



**AESO Consolidated Long-term Transmission System Plan
(20-year Transmission System Outlook and 10-year Transmission System Plan)
September 3, 2008 AESO Stakeholder Consultation
Comment and Response Matrix**

The AESO would like to take this opportunity to thank all stakeholders for their participation in the consultation on the AESO's Consolidated Long-term Transmission System Plan. The September 3, 2008 stakeholder meeting was attended by and/or the AESO received written comments from the following organizations:

ABB Inc
Alberta Market Surveillance Administrator
Alberta Wind Energy Corporation
AltaLink Management Ltd.
ATCO Electric
ATCO Power
Alberta Utilities Commission
Benign Energy
City of Calgary
CRD Energy Services
Direct Energy Marketing Inc.
DPAL Consulting
EDA of Southern Alberta
ENMAX Corporation
EPCOR Utilities Inc.
FortisAlberta
Heritage Wind Farm Development Inc.
Joss Wind Inc.
Naturener Canada Inc.
National Energy Board

Shear Wind Inc
Shell
Siemens
Spirit Pine Energy
Strategic Results Consulting Inc
Total E&P
TransAlta
TransCanada
Valeo Power
WindRiver Power Corp.



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Transmission Plan Consultation		
Stakeholder	Stakeholder Question	AESO Response
TransCanada	<p>What is the level of approval for this document [the AESO's Consolidated Long-term Transmission System Plan]?</p> <p>Is it possible to register a complaint with the AUC [Alberta Utilities Commission] if we have issues with the plans content?</p>	<p>This document is vetted with the AESO's Board of Directors but is not formally approved by the Board. Approval of the document is viewed as a management/corporate function.</p> <p>As this document is filed with the AUC for information purposes only, the AESO is not aware of a formal process for an objection. The objective of the process for stakeholder consultation is to encourage feedback that then may be incorporated into plans.</p>

Bulk Transmission Concepts		
Stakeholder	Stakeholder Question	AESO Response
CRD Energy Services	Can you explain the recorded flows versus the rated capacity and history of the NE cutplane graph? How did you flow more than the rated capacity?	The rated capacity is determined by applying the planning/operating criteria. This capacity is most commonly determined by analyzing system performance during single element outage events. The recorded numbers would have occurred during a time when there were no transmission line outages in this area.
TransCanada	The NE cutplane graph is not updated to reflect 2008 summer period. We would like to see this data.	This information will be provided in the final Long-term Plan.

<p>CRD Energy Services</p>	<p>For the conceptual plans not all the dates are there. If the base case prevails, your capacity is short. If the plan doesn't work, capacity shortfall, what is plan B?</p> <p>Are these short-term gap measures included in the 10-year plan? If not can you include it as it's being used as a substitute for transmission. Please include this discussion in your plan</p>	<p>The graphs include anticipated capacity additions as a result of projects that are underway or expected. The graphs presented haven't shown what transmission capacity is added because it has not been finalized. This level of detail would be part of the information included in a Needs Identification Document (NID). The intent is that, as projects develop, the required capacity additions are added to keep pace with the scenarios identified.</p> <p>Short-term fixes or Operating Policies and Procedures may be identified and put into place; however, it is difficult to identify and include these detailed requirements for the 10-year period in the document. Reference to the possibility of it occurring will be added.</p>
<p>TransCanada</p>	<p>For the conceptual plans for the NE the dates 2013, do you realistically think that you can meet that date for 500 kV, Heartland and NE transmission development? Are the dates more "grey" i.e., flexible or firm?</p>	<p>It is recognized that the timelines are very aggressive with a significant amount of work to be done in this timeframe. For the Fort McMurray development, the initial consultation was completed in conjunction with the Heartland project.</p>
<p>TransAlta</p>	<p>For the SOK cutplane, where is the graph with the time periods?</p>	<p>The year-by-year information was provided to stakeholders during an information session on June 9. The information presented here represents the view at the end of the 10-year period for the five generation scenarios identified.</p>
<p>Shell</p>	<p>In the south cutplane slide is it a reliability or stability issue?</p> <p>What about the short term? Have you considered series compensation?</p>	<p>Cutplane capability analysis is done from a number of different technical points of view: dynamic stability, voltage stability and equipment thermal capacity being the most typical. The analysis is tested using planning criteria to determine system performance. Unacceptable performance in any one of these technical domains can be considered a reliability issue. The AESO's NIDs provide detailed information on these areas of analysis on a project-by-project basis. In the case of the graphs for the south cutplane, the capability shown is determined by thermal limitations on the existing system.</p>

