

## Appendix A

### AESO Consultation Summary on Operating Reserve Market Redesign Concepts - for Discussion Stakeholder Comment Matrix and AESO Response

| Stakeholder               | Stakeholder Comments from September 2008   | AESO Response  |
|---------------------------|--|--|
| <b><u>TransCanada</u></b> | Our comments on “all aspects”, and our answer to the 3 questions is the same. Choose the solution that creates the greatest amount of competition possible and minimizes the potential for market failures.  | The AESO’s OR recommendations seek to ensure the OR market operates with a high level of participation and competition as well as using reasonable efforts to exhaust in-market mechanisms for procuring OR prior to relying on out of market means. |
|                           | TransCanada believes the demand for control services from the existing fleet is likely to increase in the future as intermittent supply becomes a larger proportion of the energy supply mix and that OR market success is therefore predicated on OR market participation being attractive. Simply, we need as much OR supply as possible competing to provide service or a shortfall in supply becomes more likely to cause market failures and interventions. | See response above.  |
|                           | TransCanada believes a clearing market for all products is superior to the proposal. A clearing market adds no complexity to markets and increases competition. In our opinion a clearing market versus pay as offer market isn’t a product specific decision and the time for policy debate on the two market mechanisms has long since past. The order of activation for Standby products can still be based on  | See section 3.2.3 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.   |

|                    |  |   |
|--------------------|--|---|
|                    | the offer while using the clearing price to establish the premium paid to all suppliers.   |   |
|                    | We believe OR penalties/non-performance consequences must be decided within the context of the OR redesign project. That is not to say there will not be some circumstances that result in AUC Rule 019 (Specified Penalty) being applied but further thought/discussion is required to determine if it is the most appropriate response to issues in the OR market. | See section 3.9.1 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.  |
|                    | If the market for Active Profile precedes the market for Standby then Standby offers should be selected in what amounts to an hourly market (offers are for all hours at a single price but the market logic excludes those hours already marked as Active (which will be the Profile hours) and selects the next lowest offer that is still valid for those hours   | The AESO is unclear on the comment. Active OR products will be procured in advance of Standby OR and the AESO recommends introducing two new products to NGX; one active and one standby. See sections 3.2.1 and 3.3.2 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009. |
|                    | If Standby is sold before Active Profile then allow the market to Activate Standby if necessary to fill Profile volumes and then to select additional Standby offers after both markets are closed   | See sections 3.2.1 and 3.3.2 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.   |
|                    | Please provide an explanation on the following excerpt from the table found in the summary:<br>Active non profile requirements cleared at marginal pricing for active  | Active non profile is equivalent to active baseload on and off peak in the AESO’s Recommendation paper. See section 3.2.3.1 for pricing on active baseload on and off peak of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.   |
| <b><u>ATCO</u></b> | Required reserve volumes fluctuate hourly. The value of reserves should reflect the supply and demand balance. ATCO Power therefore believes the market should be  | See section 3.2.2 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.  |

|  |  |  |
|--|--|--|
|  | transacted hourly as this design would compliment the energy market, offer simplicity and price fidelity   |  |
|  | The current product structure the AESO is advancing reduces the flexibility available to suppliers. ATCO Power would like to urge the AESO to only implement restrictions that are absolutely necessary since decreased flexibility will result in reduced market efficiency and a less robust market  | The AESO assumes that the “decreased” flexibility refers to the continued use of on and off peak products instead of hourly products. See section 3.2.2 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009. |
|  | ATCO Power believes it to be most efficient to transact hourly. In an hourly market, sellers are more likely to submit offers for all hours of the day as they gain the ability to manage their operational constraints, price reserves appropriately and properly manage their risk exposure. Although an hourly market may seem complex, it can be designed to be easy to participate in | See section 3.2.2 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.   |
|  | ATCO Power is pleased with the AESO’s decision to continue to procure both standby and active products   | See section 3.2.1 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.   |
|  | When deciding on a potential price cap the AESO must be careful that suppliers are still encouraged to offer into the OR market during periods when the energy market is attractive  | See section 3.2.4 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.   |
|  | ATCO Power is pleased with the direction the AESO has taken to remove itself as an active participant. As part of this, ATCO Power would like the AESO to set out a transparent methodology for volume calculation for each operating reserve product.   | See section 3.1.2, 3.1.3 and 3.5.2 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.  |
|  | Activation based on a low premium discourages suppliers that don’t value the activation to put in their lowest offer resulting in a less efficient market. ATCO Power would encourage the AESO to explore alternative solutions with the working group.  | Suppliers will be permitted to submit premiums as high as \$999.99/MWh. See section 3.2.3.3 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.   |

