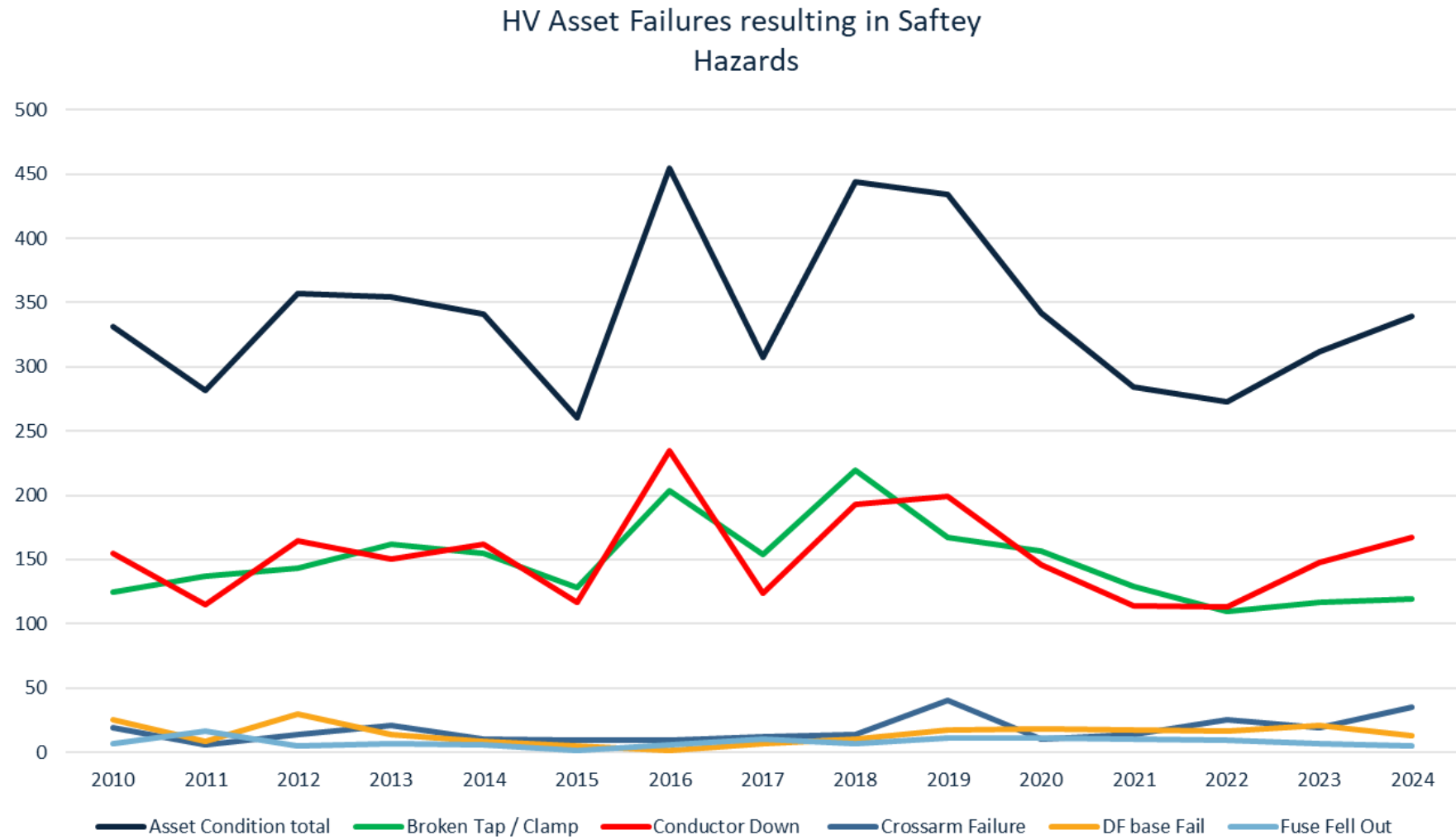
2024 / 2025 Causes

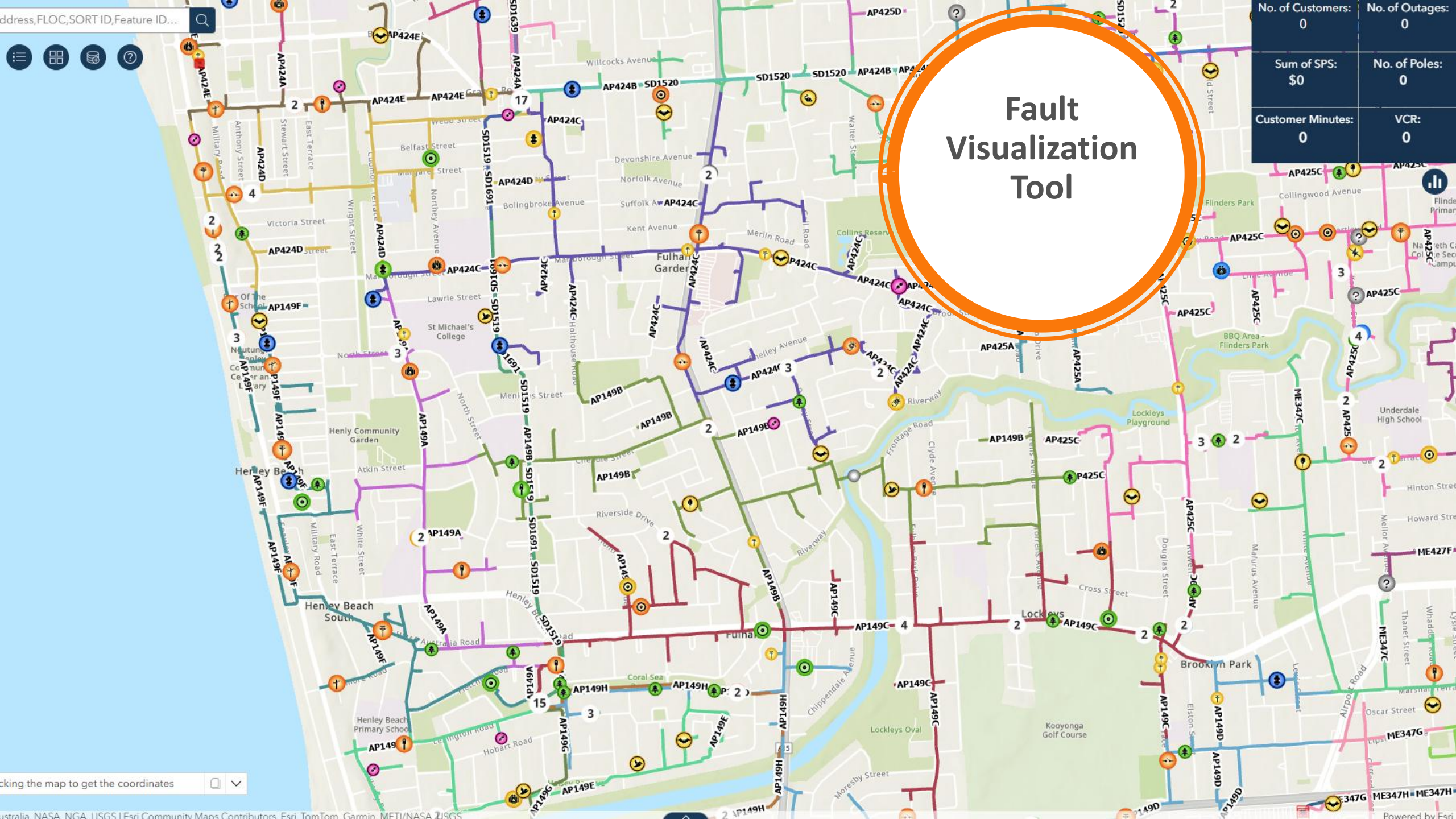


HV Asset Failures – Trends



HV Asset Failures – Safety Issues Trends





GHHF Distribution in SA



2023 2 Active Camps



2024 8 Active Camps



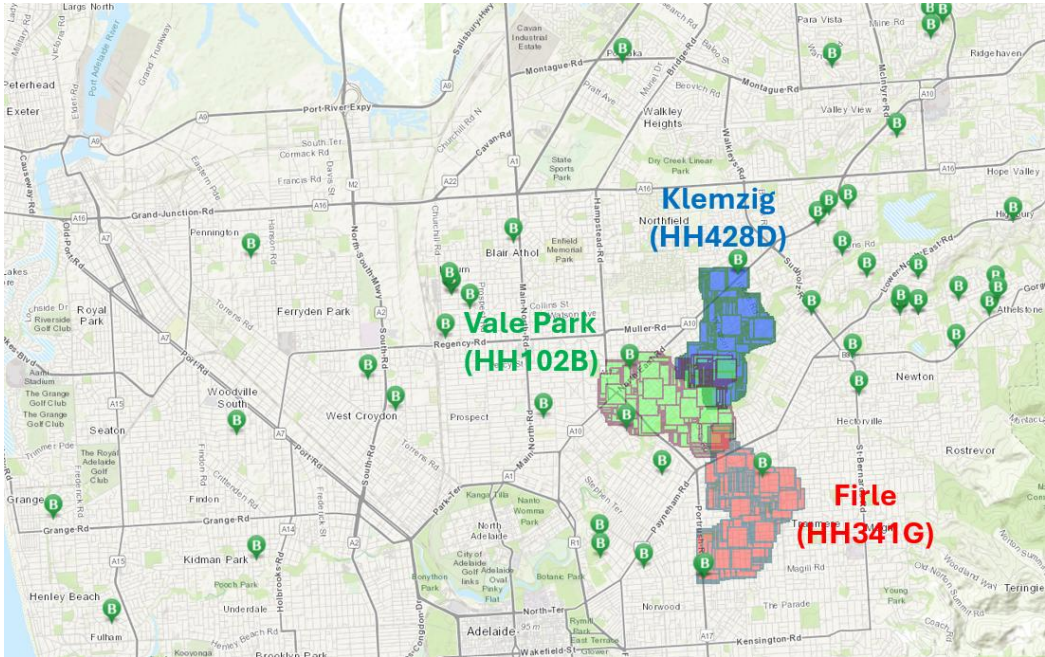
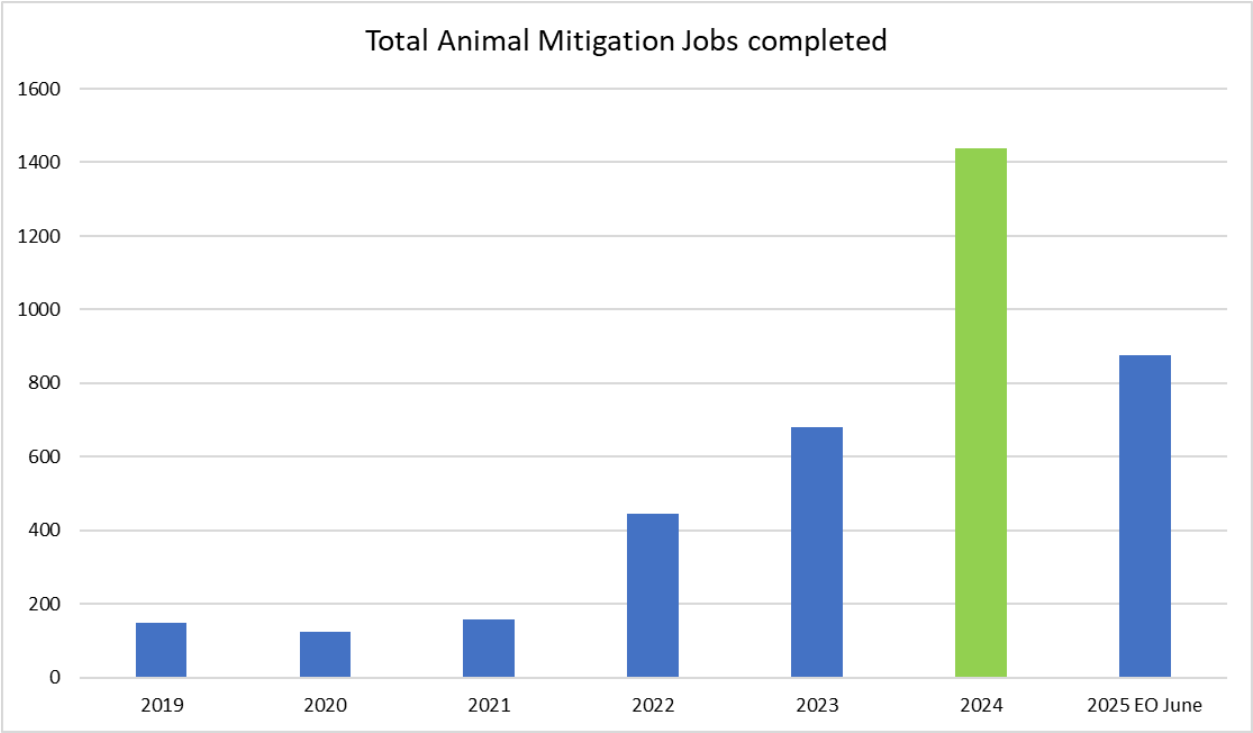
- Notable regional obs. 2023
- Active camps
- Notable regional obs. 2024

