

Long Term Adequacy Metrics, Threshold and Threshold Actions
 Recommendation Paper
 Stakeholder Comment Matrix
 May 1, 2008

Introduction and Background

Stakeholder	Stakeholder Response	AESO Response
<u>ATCO</u>	1.0 Introduction ATCO Power strongly agrees with the AESO that LTA should not impact on the central functioning of the energy only market.	
	2.2 LTA as a “Bridging Mechanism” ATCO agrees that LTA should not impact on the markets ability to signal adequacy.	
<u>ENMAX</u>	2.2 LTA as a “Bridging Mechanism” ENMAX supports the concept that the market should determine the appropriate level of adequacy, over both short-term and long-term horizons.	
<u>IPCAA</u>	1.0 Introduction It is noted that the primary requirements of the LTA project are to identify a set of metrics, develop a threshold, and identify threshold actions that will be taken once the threshold is met. The LTA project is notably difficult in that the AESO must strike a balance between allowing normal business cycles to signal new generation AND ensuring that there are sufficient measurements and plans in place in the event that generation adequacy is insufficient. IPCAA notes that the measures and plans outlined in the LTA Discussion Paper are an acceptable compromise to meet these objectives subject to the comments provided below.	The AESO agrees that it needs to allow normal business cycles to signal new generation and that it also has a responsibility to direct the safe, reliable and economic operation of the system which would include having plans in place to balance system supply and demand. The AESO also believes that the LTA framework is consistent with those two objectives.
<u>TransAlta</u>	2.2 LTA as a “Bridging Mechanism” TransAlta agrees that LTA is an appropriate bridging mechanism.	

3.0 Metrics

Stakeholder	Stakeholder Response	AESO Response
<p><u>ADC</u></p>	<p>3.5 Metrics- Generation Signposts Forward markets are typically backward and not directly focused on the reserve margin and as such publishing the metric will likely lead to misinterpretation of the data.</p>	<p>As mentioned in the LTA paper, most members of the LTA workgroup did not support the publication of the Generation Signpost and Notional Peaker metrics because they were not adequacy indicators and were generation investment indicators that could be too easily misinterpreted. Comments from ATCO, BP, ENMAX and TransCanada question the appropriateness and validity of the AESO providing generation investment analysis, particularly if it involves price forecasting and project views. IPPCA and TransAlta supported publishing these two metrics and IPPCA was particularly in favor of transparency regarding the information that the AESO might use to assess an adequacy issue in the future.</p> <p>The Electric Utilities Act mandates that the AESO collect, store and disseminate information relating to the current and future electricity needs of Alberta and the capacity of the interconnected electric system to meet those needs, and make that information available to the public (EUA 17 k). The AESO believes that its mandate includes publishing information related to market conditions relevant to the incentive to invest in generation.</p> <p>The AESO believes it also has a responsibility to ensure that the information published is publicly available, verifiable and promotes an understanding of the market. Although the Generation Signpost and Notional Peaker metrics meet the criterion, the AESO, while not in total agreement, acknowledges stakeholder concerns that it is possible that the current format of the two metrics may lead to misinterpretation which could be minimized if other supplemental market information was included to make it more understandable and comprehensive. Therefore, the AESO will not publish the Generation Signpost and Notional Peaker metrics as part of the LTA metrics at this time. The AESO will continue to</p>