		Series compensation is considered as part of the longer-term development. However, the use of series compensation will not help in situations where a system is thermally limited. In situations where additional capacity is required this is achieved by either building new lines, rebuilding existing lines to higher capacity, or using phase shifting transformers to alter the flow of power to lines that would be normally less heavily loaded.
TransAlta	Need better graphs. What year is the slide with the five scenario flows? Why not show a graph similar to Heartland/Fort McMurray graphs?	The graphs show the cutplane transfer requirements at the end of the 10-year period; this will be identified in the final Long-term Plan. Detailed information regarding cutplane requirements is, and will be, contained within the NIDs.
TransCanada	In your planning do you take into account the ability of Alberta TFO's [Transmission Facility Owners] to deliver on these projects? It's a real stretch and I wonder if we can really do that with the labour constraints. Can projects be pushed out?	It is recognized that there is a very significant amount of transmission that needs to be built. The AESO is working with the TFO's and other stakeholders to identify requirements as early as possible to improve the ability to meet required in service dates. Where warranted, the implementation of operating procedures will be considered as an interim measure.
TransCanada	What about time progression charts. Can you do the same but flip into time scenarios to show what's on the books and what you are proposing. A graph showing the time progression over the five scenarios. Would you have a sense of timing to build plants (wind, coal, gas) over 10 years instead?	The level of analysis conducted for the purposes of the 20-year Outlook was not intended to include a year-by-year analysis of transfer path capability. To the extent this information is required it will be included in NIDs prepared by the AESO.
TransCanada	Is there another line that should be on the graph to show when loss of load would occur; i.e., show serious problems?	The level of analysis conducted for the purposes of the 20-year Outlook was not intended to include the details of how much load might be potentially lost for various system operating conditions and contingencies. This level of detail is included in NIDs prepared by the AESO.

Regional Transmission Concepts

Stakeholder	Stakeholder Question	AESO Response
CRD Energy Services	There seems to be voltage violations in all regions. Is that a 2017 voltage violation? Is there a cause? What are the solutions?	The information provided is for 2017 under a first contingency condition. Voltage violations are widespread but occur at substations and not on transmission lines. The upgrades are designed to address both thermal overloads and voltage violations. The AESO is looking at 144 kV and 240 kV transmission development.
Heritage Wind Farm Development Inc.	How did you derive the 2,700 MW of wind in the south? Can you please reiterate that in the plan.	The total wind capacity additions included in each of the 10-year scenarios was allocated to each of the planning regions based on the region's proportion of the total applied for wind capacity as of March 2008.
TransCanada	For the South region conceptual plans for the dates/time period, is there staging?	The timing and location of wind generation additions is uncertain and thus the transmission development will be staged, with the expectation that the first transmission reinforcements will be in place by late 2011.
CRD Energy Services	My request is that you put a discussion in the plan regarding the allocation of the 3,400 MW of wind additions for the 2008-2017 period between the south (2,700 MW) and central (750 MW) planning regions.	The total wind capacity additions included in each of the 10-year scenarios was allocated to each of the planning regions based on the region's proportion of the total applied for wind capacity as of March 2008.
CRD Energy Services	In the Edmonton region conceptual plans can you define split (240 kV Ellerslie to Red Deer lines)?	The term split may not be the best one to describe the concept. Our suggestion is to tie one of the lines into Bigstone and Wetaskiwin.
TransCanada	In the Northeast region shouldn't that stat (per cent load increase) be over 100 per cent and not 21 per cent?	Yes, it should actually be 121 per cent.
CRD Energy Services	This presentation was too high level to provide any comments. What are the next steps and when will more detailed information be available? Is there an opportunity to see a draft with the details of each region?	There are numerous ways to provide comments. In discussion during this meeting, leaving comments with us on the feedback form provided today, or submitting your comments via email or in writing by Sept. 17.