Animal Guard Effectiveness



Bat Outages

Doubled Animal Guard Installations
40% reduction in Outages in 2025



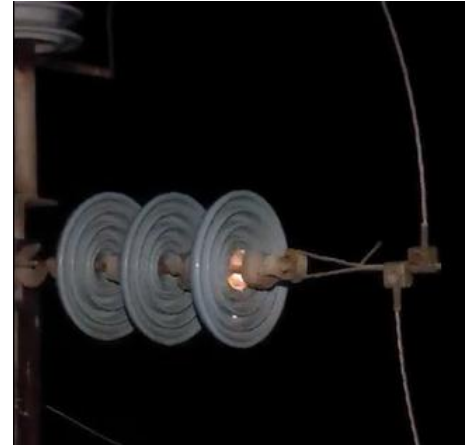
2024/2025 High Cause Trends

Insulator Pollution Outages

Around 10 SAIDI Mins (7% of Total SAIDI)

224 Sustained Outages

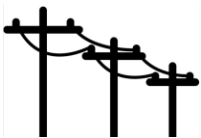
1,012 Reclose Events (Momentary Interruptions)



When to Wash



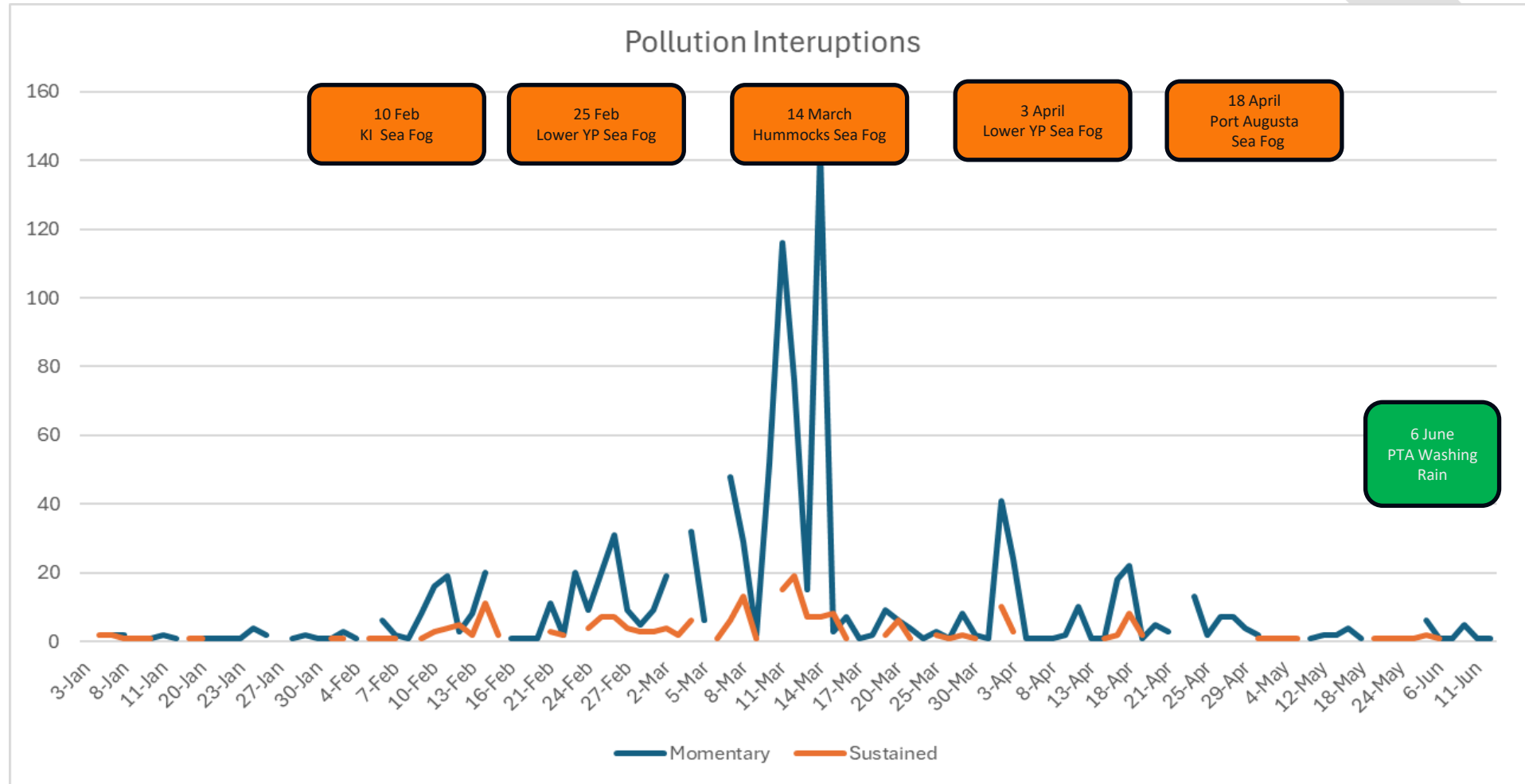
Jan Feb March April May



Jan Feb March April May June



Insulator Pollution Activity



Jan / Feb
Davenport /
Whyalla
Subs washed

12/2
Hummocks &
Ardross West Subs
Washed
13/2 KI Cable Hut &
Pennashaw washed

26/2
Port Augusta 33kV
washed
27/2 Lower Yorke's
33kV Washed

13 March to Mid April YP Lines Washed
23-27 March 33kv YP Yards
ENET washed

24/3 to 6/4
KI 33kV Line
Washed

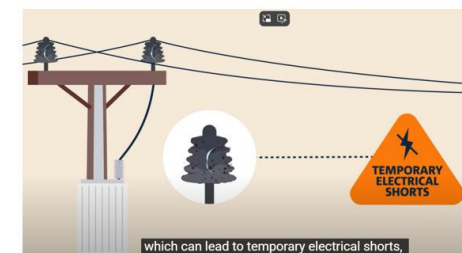
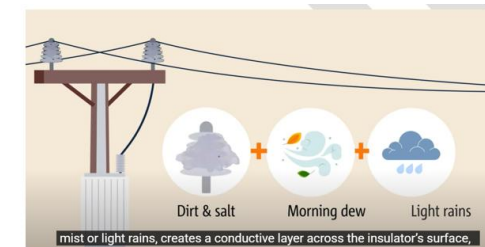
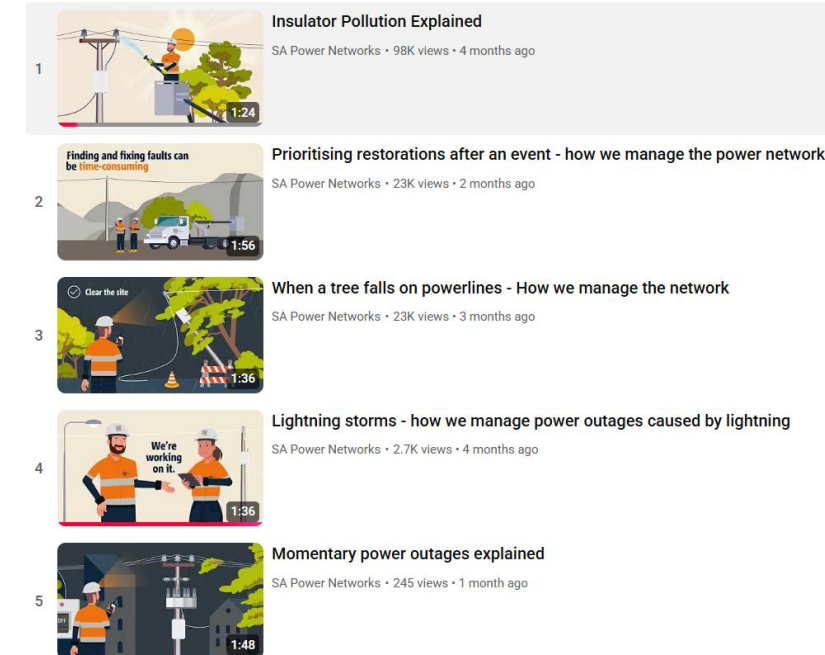
3 April / Arno Washed
Port Lincoln Sub Washed

