

AESO Recommendation Paper Congestion Management Plan  
Stakeholder Comment Matrix  
January 25, 2008

**Effective Generation and Load**

Stakeholder	Stakeholder Response	AESO Response
<u>EPCOR</u>	<p><i>I. Process for determining “effective generation and load”</i> The AESO has indicated that its first step in managing congestion is to determine “effective generation and load” able to relieve the constraint in an area. The CM Paper does not set out in any detail what methodology will be used by the AESO to determine what constitutes “effective generation and load” in an area. EPCOR would appreciate knowing what mechanisms the AESO will use in making this determination. Hopefully this will be the subject of further consultation.</p>	<p>Appendix 3 of the CM paper contains a general description of the steps that the AESO will undertake in determining a constraint and the requirement to develop an OPP to manage the constraint. The OPP will address the issue of effective generation and load in an area. The methodology used may be based on the Transmission Operating Criteria, Part III of the reliability criteria, may vary from one OPP to another and will be discussed during the normal OPP stakeholder consultation process.</p>
<u>TransAlta</u>	<p>Without knowing how often the system is likely to be constrained, what time of day or year the constraints are likely to occur, which generation units are effective in relieving those constraints, and how much competition there will be between effective units when they are dispatched up or down to relieve constraints, we are making a decision in a vacuum.</p>	<p>The proposed CM protocol is intended to be generic and would be applied consistently in all circumstances where congestion occurs regardless of the location, size or duration of the event. The CM protocol is consistent with government policy and provides the best directional price signal to market participants in all existing congestion circumstances. The frequency and time of occurrence of constraints are difficult to predict since they are generally contingency initiated and contingencies are difficult to predict. Participants will have access to information through the OPPs which will identify the effective units along with other effective constraint management steps that will be taken for each congested area.</p>

## Transmission Access – STS and Trigger Volumes

Stakeholder	Stakeholder Response	AESO Response
<b><u>BP Canada Energy Co.</u></b>	<p>Opponents of the reverse merit order approach cannot credibly argue that its implementation would constitute an unexpected change in circumstances, or that they lack the tools necessary to compete effectively. Prior to the PPA auction, the AEUB wrote in Decision 2000-1: "Entry by competitive generators is important and should not be restricted through the TA's tariff design or terms and conditions of service." Generators -regardless of vintage- can compete for constrained transmission capacity by adjusting their price offer(s). Section 29 of the <i>Electric Utilities Act</i> goes no further than to provide "market participants wishing to exchange electric energy and ancillary services <u>a reasonable opportunity</u> to do so." (<i>emphasis added</i>) An opportunity is not synonymous with a right. Nor can suppliers claim an implied right to transmission capacity without a corresponding obligation such as the contract demands borne by demand (i.e., DTS) customers.</p>	<p>The AESO agrees that the use of RMO is consistent with the EUA in the use of relative economic merit and providing participants a reasonable opportunity to exchange electricity. The AESO believes the CM protocol is further aligned with government policy with respect to transmission rights on the system.</p>
<b><u>Current Solutions Inc.</u></b>	<p>CSI believes that all customers need to be treated fairly, in a non-discriminatory manner, regardless of their load size, or how long they have been operating. New customers and new loads should have the same standard of service and treatment as older customers and more established loads. Based on these underlying principles, at a "high level" CSI is in favour of the AESO's proposed Congestion Management Plan. That said, many details and clarifications are required before CSI can give its formal support to the AESO's proposal.</p> <p>The paper states that a RAS program may be implemented to enable a new participant to be connected to the system, where they would otherwise not be allowed to connect. A RAS trigger participant would be notified in their interconnection proposal that a scheme is required and under which conditions the customer may be triggered off the system. While the AESO desires to follow the principle that no load or generator has "transmission rights", the only time that a new participant is not to be granted equal access to the transmission system is where the participant accepts a RAS proposal from the AESO.</p>	<p>The AESO believes that the EUA and government policy dictates that all customers be treated fairly and in a non-discriminatory manner as you suggest. Stakeholders will be able to provide further comments on the detailed AESO rule and OPP changes that will arise from adopting the CM protocol and we will endeavor to respond to specific questions that would provide further clarification on the CM protocol application.</p> <p>A new participant requesting to be connected to the system may be required to participate in a RAS if, as a result of their interconnection, there is an unacceptable risk of damage to facilities on the system that cannot be managed in real time and an automatic protection scheme must be put in place. The issue is not transmission rights but rather safe, reliable operation of the system.</p> <p>It should also be pointed out that the RAS process is separate from the real time congestion management process and that a RAS participant may be restored, in favor of curtailing a participant identified in the congestion management plan even if the path in question is still constrained.</p>