ABB	The south region in the Empress area (Saskatchewan intertie) is increasing to 150 MW. Is it not there now?	The current transfer capability is limited to about 69 to 70 MW across the intertie due to voltage constraints, but the southeast reinforcement is intended to increase it to the design limit of 150 MW.
WindRiver Power	How do you deal with the MATL and Naturener lines in the south? There is no assumption that they will be there by 2017. What about Bow City?	The AESO looks at scenarios that include the Montana Alberta Tie Line and the Naturener line. The development of the 1,000 MW Bow City coal-fired plant is included in the generation scenarios for the 2018 to 2027 time period, which is beyond the 10-year study horizon used here.
TransCanada	The south region constraints, which are load versus generation driven? What is the timeframe?	All are generation driven except for the Waterton, Glenwood Stirling area which is load driven. The timeframe depends on the wind developers but the AESO is expecting to stage transmission development over the 2011 to 2014 timeframe.
TransCanada	Where is Slave Lake on the NW region constraints map?	It is located east of Sturgeon on the border of the Northeast and Northwest regions.
TransCanada	What does 2011-2014 period mean?	It represents the time period over which different stages will be developed.

Written Questions/Comments

Stakeholder	Stakeholder Question	AESO Response
AltaLink	Dates indicated tables show "period needed". The Edmonton to Calgary 500 kV line was indicated as being required by 2009 or earlier. Is it not needed in 2012? The graphs were difficult to relate to.	The AESO's current studies indicate the Edmonton to Calgary reinforcement is needed as early as 2009; however, it is also clear that it will not be possible to place a major Edmonton to Calgary transmission line in service in this timeframe. While this does not mean that there will necessarily be outages causing loss of load or other conditions leading to congestion on the system, it does mean that the system will be operating at a higher risk level of these conditions occurring. In the meantime, the AESO is working with the TFOs and other stakeholders to maximize the capability of existing facilities.

<p>Joss Wind Inc</p>	<p>Thank you for the opportunity to comment on the 10 Year Transmission System Plan – Regional Transmission Concepts that was presented by the AESO on September 3, 2008. Joss Wind Power Inc. has a concern with the table on page 42 of the presentation related to the Hanna area. We recognize that the table has been identified as “Subject to further analysis and consultation”, and we are providing this comment to ensure that the 10-year plan adequately addresses regional transmission needs in this area.</p> <p>Specifically, we would request that the “New 240 kV double circuit line from Anderson west to connect to proposed wind farms” at the bottom of the table should be treated as a separate project from the expansion to the east, and that the “Period Needed” for the western line should be identified as 2010 based on our business needs.</p> <p>As background, the Generation Interconnection Queue documents show that Interconnection Applications for wind projects in this area were submitted as early as October of 2006 and January of 2007. The requested in-service dates were in 2008 and 2009. In addition, there are other projects in the area with requested in-service dates of 2010. The AESO’s April 2008 letter entitled “Performance Metrics & Timeframes for the Customer Interconnection Process” stated in paragraph 3 that “The AESO acknowledges that the in-service date is of the utmost importance to customers and the AESO is committed to managing to and achieving the mutually agreed upon in-service dates, such that customers can meet their business objectives.” Given that transmission expansion should be relatively straight forward for this region, with a short build through favorable terrain, a</p>	<p>The 240 kV line to connect wind could well be treated as a separate project at the NID stage.</p> <p>The in service date will depend on how quickly the NID, including a participant involvement program can be completed, the time it takes to move through the regulatory process, the time it takes to prepare, file and receive approval of a Facilities Application and construction time.</p>
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	target date of 2010 seems attainable. Joss would be pleased to work with the AESO and the TFO to look at opportunities to work in a collaborative manner to prevent any slippage in the schedule for this project.	
AltaLink	AltaLink supports the substantive scope of the overall developmental plan. Whether at the bulk or the regional level, there are major system constraints across the province that requires transmission development. AltaLink looks forward to collaborating with the AESO on the execution of their plan to reinforce the transmission system in order to provide Alberta a safe and reliable grid.	The AESO looks forward to working with AltaLink and all stakeholders to facilitate a robust transmission system and Alberta's competitive wholesale electricity market.
Heritage Wind Farm Development Inc.	1_ At page 10 of the presentation AIES-Bulk System cutplanes , these are extremely vague and thus it is requested that the Southern Alberta South System Plan be more clearly outlined in this presentation and clearly articulated and included in the 10-year plan if this presentation is in fact the precursor to the formal 10 year and 20 year plans.	There will be more detail for the southern Alberta system plan in the Consolidated Long-term Transmission System Plan.
Heritage Wind Farm Development Inc.	2) At page 12 Bulk Systems Projects Underway or Expected----the 2009 South Alberta Transmission Development is cost estimated to be \$154M while at page 26 of the Millar Plan – what is the Millar plan? the cost is estimated at \$145M. Given that at 2006 06 14 10:30 a m – 12:00 noon at the Metropolitan Centre industry was advised that the Need Estimate cost was \$68.1M then moved upward to \$80.4M then upward to \$97.9M and now is either \$154M or \$145M. Thus exactly what is the real line item cost and who acts in the “public and generators interest” to clarify and control the actual cost?	The cost estimate for the entire southwest 240kV project is \$153.6 million. The cost in Facility Application #1521942 for the 240 kV lines and substations is \$133.3 million. An explanation for the difference is discussed in Section 12 of the NID.