		monitor the market and may create a new set of generation investment metrics for publication at a future date. The AESO agrees with IPPCA that transparency regarding the information be used to assess adequacy is desirable where possible.
<u>ATCO</u>	2.6 Metrics ATCO Power has concerns about the usefulness and appropriateness of the Generation Investment Signposts and “Contribution to Cost of Notional Gas-Fired Peaking Unit” metrics.	See AESO response to ADC comments on this topic above.
	3.6 Contribution to Costs of Notional Gas Fired Peaking Unit If the AESO wants to post this information it should be on a forward basis (using forward curves) not on a historical basis.	See AESO response to ADC comments on this topic above.
<u>BP Canada</u>	As specifically requested by the AESO, BP Canada will comment on the inclusion of generation economics in the Long-Term Adequacy (LTA) Metrics recommendation paper issued February 7, 2008. BP Canada accepts neither the validity nor the relevance of the proposed metrics as a measure of future supply adequacy. Investment decisions are not made according to a narrow and arbitrary subset of economic indicators or a bureaucratic assessment of a notional (i.e., fictional) generator's financial viability. Those decisions are instead based on such diverse considerations as the individual company's hurdle rate, core competencies, existing portfolio of assets and the potential to displace other suppliers over the generator's economic life. A uniform set of assumptions extrapolated from existing market conditions simply cannot be used to replicate the dynamic decision-making processes of a commercial entity investing its shareholders' money. Nor would it be advisable to attempt to do so. Even though the AESO states that it intends to rely solely on the 2-year Probability of Supply Adequacy Shortfall test as the threshold for market intervention, the inclusion of generation economics in this context sends a disturbing message to market participants. In light of the foregoing, BP Canada believes that metrics related to generation economics should be extricated from the AESO's quarterly LTA report.	See AESO response to ADC comments on this topic above.
<u>ENMAX</u>	3.1 New Generation Status and Retirements On page 20, the AESO suggests that this metric may include discussions around regulatory or permitting processes, site availability issues, technology developments, and fuel availability. ENMAX is of the view that such discussion by the AESO is inappropriate. These topics are appropriately dealt with through the related regulatory processes. Further, the AESO's	Any additional project information which is provided should be factual and not subjective. For example, site availability information would point out whether the project has announced a location for the project and would not speculate as to whether there are suitable locations available. However, if the project sponsor has publicly commented on specific

	<p>views here would be subjective and possibly in disagreement with the views of project proponents and others. The AESO should provide factual information and allow participants to establish their own views on these issues.</p>	<p>location issues, those comments may be noted in the metric if are important to understanding the status of the project.</p>
	<p>3.2 Reserve margin ENMAX believes that a percentage of approved and announced projects should be included in reserve margin calculations, perhaps as a third reserve-margin line in the chart on page 25. Clearly, some fraction of approved and announced generation is likely to ultimately reach operational status.</p>	<p>The AESO recognizes that in a properly functioning market, some of the approved and announced projects will proceed and ensure generation adequacy into the future. The AESO does not wish to speculate on specific projects or on the likely overall level of adequacy to be provided by the market. The Reserve Margin metric is expected to serve as an indicator of how much new capacity might be needed in future years to increase the reserve margin surplus relative to historical levels.</p>
	<p>3.3 Supply Cushion ENMAX notes that the 300 MW per day average for forced outages is likely to change as old units retire and newer technologies are implemented. This item should be re-examined as part of ongoing developments to the AESO's modeling tools.</p>	<p>The AESO will regularly review the metric methodology including the forced outage rate assumption to ensure that the methodology adequately reflects the existing generation performance in the market at the time.</p>
	<p>3.4 Two Year Probability of Supply Adequacy Shortfall ENMAX believes that future versions of this metric should incorporate the potential impact of demand reduction and the curtailment of DOS load. Failing to do so results in an overstated likelihood of supply shortfall</p>	<p>Future enhancements to the 2YRPSAS metric may be considered if they enhance the understanding of adequacy and the market. The enhancements would need to be incorporated in such a way that allows participants make their own assessments on whether to include or modify the model inputs. Significant 2YRPSAS modeling changes may also require a review of the threshold level to ensure that a consistent adequacy level has been maintained.</p>
	<p>3.5 Generation Investment Signposts ENMAX agrees that the Generation Investment Signposts metric does not measure adequacy, but rather reflects market conditions. As the AESO notes on page 9, the preparation of public energy price forecasts and the creation of near-term views on specific new generation additions are inappropriate activities for the AESO. Consequently, ENMAX does not support the publication of this metric. Sufficient information on future incentives for generation development can be obtained by parties through their own analyses and from the state of future generation projects as shown in the New Generation Status and Retirements metric.</p>	<p>See AESO response to ADC comments on this topic above.</p>

