AESO Design Workgroup
Qualification, Eligibility, UCAP

Design Working Group

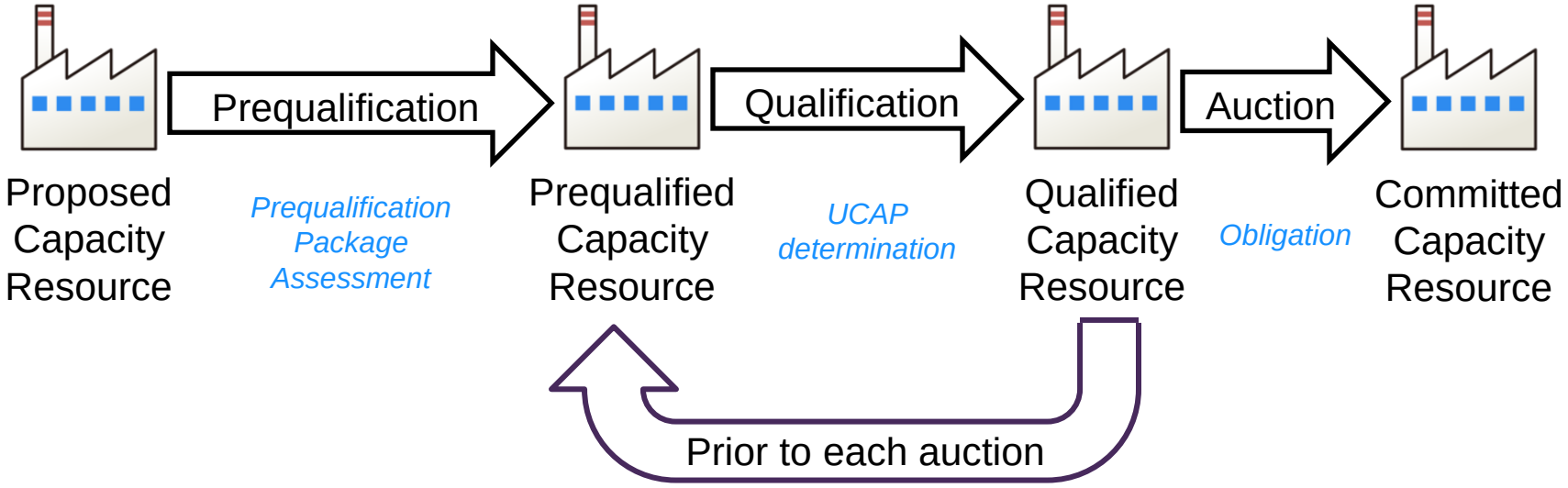
February 13, 2018

Agenda

- Qualification review: Steve Waller
- Eligibility and UCAP: Murray Hnatyshyn

Qualification
Steve Waller

Qualification of Capacity Resources



- Proposed capacity is new or modified, includes resources that intend to delist or self-supply
- Prequalified capacity includes previously qualified capacity
- Qualified capacity has a must offer requirement

Prequalification differs by resource type

- General requirements for all proposed resources
  - Determination of an *estimated UCAP* for the purpose of assessing the minimum size threshold
  - Financial assurance to mitigate non-delivery risk
  - Technical requirements to be able to assess performance and availability
- Prequalification package requires additional information for:
  - Demand Response
  - External Resources
  - Renewable Energy Resources
  - Storage
  - Aggregation
  - Self-supply

Next steps for prequalification details

- Further details on prequalification requirements
  - Financial assurance requirements and project milestones
  - Address Work Group comments on CMD 1
  - Estimated UCAP methodology
- Proposed timing
  - CMD2
    - New supply resources – transmission connected
    - External resources
    - Aggregation
  - CMD3
    - New supply resources – distribution connected
    - Storage
    - Demand Response
    - Self Supply

Eligibility and UCAP
Murray Hnatyshyn

Review
Eligible Resources and UCAP Approach

Resource	UCAP determination	Differences from SAM 3.0
Eligible for 2021		
Thermal, Gross Cogen, Storage, Large Hydro	Availability factor	Availability factor rather than EFORd
Wind, Solar, Run of river	Capacity factor	
Self supply	Capacity factor plus AS	
External resource	Capacity factor plus AS	Once in, must offer in capacity market
Demand Response	To be determined	Once in, must offer in capacity market
Storage	To be determined	Must demonstrate 4 hour min. discharge
Not Eligible 2021		
Energy Efficiency	Approach for eligibility for future auction to be developed	

Availability and Capacity Factors

- Intent: determine a resource neutral approach to capacity volume that reflects the deliverability of energy during periods of tight system conditions

- Next slides
  - Review capacity factors
  - Assess availability factors

Review Capacity Factors

Capacity Factors

For variable resources

- Wind
- Solar
- External Resources
- Run of River Hydro
- Self- Supply

- The amount of energy produced by variable resource is largely independent from energy market signals, production levels do not increase in respond to market conditions

- Self-Supply resources are build to supply on site load and tend to operate independently of system conditions. Modified capacity factor methodology that captures the net energy and operating reserve portion

- The AESO will use modified capacity factors to approximate the level of reliability that the intertie can provide

Review Availability Factors

Availability Factors

- Thermal
- Gross Generation
- Large Hydro
- Storage

For dispatchable resources

- The Availability Factor captures the availability [Energy + Operating Reserves] of a dispatchable resource during historical periods of tight supply.

Data availability

- The AESO has access to resource specific, Available Capability data through participant historical submission into the Energy Trading System
- Availability Capability values that appear in ETS are assumed to be accurate and representative of actual availability during tight supply hours due to Must Offer/ Must Comply rule.

Rational for UCAP methodologies for all resources

Why AESO chose to use Availability Factors/ Capacity Factors rather than an ELCC methodology?

- Transparency: ELCC methodology relies on an AESO market model to produce UCAP values for capacity resources. The parameters could be shared but the results would be hard to replicate
- Administrative costs: ELCC methodology has a greater administrative cost and time requirement in order to implement for the initial auctions.

Why not Equivalent Forced Outage Rate on Demand methodology?

- Timely data availability: the AESO does not have the data to calculate forced outage rates for commercial purposes of individual generation resources.
    - The use of standard generation performance statistical software (such as GADS) is inconsistent by AESO generators
    - The information inputs into Energy Trading System do not reliably separate planned outages, forced outages or derates. The use of this data would require many assumptions
- Capacity and Availability factors do not require the removal of planned outages from the UCAP determination

Availability Factor Discussion
Meeting intent?

- Intent: determine a resource neutral approach to capacity volume that reflects the deliverability of energy during periods of tight system conditions

- **Does Availability factor for dispatchable resources meet the intent?**

Thank you