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[redacted]
Alberta Electric System Operator
2500, 330 - 5th Ave SW
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Dear Ms. Papworth

SUBJECT: Bulk and Regional Tariff Design Stakeholder Session

I write on behalf of the cities of Lethbridge and Red Deer, who have reviewed the AESO's March 13th presentation titled "Bulk and Regional Tariff Design" and wish to share their feedback. The cities acknowledge that the AESO has provided a comment matrix template for stakeholder feedback. However, our comments are more policy-oriented in nature and do not conveniently fit within the template.

The nature of cities' concerns is best summarized by AESO's presentation slide 20 when it acknowledges the concept of "simplicity in design to not harm price signals." However, this consideration is not meaningfully discussed when pros and cons are evaluated for each option. Due to this lack of attention, the cities perceive that the principle of simplicity is underappreciated in the AESO's analysis.

The two options presented by the AESO, and a third option that is a combination of the first two, might be considered innovative because they would appear to better communicate theoretical benefits or costs. One might even rationalize that transmission customers are more sophisticated and could respond appropriately to a more complex pricing scheme. However, the majority of those who ultimately use the energy and pay for transmission costs are not directly customers of the transmission system.

Approximately 90% of the DTS revenue requirement is passed through to distribution utilities who must repackage transmission costs into a distribution tariff, which is again repackaged by retailers before being passed on to the end-use customer. Therefore, the cities urge that very high priority be given to the principle

of ensuring the price signal can be accessible to all (or at least most) end-use customers. After all, if the price signal is not accessible to end-use customers, it will not have the desired effect.

The cities believe there are two necessary features of a transmission price signal for it to have potential to be passed through to distribution customers:

- the transmission price signal must be known in advance of the distribution utility setting its own rates, and
- the price signal must be the same when multiple points of delivery are aggregated by the distribution utility.

Failure to meet either of these two conditions means that the price signal, if it is understood by anyone, will only be accessible to the most sophisticated end-users who directly receive a transmission bill. These users would respond to the price signal to avoid tariff charges but be so small in number that their actions would have a minimal effect on wires cost. For those customers that don't receive the price signal, the rate design will have violated the Bonbright principle about ease of understanding. Moreover, these customers are receiving a distorted price signal, and so the rate design would have violated the Bonbright principle of dynamic efficiency because it does not encourage a more efficient use of the transmission system over time (i.e. it doesn't encourage better utilization). Finally, the rate design will be violating the Bonbright principles of equity and fairness because some see the price and others do not.

The impact of inefficient price signals is one where the customer responds in such a way that does nothing in proportion or in response to the underlying cost of service. Worse yet, the behaviour might even increase the cost of service and start a negative feedback loop. The price per unit in the future must therefore increase, which encourages more of the same behaviour. Taken to an extreme, the feedback loop ends with customers exiting the system because bypass is the lower cost option even though it is not the optimal economic option. In this case, the rate has violated another Bonbright principle regarding uneconomic bypass.

It is for these reasons that the cities suggest both Options 1 and 2 presented by the AESO on March 13 should be dismissed out of hand. Option 3, which is simply a combination of the first two options is also not feasible. All options attempt to follow cost causation to such an extreme that it would create overly complex rates. For instance, Option 1 appears to build upon the concept of the current coincident peak charge, which is already not feasible to implement at a distribution level because it is not known in advance of the distribution utility setting rates. Option 1 also appears

to add a geographic component that will be summed and averaged-out by distribution utilities with points of delivery located in multiple regions and areas.

Option 2 also appears to depend on grouping points of delivery and applying a diversity factor. Rate classes based on load profile to recover wires cost can often be problematic. No matter where the boundary is drawn for a rate class, one often finds that two customers on opposite sides of the boundary are more like each other than the rest of their rate class peers from a cost of service perspective. This would violate the Bonbright principle of undue discrimination. Finally, a feature of Option 2 is to differentiate price between distribution points of delivery and so the price signal will be lost when the utility aggregates all transmission costs in a distribution tariff.

Overall, the cities cannot conceive how either option would be converted into distribution rates for mass market customers such as residential and small commercial, let alone communicating how the rate would work. This would violate the Bonbright principle that rates should be understood and accepted by customers.

It is important to emphasize that the cities do not disagree with the AESO's conclusions regarding cost drivers. The AESO's conclusions, which are the product of at least one year of research, are applicable to almost any electric system. Yet, to the cities knowledge, no electric system relies on rates such as what is suggested in either option. This is because a utility faces practical constraints: detailed and nuanced cost drivers must be explained with a single set of prices applicable to thousands of customers, combined with multiple combinations of situations and use-cases. Therefore, the utility has traditionally needed to resort to methods that at least promote broad behaviours that are still generally beneficial to the entire system. Utilities cannot practically design rates that discourage system stress in two different parts of the system at two different times, so they work toward discouraging behaviour correlating with system stress in general. When designing rates, the utility must often decide which issue among many is the most important one to address.[1]

One such broad behaviour that will have a positive impact on long term transmission costs is better utilization: lower peaks, improved load factor, and conservative growth per customer. For this, a combination of demand and energy charges can be very effective. Demand charges are time-tested, well understood, and known to billing system vendors, and something that the distribution utilities are accustomed

[1] This will always be imperfect. For instance, the AESO reports there are times where generation causes the stress and higher regional load would help to mitigate the problem. Charging generators a meaningful location-based tariff is not in the AESO's scope, the cities are unsure how such a price signal (i.e. to pay a subset of regional load to consume *more*) could ever feasibly be passed through to distribution customers.

to passing through to distribution customers. Demand ratchets are also a simple and very effective means to communicate to customers that peaks are important to the bulk system, even if they are infrequent.

This is not to say that the AESO cannot or should not consider innovations on what is a traditional rate design. For instance, a time-of-use demand charge might be appropriate to reflect the cost drivers uncovered in the AESO's 2019 research. Provided that the peak period is known in advance and is the same for all points of delivery, this again has potential to be passed through in distribution rates. Some might rightly complain it is unfair to punish peaks during off-period times, and this is where the AESO might consider instituting a time-based demand charge and ratchet: for instance, only applicable to demand during an 8-hour window each day. A broadly defined window of multiple hours and a ratchet would be a key feature to ensure that some end-users are not able to avoid tariff charges but still contribute to system stress in another hour.

As more complex distribution metering becomes universally adopted, there may be opportunities to flow through such charges to more customers. Even if contemporary meters for mass market customers (i.e. residential and small commercial) are not approved for demand metering, an on-peak or 'rush hour' energy charge might be possible, which could become a suitable proxy to pass through peak demand charges. At least with more traditional methods of rate design, there will be options to make the transmission price signal more accessible to end-use customers.

We trust that these comments will be received in the constructive spirit that they are intended. Should any of our comments require further clarification, please feel free to contact me at [redacted].

Yours truly,

[redacted]
President

cc: [redacted] City of Red Deer
[redacted] City of Lethbridge