	<p>3.6 Contribution to Costs of Notional Gas Fired Peaking Unit</p> <p>ENMAX notes that, like the Signposts metric, the Contribution to Costs of Notional Gas-Fired Peaking Unit metric does not measure adequacy. There is a difference, however, because the Signposts metric requires forecasts of prices and generation development costs, whereas the Contribution metric is designed to track historical trends. Provided the Contribution metric is restricted to historical information, ENMAX has no objection to its publication by the AESO.</p>	See AESO response to ADC comments on this topic above.
<u>EPCOR</u>	<p>3.5 Metrics- Generation Signposts</p> <p>3.6 Contribution to Costs of Notional Gas Fired Peaking Unit</p> <p>During the LTAWG process, EPCOR voiced reservations about the inclusion of two additional metrics by the AESO, which were the Generation Signposts and Contribution to costs of a Notional Gas-Fired Peaking Unit. The weakness of these suggested metrics is that issues can be identified that are not fully explainable from the analysis of the information, which can result in misleading conclusions being drawn from information that would appear to be endorsed by a regulatory agency. In the current regulatory framework, it is not the AESO's role or obligation to forecast generation investment economics. The "energy only" market design is a market-oriented solution that allows generators to make decisions to build new generation to meet the province's electricity needs. It is inappropriate for the AESO to include such information as key market indicators given that the AESO's information is not comprehensive enough, nor relied upon by generators, to arrive at a conclusion on an investment decision.</p>	See AESO response to ADC comments on this topic above.
<u>IPPCA</u>	<p>2.6 Metrics</p> <p>IPCAA supports the development of the metrics noted and encourages transparency of the information developed for industry use and analysis. The risk of intervention will be minimized if the market is aware of the data that the AESO and DOE will use in assessing the adequacy situation in Alberta. While the additional metrics (i.e., Generation Investment Signposts and Contribution to Costs of Notional Gas-Fired Peaking Units) are not considered part of the core metrics; IPCAA supports the development and provision of such data. The paper notes that this information is not fundamental to the adequacy threshold; however, it is noted that once the threshold is met, the AESO will still require some discretion to assess the need to take action and this data may provide that view. Since it is expected that the AESO will need to make an assessment at up to a two year forward timeline, the more information available, the better.</p>	See AESO response to ADC comments on this topic above.

<u>TransAlta</u>	2.6 Metrics All the metrics should be included as they are important indicators to the market.	See AESO response to ADC comments on this topic above.
	3.5 Generation Investment Signposts We support keeping this metric as a good indicator.	See AESO response to ADC comments on this topic above.
	3.6 Contribution to Costs of Notional Gas Fired Peaking Unit We support keeping this metric. It is an important indicator as a generator signal to build.	See AESO response to ADC comments on this topic above.
<u>TransCanada</u>	3.0 Metrics Under the Metrics heading, the AESO seeks further feedback on the usefulness and appropriateness of publishing the Generation Investment Signposts and Contribution to Costs of Notional Gas-Fired Peaking Unit metrics. TransCanada suggests that these two metrics go beyond the mandate of the AESO in that the AESO does not invest in generation and hence can not nor should not provide its views regarding investment parameters that include its forecasts of natural gas and electricity prices and cost of new entry. These are, at best, the AESO's estimate of future prices and costs of new entry and these should be left to the entities that make the actual decisions to invest. Additionally, it states at the bottom of page 9 of the Paper that the AESO is no longer considering certain metrics as these would entail modeling efforts to prepare public energy price forecasts and this was considered to be inappropriate activities for the AESO. TransCanada agrees with the AESO's observation and conclusion regarding these activities. Potential investors will probably have a different view of the investment signals and risks and should therefore be left to formulate their own views. They are also fully capable of revealing underlying trends in energy prices, electricity supply and load relative to generation supply costs.	See AESO response to ADC comments on this topic above.

