

AESO TARIFF BULK AND REGIONAL RATE DESIGN

ALBERTA DIRECT CONNECT CONSUMER ASSOCIATION (ADC)
DUAL USE COALITION (DUC)
INDUSTRIAL POWER CONSUMERS ASSOCIATION OF ALBERTA (IPCAA)

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Dual Use Customers



PRESENTATION OUTLINE

- About ADC, DUC and IPCAA
- Recommendation
- AESO Design Objectives
- 12 CP Methodology
- Tariff Changes are Premature
- Historical Review
- Other Considerations
- Questions?



ABOUT ADC



- The ADC was established in 2002 to represent the interests of large industrial consumers directly connected to the transmission system.
- Membership includes: Alberta Newsprint Company, Dow Chemical, ERCO Worldwide, Lehigh Inland Cement, MEGlobal, Millar Western, Praxair, Sherritt International, and West Fraser Timber.
- ADC members represent approximately 600 MW of peak load and 4,000 GWh of annual energy.
- ADC members are global competitors. Affordable and reliable electricity is essential to our viability. On average, electricity represents about 30% of members operating costs, but is as high as 80% for some.
- ADC members are active participants: price response, ancillary services, LSSi, and on-site generation.
- ADC member facilities are located in Northern and Central Alberta
- AESO proposed tariffs would render PRL uncompetitive and they will exit the grid/province further eroding billing determinants.

ABOUT DUC

Dual Use Customers

- DUC was formed in 2004 to represent industrial cogenerators in Transmission Administrator (AESO) tariff proceedings
- Members include Alberta's largest oil sands and industrial cogenerators
 - 1,300 MW DTS contract capacity
 - 3,000 MW installed cogeneration capacity
- Currently ten members, 15 sites
- Proposed tariff increases will justify additional on-site generation, less reliance on the grid and lower DTS tariff revenue

ABOUT IPCAA



- IPCAA was formed in 1983 as a membership-based society representing Alberta's large industrial electricity consumers.
- Our members are involved in key Alberta industries, including Oil & Gas, Pipelines, Petrochemicals, Agriculture and Steel.
- Our mission is to take a leadership role in ensuring that a competitive marketplace exists for electrical services.
- AESO proposed tariffs would render PRL uncompetitive AND justify additional on-site generation, less reliance on the grid and lower DTS tariff revenue

RECOMMENDATION

The 12 CP methodology for bulk system cost recovery continues to be appropriate for Alberta.

Considerations:

- How one pays for transmission infrastructure is a key piece in ensuring efficient infrastructure development
- The strong price signal is, in our view, working and is leading to reduced bulk transmission investments over the long term
- The cost causation principle holds and leads to longer-term efficiency gains
- The consequences of a major overhaul during a pandemic and economic downturn will be devastating

AESO DESIGN OBJECTIVES

1. Reflect Cost Responsibility
2. Efficient Price Signals
3. Minimal Disruption
4. Simplicity
5. Innovation and Flexibility

In the AESO's view, the current rate design does not achieve the first two design objectives.

We submit that this needs further consideration.

AESO DESIGN OBJECTIVES

1. Going forward ~\$2 B will be spent mostly on transmission to connect new generation. None of the bookends reflect cost responsibility for this potential investment.
 - The AESO is attempting to mimic nodal pricing for loads through regional peaks. This is inefficient, confusing and may be in violation of the *EUA*.
2. CP is considered the most efficient price signal option and is widely used throughout North America.

