



Review of SaskPower Capacity Reservation Service (CRS)

Rate Review Panel and Stakeholder
27 February 2020

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Elenchus & John Todd

- Elenchus: founded in 1980 by John Todd
- Specializes in the theory and practice of utility rate setting, especially in the energy sector
- Our clients include regulators (BC, Alberta, Manitoba, Ontario and Quebec) as well as regulated companies, producers/generators, competitors, customers groups and governments
- Projects include work on cost allocation, rate design and market disruption in BC, Alberta, Ontario, Quebec and New Brunswick
- John Todd: Expert witness on regulatory matters – over 250 proceedings in all Canadian jurisdictions
- International projects in U.S., Vietnam, Montserrat

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Topics

1. Six Forces Disrupting the Power Sector
2. The Animal Kingdom of Market Disruption
 - a) White Elephants
 - b) Grey Rhinos
 - c) Black Swans
3. Responding – A Ten Year Perspective
4. Specific Comments on the CRS Tariff Design
5. Open Discussion

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1. Six Forces Disrupting the Power Sector

Multiple disparate trends are reshaping power systems around the world; Saskatchewan is not exempt:

- markets are transforming
- technologies are advancing
- industries are converging
- consumption patterns are changing
- environmental concerns are increasing
- “prosumers” are emerging

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2. The Animal Kingdom of Market Disruption

(a) White Elephants (known knowns)

- Distributed Energy Resources (DERs)
 - Load loss as self-generation replaces grid supply (impact similar to large scale conservation)
 - (kWh Rate - marginal cost) = net income loss
 - Grid Defection if connection cost > backup / storage
 - Customers are diverse (e.g. reliability needs vary)
- EV adoption
 - Could overload the grid (vulnerable feeders?)
 - Will EV charging infrastructure be “smart” or “dumb”?

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2. The Animal Kingdom of Market Disruption

(b) Grey Rhinos (unknown knowns)

- Climate change: carbon pricing will drive electrification policies
- Microgrids: Will be driven by competitive options
 - Will Siemens and others be replacing SaskPower by taking industrial & commercial customers off grid?
- Non-regulated business opportunities
 - Offering DERs will help retain customers
 - May offset lost revenue due to stranded utility assets

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2. The Animal Kingdom of Market Disruption

(c) Black Swans (unknown unknowns)

- The relevant time frame is the amortization period of your youngest assets
- By definition, cannot be foreseen, but consider:
 - Major technology breakthroughs (storage?)
 - Possible emergence of hydrogen as the future of green transportation
 - Hydrogen infrastructure could then allow rapid adoption of DERs that allow grid defection

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3. Responding to Disruption – Ten Year Perspective

Transforming markets

- Strategies for customer retention: pricing & services

Advancing technologies

- Leverage competitive advantages (grid storage/backup)

Converging industries

- Partner with technology and IT “competitors”

Changing consumption patterns

- Control the change (e.g., “smart” EV charging)

Increasing environmental concerns

- Facilitate diversity of price:feature options

Emergence of “prosumers”

- Understand your customers – market segmentation

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4. Comments on the Interim Tariff Design

APPLICABILITY

- CRS is limited to Power Class (E22/E23/E24)
 - Conceptual issues are relevant for all classes
 - Customer need information on the rate impact of adopting self-generation before making their investment decision (avoid grandfathered rates)
- CRS limited to self-generation > 50% of total
 - Adopted to avoid “gaming” by high LF customers
 - Demand charge is based on 65% LF of E-classes
 - Better resolution is to update cost allocation model with N22/N23/N24 when customer data available
 - Also, remove Bary Method for E22/E23/E24 and bill demand based on coincident peak (e.g., top 5 hours)

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4. Comments on the Interim Tariff Design

RESERVATION CAPACITY

- Customer nomination is incentive for gaming
 - Low nominations will reduce bills but it will be risky for SaskPower to base system planning on nominations
 - SaskPower approval invites controversy
 - Preferred design will have no gaming incentive, e.g.,
 - a) Nomination is maximum (contract demand)
 - b) Excess demand is interruptible and includes a penalty rate (e.g., 5 times the standard demand charge for 1 year)
 - c) Increases in nomination require 12 month notice and are subject to additional capacity being available

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4. Comments on the Interim Tariff Design

BILLING DEMAND

- Suggested changes to Reservation Capacity would require Billing Demand wording changes

RATES

- Demand Charges are too low (based on Cost Allocation Model (CAM) for E22/E23/E24 classes) if class LFs below expected N22/N23/N24 LFs
- Updated CAM with N22/N23/N24 added would provide cost-based demand & energy charges
- Limitation is customer data – phase in?
- How sustainable are rates based on Fully Allocated Cost (FAC)?

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Q & A?

Discussion?

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