4.0 Threshold

Stakeholder	Stakeholder Response	AESO Response
<u>ADC</u>	<p>4.8 Application of Threshold</p> <p>Once the threshold is breached the AESO should consider price sensitive load in considering MW levels to contract based on the potential breach, price sensitive load will help to remediate potential shortfalls as there is load in Alberta that will be off-line long before price hits \$999/MWh.</p>	<p>If the threshold is breached, a full assessment of the potential shortfall condition will be undertaken which will consider the impact of price sensitive load at that time along with other relevant adequacy factors.</p>
<u>ATCO</u>	<p>4.0 Threshold</p> <p>ATCO agrees with the AESO in using the 2YRPSAS Metric as a threshold for any mitigating action. ATCO would like to emphasize the point that the PSAS Metric should be a necessary but not sufficient condition to enact threshold actions. In other words the AESO has the option to enact threshold actions after the PSAS has been breached but not the obligation.</p> <p>ATCO would like further clarification as to how the AESO intends to update the threshold for demand growth.</p>	<p>The LTA rules will specifically state that the AESO may take action if the threshold is breached but any action taken will be based upon a further assessment of the potential shortfall condition. Under the EUA, the AESO is responsible for the reliable operation of the system and, in dealing with locational adequacy issues or unusual events, may undertake mitigating measures similar to the threshold actions before the threshold level is breached. Like the Threshold Actions, any AESO mitigative measures would be designed to minimize the impact on the market.</p> <p>The AESO will regularly review the metric methodology including the threshold level to ensure that the methodology adequately reflects the original rule intent. Threshold level revisions would proceed through the normal ISO rules process which would include stakeholder consultation.</p>
<u>ENMAX</u>	<p>4.0 Threshold</p> <p>ENMAX agrees that Total Energy Shortfall is a reasonable metric to use, though it would prefer the fully probabilistic Expected Unserved Energy metric. The latter reflects the fact that forecasts, such as load and intertie ratings, are probabilistic rather than deterministic.</p>	<p>As noted by ENMAX, the 2YRPSAS metric has some deterministic inputs that could be modeled in a probabilistic manner. The AESO has reasonably modeled what it considers to be key uncertainty elements like wind and forced outages. Future enhancements to the 2YRPSAS metric may be considered if they enhance the understanding of adequacy and the market.</p>
	<p>4.2 Understanding the 2YRPSAS model results</p> <p>ENMAX believes that it is important to incorporate additional elements, including several mentioned by the AESO (such as probabilistic load forecasts and demand response), into future versions of the metric. As such items are included; the 2YRPSAS supply shortfall metric should approach an</p>	<p>See AESO response to ENMAX on section 4.0 above.</p>

	Expected Unserved Energy metric. The latter will be useful in evaluating the costs of the threshold actions against the benefits likely to be achieved.	
	<p>4.3 Supply shortfall characteristics</p> <p>The AESO notes (p. 11) that industry studies have shown that the frequency of outages has a larger potential cost impact than the duration of each outage. ENMAX would add that unplanned outages have a much greater detrimental impact than planned ones.</p>	The AESO agrees that unplanned outages have a greater potential impact than planned outages. The 2YRPSAS metric was developed to improve our understanding of the likely of unplanned outages.
	<p>4.7 Other market comparisons</p> <p>The AESO notes that NERC itself has never had generation reliability or resource adequacy criteria, but has depended on the regional member's determination and calculation of an appropriate level of generation or resource adequacy for that region. ENMAX notes that, in Alberta's case, it would be inappropriate for any entity to establish a "standard" level of reliability. In a competitive market, reliability levels should be determined by individual market participants based on their willingness to continue to purchase energy as price rises and/or to install backup systems.</p>	The AESO recommended LTA Metrics, Threshold and Threshold Actions are intended to create a bridging mechanism in the event that adequacy becomes an issue during a two year forecast period and action has to be taken to maintain adequacy until new capacity is built or load decreases. The Threshold level is not an adequacy standard in the conventional sense and merely signals the potential need for short term mitigative action.
<u>TransAlta</u>	<p>4.1 Rationale underlying Threshold and Threshold Actions</p> <p>The two year measurement is acceptable; however the AESO should be cautious not to take action before it is needed.</p>	As suggested, the AESO will undertake further study before procuring Threshold Actions.
	<p>4.5 Recommended Threshold measure and level</p> <p>TransAlta has some concerns with the AESO recommended threshold measures and level. The AESO recommendation does not include explicit justification for 1600 MWh as the appropriate threshold. Also, it does not explain why the paper used approximately 8000 MWh as the Alberta system size when the supply for 2007 was 12,004 MWh and the peak for 2007 was 9701 MWh. Can the AESO provide justification why these numbers are appropriate?</p> <ul style="list-style-type: none"> -TransAlta would like to note the "1 in 10" rule that was used in the 1970's may have contributed to generation facilities being over built in the 80's. - Further, we ask if the AESO has consulted with the customers to make sure if the numbers are consistent with levels that customers wish to be contracting at? 	The Threshold level was chosen based upon a review of the practices in other jurisdictions, historical Alberta results in a deregulated timeframe and bearing in mind the intended use of the threshold itself. The "1 in 10" rule broadly describes the resource adequacy criterion used in many jurisdictions which allows expected outages to accumulate to roughly one day in ten years. For the 2YRPSAS model, the rule was interpreted to mean one hour for the entire system every ten years which is equivalent to one hour for one-tenth of the system every year. The Alberta system size was assumed to be 8000 MW, hence the Threshold level became 1600 MWh (8000MW / 10 years * 2 model years). The Alberta system size assumption was based upon the Alberta average AIL load which was 7952 MW in 2007 and allowed for some load growth in the near term. The AESO recognizes that the Threshold level may be based on a conservative adequacy criterion. The Threshold level is primarily an advance warning of a potential adequacy issue and the Threshold Actions are intended to be

