

North & South Country CAGs

MAC Update

9 September 2015

Constrained connections for new generation

Situation

Under the Access Code, Western Power must make all reasonable endeavours to connect customers

Market and regulatory framework assume an unconstrained network, but there are generators connected with post-contingent run-back schemes

In many areas, the network is reaching the limits of post-contingent run-back schemes – any more > risk of cascading failures.

In many areas, unconstrained generation connections are prohibitively expensive – and applicants have requested constrained connections

Complication

Transition to fully constrained network will require WEM redesign

New generators want to be connected by 2016/2017, and Western Power must make all reasonable endeavours to progress a solution

Any option progressed pre-EMR is a work-around and will have limited longevity or ability to transition to a fully constrained network

Implication

Consider constrained access for new generators (partially constrained network access)

Minimise total electricity costs (both network and market) for connection of new generators

Pathway to constrained network access for all generators

Preliminary Access Offers August 2015

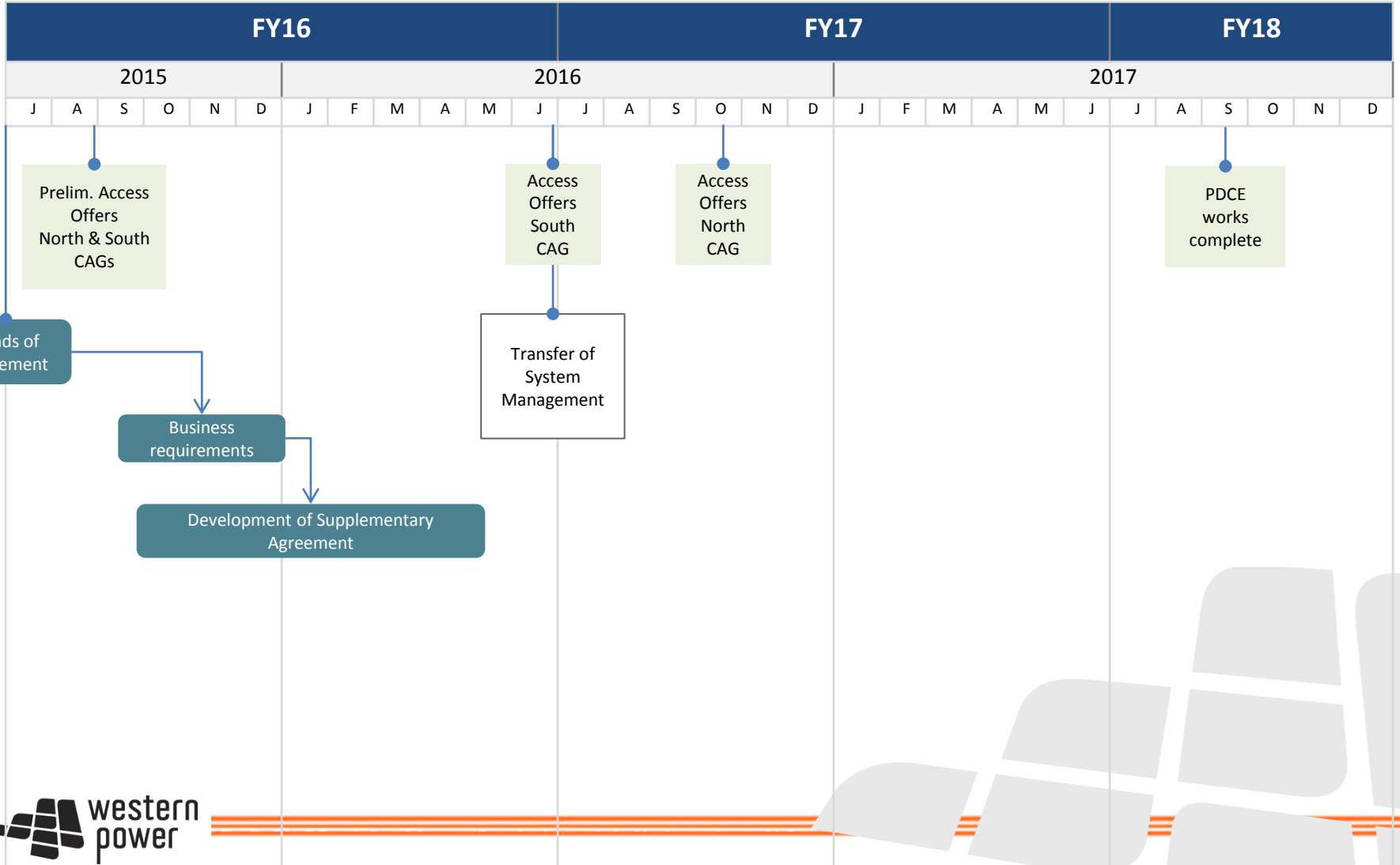
Agenda

- ❖ Options
- ❖ Timeline
- ❖ Process overview and working assumptions
- ❖ Technical overview
- ❖ Questions

Option being progressed

- ❖ A – 6 Hour Pre-dispatch
- ❖ B – Interim Fast Runbacks
- ❖ C – Reference Service (Firm Access)
- ❖ D – Wait for transition to a constrained network under EMR

Timeline



Overview

- ❖ The proposed CAG Solution is a pre-contingent, pre-dispatch constrained access solution (**Interim Constrained Access Solution**), which is proposed to operate until the implementation of any new constrained access regime or revised market resulting from the Electricity Market Review (**EMR**).
- ❖ The proposed Solution requires System Management, on behalf of Western Power:
 - to undertake a forecast assessment of system security six hours ahead of real-time; and
 - if necessary, provide advice (a **Constraint Advice**) regarding potential constraints to the CAG Generators specifying a maximum output for the facility to prevent the constraint binding, together with an instruction to adjust their future Balancing Submissions, as soon as practical, in response.
- ❖ Priority of CAG generators is based on an approach that minimises the economic cost of runback and the cause of constraint can be auditable by third parties.
- ❖ Generators would migrate from the Interim Constrained Access Solution to any recommended solution that may be proposed as part of the **Electricity Market Review** (EMR).

Process overview and working assumptions

Under an Agreement between SM, IMO and WP:

