Session 1 – March 13, 2020 Comments

Stakeholder comments on Session 1 [Posted Apr. 14, 2020]

1. Alberta Newsprint Company (ANC)
2. AltaLink Management Ltd.
3. Capital Power Corporation
4. Cities of Lethbridge and Red Deer (c/o Chymko Consulting Ltd.)
5. Consumers Coalition of Alberta (CCA)
6. Energy Storage Canada (ESC)
7. ENMAX Corporation
8. Heartland Generation Ltd.
9. Suncor Energy Inc.
10. The Industrial Consumers *comprised of:*
    i. Alberta Direct Connect Consumer Association (ADC);
    ii. Industrial Power Consumers Association of Alberta (IPCAA); and
    iii. Dual Use Customers (DUC)
11. TransAlta Corporation
12. Utilities Consumer Advocate (UCA)

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Stakeholder Comment Matrix – March 19, 2020

Bulk and Regional Tariff Design Session 1 – March 13, 2020

Period of Comment:	March 19, 2020 through April 9, 2020	**Contact:**	[redacted]
Comments From:	Alberta Newsprint Company	**Phone:**	[redacted]
Date:	2020/04/08	**Email**:	[redacted]

Instructions:

1. Please fill out the section above as indicated.
2. Please respond to the questions below and provide your specific comments.
3. Email your completed comment matrix to tariffdesign@aeso.ca by **April 9, 2020.**

Three Tariff Design Options presented at the session:

- Option 1: Rate reflects costs.
- Option 2: Rate reflects benefits.
- Option 3: Hybrid – Rate reflects both cost and benefit.

Five Tariff Design Guiding Objectives presented at the session:

1. Effective long-term price signals.
2. Facilitate innovation and flexibility.
3. Reflect accurate costs of grid connection and services.
4. Explore options within legislation and regulation.
5. Path to change that is effective and minimally disruptive.

The AESO is seeking comments from Stakeholders with regard to the following matters:

	Questions	Stakeholder Comments
1.	Please comment on the Engagement Session 1 webinar facilitated by the AESO on March 13, 2020. Was the session valuable? Was there something we could have done to make the session more helpful? Please advise and be as specific as possible.	Yes, it was useful to know the various options that being considered by AESO. However, due to lack of interactive session on webinar, it was difficult to understand so many new, never heard and untested concepts; inter- and intra-regional peaks, diversity factors etc. The webinar session is more suited for information transfer and not for consultation due to lack of participation from the attendees.
2.	Please comment on the pros, cons and tradeoffs of **Option 1: Rate Reflects Costs.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	*The understanding would have been greatly improved if some examples of pervious years inter- and intra-regional load were used and to show how they are different or similar to province wide co-incident peak used currently for bulk system.* *As AESO indicated in their presentation, inter and intra-peak data will need to be visible to participants in real time for managing their load and for minimizing future transmission needs.* *AESO needs to provide a lot more information before any meaningful feedback could be provided.*
3.	Please comment on the pros, cons and tradeoffs of **Option 2: Rate Reflects Benefits**. Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	*While option seems fairly straight forward, it is far from being fair. In this option everything is fixed, no flexibility, no innovation, no fairness. There should have been more info on "diversity factor" which will be the key for flexible load to have any reasonable rate under this option . Again some examples should have been included of how this factor will be different for different rate classes based on actual load data from previous years.* *AESO needs to provide a lot more information before any meaningful feedback could be provided.*
4.	Please comment on the pros, cons and tradeoffs of **Option 3: Hybrid – Rate Reflects Cost and Benefit.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	*See the comments on Option 1 & 2 since it is a combination of two.* *AESO needs to provide a lot more information before any meaningful feedback could be provided.*

5.	How effectively do you feel **Option 1: Rate Reflects Costs** meets the five Tariff Design Objectives? Please be as specific as possible.	*Again without knowing details, it is hard to say. It is likely that same load will have different transmission cost depending upon the region. It will be unnecessarily very complex and complicated.*
6.	How effectively do you feel **Option 2: Rate Reflects Benefits** meets the five Tariff Design Objectives? Please be as specific as possible.	*This option is miles away from the tariff objectives outlined by AESO. In this option everything is fixed; no flexibility, no innovation, no fairness. It is concerning that AESO is even considering this option. It is incorrect to say that there is "No cross subsidization or cost shifting since consumers pay in proportion to use" (slide 50) in this option. On slide 51, it contradicts and says: "Rates don't align with the drivers of transmission costs – Costs of transmission are not proportional to use in all hours; may lead to perception of unfair charges".* *This option should be removed from the consideration.*
7.	How effectively do you feel **Option 3: Hybrid – Rate Reflects Cost and Benefit** meets the five Tariff Design Objectives? Please be as specific as possible.	*On conceptual basis, this option may come very close to current DTS option with vastly different cost allocation for bulk ("cost" component based on co-incident peak) and for regional ("benefit" component based on contract demand). AESO needs to provide justification for moving cost from co-incident peak load to contract demand load. Cost causation principle on which current DTS tariff is based on does not become less relevant today simply because cost is high now. The problem is the total revenue requirement and not the allocation principles*
8.	Do you have additional clarifying questions that need to be answered to support your understanding of the Tariff Design Objectives and corresponding assessment of the three Tariff Design Options presented at the session? If yes, please be as specific as possible.	*AESO needs to provide a lot more information before any meaningful feedback could be provided. As said earlier, session 1 covered at the conceptual level without much details. Lack of participation on the webinar made the situation worse.*
9.	Additional comments	*On a high level, we don't think there is a real need of completely re-inventing the wheel as far as Alberta transmission tariff design is concerned. Alberta current tariff design is very similar to a number of jurisdictions in the United States and it has served well for over last one and half decade. Current tariff is adequately based on both "Cost Causation" and "Benefit" principal. Introducing so many new untested concepts will only create uncertainty and confusion which is the last thing we need in this very unsettled time.* *Also, we need to find better ways for stakeholders' consultation especially when so many new concepts have been put forward by the AESO. May be we should suspend this consultation for several months or until 2021 since there is no pressing need to*

		change it. *At this time, AESO needs to work with the TFO's/Stakeholders to reduce the revenue requirement to address the overall transmission cost concerns.*

Thank you for your input. Please email your comments to: tariffdesign@aeso.ca.

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Bulk and Regional Tariff Design Session 1 – March 13, 2020

Period of Comment:	March 19, 2020	through April 9, 2020	**Contact:** [redacted]
Comments From:	AltaLink Management Ltd.		**Phone:** [redacted]
Date:	[2020/04/09		**Email**: [redacted]

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The AESO is seeking comments from Stakeholders with regard to the following matters:

	Questions	Stakeholder Comments
1.	Please comment on the Engagement Session 1 webinar facilitated by the AESO on March 13, 2020. Was the session valuable? Was there something we could have done to make the session more helpful? Please advise and be as specific as possible.	The session was helpful in explaining each option. More examples for how each option would work would have provided more clarity and understanding. Bill impacts and alternative transition mechanisms for each option would have been helpful to allow each customer to understand how each option will affect them today and into the future.
2.	Please comment on the pros, cons and tradeoffs of **Option 1: Rate Reflects Costs.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	AltaLink has provided the pros and cons of Option 1 below: *Pros:* • In Option 1 it is recognized that 12 CP at the "bulk" level is not effective at optimizing the grid and that a link between the tariff and transmission planning can only be done at a more regional/area level; however it appears to AltaLink that the tariff design proposed in Option 1 does not achieve an alignment between incentives (i.e. costs that can be avoided by lowering consumption) and benefits of such reduced consumption in reducing a transmission constraint or build. *Cons:* Option 1 attempts to use the same postage stamp rate across all areas/regions which will lead to inefficient outcomes in that: ○ Customers would be incented to curtail in areas of capacity surplus and receive a reduced bill with no corresponding benefit to the transmission system (i.e. a cross-subsidy would then have to be paid by other ratepayers); ○ Costs avoided by customers may have little or no corresponding benefits in terms of relieving transmission constraint or deferring a transmission build; ○ Customers will be incented to curtail load in a region/area that has surplus generation which may then increase or cause a constraint; a perverse outcome as a customer is incented to advance a transmission build; and ○ It will be difficult to complete a cost/benefit assessment between a capital build that the tariff is trying to defer and the incentive paid to

		customers on a postage stamp basis. • The proposed area/regional CP design would be no more effective at deferring transmission build then the current bulk 12 CP design and may actually lead to more transmission build. • Under Option 1, it appears that a customer is incentivized to curtail its load while it is possible that such load curtailment in a defined area/region may have no impact (or very minimal impact) on reducing a constraint or deferring a transmission build in that region/area. A customer should only receive a benefit if its curtailment actually results in reducing the constraint that is recognized by the AESO in its planning. • Slides 43 and 44 appear to be only using load data to determine an area/regional peak; this may further distort price/locational signals given Alberta's postage stamp rate design. For example, in a transmission/outflow constrained area, which would be the result of a large amount of generation in the area/region, the generation profile will have a substantial impact on the area/regional peak and outflow. To not include generation will provide an incorrect area/region peak or outflow from the area. o The area/region CP would be more meaningful if net flows were used (i.e. include generation). • There is no price certainty for all customers. Customers who are unable to take advantage of managing around a regional CP will have uncertainty of prices due to the actions of others. Where other customers are able to avoid the regional CP – and not necessarily defer any cost – the costs they avoid will be passed onto the rest of the region's customers. *Suggestions:* • A base postage stamp rate structure should be aligned with the fixed nature of the transmission costs. This can only be accomplished with fixed ($/month) and demand (NCP - $/MW) type structures. Attempting to design a postage stamp rate to allow for some form of transmission optimization of sunk costs (either at the bulk or region/area level) will be inefficient and will lead to cross-subsidies. o To provide optimization, flexibility and innovation a postage stamp rate could be complemented with a suite of opportunity services (which could include special types of credits, if allowed under the T-Regs, or non-wires services procured outside of the tariff) that can target

		specific areas of the transmission grid where optimization is possible and where it can be shown there is a clear cost/benefit. The opportunity services would be designed to reflect locational capacity and constraints with a sharing of the benefits with a customer that can optimize their own use while at the same time provide a benefit to the transmission grid. Region/area opportunity services could be structured to: ▪ provide additional value to existing customers who may wish to expand their operation in areas of surplus capacity; ▪ signal optimal areas for new load to locate (i.e. generation constrained areas); and ▪ provide credits (through the tariff) or payments (outside of the tariff) to customers to decrease their loads in locations of constrained transmission. ○ If opportunity services are designed properly and directly linked to a constraint (cost) and project deferral (benefit) this will: ▪ allow prices to be modified as planning changes, e.g. regional constraints, planning time horizons, new generation/load forecasts. ▪ only provide incentives to a customer if a measurable benefit is determined with the benefits to be shared between the customer and rate payer and thus resulting in reduced transmission rates.
3.	Please comment on the pros, cons and tradeoffs of **Option 2: Rate Reflects Benefits**. Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	*Pros:* • In Option 2, it is recognized that 12 CP at the "bulk" level is not effective and that some customers are not paying an appropriate amount for the services the transmission grid provides. • There is also a recognition that transmission grid services should be paid for by all load customers and not avoided by some; however the rate design proposed would allow some customers to avoid costs which leads to cross-subsidies. *Cons:* • Options 2 does not appear to fully recognize the fixed nature of the transmission

		build as some of the costs will be recovered through a variable charge ($/MWh). ○ It may be possible for some customers to avoid substantial fixed charges while still receiving services/benefits from the transmission grid. This does not align with slide 50 where the AESO states “Consumers pay in proportion to use - No cross subsidization or cost shifting”. ○ Use of $/MWh is not a good billing determinant for a fixed cost. • Option 2 does not allow for optimization of the transmission grid and reducing future transmission build as there is no incentive in the design for customers to reduce loads in an efforts to defer future transmission builds. • The diversity factor proposal appears arbitrary and not clear as it appears there is no associated relationship between the calculation of a diversity factor and how this relates to the costs caused by those customers as well as the full benefit of grid services provided by the transmission grid. Suggestion: See the suggestions proposed by AltaLink in Question 2 above.
4.	Please comment on the pros, cons and tradeoffs of **Option 3: Hybrid – Rate Reflects Cost and Benefit.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	*See questions 3 and 4 for similar pros/cons. A few additional observations specific to the combination of Option 1 and 2 to form a hybrid perspective are as follows;* *Pros:* • Option 3 recognizes that the transmission grid provides multiple benefits; usage and services. *Cons:* • It may be difficult to categorize transmission system assets into load and generation type assets as a number of these assets could be both or a portion of one or another. This could make this allocation exercise meaningless if arbitrary allocations are made. • It appears that a hybrid approach as proposed could exacerbate the cross-subsidies currently available to dual use type customers as they will be able to (i) avoid the area/region CP charges in Option 1 and (ii) also avoid the fixed charges proposed in Option 2. • The diversity factor proposal appears arbitrary and not clear as it appears there is no associated relationship between the calculation of a diversity factor and how this relates to the costs caused by those customers as well as the full benefit of

		grid services provided by the transmission grid. Such an approach will not address the current rate design issues and will likely result in cross subsidies and introduce a lot of complexity. Suggestion: See the suggestions proposed by AltaLink in Question 2 above.
5.	How effectively do you feel **Option 1: Rate Reflects Costs** meets the five Tariff Design Objectives? Please be as specific as possible.	*Please see the table at the end of the comment matrix.*
6.	How effectively do you feel **Option 2: Rate Reflects Benefits** meets the five Tariff Design Objectives? Please be as specific as possible.	*Please see the table at the end of the comment matrix.*
7.	How effectively do you feel **Option 3: Hybrid – Rate Reflects Cost and Benefit** meets the five Tariff Design Objectives? Please be as specific as possible.	*Please see the table at the end of the comment matrix.*
8.	Do you have additional clarifying questions that need to be answered to support your understanding of the Tariff Design Objectives and corresponding assessment of the three Tariff Design Options presented at the session? If yes, please be as specific as possible.	a) More details on economic efficiency objectives are required and how they will be applied including how decisions are made for "trading off" between AESO established transmission tariff redesign guiding objectives and economic efficiency objectives. b) To understand the overall effectiveness of the AESO's proposed rate designs, please provide an analysis on the effectiveness of each of the proposed options, by planning area/region, in providing long-term price signals to eliminate or defer the "load driven" projects as set out in the AESO's current 2020 Long term plan. Based on this analysis provide how effective a postage stamp rate applied to load within each area/region will be in deferring future transmission facility costs given that most of the future build cost will be driven by generation (as per the 2020 AESO LTP). In terms of effectiveness, use: not effective; somewhat effective; very effective in the analysis. To complete the analysis, please identify how much load (sum of NCPs) is in each area/region.