May
Port Augusta
Re-Washed

External Communications

Customer Communications

- 1 in 30-year event
- Dry Conditions Lack of rain
- Doing what we can but it will not be enough without decent washing rains
- Emergency washing etc.
- Explainer Videos
- Electra-Net Comms

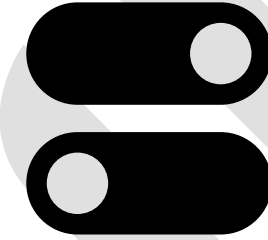
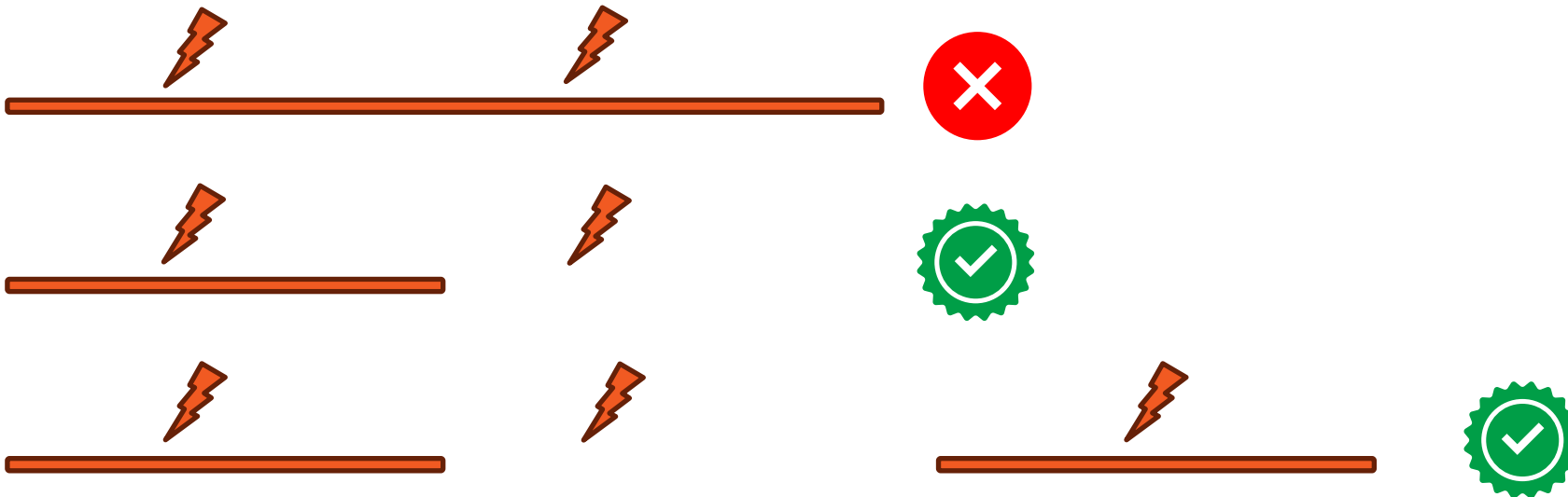


Adjust Protection Settings

Shorten Reclaim Times

Extend Reclose Dead Times

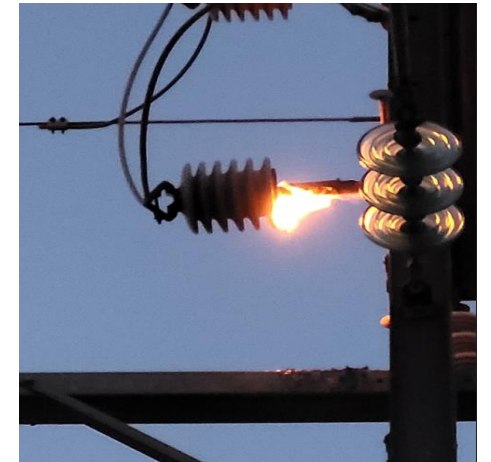
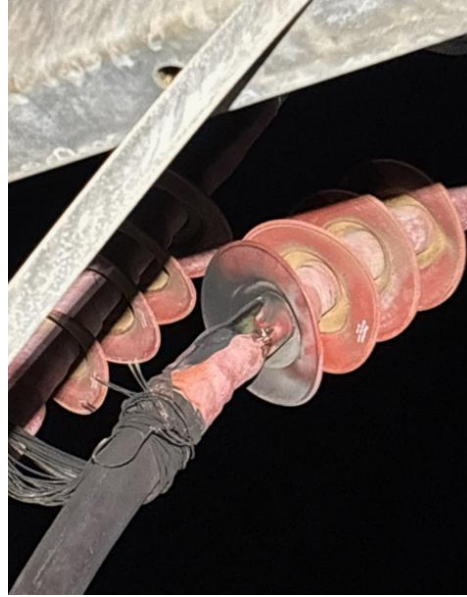
Coastal Feeders – Delay putting in 1 Shot for FD Day until necessary



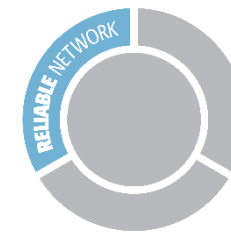
Re-insulation Silicon Insulators



Vulnerable Equipment Redesign



Network Reliability Standards



SA Power Networks must use its best endeavours to achieve a series of performance targets.

Electricity Distribution Code Feeder Category targets Excluding Major Event Days	CBD	Metro	Rural Short	Rural Long
Interruption Duration (SAIDI)				
Interruption Frequency (SAIFI)				
Supply Restoration Time Performance				

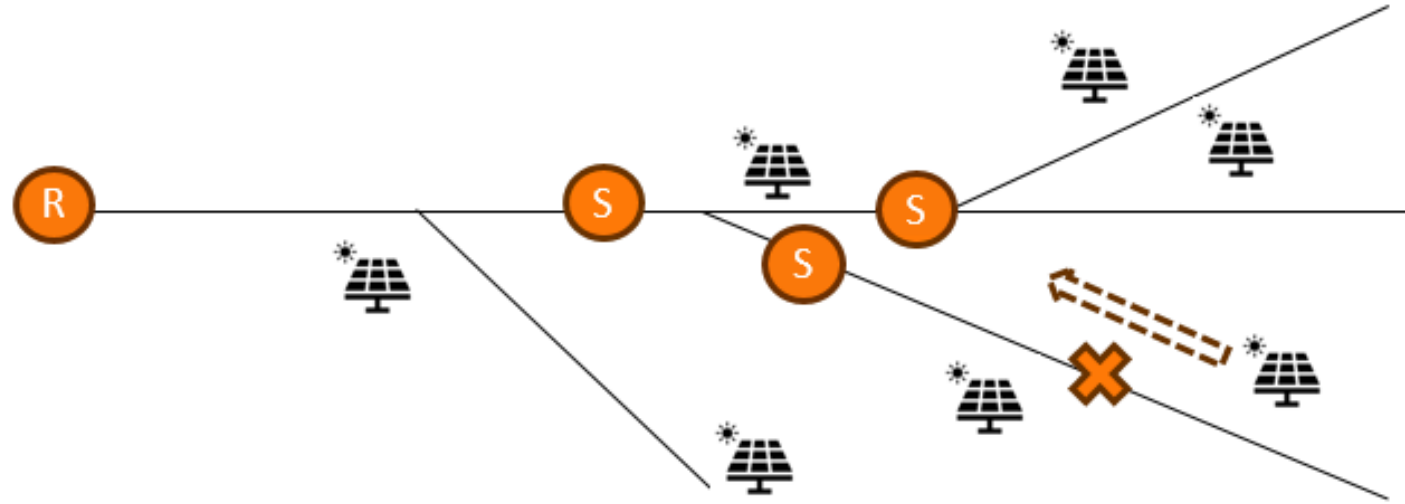
Rural Reliability Performance

Decline in regional reliability performance impacted by:

- Increase in **lightning activity**, resulting in
 - widespread interruptions
 - difficult to locate faults and
 - subsequent interruptions (days later)
- **Network switches** used in rural areas to segment feeders **not operating** during periods of **high solar generation**, resulting in increased customers interrupted and increased supply restoration effort



SWER Sectionalisers to be replaced with Reclosers



E Type Reclosers
Interim Solution



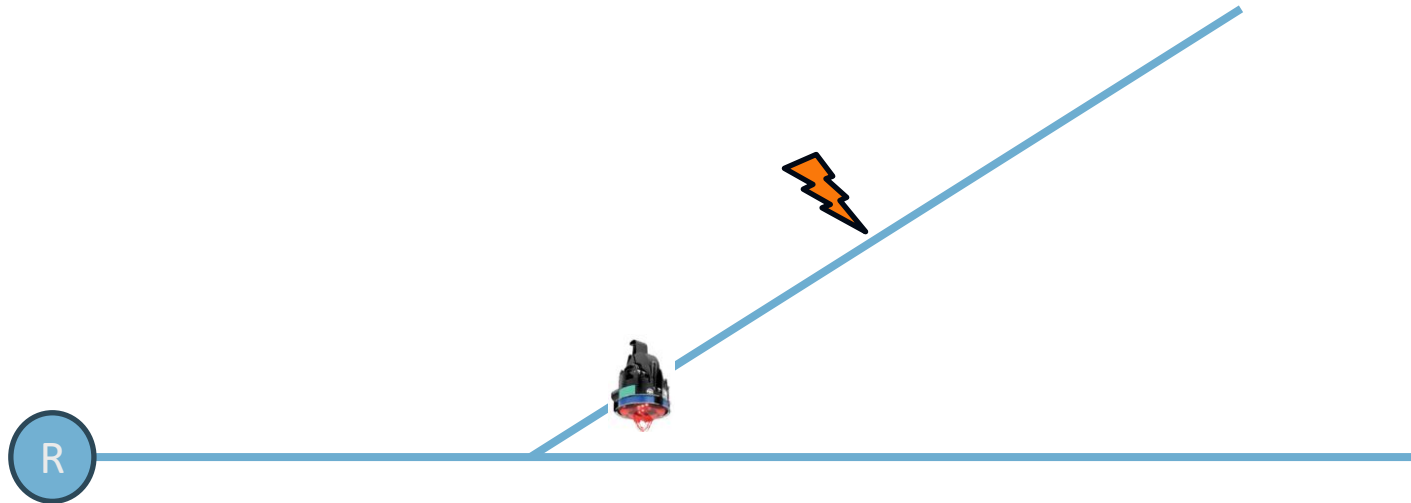
- 640 Sectionalisers to be upgraded
 - \$25M
- 300 Source reclosers to be upgraded
 - \$22M

