

Transmission Policy in Alberta

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The Ministry of Affordability and Utilities is currently engaged in a short-fuse consultation on important questions of transmission policy in Alberta. Existing policy in Alberta is informed by a [policy paper issued in 2003](#) that was implemented through provisions of the *Electric Utilities Act, SA 2003, c E-5.1 (EUA)* and amendments to the Transmission Regulation initially adopted in 2004: [Alta Reg 86/2007](#) (TReg). The principal vehicle for the current consultation is what the Ministry describes as a ‘Green Paper’, *Transmission Policy Review: Delivering the Electricity of Tomorrow*. As the Green Paper acknowledges, the world has changed significantly since 2003 and it is important to reflect on whether the policy choices made two decades ago are still appropriate given developments in technology, generation mix, and energy and climate policy.

The Green Paper addresses seven main policy issues: (1) the contribution of generation to transmission costs, (2) responsibility for line losses, (3) non-wires solutions, (4) congestion policy, (5) cost allocation for transmission, (6) cost allocation for ancillary services, and (7) the treatment of interties. In the case of the first three, the Ministry has identified a preferred policy position but has yet to solidify its position with respect to other issues. There is of course some overlap between some of these issues, especially items (1) and (5).

Discussion of these issue areas is informed by three objectives and two principles. The first objective is “affordability”, which is perhaps best stated as taking the measures necessary to ensure transmission cost containment as “the transformation of our energy systems continue[s].” (at 6). The second objective is reliability, which includes “1. having sufficient generation to meet demand (i.e. supply adequacy), 2. the ability to transmit that energy, and 3. a system that is robust in terms of power quality and its ability to respond to changes in supply and demand (i.e. voltage, frequency, and flexibility).” (at 6). The Green Paper goes on to acknowledge that “[t]ransmission policy can impact all three of these areas of reliability. Availability and cost allocation of transmission infrastructure and ancillary services can influence where, when, and what types of generation may be built, and can impact the ability of the independent system operator to meet technical requirements that ensure reliability moment to moment.” (at 6.) The third objective is decarbonization, which the Paper frames in terms of “striving to achieve a carbon-neutral power grid by 2050” while acknowledging that “[a] carbon neutral grid is considered a foundational piece of broader economic decarbonization as it facilitates the ability of other sectors that do not have low-emitting alternatives to electrify and reach their decarbonization goals.” (at 7). In addition to these three objectives, the Green Paper articulates two principles that are said to be “foundational and the basis for decisions which may be pursued ...”. (at 7) The first principle is that transmission

will continue to be operated on a private utility-owned regulated monopoly model “with planning conducted by the AESO [Alberta Electric System Operator], and development and operation by TFOs [transmission facility owners], principally AltaLink Management Ltd., ATCO Electric Ltd., ENMAX Power Corporation, and EPCOR Distribution and Transmission Inc.]]” (at 7). A second principle (closely tied to the objective of affordability) is that of “optimizing use of current infrastructure and ensuring that new builds are minimized to reduce cost increases ...” (at 7).

Contribution of Generation to Transmission Costs

The current general rule in Alberta is that load is responsible for transmission costs (the load-pays principle). A principal exception to that is s 29 of the TReg, which provides for something known as the Generating Unit Owner’s Contribution (GUOC) based on generator size, location and performance. GUOC is refunded over time depending on the actual performance of the generator, and the contribution is currently capped at \$50,000 per MW. GUOC was intended to provide a locational signal to new generation, but the Green Paper suggests that it is no longer providing much of an incentive, partly because the cap has not been changed in the last two decades. The policy options being considered for GUOC include removing both the cap and floor for the contribution as well as the issue of refundability. The Ministry favours removing the cap and floor while maintaining refundability. With removal of the cap the AESO would have greater discretion to determine contribution rates based on transmission capability (Green Paper at 7 to 9.)

Responsibility for Line Losses

Another exception to the general rule that load is responsible for transmission costs is that generation is responsible for line losses (TReg at ss 31 – 36). As with GUOC, this policy was also intended to signal to generators to locate close to load so as to reduce overall transmission losses, but in practice the costs associated with such losses have “not been high enough to incentivize generators to consider transmission impacts in choosing their location.” (Green Paper at 10) Furthermore, the various formulae adopted by the AESO for calculating and allocation line loss costs to different generators have proven to be complex and highly contested, resulting in considerable litigation both before the Alberta Utilities Commission (AUC) and the courts, as documented in ABlawg posts, [here](#), [here](#), [here](#), and [here](#). For these reasons, the Ministry is proposing to move to a system-wide average approach although consideration is also being given to a regional average approach.