		c) To properly assess the effectiveness of each option a complete set (complete with rate design) of the opportunity services proposed (e.g. interruptible service, standby service, and others) will be required (complete with rate design) as well information is required as to how these opportunity services work in unison. d) The opportunity services (Interruptible and Standby) proposed (on slide 64) appear to be trying to address optimization and usage of the transmission grid. If opportunity services can manage these issues effectively then why has the AESO embedded these opportunity services into the Option 1 and Option 2 designs? If Option 1 or Option 2 (or the hybrid) are proposed with these opportunity services could this not lead to "double dipping" by certain customers? Further information/clarification is required to assess the purpose/relationship between a postage stamp rate and opportunity services. e) Each option will require a detailed transition and mitigation plan to assess the rate design impacts on all customers. Principles/objectives for a transition plan should be the starting point. f) Concepts (as proposed in the options) are not very helpful in assessing impacts and how these will be applied on a customer basis, more detailed analysis and design specifics will be required. g) The diversity factor and how this would be applied or incorporated into a rate design is unclear. AltaLink recommends the AESO provide examples of how this diversity factor would be developed and applied to specific customers, including a range of different customer types. There would also need to be an evaluation to see if the diversity factors result in any cross subsidization. h) The AESO recognizes that system peak load is not a dominant measure of system stress or usage (slide 24), but provides options that still rely on peak demand. The AESO's proposed options should reflect system stress factors, such as generator outages. Peak demand is only one factor or measure of system stress which is used for AESO planning activities.
9.	Additional comments	a) Correct billing determinants (i.e. gross metering for DFOs and direct connects) should be an objective of any transmission rate design; gross billing determinants will allow for an efficient tariff design and will assist with diminishing uneconomic bypass opportunities and will limit cross subsidies. b) Interruptible rates should only be offered if there is a corresponding benefit to the transmission system. A detailed cost/benefit analysis should be required

		for any proposed interruptible rate structure. *c)* AltaLink asks that the AESO examine the potential to incorporate credits to customers for providing non-wires solutions and other opportunity services in its tariff design. As another alternative, investigate if non-wires solutions can be provided outside of the ISO tariff much like LSSi, but recovered through the transmission tariff. A design should not be considered complete until these avenues are completely explored to ensure an optimal design is realized.

Thank you for your input. Please email your comments to: tariffdesign@aeso.ca.

Response to question 5, 6 and 7: Effectiveness of AESO Design Options to Objectives (note that the comments below should be read in conjunction with the points made in questions 2, 3 and 4 as many of the points above could be repeated in the table but have been excluded to reduce duplication)

Rate design objectives	Option 1	Option 2	Option 3
Price signals	Price signals as proposed are similar to 12CP (except it uses a regional CP) and would have no link to planning decisions/proposed projects. • Postage stamp rate destroys any linkage between cost/benefit due to load response in a region/area. • Price signals in areas of surplus capacity will still encourage curtailment with no resulting benefit (or reduction of costs) to the transmission system. • Uneconomic bypass will still be an issue.	Price signals would not incent efficient use of the transmission system • Postage stamp rates that are fixed in nature without opportunity services do not allow for optimization of the existing transmission grid or future transmission build.	On the surface a hybrid option should allow for better long term price signals, however the design proposed has no link between benefits paid and deferring transmission build. As mentioned above, attempting to design a postage stamp rate to allow for some form of transmission optimization of sunk costs (either at the bulk or region/area level) will be inefficient and will lead to cross-subsidization. Opportunity services should be utilized to incent any form of existing and future transmission optimization.
Innovation and Flexibility	• Overly complex as determination of applicable regions/area boundaries will be overly complicated and open for substantial debate. • Inflexible, similar to current design, and would require intensive regulatory scrutiny.	The rate structure on its own provides no flexibility, but coupled with opportunity service rates (innovation) could offer the flexibility and innovation required to optimize the transmission system.	On the surface a hybrid option would appear to offer more flexibility, however as currently proposed it only provides an avenue for higher cross subsidies. See “suggestions” in question 2 for suggested path forward.

Reflect accurate costs	• Will likely lead to higher cross-subsidies than current 12 CP design. • Does not value the services provided by the AIES. • Customers could avoid substantial transmission costs with no corresponding benefit to the transmission system.	Appears to value the services provided by the grid; however a portion of the design includes an energy charge. Fixed transmission costs that are paid for via an energy charge ($/MWh) will lead to some customers being able to avoid paying for the services/benefits the transmission grid is providing to them.	On the surface a hybrid option should be able to provide an appropriate cost structure to reflect the costs of connecting to the grid; however what has been proposed will allow certain customers to avoid substantial costs with no benefit to the grid. The regional CP price signal proposed could lead to higher cross subsidies than currently exist; this would be in addition to the costs that could be avoided if fixed transmission costs are recovered through an energy charge.
Options within framework	All options appear to be implementable within the current legislative and regulatory compact; however non-wires solutions and opportunity service rates should be explored completely and included as part of any design to fully optimize the current and future transmission system.		
Minimally disruptive	Cannot comment at this time as further specifics on the designs and detailed analysis will be required including: • Assessing the ease of implementation; • How success will be measured, including the economic efficiency principles used to measure success; • Determining customer rate impacts; • Cost/benefit analysis of any proposed optimization rates (e.g. opportunity services); and • Detailed transition plans for those customers that are significantly affected by any proposed rate design option.		

Legend:

Green:	Meets objective
Yellow	Somewhat meets objective
Red	Does not meet objective

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Comments From:	Capital Power Corporation		**Phone:** [redacted]
Date:	April 9, 2020		**Email**: [redacted]

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1.	Please comment on the Engagement Session 1 webinar facilitated by the AESO on March 13, 2020. Was the session valuable? Was there something we could have done to make the session more helpful? Please advise and be as specific as possible.	Capital Power appreciates the efforts of the AESO to adapt and conduct the webinar under the current circumstances. To the extent it is possible, Capital Power supports continued consultation with stakeholders to advance this important work and continue targeting an application to the Alberta Utilities Commission as soon as practical. **Additional Analysis of Self-Supply and Transmission Cost Avoidance is Needed** Capital Power submits that there must be explicit consideration of self-supply in the AESO's application. Specifically, there must be an assessment of the delivered cost of power for self-supply and the avoidable costs of transmission in Alberta. In concurrent AUC consultation, the AESO has established that they support unlimited self-supply and export on the condition that tariff changes are implemented. It is acknowledged that this work must include an evaluation of the opportunities that loads have to avoid transmission costs through self-supply, and that appropriate price signals will mitigate the risks from inefficient proliferation of self-supply. Based on the information made available to stakeholders, this issue has not been explicitly considered or included in the analysis. If the AESO does not consider the issue as part of their analysis, there is a significant risk that the current inequity and cross-subsidization between customer classes is not rectified. A rate design that does not address self-supply will exacerbate the current situation and will have impacts to market sustainability.
2.	Please comment on the pros, cons and tradeoffs of **Option 1: Rate Reflects Costs.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	Capital Power submits that the concepts proposed in the Peak Contribution Rate will have limited benefits over what is currently embedded in the rate design. Moving to a more granular locational system, where cost drivers are still driven by regional peaks, will have similar outcomes to the current system. The outcome will include significant cost avoidance and cross-subsidization between customer classes as loads shift consumption in response to discrete hourly price signals. Efficiency and cost benefits of this system will not be materially different from the current tariff design. As the AESO notes in their material, it is also not clear that peak load by region is an appropriate proxy for flows on the system. Therefore, it is questionable whether the

		added cost to implement a system that has no material benefits over the current design is warranted. Finally, without additional definition of the AESO's proposed locational categorization and cost drivers, it is also premature to conclude that the Peak Contribution Rate fits within the legislative framework in the province.
3.	Please comment on the pros, cons and tradeoffs of **Option 2: Rate Reflects Benefits**. Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	Capital Power supports the underlying principle in the proposed rate design that establishes there is value to all transmission-connected customers from a grid connection and there should be a charge that is proportional to the benefits. While this principle is important, it is also critical to include this consideration in the previously noted analysis of self-supply. It is essential to understand the opportunities available to loads to self-supply and disconnect, or alternatively self-supply to avoid costs while continuing to receive benefits from the transmission system. The rate charged for benefits received should be one consideration in the AESO's efforts to ensure a competitive all-in cost of power that keeps loads connected to the system and attracts new customers to the province. It may be appropriate to consider a range of rate design options based on the types of service received and the value derived by a variety of customer classes. This could include a variety of rate design options beyond a single fixed demand charge. The categorization described by the AESO – based on whether facilities are load/multi-use or to enable a competitive market – is not clearly defined. How this is implemented and used to derive a rate requires clarification.
4.	Please comment on the pros, cons and tradeoffs of **Option 3: Hybrid – Rate Reflects Cost and Benefit.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	The AESO notes that the Fixed Plus Peak Contribution Rate will "[c]harge assets for load on [a] fixed basis and assets for generation on [a] peak charge". The AESO notes this will balance price signals and fairness. Capital Power submits that this statement requires additional detail on how this would be applied. Similarly, for the vast majority of assets that serve multiple functions, the AESO's proposed implementation for this approach requires clarification. As a hybrid design based partially on the previous rate options, this approach inherits many of the uncertainties, benefits and drawbacks from the other rates. This includes the approach used in the Fixed Contribution Rate to categorize transmission assets based on whether they are load/multi-use or whether they enable a competitive

		market. More detail is required to understand the AESO's intentions in this respect.
5.	How effectively do you feel **Option 1: Rate Reflects Costs** meets the five Tariff Design Objectives? Please be as specific as possible.	**Absent additional detail on the categorization, cost drivers and implementation, the following comments are simply a preliminary assessment of the expected performance against the AESO's criteria.** **Effective Long Term Price Signals** – the approach provides limited incentive to change behavior in a way that provides long term benefits to system/regional costs or efficiency. **Facilitate Innovation and Flexibility** – the proposed design is indistinguishable from the current design in many respects. There will be limited improvements to the tariff's agility, optionality, or facilitation of innovation. **Reflect Accurate Costs of Grid Connection and Services** – the proposed design will not reflect the value of a grid connection, nor will in consider the alternatives available to loads to disconnect from the system. Fairness is a known issue that arises from a rate design that encourages behavioral changes in response to a narrow and predictable peak demand charge. **Explore Options within Legislation and Regulation** – without additional detail on the AESO proposal, it is not clear that the locational aspects discussed will fit within the legislative framework in Alberta. **Path to Change that is Effective and Minimally Disruptive** – the approach is largely consistent with the current tariff design. Costs incurred to implement this, without material benefits accruing to the system, will do more harm than good as additional costs are embedded in rates.
6.	How effectively do you feel **Option 2: Rate Reflects Benefits** meets the five Tariff Design Objectives? Please be as specific as possible.	**Absent additional detail on the categorization, cost drivers and implementation, the following comments are simply a preliminary assessment of the expected performance against the AESO's criteria** **Effective Long Term Price Signals** – the fixed nature of the rate will provide no incentive to modify behavior and limit consumption. Should the fixed cost grow too

		large, loads will have added incentive to disconnect from the system. **Facilitate Innovation and Flexibility** – a single fixed charge has limited ability to incent innovation or provide optionality to customers. **Reflect Accurate Costs of Grid Connection and Services** – adding a rate design that considers services received from the grid connection is important. However, it cannot be added at the expense of a proper consumption signal. **Explore Options within Legislation and Regulation** – while it may fit within the legislative framework, when considered as a rate design in isolation, it provides limited incremental benefits above the current rate design. **Path to Change that is Effective and Minimally Disruptive** – without additional detail on the approach to implementation and outcomes, it is not clear how effective and/or disruptive the approach may be.
7.	How effectively do you feel **Option 3: Hybrid – Rate Reflects Cost and Benefit** meets the five Tariff Design Objectives? Please be as specific as possible.	As a hybrid rate, the proposed rate design inherits the benefits and drawbacks described above. Additional detail of the categorization, cost drivers, and implementation is needed to thoroughly asses the rate design option against the stated criteria.
8.	Do you have additional clarifying questions that need to be answered to support your understanding of the Tariff Design Objectives and corresponding assessment of the three Tariff Design Options presented at the session? If yes, please be as specific as possible.	As the AESO becomes aware of potential changes to the schedule for filing their application as a result of the current pandemic, it will be important to share this with stakeholders in a timely manner.
9.	Additional comments	Capital Power has no additional comments at this time.