<b><u>EPCOR</u></b>	<p>EPCOR believes that the AESO is a “common carrier”, in that it is required to provide system access to all market participants wishing to exchange electric energy. The general rule for common carriers is that, in the circumstance where there is insufficient capacity to serve all customers, all customers of a particular class of service, (e.g. STS) are curtailed pro rata. In EPCOR’s view, all generators who subscribe for STS service are members of a common class of customers and are required to be treated similarly and without discrimination.</p>	<p>Under the EUA the AESO has two roles, “to provide safe, reliable and economic operation” of the system and “promote a fair, efficient and openly competitive market”. The AESO agrees that all generators within a common class of customers should be treated similarly and without undue discrimination. Under the current AESO tariff, all generators are treated as interruptible customers who pay only variable costs if they put electricity on to the system regardless of their STS contracting level. The CM protocol uses RMO to manage congestion which treats all generators similarly and without discrimination in exactly the same manner as the AESO operates the energy market through a merit order. Pro rata curtailment is also an appropriate step in the CM protocol which is used if necessary.</p>
<b><u>IPPSA</u></b>	<p>Section 17(g) of the EUA requires the AESO to provide “<i>system access service on the transmission system and to prepare an ISO tariff</i>”. EUA Section 5(b) states: “<i>All persons wishing to exchange electric energy through the power pool may do so on non-discriminatory terms...</i>” In Alberta’s open access system (which is essentially a common carrier system) there is an issue of undue discrimination if system access service to the transmission system is denied or curtailed based on a participant’s offers in the energy market that are unrelated to the reasons for the curtailment.</p> <p>In the case of the CMP, a curtailment to an upstream generator is caused by inadequate transmission service, not an inadequate offer price. If the transmission service had been adequate, all upstream generators in merit would have been dispatched. The AESO proposal to use offer price to assign transmission capacity is consequently unfair and discriminatory. Therefore, the CMP’s claim that the “DOE position is consistent with the Act” may not be supportable</p>	<p>The AESO agrees that system access service to the transmission system should be provided on a non-discriminatory basis. The AESO believes that the use of price offers to allocate capacity to manage a system constraint is effectively equivalent to using price offers to reduce supply in response to lower system demand and is not unfair or discriminatory.</p>
<b><u>TransCanada</u></b>	<p>The CMP justification for the extreme position to treat new generators exactly the same as existing generators when allocating limited transmission capacity is based on elimination of <u>any</u> discrimination. The EU Act only requires elimination of <u>unjust</u> discrimination.<sup>1</sup> The EUA only requires the ISO to provide new participants who desire system access service a <u>reasonable</u> opportunity to do so. New generators should be required to give adequate notice before attaching to the transmission system and being granted equal access rights as those of existing generators.</p>	<p>The AESO agrees that the EUA prohibits unjust discrimination in the tariff and requires that all participants wishing to participate in the markets a reasonable opportunity to do so. The EUA does not distinguish between existing and new participants and the AESO believes that the CM protocol gives <u>all</u> participants’ reasonable notice and an appropriately non-discriminatory opportunity to access the system.</p>

	<p>Use of contract capacity in Demand Transmission Service and Supply Transmission Service contracts supports the notion of implicit injection and withdrawal rights. Eliminating the implied injection and withdrawal rights in these contracts can create undesirable impacts on existing loads and generators when adequate notice is not given by new entrants.</p>	<p>DTS and STS contract capacity under the AESO tariff do not bestow upon market participants injection and withdrawal rights implied or otherwise and the government policy is very specifically states that there are no transmission rights on the system. The AESO will provide notice to impacted participants during the interconnection process when a potential congestion issue may arise from a new entrant on the system. Congestion plans for specific regions are documented in OPPs. The OPP process provides for the notification of the plan, the identification of those affected and also provides the opportunity for participants to comment.</p>
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## Reverse Merit Order

Stakeholder	Stakeholder Response	AESO Response
<p><b><u>AltaGas</u></b></p>	<p>AltaGas supports the pro-rata curtailment of “upstream” generation and opposes implementation of a reverse merit order (“RMO”) approach. A pro-rata approach is fair and functional. Furthermore, it is non-discriminatory since transmission system access is not denied or curtailed based on Participant offers in the energy market, as would occur using a RMO approach. Use of pro-rata curtailment also avoids the distortion of pool price that would occur using the RMO approach. Both current and prospective market Participants would be impacted by the price impact of “upstream” generators becoming price takers in order to avoid being constrained off when congestion occurs. Clearly, use of the energy merit order to assign transmission capacity during constraints is not justified, fair or effective.</p> <p>AltaGas opposes the alternative that the offers of “downstream” generators dispatched out-of-merit determine the pool price. We recommend real-time price reconstitution using the energy merit order, allocation of a constrained down payment to dispatched down generators and acquisition of TMR services. These are more equitable and more economically efficient alternatives.</p>	<p>The AESO believes that the RMO approach is non-discriminatory in the same manner that the energy market merit order is non-discriminatory in providing access to power pool. The AESO believes that both RMO and pro rata curtailment have the same or similar impact on pool price. The AESO does recognize that there will be price impacts under any CM protocol since, in effect, in merit generation may be curtailed. However, the AESO believes that the proposed CM protocol provides the best price signal to most market participants encouraging timely rebalancing of supply and demand and supporting the return to normal system operations most effectively.</p> <p>Although RMO is the preferred methodology for curtailment over an exclusively prorata mechanism, the AESO does recognize the potential for bidding behavior changes to occur if there is a prolonged period of congestion. Under those circumstances, RMO may be ineffective and prorata is the likely practical result. Therefore, the AESO proposes to automatically revert to prorata curtailment if a congestion event is sustained for a continuous period. This period is defined to be the current settlement interval and the following two settlement intervals. By making an automatic change of methodology after a continuous period, participants would have no congestion related reason to adjust their offers and there would be no potential unfair advantage for having access to congestion-related market knowledge during the extended congestion event.</p>

**ATCO Power**

**Mechanism for setting Pool Price:** As noted above, it is our view that the Pool Price should be set at the intersection of all load and all supply. The current proposal would artificially inflate the price (in much the same way as it is currently artificially depressed). We do not support either. We urge the AESO to revisit the TMR Price Reconstitution Cap.

There are additional complications.