Non-Wires Solutions

One response to the needs of new load or new generation is simply to build more transmission to provide for that need. But that that solution may not always be the cheapest. It may, for example, be preferable to achieve efficiencies or to construct distribution connected generation, or to add storage to meet an anticipated peak load rather than adding new wires or transmission upgrades (hence the term non-wires solutions). The current versions of the *EUA* and the TReg very definitely favour transmission solutions “as a means of providing investors' confidence that non-wires solutions wouldn't distort market outcomes.” (Green Paper at 11). Technological developments make it easier to contemplate non-wires solutions and accordingly the Ministry proposes to “expand the use of non-wires solutions and ensure that additional wire solutions are

not the default solution to reliability challenges.” (at 12). Non-wires solutions would be procured by the AESO either as a service or as a regulated asset. Where acquired as a service, “the AESO would competitively procure the transmission attributes of non-wires solutions from market participants operating in the market via short-term contracts (i.e. a period shorter than the life of the transmission asset need).” (at 12). And where procured as regulated assets, “the AESO would file a Need Identification Document (NID) with the AUC and procure the non-wires solutions from TFOs.” (at 12).

Congestion Policy

“Congestion” in the context of transmission refers to a scenario in which in-merit generation (i.e. generation that would ordinarily be dispatched by the AESO) cannot be dispatched because the transmission system in that area cannot handle all the in-merit generation. The current policy of the *EUA* and the TReg is that the transmission system should be able to allow 100% of all in-merit generation under normal (N) conditions and 95% of all in-merit generation when some component of the transmission system is not available (N minus 1, or N-1) (at TReg s 15). This is known as a zero-congestion policy, and it means that the AESO must plan upgrades to the transmission system before new generation comes online. It is part of a long-standing policy of non-discriminatory access to transmission that is designed to encourage new generation and a competitive market – regardless of the intermittency of that generation (see, *EUA* at s 29).

The Ministry now seems to be of the view that this policy is too expensive and too difficult to maintain given both decreasing average power flows (due to increased intermittent generation) and shorter build times for some forms of new generation (much shorter than build times for new transmission). (For a discussion of trends in the growth of transmission congestion and examples see Market Surveillance Administrator (MSA), [Quarterly Report for Q3 2023](#), November 15, 2023 at 44 – 49.) The Ministry is considering two options. The first option would stipulate that “new transmission investments would only be triggered when the additional benefits from increased transmission expansion outweigh their additional costs, or transmission investments are required to satisfy reliability requirements.” (at 14). This implies a more top-down AESO-driven planning process than we currently have. A second option would be to change the planning thresholds for N and N-1 scenarios, thus actively contemplating the risk of increased congestion.

Cost Allocation for Transmission

As already noted, the current policy is that most of the costs associated with the transmission tariff are allocated to load and not generation. This makes generation indifferent as to the costs that it imposes on consumers. Both GUOC and the line-loss policy qualify this broad statement, but the comments in the Green Paper suggests that they have not proven to be important drivers of where generation locates. The Green Paper summarizes the benefits of the current policy as follows:

Assigning the majority of transmission costs to loads rather than generators ensures that transmission costs are not a barrier to generation investment. The load-pays policy also gives generators the freedom to locate in areas that minimize their overall costs and

maximize their access to resources, giving them the best chance to compete. This puts significant downward pressure on the price of electricity. (at 16)

But there is still a case for change, especially insofar as the demand for new transmission is now being largely driven by the needs of generators rather than to meet demand. And to the extent that connecting new generation leads to congestion, consumers will not reap the benefits of increased competition since the AESO will need to move up the merit order when congestion constrains in-merit generation. The Ministry has identified three options for allocating the costs of transmission (in addition to the status quo). Option one is the creation of transmission rights. The paper concedes that this would not be a direct cost allocation mechanism, which leads me to ask for more details as to how this would work. Option two would involve splitting transmission costs more equally between generation and load. And the third option would allow the AESO to shift more costs to generation as part of the interconnection process (at 17 – 18.)

Cost Allocation for Ancillary Services

Ancillary services are the services that the AESO procures outside the energy market in order to ensure the reliability of the Alberta integrated system. The cost of these service is recovered through TSO tariffs (TReg at s 48). These services include Operating Reserves, Transmission Must-Run, Load Shed Service for Imports, and Black Start Services. For present purposes the most important is the allowance for operating reserves and in particular the allocation of the costs associated with acquiring operating reserves.

The argument here is that the inclusion of significant amounts of renewable, inverter-based resources increases the AESO's need to contract for ancillary services to deal with "frequency decay". The Ministry considers that it would be appropriate for the AESO to consider allocating the costs for contracting additional ancillary services to the modes of generation that impose the need for additional operating reserves (the cost causation principle) while acknowledging that this can be complex and thus that "pursuing a reassignment of these costs may exceed the potential benefits." (at 20).

