12 COINCIDENT PEAK (12 CP) METHODOLOGY

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

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IPCAA
INDUSTRIAL POWER CONSUMERS ASSOCIATION OF ALBERTA

ADC
Alberta Direct Connect Consumer Association

PRESENTATION OUTLINE

- About ADC, DUC and IPCAA
- Recommendation
- Rate Design Principles
- CP Methodology
- Stability
- Aligning Cost Elements
- Historical Review
- Questions?

ABOUT ADC

A D C
Alberta Direct Connect Consumer Association

- 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

ABOUT DUC

- 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

ABOUT IPCAA

IPCAA
INDUSTRIAL POWER CONSUMERS
ASSOCIATION OF ALBERTA

- 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.

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

AESO 5 RATE DESIGN PRINCIPLES

1. Recovery of the total revenue requirement;
2. Provision of appropriate price signals that reflect all costs and benefits, including in comparison with alternative sources of service;
3. Fairness, objectivity, and equity that avoids undue discrimination and minimizes inter-customer subsidies;
4. Stability and predictability of rates and revenue; and
5. Practicality, such that rates are appropriately simple, convenient, understandable, acceptable and billable.

RANKING

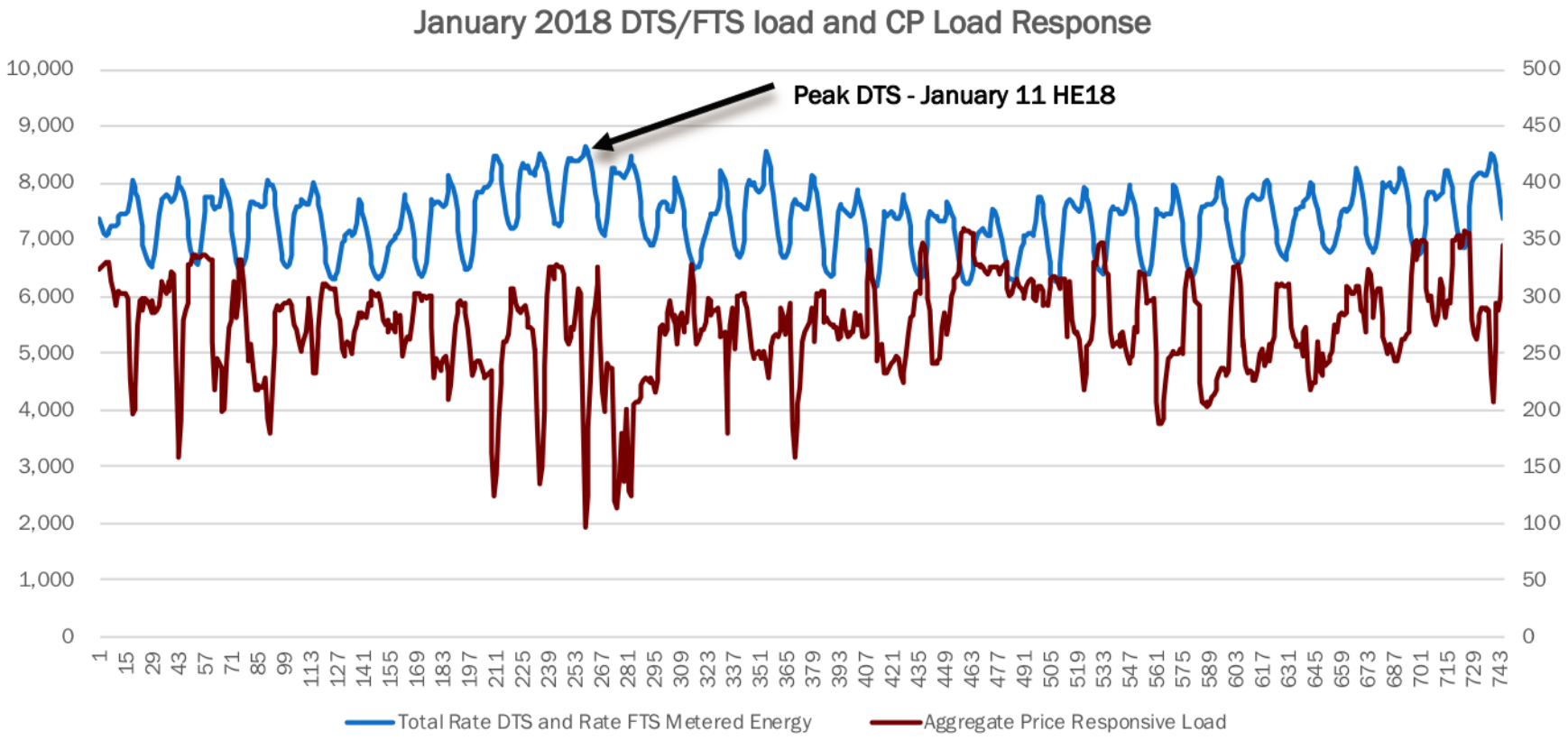
All of the rate design principles are important; however, we would suggest the following weighting from 1 to 10 (10 = most important):