Heritage Wind Farm Development Inc.	3) At pages 11 and 12 the costs of transmission projects above the East/West running line through Calgary, border to border are identified at \$563M (note this also exclusive of the 500Kv of \$600M+). There are a multitude of other or additional projects also ALL North of the East West line. Thus herein we respectfully request AESO to provide (even if it is just +50%/- 50% thumbnail sketch) of all of the costs of projects identified in the Millar Plan of 2008 09 03 V S the one lone Southern Alberta project of \$154M or is it \$145M?	Order of magnitude cost estimates will be provided in the final document.
Heritage Wind Farm Development Inc.	4) At page 20 the 2011 to 2014 is not likely a realistic time frame and more likely to be 2020 given no transmission of any significance has been built in South Alberta in forty (40) years and that the proposed S W 240 has been under study from 2003 or earlier to 2008 (or over 20 years if you go back to Calgary Power days when they proposed the line from Peigan to BC) with an ISD of Q1 or Q2 2010. Moreover it is requested that significantly more detail be provided on the South Alberta Transmission Plan so that it is clearly not excluded or missed in the AESO's ten (10) year plan and/or 20 year plans and with assurances direct to CANWEA on same.	Additional detail will be provided in the final document.
Heritage Wind Farm Development Inc.	5) At page 25- of the Millar Plan, South Region- Drivers wind generation is listed to Total 11,500 MW almost consistent with the AESO's public domain queue list and the President and CEO AGM presentation of 2008 05 15, 11,000MW (at pg d8). Also at page 25 "Expectation is that 3,400 MW of total new wind will proceed-2,700 MW in the South. It is requested that the AESO IMMEDIATELY STOP, cease and desist, this discriminatory practice of such inflammatory statement against wind energy. It does not do this for oil sands plants, some of which have been on and off with the	To provide an Outlook of the future transmission system required in Alberta, the AESO creates a range of reasonable generation scenarios against which to test the transmission system. It is recognized that generation development in Alberta is a non-regulated competitive business and that it is not possible to definitively describe the timing and location of generation development 10 and 20 years in the future. As such, the main drivers behind generation development are considered and a reasonable range of scenarios are created.