Thank you for your input. Please email your comments to: tariffdesign@aeso.ca.

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April 9, 2020

[redacted]
Alberta Electric System Operator
2500, 330 - 5th Ave SW
Calgary, AB T2P 0L4

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

Stakeholder Comment Matrix – March 19, 2020

Bulk and Regional Tariff Design Session 1 – March 13, 2020

Period of Comment:	March 19, 2020	through	April 9, 2020	**Contact:**	[redacted]
Comments From:	Consumers Coalition of Alberta			**Phone:**	[redacted]
Date:	[2020/04/09]			**Email:**	[redacted]

Instructions:

1. Please fill out the section above as indicated.
2. Please respond to the questions below and provide your specific comments.
3. Email your completed comment matrix to tariffdesign@aeso.ca by **April 9, 2020.**

Three Tariff Design Options presented at the session:

- Option 1: Rate reflects costs.
- Option 2: Rate reflects benefits.
- Option 3: Hybrid – Rate reflects both cost and benefit.

Five Tariff Design Guiding Objectives presented at the session:

1. Effective long-term price signals.
2. Facilitate innovation and flexibility.

3. Reflect accurate costs of grid connection and services.
4. Explore options within legislation and regulation.
5. Path to change that is effective and minimally disruptive.

The AESO is seeking comments from Stakeholders with regard to the following matters:

Questions	Stakeholder Comments
Please comment on the Engagement Session 1 webinar facilitated by the AESO on March 13, 2020. Was the session valuable? Was there something we could have done to make the session more helpful? Please advise and be as specific as possible.	The presentation material was helpful in starting a focussed discussion on the topic.
Please comment on the pros, cons and tradeoffs of **Option 1: Rate Reflects Costs.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	**Concept:** Postage stamp rates. Depending on area and/or region, the peak time price signals would correspond to the time of area/ regional peak. [Slide 44] **Questions:** a) How many time zones are contemplated b) Is the rate design based on CP at the area/regional time(s) of peak or, is it based on customer NCP at the area regional times of peak? **Pros:** Reflects planning and cost causation in a sense. **Cons:** a) This approach of providing peak time price signals to load based on regional/area peaks is based on flow analysis. However, there is no basis for suggesting that peak flow patterns are driven by load alone; rather they are driven by the interaction of

	load with generation. In Alberta the legislated rate design assumption for wires costs recovery is that load is the primary driver for transmission facility additions. Therefore the price signals to load must be designed to manage peak load conditions and not peak flow. The latter must be addressed through price signals to new generators for efficient location which, if properly designed and implemented, could mitigate plant additions caused by peak flow conditions. b) Would mean different peak periods for different areas/ regions which adds complexity to rate design; further the peak time by region and area can vary as load flows change with the dynamics of new load and supply additions
Please comment on the pros, cons and tradeoffs of **Option 2: Rate Reflects Benefits**. Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	**Concept:** Fixed demand charge based on the idea, load benefits up to maximum ability to consume. Rates would reflect fixed charges based on customer contract demands adjusted by an intra group diversity factor, as well as a small energy component **Question:** a) Applying an intra group diversity factor to adjust contract demand (or NCP) does not appear to be consistent with the benefits received concept of Option 2 which suggests each customer benefits from its maximum ability to consume as reflected in customer NCP demand.Please explain why it is necessary to group customers into similar groups and then apply a diversity factor, instead of simply using NCP demand to reflect benefit received? b) Please provide a simplified example to illustrate the diversity factor adjustment? c) In regard to the entire system, please explain how each homogeneous group and the corresponding diversity factor would be determined **Pros and Cons:** The conceptual basis for the diversity factor adjustment is not clear;

	hence unable to comment on the pros and cons.
Please comment on the pros, cons and tradeoffs of **Option 3: Hybrid – Rate Reflects Cost and Benefit.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	**Concept:** Rates comprised of a fixed demand charge based on maximum flow reflecting benefit received by customers and a variable demand charge, reflecting cost causation. The variable demand charge would be designed to give price signals during area/regional peaks. **Questions:** a) It is not clear what is meant by "Fixed demand charge for load/multi-use portion of costs". [Slide 55] Explain what is meant by multi use portion of costs b) What is the method of splitting the wires costs into buckets, for recovery based on fixed demand charges and variable demand charges? **Pros:** The concept of a fixed demand charge based on maximum flow reflecting benefit received by customers and a variable demand charge reflecting cost causation, is not materially different from the current rate design philosophy. **Cons:** a) The variable demand charge under Option 3 may not necsesarily provide the right price signals to load, unless cost per kW approximates marginal cost of transmission and the peak time reflects time period when load peaks b) If the intent is to allocate fixed demand charges to customers based on benefit received from connection, they should be allocated on contract demand (NCP) and not modified by any diversity factor
How effectively do you feel **Option 1: Rate Reflects Costs** meets the five Tariff Design Objectives?	1.Effective long-term price signals: Disagree because price signals based on the time of regional and area peaks have no

Please be as specific as possible.	direct relationship to the time when load peaks. 2. Facilitate innovation and flexibility: In the absence of appropriate price signals to load or generation, innovation and flexibility are not facilitated; further option 1 appears to be complex and changeable with passage of time given that the time of area and regional peaks are likely to change with flows on the system 3. Reflect accurate costs of grid connection and services: Agree that it reflects planning but fails to recognize the drivers of cost causation because, in Alberta, load is assumed to be the driver of facility additions 4. Explore options within legislation and regulation: Does not appear to allow for locational price signals (similar to IBOC over 5 years planning horizon) to be provided to generation 5. Path to change that is effective and minimally disruptive: Due to having different time of use price signals for different areas/regions, option 1 could be difficult to understand and potentially disruptive
How effectively do you feel **Option 2: Rate Reflects Benefits** meets the five Tariff Design Objectives? Please be as specific as possible.	1. Effective long-term price signals: Disagree because there is no direct link between the fixed demand charge and cost causation during the peak period for load 2. Facilitate innovation and flexibility: In the absence of appropriate price signals, innovation and flexibility are not facilitated;

	3. Reflect accurate costs of grid connection and services: Unlikely to reflect cost of grid connection on a customer by customer basis in view of the use of a diversity factor modifier 4. Explore options within legislation and regulation: Does not appear to allow for locational price signals (similar to IBOC over 5 years planning horizon) to be provided to generation 5. 5. Path to change that is effective and minimally disruptive: Due to having different time of use price signals for different areas/regions, option 2 could be difficult to understand and potentially disruptive
How effectively do you feel **Option 3: Hybrid – Rate Reflects Cost and Benefit** meets the five Tariff Design Objectives? Please be as specific as possible.	1. Effective long-term price signals: The variable demand charge under Option 3 may not necsesarily provide the right price signals to load, unless cost per kW approximates marginal cost of transmission and the peak time reflects time period when load peaks (rather than when peak flows occur) 2. Facilitate innovation and flexibility: In the absence of appropriate price signals, innovation and flexibility are not facilitated; 3. Reflect accurate costs of grid connection and services: Unlikely to reflect cost of grid connection on a customer by customer basis in view of the use of a diversity factor modifier 4. Explore options within legislation and regulation:

	Does not appear to allow for locational price signals (similar to IBOC over 5 years planning horizon) to be provided to generation 5. Path to change that is effective and minimally disruptive: Due to having different time of use price signals for different areas/regions, option 3 could be difficult to understand and potentially disruptive
Do you have additional clarifying questions that need to be answered to support your understanding of the Tariff Design Objectives and corresponding assessment of the three Tariff Design Options presented at the session? If yes, please be as specific as possible.	**Preamble:** Ideally, tariff design should provide efficient price signals to load while mitigating the risk of peak avoidance that is not matched by a corresponding reduction in contribution to system stress. The following questions are intended to understand ways to balance efficiency, fairness and cost recovery, while avoiding unnecessary complexity **Questions:** a) Is it possible to provide variable demand price signals based on a broader definition of peak period? Example: customer NCP during 16 hrs and 20 hrs. If not why? b) Is it possible to provide variable demand price signals ($/kW) based on marginal costs in the interest of economic efficiency? If so how would marginal costs be determined? c) As a fairness objective, is it possible to design fixed connection charges per kW based on difference between embedded cost per kW and marginal cost per kW? d) As a fairness and cost recovery objective, is it possible to include charges for black start, maintenance, voltage control etc., for dual use customers whose generation is supported by the system. e) As an efficiency price signal, is it possible to provide demand response credits to customers in areas or regions approaching stress conditions, in order to achieve

	deferral of new plant additions ? f) As an efficiency price signal is it possible to provide load attraction rates to new loads locating in areas/ regions of system stress caused by generation surplus g) Is it possible to provide locational price signals to new generation along the lines of IBOC but, with shorter terms consistent with the time horizon for recognition of changes to the transmission plan
Additional comments	Load Retention Rates: If variable demand charges are based on marginal costs requests for load retention rates could be largely avoided. If load retention rates are to be offered, it should be on a case by case basis and, only on condition that credible uneconomic by pass can be demonstrated. Interruptible Rates: Should only be offered for incremental capacity in addition to contracted capacity, in order to incent utilization of temporary excess capacity on the transmission system.

Thank you for your input. Please email your comments to: tariffdesign@aeso.ca.

Stakeholder Comment Matrix – March 19, 2020

Bulk and Regional Tariff Design Session 1 – March 13, 2020

Period of Comment:	March 19, 2020	through April 9, 2020	**Contact:** [redacted]
Comments From:	Energy Storage Canada		**Phone:** [redacted]
Date:	2020/04/14		**Email**: [redacted]

Instructions:

1. Please fill out the section above as indicated.
2. Please respond to the questions below and provide your specific comments.
3. Email your completed comment matrix to tariffdesign@aeso.ca by **April 9, 2020.**

Three Tariff Design Options presented at the session:

- Option 1: Rate reflects costs.
- Option 2: Rate reflects benefits.
- Option 3: Hybrid – Rate reflects both cost and benefit.

Five Tariff Design Guiding Objectives presented at the session:

1. Effective long-term price signals.
2. Facilitate innovation and flexibility.
3. Reflect accurate costs of grid connection and services.
4. Explore options within legislation and regulation.
5. Path to change that is effective and minimally disruptive.

The AESO is seeking comments from Stakeholders with regard to the following matters:

	Questions	Stakeholder Comments
1.	Please comment on the Engagement Session 1 webinar facilitated by the AESO on March 13, 2020. Was the session valuable? Was there something we could have done to make the session more helpful? Please advise and be as specific as possible.	• The session was valuable and helpful. The session provides clear guidelines on the objectives and process for the meeting. Each Tariff design option was presented in a consistent manner to provide ease of comparison. The summary tables were helpful to bring together key points on a single page. • To make the sessions more helpful, it would have been beneficial to provide numerical examples or similar examples to what was provided for Option 1. Using even round numbers to demonstrate how rates would be created would be helpful to demonstrate the concepts. In addition, the numerical examples can show where areas of further work are required (e.g., cost allocation, application of diversity factors, etc.).
2.	Please comment on the pros, cons and tradeoffs of **Option 1: Rate Reflects Costs.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	• On slide 44, the AESO states that more information will need to be provided about timing of peaks to customers. While ESC does not disagree that more data will be needed, the AESO does currently publish hourly data by area and region therefore it does not appear to be a significant effort to create a baseline number for customers to review. What additional data does the AESO believe is required for customers? • Does the AESO have any early thoughts on what process will be used to define assets as inter and intra (e.g., voltage, geographic location, flow capacity, etc.)?
3.	Please comment on the pros, cons and tradeoffs of **Option 2: Rate Reflects Benefits**. Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	• The categorization of transmission assets is not clear; for example, what is the difference between multiple use and enabling competitive market? Would the categorization be by major component (e.g., substation, transmission line, etc.) or sub-components (e.g., transformer, circuit breaker, towers)? • A numerical example of the benefits calculation and cost allocation would be helpful in describing the rate option. • On slide 49, the AESO states “inefficient peak avoidance”, can the AESO describe in further detail? How is efficiency of peak avoidance defined or measured?