- Setting the Pool Price based on a TMR offer will exacerbate market power concerns.
- Relying on the TMR offer to incent (price taking) imports to provide TMR is a risky approach in that excess imports may well displace the TMR supplier's offer, creating a price collapse followed by the import retreating from the market. We believe the approach suggested above would prove to be more stable.
- Elevating the Pool Price artificially inflates the volume of excess in-merit upstream generation that has to be constrained off.
- Finally, for what it's worth, it is curious to note that this approach is directly prohibited by the Transmission Policy.

**Constraining off in-merit upstream generators:** We do not support the reverse merit order approach for the reasons noted above and instead propose DDS paid by load or failing that, non-discriminatory curtailment (pro-rata or rotating). We acknowledge that this would also be counter to the Transmission Policy.

The AESO agrees that the pool price should reflect the unconstrained market price. Congestion, by definition results in otherwise in merit energy being constrained and the potential for price distortion, however, the proposed CM protocol does create the correct directional (higher) price signal to encourage additional needed downstream supply in most congestion circumstances. Similarly, downstream load is provided with the correct incentive to reduce consumption of potentially scarce downstream supply. Upstream load may be inappropriately encouraged to reduce consumption in response to price, however, the AESO believes that the CM protocol achieves an appropriate compromise for the entire system and that it is appropriate for the price to rise since supply is essentially being removed from the market.

The intent is not to set the pool price based on TMR offers. The price will be set by dispatching the merit order and, where competition exists, the highest priced dispatched offer or bid will set the price. It is possible that lower priced imports will displace higher priced Alberta generation and this is an appropriate outcome. The AESO does not view the pool price as being artificially elevated. It is appropriate for the pool price to rise since less supply is available to the market during congestion. The Transmission Policy did propose an alternative settlement option for downstream generators (pay as bid) and price reconstitution. The AESO also notes that the Transmission Policy stipulates that real time congestion shall not alter or distort prices. The AESO believes that the proposed CM protocol will result in the least amount of price distortion and the most practical application given the known alternatives and is therefore most in line with policy intent.

Although RMO is the preferred methodology for curtailment over an exclusively prorata mechanism, the AESO does recognize the potential for bidding behavior changes to occur if there is a prolonged period of congestion. Under those circumstances, RMO may be ineffective and prorata is the likely practical result. Therefore, the AESO proposes to automatically revert to prorata curtailment if a congestion situation is sustained for a continuous period which includes the current settlement interval and the following two settlement intervals.

With respect to a DDS service, the AESO agrees that a DDS service paid for by load is counter to government policy.

<p><b><u>BP Canada Energy Co.</u></b></p>	<p>BP Canada supports the AESO's proposal to allocate constrained transmission capacity among generators according to their position in the merit order. This approach is consistent with the ADoE's Transmission Development Policy Paper, which states as its Foundation Principle: "The fundamental goal of the transmission policy is to ensure that consumers are served with reliable, reasonably priced electricity." Any protocol that dispatches higher-priced generation while lower-cost supply is available would violate this principle. Since loads bear the entire cost of transmission assets, it is only appropriate that the AESO accommodate the full output of generators with lower offer prices before making the remaining capacity available to higher priced generation. In fact, the accommodation of negative offers would create a larger field on which to compete for access to transmission before a <i>pro rata</i> curtailment of suppliers with identical offers is initiated.</p>	<p>The AESO agrees that it is government policy to allocate constrained transmission capacity among generators according to their position in the merit order (RMO). The AESO is not prepared to discuss changing the offer rules to accommodate negative offers at this time because changes to offer rules have wider implications on the current energy market design which are beyond congestion management considerations.</p>
<p><b><u>EPCOR</u></b></p>	<p>One of the duties imposed on the Independent System Operator by the EUA is <i>"to determine, according to relative economic merit, the order of dispatch of electric energy and ancillary services in Alberta . . ."</i>. This is the legislative basis for the "merit order" used by the AESO to dispatch electric energy in Alberta. The AESO dispatches energy according to an ascending "merit order" of offer prices until the intersection of supply and demand is reached, and the price point in the merit order of that offer block is used to set the Pool Price for the applicable period.</p> <p>In EPCOR's view, the EUA only contemplates the use of two potential merit orders, one for energy and one for ancillary services. It does not contemplate the use of additional merit orders to manage transmission constraints or for any other purpose. Furthermore, the use of RMO results in in-merit generators being dispatched off, and otherwise out-of -merit generators being dispatched on, contrary to the requirement to dispatch energy according to economic merit. Although the TDP did contemplate the use of RMO to dispatch down generators in congested areas, this was not enshrined in the Transmission Regulation, which merely required the AESO to <i>"make rules and establish practices respecting . . . the management of transmission constraints that may occur from time to time."</i></p>	<p>The AESO agrees that the EUA requires the AESO to determine according to economic merit, the order of dispatch of electric energy. The proposed CM protocol will, in fact, use the exact offer prices provided when constraining down and dispatching up generation. There is no requirement for additional offers to be provided or new merit orders to be created. However, after the determination of effective generation in relieving a constraint, the AESO will proceed to constrain off in merit upstream generation in the energy market merit order and dispatch on upstream generation to replace the lost supply. Both actions will be undertaken according to economic merit and will be consistent with our duties under the EUA and will also be consistent with the Transmission Regulation and DOE Transmission Policy.</p>