	<p>price of North Sea Brent crude of \$8/bbl to the recent \$140/bbl, for years. AESO does not do this against coal plants some of which have been on the books both North and South. AESO does not do this against gas fired power plants with numerous in the current queue and a number close to Calgary that were built and then shut in or planned and not built. AESO does not or has not done this against proposed nuclear. AESO does not or has not done this against hydro ie said the Slave River hydro project will never be built. This kind of negative assumptions distorts the market as well as sends negative signals about Alberta wind projects around the global investment community. Clearly no Alberta government body sends these or this signal out about Oil, Gas or Coal projects. Rather the Alberta Government press release in lifting the devastating cap on wind said—“This government supports the development of renewable and alternative energy sources and through this action, Alberta will continue to lead the nation in clean, sustainable wind-generated electricity, said Energy Minister Mel Knight, “This important step is significant given the unique wind integration in Alberta”. The continued negativity of – “Expectation is that 3,400 MW of total new wind will proceed- 2,700 MW in South contradicts and makes a mockery of this policy. Moreover this kind of flawed logic allows certain AESO individuals and one in particular to make a five (5) year continuous negative impact mission of wind forecasting, knowingly building into congestion, remedial action schemes, ramp rate limiting, curtailment, power management, voltage regulation and ride through all contrary to both the spirit and intent as well as specifically the ADOE Transmission Development Policy which requires the development of “robust transmission”. To quote Merritt—“This amounts to</p>	<p>Given the total provincial wind capacity additions included in the scenarios, the amount added to each of the planning regions was proportional to the capacity applied for in the regions as of March 2008.</p>
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	<p>renting band aids rather than fixing the root problem.” Further M. Merritt as quoted in 2008 09 03, Canadian Press Wire—“In Southern Alberta, we have great sites for generating electricity from the wind. Investors are willing to build there, but we have a shortage of transmission”--- to quote Merritt further----- -----a) “Albertans will face higher electricity bills if the province does not find FAIR and TIMELY ways to develop transmission infrastructure” b) “may not be keeping up with economic growth” c) “electricity to flow freely around the province. That requires adequate transmission capacity” d) “the transmission system is becoming ‘undersized’ in some places” e) “Albertans paid almost \$300 million to electricity generators (except for Southern Alberta wind energy) to get around bottlenecks.” f) By bringing all electricity supply sources to all customers across the province, transmission provides us with choice and forces suppliers to compete with each other. Subsidizing higher cost, less efficient generators to locate in the middle does neither” g) “In constrained areas of our grid, congestion has dramatically pushed up the energy losses from transportation” h) “Losses on that scale are pure economic and environmental waste” i) “Albertans benefit most from the most competitive market possible,” j) “We need more transmission capacity because that—not subsidized generators—is the best way to assure the competitive market that Albertans have come to expect</p>	
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	<p>k) Also Calgary Herald 2008 09 12 page A27 “Keeping Electricity Competitive”</p> <p>l) Any if not all of the foregoing quotes coincide with the ADOE Transmission Development Policy issued 2003 and the Transmission Regulations promulgated pre 2007</p>	
Heritage Wind Farm Development Inc.	<p>6) At page 30- Millar Plan-South Region Constraints the map appears to be seriously flawed if not a deliberate attempt at misrepresentation, given it shows virtually the entire South as CONSTRAINED except the S W 240kV when it is widely known the line as filed is being built into serious congestion with or for capacity of something less than 1,200 MW when the AESO has known or ought to have known from its own published 2005 documents that over 2,000 MW (2,241MW) have been identified since at least 2005 and before (attached AESO queue lists dated 2006 05 18 shows 2,241 MW known, and increasing upward 2006 11 30, 2006 12 05, 2008 07 30). In simple non technical terms a line planned, designed, equipment purchased before P & L [permit and license] before Board approval and constructed as capable of only handling 1,200 MW with over 2,000 MW of known projects is severely CONSTRAINED by any definition. To endeavour to not disclose this well known mistake is a long known mistake that must be immediately corrected and transparently disclosed.</p>	<p>The map on slide 30 did not show the southwest 240 kV development. It was intended to show the constraints on the existing system with wind integration. It has always been the intent that the southwest 240 kV Pincher Creek to Lethbridge line would be part of a larger south system development to integrate wind generation. The 20-year Outlook published in 2005 shows this line as part of a larger south development. The Pincher Creek to Lethbridge line will not be constrained once the other components of the south development are in place.</p>
Heritage Wind Farm Development Inc.	<p>7) At page 32 Millar Plan- South Region Conceptual Plans 2011-2014, realistically 2020, given the current track record of 2003 to 2010 ISD), indicates- “New 240Kv system and/or 500kV system to integrate wind generation projects in Southern Alberta.” Given that the MD Pincher Creek Reeve in the Lethbridge July 23, 2008 AUC Pre-hearing transcripts identified the requirement for the S W line from North Lethbridge to</p>	<p>The plan for integrating wind generation in the south examined both 240 kV and 500 kV options. The final recommendation will be made before the end of 2008.</p>

