



Government of **Western Australia**
Department of **Treasury**



Wholesale Electricity Market Reform Program

Industry Forum

20 September 2018

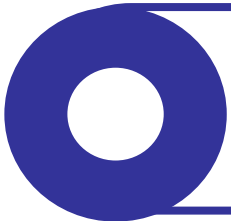


AGENDA



Session objectives and context for reform

Zaeen Khan, Public Utilities Office
Cameron Parrotte, Australian Energy Market Operator

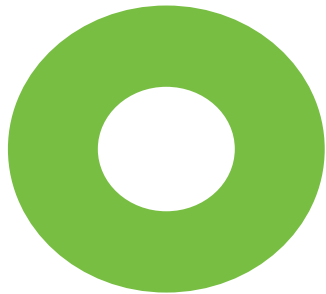


Scope and approach for delivery of WEM reforms

Kate Ryan, Public Utilities Office



Q&A and discussion session



1. Session objectives and context for reform

Zaen Khan, Public Utilities Office

SESSION OBJECTIVES

Objective of this session is to outline...



Why are the reforms needed?



How and when will they occur?

ENERGY SECTOR POLICY OBJECTIVES

WEM reform program supports Government's broad objectives for the energy sector.



Ensure affordable electricity for households and businesses



Maintain a secure and reliable electricity supply



Reduce energy sector emissions



Promote local jobs and growth

AIM OF THE ELECTRICITY SECTOR REFORMS

Manage transformation of the energy sector



Remove barriers to investment



Optimise grid use



Improve operation of the WEM



Put downward pressure on prices



STAKEHOLDER OBJECTIVES FOR ENERGY SECTOR REFORMS

Many market participants have indicated a desire for...

Market Generators

Even playing field

Access to new revenue streams/Ancillary Service markets

Better market data and ability to respond closer to real time

Reduced administrative burden

Prospective generators and new technologies seeking access to network and markets

Market Customers

More equitable/cost reflective ways of recovering market costs

Downwards pressure on 'total cost' of energy services, not just wholesale energy prices

Access to new revenue streams/markets

Better market data and ability to respond closer to real-time

STAKEHOLDER OBJECTIVES FOR ENERGY SECTOR REFORMS

The network, market and system operator have also identified the need for...

Network Operator

Ability to connect new generators and better utilise current network

Clear roles and responsibilities

Ability to innovate ⇒ VPP, microgrids, stand alone power systems

Market and System Operator

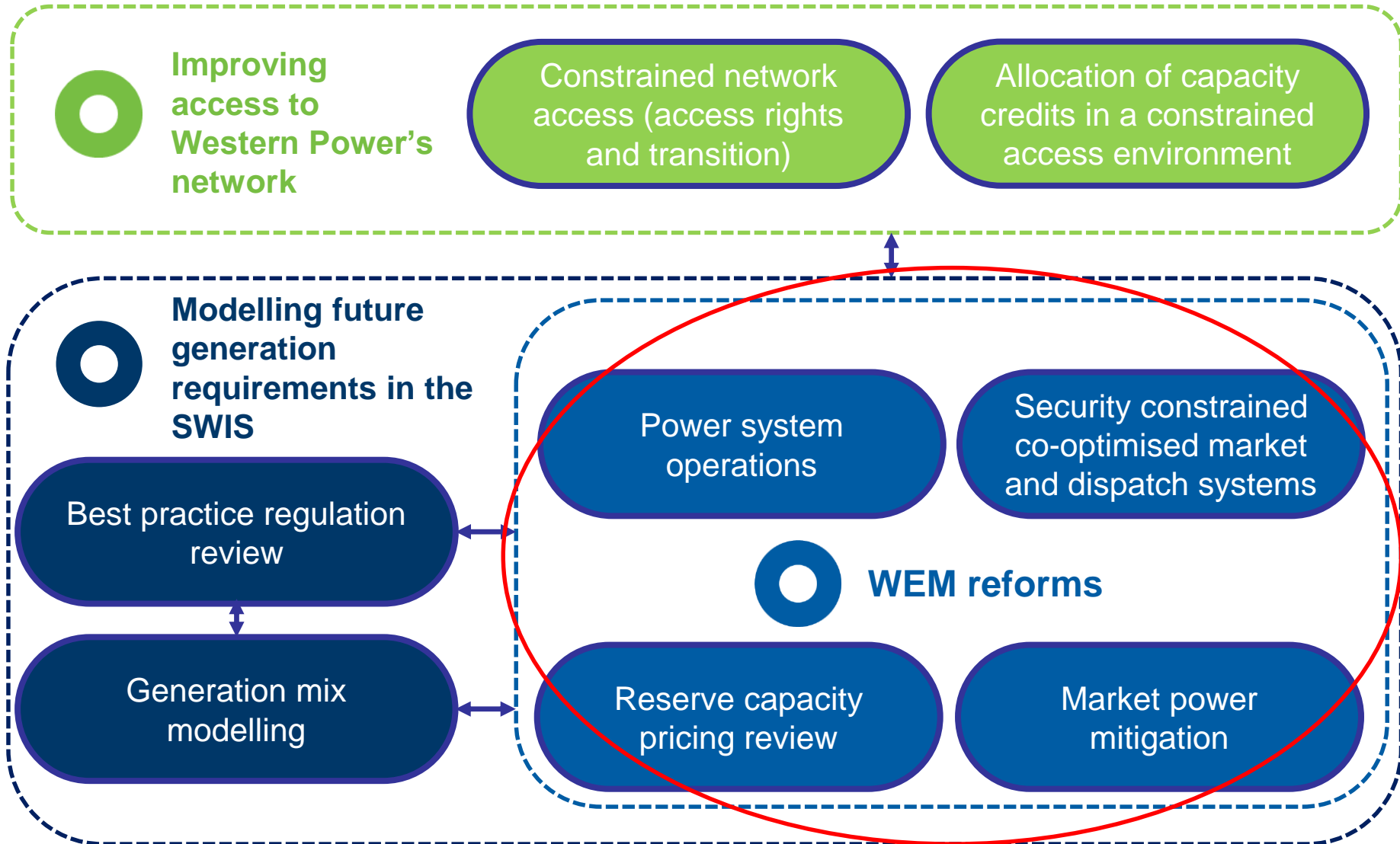
Ability to respond to challenges in maintaining system security