Compact Modular Reclosers
Trials



SWER – Fault Indicators

- A SWER LFI for every 25km of SWER
- SWER LFIs at 776 Locations – Cost \$2.7M
- 6 Locations Remote Monitoring Trial



CBD Reliability

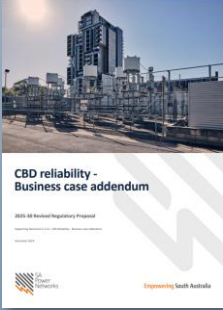
Elisia Reed

10:50-11:05am

(15 mins)



AER Final Determination

	Revised CBD Reliability Business Case Proposal	\$53.1M
	Replace 11.4km of 11kV cable (REPEX)	\$30.7M
	Installing 0.7km of cable (AUGEX)	\$1.8M
	Install 35 automated switches (AUGEX)	\$20.7M

AER Final Determination:

- Approved all \$30.7M for CBD cable replacement
- Did not approve the automation component

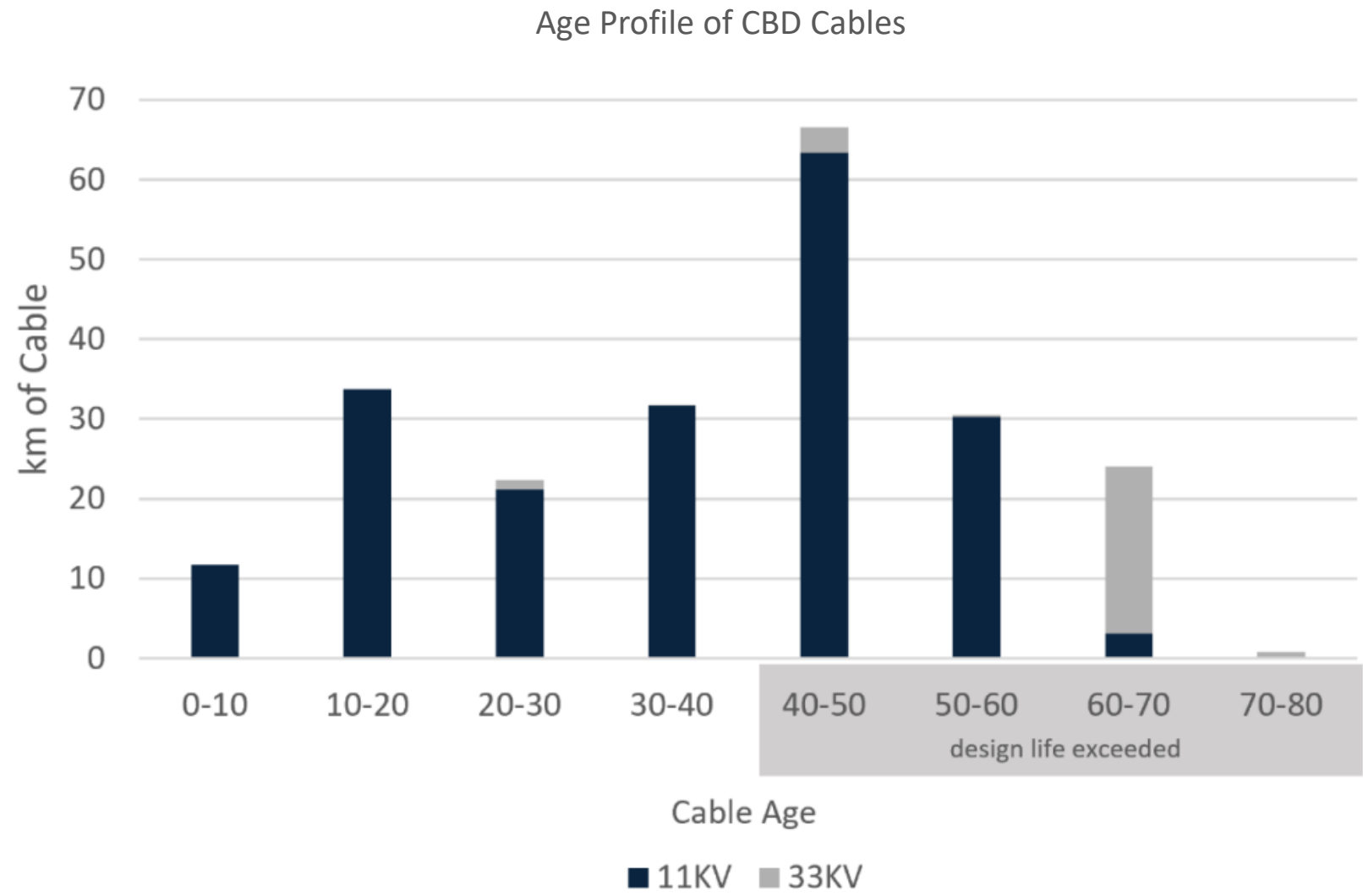
Interpretation of AER Decision:

- CBD reliability augex should be considered within the context of overall reliability augex investment (all feeder categories: Rural Long, Rural Short, Urban, and CBD)

Our Approach:

- Proceed with CBD cable replacement
- Install automation cubicles selectively (i.e. where they provide value in the overall automation mix)
- Minimal CBD automation expected due to low benefit vs cost

CBD Context – Poor condition Cables



11kV paper insulated
lead covered Cables
1960's & 1970's



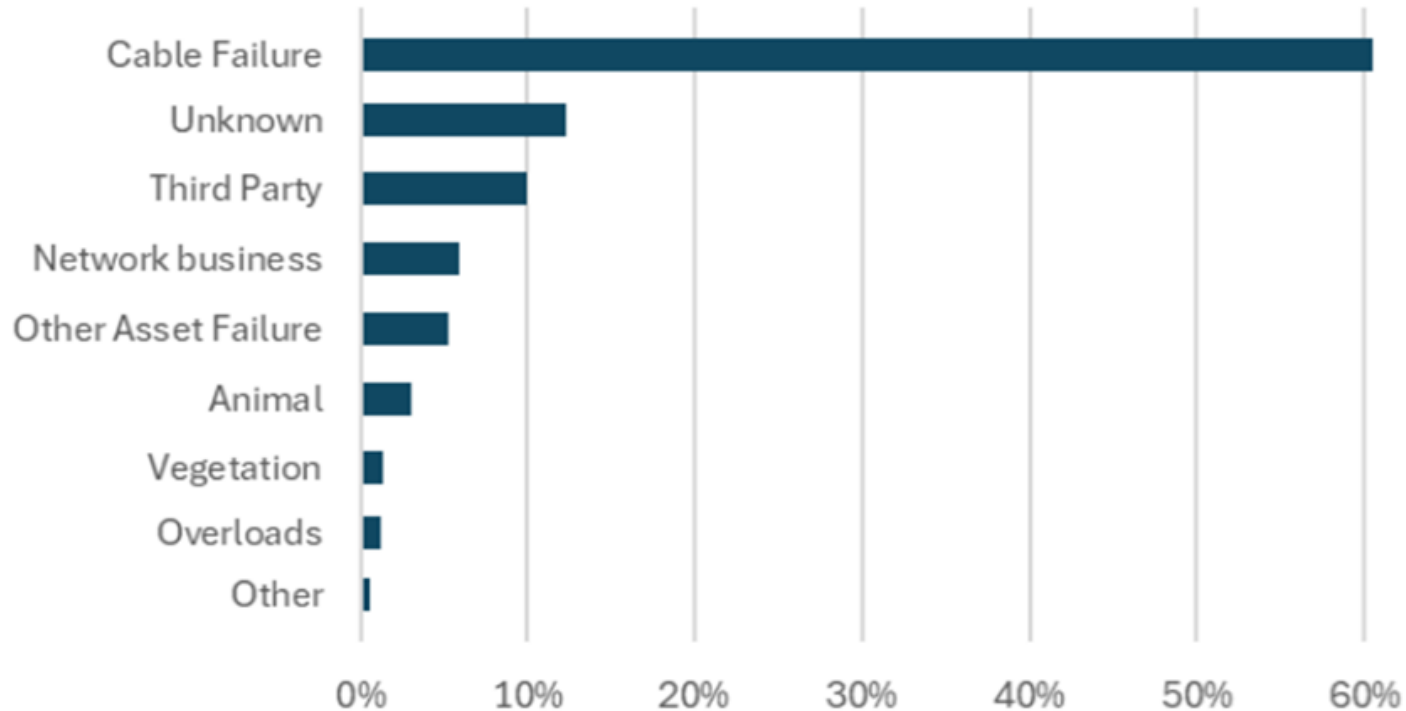
11kV XLPE cables 1980's
onwards



CBD Context – Poor condition Cables

- The 5-year average SAIDI performance (2019-20 to 2023-24) was 19.3 minutes above the 15minute target set by ESCoSA
- Cable failures are the largest contributor to CBD SAIDI (~60% of the contribution)

Contribution to SAIDI by outage cause (From Jan 2017 to May 2023)