	<p>Pincher Creek to be built as 500Kv. The AESO web published 2008 04 08 indeed confirms the needed requirement to build the entire line from North Lethbridge to Blairmore, Alberta at 500Kv. This is additional proof the lay persons on council clearly see what AESO calls the 'backbone system' and first transmission built in Southern Alberta in some forty (40) years is truly CONGESTED and being built into CONGESTION violating ADOE Transmission Policy of 2003 and Transmission Regulations of pre 2007.</p>	
<p>Heritage Wind Farm Development Inc.</p>	<p>8) At page 38 Millar Plan-Central Region- Drivers—'Wind generation-Applications for 2,500MW in Central region—Expectation is that 750 MW of new wind will proceed in the Central are within the 10-year timeframe". As in No. 5 above and herein the same flawed logic, and discriminatory assumptions are being made by AESO but not any such discrimination against any other form of generation. This allows planners to not plan for the future, downgrade transmission planning as has been proven in South Alberta until the SEED and CANWEA transmission plan was produced and delivered to AESO. This kind of flawed and published information drives away some estimated \$50 billion dollars of investments in mostly in Southern Alberta. If this were done in the Oil and Gas industry they would signal objectionable misconduct and indeed the Alberta Government would and should also object. Moreover it signals approval for five year missions on building into congestion, curtailment, power management, ramp rate limiting, wind forecasting, voltage regulation each of which in their own case are silent economic killers for the wind industry and deliberate programs to make wind energy non-economic against other forms of electric power generation. These are in direct conflict of the ADOE [Alberta Department of Energy] policy papers and</p>	<p>Please see the response to the Heritage Wind Farm question 5) above.</p>

	Transmission Regulations and further signal poor planning of future required transmission. All these rather than building ROBUST transmission which is the AESO mandate and mission by regulation	
Heritage Wind Farm Development Inc.	9) Specifically it is requested that the full AESO web South System Planning Update of 2008 04 08 or more fully developed and updated version be immediately included in this 2008 09 03, 10 year plan to ensure no slippage beyond 10 years. This will update those who published and paid for the SEED/CANWEA report and subsequent efforts are not lost.	The reference date of 2008-04-08 could not be found; however, included below is the link for the South System Planning Update of 2008-06-09. www.aeso.ca/downloads/Southern_AB_System_Reinforcement_June_9.pdf
Heritage Wind Farm Development Inc.	10) While the Alberta Government officially lifted the 900 MW cap on wind 2007 09 26, in reality it remains in effect by building no transmission, under building transmission, building into congestion. RAS, curtailment etc and effectively maintains the 900 MW cap or allows even less than 900MW while other forms of generation especially North of the East West Calgary line move forward. This is discriminatory and against wind energy and MSA [Market Surveillance Administrator] policies.	The intent of the south transmission plan, which will be the subject of a NID that the AESO intends to submit to the AUC by the end of 2008, is to integrate the level of wind generation anticipated in the next 10 years.
TransCanada	TransCanada appreciates the effort undertaken by the AESO leading up to and on September 3, 2008 to present to stakeholders an update on the various long-term transmission system concepts for the bulk and regional systems. The following are TransCanada's comments based on the materials, presentations and discussion from that session:	