Replacement of outdated systems and processes

Clear roles and responsibilities

Integrated system planning driven by clear reliability standards and definitions

CURRENT SWIS REFORM PROGRAM





Current and emerging challenges

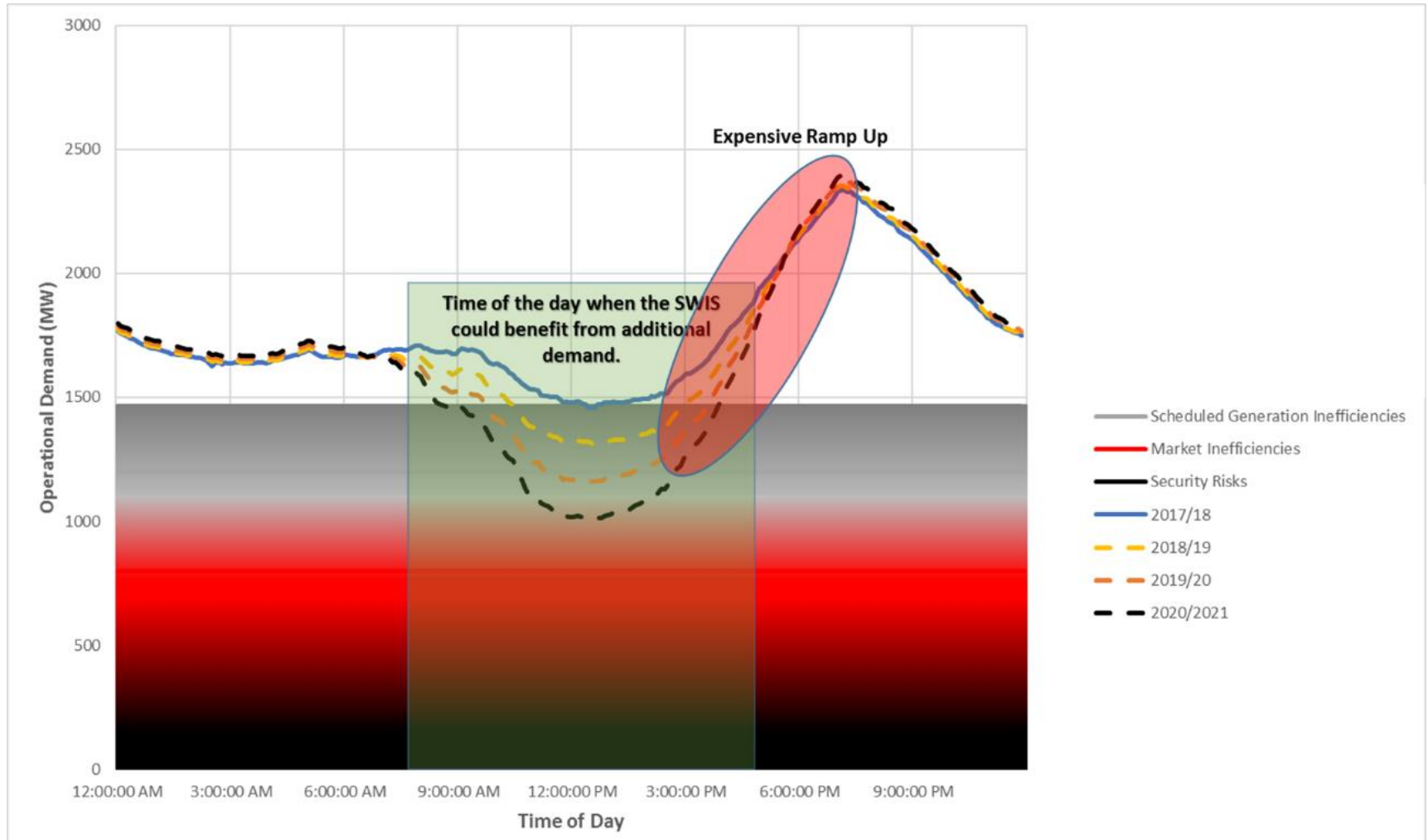
Cameron Parrotte, Australian Energy Market Operator