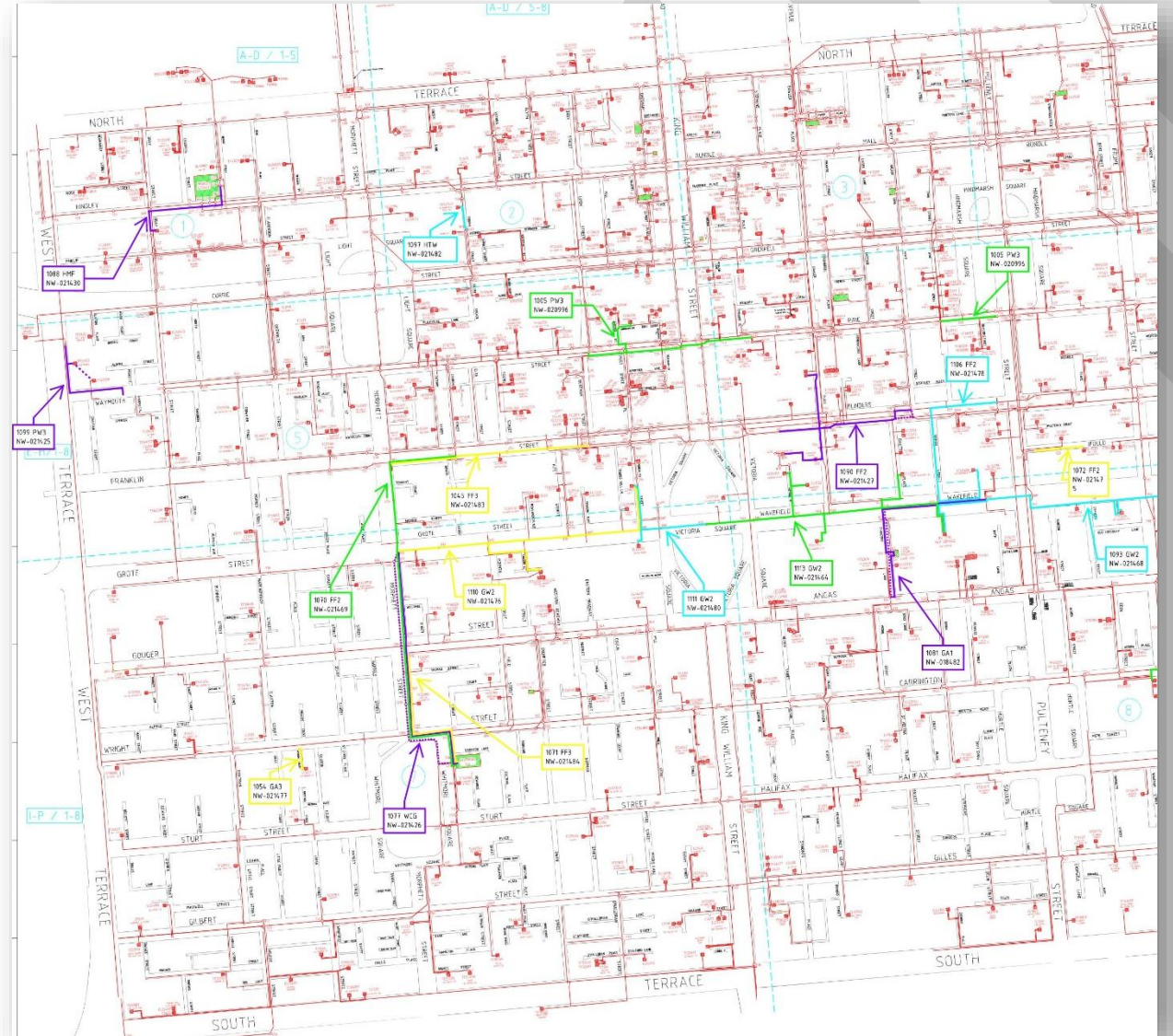


CBD Cable Replacement program

A program of cable replacements has been selected for delivery in 2026.

- **Twenty-one** cable projects
- Replace **approx. 7.2km** of cable
- **\$6.2M** budget
- Completed by **31st December 2026**
- Primarily focussing on replacement of bare lead PLY Aluminium cables. This cable type has had the most faults.

0.7 minutes of SAIDI improvement annually
forecast from the 2026 program



2026 Delivery Strategy

- Dedicated project team has been assembled.
- Currently progressing the 2026 program through detailed scoping, design and estimate ready for construction in 2026.
- 2027-2030 program is being desktop scoped and prioritised.
- Actively managing risks related to resourcing issues and cable procurement.



Program - Value Adds

- Opportunities to undertaking works ahead of council streetscape projects. (Hindley Street, Gouger Street)
- Rectify manhole defects when accessing holes for cable replacement.
- Use of LIDAR for asset location information in complex manholes.
- Remove redundant cable assets to free up duct space.
- Opportunities to replace assets alongside customer projects.
- Removal of high-risk joints.
 - Removes reliability risk
 - Removes safety driven access constraints to our manholes.



High risk/weeping joints



Collapsing lid support



Structural defects

Open Wire Services (OWS) Replacement Trial

Elisia Reed

11:05-11:20am

(15 mins)



Purpose

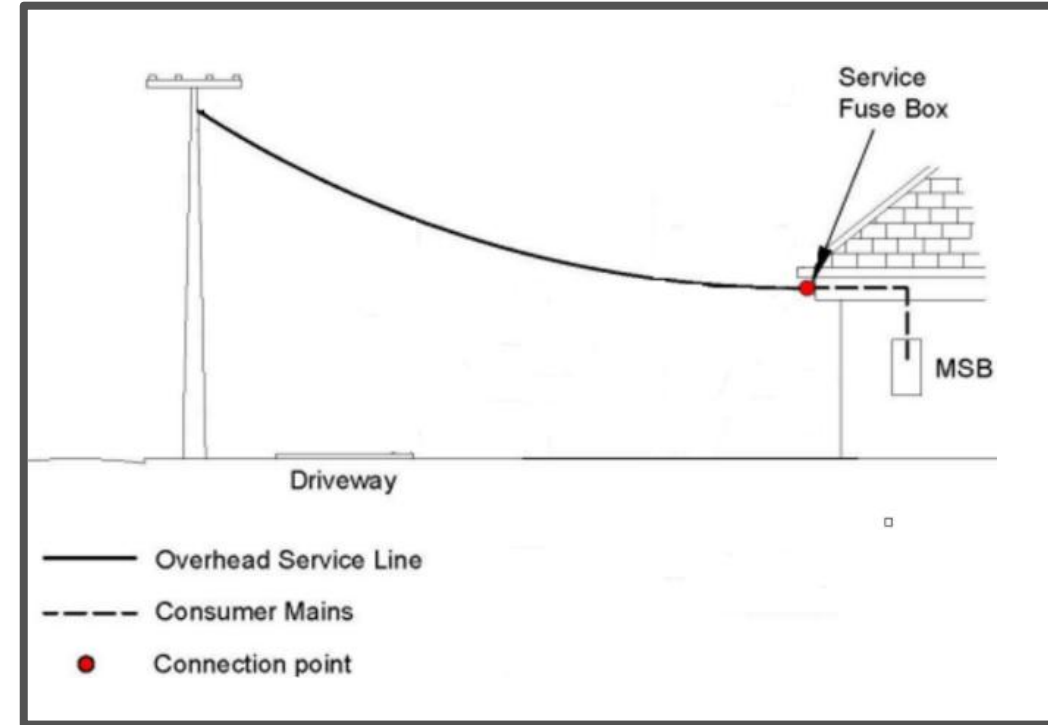
- To inform the ACRAG on public safety electric shock risk from open wire services (OWS).
- Outline our upcoming OWS replacement trial to reduce community safety risks.



Typical Open Wire Service Connection Point

Background

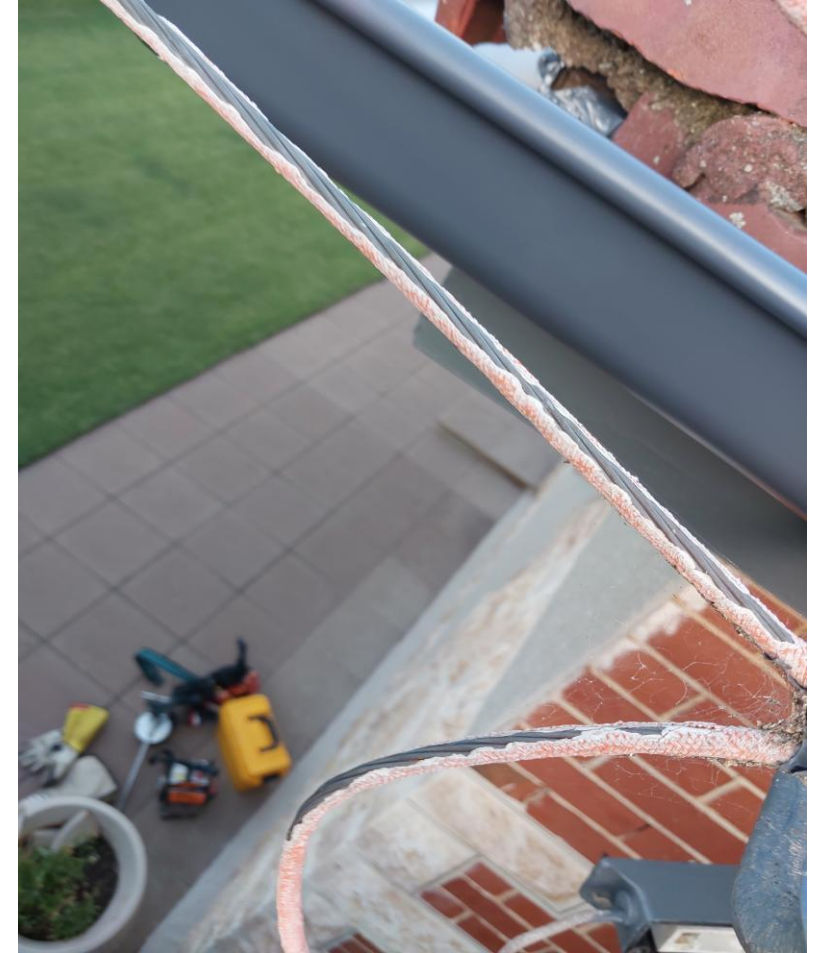
- Open Wire Services can be found on dwellings & commercial property constructed prior to 1970.
- ~ 6,000 open wire services in the network.
- Open wire conductors are deteriorating and approaching end of life (lifecycle ~30-50 years).



Overhead service spans from a pole to a customer's structure

Why do open wire services pose a safety risk?

- There is an increased risk to public safety as contact may result in an electric shock due to the following factors:
 - Active/neutral conductors either have no insulation or insulation (Cambridge Type) which perishes with age and exposure to UV light
 - Accessible positioning of the service connection point, typically on the fascia of dwellings



OWS Replacement Trial

- We are upgrading legacy OWS to improve safety and enable access to energy services (i.e. smart meters, solar, & batteries).
- While replacing OWS is straightforward, issues with customer mains and connection points can cause unexpected disconnections and higher customer costs from emergency call-outs.
- Effective scoping, communication, and contingency plans are key to minimising risks.
- A 50-customer trial in 2025 will identify challenges and refine a scalable approach, expanding to 200 customers in 2025-26.