		<p>bridging mechanisms until the market responds. The AESO also notes that the Threshold Actions will need to be designed and procured within the two year time frame so a more conservative Threshold level will provide a little more advance notice.</p> <p>All stakeholders including load representatives have had the opportunity to participate in the LTA Committee and the LTA Workgroup. Further consultation will take place through the normal rules process and again when the Threshold Action contracts are being designed and procured.</p>
	<p>4.8 Application of the Threshold The AESO should only monitor the situation for the identified problem period.</p>	<p>The AESO believes it has an obligation to monitor adequacy on an ongoing basis for the entire two year forecast period, not just the identified problem period. AESO action would however be focused only on the problem periods identified where reasonable, practical and cost effective.</p>

5.0 Threshold Actions

Stakeholder	Stakeholder Response	AESO Response
<u>ADC</u>	<p>5.2 Load Shed Service As this is a program that load will pay for priority should be given for contracts to be given to load to respond to shortfalls</p>	<p>The AESO intends to procure the Threshold Actions on a competitive basis. If load and generation were to offer the service on comparable terms and conditions including price, the AESO would consider giving load priority, however, the AESO would likely seek additional stakeholder feedback on the issue at the time that the Threshold Action contract were being designed.</p>
	<p>5.3 Self-Supply and Back-up Generation The AESO should consider keeping costs variable as much as possible, avoiding fixed payments</p>	<p>Threshold Actions will be procured on a competitive basis and costs will be a significant consideration in the procurement process.</p>
<u>ATCO</u>	<p>5.1 Threshold Action Criterion and Recommendations Impact on pool price should be minimized when these actions are taken. Pool price should be reconstituted if impacted as a result of LTA actions.</p>	<p>The Threshold Actions would be procured and utilized in a manner that would minimize the impact on pool price. Pool price reconstitution is not expected to be required when using the threshold actions. Any out of market action that the AESO needs to use will be designed with the intention of minimizing the impact on pool price.</p>
	<p>5.6 Recovery of Threshold Action costs Agreed: this service is designed to avoid involuntary load curtailment and should therefore be paid for by the beneficiaries.</p>	<p>The AESO will establish a methodology and institute a charge to load that will be directed to the pool participants who consume energy during higher priced hours as they are the ones who benefit from the Threshold Actions being in place.</p>
<u>ENMAX</u>	<p>5.1 Threshold Action Criterion and Recommendations ENMAX strongly supports the notion that threshold actions have a cost that should be recovered from load. This principle applies regardless of the time horizon over which the AESO carries out actions intended to maintain reliability to loads, and therefore should apply to LTA threshold actions, reliability unit commitment, and the movement of generators' outages by the AESO under rules developed in response to s. 18 of the Transmission Regulation. ENMAX notes that the costs of any threshold actions taken must always be weighed against the benefits that would be achieved by taking those actions.</p>	<p>The AESO Threshold Actions are intended to be used to avoid involuntary load curtailment which would mean that there is no energy supply available in the energy market merit order. Load that is still consuming at that time is the direct beneficiary of the service and should therefore pay for the service. The AESO agrees that the costs of any actions should be weighed against the benefits from such action.</p> <p>The AESO and the LTA Committee agreed that the price cap discussion was beyond the scope of the LTA initiative and may be pursued as part of a broader market design</p>