<p><b>IPPSA</b></p>	<p>IPPSA is concerned with the objective of the CMP which is to use the energy merit order to correct a transmission congestion issue. This runs counter to the fundamentals of our market, which is to ensure that the single clearing price energy market reflects energy supply and demand. IPPSA’s concern is consistent with our long standing objection to TMR volumes offering \$0 into the energy market</p> <p>... the Transmission Regulation AR 86/2007T states that the ISO “<i>must make rules and establish practices respecting the operation of the transmission system and the management of transmission constraints that may occur from time to time.</i>”<sup>1</sup> (underlining added). The Transmission Regulation clearly directs the AESO to address congestion by altering transmission operation and makes no reference to reverse merit order as the required mechanism to manage constraints. The AESO does not appear to be given the latitude, whether in the Transmission Regulation or otherwise, to interfere with the merit order in response to transmission constraints.</p> <p>During a constraint that lasts longer than 2 hours, upstream generators will be forced to become price takers to avoid taking the brunt of the constrained-down requirements. This will force the AESO to a pro rata curtailment process. IPPSA recommends that pro rata should be implemented right from the beginning.</p> <p>A more workable and fair alternative to RMO is pro rata. Under the current CMP, procedures must be in place to handle pro rata when upstream generator prices are the same (i.e. it is the next step in the CMP after RMO). By implementing pro rata from the beginning the administrative burden is actually less, and the concern for effectiveness must be found whether that is an initial or a later step in the process.</p> <p>IPPSA suggests the effectiveness of pro rata could be addressed by establishing minimum constrained down volumes per generator or using a rotational system. Regardless, IPPSA offers to work with the AESO to resolve any other administrative challenges that may arise. IPPSA also believes that a secondary market could develop for those generators with inflexible blocks and requests the AESO to provide for the development of this market.</p>	<p>The DOE and AESO acknowledge that the energy market design depends upon a single clearing price which reflects supply and demand on the entire system. The proposed CM plan is most compatible with the current market design and will effectively manage congestion when it occurs.</p> <p>As pointed out, the Transmission Regulation dictates that the AESO establish practices for both the operation of the system <u>and</u> the management of transmission constraints. The proposed CM protocol establishes practices to manage the constraint as per the regulation and government policy.</p> <p>The AESO recognizes that offer behavior may change if a constraint is sustained for a prolonged period. However, energy market merit order is not subject to change for the current settlement interval and the following two settlement intervals without an acceptable operating reason. The AESO believes that RMO is an appropriate curtailment methodology during that period. The AESO proposes to automatically revert to prorata curtailment if a congestion situation is sustained for a continuous period which includes the current settlement interval and the following two settlement intervals.</p> <p>The AESO will work with stakeholders to develop a pro rata procedure to be used within a RMO process and after a sustained congestion event.</p>
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<sup>1</sup> Transmission Regulation, Section 17

<p><b><u>TransCanada</u></b></p>	<p>making investment decisions. Additionally, using the Reverse Merit Order (RMO) unfairly penalizes the generator that happens to be setting the price at a time when congestion occurs.</p>	<p>The AESO disagrees and believes that it is fair that the highest priced upstream generation be constrained down first even if that unit happens to be setting pool price at the time and using RMO is consistent with DOE Transmission policy.</p>
<p><b><u>TransAlta</u></b></p>	<p>TransAlta believes the proper approach to real time congestion management is to pay dispatch down and dispatch up payments to generators. Both sets of payments should be paid on a "as bid" basis and the payments should be kept out of market and be pool price neutral (ie. pool price should be reconstituted). Both the dispatch up and dispatch down payments should be borne by the load, as they are a transmission cost.</p> <p>We are concerned about the potential for a depressing impact on pool price from a RMO approach, however if there are only a few hours of congestion a year, this may be less offensive. As the number of hours of congestion in Alberta increases, the impact on pool prices will become more marked. Accordingly, TransAlta recommends moving to a pure pro rata approach where the numbers of hours of congestion in a year reaches some maximum level, for example 200 hours. Little incremental work should be needed as the AESO's proposed CMP recognizes that infrastructure and processes will be necessary to allow a pro rata approach where generation is offered at the same price. This would i) minimize the RMO pool price impact of a "race to zero" in the north and ii) enable a more equitable split of the congestion costs among all northern generators.</p>	<p>The AESO notes that TransAlta's approach regarding payments to generators is not consistent with government policy. The Transmission Policy states that "constrained down payments will not be paid to generators" (page 8) which is consistent with their position regarding generators having no transmission rights. The TDP does recommend "pay as bid" payments paid for by load for generators dispatched up. However, the TDP is also very clear that congestion management practices should not distort pool price and the AESO believes that the proposed CM protocol has the least impact on price and gives the best price signals to the market.</p> <p>The AESO believes that RMO is an appropriate curtailment methodology despite the possibility that congestion could occur more frequently. The AESO recognizes, however, that offer behavior may change if a constraint is sustained for a prolonged period. The AESO proposes to automatically revert to prorata curtailment if a congestion situation is sustained for a continuous period which includes the current settlement interval and the following two settlement intervals.</p>