- ❖ Western Power, System Management and the IMO will co-operate in order to implement and operate the Solution
- ❖ System Management will be responsible for the tools and processes to implement the Solution
- ❖ Design and implementation of the tools is required to be approved by the IMO
- ❖ Western Power will fund the construction, operation and maintenance of the Solution, costs to be recovered from participating generators, in accordance with the Contributions Policy
- ❖ Western Power will consult with the IMO in the development of terms proposed to be included in any access contracts to the extent those terms may have consequences for the WEM
- ❖ IMO will endorse and facilitate the satisfaction of System Management's obligations under the Agreement when System Management's functions are transferred to the IMO, provided that it is within the IMO's functions to do so
- ❖ IMO will confirm that it and System Management can maintain their capacity to implement the Solution following the transition of System Management to the IMO, before Access Offers are issued to any CAG generators
- ❖ IMO's opinion is that no changes to the WEM Rules are required to implement the Solution, based on the information currently available to it
- ❖ Solution will initially be limited to CAG generators only, may be offered to additional generators in the future, subject to further evaluation by System Management and the IMO
- ❖ Auditable and transparent: Information regarding network elements impacted by a constraint will be made available to Western Power, SM and the IMO.

Technical overview

- ❖ The solution has two key elements:
 1. the PDCE (i.e. the Pre-Dispatch Constraint Engine); and
 2. a 24*7 System Management operator desk to manage and operate the solution
- ❖ The PDCE will provide a forecast of constraints on the network and a means of notifying the CAG Generators to lower their forecast output (in Balancing Submissions) for the relevant dispatch interval (**Constraint Advice**).
- ❖ CAG Generators adjust their forecast output (in Balancing Submissions) to a level which would resolve the projected system security issue, enabling System Management to continue to dispatch adhering to the BMO and manage any real time system security issues, including any issues that may arise subsequent to the six hour in advance security evaluation process, in accordance with its existing powers and responsibilities under the WEM Rules.
- ❖ Requiring CAG Generators to amend their Balancing Submissions also ensures that price signals in the Balancing Market continue to be accurate, transparent and visible to the market in the BMO.
- ❖ When Constraint Advice is issued to a CAG Generator, an advice is also issued to all other CAG Generators that contribute to the forecast constraint. These other generators will be required to not increase their forecast output leading up to the relevant Trading Interval.