	<p>ENMAX agrees that threshold actions “should have a minimal impact on the market when they are procured and when they are dispatched,” and that the cost on a \$/MWh basis could be significant (i.e., well above \$1000/MWh). These points support the notion that a longer-term goal of the AESO should be to raise the price cap sufficiently to allow supply and demand to intersect without the need for AESO-driven threshold actions and to allow load customers to establish their own trade-offs between reliability and cost.</p>	<p>discussion in the future.</p>
	<p>5.2 Load Shed Service ENMAX supports the notion that LSS should allow the price to reach the cap when there is insufficient supply. High prices should also accompany insufficient supply evidenced by the AESO’s intervening in the market through outage rescheduling and/or reliability unit commitment.</p>	<p>The AESO Threshold Actions are intended to be used to avoid involuntary load curtailment which would mean that there is no energy supply available in the energy market merit order and prices will be at the price cap. However, there are many factors that may influence the AESO’s use of the contracts and the resultant market impact. Relevant factors include the load forecast error and the terms and conditions of the contracts which are not known at this time and may include some form of notice to make the threshold actions available in a timely fashion or a minimum run time or other such restriction to the service. Given such practical restrictions, the AESO will design the Threshold Action contracts and implementation procedures with the intention of minimizing the impact on pool price.</p>
	<p>5.3 Self-Supply and Back-up Generation ENMAX agrees that invoking the Backup Generation service should allow the price to go to the price cap. Again, it is economically rational to have high prices when the usual (market-provided) supply is insufficient to meet load. Loads who do not curtail under supply shortfall conditions are clearly signaling their willingness to pay more than \$1000/MWh for electricity.</p>	<p>See AESO response to ENMAX on section 5.2 above.</p>
	<p>5.4 Emergency Portable Generation The AESO notes that providers of emergency portable generation would be expected to comply with the normal interconnection application process. Given the “emergency” nature of the generation, would such units jump to the front of the queue? It is not clear to ENMAX how the AESO is expecting such generation to receive payment. The AESO states that portable generators’ transportation costs would only be recoverable through their offers, but goes on to state that such generators will be ineligible to participate in the energy market and that they would be restricted from entering the energy market for some</p>	<p>Threshold Actions will be procured on a competitive basis. The AESO would examine any impediments to providing any of the Threshold Actions at the time and determine what can be reasonably done to increase participation in the procurement process. An interconnection application may be needed and given the short term nature of the shortfall concern, reasonable measures to move the application forward may be considered at the time. Threshold Actions contracts may include a fixed payment, a variable payment or both, but, in any case will be procured</p>

	<p>period of time following their exit from this program. The AESO also states that the costs of portable generation will only be incurred during times of supply shortfall, which implies that there are no fixed payments under a portable generation contract. Further clarification of the AESO's views on compensation for portable generation would be appreciated.</p>	<p>through a competitive process for the term required. If the Threshold Actions are used, the AESO will make payments based upon the MW's supplied or not consumed over the dispatch period according to the contract terms.</p> <p>Emergency portable generation, like all potential Threshold Action suppliers, must design their contract offers to provide for all costs of providing the service including any transportation costs to move a generator to Alberta. Threshold Action contract offers will be compared to determine the most cost effective and competitively structured offers which may be accepted. However, if an Emergency Portable Generation contract includes a fixed payment component and is accepted that generation unit may be subject to additional restrictions. The restrictions are intended to eliminate any unfair advantage that the fixed payments would provide compared to other potential new generation considering building in Alberta.</p>
	<p>5.6 Recovery of Threshold Action Costs As noted above, ENMAX supports the notion that the costs of the threshold actions should be recovered from loads. Those costs should be recovered specifically from loads who continued to consume electricity during the shortfall periods. Therefore, an all-hours uplift on pool price would not be appropriate.</p>	<p>The AESO will establish a methodology and institute a charge to load that will be directed to the pool participants who consume energy during higher priced hours as they are the ones who benefit from the Threshold Actions being in place.</p>
<u>EPCOR</u>	<p>5.0 Threshold Actions Three proposed threshold actions were identified as appropriate "out-of-market" actions: Load Shed Service, Self Supply and Back-up Generation, and Emergency Portable Generation. These actions would be called upon when all supply to the market is exhausted and the price cap has been reached.</p>	<p>The AESO agrees that the Threshold Actions are intended to be used to avoid involuntary load curtailment which would mean that there is no energy supply available in the energy market merit order and prices will be at or near the price cap. The AESO will design the Threshold Action contracts and implementation procedures with the intention of minimizing the impact on pool price.</p>
<u>IPPCA</u>	<p>5.0 Threshold Actions Regarding threshold actions, IPCCAA agrees that care should be taken to prevent unnecessary intervention from being taken. However, IPCCAA is equally concerned about the "reluctance to act" in the face of pressing issues and encourages the AESO to take steps to clarify when the AESO will take action, not just when the AESO "may" take action.</p>	<p>The AESO agrees with IPCCAA that it does not want to intervene in the market and at the same time, acknowledges that it must have plans in place to balance system supply and demand. The AESO will be proactive in its efforts to avoid involuntary curtailments on the system and will continue to work with participants on solutions to adequacy issues. The LTA Threshold Action contracts are seen to be effective tools</p>