|                     |   |   |
|---------------------|---|---|
|                     | The current compliance regime appeals to ATCO Power as it is efficient and well designed. ATCO Power would appreciate further clarification as to why the AESO is advancing a regime similar to AUC Rule 019.   | See sections 3.8.1 and 3.9.1 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.   |
|                     | By transacting active volumes hourly, only one active session per product is required. To offer simplicity, NGX could design an option to allow for identical offers over extended periods.<br>All products open at 9:00am<br><u>Product Market Close</u><br>Active Regulating 9:30<br>Active Spinning 10:00<br>Active Supplemental 10:30<br>Standby Regulating 11:00<br>Standby Spinning 11:30<br>Standby Supplemental 12:00                         | See section 3.2.2 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.  |
|                     | A standby provider sells an option to provide active reserves in the event of a forecasting error or an unexpected loss of an active provider. Using standby providers to backstop the active market in the event all active reserve requirements could not be secured goes beyond the product sold and would be just a different form of conscription. ATCO Power’s preference would be to not activate standby providers under these circumstances. | AESO is unsure what is meant by “just a different form of conscription”. See section 3.3.2 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009. |
|                     | ATCO Power believes the movement towards an hourly market eliminates the need for prioritizing non-standard offers and simplifies the OR market. All that is required is an option to mark blocks as flexible or inflexible. This feature allows the opportunity of a stable dispatch and mirrors the energy market.  | See section 3.2.2 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.  |
| <b><u>ENMAX</u></b> | The AESO appears to be taking a two-phased approach to market changes, in which incremental OR market changes will be made and evaluated before committing to any Phase II  | See section 2.0 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.  |

|  |  |   |
|--|--|---|
|  | work. ENMAX supports this approach.  |   |
|  | <p>The words “competitive” or “competition” appear in Sections 5(b), 5(c), 5(d), and 5(e) of the <i>Electric Utilities Act</i>. Section 16 of the Act states that the AESO must carry out its duties in a manner that supports an “openly competitive” market for electricity. Thus, in ENMAX’s view, it is not open to the AESO to conscript operating reserves (“OR”) in advance of exhausting <u>all</u> competitive options for meeting its requirements. The only exception would be a case in which the interconnected electric system is in imminent danger and the competitive market is incapable of meeting the AESO’s needs over the at-risk timeframe.</p> <p>For conscription to be an option in the first place, the resources that the AESO needs must be available from one or more suppliers. Except in unusual circumstances, those resources must therefore be available through the competitive market. The use of conscription therefore implies either that the rules are preventing suppliers from entering the market or that the price the AESO is willing to pay is below what the seller considers fair. In the first case, the market rules must be examined. The second case should not occur since the AESO has no mandate under the Act to manage price by refusing to pay any legitimately offered price (subject to market price caps and rules prohibiting market power abuse). If conscription is ever used, the MSA should be notified and a review of the circumstances should be carried out</p> | See section 3.2.1 and 3.7 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.  |
|  | On the subject of price caps, ENMAX provides two charts on the next page. The first shows the current value of what was (in 1996) \$1000/MWh, as computed based on changes in CPI and the prices of gasoline, oil, natural gas, and Calgary housing. The second shows the highest allowed market heat rate as a function of time. The erosion in the real value of energy (and therefore operating reserves) sold at the price   | See section 3.2.4 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009. In addition a Market Advisory sub-committee has been set up to review the current pool price cap and what effects, if any, it may have on the markets. |