ELECTRICITY SECTOR STOCKTAKE

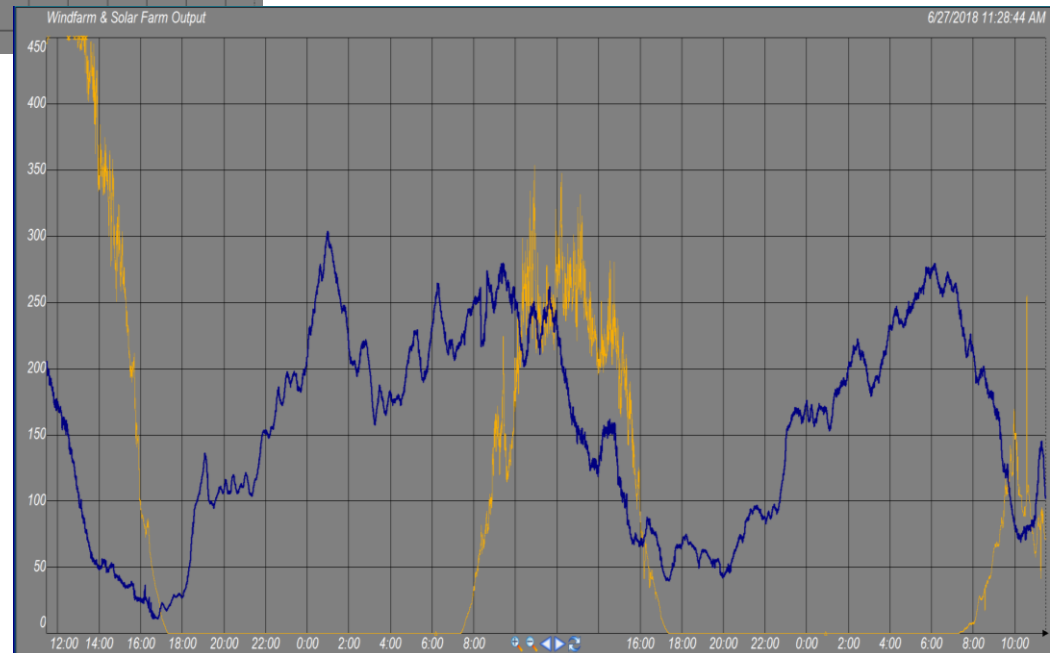
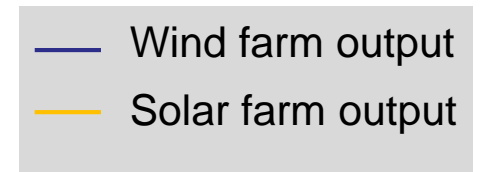
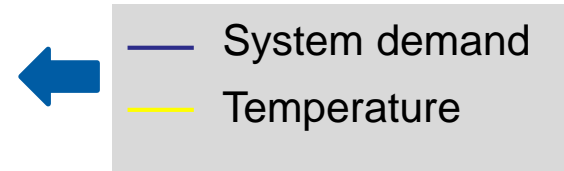
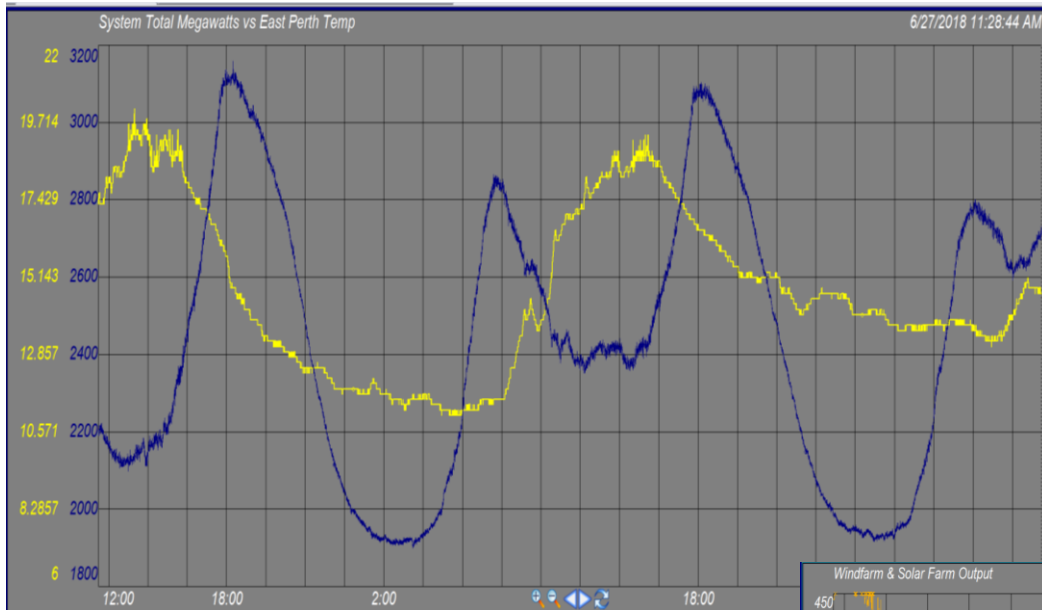
Breaking	Stuck	Emerging
Security / reliability standards	New connections	Emerging security / reliability issues
Delineation of roles / responsibilities	Efficient network investment	Embedded generation / microgrids
System planning	Gate closure	Renewable Energy Target
Outage processing	Ancillary service markets	Peer-to-peer trading
Price forecasting	New technology registration	Battery storage
		Virtual power plants