<p>Finally, IPCAA requires further consideration as to the process for the implementation of threshold actions both in the advance contracting timeline and also in the delivery timeline. IPCAA notes that it is intended that once the AESO initiates negotiation to contract for a threshold action that loads will be expected to pay for these services given that they contribute to additional capacity and therefore adequacy measures. IPCAA also recognizes that the market may well respond to market signals during this advanced timeline thereby making the out of market adequacy contracts redundant. IPCAA would therefore like to discuss the timing and terms for the contracting of thresholds actions (i.e., backup generation or load shed service). From a commercial perspective, since it is expected that these adequacy contracts may be low utilization requirements, it is important that the AESO be diligent in negotiating terms that minimize the costs. Additionally, as part of these commercial terms, consideration should be given to the opportunity for the adequacy contract megawatts to participate in the energy market under certain circumstances. While IPCAA is not advocating for unnecessary intervention, the market needs to establish at what point these prepaid megawatts would be offered directly into the market instead of left as out of market protection as part of OPP 801.</p> <p>The AESO should consider time stamping the effective date for adequacy contracts so that it is clear to industry when they may be used for energy megawatts. Should the market be at the forecast period that was envisioned to be tight as noted by the trigger analysis and as time stamped by the contract, the adequacy contract megawatts should be available as energy. Since loads are required to prepay the threshold megawatts, a discussion is required to resolve the appropriate use for any secured “adequacy megawatts” noting that there is balance between dispatching the megawatts prematurely without allowing the market to respond and never dispatching the megawatts.</p> <p>As a proposal, IPCAA suggests that all megawatts from the threshold actions will be offered at the cap or used as part of OPP 801 as contemplated during the transition timeline between forecast event and trigger action. At the time the “event” occurs defined as the forecast period when LTA required an action, if new megawatts have not been added to the system and the contracted megawatts are required, IPCAA suggests that AESO consider this a “force majeure” or “market suspension” event and declare that procured megawatts be offered to the market. The intent is that prepaid threshold megawatts should never be required as the market will respond; however, the AESO needs to establish the trigger for when the market has</p>	<p>to use in avoiding involuntary load curtailments and the AESO will seek to procure them on a timely basis.</p> <p>The AESO will design and procure the Threshold Actions using established procurement procedures. The AESO expects to finalize the contract terms and conditions after the Threshold is breached and further analysis have been undertaken to determine the cause and extent of the adequacy issue. The AESO understands IPPCA’s concerns regarding the prepayment for and use of the Threshold megawatts and believes that most of the issues raised will need to be addressed in detail when the contracts are being designed.</p> <p>In principal, the AESO agrees that the costs of the Threshold Actions should be weighed against the benefits derived. Regarding time stamping the adequacy contracts, the AESO intends to procure the contracts for the term that the adequacy issue is forecast to exist which is expected to be less than two years and they will be used during that term in a manner that minimizes the market impact. After the contract expires, the contract megawatts would be free to participate in the energy market (except for the Emergency Portable Generation megawatts which may have a time restriction). If a second round of contracting is needed for a prolonged adequacy issue or a different adequacy issue in subsequent years, the megawatt owners would need to make a decision to participate in the contracting process or in the energy market directly. The AESO notes that the Threshold Actions are deemed to be a bridging mechanism which allows for new generation to build providing adequacy beyond the two year time horizon. Adequacy issues which last longer than two to three years will need to be addressed outside of the current LTA framework.</p>
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	<p>failed to respond as expected. Alternatively, the market may continuously be left in an “adequacy short” position for any number of reasons while available contracted capacity could be dispatched.</p> <p>IPCAA welcomes further discussion on these items recognizing that the terms of the contracts and their dispatch are critical to the success of the LTA project and the market itself.</p>	
<u>TransAlta</u>	<p>5.2 Load Shed Service TransAlta supports LSS as a potential threshold action as long as it is implemented in such a way that it does not impact the energy only market. Contracts should specify that threshold actions occur when OPP 801 is in effect for a certain duration and only implemented to avoid an actual, real time involuntary curtailment of load and should not affect other prices. TransAlta would like to stress that minimizing market impact should be a higher priority than minimizing cost.</p>	<p>The AESO will use contracted LTA threshold actions as part of ISO OPP's to avoid involuntary curtailments. While OPP 801 Supply Shortfall currently deals with involuntary load curtailment, the AESO may, in the future, need to have a specific OPP created for LTA purposes or may redesign OPP 801 in some fashion such that it was deemed appropriate not to specifically refer to OPP 801 in the LTA rules. The LTA threshold actions are "out of market" actions and the AESO is committed to minimizing the market price impact of all such actions that it takes and would procure the threshold actions under terms and conditions that will minimize market impacts to the extent practically achievable. The AESO must balance considerations of program costs and market impact in the public interest.</p>
	<p>5.3 Self-Supply and Back-up Generation See comment 5.2</p>	<p>See AESO response to TransAlta on section 5.2 above.</p>
	<p>5.4 Emergency Portable Generation See comment 5.2</p>	<p>See AESO response to TransAlta on section 5.2 above.</p>
<u>TransCanada</u>	<p>5.0 Threshold Actions Under the Threshold Actions section on page 5 of the report, the AESO indicates that these actions “will have minimal market impact in that they will allow the price to go to the price cap before being called upon.” TransCanada questions how these actions can be called upon up to two years out when the “price going to the price cap” typically occurs in real time. Please confirm that it is the AESO’s intent that even though these “actions” may have been procured in response to LTA concerns, they will not be “called upon” in the real time market until prices are at the cap?</p>	<p>If the 2YRPSAS metric indicates that over a future two year period the likelihood of a shortfall exceeds the Threshold, the AESO may procure Threshold Actions which could be used in real time during that future two year period. The AESO agrees that the Threshold Actions are intended to be used to avoid involuntary load curtailment which would mean that there is no energy supply available in the energy market merit order and prices will be at the price cap.</p>
	<p>5.6 Recovery of Threshold Action Costs TransCanada questions why the costs of the Threshold Action(s) would be recovered through a charge allocated to hourly load through the Power Pool</p>	<p>The AESO will establish a methodology and institute a charge to load that will be primarily directed to the pool participants who consume energy during higher priced hours as they are</p>