Principle	Weighting	Comments
1. Recovery of the total revenue requirement	N/A	This is a requirement for the AESO
2. Provision of appropriate price signals that reflect all costs and benefits, including in comparison with alternative sources of service	10	We submit that the 12 CP price signal is strong and appropriate for Alberta
3. Fairness, objectivity, and equity that avoids undue discrimination and minimizes inter-customer subsidies	7	"undue discrimination and minimizes inter-customer subsidies" are extremely difficult to measure making this principle difficult to apply
4. Stability and predictability of rates and revenue	9	Especially important for Market Participants who have invested significant capital to respond to the 12 CP price signal
5. Practicality, such that rates are appropriately simple, convenient, understandable, acceptable and billable	8	The AESO's tariff is quite complex; however, its sophistication supports Principle 2.

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 investment are required.
- 300 – 400 MW of Demand Response already exists

JANUARY 2018 CP RESPONSE

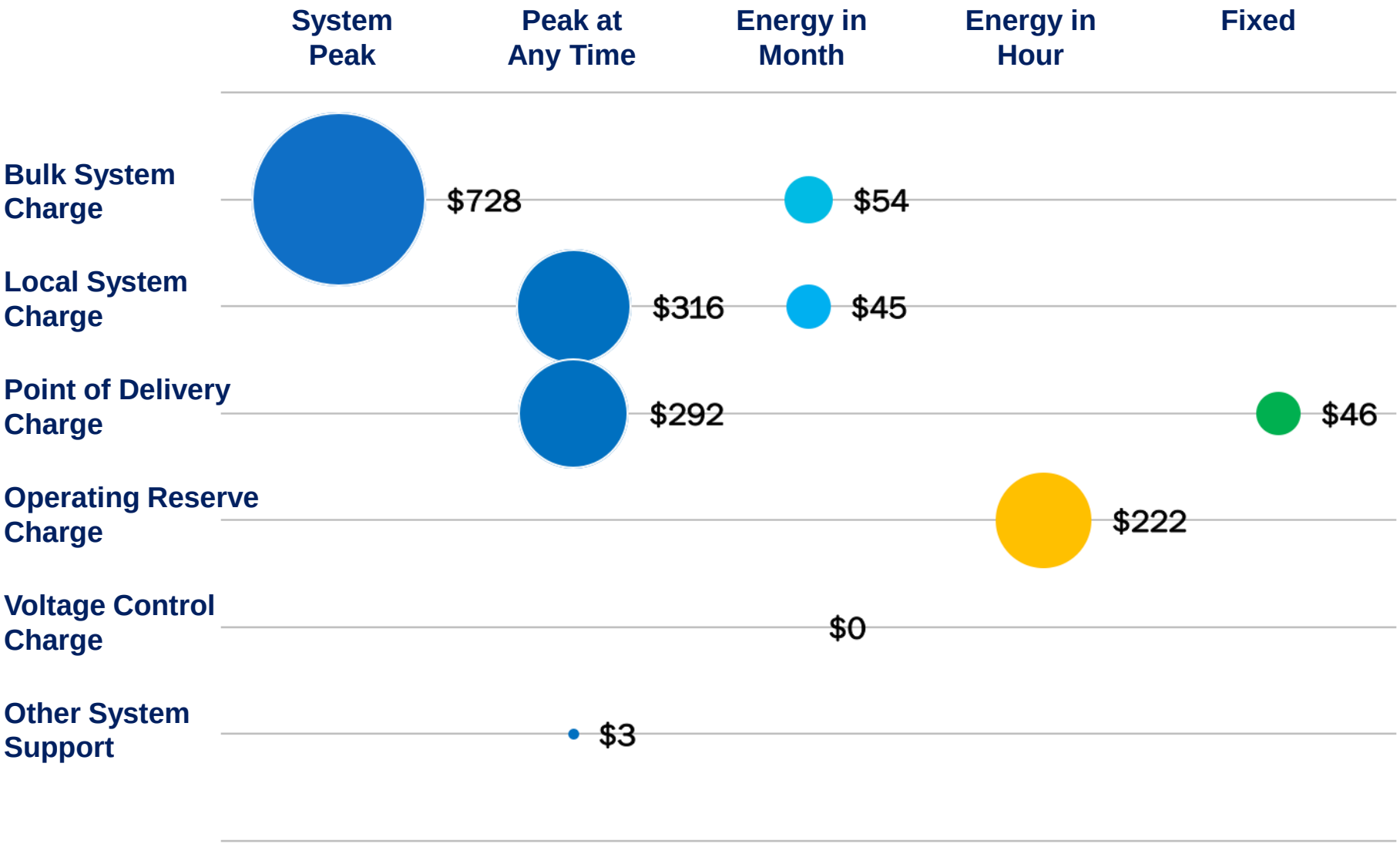


- 12 CP results in a sustainable response behavior by flexible loads
- In order to achieve CP benefit, loads need to interrupt their business operation several times during a month – the idea that a load can respond in one 15 min interval to reduce costs is simply not true. Facilities incur significant production losses in order to manage costs.
- 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).

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

RATE DTS STRUCTURE



Costs in $ 000 000, based on AESO 2014 ISO Tariff, July 1, 2015

STABILITY

- One of the principles of rate making is **stability** and **predictability** of rates and revenue
- In 2014, interveners reached a negotiated settlement on the cost causation study. Parties included:
  - AltaLink Management (AML)
  - The Consumers' Coalition of Alberta (CCA) and
  - The Office of the Utilities Consumer Advocate (UCA)
- The settlement included the classification of bulk system and regional system costs into demand-related and energy-related components
- Why the current proposals for change?
- In order to incent investment by consumers we need **stability** and **predictability** of rates.