4.	Please comment on the pros, cons and tradeoffs of **Option 3: Hybrid – Rate Reflects Cost and Benefit.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	• For fixed demand charges, would the long-term maximum flow be an *average* of maximum flow over a number of years, or *the* maximum flow recorded over a number of years? • The hybrid approach, if designed appropriately, could support cost-effective investments in energy efficiency and peak demand reductions. For example, if the maximum flows are reduced on a rolling basis would help to justify energy efficiency investments that reduce overall consumption. At the same time, demand response to peak demand can reduce variable energy charges. The AESO should ensure that energy efficiency gains that reduce consumption from the transmission system are encouraged so that existing capacity can be effectively used, and potential offered to new customers instead of investments needed in new builds.
5.	How effectively do you feel **Option 1: Rate Reflects Costs** meets the five Tariff Design Objectives? Please be as specific as possible.	• **Effective long-term price signals**: Yes, tariff rates determined by consumption at peak demand is effective at providing a clear price signal on when to reduce consumption and strain on the transmission system. • **Facilitate innovation and flexibility***:* Yes, clear price signals for demand response or demand reduction activities, innovation and flexibility reflected in the option. • **Reflect accurate costs of grid connection and services:** No, reducing demand during single hour does not reflect reliability and stability benefits of transmission grid. • **Explore options within legislation and regulation:** Yes, does not appear to require significant tariff changes. • **Path to change that is effective and minimal disruptive:** Yes, the option builds upon existing framework and methodology.
6.	How effectively do you feel **Option 2: Rate Reflects Benefits** meets the five Tariff Design Objectives? Please be as specific as possible.	• **Effective long-term price signals**: No, not clear how benefits calculated currently would be reflected in long-term price signals for transmission system usage. • **Facilitate innovation and flexibility***:* Maybe, unclear how benefits link to more efficient use of existing infrastructure or cost-effective new investments. • **Reflect accurate costs of grid connection and services:** Maybe, unclear how costs will be allocated to customers based on information provided.

		• **Explore options within legislation and regulation:** Maybe, unclear what changes may be required. • **Path to change that is effective and minimal disruptive:** No, significant change in framework for rate design and cost allocation.
7.	How effectively do you feel **Option 3: Hybrid – Rate Reflects Cost and Benefit** meets the five Tariff Design Objectives? Please be as specific as possible.	• **Effective long-term price signals**: Yes, depending on the amount of costs allocated to variable charges. If high enough an appropriate long-term price signal will be provided to customers. • **Facilitate innovation and flexibility***:* Yes, provides support for innovation in managing grid consumption by customers or participation by energy storage resources directly. • **Reflect accurate costs of grid connection and services:** Yes, fixed demand charge should reflect accurate cost of grid connection and service (i.e., the transactional cost of being interconnected to the grid). • **Explore options within legislation and regulation:** Maybe, unclear what changes may be required. • **Path to change that is effective and minimal disruptive:** Yes, would require shifting some costs from variable demand charges to fixed demand charges.
8.	Do you have additional clarifying questions that need to be answered to support your understanding of the Tariff Design Objectives and corresponding assessment of the three Tariff Design Options presented at the session? If yes, please be as specific as possible.	
9.	Additional comments	It would be helpful to understand what issues and concepts will be discussed at a high-level in Module 2 and 3 to determine what topics are better left for later modules versus addressed in model 1.

Thank you for your input. Please email your comments to: tariffdesign@aeso.ca.

Stakeholder Comment Matrix – March 19, 2020

Bulk and Regional Tariff Design Session 1 – March 13, 2020

Period of Comment:	March 19, 2020	through April 9, 2020	**Contact:** [redacted]
Comments From:	ENMAX		**Phone:** [redacted]
Date:	2020-04-09		**Email**: [redacted]

Instructions:

1. Please fill out the section above as indicated.
2. Please respond to the questions below and provide your specific comments.
3. Email your completed comment matrix to tariffdesign@aeso.ca by **April 9, 2020.**

Three Tariff Design Options presented at the session:

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Five Tariff Design Guiding Objectives presented at the session:

1. Effective long-term price signals.
2. Facilitate innovation and flexibility.
3. Reflect accurate costs of grid connection and services.
4. Explore options within legislation and regulation.
5. Path to change that is effective and minimally disruptive.

The AESO is seeking comments from Stakeholders with regard to the following matters:

	Questions	Stakeholder Comments
1.	Please comment on the Engagement Session 1 webinar facilitated by the AESO on March 13, 2020. Was the session valuable? Was there something we could have done to make the session more helpful? Please advise and be as specific as possible.	The AESO's engagement process is helpful in providing stakeholders with an opportunity to understand the AESO's preliminary thoughts on its upcoming tariff application, which it plans to file with the AUC later this year. That said, in light of recent events relating to the COVID-19 pandemic, further clarity is needed on how this will impact the AESO's timelines going forward. The process should not be rushed and stakeholders require a reasonable opportunity to participate in the consultations and provide feedback. As it relates to Session 1, rather than going through the Rate Design and Impact Tool, a brief summary on how the tool is intended to work would have been more beneficial. Stakeholders also found it difficult to fully understand the AESO's use of a "diversity factor" and how this would be applied. Specific comments on the AESO's tariff design objectives and options are included below.
2.	Please comment on the pros, cons and tradeoffs of **Option 1: Rate Reflects Costs.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	Note: Throughout ENMAX's comments, notation like "S21" refers to slide 21 in the AESO's March 13, 2020 "Bulk and Regional Tariff Design" presentation to stakeholders. On S43 the AESO states that an Option 1 pro is that it provides "more locational and targeted price signals to optimize current and future needs." It argues that Option 1 continues to encourage behaviour to avoid peak periods in a way that can help reduce future transmission costs. It also argues that the incentive to reduce demand is better aligned with transmission planning, which is based on flows in regions/areas. ENMAX does not agree that Option 1 encourages behaviour that (necessarily) reduces future transmission costs. It is true that, under Option 1, customers can reduce their transmission charges by reducing their consumption at times of region/area peak demand. However: • As noted on S6 in the AESO's presentation on learnings from the Transmission Tariff Working Group ("TTWG"), reducing load in some areas of the province would increase, rather than decrease, the stress on the transmission system. • As the AESO also notes in the TTWG learnings, there is a zero to moderate

		correlation between system or regional loads and line flows, and any correlation varies by region, by on- versus off-peak hours, and by year. The AESO also notes that correlation results do not indicate which loads should be increased or decreased and at what times. • Since generation dispatch is a main driver of line flows and the dispatch can vary considerably depending on the amount of wind generation (and increasingly the amount of solar generation), there will often be no value in demand reductions. A "good" area for demand reductions in one hour may be a "bad" area for demand reductions a short time later. (See also ENMAX's comments on long-term price signals below.) • Infrastructure costs are generally driven by non-coincident peak demands on individual lines and transformers. Reducing load at a point of delivery from (e.g.) 100 MW to 90 MW in July provides no system benefit if the annual peak demand is 120 MW in December. In view of the foregoing, there is generally no benefit to rewarding market participants for reductions in net demand through either load reductions or increases in the output of on-site generation.[1] Another problem with Option 1 is that, as stated on S38, the AESO would be required to categorize transmission assets as intra-regional or inter-regional. Such a categorization can be highly subjective and open to change, and in any case, real-time power flows do not respect such categorizations. In addition, region/area categorizations will become less and less relevant as the amount of intermittent renewable generation increases, since a region/area can shift from being a net exporter to a net importer and then to internally balanced in a matter of hours. Also, region/area boundaries are frequently natural or political and have nothing to do with the electrical characteristics of the transmission system; indeed, a load just outside a region boundary may have more effect on power flows in the region than a load located inside the region. Load reduction at the time of system peak is more relevant to the need for generation (including the generation reserve margin) than to the need for wires. Customers who reduce demand at peak times are (appropriately) rewarded by the avoidance of high

[1] ENMAX acknowledges that there may be specific circumstances in which demand reductions or local generation can provide a system benefit. Where such circumstances exist, the AESO could enter a contract with one or more market participants (competitively tendered where possible) to reduce demand or increase generation when real-time or short-term-forecasted conditions dictate.

		energy costs. Since the cost of the transmission system is essentially fixed in the short term and it will take many years for any tariff-related incentives to produce a meaningful benefit given high sunk costs (S17), reductions in peak demand will result more in cross-subsidization than effective price signals. The statement that region/area peak demand is a proxy for power flows and might therefore reflect accurate costs of grid connection and services seems inconsistent with the AESO's statement that there is zero to moderate correlation between region/area demand and line flows. As a general comment, the past decade's overbuild of transmission wires has produced a serious problem to which there is unlikely to be a tariff-based solution. That said, the problem can be mitigated to some extent by modifying the tariff to ensure that any tariff-based incentives reflect the true benefits of demand reduction or on-site generation.
3.	Please comment on the pros, cons and tradeoffs of **Option 2: Rate Reflects Benefits**. Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	Under Option 2, the rates charged to transmission customers consist of a fixed demand charge and an energy charge. With the exception of transmission-system losses and (possibly) certain ancillary services, transmission costs are not dependent on energy volumes. As such, the use of energy charges in the transmission tariff should be minimized. Given its focus on fixed demand charges rather than variable demand charges, Option 2 is superior to Option 1. The AESO's comment (S49) that Option 2 reflects the value of receiving energy through the grid should be modified to state that it reflects the value of a connection to the grid. Benefits like voltage and frequency stability and immediate access to backup generation are real benefits, but they do not always manifest in the exchange of energy through the grid. This is one of the reasons that energy charges generally do not provide efficient price signals with respect to transmission-system utilization. Regarding cons, the AESO suggests (S50) that Option 2 does not provide a signal to reduce energy consumption at times of system stress. This may be a con in specific circumstances, but not generally, since a signal to all customers to reduce demand is non-locational and is therefore unlikely to produce only the desired results in only the desired locations. As noted above, other mechanisms can and should be used to encourage demand reductions in specific areas of the system under specific (and real-time) conditions. For example, the AESO (for transmission) or the DFO (for distribution) could issue an RFP that would provide for local generation and/or demand response to provide non-wires solutions to system stresses only when those stresses manifest in real time. ENMAX agrees that the costs of transmission are not proportional to use in all hours

		(S50), but fixed demand charges[2] do a reasonable job (in the context of the existing regulatory framework) of reflecting the essentially fixed cost of providing transmission wires. (Losses and (perhaps) ancillary services should be treated differently than wires costs.) ENMAX also agrees that the recovery of fixed wires costs through an energy charge distorts the energy market price signal (S50). It also unfairly penalizes high-energy-use customers. Regarding the tradeoff on energy charges that consumers pay in relative proportion to use (S52), care must be taken to distinguish between *energy* use and *transmission* use. Consumers' use of the transmission seldom is seldom in proportion to their energy use because the transmission system provides a "call option" that they can choose to exercise (by consuming energy) or not. A call option has value even when there is no exchange of energy. Under Option 2, the AESO proposes to categorize transmission assets as load/multi-use or competitive market facilitators (S48). As is the case with the inter- and intra-regional categorization proposed under Option 1, the proposed Option 2 categorization is highly subjective and not particularly useful: since all energy that flows through the transmission system is the product of a competitive market, and since every energy transaction requires a wire connection between generators and loads (along with a stable voltage, a stable frequency, etc.), there is no meaningful way to distinguish competitive assets from load/multi-use assets.
4.	Please comment on the pros, cons and tradeoffs of **Option 3: Hybrid – Rate Reflects Cost and Benefit.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	In ENMAX's view, the hybrid option is simply a subjectively weighted combination of the pros and cons of the other two options. Option 2 is superior to Option 1 in almost all respects, so a hybrid option is of little value. ENMAX has no other comments on Option 3.

[2] For clarity, by "fixed demand charges" ENMAX means demand ($/MW) charges that do not vary from month to month. As an example, a transmission customer who is the owner of a point of delivery that peaks at 50 MW in January would pay a 50 MW demand charge in all months, likely subject to a ratchet if that 50 MW level is exceeded.