	rather than through the AESO's tariff for Ancillary Services. (Page 18 of the report)	the ones who benefit from the Threshold Actions being in place. The intent would be to not charge load that voluntarily reduced consumption at the time the service was required. The AESO will determine at that time the most efficient and practical way of allocating the charge to load given the intent.
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Other

Stakeholder	Stakeholder Response	AESO Response
<u>ADC</u>	Additional comments The AESO should also consider public awareness campaigns to conserve energy if they see the potential for a shortfall.	The AESO has a duty to inform the public of a potential involuntary load curtailment situation and may appeal for public cooperation to conserve energy during such times. Public awareness campaigns to conserve energy maybe considered prior to a potential shortfall if it were deemed beneficial to the system operation.
<u>ENMAX</u>	6.0 Congruence with Government Policy ENMAX agrees that the AESO's approach to LTA is consistent with government policy. Given that the allocation of costs under LTA is not consistent with the AESO's proposed allocation of costs under shorter-term actions like reliability unit commitment and outage rescheduling, however, ENMAX believes the latter proposals are not consistent with government policy.	The AESO agrees with ENMAX that the LTA approach is consistent with government policy. The AESO would note that reliability unit commitment and outage scheduling serve different purposes and are subject to different specific rules, policies and cost allocation principals.
<u>TransAlta</u>	Additional Comments -Use of high/Medium and Low forecasts should be applied to all metrics. In order to provide a clear picture to participants in the Alberta Electrical Market and to politicians the metrics that the AESO is developing and publishing require high, medium and low forecasts. Without the high and low cases it will be more difficult for those looking at the metrics to put them into context. -Outage Disclosure-use of public outage information. TransAlta supports the approach of providing information on outages further out in time but does not support providing information outages at the specific plant level. We would support continuation of the use of current outage metrics concerning Long Term Adequacy.	At present, the AESO publishes only one long term load forecast and that forecast is used in all the metrics. The metrics are intended to provide information to the public and market participants are encouraged to use their own judgment in analyzing the assumptions and interpreting the results. The AESO is open to suggestions on how to improve the LTA metrics over time and may establish other metrics if deemed appropriate for the assessment of LTA in Alberta. The AESO will not publish confidential generation outage information except in aggregate form in the LTA metrics.
	Additional Comments Considering the substantial effort by LTA Workgroup, TransCanada suggests utilizing the appropriate recommendations for the Reliability Unit Contingency process currently being evaluated by the AESO and stakeholders.	The Section 18 rules related to Reliability Unit Commitment have gone through the ISO rules consultation process and have been submitted to the AUC for approval.