|  |   |  |
|--|---|--|
|  | <p>cap is obvious. A continually declining price cap is a deterrent to market entry and increases the likelihood of conscription, and is potentially a wealth transfer (at the ultimate expense of system reliability) from generators to loads. The AESO must give serious consideration to restoring the energy and OR price cap to reasonable levels.</p>  |  |
|  | <p>If sellers are unable or unwilling to satisfy established “selling logic” or to sell volumes in all hours that the AESO requires base-load, on-peak, and off-peak volumes, the first step should be to examine the rules to find out why sellers with the capability to meet the AESO’s OR requirements are unable or unwilling to enter the market. Adding new NGX products or broadening the definitions of existing ones is likely to be a better option than making extensive use of “non-standard” offers, because the latter is at odds with the goal to “create [a] single framework for transactions (no OTC).” Assuming the AESO has expended reasonable efforts to accommodate potential suppliers, those still unable to comply should generally be abandoned. If it becomes critical for system security to accept non-standard offers, they should be prioritized based on the <i>expected value</i> of their respective procurement costs.</p> | <p>See section 3.2.1 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.</p>                          |
|  | <p>ENMAX supports generally supports the proposed design, including morning trading, single-platform procurement, the elimination of OTC, the possible development of self-procurement, encouraging smaller players, third-party asset substitution, and the submission of volumes only by the AESO.</p>  | <p>See sections 3.3.2, 3.1.1, 3.1.2 and 3.1.3 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.</p> |
|  | <p>However, ENMAX is concerned about single-day trading, which could lead to suppliers “squeezing” the AESO. (Note that single-day trading was considered during the original market design phase and was rejected for that reason.) Removing price from the AESO’s bids may make the potential squeeze worse because there is one less variable in the</p>   | <p>See section 3.1.3 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.</p>                          |

|                     |   |   |
|---------------------|---|---|
|                     | AESO's bid behaviour. Our comments on conscription were provided above.   |   |
|                     | ENMAX generally supports the proposed design. We note, however, that the "selling logic" is yet not well defined, and that there may be an opportunity to make profile products look more like block products—possibly improving product uniformity and increasing competition—by using flexible blocks and/or by splitting base, on-peak, and off-peak blocks into a series of shorter-duration, flexible-MW blocks.   | See section 3.3.1 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.  |
|                     | ...we agree that the standby products should be priced as call options with fixed premiums and activation prices indexed to pool prices, and that standby suppliers should be paid as offered, reflecting differing activation probabilities.   | See sections 3.2.3.3 and 3.2.3.4 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.                                   |
|                     | ENMAX supports volume-only bidding by the AESO, since it is consistent with the AESO not having a price-management mandate. Subject to our earlier caution about squeezes. With respect to single-day-ahead procurement, we reiterate our earlier caution about squeezes and note that the existing 5-clearing-day alternative gives the AESO the option to operate in single-day mode should it so chose, while maintaining the flexibility to alter its trading pattern should that become necessary. | See section 3.1.2 and 3.1.3 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.  |
|                     | ENMAX supports dispatch using a premium-based merit order provided all dispatched suppliers receive the same price. (In such a case, the only difference in the expected values of the standby costs arises from differences in the non-standard offers are replaced with standard offers.)   | See section 3.2.3.3 and 3.2.3.4 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.                                    |
|                     | ENMAX supports the use of a single definition of <i>force majeure</i> . We note that the threat of specified penalties being levied on entities that cannot control the actions of plant operators may limit the participation of some OR suppliers.  | See section 3.8.2 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.  |
| <b><u>EPCOR</u></b> | ..... EPCOR expressed concerns about a number of issues; at the foundation is a desire to end up with a market that is highly successful by attracting a sufficient number of players   | The AESO's OR recommendations seek to ensure the OR market operates with a high level of participation and competition as well as using reasonable efforts to |