## Use of Transmission Must Run

<p><b><u>ATCO Power</u></b></p>	<p><b>Paying out-of-merit downstream generators:</b> We are not opposed to the AESO accepting generators' energy market offers on a pay-as-bid basis as one mechanism for compensating TMR suppliers. We hasten to add that we believe the AESO should generally contract to ensure that foreseen needs are reliably met.</p>	<p>The AESO believes that pay as bid mechanisms create out of market payments to specific generators which has the effect of unnecessarily distorting the price signal which is contrary to government policy. It is intended that in circumstances where congestion is chronic, where large volumes of TMR are required or where competition of supply is lacking, the AESO will contract for TMR.</p>
<p><b><u>IPPSA</u></b></p>	<p>IPPSA recommends that the AESO acquire TMR services from appropriate suppliers (i.e. downstream of the constraint) <b>and</b> acquire and pay for dispatch down services for those north of the constraint. It is important that these two activities be linked as they are both required to de-constrain the system and when added together, more accurately reflect true congestion costs. TMR suppliers can include curtailable loads, generation and imports. In locations such as southern Alberta, there are a significant number of service providers and a competitive market can be called upon. The AESO should be able to run a successful RFP to provide TMR services when required.</p>	<p>The Transmission Policy states that "constrained down payments will not be paid to generators" (page 8) which is consistent with their position regarding generators having no transmission rights. In circumstances where congestion is chronic, where large volumes of TMR are required or where competition of supply is lacking, the AESO will contract for TMR.</p>
<p><b><u>TransCanada</u></b></p>	<p>based on the sanctity of the pool price. Embedding Transmission Must Run (TMR) costs into the pool price adds one more level of complexity and uncertainty into the forward price when making investment decisions. Additionally, using the Reverse Merit Order (RMO) unfairly</p> <p>Whenever the CM protocol results in a payment to generators that far exceeds the amount that could have been paid to generators through a TMR contracting process, could be contrary to EUA Section 17(h) that requires the AESO to "direct the safe, reliable and economic operation of the interconnected electric system." (underlining added)</p>	<p>The AESO has instituted a Dispatch Down Service to mitigate the impacts of TMR on pool price.</p> <p>The AESO is aware that until planned transmission upgrades are completed, the CM protocol could result in higher pool prices when applied in some known congested areas, however, the AESO expects the impact to be short in duration and modest due to competitive market forces.</p>

## Imports and Exports

### TransCanada

During times of anticipated constraint or serious system problems, the AESO should not be waiting for a pool price signal to trigger imports and other generation to supply the area downstream of the constraint. Having these resources under contract allows the AESO to dispatch them on in a proactive manner and not put the transmission system at unnecessary risk while waiting for pool price signals to encourage desirable behaviors.

The AESO believes the price signal is the appropriate method of attracting supply to the market and encouraging fair, efficient, and openly competitive behaviors. We avoid out-of-market actions whenever possible and attempt to minimize the impact when they are necessary. This congestion management proposal is compatible with OPP 801 Supply Shortfall in that the pool price rises as undispatched and available supply diminishes and as the top of the energy market merit order is reached. Once this happens out of market actions are used as set out in OPP 801. OPP 801 has provision for acquiring imports and other supply along with various steps to mitigate supply shortfall. All transmission limits and requirements are respected to ensure the transmission system is not placed at risk, unnecessary or otherwise.

## System Planning versus Real Time Congestion Management

<p><b>Current Solutions Inc</b></p>	<p>It is the understanding of CSI that the management of the RAS scheme is separate from the management of real time congestion. Therefore, to manage congestion in a region, the AESO will not rely upon the RAS scheme but will follow the real time congestion management protocol.</p> <p>CSI seeks clarification from the AESO on the AESO's planning group's use of RAS. Is it the intent of the AESO to minimize the use of RAS and maximize the use of the real time congestion management protocol? For example, the AESO planners will only use RAS in circumstances where the real time congestion management protocol cannot be utilized. For example, RAS will be implemented when it is not possible for the system operator to respond to a specific contingency within a reasonable timeframe.</p>	<p>The AESO will not be changing its current interconnection practices as a result of the proposed CM protocol. New entrants will be required to implement a RAS if planning studies undertaken prior to interconnection indicate a need to provide automatic protection to equipment on the system. System events that occur while the AESO is managing congestion may trigger a RAS; however, the AESO will not use a RAS as a step in its CM protocol.</p>
<p><b>EPCOR</b></p>	<p>The AESO is also proposing to require new entrants into a congested area to provide RAS service. EPCOR acknowledges that it has been a long-standing practice in Alberta to require RAS schemes for short-standing circumstances when new generators come onto the system. However, these schemes are inappropriate for more than a few months, and EPCOR believes that the AESO should have in place a protocol to compensate new generating units, which are required to provide RAS services for more than a short time (i.e. one or two months) .</p> <p>The AESO states that <i>“there is no practical way of procuring this service competitively and . . . such schemes are unit specific by nature”</i>; this seems contrary to the AESO's obligation to offer system access service equally to all who request service. EPCOR believes that the requirement for new generators in congested areas to provide RAS service is likewise contrary to common carrier obligations, and suggests that incumbent generators do indeed have some transmission rights. Use of RAS to manage congestion may be appropriate provided that those providing the service are properly compensated for providing what is essentially a transmission service. The AESO should</p>	<p>The AESO will not be changing its current interconnection practices as a result of the proposed CM protocol. New entrants are assigned a RAS as the AESO has not found an effective way to competitively procure the service from existing market participants. Today's practice will continue where there is no limit to the length of time a participant can be connected to a RAS other than the removal of the need for a RAS. The AESO also notes that it does not seem appropriate to have load provide compensation to participants who are in fact the cause of the equipment safety issue on the system without there being some measurable benefit for incurring the cost.</p> <p>Participants who are connected to a RAS are allowed equal access to the system when the RAS is not activated, where, in the absence of a RAS, they would not be able to connect at all due to risk to the transmission system.</p>