A CHALLENGING EXAMPLE

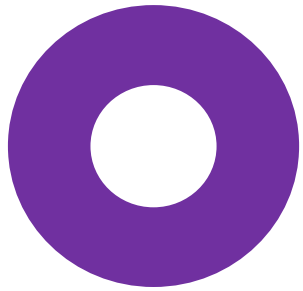
The 'duck curve' is a well known challenge – new services and markets will help in managing this issue efficiently



ANOTHER CHALLENGING EXAMPLE



Weather is now a major 'fuel' and its intermittency is causing significant variance on the power system



2. Scope and approach to delivery of WEM reforms

Kate Ryan, Public Utilities Office

STAGED APPROACH TO DELIVERY OF REFORM PROGRAM

Focus on longer-term reform deliverables while providing early benefits wherever possible

Delivery of incremental, early benefits based on:

Time and cost of implementation



Magnitude of benefits



Supports/does not delay reform



STAGED APPROACH TO DELIVERY

Staged approach to enable early delivery of benefits, de-risk implementation and provide momentum for this long-term and significant program of work

2018	2019	2020	2021	2022
Incremental Market Reforms (Tranche 0) Rule changes to support an efficient market in advance of major reform				
	WEM Reform Tranche 1 – Underpinning Frameworks Regulatory and system changes to embed the network access and WEM reforms; set up market for constrained economic dispatch and deliver early benefits			
		WEM Reform Tranche 2 – Security Constrained Economic Dispatch (SCED) Regulatory and system changes to support implementation of fully constrained network access and necessary operational arrangements		

MARKET DESIGN – SOME PROBLEMS & REFORM OUTCOMES

Problem to be addressed	Intended Outcome	Reform Tranche / Nature of Reform
Prudential risk exposure in setting capacity obligations on Market Customers	Reduced risk exposure from Market Customer default	T0 – Rule and system changes implemented
Dispatchable loads facility class is unworkable and resource plans no longer required	Remove confusing facility class that may be open to gaming. Remove unnecessary administrative burden & reduce AEMO's costs	T0 – Rule and system changes implemented
Unclear outage planning and administrative arrangements	Amend market procedures/systems to clarify obligations and improve interaction between Planned Outages and Balancing Submissions	T0 – Rule and system changes implemented
Extended gate closure leads to inefficient market outcomes	Reduce gate closure timeframes (initially 90 mins) with more frequent load forecasts More accurate/timely data and ability to respond closer to trading interval	T0 – Rule and system changes implemented
Cost allocation for spinning reserve ('block' method) not reflective of cause results in market inefficiency	Full 'runway' methodology to better apply causer pays principle and encourage generators to release more capacity	T0 – Rule and system changes implemented