Our Trial Approach

- Targeted area to improve delivery efficiency
- Clear messaging to ensure customers are confident in making informed decisions
- Customer notification approach with multiple opportunities to opt out.
- Site safety assessments at 200 locations prior to undertaking any OWS replacements
- Post-scoping, confirm suitability for upgrade as part of the trial
- 50 participants for initial trial (2025) – extended to up to 200 participants across 2025-26
- Captures insights to guide a broader rollout



Communications Summary

Touchpoint	Audience	Timing	Channel	Purpose
Initial notification	200 desk-top scoped trial sites	Before contractor attends to scope	Email + SMS	Inform customers of upcoming assessment, no action required
Scoping complete – suitable	Trial participants (subset)	After safety check (Sept–Dec)	Email + SMS	Advise of upgrade suitability, outline next steps, opt-out path
Scoping complete – not suitable	Trial participants (subset)	After safety check	Email + SMS	Advise no action needed, close the loop
Upgrade confirmation	50–200 trial participants	Prior to scheduled upgrade	Email + SMS	Confirm upgrade and planned outage, offer incentive, opt-out details
Planned outage notification	Trial upgrade participants	At least 5 business days prior	Standard SAPN planned outage comms	Notify of planned power interruption due to upgrade

Summary

- 50 targeted customers in 2025
- Up to 200 targeted customers in 2025-26
- Aim to increase community awareness



Strategic Measures and Asset Management Objectives

Travis Kauschke and Ali Walsh

11:20-11:40pm (20 minutes)



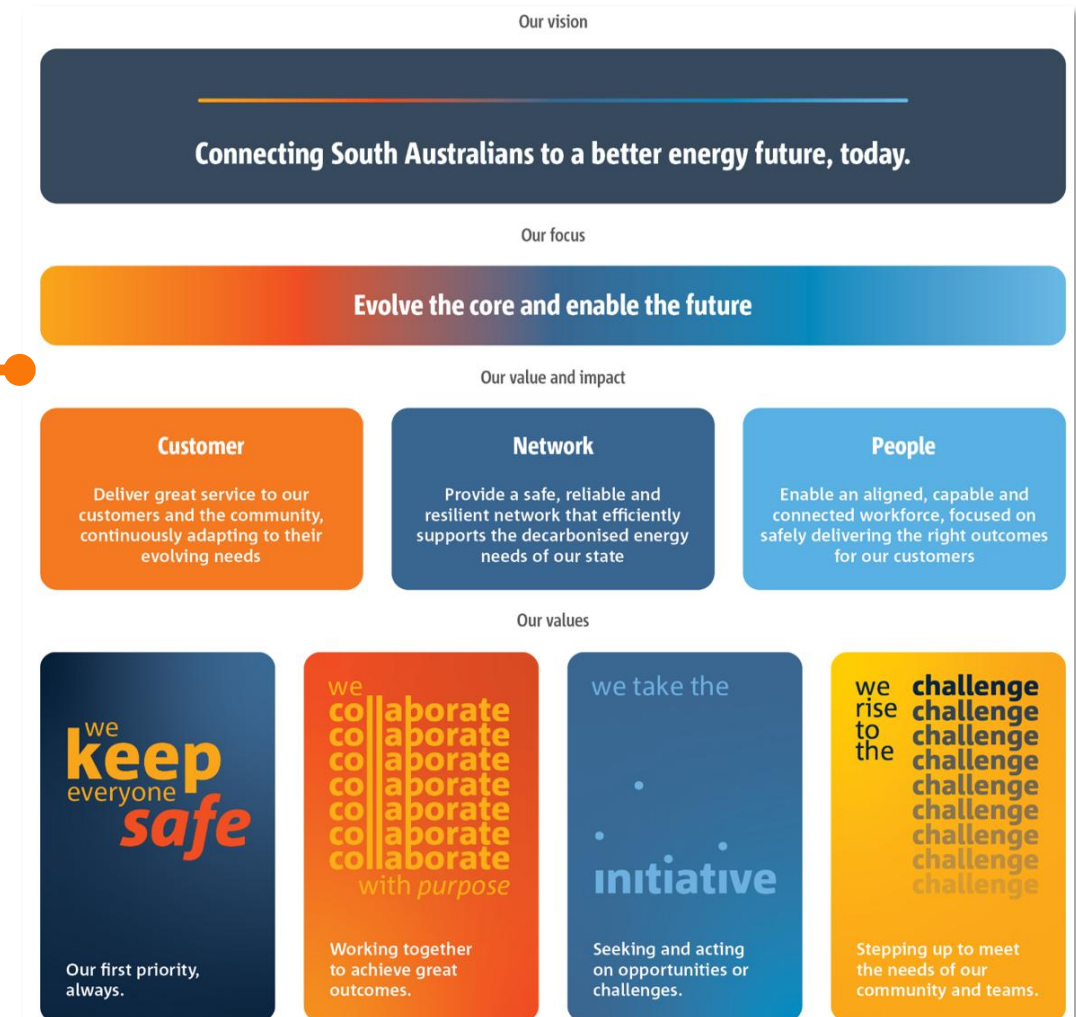
Empowering South Australia

2026 Strategic Plan



draft

'on a page'



SAPN's 2026 Strategic Objectives & Key Results

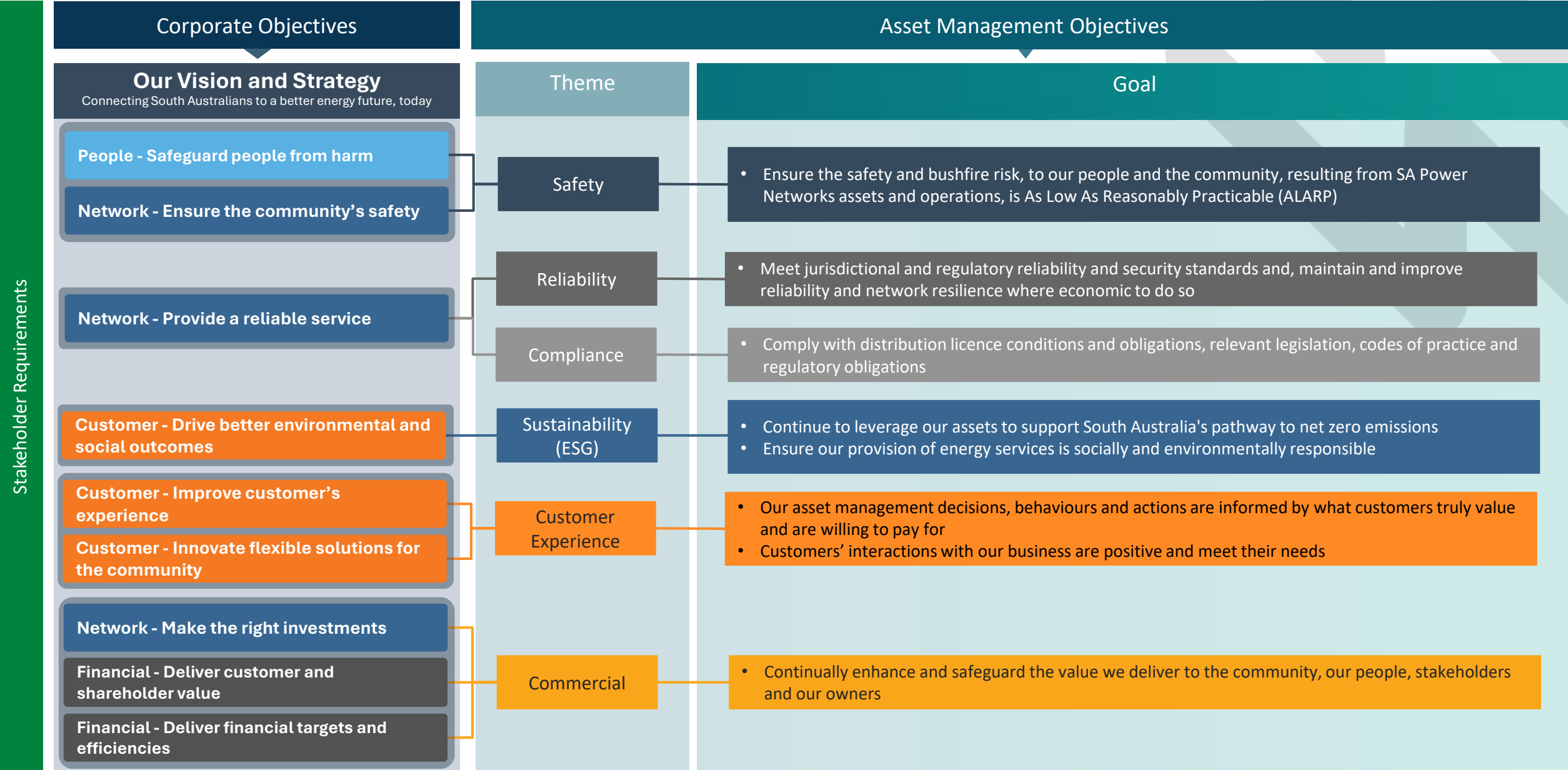
draft

Our Vision and Strategy Connecting South Australians to a better energy future, today

Pillars	Objectives	Key Results	Priority / Key initiative	2025 Target	YTD Act.	2026 Target
Customer	Improve customer experience	Customer satisfaction (CSAT)	NeCXt (Customer Program) and CX insights	>68.0%	66.9%	
	Increase uptake of flexible connections	% Flexible Exports opt-in	Innovation Framework & CER Integration	Baseline	93%	85%
	Drive better environmental and social outcomes	GHG Emissions Scope 1 & 2	Climate Change positions & Transition Action Plan	50% reduction by 2030, net zero by 2035 (Scope 1,2). Net zero by 2050 (Scope 3)		
Network	Ensure the community's safety	Fire starts on ToBANs	Bushfire risk AUGEX	2.6	2.8	
	Make the right investments	Value of risk removed	Investment Governance Frameworks			
	Deliver our work program efficiently		The planned work process			
	Better understand network condition & risk		Transforming Digital Work Delivery, Phase 3			
	Provide a reliable service	STPIS (SPS)	Reliability program + targeted improvements AMTP	<=129	121.5	
		Reliability ex MED		<=143	143	
People	Build an inclusive workforce	Strength of Culture	D&I program	Baseline	71%	
	Enable our people to deliver even better outcomes					
	Strengthen leadership impact and practice		Leadership blueprint			
	Safeguard people from harm	TRIFR	Fatal Hazards & Critical Controls	<9	10.7	
		SSIFR		<3	1.9	
Financial	Deliver customer and shareholder value	Key Financial Indicators	Planning & Forecasting Tool implementation	On track		
	Deliver financial targets and efficiencies		Efficiency investments			



AM Objective Themes & Goals – Aligned with Corporate Objectives



Safety



Ensure the safety and bushfire risk, to our people and the community, resulting from SA Power Networks assets and operations, is As Low As Reasonably Practicable (ALARP)

Community safety risk managed ALARP

- *3rd Party damage events*
- Electric shocks $\geq 50V$
- Unassisted failures
- Wires down
- Personal injury non-shock
- Community fatal risk events
- Life support customer breaches

Employee safety risk managed ALARP

- Total Recordable Injury Frequency Rate (TRIFR)
- Serious Safety Incident Frequency Rate (SSIFR)
- Injury Severity rate
- Driver Incident Frequency Rate
- Integrated switching incident rate
- Safety in design completion %
- Closeout of ICAM investigations within 1 month

Bushfire safety risk managed ALARP

- TOBAN fire start rate
- Total fire starts
- Pre-fire danger season Z codes mitigated
- Pre-fire danger season vegetation clearance compliance with legislated requirements
- Bushfire consequence