	<p>attempt to contract for this service, notwithstanding their inability to successfully contract in the past. At a minimum, the AESO should be required to pay for RAS in a manner that fully compensates the market participant who provides the service, including fixed costs and lost income from participating in the energy market when the participant is directed to provide RAS.</p>	
<p><b><u>TransAlta</u></b></p>	<p>While TransAlta understands and accepts the need for a GRAS system in the planning horizon, it is important to recognize it is not a substitute for transmission development. GRAS schemes must have a clear set of criteria for which they are armed and should not be used for other purposes.</p> <p>The GRAS should only be in place until the planned in service date of the transmission line, not until the "appropriate transmission infrastructure can be provided" as suggested in the proposed CMP. If the line is not in service after the planned in service date, any time the GRAS is activated the generator should be paid dispatch down payments for the duration of the time the unit is offline, which again should be considered as transmission costs, borne by the load.</p>	<p>The AESO agrees that using RAS in the planning horizon is not a substitute for transmission development and that RAS should not be used for other purposes than intended when designed. RAS would be used to allow generation to site where they choose and participate in the market ahead of transmission being built.</p> <p>The Transmission Policy states that "constrained down payments will not be paid to generators" (page 8) which is consistent with their position regarding generators having no transmission rights. Dispatch down payments for generators impacted by a RAS is inconsistent with policy.</p>

## Constrained Down Payments

<p><b>EPCOR</b></p>	<p>Ideally, generators should bid to be dispatched down and receive payments outside of the merit order, while generators who are to be dispatched on to provide TMR service should bid on and receive payments for this service outside of the merit order. Both of these can be properly characterized as services being offered outside of the merit order, as they are being provided to supplement the inadequate transmission system that has occurred as a result in delay of building transmission. This treatment of these services is likely to have the least impact on the Pool Price. The inadequate transmission is not “abnormal operation conditions” as contemplated by the Transmission Regulation. The cost to load for these services is likely less than they would have had to pay had the necessary transmission been built in time. These services are a type of ancillary services, which the AEOS may at some point require even in the absence of contracts. The AESO may wish to develop appropriate tariff terms for these services, to be used only in emergency situations where they have been unable to contract for the service. Generators in these circumstances must be compensated appropriately for providing the service.</p>	<p>Congestion may occur for many reasons including planned maintenance or forced outages of transmission facilities or critical generation units’ in addition to inadequate transmission. The AESO believes that a single protocol to deal with congestion is appropriate. The proposed CM protocol will be generically applied in all situations of real time congestion. Furthermore, the AESO believes the protocol will result in the best price signal to market participants as it avoids unnecessary payments outside of the pool price. Load will, in effect, pay for inadequate transmission through the impact of congestion on the pool price.</p>
<p><b><u>TransAlta</u></b></p>	<p>Where generators are paid out of merit to alleviate a transmission constraint, the costs of the out of merit payments will be a transmission payment and not a form of uplift in the wholesale energy market price. These costs should be allocated in the same manner as other "wires" costs." The "pay as bid" payments will hold generators who are constrained down whole and at the same time pays them no more than they bid, reflecting the true cost of unconstrained energy. By keeping these payments out of market the integrity of the energy price signal is maintained. TransAlta recognizes that this would represent a change to the current TDP. TransAlta would offer its support to the AESO in engaging the Department of Energy to facilitate this approach.</p>	<p>The AESO believes that pay as bid mechanisms create out of market payments to specific generators which has the effect of unnecessarily distorting the price signal which is contrary to government policy. The Transmission Policy states that “constrained down payments will not be paid to generators” (page 8) which is consistent with their position regarding generators having no transmission rights. The Transmission Policy did propose an alternative settlement option for downstream generators (pay as bid) and price reconstitution. The AESO also notes that the Transmission Policy stipulates that real time congestion shall not alter or distort prices and believes that the proposed CM protocol will result in the least amount of price distortion, is the most practical application given the known alternatives and is therefore most in line with policy intent.</p>

	<p>Paying dispatch down and dispatch up payments also aligns incentives for the AESO and loads to get transmission built. It sends the proper signals regarding the price of congestion, which ultimately helps the AESO ensure the need for new transmission facilities is clearly understood.</p>	<p>Paying dispatch down payments is contrary to government policy in that it implies that generators have transmission rights. Furthermore, the proposed CM protocol sends the correct volumetric signal to generators upstream of the constraint and the correct price signal to generators downstream of the constraint.</p>
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## Pool Price Impacts