MARKET DESIGN – SOME PROBLEMS & REFORM OUTCOMES

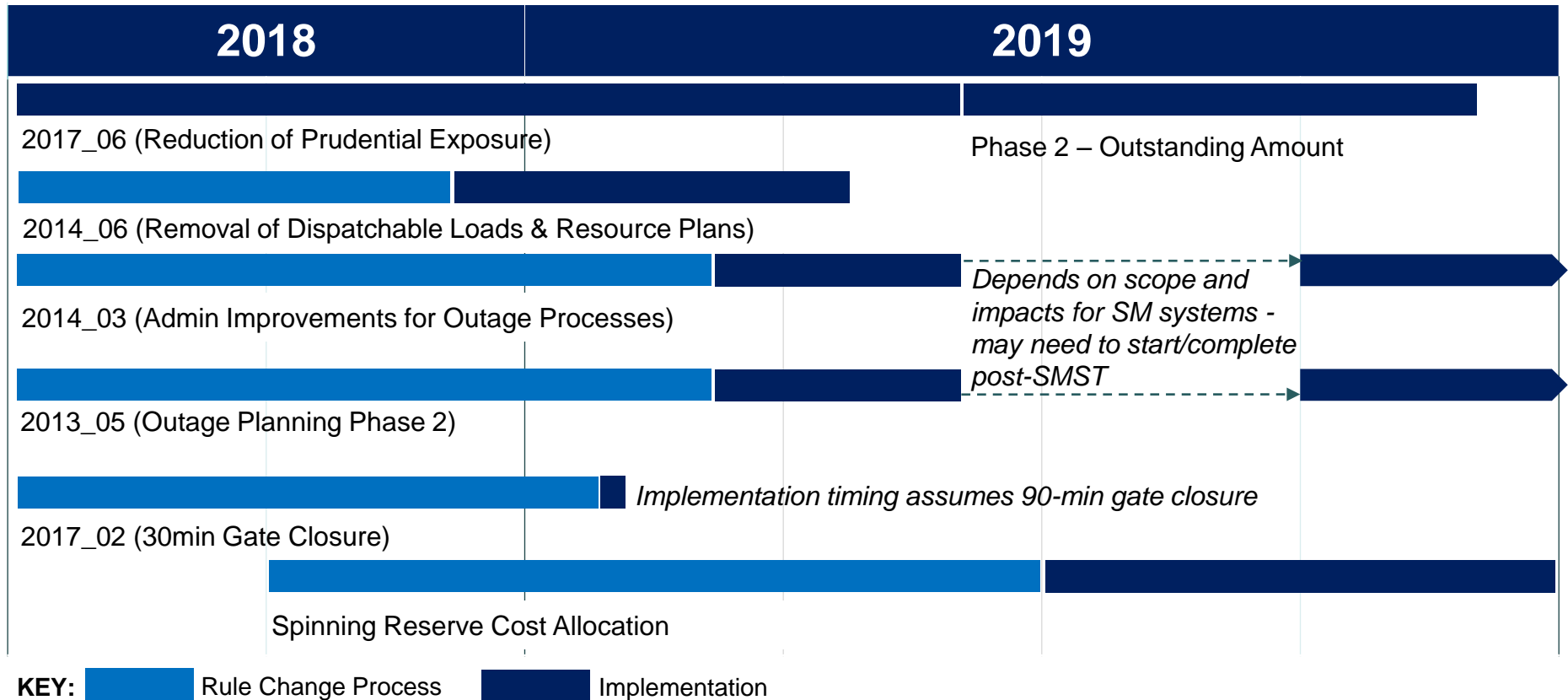
Problem to be addressed	Intended Outcome	Reform Tranche / Nature of Reform
Ancillary services (AS) may not adequately address known/emerging issues Mostly provided by one entity	'Fit-for-purpose' AS framework to ensure system security	T1 – New AS definition and potential new service to support system security
	Path to increased competition in at least some services	T1 – Potential spinning reserve market T2 – 'New' co-optimised AS and energy markets
Registrations framework does not accommodate new technologies, particularly storage	Modern & flexible registrations framework	T1 – Storage providers enabled to provide AS via contracts T2 – Revised registrations framework
Inefficient PSSR arrangements unable to address changing environment. Poor coordination of network and generation investments	Clear and consistent PSSR framework Fit-for-purpose technical and market requirements	T1 – Updated PSSR regulatory framework T2 – Finalisation of outstanding matters
Reference node location distorts marginal energy pricing signals and constrained-on payments	Locate at demand centre(s) – efficient value for load servicing/ reduced distortions	T1 – Rule change for new reference node location Tranche 2 – 'Formal' move of node aligned to go live of SCED