<p>TransCanada</p>	<p>Impact of industry maturation and technology In Alberta, energy markets have been operating a relatively short time compared to the electric system, resulting in the electricity market still maturing. Some segments of the market have demand participation however it is in general quite limited and remains quite small. While there are some price responsive industrial loads it is our feeling that the participation in this segment could easily increase. The trend in other jurisdictions is toward more demand participation in the market and the AESO recently launched a project to explore what can and should be done here. TransCanada recommends that the long term plans should consider the impact of realistic increases in demand participation.</p> <p>TransCanada recommends including plans for additional interconnection capacity between Alberta and other jurisdictions which would enhance the market's ability to clear and to integrate intermittent renewable resources on a large scale. Such interconnectivity is being encouraged across North America to enhance competition and the integration of renewables.</p> <p>The AESO is encouraged to consider other possible future developments, such as new technologies that will likely come to the market in the planning horizon. Storage devices are likely developments within the 10 year timeframe as is distributed generation and electric cars. For example, both Chrysler and GM plan to introduce rechargeable electric cars in less than 5 years. It would be useful to identify any technological developments that are assumed to materialize in the planning horizon.</p>	<p>In addition to the uncertainty associated with the economic and demographic variables, uncertainty surrounding demand responsive load and conservation represent challenges in developing a long-term load forecast for Alberta. Although these factors are not explicitly included in the load forecasting models, they are examined by the AESO on a regular basis to inform the load forecasting process, and similarly the long-term transmission plans.</p> <p>The plan will include discussion of the potential future interties with neighbouring jurisdictions. Also 1,000 MW of additional intertie capacity in southern Alberta is included within the analysis of Alberta's bulk transmission system in the 20-year Outlook.</p> <p>The AESO agrees that the future technology developments are important considerations for the planning horizon. However, no explicit assumptions around the timing or magnitude of these new technologies (electric cars, distributed generation, new energy storage techniques) were made; a high-level discussion on their potential development and potential impact to the market in the future will be included in the plan.</p>
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<p>TransCanada</p>	<p>NE Cutplane - How sensitive are the load growth projections to changes in oil price? If the oil price drops significantly, will that reduce or delay the projects announced in the Fort McMurray area and, if so, to what extent will the flow over that cutplane be reduced? Please define the “stop-gap” procedures that will be deployed if the flows exceed the transmission system capabilities and lead to a transmission shortfall. Provide specific explanations for stop-gap measures for transmission lines that are particularly vulnerable to project delays. Update the chart to provide the peak summer 2008 flows over this cutplane. The graph only has actual flows up to 2007. Provide the previous estimates or forecasts of load flow on this cutplane to compare to the actual recorded flows (for 2005 – 2008). TransCanada requests that the charts be revised to include transfer capabilities before contingencies, not just after. Without this addition, the chart is confusing since the capabilities are well below the actual flows, suggesting the system is incapable of accommodating the actual flows. This comment applies to the SOK cutplane as well.</p>	<p>The load growth projections are based primarily on discussions held with customers regarding applications for transmission service. It is difficult for the AESO to determine what the impact of a significant drop in oil price or other considerations would be on each project. The AESO will review and update its forecasts as required prior to submitting any NIDs.</p> <p>The level of analysis conducted for the purposes of the 20-year Outlook was not intended to include an analysis of any “stop-gap” procedures that might be required. To the extent that procedures are required they will be identified either in project-specific NIDs or OPPs as appropriate.</p> <p>The peak summer 2008 flows will be provided in the final document.</p> <p>The level of analysis conducted for the purposes of the 20-year Outlook was not intended to include a comparison of previous forecasts to actual flows. The AESO does not consider that this is a relevant analysis for the purposes of the 20-year Outlook and it will therefore not be included. The transfer path capabilities with all system elements in service for the existing system will be included in the final document for the two graphs showing the load forecasts for the total northeast and Fort McMurray areas.</p>
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<p>TransCanada</p>	<p>SOK cutplane – What will the transfer capability over this cutplane be after the various contemplated North-South alternatives are in place? If possible please provide this on the same chart as the generation scenarios. Is it possible to show this on a time graph (or series of graphs/charts) to indicate when several of these generation options and transmission alternatives could be in place and how the load and capacity might align over the next ten years?</p>	<p>Generally, it is anticipated that the transfer capacity will increase by about 700 MW when an Edmonton to Calgary transmission reinforcement is completed. Even if the reinforcement is double circuit or HVDC, which have individual capacities greater than 700 MW, the aggregate capacity increase of the path is constrained to about 700 MW to avoid reliability issues associated with a loss of the new reinforcement, which will become the largest contingency on the south-of-Keephills (SOK) path. If a second reinforcement is completed, it is anticipated that the path rating will increase incrementally by more than 1,000 MW when that second reinforcement is in service. However, the analysis required to confirm these transfer levels is ongoing and the AESO is of the view that it is more appropriate for this type of information to be developed as part of the project specific planning process. Provision of more detailed scenarios and options for the SOK cutplane will be confirmed in the NID.</p>
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