<p><b>EPCOR</b></p>	<p>There is a likelihood that there will be Pool Price distortions as a result of the use of RMO and subsequent use of TMR to dispatch up generators in uncongested areas. There are two possible scenarios. In congested areas, in order to avoid being dispatched down altogether, generators may bid zero, with a resultant downward pressure on Pool prices. Alternatively, in the absence of adequate contracted TMR, generators in the uncongested part of the system who are needed to run to balance the system, will increase their bids. While this is reflective of supply and demand in a congested system, these unconstrained bids may increase the overall Pool Price received by all generators. Neither of these scenarios is reflective of an approach which “causes the least distortion to pool price”.</p>	<p>In many cases, such as in the Rainbow area, the dispatch of TMR will be offset by the dispatch of DDS and the price signal will not change. In situations where there is not enough contracted TMR to relieve a constraint this congestion management plan relies on competition amongst suppliers to ensure the appropriate price signal and a reasonable price for electricity. Where competition does not exist in a constrained area the AESO will issue TMR directives. The AESO believes that this congestion management plan will result in the least amount of pool price distortion compared to the other options available. The AESO recognizes that offer behavior may change if there is a prolonged period of congestion. However, the energy merit order is not subject to change for the current settlement interval and the following two settlement intervals without an acceptable operating reason. The AESO believes that RMO is an appropriate curtailment methodology during that period. The AESO proposes to automatically revert to prorata curtailment if a congestion situation is sustained for a continuous period which includes the current settlement interval and the following two settlement intervals.</p>
<p><b>IPPSA</b></p>	<p>IPPSA proposes that real-time price reconstitution is a superior alternative to pricing the entire market based on an out-of-merit dispatch. The pool price should reflect the market price determined by bids and offers based on fundamentals of the energy market such as supply and demand balance, economics of generation and forecast fuel prices. It is inappropriate to layer onto energy markets financial transactions related to Ancillary Services required to maintain transmission services, within a single clearing price energy market. Additionally, pricing strategies can be expected to change during periods when constraints are more likely to occur. This will lead not only to re-pricing during contingency events lasting more than two hours but also to pricing offers in anticipation of a constraint. This will affect upstream and downstream generators and importers’ offer strategies distorting price fidelity.</p>	<p>Under the proposed CM protocol, the pool price is determined according to relative economic merit, as reflected by participant offers into the market and while the resultant pool price is not the unconstrained price, it does provide the appropriate price signals to the market and is not expected to unduly distort price. The AESO recognizes that offer behavior may change if there is a prolonged period of congestion. However, the energy merit order is not subject to change for the current settlement interval and the following two settlement intervals without an acceptable operating reason. The AESO believes that RMO is an appropriate curtailment methodology during that period. The AESO proposes to automatically revert to prorata curtailment after that period if a congestion situation is sustained.</p>

	<p>As the AESO is aware, the industry has been trying to improve the stability of the merit curve and using RMO will add to the problem. The incentives provided by spiking pool prices caused by downstream generators setting the pool price will motivate upstream generators to generate as much as pro-rata curtailment will allow.</p> <p>This price distortion will have other consequences as well. As noted, pricing during contingencies will be distorted and routine pricing practices may be influenced but both of these will feed into forward pricing and investment decisions. It could even cause counter-intuitive siting decisions that are contrary to the public interest. Adding generation downstream of a constraint would have a downward impact on pool prices during the CMP's use, while adding to the upstream supply could increase the times when congestion pricing will occur with the result being average pool price increases caused by downstream generators setting pool prices more often. As a result, generators may be motivated to add generation supply upstream of the congested path. Once transmission additions eliminate congestion these generators will be no worse off than if they sited downstream of the congestion.</p>	<p>The AESO believes that this congestion management plan will result in the least amount of pool price distortion compared to the other options available. Furthermore, the proposed CM protocol sends the correct volumetric signal to generators upstream of the constraint and the correct price signal to generators downstream of the constraint.</p>
<p><b><u>TransCanada</u></b></p>	<p>market prices.”<sup>2</sup> Additionally, TransCanada believes that dispatching generators out-of-merit contradicts the EUA Section 17(c) obligation on the AESO to “determine, according to relative economic merit, the order of dispatch of electric energy and ancillary services in Alberta.” This distortion might be permissible when the market is</p>	<p>The CM protocol uses relative economic merit to determine the dispatch down of those generators in the constrained area and it uses relative economic merit to dispatch up generators in the unconstrained area consistent with the EUA.</p>
<p><b><u>TransAlta</u></b></p>	<p>Alberta's market structure is predicated on a congestion free system that does not rely on locational signals to indicate that one area of the province is better to locate in than another. The proposed CMP would shift this fundamental predicate, as a generator on the wrong side of a congested line can be dispatched down with no compensation, sending a strong locational signal that will discourage generation in resource rich northern Alberta. Fundamental market design changes such as these should not be made lightly, nor through AESO OPPs or rules, as they contribute to an unstable investment climate in Alberta.</p>	<p>The Transmission Development Policy recognizes that a congestion free transmission system is a necessary part of the current market design. However, it also recognizes that congestion will occur and that a congestion management plan is necessary.</p> <p>The AESO believes that this congestion management plan will result in the least amount of pool price distortion compared to the other options available. The proposed CM protocol also sends the correct volumetric signal to generators upstream of the constraint and the correct price signal to generators downstream of the constraint.</p>

	<p>Dispatching down forces hedged generators into a financial short position which they will be forced to cover at the much higher prices set by southern generation. This additional risk of generation ownership would have implications for future investment as well as for the creditworthiness of existing generation.</p> <p>TransAlta also has very serious concerns around the impact of a constrained down situation on the PPA contracts.</p> <p>Pool price neutral payments for dispatch down and dispatch up payments will also result in a more efficient solution for the load than that contemplated by the AESO in its proposed CMP. A simple example illustrates this point. If there is 100 MW of generation that must be constrained down, and that generation bid \$80/MWh then the dispatch down payment to that generator would be \$8000. If the constrained up generator in the south bid in 100 MW at \$500, the cost of the dispatch up payment would be \$50,000. The total congestion cost would be \$58,000. Compare this to the AESO's proposed CMP, where the generator in the south would now set the pool price of \$500/MWh. This new price is applied to all load in the province. If we assume 8000 MW of load, the total cost to the load is <math>8000 \times (\\$500 - \\$80/\text{MWh}) = \\$3,360,000</math>. The difference in congestion costs between TransAlta's preferred method and the AESO's proposed CMP = \$3,302,000 for a single hour.</p>	<p>The AESO understands that there is risk in generator ownership and that is why we have consulted extensively over the last number of years on congestion management. It is important to everyone interested in investing in the Alberta market that the congestion management issue is resolved and is resolved in a manner that is fair, transparent and least impacts the market. The AESO believes that this proposal accomplishes these goals.</p> <p>TransAlta's concern with respect to the PPAs is not clear to the AESO.</p> <p>The Transmission Policy states that "constrained down payments will not be paid to generators" (page 8) which is consistent with their position regarding generators having no transmission rights. The AESO understands the example provided and believes that, in most circumstances, competitive forces would make it unlikely for a small change in demand to create such a large increase in price. However, in circumstances where the constraint results in a local area being unable to access wider system supply, the CM protocol will allow for the AESO to issue TMR directives to generators in the local area which would not have an impact on pool price if DDS service was available.</p>
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## Summary of Consistency with DOE Policy