5.	How effectively do you feel **Option 1: Rate Reflects Costs** meets the five Tariff Design Objectives? Please be as specific as possible.	For the reasons noted above, ENMAX does not believe that Option 1 meets the tariff design objectives. Please see ENMAX's comments on the design objectives below.
6.	How effectively do you feel **Option 2: Rate Reflects Benefits** meets the five Tariff Design Objectives? Please be as specific as possible.	ENMAX is of the view that Option 2 better reflects the design objectives better than either Option 1 or Option 3, especially if the use of energy charges to recover costs that are essentially fixed is minimized.
7.	How effectively do you feel **Option 3: Hybrid – Rate Reflects Cost and Benefit** meets the five Tariff Design Objectives? Please be as specific as possible.	For the reasons noted above, ENMAX does not believe that Option 3 meets the tariff design objectives. Please see ENMAX's comments on the design objectives below.
8.	Do you have additional clarifying questions that need to be answered to support your understanding of the Tariff Design Objectives and corresponding assessment of the three Tariff Design Options presented at the session? If yes, please be as specific as possible.	
9.	Additional comments	On S17 the AESO states that it is "Look[ing] for new ways to achieve efficiency within existing regulation and legislation." All of ENMAX's comments in this document are to be interpreted in the context of existing regulations and legislation. ENMAX does not support the first guiding objective because it will be of limited benefit. The reasons are as follows. • As the AESO itself notes, transmission costs are sunk and high. As such, it will take many years before any long-term price signal can provide a measurable benefit for transmission system development or utilization. The benefits might well not show up before technological changes, shifts in policy or legislation, and patterns of load and generation growth cause any long-term signals sent in (say) 2021 to be of little or no value. • Over the next few years it will be critical to send a tariff signal that reflects the true economics of on-site generation. As it stands, the tariff does not properly charge customers with on-site generation for the benefits of being connected to the grid. This makes on-site generation appear to be more economic than it really is and it results in subsidies being paid by customers who do not have

		on-site generation. Having an incorrect economic signal for on-site generation is likely to have a greater impact on transmission development and utilization in the next five to ten years than will any long-term signal. • Their intermittent and seasonal nature means that, if there is a high penetration of renewable generators, power flows on a windy January evening will bear little if any relationship to power flows on a hot July afternoon even if total demand is similar. In other words, power flows will change significantly depending on the weather—including the wind and the sun. Consequently, it is likely to become more and more difficult to plan for anything other than a very flexible transmission system for which long-term signals will have little planning value. • The increasing penetration of low-capacity-factor renewable generation, coupled with a policy of unconstrained transmission, is likely to drive the per-MWh cost of wires higher, further increasing the incentive for consumers to avoid transmission costs by either exiting the grid or building on-site generation. This amplifies the need to provide correct economic signals regarding the benefits of a grid connection, as stated above. • An effective long-term price signal is, of necessity, reasonably stable. The objective of stability is inconsistent with the objective of facilitating innovation and flexibility. For all the foregoing reasons, long-term signals might be of limited value to the Alberta Interconnected Electric System. If a long-term signal is to be used, care must be taken to ensure that it reflects real system benefits. The remaining objectives are reasonable, though emphasis should be given to accurately reflecting the costs of a grid connection and related services and to charging appropriately for them—consistent with the principle of cost causation. The Commission has frequently stated the importance of that principle.

Thank you for your input. Please email your comments to: tariffdesign@aeso.ca.

Stakeholder Comment Matrix – March 19, 2020

Bulk and Regional Tariff Design Session 1 – March 13, 2020

Period of Comment:	March 19, 2020	through	April 9, 2020	**Contact:**	[redacted]
Comments From:	Heartland Generation Ltd.			**Phone:**	[redacted]
Date:	[2020/04/09]			**Email**:	[redacted]

Instructions:

1. Please fill out the section above as indicated.
2. Please respond to the questions below and provide your specific comments.
3. Email your completed comment matrix to tariffdesign@aeso.ca by **April 9, 2020.**

Three Tariff Design Options presented at the session:

- Option 1: Rate reflects costs.
- Option 2: Rate reflects benefits.
- Option 3: Hybrid – Rate reflects both cost and benefit.

Five Tariff Design Guiding Objectives presented at the session:

1. Effective long-term price signals.
2. Facilitate innovation and flexibility.
3. Reflect accurate costs of grid connection and services.
4. Explore options within legislation and regulation.
5. Path to change that is effective and minimally disruptive.

The AESO is seeking comments from Stakeholders with regard to the following matters:

	Questions	Stakeholder Comments
1.	Please comment on the Engagement Session 1 webinar facilitated by the AESO on March 13, 2020. Was the session valuable? Was there something we could have done to make the session more helpful? Please advise and be as specific as possible.	Heartland Generation Ltd. (Heartland) believes the session was valuable. The ability to see stakeholder questions as they are asked would be an improvement that the AESO should adopt going forward. For example, the webinar format employed for the Market Efficiency – Pricing Framework Engagement Session 2 on April 9, 2020, was a more effective forum. Heartland agrees with the approach espoused by the AESO to use "economic efficiency principles to assess trade-offs between options with respect to rate design objectives" [slide 37]. The rate design that conforms to these principles would provide appropriate price signals leading to the maximization of total economic value, or "total surplus." Economic theory says that this outcome occurs when the price of a good is set equal to its full societal marginal (i.e. incremental) cost, which includes the supplier's private cost plus any external costs. In the transmission context, this would include the costs of any network expansion necessary to accommodate incremental units of the determinant in question (e.g. peak demand, billing capacity, energy, etc.). Evaluating the economic efficiency of a given transmission rate design therefore requires knowing the marginal cost of serving the different determinants identified in that tariff, or conversely, the avoided cost of not serving them. To the extent the rate applied to each type of determinant differs from the cost of serving it, there will be a loss of total surplus and thus efficiency. The first step to meaningful consultation on rate design is therefore to identify the relevant transmission cost-drivers and their marginal impact on cost. Information regarding the relationship between cost drivers, like coincident peak demand, and transmission costs is vital to comparing different rate design options and assessing their efficiency. With this in mind, the AESO's analysis of its rate design proposals appears to be inconsistent. For example, the AESO characterizes Option 1 (the "Rate Reflects Cost" rate) by saying that "consumption decisions will be distorted when delivered energy

		cost is very high (at peak times)" [slide 47]. However, it then also presents the opposite view that the Option 1 rate would continue to "encourage behavior to avoid peak periods, but in a way that can help reduce future transmission costs" [slide 45]. This narrative is confusing and amounts to guessing at whether peak avoidance by customers is efficient or not. If the rate applied to coincident peak demand is set appropriately and communicates the full marginal cost of serving it (or the avoided cost of not serving it), then it is not "distortionary" for loads to respond accordingly based on their own willingness-to-pay for transmission service. Heartland suggests that the AESO, going forward, should provide stakeholders with additional economic analysis on the relationship between potential cost drivers and incremental transmission costs. This level of analysis and information will allow stakeholders to provide informed feedback with respect to rate design options.
2.	Please comment on the pros, cons and tradeoffs of **Option 1: Rate Reflects Costs.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	Option 1 would continue the use of a coincident-peak methodology to recover transmission costs; whereas the current methodology is load coincident with system peak demand, Option 1 proposes to use load coincident with regional/area peak demand. This results in a $/MW demand charge that would be levied to customers based on their metered demand during their specific region/area's peak demand. Due to the focus on regional demand, the AESO has proposed categorizing transmission assets as being either "inter-regional" (i.e. between different regions) or "intra-regional" (i.e. within one region). Inter-regional rates would be calculated using "regional" coincident peak demand, while the intra-regional rate would be calculated using "area" coincident peak demand [Preliminary Rates Workbook]. Heartland's preliminary assessment of the Option 1 rate design is as follows: The AESO has suggested that regional peak demand is the relevant cost-driver, as "costs are driven by flows on the system [slide 40]." This is like the existing 12 CP methodology used to recover bulk system costs. This rate option would continue to put a price on coincident peak demand equal to its average cost (i.e. the total

		functionalized cost of the relevant transmission infrastructure divided by total coincident peak demand). • It is difficult to assess the efficiency of this rate design because the AESO has not indicated the long-run marginal cost of serving peak demand and, by extension, the avoided cost of not serving it. Heartland is therefore unable to determine whether the proposed rate would over or under-reward peak avoidance, thereby distorting customer behavior away from an efficient outcome. The AESO acknowledges this uncertainty in reference to the "tradeoffs" of Option 1, as it states that a peak load reduction will be "efficient when it reduces overall transmission cost, but creates inefficient cross subsidization if overall costs aren't reduced" [slide 47]. • The AESO has indicated that Option 1 would use regional/area peak demand as a "proxy for flows" [slide 40]. Heartland suggests that if regional flows are in fact the relevant cost driver, then the AESO should explore measuring regional flow directly (i.e. demand net of regional generation) and employing the corresponding billing determinant. This would remove the need for "a proxy for flows" and communicate a more accurate price signal.
3.	Please comment on the pros, cons and tradeoffs of **Option 2: Rate Reflects Benefits**. Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	Option 2 would recover transmission costs using two charges: a $/MW demand charge levied to customers based on their total billing capacity and a $/MWh energy charge [slide 49]. The demand charge (the "Transmission Service Benefit Charge") would recover costs functionalized as being for "load/multi-use," while the energy charge (the "Energy and Ancillary Services Markets Benefit Charge") would recover costs functionalized as being for "facilities to enable a competitive market" [ibid]. Heartland's preliminary assessment of this rate design is as follows: The premise of this rate design is that the grid offers certain intrinsic benefits to consumers. Option 2 would put a price on each MW of billing capacity and each MWh of energy consumption. Given the information presented by the AESO, it appears that

		this rate design is divorced from all semblance of cost causation, such that the resulting price signals would likely be inaccurate and the rate design would consequently fail to recover the revenue requirement in an efficient (i.e. minimally distortionary) manner. ▪ The AESO indicates that one of the "cons" of Option 2 is that "rates don't align with the drivers of transmission costs," since "costs of transmission are not proportional to use in all hours…" [slide 51]. If the transmission-related cost of serving an additional MW of billing capacity (or the avoided cost of not serving it) is different than what the proposed rate design would indicate, then it would send an inaccurate price signal to customers and therefore be distortionary. The same would be true for the energy charge, which the AESO appears to acknowledge when it states that the "charge per MWh distorts energy market price signal" because "load will reduce consumption even when there is no transmission stress" [slide 51]. ▪ The complete lack of coincident peak charge would signal that the transmission-related cost of serving an additional MW of peak load (or the avoided cost of not serving it) is zero. The AESO has characterized this feature of Option 2 as a "pro," saying that the "fixed demand charge encourages efficient use of the transmission system" and "does not encourage inefficient peak avoidance [slide 50]." This characterization ignores the possibility that a certain amount of peak load avoidance might be efficient given the marginal cost of serving it (i.e. bypass could be economic rather than uneconomic). If reducing peak load does in fact save some transmission cost, then failing to send the corresponding price signal would cause too little peak avoidance and an over-investment in transmission capacity. A result no doubt favoured by transmission facility owners that are guaranteed a rate of return. Another alleged "pro" of Option 2 is that, because of the price attached to both billing capacity and energy consumption, "consumers pay in proportion to use [slide 50]."

		• It is worth noting, however, that just because one customer might have four times the demand or energy consumption of another does not necessarily mean they derive four times the benefit from their connection to the grid. For example, a residential customer who consumes only 100 KWh might receive a much greater benefit and therefore place a much higher value on each unit of consumption than a much heavier industrial consumer with alternatives to grid supply (e.g. self-supply). This suggests that the benefit of grid service does not necessarily scale with "use" and, by extension, a rate design based on that premise is unjustified.
4.	Please comment on the pros, cons and tradeoffs of **Option 3: Hybrid – Rate Reflects Cost and Benefit.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	Option 3 is a combination of Options 1 and 2 that would incorporate the "inter-regional" coincident peak demand charge from Option 1 and the non-coincident "Transmission Service Benefit Charge" from Option 2 [Preliminary Rates Workbook]. It would therefore forgo the energy charge from Option 2 and the "intra-regional" coincident peak demand charge from Option 1. Heartland's preliminary assessment of this rate design is as follows: Option 3 would put a price on each MW of coincident peak demand and each MW of billing capacity. As explained in our previous responses, the efficiency of these prices depends on the extent to which they reflect the transmission-related marginal cost of serving each type of determinant. ▪ The AESO has only provided limited economic analysis with which to determine the efficiency of this rate design. Each cost driver, in this case coincident regional peak demand and billing capacity, should be evaluated for effect on transmission costs; for example, the marginal cost (savings) of transmission from the addition (reduction) of a single MW to coincident regional peak demand is X$.