MARKET DESIGN – SOME PROBLEMS & REFORM OUTCOMES

Problem to be addressed	Intended Outcome	Reform Tranche / Nature of Reform
Capacity processes unaligned with constrained access model & ineffective signals to adjust supply-demand balance	Certification processes reflective of constrained network.	T1 – Rule, system and process changes for new capacity allocation processes and consequential changes
	Procurement arrangements better signal incremental capacity value when supply is tight and in excess	T1 – Full implementation of capacity pricing reforms (rule and system changes)
Market dispatch arrangements designed on basis of limited network congestion	<p>SCED, co-optimised energy & AS with</p> <ul style="list-style-type: none"> • facility bidding, common shorter gate closure • shorter dispatch cycle • price setting and settlement arrangements • generator self-commitment & sent-out dispatch • limited constrained-on payments • outage scheduling arrangements 	<p>T1 – Plan for Synergy transition to facility bidding</p> <p>T2 – Rule changes and systems implementation</p>
Market power mitigation arrangements may not support new market design	Fit-for-purpose market power mitigation regime	T2 – Revisions to bidding requirements, price caps and STEM participation as required

DELIVERY APPROACH – TRANCHE 0

AEMO’s high level work plan (based on MAC prioritisation) to support improvements to the current market arrangements:

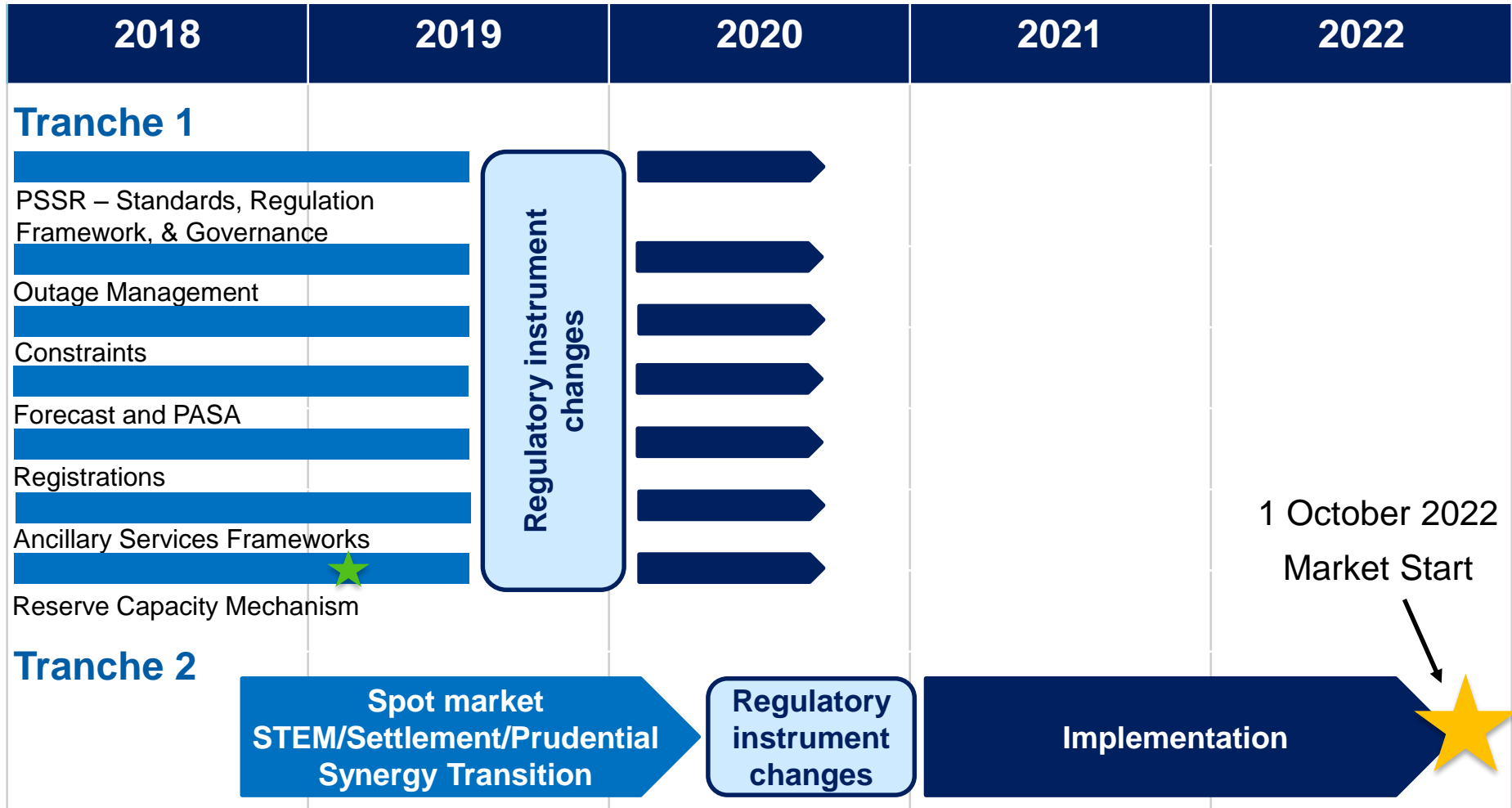


Delivery timelines subject to final scope of rule changes and approval dates

Additional projects subject to prioritisation

DELIVERY APPROACH – TRANCHES 1 & 2

Design and implementation of WEM reform program



KEY: Policy development, design, change commencement

Implementation/post-implementation

★ RCM Pricing Rule Change

WEM REFORM GOVERNANCE

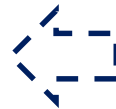
Minister for Energy

Decision-making responsibility on the scope and direction of policy
Approval of some rule changes