<p><b>EPCOR</b></p>	<p>In the Executive Summary of the CM Paper, the AESO states, <i>“The DOE does recognize, however, that congestion may occur under abnormal operating conditions, when there is a lag between transmission build and generation development or in local load pockets”</i>. In EPCOR’s view, this statement is not supported in either the TDP or in the Transmission Regulation. The Transmission Regulation defines “abnormal operating conditions” as follows:</p> <p style="padding-left: 40px;"><i>“abnormal operating conditions” includes conditions where transmission facilities are out of service, emergency conditions exist, construction or commissioning of transmission facilities occurs or transmission facility maintenance cannot be coordinated with generating unit outages;”</i></p> <p>In EPCOR’s view, the circumstances which constitute “abnormal operating conditions” are short-term and ephemeral in nature, not the situation where there is a significant lag between transmission build and generation development. The TDP also discussed the circumstances where congestion could occur as being <i>“planned maintenance, forced outages of transmission facilities and/or some critical generation facilities”</i>. A lag between transmission build and generation development is not one of the circumstances contemplated in the TDP as constituting “abnormal operating conditions”. In addition, in a growing economy, transmission constraints are very likely to become more, rather less common, and can hardly be characterized as “abnormal”.</p>	<p>The AESO agrees with EPCOR’s definition of abnormal operating conditions and is aware that the Transmission Regulation requires the AESO to eliminate any lag between transmission development and generation build. The TDP does, however, recognize that there may be instances where congestion is caused by lack of transmission temporarily or in a local load pocket. In section 7 of the TDP conclusions the potential for TMR contracts (normally load pocket situations) is recognized. The CM protocol is intended to be applied in all transmission constraint events.</p>
<p><b>IPCAA</b></p>	<p>IPCAA supports the proposed AESO congestion management plan as being the most appropriate and fairest means of addressing congestion when it occurs. It appears to be consistent with the Transmission Development Plan and provides consumers with the fairest approach in times of constraint.</p>	<p>The AESO appreciates the support for the fairness and appropriateness of the CM protocol.</p>

<p><b><u>IPPSA</u></b></p>	<p>We are concerned with how the red/green proposal will be adapted in response to the CMP. For example,</p> <ul style="list-style-type: none"> <li>▪ Would upstream generation that is curtailed - and its volumes therefore ‘frozen’ from participating in the market within the CMP - count in the determination of residual supply?</li> </ul> <p>In order to achieve the price signal that the AESO is seeking from downstream supply, would the red/green proposal be lifted in its entirety? If it is not lifted, how could the red/green proposal be adapted?</p> <p>IPPSA recommends that any further work on the CMP be coordinated with the Minister’s forthcoming recommendations on the Section 6 report. Should the red/green proposal be adopted by the Minister, the AESO must consider how it would be adapted or amended to accommodate the goals of the CMP. This may include suspending the red/green protocol during periods of congestion. This is just an idea and we look forward to working with the AESO on understanding how the CMP and red/green may work together.</p>	<p>The AESO will work with participants to develop a red/green system that works with the proposed CM protocol.</p>
<p><b><u>TransCanada</u></b></p>	<p>regulation section 23(3)) <b>Please provide the references in the new regulation that AESO is relying on to support the direction taken with CMP.</b></p>	<p>The CM paper does contain references to sections of Alberta Regulation 174/2004 of the EUA, Transmission Regulation which was replaced partway through the preparation of the CM paper with the current Alberta Regulation 86/207 of the EUA, Transmission Regulation. The AESO believes that while certain specific words have been removed from the new regulation, the CM protocol is consistent with the new regulation and follows the intent of current government policy.</p>
<p><b><u>TransAlta</u></b></p>	<p>Dispatching down northern generators, as outlined in the AESO’s proposed CMP, results in discrimination between generators when none should exist. The Electric Utilities Act (EUA) section 5(b) states: "All persons wishing to exchange electric energy through the power pool may do so on non-discriminatory terms".</p> <p>By placing the burden of congestion on northern generators (or generators on one side of any constraint), the result is undue or arbitrary discrimination between northern and southern generators. The impact of this discrimination is particularly</p>	<p>The AESO agrees that system access service to the transmission system should be provided on a non-discriminatory basis. The AESO believes that the use of price offers to allocate capacity to manage a system constraint is effectively equivalent to using price offers to reduce supply in response to lower system demand and is not unfair, arbitrary or discriminatory. The AESO is aware that the CM protocol will not impact all market participants equally depending on many factors including portfolio positions; however, it believes the CM protocol is consistent with its mandate to operate a fair, efficient, openly competitive market and provides participants a reasonable opportunity to participate in the market.</p>

	<p>unfair where those northern generators constrained to zero MW's have no additional generation to take advantage of the higher pool prices set by constrained up generators in the south under the proposed CMP. Generators should not be required to have a portfolio of generators in congested and uncongested zones in order to be held whole. Nor should they be required to gamble that any MW's that are not constrained down are paid enough to compensate them for their MW's which are constrained off.</p>	
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