Working Groups – Design Streams

Overview - Design stream working groups

- Procurement and Hedging

  - Obligation to procure (Who will buy the capacity? Includes question of cogeneration treatment/self-supply)

  - Capacity market settlement (How will capacity providers be paid?)

- Adequacy and Demand Curve

  - Resource adequacy requirement (How much capacity needs to be procured? Includes demand curve)

- Energy and Ancillary Services

  - Inter-operability implications (How will the capacity market impact the energy and ancillary services markets?)

Overview - Design stream working groups

- Market Mechanics
  - Procurement timing & frequency (When and how often will capacity be purchased?)
  - Term (How long will the capacity delivery period be?)
  - Market mechanics (How will the capacity market work?)
- Eligibility
  - Eligibility (Who can provide capacity? How much can they provide?)
  - Cost allocation (How will capacity costs be allocated?)
  - Performance assessments (How do we know that capacity has been provided?)

Overview - Work Stream Key Design Elements

Work Group	Key Design Elements
Energy & AS (EAS)	KDE – Dispatch and Unit Commitment KDE – Offer Obligation KDE – Energy Market Pricing KDE – Ancillary Services
Procurement & Hedging (PH)	KDE – Capacity Procurement Obligation KDE – Net Settlement Instructions KDE – Self Supply Option KDE – Capacity Market Settlements KDE – Bilateral Capacity Procurement Considerations
Market Mechanics (MM)	KDE – Capacity Base Auction KDE – Rebalancing Auctions KDE – Capacity Obligation
Eligibility (E)	KDE – Capacity Resource Eligibility KDE – Generation Capacity Eligibility (non-variable)[1] KDE – Generation Capacity Eligibility (variable)[1] KDE – Generation Capacity Eligibility (import & export)[1] KDE – Demand Response Products KDE – Energy Efficiency Resources KDE – Price Response Demand Resources KDE – Resource Aggregation & Storage KDE – Capacity Resource Performance Assessments KDE – Capacity Cost Allocation KDE – Locational Signals
Adequacy & Demand Curve (ADC)	KDE – Resource Adequacy Determination KDE – Reliability Requirements KDE – Demand Curve

Review of KDE's and associated questions

Adequacy and Demand Curve

Key Design Element:
Resource Adequacy Determination

Resource Adequacy determination sets the target which capacity will be procured to meet

– What should the resource adequacy criterion for Alberta be based on?

- Which reliability measure should be used (Expected Unserved Energy (EUE), Loss of Load Hours (LOLH), etc.)?[1]

– What approach should be used for assessing the resource adequacy requirement (including assessing load, resources and unserved energy)?

– Should seasonality be considered?

- Should there be a seasonal requirement?

– What is the capacity product requirement (e.g. flexibility)?[2]

– Should we use Unforced Capacity (UCAP) MW or Installed Capacity (ICAP) MW to represent capacity when determining capacity requirement? [2]

- If we use UCAP, should the EFORd calculation include outage events outside management control (OMC)? I.e. force majeure?[2]

---

1 AESO's assuming that these components will be considered in Government of Alberta's policy stream

2 Question removed from SAM 1.0 mapping to detailed capacity market questions document posted May 16, 2017 to aeso.ca website

Key Design Element:
Reliability Requirements

Reliability Requirements are determined based on assessments of the Resource Adequacy Determination. Adjustments to the requirement level may be required to account for non-eligible capacity and self supply.

– How will the target procurement volume be established?

– How will the volume of "opt out" demand be determined prior to the procurement for the delivery year (i.e. self-supply)?

– What supply volumes, if any, should be netted off the reliability requirement? (supply not eligible for capacity, demand products)

– How will the market integrate other programs supporting renewable generation?[3]

Key Design Element:
Calculate the Demand Curve

The demand curve is an administrative mechanism that establishes demand for capacity resources and the prices consumers are willing to pay for them at various levels of supply

Demand Curve

– What are the options for the demand curve shape?
– If sloped, what are the inflexion points for the curve with respect to:
  - different levels of reserve margin relative to the target
  - corresponding price (relative to net Cost of New Entry (CONE))
– How should the demand curve be cross checked / governed?
– How will the level of price caps and floors be determined in the capacity market?

CONE

– How will CONE be determined?
– What is the reference technology that is used to set the Cost of New Entry? What informed the decision to select that reference technology?
– How will the AESO determine estimated Energy Market and Ancillary Services Market pricing as part of determining net CONE?

Key Interdependencies

Design Stream	Resource Adequacy Determination	Reliability Requirements	Calculate the Demand Curve
Eligibility	Out of market treatment (i.e. CMH)	Seasonality Net requirements	
Market Mechanics			Number of markets
Procurement & Hedging		Net Requirements	
Energy & Ancillary Services	Net Demand Forecast (i.e. DER)		Market revenues

Proposed Priorities and Sequencing

ID	Proposed Scope	Date
Meeting #0	- Confirm Scope - Develop work plan	14-Jun-17
Meeting #1	- Test of SAM 1.0 starting points for Adequacy & Demand Curve - Resource Adequacy Determination modeling methodology - Determine consideration important to the group	28-Jun-17
Meeting #2	- Demand Curve Considerations - CONE/Net CONE methodology consideration	12-Jul-17
Meeting #3	- Resource Adequacy Determination modeling methodology - Seasonality	26-Jul-17
Meeting #4	- Demand Curve Considerations - CONE/Net CONE model methodology	09-Aug-17
Meeting #5	- Seasonality - Confirm recommendations for SAM 2.0	23-Aug-17