REVIEW OF CONCERNS

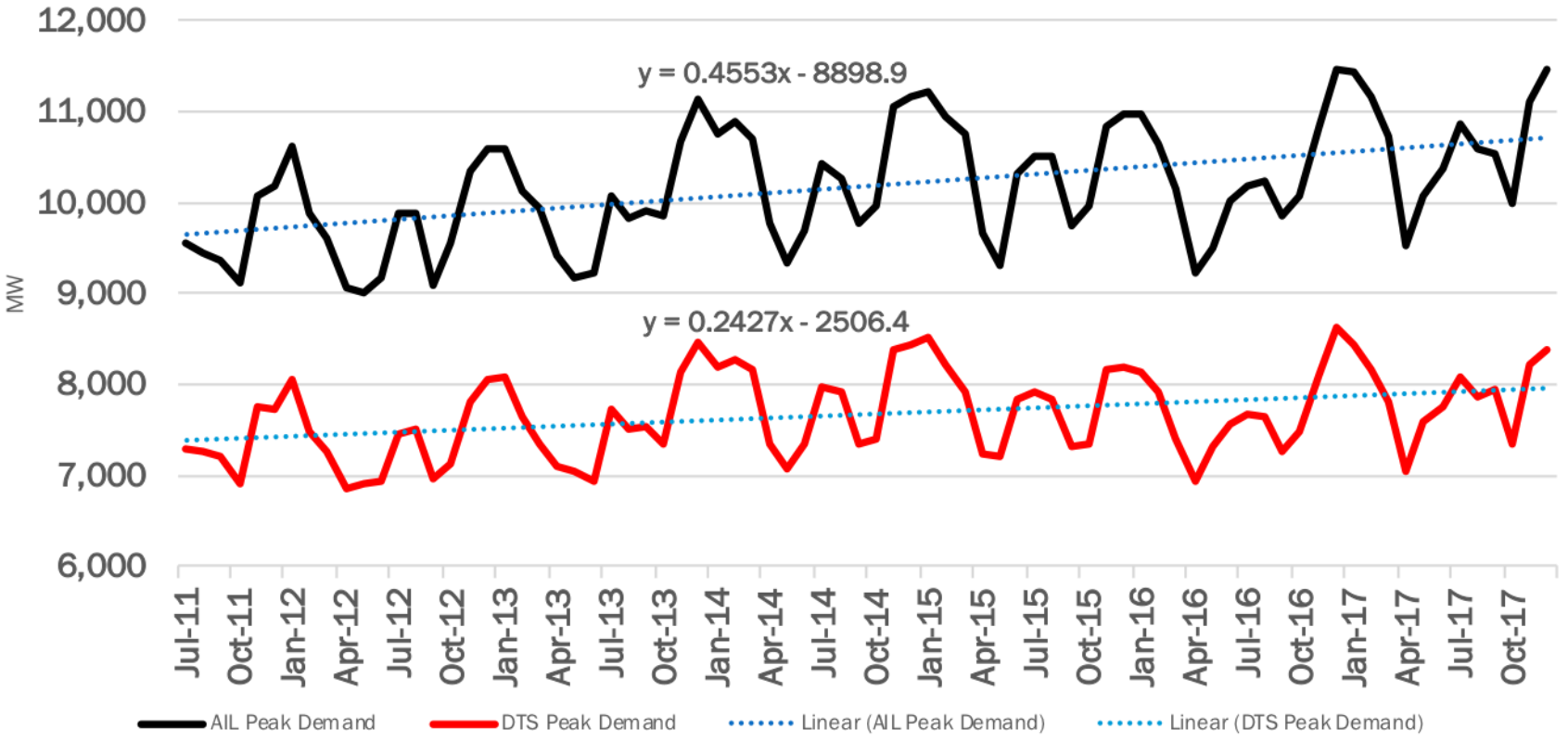
1. Stranded asset risk?
2. Cross-subsidization?
3. Inability for some customer classes to respond to price signals?

Counterpoints:

- 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 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.

MONTHLY PEAK DEMAND AIL AND DTS

(JULY 2011 TO DEC 2017)



- Peak AIL has grown by 2,145 MW versus Peak DTS growth of 1,329 MW since July 2011
- Without the CP price signal, the 816 MW difference would need to be served by the transmission system resulting in more transmission infrastructure.
- The notion of “death spiral” in declining DTS load is not supported by the data – Jan 2018 was the highest peak in history.

ALIGNING COST ELEMENTS

- All aspects of the electricity market should act in concert, including:
  - Transmission policy
  - Rate design
  - Electricity market (and capacity market) design
- Overall goal is efficiency - the signal to flatten demand and increase the utilization of the existing transmission and generation assets.

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. Significant transmission investment was delayed until 2008+
- Bill 50 mandated “critical” transmission infrastructure – We will have transmission costs >$40/MWh by 2021

OTHER CONSIDERATIONS

If 12 CP is under review then regional transmission rate design also needs to be reviewed. Key questions include:

- Why should customers connected at 240 kV pay the full costs associated with the 138 / 144 kV transmission system?
- Why should customers located close to the bulk transmission system pay the same rates as customers located at a greater distance?

CONCLUSION

- Continue with the current plan. It works.
- We need to understand and critically assess the various options proposed by other interveners
- We need to assess the efficiency implications of each option

QUESTIONS?

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