		▪ The AESO states that the coincident peak demand charge would send "a signal about future costs" and "encourage load to reduce demand times of system stress, in a way that creates value to the overall system" (slide 56). However, the AESO has not quantified the value (i.e. avoided cost) of an incremental reduction in peak load or proposed a rate design that would necessarily reflect it. Therefore, it seems more likely that if the resulting rate does reflect the value of peak avoidance, it would do so only by chance. ▪ Similarly, the AESO states that the non-coincident demand charge would reflect "customer benefits received from connection to AIES, regardless of use" (slide 56). Even if this was a justifiable way to set rates, which it is not (see above response to question 3), the AESO has neither quantified these "customer benefits" nor proposed a rate design that would necessarily reflect them. The AESO's review of Option 3 appears to be favorable, as compared with its review of Options 1 and 2, for no other reason than it is a hybrid of both, and is an implied middle ground with the pros of both and minimal cons. However, the lack of critical information on marginal transmission costs – e.g. the cost of adding load and the savings from reducing it – makes economic efficiency impossible to deduce. Heartland is not confident that Options 1 or 2 would be efficient rate designs, and just because Option 3 incorporates elements from both does not necessarily mean it would be more efficient either.
5.	How effectively do you feel **Option 1: Rate Reflects Costs** meets the five Tariff Design Objectives? Please be as specific as possible.	Objectives 1-3: Heartland understands these three objectives to be collectively the "economic efficiency" objectives. In other words, a rate design that fulfills objectives 1-3 has been assessed for economic efficiency. As outlined above in response to question 2, Heartland is unable to make the determination on economic efficiency while key analysis remains absent. Objective 4: Option 1 appears to be within the legislative framework. Objective 5: To the extent that Option 1 is similar to the current 12 CP methodology it would be minimally disruptive. As indicated by the AESO, it will need to "provide

		information about timing of peaks to customers (more data) [slide 46].” However, this is data that the AESO will have readily available and can publish to the market through a new public report. While Option 1, or something akin, is more complex than the current 12 CP methodology, this is not a relevant barrier to implementation.
6.	How effectively do you feel **Option 2: Rate Reflects Benefits** meets the five Tariff Design Objectives? Please be as specific as possible.	Objectives 1-3: Taken together as the “economic efficiency” objective, Option 2 fails to address efficiency as it is divorced from principles of cost causation. Option 2 does not attempt to reflect system transmission costs in a meaningful way. Any rationale that this rate is economically efficient is dubious at best, as there is no connection to relevant cost drivers. By failing to meet the first three Tariff Design Objectives, Option 2 should not be considered any further. The second two objectives, legislative compliance and ease of implementation, cannot correct a failure of efficiency; a rate that is not economically efficient cannot be made just and reasonable through meeting the remaining objectives. Further, Option 2 is the most dissimilar to the current 12 CP methodology and thus would cause the largest disruption to consumers if implemented.
7.	How effectively do you feel **Option 3: Hybrid – Rate Reflects Cost and Benefit** meets the five Tariff Design Objectives? Please be as specific as possible.	Objectives 1-3: It is possible that Option 3 satisfies these objectives to the extent it provides accurate price signals to customers; however, as previously explained in response to question 2, the relevant analysis has not been provided to establish if this would be the case. Objective 4: The rate design would need to be assessed for economic efficiency before being constrained by the language of the legislation. Barring the assessment for efficiency, Option 3 appears to be within the legislative framework. Objective 5: This is highly dependent on the resulting rate design and the degree to which it resembles the current 12 CP methodology; a rate design closer to the current methodology will cause less disruption through implementation. Option 3, much like

		Option 1, will likely require further public reporting on relevant cost drivers by the AESO.
8.	Additional comments	Heartland does not have any additional comments at this time
9.	Do you have additional clarifying questions that need to be answered to support your understanding of the Tariff Design Objectives and corresponding assessment of the three Tariff Design Options presented at the session? If yes, please be as specific as possible.	Heartland does not have any additional questions at this time.

Thank you for your input. Please email your comments to: tariffdesign@aeso.ca.

Stakeholder Comment Matrix – March 19, 2020

Bulk and Regional Tariff Design Session 1 – March 13, 2020

Period of Comment:	March 19, 2020	through April 9, 2020	**Contact:** [redacted]
Comments From:	Suncor Energy Inc.		**Phone:** [redacted]
Date:	2020/04/09		**Email**: [redacted]

Instructions:

1. Please fill out the section above as indicated.
2. Please respond to the questions below and provide your specific comments.
3. Email your completed comment matrix to tariffdesign@aeso.ca by **April 9, 2020.**

Three Tariff Design Options presented at the session:

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Five Tariff Design Guiding Objectives presented at the session:

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4. Explore options within legislation and regulation.
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The AESO is seeking comments from Stakeholders with regard to the following matters:

	Questions	Stakeholder Comments
1.	Please comment on the Engagement Session 1 webinar facilitated by the AESO on March 13, 2020. Was the session valuable? Was there something we could have done to make the session more helpful? Please advise and be as specific as possible.	As a preliminary comment, Suncor appreciates the AESO accommodating online participation in stakeholder sessions in light of the current COVID-19 pandemic. Suncor believes that using the webinar software audio capabilities would improve the ability of stakeholders to meaningfully engage in these sessions. Rather than relying on AESO personel to read out typed stakeholder questions using the chat function, participants should virtually raise their hands and then be unmuted. This would allow participants to ask their question in person and respond with any follow-up, as required. Regarding the content of the session, Suncor appreciates the AESO taking the time to present its views. However, Suncor believes that further work is required to develop a principled tariff design with regard to the legislative framework. The AESO presented two options, and a hybrid of the two options, for tariff design. However, in presenting these options, the fundamental question of tariff design were not addressed: Which amounts should be recovered, how, and from whom? The options presented do not specifiy which amounts are intended to be recovered and from which customers these amounts are intended to be recovered;[1] the options merely consider *how* costs could be recovered. Inherently, the rate design options, as presented, therefore also do not provide a rationale connecting: the charge amount, the charge methodology, and the customer charged. This rationale is required before a rate design can be considered and should be supported by evidence. For example, the AESO states that option 1 “reflects transmission costs”, but does not specify which costs are reflected or why the reflection would be appropriate. Similarly, the AESO stated that option 2 “reflects transmission benefits” but does not specify what benefits are provided, to which customers, and why the nature of the reflection would be appropriate. The AESO does not provide information required to determine the validity, efficacy, and efficiency of these options. Accordingly, Suncor believes that the options presented by the AESO have not been sufficiently developed for consideration. Suncor has two further concerns with respect to the AESO’s presentation. First,

[1] Given that there is currently effectively only one rate class, Rate DTS, it can be assumed that all options are intended to apply to Rate DTS customers. However, other rate classes should be considered, in which case the customer class an option is intended to apply to also needs to be specified.

		Suncor is concerned with the AESO's seemingly arbitrary use of the term "cost shifting" within the presentation. The AESO implies that there is some improper "cost shifting" between customers that may occur in the current tariff or if the rate reflects the costs. This implicit notion of unfairness is not supported by any evidence that costs may be improperly incurred by certain customers. Again, however, there is insufficient evidence to evaluate the AESO's proposed rate design options. Second, Suncor also notes misconceptions in the AESO's presentation regarding economic incentives. For example, on slide 17, the AESO states: • *Transmission costs are sunk and costs are high* ○ *Incentives have not been proportional to reduction in future cost* Economic incentives are not tied to future costs but to avoided current costs. The current transmission system is designed to meet the needs of Albertans.However, this *need* is influenced by current signals. A change in these signals will change behavior, which in turn might show the current system to be ill-suited to meet the changed needs. In some areas, transmission lines may become stranded and in some areas additional transmission lines may be necessary. The economic incentives need to reflect the value of the transmission that was not built because of the incentives. During the stakeholder session, the AESO confirmed that it has not done any analysis evaluating the transmission need if customers stopped reducing their demand over peak. Absent any analysis or discussion as to how behavior impacts the cost of transmission, any claim regarding the magnitude, efficiency and adequacy of current economic signals is unsupported.
2.	Please comment on the pros, cons and tradeoffs of **Option 1: Rate Reflects Costs.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	Suncor reiterates that it cannot evaluate the pros, cons and trade-offs of option 1. As information regarding which costs the rate reflects and why the rate reflects these costs was not provided, participants are unable to comment. To assess this option, a proposed classification of costs and a proposed delineation between regions is required, along with a justification supported by evidence. An important component of option 1 is the recognition that a single rate can be used to send regional signals when the associated billing determinant takes into account regional considerations. Efficient and effective signals require transparency in how much customers will be charged, and what behavior the charge will be based on. The AESO therefore needs to address how it would intend to provide transparent information to customers regarding regional system conditions.

3.	Please comment on the pros, cons and tradeoffs of **Option 2: Rate Reflects Benefits**. Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	Suncor reiterates that it cannot evaluate the pros, cons and trade-offs of option 2. As information regarding which benefits the rate reflects and why the rate reflects these benefits was not provided, participants are unable to comment. To assess this option, a proposed classification of costs is required along with a justification supported by evidence. In addition, justification and supporting evidence are required to support certain costs being appropriately recoverd on an energy or contract capacity basis. Neither billing determinant seems intuitively appropriate for any significant amount of cost recovery.
4.	Please comment on the pros, cons and tradeoffs of **Option 3: Hybrid – Rate Reflects Cost and Benefit.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	Suncor reiterates that it cannot evaluate the pros, cons and trade-offs of option 3. As no information regarding which costs and benefits the rate reflects and why the rate reflects these costs and benefits, participants are unable to comment. Additionally, to the extent different options address different cost components, a hybrid solution will inherently emerge. Option 3 is not a true “third option”.
5.	How effectively do you feel **Option 1: Rate Reflects Costs** meets the five Tariff Design Objectives? Please be as specific as possible.	1. It is unclear how this option would result in effective and efficient long term signals without further information. Most importantly it is necessary to understand which costs would be allocated and how participants would get information regarding the relevant hours. 2. Setting the billing determinant based on regional conditions is a way to adapt to a decentralizing grid. How the intra-Alberta billing determinants are set would also need to be carefully considered to result in efficient signals. 3. It is unclear which costs would be tied to this measure. 4. This option seems permissible under legislation for the costs it would be applicable to. 5. How disruptive the transition for this cost component would be depend on the yet unknown implementation details.
6.	How effectively do you feel **Option 2: Rate Reflects Benefits** meets the five Tariff Design Objectives? Please be as specific as possible.	1. From a transmission cost allocation/recovery perspective, the relevant benefits are reductions in system costs caused by participant behavior. These benefits are not reflected in option 2. 2. This option does not provide appropriate incentives for customer innovation and

		flexibility. 3. This option does not reflect cost or benefit causation. 4. This option is not consistent with the legislative objective for an efficient electricity industry and may result in unjust, unreasonable and discriminatory rates. 5. Given that the outcome of this option may include a significant shift in cost allocation, adopting this option may be disruptive regardless of the implementation details.
7.	How effectively do you feel **Option 3: Hybrid – Rate Reflects Cost and Benefit** meets the five Tariff Design Objectives? Please be as specific as possible.	The comments with respect to options 1 and 2 apply.
8.	Do you have additional clarifying questions that need to be answered to support your understanding of the Tariff Design Objectives and corresponding assessment of the three Tariff Design Options presented at the session? If yes, please be as specific as possible.	As the AESO is aware, the *Electric Utilities Act* governs the requirements for the AESO tariff (see for example sections 5, 30, 121. Objectives for the tariff design must align with the legislative framework. With regard to the specific proposed objectives: 1. effective long term price signals are aligned with the legislative requirement for efficiency. 2. innovation and flexibility are desirable objectives if they contribute to improved efficiency. It is important to facilitate, not subsidize, innovation and flexibility. 3. rates that reflect system cost- or system benefit-causation are important efficiency drivers. Significantly, this only applies to system costs/benefits caused by the participant; not to any perceived benefits that a customer may derive. 4. furthering the objectives set out in the legislative framework is a core element of tariff design. 5. it is important to not pre-suppose change. However, Suncor agrees that any required change should be implemented in the least disruptive way. As noted above, for any options to be considered, the following information needs to be presented: 1. which amounts are intended to be allocated under this option? 2. which customers are the amounts being allocated to and why?

		3. how are the amounts being allocated and why? The options, as presented by the AESO, only provide information regarding how the amounts are being allocated. The requisite information is more substantial than what can be provided in response to clarifying questions.
9.	Additional comments	Suncor supports delaying any changes to the tariff design in light of the current unprecedented circumstances surrounding the COVID-19 pandemic. Market participants are looking for temporary rate relief options and, hopefully, in the latter part of the year the focus can shift to economic recovery. Suncor believes that tariff stability would aid these efforts. A delay in any changes to the tariff design would provide more time to complete the significant work that still needs to be undertaken to develop a principled tariff design with regard to the legislative framework. Suncor believes that the current options for rate design that the AESO has proposed should be withdrawn as the fundamental information required to review and assess these options has not been provided. Suncor supports the AESO allowing industry to develop rate design options.

Thank you for your input. Please email your comments to: tariffdesign@aeso.ca.

Stakeholder Comment Matrix – March 19, 2020

Bulk and Regional Tariff Design Session 1 – March 13, 2020

Period of Comment:	March 19, 2020 through April 9, 2020	**Contact:**	[redacted]
Comments From:	The Alberta Direct Connect Consumer Association (ADC), the Industria Power Consumers Association of Alberta (IPCAA) and the Dual Use Customers (DUC), collectively referred to as " the Industrial Customers	**Phone:**	[redacted]
		Email:	[redacted]
Date:	2020/04/09		

Instructions:

1. Please fill out the section above as indicated.
2. Please respond to the questions below and provide your specific comments.
3. Email your completed comment matrix to tariffdesign@aeso.ca by **April 9, 2020.**

Three Tariff Design Options presented at the session:

- Option 1: Rate reflects costs.
- Option 2: Rate reflects benefits.
- Option 3: Hybrid – Rate reflects both cost and benefit.