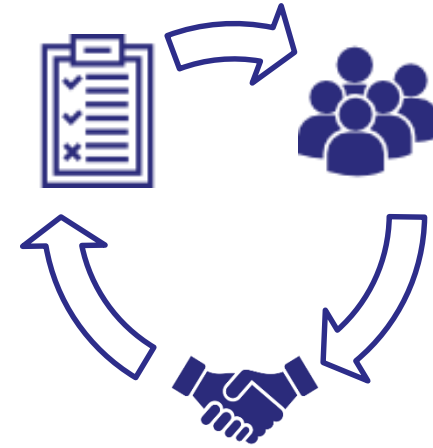
Public Utilities Office

Managing implementation of work program
Working in partnership with AEMO

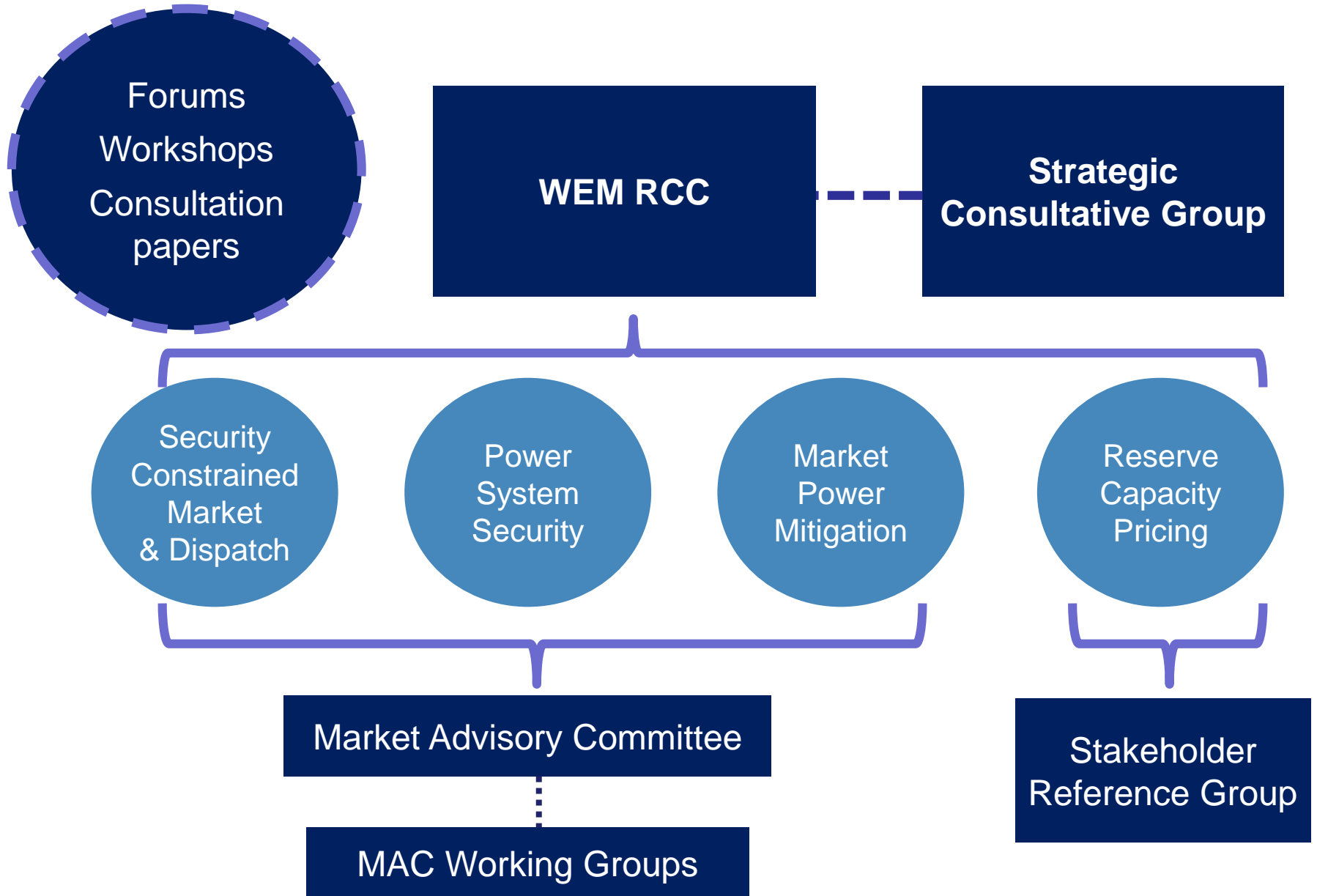


WEM Reform Coordination Committee (RCC)

Monitor progress of reform program
Guidance on reform program (i.e. scope, timeframes, stakeholder engagement and risk management)
Oversight to ensure coordinated approach for reform implementation



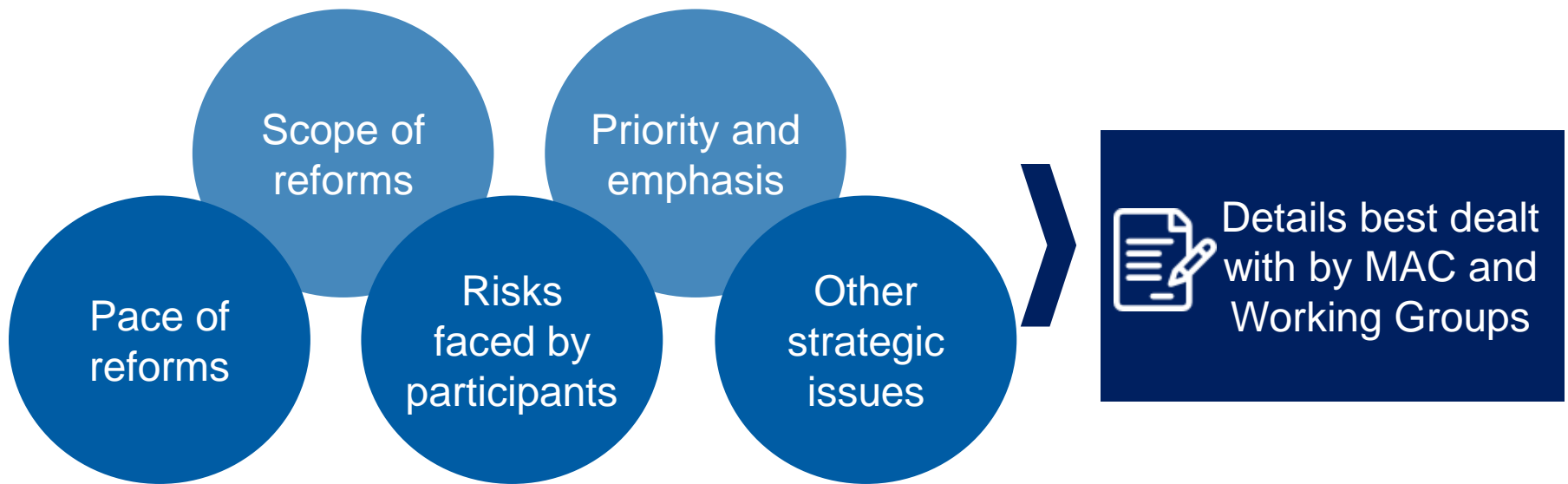
STAKEHOLDER ENGAGEMENT



ROLE OF STRATEGIC CONSULTATIVE GROUP

 Engage directly with WEM RCC to provide feedback on progress of reforms

Strategic focus:



Bimonthly meetings with the WEM RCC

NEXT STEPS

Late 2018

Establish working groups, commence detailed discussions
Refresh and confirm high level design elements

Early 2019

Commence consultation on detailed design, including

1

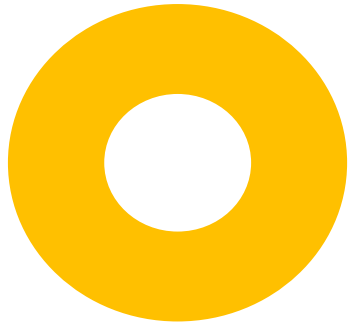
Power System Security & Reliability:
Regulatory instruments & revised standards

2

Ancillary Services Review Paper

3

EGRC Scheme Paper



3. Q&A and Discussion

Further information:

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