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.