12 CP METHODOLOGY

- 12 CP Methodology sends a strong price signal to flatten consumption, in doing so, creating a need for less:
 - Future transmission
 - Generation capacity
- This is not a short-term effect - it takes time. To achieve this, significant levels of customer investment have and will be required.
- 300 – 400 MW of demand responsive load already exists
- The bulk system was not planned nor built for cogenerators and price responsive loads

12 CP METHODOLOGY

- Cost allocation for transmission infrastructure is a key component in ensuring efficient infrastructure development
- A strong price signal is required to influence participant behavior
- A review of billing determinants shows that CP is the best option to influence participant behaviour

TARIFF CHANGES ARE PREMATURE

- There are many elements that have not been resolved and will ultimately impact the ISO tariff, including:
 - The Transmission Regulation being re-examined by government
 - Any AUC changes resulting from the Distribution System Inquiry (such as aligning transmission and distribution rates)
 - Government changes related to self-supply and export
 - Sub-station fraction and DCG credit issues
- **We are concerned that a major tariff overhaul now will be followed by another overhaul when these elements are resolved.**

TARIFF CHANGES ARE PREMATURE

- Changes to tariff design need to be supported by clear government policy
 - Where is the mandate from the Government to discourage co-generation after 25 years of clear policy direction providing an industry structure and open tariffs to allow co-generation to develop?
- ISO Tariffs need to be based on industry standard cost of service studies
 - Stakeholders have not seen a COSS for this tariff
 - Stakeholders have not had an opportunity to provide input into a COSS for this tariff
 - Stakeholders have not seen the Navigant study results

TARIFF CHANGES ARE PREMATURE

- The world over, large industrials, esp. oil facilities, operate independent from the grid (e.g. Africa). The AESO proposal will lead to grid defections and higher costs to stranded customers.
 - The AESO should recognize that disruptive forces (incl. low cost generation options) are at play and try to encourage price responsive loads to stay connected, rather than sending them the price signal to leave the system

TARIFF CHANGES ARE PREMATURE

- Transmission customers care about delivered costs = generation + transmission
- Alberta policy has been congestion-free transmission to get lower cost generation, which (along with by-passing the regulatory process) has led to increased cost of transmission
- The AESO's proposal will lead to:
 - More costly natural gas generation development (combined cycle vs. co-generation)
 - Reduced net exports from ISDs (as existing co-generators defect from the grid)
 - Higher generation costs, while transmission costs remain
 - Higher delivered costs for those customers who remain grid-connected.
- We need to model these consequences prior to overhauling the tariff.

TARIFF CHANGES ARE PREMATURE

Review of AESO Concerns:

1. Stranded asset risk?
2. Cross-subsidization?
3. Inability for some customer classes to respond to price signals?

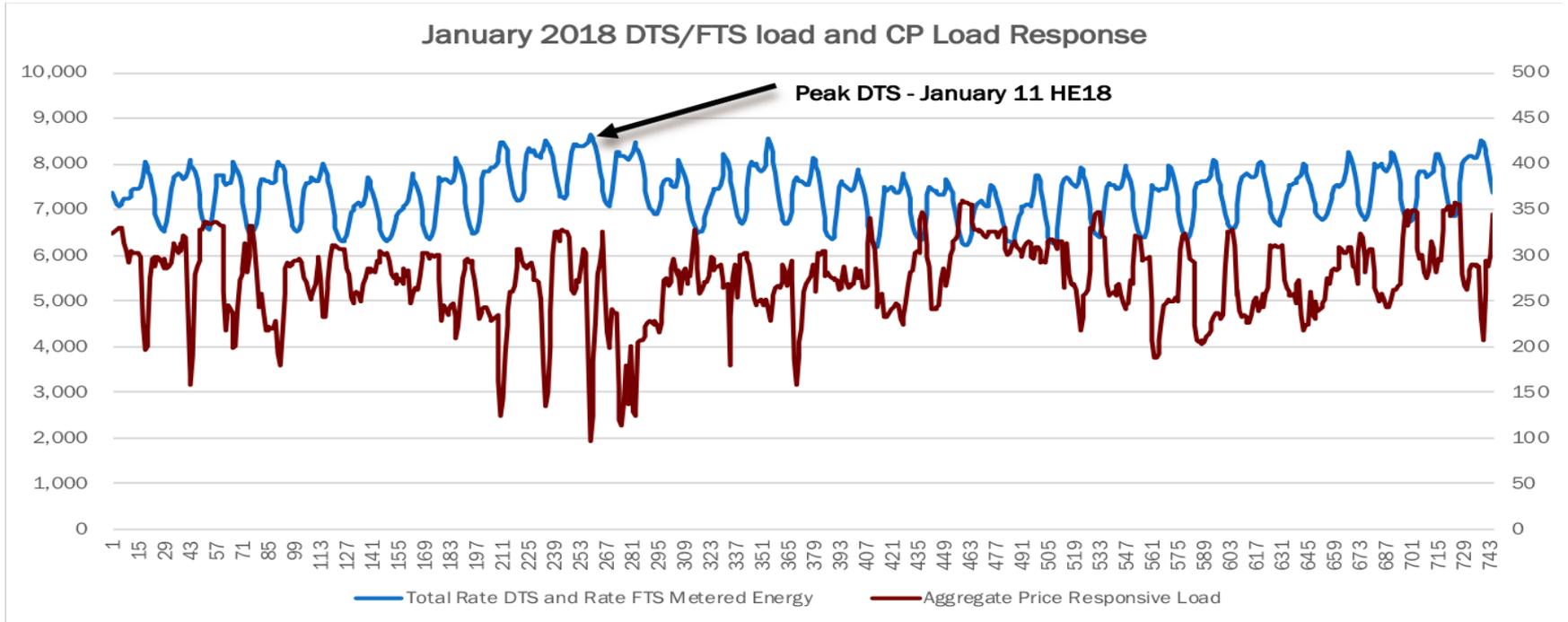
Counterpoints:

- The regulated monopoly utilities have advocated to change Utility Asset Disposition legislation
- Ultimately, having to build less transmission benefits all consumers. There are significant efforts required to reduce demand during peak periods and this leads to a reduced need for transmission and generation capacity in Alberta. This behaviour enhances the efficiency of Alberta's electricity infrastructure for the benefit of all customers.
- There are other mechanisms which would enable more customers to respond to price signals. i.e. distribution tariffs that flow through the CP rate design.
- The AESO tariff should encourage customers to respond to price signals to reduce long term costs

HISTORICAL REVIEW

- Report for Alberta government March 1992 suggested 3,357 MW of cogeneration potential in Alberta by 2005
 - Part of the rationale / justification to move to wholesale energy market and transmission administrator (open access)
- Industry restructuring was intended to reduce transmission costs by putting generation closer to loads
- Result:
 1. 5,000 MW of low-cost cogeneration built at no cost to electricity consumers
 2. Power prices over last 20 years have been lower
 3. Significant transmission investment was delayed until 2008+
- Bill 50 mandated “critical” transmission infrastructure – We have transmission costs ~\$37/MWh now.

JANUARY 2018 CP RESPONSE



- 12 CP results in a sustainable response behavior by flexible loads
- In order to achieve CP benefit, loads need to interrupt their business operation several times during a month – the idea that a load can respond in one 15 min interval to reduce costs is simply not true. Facilities incur significant production losses in order to manage costs. These facilities were never intended to operate this way, they must do so in order to remain viable.
- January Peak DTS would have been at least 200 MW higher without this important price signal (this data includes behavior of only 7 price responsive loads).

NORTHWEST REGION – INDICATIVE RATE IMPACT

Rate Impact - 4 Interruptible NW Loads

Bill Determinants of the 4 combined interruptible loads in the Northwest

1. Average CPD:	49	MW
2. Peak Demand:	230	MW
3. Average Monthly Demand	160	MW
4. Average Monthly Energy	116800	MWh
5. Average Coincident Region Peak	220	MW

1. Current Tariff - Cost for Average interruptible Load

Monthly DTS Cost Projection:

April 2020 Tariff Update	Rate	Units	Cost
Bulk System Charge			
Coincident Demand Charge (\$/MW/month)	10,814.00	49	\$ 533,788
Metered Energy Charge (\$/MWh)	1.13	116800	\$ 131,984
Regional System Charge			
Billing Capacity Charge (\$/MW/month)	2,799.00	230	\$ 643,770
Metered Energy Charge (\$/MWh)	0.86	116800	\$ 100,448
Monthly Total			\$ 1,409,990
Annual Total			\$ 16,919,878