|  |   |   |
|--|---|---|
|  | <p>with the right products..... The market should avoid the potential outcomes of frequent AESO directives.....or a decision that the market has failed.....</p>  | <p>exhaust in-market mechanisms for procuring OR prior to relying on out of market means.</p>                       |
|  | <p>..... there is likely to be a greater requirement for operating reserves to support the increasing amount of intermittent sources of generation, such as wind. We are hopeful that the redesigned market will provide the appropriate compensation to reflect the higher value of operating reserves.</p>  | <p>See section 4.0 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.</p>   |
|  | <p>We fully support the AESO decision not to impose a must offer requirement on the Operating Reserves market.</p>  | <p>See section 3.4.1 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.</p> |
|  | <p>As you will recall from the consultation, EPCOR is concerned about the use of an ISO Rule to govern the OR market rather than the use of contractual provision..... We prefer that obligations between the ISO and its counterparties are spelled out through bi-lateral arrangements.....rather than through ISO Rules which would be enforced by the MSA and AUC. It appears that the ISO is contemplating some sort of hybrid arrangement between ISO rules and private contract. We do not have sufficient detail about the nature of the arrangement. We will provide further comments once we have greater clarity the hybrid arrangement.</p> | <p>See section 3.9.1 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.</p> |
|  | <p>EPCOR understands that a primary objective of a redesign is to prevent barriers to entry in the form of needless complexity and time commitment. EPCOR proposes that the AESO adopt the</p>  | <p>See section 3.3.2 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.</p> |

|  |   |   |
|--|---|---|
|  | <p>procurement sequence below for market closes on NGX whereby D-1 is the only product (Fridays and prior to long weekends, more time should be provided):</p> <p><b>Active</b></p> <ul style="list-style-type: none"> <li>On/Off Peak Reg - 9:10</li> <li>On/Off Peak Spin - 9:15</li> <li>On/Off Peak Sup - 9:20</li> <li>Shaped Reg - 9:30</li> <li>Shaped Spin - 9:35</li> <li>Shaped Sup - 9:40</li> </ul> <p><b>Standby</b></p> <ul style="list-style-type: none"> <li>On/Off Peak S/B Reg - 9:50</li> <li>On/Off Peak S/B Spin - 9:55</li> <li>On/Off Peak S/B Supp - 10:00</li> <li>Shaped S/B Reg - 10:10</li> <li>Shaped S/B Spin - 10:15</li> <li>Shaped S/B Sup - 10:20</li> </ul>  |   |
|  | <p>With respect to the order of the product closes, EPCOR agrees with the proposal by the AESO under which all Active products are procured first to reflect the relative priority to standby products. This method of procurement would help to prevent a lack of supply in the active market in favour of the standby market and would, in turn, reduce the risk of conscription. As a further step to avoid ancillary service supply scarcity, EPCOR is a proponent of a shaped standby market, if needed, to allow for ancillary service providers to offer hourly standby products when full procurement of flat products is unsuccessful. The same logic of offer priority that currently stands in the hourly active market should be applied to an hourly standby market.</p> | <p>See section 3.3 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.</p> |

|                                |  |  |
|--------------------------------|--|--|
|                                | <p>The AESO's goal should be to use all available market means before conscripting providers; conscripting before all parties who have indicated a willingness to participate in the market have been called upon is contrary may discourage voluntary participation in the market. If the AESO adopts EPCOR's recommended product sequence, whereby all active resources are procured first, followed by standby, then standby resources should be used prior to conscription. This is desirable because if active resources are not be fully procured, standby ancillary providers would have full transparency into this lack of active supply and be in a position to offer standby products accordingly, pricing into their standby premiums the increased risk of activation/conscription. If the above order is not followed, then conscripting other providers is unfair and will lead to inefficiently priced standby products.</p>   | <p>See sections 3.2.1, 3.3.2, 3.7.1 and 3.7.2 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.</p> |
|                                | <p>Non-standard offers should be dealt with in the same manner to which they are dealt with now. That is to say that the first priority of non-standard offers are offers that satisfy the entire non-standard shape followed by all non-standard offers that do not offer the entire shape, prioritized by hours offered. (ex, if two participants are unable to offer the entire non-standard shape, then they will be behind the queue from participants whom can offer every hour of the non-standard shape and these two participants will be ranked based on how many hours of the non-standard profile that they are able to offer. If the first of the non-standard offers can provide for 4 hours whereas the other offer is only for 1 hour, then the 4 hour offer will be seen as higher priority and will be accepted first.) This methodology will prevent cherry-picking of only the most profitable hours and encourage participants to offer as many hours as they are able.</p> | <p>See section 3.3.1 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.</p>                          |
| <p><b><u>TransAlta</u></b></p> | <p>TransAlta would suggest that a table be created where every generator physically capable of providing reserves is included.</p>   | <p>See section 3.7.2 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated</p>   |