Five Tariff Design Guiding Objectives presented at the session:

1. Effective long-term price signals.
2. Facilitate innovation and flexibility.
3. Reflect accurate costs of grid connection and services.
4. Explore options within legislation and regulation.
5. Path to change that is effective and minimally disruptive.

The AESO is seeking comments from Stakeholders with regard to the following matters:

	Questions	Stakeholder Comments
1.	Please comment on the Engagement Session 1 webinar facilitated by the AESO on March 13, 2020. Was the session valuable? Was there something we could have done to make the session more helpful? Please advise and be as specific as possible.	Under the circumstances, the webinar was acceptable, however the nature of the consultation requires a better ability to ask clarifying questions and seek understanding. This is a complex matter and interaction with AESO staff on examples of how the options would work and how to determine the cost consequences to consumer bills is an essential component.
2.	Please comment on the pros, cons and tradeoffs of **Option 1: Rate Reflects Costs.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	With the information provided, it is difficult to determine the benefits of this rate option over the current DTS tariff design. Further information that needs to be provided includes: 1. Timing of inter and intra regional peaks: What is the coincidence of the timing of these peaks with the current CP? Is there a significant departure that warrants consumers to have to monitor multiple peaks? 2. What is the magnitude of the peaks for the 6 planning areas? For example, is there one large customer that because of their size is always setting the peak? If the load is a flexible load, what value is the tariff awarding for flexibility? 3. Visibilty of peaks: What tools would the AESO need to develop to allow customers real-time visibility of intra and inter regional peaks? They do not exist today and customers have developed their own tools to approximate the DTS load. This would be near impossible for planning areas in the absence of real-time DTS load visibility by area. 4. Would there be ratchets or contract minimums on inter and/or intra regional costs? 5. On what cost causation basis did the AESO determine that a cost split of 50/50 for intra and inter regional costs is appropriate? How would the AESO propose to determine the cost split between intra- and inter-regional costs and what analytics would support this? 6. What modelling has the AESO completed on the tariff impact to different customers, specifically price responsive loads and dual use customers? Overall, if this option is to “reflect costs”, please provide the analysis to classify and

		allocate costs.
3.	Please comment on the pros, cons and tradeoffs of **Option 2: Rate Reflects Benefits**. Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	This rate option suggests that there is no benefit to the system of avoiding the coincident peak. Will the AESO complete a historical review of how high the system peaks would have been in the absence of the strong existing CPD price signal and what the impact to the transmission system would have been without it? The transmission assets are by nature a fixed cost. The concept of relying on variable charges in this option ignores the fact that coincident demands, not consumption, drive incremental transmission investment. An energy charge would send the signal that all hours of the year are equally important in terms of their impact on transmission investment, when, in fact, it is the hours of system stress that drive transmission investment. Having this significant energy charge is counter-productive because it frustrates the goal of maximizing the use of existing transmission assets. This tariff design would be particularly harmful to high load factor consumers – the most efficient users of the transmission system, relative to those that contribute to the system peak with significantly less energy use. In addressing the AESO's pros of this option, we have the following comments: 1. We disagree that this option encourages efficient use of the transmission system due to the variable rate component. 2. We disagree that there is no cross subsidy in this tariff, as the variable rate, by nature, will result in a cross subsidy between high and low load factor customers. Other comments: Strong locational signals for generation are needed to minimize future transmission build. With the upcoming renewal of the Transmission Regulation, discussions on potential cost-sharing options should be considered. Overall, if this option is to "reflect benefits", please provide the analysis to clearly identify the benefits and the perceived value they provide to AESO customers.
4.	Please comment on the pros, cons and tradeoffs of **Option 3: Hybrid – Rate Reflects Cost and Benefit.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option?	This Hybrid option does not appear to have a strong or clear enough price signal to modify consumer behavior to reduce incremental investment in future transmission. It seems complicated and it is not clear the benefit it achieves over the current tariff. Overall, this option is a hybrid of Option1 and Option 2, neither of which, in our view, have been appropriately analyzed and vetted; therefore, we submit that Option 3 cannot be deemed to be an appropriate "middle ground".

	If yes, please be as specific as possible.	
5.	How effectively do you feel **Option 1: Rate Reflects Costs** meets the five Tariff Design Objectives? Please be as specific as possible.	The Industrial Customers submit that Option 1 does not align with the "stability and predictability of rates and revenue" rate design principle and the "practicality, such that rates are appropriately simple, convenient, understandable, acceptable, and billable" rate design principle. What the AESO is proposing will add significant tariff complexity that will only impact a few Direct Connect customers. We are not convinced that different regional prices would be compliant with the *EUA*. The Industrial Customers submit that now is not the time to be considering a tariff redesign or evaluating alternatives. Please see comments under Question 9.
6.	How effectively do you feel **Option 2: Rate Reflects Benefits** meets the five Tariff Design Objectives? Please be as specific as possible.	The Industrial Customers submit that Option 2 will be even more complex than Option 1 and introduce significant levels of subjectivity on how assets are categorized and benefits are derived. The third rate design principle will also not be met "fairness, objectivity, and equity that avoids undue discrimination and minimizes inter-customer subsidies." The Industrial Customers submit that now is not the time to be considering a tariff redesign or evaluating alternatives. Please see comments under Question 9.
7.	How effectively do you feel **Option 3: Hybrid – Rate Reflects Cost and Benefit** meets the five Tariff Design Objectives? Please be as specific as possible.	Similar to option 1, this rate design appears to add significant tariff complexity and the resulting regional based prices may not be compliant with the *EUA*. The Industrial Customers submit that now is not the time to be considering a tariff redesign or evaluating alternatives. Please see comments under Question 9.
8.	Do you have additional clarifying questions that need to be answered to support your understanding of the Tariff Design Objectives and corresponding assessment of the three Tariff Design Options presented at the session? If yes, please be as specific as possible.	The AESO needs to provide the underlying support for the rates in the workbook and how they relate back to cost causation. It is not clear whether the tariff proposals will be more or less disruptive to price responsive loads and what the cost impact is to dual use customers. Also, the rate options are complex and are a departure from the long term rate. What is the benefit of each of the rate options versus the existing tariff? Is it significant enough to disrupt the industry versus making some improvements to the current tariff? What elements of the tariff options will prevent grid defections or preserve the competitiveness of Alberta's electricity intensive and large industrial customers?

9.	Additional comments	The Industrial Customers strongly advise the AESO to postpone or reframe the tariff design objective and principles with a key purpose of aiding economic recovery once we are past the current oil price collapse, pending recession and COVID-19 crises. There is a tremendous potential for demand destruction. The AESO needs to take the time to model tariffs under potential demand destruction scenarios and work with all key stakeholders – Government, Agencies, Customers, DFOs and TFOs to urgently reduce the revenue requirement. The transmission tariffs are already unaffordable for many industrial customers – evidenced by the investments in on-site generation and demand response. If the tariffs were to increase further to compensate for demand destruction, Alberta's economy would experience further harm. There are careful considerations and choices facing industry. Rate increases and introducing unnecessary complexity with the changing of the DTS tariff will cause additional harm. For further consideration, consulting on and litigating the new tariff will consume time and resources that many companies do not have right now. At this point, resources are extremely scarce and most companies cannot allocate the appropriate resources to fully explore the tariff options. They are working on protecting their people, their cash flows and the viability of their businesses. Adding additional uncertainty to their opex costs would be detrimental. We should be focused on rate relief, not tariff redesign.

Thank you for your input. Please email your comments to: tariffdesign@aeso.ca.

Stakeholder Comment Matrix – March 19, 2020

Bulk and Regional Tariff Design Session 1 – March 13, 2020

Period of Comment:	March 19, 2020	through April 9, 2020	**Contact:** [redacted]
Comments From:	TransAlta Corporation		**Phone:** [redacted]
Date:	2020/04/09		**Email**: [redacted]

Instructions:

1. Please fill out the section above as indicated.
2. Please respond to the questions below and provide your specific comments.
3. Email your completed comment matrix to tariffdesign@aeso.ca by **April 9, 2020.**

Three Tariff Design Options presented at the session:

- Option 1: Rate reflects costs.
- Option 2: Rate reflects benefits.
- Option 3: Hybrid – Rate reflects both cost and benefit.

Five Tariff Design Guiding Objectives presented at the session:

1. Effective long-term price signals.
2. Facilitate innovation and flexibility.
3. Reflect accurate costs of grid connection and services.
4. Explore options within legislation and regulation.
5. Path to change that is effective and minimally disruptive.

The AESO is seeking comments from Stakeholders with regard to the following matters:

	Questions	Stakeholder Comments
(1)	Please comment on the Engagement Session 1 webinar facilitated by the AESO on March 13, 2020. Was the session valuable? Was there something we could have done to make the session more helpful? Please advise and be as specific as possible.	The session was helpful, informative and valuable. We have the following recommendations for future sessions: • **Walk through the analysis of the delivered cost of electricity.** We would also like to see any historical analysis and results that the AESO has performed that compared the delivered cost of electricity against self-supply options. • **Provide a cross jurisdictional comparison of tariff/pricing mechanisms used for electricity wires costs.** The Navigant report was not specific to electricity transmission and provided background to many industries that are deregulated. In this respect, we found that the report provided limited insight into how other jurisdiction assess bulk and regional charges and how those compare to the tariff that is used in Alberta. It would be informative and helpful to get a comparison of how bulk and regional charges are handled in other jurisidictions to assist with the review of our bulk and regional system costs and tariff. More specifically, we would like to understand if our mix of bulk and regional system costs are comparable to other systems and what may have been drivers for any differences that are observed. • **Reconsider the trade-offs.** The trade-offs do not identify that a good price signal will optimize the utilization of the system, could increase efficient utilization and avoid uneconomic cessation when the system is surplus transmission capacity, and could accommodate/attract load growth without an increase in transmission costs – which breaks from framework that views rate design is a zero sum game e.g. a transmission cost saved by one customer increases the costs for another customer.
(2)	Please comment on the pros, cons and tradeoffs of **Option 1: Rate Reflects Costs.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option?	***There is no signal for region/area peak.*** The notion of improving the load response at an area/region level is predicated on the availability of a transparent signal for that load to respond to. This is unavailable today and therefore entirely theoretical. Additionally, the application of regional/area peak usage billing determinant has the potential to reduce the incentive to respond and further adds to the cost causation misalignment issue identified in the current system peak and postage stamp rate

	If yes, please be as specific as possible.	approach. Under the current approach, a large load still has an incentive to reduce consumption during system peaks. Large regional/area system loads lose the incentive to respond to signals because any shifting they do engage in would likely result in a in the regional/area peak shifting to an hour when they are not changing their behavior. In this respect, shifting to the regional/area model dilutes rather than enhances the incentive to engage in consumption behaviours that can help reduce future transmission cost. ***The Pearson's correlation coefficients in the AESO's analysis of hourly power flows and loads show no or weak correlations.*** The load to power flow correlations and Pearson's correlation coefficients provided for 2017 and 2018 show no or weak correlations in many/most instances. We find it difficult to view this analysis as a demonstration that area/region peak is a reasonable proxy with flows. Indeed, the results for the total system, which we interpret as reflective of the current system peak approach, appear just as weakly correlated to flows as moving to a region/area approach. In this respect, a move to area/region seems no better than staying with the current approach.
(3)	Please comment on the pros, cons and tradeoffs of **Option 2: Rate Reflects Benefits**. Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	***Benefit should be defined from the customer's (not supplier's) perspective and should consider the substitutability of regulated wires service with self-supply*** The AESO has used the term "benefit" to imply fixed charges rather than savings enjoyed compared to an alternative supply. Historically, when transmission costs were low, it was a fair presumption that the benefits received from a grid connection was greater than the alternative cost of supply. However, the AESO's analysis of the delivered cost of electricity and self-supply alternatives demonstrates that this assumption is no longer true and the cost of transmission service for certain customers exceeds the cost of available alternatives. We believe that it is very important and urgent for the rate design to consider the substitutability of regulated service through self-supply. The high cost of regulated service today and the downward trend in generation cost create a high risk of customers choosing to leave the system. This risk feeds back into vicious cycle where transmission rates will increase at the point where self-supply alternatives are most attractive (and the perceived value/benefit of the network system is lower than its substitutes). The rate design must carefully consider the cost of self-supply to avoid enhancing the signal to bypass the system. A tariff design that provides a load retention rate that charges no more than the cost to economic equivalent of bypassing the system is a way to ensure that the costs of regulated service are reflective of benefit received. It is

		better for centralized system to retain those customers even if those customers contribute less towards system costs than to lose those customers entirely.
(4)	Please comment on the pros, cons and tradeoffs of **Option 3: Hybrid – Rate Reflects Cost and Benefit.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	***The AESO should better explain how it categorized assets for load and generation.*** We request further information about how the AESO is categorizing transmission assets to load and generation, particularly for assets that serve dual purposes. The exercise of categorizing assets and assigning a rate treatment makes it easier to apply this approach. However, as stated above, the AESO should be careful not to create a fixed charge that is so high that it is more economic for customers to leave the system. In this respect, we would advise against prescribing what categories of costs should be assigned on a fixed or peak basis until the analysis is completed to show what the charges are signaling or incenting.
(5)	How effectively do you feel **Option 1: Rate Reflects Costs** meets the five Tariff Design Objectives? Please be as specific as possible.	Our comments and ratings are made relative to the status quo: *Objective: Effective Long-Term Price Signals* - ***Lower*** • There are no regional/area indicators of peak load or price signals to respond to in the current design. • The AESO's analysis does not show that there is any greater correlation between system peak versus regional/area peak to load flows. *Objective: Facilitate Innovation and Flexibility* – ***Lower*** • A non-transparent signal is less likely to be responded to and therefore provides limited value in incenting innovation and flexibility. *Objective: Reflect Accurate Costs of Grid Connection and Services* - ***Lower*** • Greater potential for mismatches and dislocations in price signals using a regional/area billing determinant and a postage stamp rate. *Objective: Explore Options with Legislation and Regulation* - ***Lower*** • Inconsistent with a concept of a postage stamp rate. *Objective: Path to Change that is Effective and Minimally Disruptive* - ***Lower*** • A significant spend on developing these systems will add to the transmission cost issue that we are trying to address.