2. Bookend A: Fixed Charge

Billing Capacity	\$9,700	230	\$ 2,231,000
Monthly Total			\$ 2,231,000
Annual Total			\$ 26,772,000

3. Bookend B: Peak Charge

Billing Capacity	\$3,100	230	\$ 713,000
Coincident Region Peak (120 * \$1000 / 12)	\$10,000	220	\$ 2,198,436
Monthly Total			\$ 2,911,436
Annual Total			\$ 34,937,230

	%	\$
Bookend A Annual Increase:	58%	\$ 9,852,122
Bookend B Annual Increase:	106%	\$ 18,017,352

- Examined the rate impact for the 4 energy-intensive trade exposed loads in the NW Region.
- They comprise of 25% of the NW load, so when they are on, the NW Region is peaking – no value for interruptible loads.
- Bookend A would increase TX costs by 58%
- Bookend B would increase TX costs by 106%
- Of the \$85M impact of Bookend B – Heavy CP Responders, 21% is for these 4 customers.

NORTHWEST REGION – INDICATIVE RATE IMPACT

- Regional Coincident Peak Charge may make sense for regional assets (i.e. current regional charge) but does not reflect cost causation of bulk system assets.
- Either rate design will accelerate grid defections. Energy-intensive trade exposed loads cannot afford this increase and will defect.
- What is at risk for these 4 loads?
 - \$17 M in revenue contributed for Bulk and Regional Charges
 - 1000's of primary and secondary jobs
 - Tax Revenue for NW Alberta communities
 - Community investment
 - Material impact to Alberta's Forestry Sector

WHY AESO BOOKEND A DOES NOT WORK

- Capacity Charges that are the same for all customers do not recognize the different levels of reliance on the grid for standby, interruptible, and firm load customers.
- The bulk system was not built or planned for the total contract billing capacity or the highest metered demand.
 - Billing Capacity – 13,380 MW
 - Highest metered Demand – 10,016 MW
 - Coincident Metered Demand – 7,600 MW
- The proposed AESO Bookend A will further erode billing determinants.

WHY AESO BOOKEND B DOES NOT WORK

- Regional CP does not reflect the major bulk system investments (e.g. HVDC, Heartland, SATR, Ft. Mac)
- No real time visibility of regional peaks.
- Regional loads are too dependent on a small number of large loads.
- Primarily harms the price responsive loads.
- Improves the DCG credits.
- Will further erode billing determinants as sites who can no longer respond to tariff prices will defect from the grid.

WHY LOAD RETENTION RATES DO NOT WORK

Grandfathering of existing price responsive loads through a load retention rate does not work.

- Deters any new investment from these industries if a load change triggers an end to the load retention tariff.
- Could potentially interfere with international trade agreements.
- Who decides what an appropriate tariff is for each company/industry?

AESO IMPACT MODEL CONCERNS

- In general there are two types of AESO customers
 - Price takers – all customers served on non-AESO rates and most cogeneration customers (steam driven, not electricity)
 - Price responsive – customer who respond to AESO tariff price signals
- Looking at 2 years of time of use data for cogeneration price takers is not indicative of the times when customers rely on grid for standby
- Looking at historical data for price responders is not a good indication of future behaviour with different tariff price signals
- Conclusion - AESO Impact Model results are not a good indication of tariff impacts and should not be used to influence rate design

CONCLUSIONS

- Continue with the current Rate Design
 - The proposed bookends are untenable and will accelerate grid defections.
 - Rolling out a tariff overhaul during a pandemic is IRRESPONSIBLE.
- The timing for a change is pre-mature. There are many elements that have yet to be resolved by government and the AUC.
 - Customers do not want to see two tariff overhauls in a 5-year window.
 - Customers deserve cost-based rates - based on an industry standard cost of service study.
 - We need STABILITY to encourage INVESTMENT.

QUESTIONS?

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