|  |   |  |
|--|---|--|
|  | <p>Once a generator has been conscripted, that generator would go to the bottom of the list and would not be selected for conscription again until all other generators have had a turn. Should a generator be unable to supply reserves due to Force Majeure, that generator would remain at the top of the list until they have provided their duty. The resulting cost to generators should not be a consideration for Force Majeure.</p>  | <p>January, 2009.</p>  |
|  | <p>TransAlta would urge the AESO to carefully consider what “mischief” it is trying to avoid. By unnecessarily increasing compliance standards, an unintended result may be a lack of new participants due to a fear of non-compliance. Instead, the AESO should focus on what behavior they are trying to mitigate. If “perverse” incentives exist, then take them away, but do not over complicate or overly scrutinize the rest of the market. A good example of this was the dispatch variance rule. Instead of targeting the specific action of price chasing, the AESO created an unnecessarily harsh rule for the entire market. TransAlta would encourage the AESO to limit the scope of changes to the behavior they are trying to abolish. The goal of the AESO is to facilitate participation, not stifle it. Further the AESO needs to rely on the MSA to monitor and investigate behavior that is considered inconsistent with a FEOC market. It is unnecessary to build this all into the AESO rules.</p> | <p>See section 3.8.1 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.</p>            |
|  | <p>Before the decision is made to suspend the market, TransAlta expects the AESO would work with OR providers to work out an intermediate solution before taking this drastic step. TransAlta requests that the AESO work with stakeholders to determine the conditions where a market suspension would be a reasonable action. What metrics will be used by the AESO in to determine a market suspension is needed? TransAlta recommends that the decision be based on the level of participation (conscripted) rather than price metrics. High or low prices should not be considered a reason for</p>  | <p>See sections 3.7.1 and 3.7.3 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.</p> |

|  |  |   |
|--|--|---|
|  | <p>market suspension. Give the market an adequate chance to work out any kinks. Can the AESO please provide the metrics they intend to use?</p>  |   |
|  | <p>TransAlta has already provided a proposed schedule through the consultative process. The important considerations when determine this timing are:</p> <ul style="list-style-type: none"> <li>- ensuring it is complete by the end of the morning for efficiency of the market</li> <li>- allowing enough time between active and standby procurement to allow participants to make changes to the volumes they can offer based on the level of uptake in the active market.</li> </ul>  | <p>See section 3.3.2 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.</p> |
|  | <p>Non conforming offers should be permitted to transact, but priority for these offers should be last. Only once the offer stack has been fully utilized should these offers be considered. At the very least, the AESO should definitely accept the non conforming offers before resorting to conscription.</p>  | <p>See section 3.2.1 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.</p> |
|  | <p>TransAlta would also like to continue to urge the AESO to reconsider procuring all volume D-1. Procuring all volume D-1 increases the risk that the AESO may not get all the volume they need, and therefore increases the risk of conscription. TransAlta respects the AESO's wish not to be an active buyer..... The advantage of procuring in the month and week ahead markets is it allows market participants who need longer notice for contract purposes (gas) to participate. Having a D-1 market only may actually be construed as discriminatory..... To further diminish the AESO's presence in the market, the AESO could consistently procure 25% monthly, 25% weekly and then the remaining volume could be procured D-5 through D-1..... From a reliability standpoint, waiting until the last minute (or day in this case) is</p> | <p>See section 3.1.3 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.</p> |

|  |  |   |
|--|--|---|
|  | <p>an unneeded risk, and greatly increases the need for conscription. Conscription should be viewed as a last resort. In a D-1 market only, conscription becomes plan “B” far too quickly.</p> |   |
|  | <p>TransAlta is supportive of the AESO’s decision to focus on phase 2 and review the need for phase 2 to in the future.</p>  | <p>See section 6.2 of the AESO Recommendation Paper – Operating Reserves Market Redesign dated January, 2009.</p> |