(6)	How effectively do you feel **Option 2: Rate Reflects Benefits** meets the five Tariff Design Objectives? Please be as specific as possible.	Our comments and ratings are made relative to the status quo: *Objective: Effective Long-Term Price Signals -* ***Lowest*** • Provides no consumption signal that could mitigate/reduce future transmission build. • Likely to increase industrial customer interest to leave the system. *Objective: Facilitate Innovation and Flexibility –* ***Lowest*** • *Costs are largely unavoidable and therefore the incentive to innovate or respond in a flexible manner.* • System likely to lose flexibility if load is driven off the system. *Objective: Reflect Accurate Costs of Grid Connection and Services -* ***Lowest*** • Costs do not reflect consumption/usage of the system. *Objective: Explore Options with Legislation and Regulation -* ***Lower*** • Does not promote the efficient use of the transmission system. *Objectisve: Path to Change that is Effective and Minimally Disruptive –* ***Lowest*** • Negatively impacts all customers that have built processes and made investments into responding to the coincident peak signal.
(7)	How effectively do you feel **Option 3: Hybrid – Rate Reflects Cost and Benefit** meets the five Tariff Design Objectives? Please be as specific as possible.	The hybrid approach will inherit the benefits and disadvantages of the two options above. In this respect, the hybrid option is likely have a rating between the two options. For example, we rank Option 1 above Option 2, the Hybrid option should be ranked between Option 1 and Option 2.
(8)	Do you have additional clarifying questions that need to be answered to support your understanding of the Tariff Design Objectives and corresponding assessment of the three Tariff Design Options presented at the session? If yes, please be as specific as possible.	Our requests are included in the response above.

(9)	Additional comments	No comments at this time.

Thank you for your input. Please email your comments to: tariffdesign@aeso.ca.

Stakeholder Comment Matrix – March 19, 2020

Bulk and Regional Tariff Design Session 1 – March 13, 2020

Period of Comment: March 19, 2020 through April 9, 2020 **Comments From:** UCA **Date:** 2020:04:09	**Contact:** [redacted] [redacted] **Phone:** [redacted] **Email**: [redacted]

Instructions:

1. Please fill out the section above as indicated.
2. Please respond to the questions below and provide your specific comments.
3. Email your completed comment matrix to tariffdesign@aeso.ca by **April 9, 2020.**

Three Tariff Design Options presented at the session:

- Option 1: Rate reflects costs.
- Option 2: Rate reflects benefits.
- Option 3: Hybrid – Rate reflects both cost and benefit.

Five Tariff Design Guiding Objectives presented at the session:

1. Effective long-term price signals.
2. Facilitate innovation and flexibility.
3. Reflect accurate costs of grid connection and services.
4. Explore options within legislation and regulation.
5. Path to change that is effective and minimally disruptive.

The AESO is seeking comments from Stakeholders with regard to the following matters:

	Questions	Stakeholder Comments
1.	Please comment on the Engagement Session 1 webinar facilitated by the AESO on March 13, 2020. Was the session valuable? Was there something we could have done to make the session more helpful? Please advise and be as specific as possible.	The session was a valuable indication of the AESO's preliminary thoughts and direction on Bulk and Regional Tariff Design. However the materials raised a number of concerns over apparent departures from accepted Bonbright principles of rate design and the substitution of unclear and less balanced tariff objectives. The session would have been more useful if simple numerical and graphical examples of the proposed tariff structures (using simplified illustrative rather than actual system data) had been provided to help clarify the concepts and terms used, such as the novel interpretation of diversity factor, and explain how they would result in a better reflection of cost causation and the provision of efficient price signals. Overall we found presentation of the earlier findings of the TTWG to be clear while the rate design options presented were unclear and unnecessarily complicated while offering no obvious improvements in terms of reflecting cost causation, avoiding unfair cost shifts, or providing more effective price signaling to reduce costs when compared to the existing tariff or the simpler options discussed previously by the TTWG. The complexity alone of Option 1, the Hybrid Option 3 and the novel diversity concept of Option 2 would be unlikely to meet Bonbright standards in terms of customer understanding, ease of administration, avoidance of controversy or predictability. The suggestion that rate design options can be separated in terms of *only* reflecting costs (Option 1) or *only* reflecting benefits (Option 2) suggests a rejection of Bonbright's guidance that *every* rate design balance the *entire* set of principles. For instance the fixed demand charge portion of Option 2 could be said to reflect the costs of service as readily as it could be said to reflect presumed benefits. In addition, rate design options cannot be usefully described or thought of as reflecting *only* costs or *only* benefits or meeting a set of tariff design objectives independently of the overarching Bonbright principles of rate design.
2.	Please comment on the pros, cons and tradeoffs of **Option 1: Rate Reflects Costs.** Do you have additional clarifying questions that need to be	It is difficult to think of any "pro" for this rate option other than the implicit recognition that the existing 12CP cost allocation does not reflect bulk transmission cost causation or provide an effective price signal to reduce costs that are largely determined by

	answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	factors other than coincident peak loads on any provincial or regional basis. There are a number of concerns: 1. The number of regions or zones and criteria to be developed is unclear, as is the definition of inter-regional flow paths and exactly how the coincidence of a customer load with the selected flow-path will be determined or indicated to the customer. It is also unclear if this approach satisfies the venerable postage stamp rate concept. 2. Inter-regional flows (however defined) are the result of the combined effect of all generation dispatches, hourly load levels and the existing network topography.There is therefore no basis to conclude that reducing only loads in response to this complicated regional price signal would materially reduce bulk transmission costs. Many customers could be incented to reduce loads at certain times in locations where a surplus of transmission capacity exists. Load reductions in general would be unlikely to reduce constraints on a system where most constraints are the result of the inability of the transmission system to accommodate all generation dispatch possibilities and where significant pockets of surplus generation exist. Some load reductions could even increase constraints if they are situated within those surplus generation pockets. 3. Such a blanket tariff approach obscures and may prevent the more effective, flexible and simpler price signal approach of offering interruptible (opportunity) credits to targeted loads in locations that can avoid future transmission costs, and off-tariff incentives related to generation location and dispatch to relieve congestion. All of which could be achieved without violating the postage stamp concept while finding an acceptable balance of Bonbright rate design principles.
3.	Please comment on the pros, cons and tradeoffs of **Option 2: Rate Reflects Benefits**. Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	As in Option 1 no obvious “pros” come to mind other than the same implicit recognition that 12CP cost allocation does not represent bulk system cost causation or offer effective price signaling and is likely to lead to similarly perverse results. There are a number of concerns: 1. The novel intra-group diversity factor as proposed seems to bear no relationship to cost causation or efficient price signaling, both of which would be better represented by an unmodified NCP allocation.

		2. It is unclear how the homogenous “rate” groups and diversity factor adjustments would be determined or how they are related to standard principles of rate design. 3. The introduction of a variable charge of any significance is a departure from cost causation on the mostly fixed cost transmission system, and if determined on a net metered basis over time could result is significant cost shifting and cross-subsidization.
4.	Please comment on the pros, cons and tradeoffs of **Option 3: Hybrid – Rate Reflects Cost and Benefit.** Do you have additional clarifying questions that need to be answered to support your understanding? Do you feel anything was missed or would present a significant obstacle or impact with this option? If yes, please be as specific as possible.	The combination of Option 1 and Option 2 to form an Option 3 “hybrid” provides no additional “pro” and combines the above noted concerns into an uneccessarily complex package that would invite further controversy and disagreement. In addition it is not clear where the lines are drawn between the two groups of transmission costs that would be subject to each option (e.g. would this follow the existing bulk and regional definition or is some other superposition contemplated?) Despite their complexity none of the three options appear to address the primary concerns raised over the existing 12CP based tariff or offer any obvious improvement.
5.	How effectively do you feel **Option 1: Rate Reflects Costs** meets the five Tariff Design Objectives? Please be as specific as possible.	The proposed rate options cannot be usefully evaluated without reference to the well accepted and overarching rate design principles of Bonbright. Objective 1 “provide effective long term price signals” appears to be similar to the Bonbright principle of providing efficient price signals. Objective 3 “reflect accurate cost of grid connection and services” appears to be similar to the Bonbright principle of reflecting cost causation. Objective 5 “provide a path to change that is minimally disruptive” appears to be similar to the Bonbright principle of providing rate stability and predictability. Objective 4 “Explore options within legislation and regulation” is a boundary condition that applies to all acceptable rate design proposals and requires no further comment. Objective 2 “Facilitate innovation and flexibility” is an objective that has no counterpart within Bonbright. It is difficult to evaluate a specific rate design against such an unmeasurable objective. It is not clear how any specific rate design might facilitate the innovation or flexibility of customers as it seems that the process generally operates in

		reverse with rate designs responding to the technical innovation and flexibility of customers. For these reasons we have evaluated the rate options against AESO rate design objectives 1, 3 and 5 only. **Objective 1 "Effective price signals"** Option 1 does not appear to offer more effective price signals than the existing tariff. **Objective 3 "Reflect cost of service"** Option 1 does not appear to reflect transmission cost of service any better than the existing tariff. **Objective 5 "Minimally disruptive"** Option 1 has the potential to be very disruptive due to its complexity including regional differentiation and inconsistencies.
6.	How effectively do you feel **Option 2: Rate Reflects Benefits** meets the five Tariff Design Objectives? Please be as specific as possible.	**Objective 1 "Effective price signals"** To the extent that Option 2 allocates costs on an NCP basis it may provide more effective price signals than the existing tariff provided as long as this result is not negated by application of the associated diversity factor concept. **Objective 3 "Reflect cost of service"** To the extent that Option 2 allocates costs on an NCP basis it may provide more effective price signals than the existing tariff provided as long as this result is not negated by application of the associated diversity concept. **Objective 5 "Minimally disruptive"** Option 2 has the potential to be disruptive if an NCP allocator is used without a clear

		transition mechanism to smooth billing transitions.
7.	How effectively do you feel **Option 3: Hybrid – Rate Reflects Cost and Benefit** meets the five Tariff Design Objectives? Please be as specific as possible.	**Objective 1 "Effective price signals"** Evaluation of Option 3 depends on the as yet unkown details of hybridization of the preceding component options. **Objective 3 "Reflect cost of service"** Evaluation of Option 3 depends on the as yet unkown details of hybridization of the preceding component options. **Objective 5 "Minimally disruptive"** Due to its complexity and the basic nature of its components Option 3 would likely be highly disruptive.
8.	Do you have additional clarifying questions that need to be answered to support your understanding of the Tariff Design Objectives and corresponding assessment of the three Tariff Design Options presented at the session? If yes, please be as specific as possible.	It is unclear why the AESO has not considered simpler and more effective options discussed at previous TDAG and TTWG meetings such as the option suggested below.
9.	Additional comments	A simpler approach consistent with Bonbright that would address the existing tariff problems to better reflect cost causation and provide more effective price signals would be to replace the 12 CP bulk transmission cost allocator with either: a) an NCP allocator, or b) a multiple hour system CP allocator operating over a greater number of hours each month than the existing 12CP that would prevent gaming, consumer group cost shifting and uneconomic transmission bypass. Appropriate transitional arrangements could then be introduced to minimize disruption

		to existing customers and dual-use customers in particular. Energy storage developments could be encouraged through opportunity or other pilot and or off-tariff arrangements bridging the period until a review of the T.Reg may eventually allow more innovative tariff developments to provide efficient price signals for the location and dispatch of all generators, dual-use and energy storage customers. Where load reductions in specific locations could reduce future transmission costs targeted interruptible, opportunity based credits could be offered similar to previous interruptible programs.

Thank you for your input. Please email your comments to: tariffdesign@aeso.ca.