**italics indicate measures requiring development*

Reliability



Meet jurisdictional and regulatory reliability and security standards and, maintain and improve reliability and network resilience where economic to do so

Meet ESCOSA feeder category reliability targets

- Feeder Category SAIDI targets
- Feeder Category SAIFI targets
- Feeder category customer restoration of supply targets

Maintain other reliability and security standards

- Critical clearing time compliance
- DUFLS compliance
- *Value of Network Resilience*

Maintain geographic region reliability

- Regional SAIDI/ SAIFI
 - Adelaide Business Area
 - Barossa, Mid-North and Yorke Peninsula
 - Eastern Hills
 - Eyre Peninsula
 - Fleurieu Peninsula
 - Greater Adelaide Metropolitan Area
 - Major Regional Centres
 - Riverland and Murraylands
 - South East
 - Upper North

Improve regional reliability and resilience in worst performing regions

- Improve reliability to SAIDI and SAIFI to three worst served regions in line with other regions
- Improve low reliability feeders
- Improve regional network resilience against long duration outages

Compliance



Comply with distribution licence conditions and obligations, relevant legislation, codes of practice and regulatory obligations

Compliance with National Electricity Law, Rules and Retail Rules

- Life support customer planned outage notifications
- Other planned outage notifications
- Fault clearing times
- Backup protection
- Substation maintenance

Compliance with Distribution Licence

- Preparing, maintaining and periodically revising SRMTMP

Compliance with Electricity Act (1996) and associated Electricity General Regulations (2012)

- Quality of supply
 - Voltage
 - Harmonics
- Aerial line clearance

Compliance with Electricity (Principles of Vegetation Clearance) Regulations 2021

- Frequency of inspections
- Notice of veg clearing to council

Compliance with Work Health & Safety Act and Regulations

- Reportable incidents

Compliance with Environmental Protection Act 1993

- Reportable incidents

Sustainability

Continue to leverage our assets to support South Australia's pathway to net zero.

Ensure our provision of energy services is socially and environmentally responsible.

Achieve credible greenhouse gas emissions reduction across our operations, activities and value chain

- Reduce scope 1 and 2 emissions by 50% by 2030
 - SF6 emissions reduced by 50% by 2030
- Reduce absolute Scope 3 emissions from energy related activities by 25% by 2030/ net zero by 2050
- 70% of our suppliers' emissions covering purchased goods and services will have science-based targets by 2028

Accelerate South Australia's pathway to net zero emissions by enabling clean energy and unlocking future value for our State

- *Total utilised CER generation*

Enhanced social responsibility and equity in our workforce and asset management

- *I&D metrics*
 - Workplace gender breakdown
 - Respect at work training completion
- *Local suppliers metric*
- *Modern slavery metric*

Become a net zero waste organisation by 2050

- Net zero Waste by 2050
- Total non-hazardous waste
 - Reuse
 - Recycled
 - Landfill
- Total hazardous waste
- Reuse
 - Recycled
 - Landfill
 - Waste diverted from landfill

Customer Experience



Our asset management decisions, behaviours and actions are informed by what customers truly value and are willing to pay for. Customers' interactions with our business are positive and meet their needs.

We make energy easy for every customer, every day

- CSAT
 - Planned outages
 - Unplanned outages
- Ombudsman complaints
- Timely restoration status updates
- *Customer total energy bill*

Enable new energy services aligned to customers' energy needs

- % new connections choosing flexible connections
- % flexible export constraints
- Maintain 95% export service performance for 95% of customers

Timely and efficient delivery of customer connections

TBD Q3 2025

- *Timely responses*
- *Timely delivery of connections requests*
- *Timely connections*

Commercial



Continually enhance and safeguard the value we deliver to the community, our people and our owners

Manage asset investment profile to be able to sustainably deliver safe and reliable service

Efficient Investment Planning

- AER Benchmark Performance
- % spend IGF vetted
- Network utilisation
- Capex (AMTP) efficiency benefit

Efficient work planning and delivery

- \$ Risk removed per \$ Delivery
- \$ risk removed
- % work plan completed
- Schedule churn
- Actual Job Cost vs Standard Job Cost
- Actual Job time vs Standard Job time

Build an efficient and future ready workforce and business capabilities

- Work hours required vs available work hours
- Sufficient resources to fill availability rosters
- \$ work plan spend per FTE per year
- *Utilisation metric – eg Widgets per hour*

Maximise incentive schemes

- Service target performance incentive scheme
- Capital expenditure sharing scheme
- Efficiency benefits sharing scheme
- Demand Management Incentive Scheme

Financial targets

- OPEX
 - Veg management
 - Emergency response
 - Other Network Maintenance
 - Regulated OPEX
- CAPEX
 - Network CAPEX
 - Customer CAPEX

Customer Outcomes

Davis Veremu and Erin Hampton
12-12:20pm (20 minutes)



Customer outcomes

- Each Advisory Group has been asked to develop customer outcomes.
- Advisory Group role of keeping business focussed on outcomes that matter for customers.
- ‘Return on investment’ for consumers investing their time in engagement.
- One outcome for each theme
 - Reliable, safe and resilient network
 - Clean and green energy
 - Customer experience and empowerment
 - Affordable and equitable supply
- Plus, outcome from each group on the common themes
 - Innovation
 - Advocacy
 - Data/ Know your customer



CAF Chair Priorities

- Repex accountability and risk removed per \$ spent e.g. bushfire risk
- Comms Plan – external engagement on customer projects/ connections

Area	Outcome	Metric
Reliable, safe and resilient network	Stakeholder feedback and endorsement of Asset Management objectives – ensuring alignment to customer outcomes	AMTP progress updates
Customer experience, choice and empowerment	Communications Plan on proposed investment in metro and regional areas.	Develop Asset Management and Investment newsletter for Eyre Peninsula as a pilot
Clean and green energy	ISO55001 – supply chain. % of SA businesses used in projects/ managing our assets.	% of SA businesses used in projects/managing our assets for critical spares management (top 10 critical assets). Investigate issues in global supply chain and competition due to DNSP demand.
Affordable and equitable supply	Repex accountability – risk removed per \$ spent. Bushfire risk reduction and geographical region reliability.	Risk removed per \$ spent for insulator washing program and equipment investment in high bushfire risk areas.
Advocacy	Synergy across other Advisory Groups eg. veg management, reliability.	Attendance at other Advisory Group meetings – VMAG (bushfire risk reduction discussion)
Innovation	Innovation to support ageing assets/ repex.	Ensure input from ACRAG into Innovation Advisory Group. Identify at least 2 problem statements for IAG consideration pa.
Know your customer/ Data	Appropriate data to ensure efficient investment. Ability to track customer outcomes at a granular level.	??

Other Business

Innovation Pathway Overview – Paul Topping

ACRAG bus tour – 22 October 2025

Asset Newsletter

12:20-12:30pm (10 minutes)



Empowering South Australia

Innovation operating model & pathway

Paul Topping



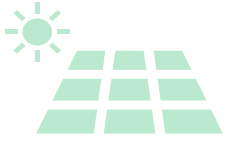
What is innovation ?

- The **intentional** introduction and **application** of **novel** ideas, processes, or technologies that **create value** by significantly **improving** business outcomes, operations, or customer experiences.
- It's accompanied by a clearly defined problem statement
- Strong strategic alignment

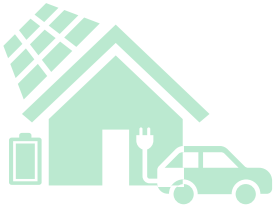
This definition highlights several key aspects:

- **Intentional** – Innovation is deliberate, not accidental. It arises from a purposeful drive to improve.
- **Novelty** – The idea or method must be new in some context—new to the company, industry, or globally.
- **Application** – Innovation isn't just about ideas; it involves putting those ideas into practice.
- **Value Creation** – Innovation must result in measurable benefits—whether through efficiency, effectiveness, competitiveness, or customer satisfaction.
- **Improvement Focus** – The end goal is always to enhance some aspect of the business

Innovation can help solve our biggest strategic challenges



- World's highest solar uptake
- Network and minimum demand challenges



- Electrified homes could double network demand



- Demand flexibility is key to integrating these at lowest cost
- Transition to DSO

**Future Networks
Innovation**



- Cost of living pressures
- Growing energy affordability and equity divide



- Increasing customer service expectations (notification, connections, digitisation, AI etc)



- Declining consumer trust in the energy sector

**Customer
Innovation**



- Oldest asset base in the NEM
- Need to balance safety, reliability, affordability



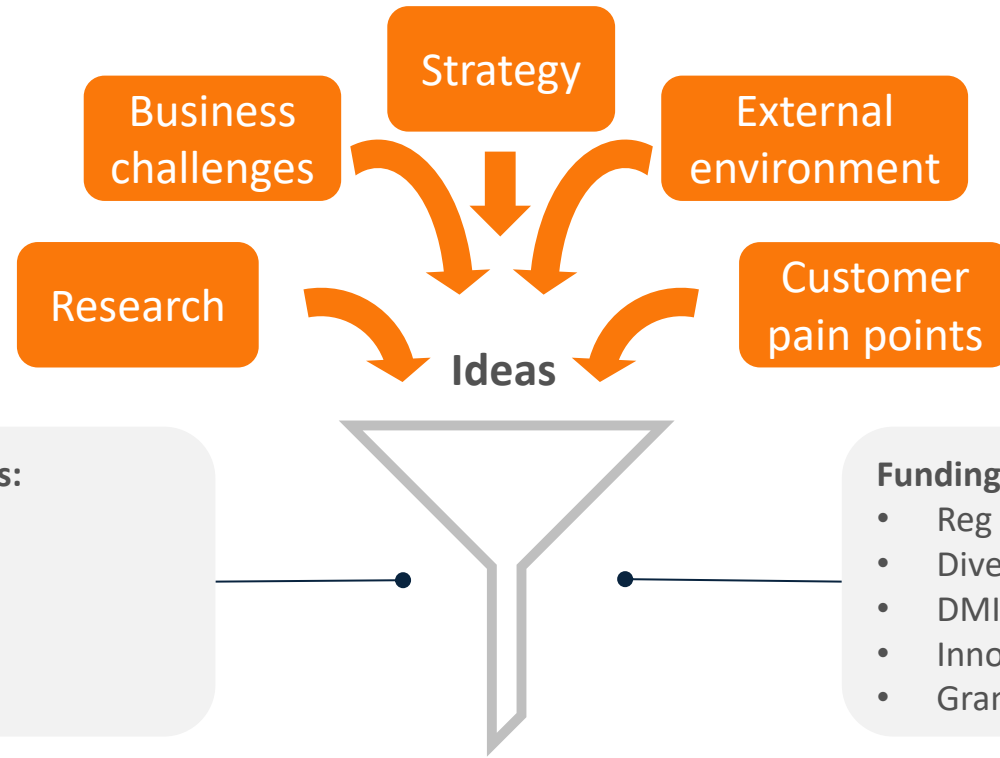
- Changing climate - increasing extreme weather events (e.g. storms, bushfires)



- Increasing pressure to 'do more with less'
- New tech emerging in the industry (e.g. SAPS, drones, digital twins)

**Asset Management
and Operations
Innovation**

Innovation Framework



Innovation portfolios

Customer experience innovation

Customer benefits: Improved customer experience

Example 'problems':

- Customer experience
- Energy affordability/vulnerable customers
- Connections process

AM&O Innovation

Customer benefits: cost reduction through operational efficiencies

Example problems:

- Vegetation management costs
- Ageing assets
- Regional reliability

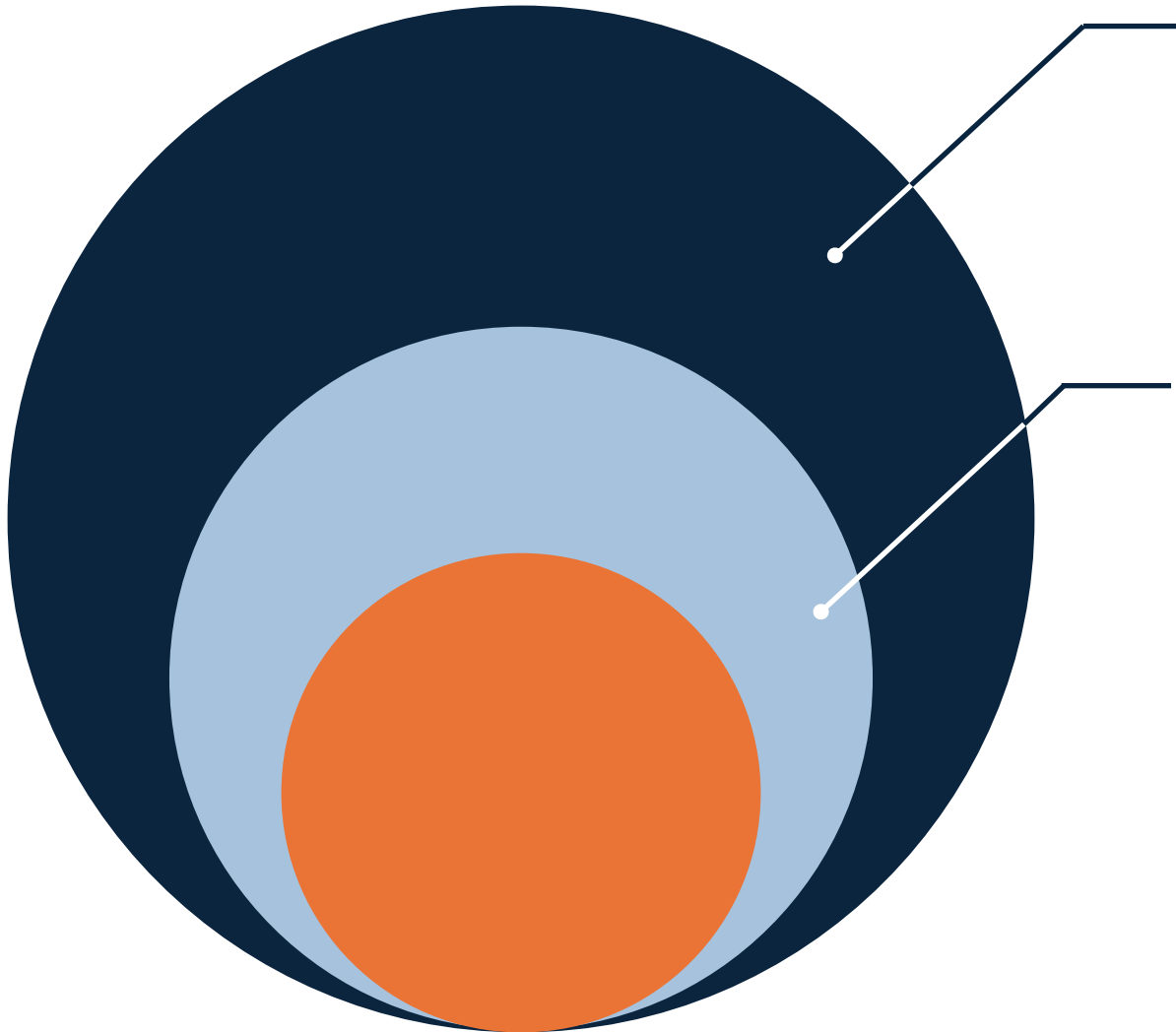
Future Networks Innovation

Customer benefits: Cost reduction by improving network utilisation + improved customer choice

Example 'problems':

- Minimum demand
- Hosting capacity constraints
- Electrification demand increase

Enterprise Innovation scope



All innovation at SAPN

- Tracked and reported on by EI team
- Supported by our innovation toolkit
- Excludes business improvement

Strategic Innovation

- Select few 'game-changing' initiatives
- Run through the Innovation Pathway
- Business embedded delivery model (e.g. SAPS)
- Centralised innovation delivery model (e.g. Energy Masters)

Portfolio Pipeline Status (not exhaustive):

Future Networks Innovation

Customer Innovation

Asset Management and Operations Innovation

Backlog

- Flexibility Marketplace
- CER cyber security
- Distributed emergency under-frequency response

- Self-service connections
- Solar for renters

- Automated fault location
- Drones for inspections
- Emergency services data sharing

Developing

- N/A

- Vulnerable Customers
- Enabling EV Chargers on Poles

- Stand-Alone Power Systems
- Computer Vision
- Digital Twin (LiDAR)

Delivering

- Flexible Exports
- Flexible Connections for C&I
- Community Batteries
- Market Active Solar

- Energy Masters

- Satellite imagery for crop risk
- Risk-Cost model
- Murray River Flood model

Innovation Advisory Group

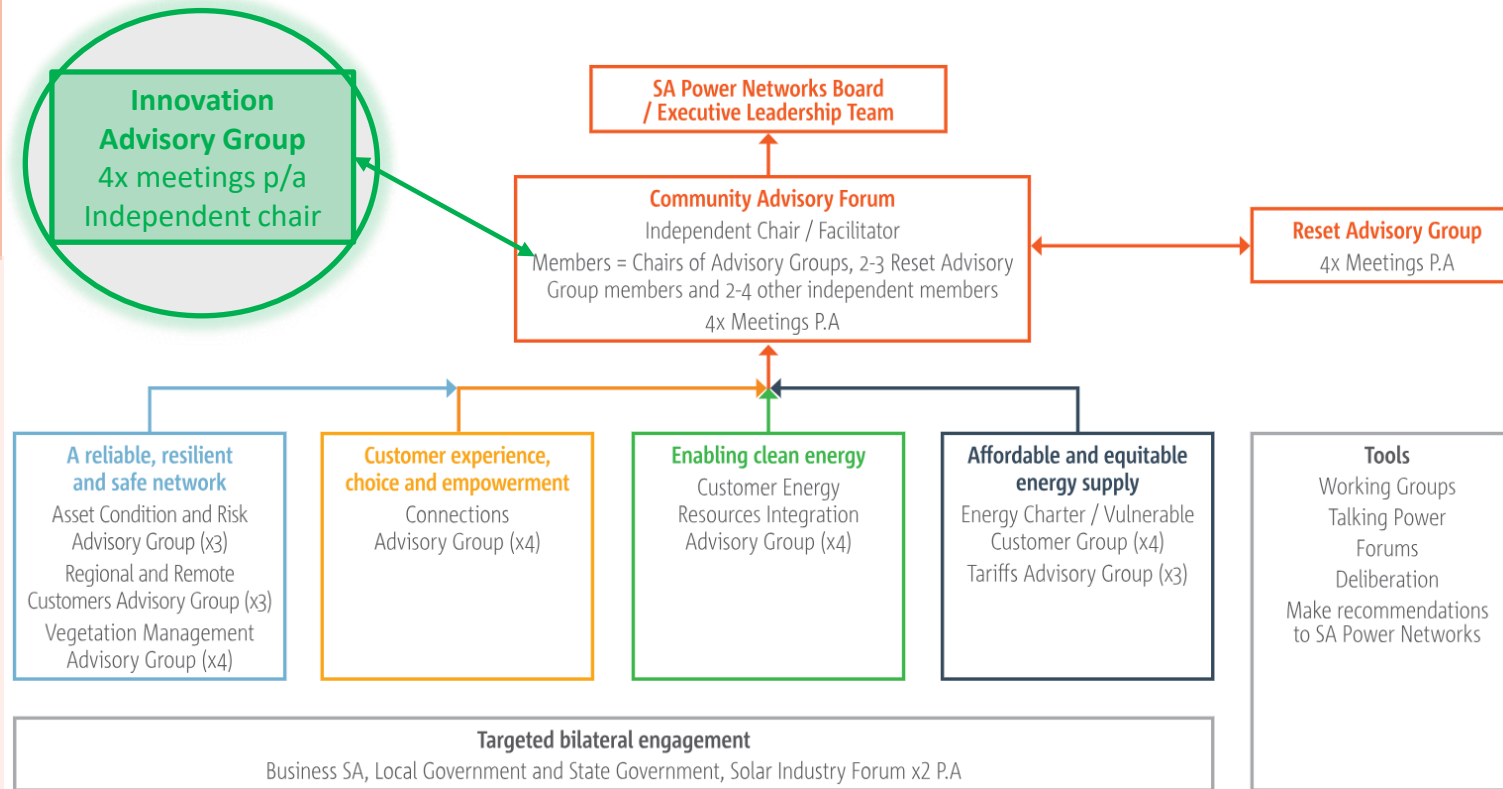
Purpose

Provide customer and industry input to the prioritisation, selection and delivery of Innovation Fund projects*

Key objectives:

- provide input into **project selection, prioritisation and delivery** of Innovation Fund activities.
- monitor delivery and discuss **how knowledge from Innovation Fund projects will be shared** with industry, consumers and regulators.
- provide **input on customer or industry problem statements or ideas for innovation** arising from other Advisory Groups.

Members: *community & industry representatives from CAF & other AGs*



*To assist holistic prioritisation of Innovation Fund projects, IAG will be provided with visibility of SA Power Networks broader Innovation Framework and other relevant innovation projects that fall outside the Innovation Fund.

<https://www.aer.gov.au/system/files/2024-12/SAPN%20-%20205.13.4%20-%20Innovation%20Fund%20-%20December%202024%20-%20Public.pdf>



Empowering South Australia