The Treatment of Interties

The TReg (at s1(1)(d)) defines an intertie as a "transmission facility, including its associated components, that links one or more electric systems outside Alberta to one or more points on the interconnected electric system". There are three existing interties, one with each of BC, Saskatchewan, and Montana. Section 16 of the TReg addresses the need to restore existing interties to their path rating ([particularly an issue for the BC/Alberta intertie](#)) and s 27 establishes the legal framework for approving new interties.

The Green Paper acknowledges that interties may play a crucial role in relation to each of the three objectives that should inform transmission policy, namely, affordability, reliability, and decarbonization:

First, interties allow for more \$0/MWh priced imports to access the Alberta market, putting downward pressure on the wholesale pool price by increasing competition and displacing

high-cost generators. Next, interties can provide key grid balancing, load management, and reserve capacity services. Finally, interties can facilitate decarbonization by allowing for surplus intermittent clean electricity generated in other jurisdictions to flow into Alberta and provide an avenue for export revenue for surplus intermittent clean electricity generated in Alberta. (at 21)

In light of these considerations, the Ministry offers two complementary measures to improve the legal regime in relation to interties. The first measure would see s 16 of the TReg dealing with the restoration of the path rating of interties, and especially the BC/Alberta intertie, made more prescriptive. Given that restoration of path rating is still a work in progress after more than two decades this measure seems to be entirely appropriate. A second measure would involve amendments to the TReg “to formally outline the Government of Alberta’s intent to develop additional interties with its neighboring provincial and state jurisdictions and clarify how these developments may fit into the broader planning of the Alberta interconnect electricity system.” (at 22). This too seems entirely appropriate given Alberta’s decarbonization challenge, although it probably requires a green paper of its own and significant political commitment (which may not be forthcoming).

Commentary

My first reaction when I received the Green Paper was strongly positive. I have long argued that in matters such as this the GoA should be issuing an options paper (I usually use the term ‘white’ paper but I’m not going to quibble about the colour!) identifying the problem(s), options for solving the problem(s), and the pros and cons of the options. See, for example, this ABlawg post: [“Do We Need a Forum Within Which to Discuss Issues of Electricity Law and Policy in Alberta?”](#) So this ticked an important box for me. But as I read the paper and reflected upon its approach, I did identify some concerns. My first concern related to the availability of the paper and the short time frame for responses. A second concern relates to the references in the paper to prior consultations carried out by the Ministry. And a third concern is the relationship between this process and the government-initiated AUC inquiry associated with the renewables pause.

Availability of the Green Paper

The Green Paper was circulated on October 23, 2023 via email, originally with a request for comments by November 17, 2023. A subsequent email (November 2, 2023) advised that the deadline for comments had been extended to November 30, 2023. So far as I can tell, the Green Paper has still yet to be posted on the Ministry’s website. A google search using the title of the paper takes one to the [webpage hosting the Ministry’s questionnaire](#) but it does not provide a link to the paper. That makes no sense at all.

Other Prior Consultations

In addition to the above concern, I reiterate a concern that I expressed in my post “Do we need a forum?” (see above) to the effect that while the current process seems to be an open one (subject to the major caveat as to the availability of the paper) it has been preceded by one or more rounds of consultations with a more select industry group. The Green Paper makes this clear throughout.

Transmission policy affects us all and while the issues are complex, consultations should be broadly based and extend beyond industry incumbents.

The AUC Inquiry

It will be recalled that in early August 2023 the Smith government imposed a seven month pause on the AUC's approval of new renewable energy projects (see "[An Incredibly Ill-Advised and Unnecessary Decision](#)") and at the same directed the AUC to conduct [an inquiry](#) into the renewables sector with a report due by March 29, 2024. As part of its inquiry the AUC has been directed to examine "Considerations of the impact the increasing growth of renewables has to both generation supply mix and electricity system reliability." (OC 171/2023, linked above) In response the AUC has structured its inquiry into two phases. [Module A](#) will cover the following:

- Considerations on development of power plants on specific types or classes of agricultural or environmental land.
- Considerations of the impact of power plant development on Alberta's pristine views.
- Considerations of implementing mandatory reclamation security requirements for power plants.
- Considerations for development of power plants on lands held by the Crown in Right of Alberta.

[Module B](#) will be devoted to considering supply mix and reliability issues and to that end the AUC has commissioned two expert reports one of which will:

- Review and assess prior studies that evaluate the evolution of the Alberta electric system from a technical and/or economic perspective in order to inform reliability and affordability questions.
- Following stakeholder engagement, development of a technical, simulation-based assessment of future wholesale market fundamentals under the current energy market design over the long term to evaluate future system reliability (e.g., resource adequacy) and consider electric utility bill impacts for retail customers.

While this text does not expressly refer to transmission, it is hard to imagine how the consultants could develop their report without addressing transmission policy issues. And the same must go for the AUC when it drafts its inquiry report for the GoA. This suggests that there is considerable overlap between these two processes further calling into question the truncated time-lines for the receipt of comments on the Green Paper (given that the AUC's report is not due until March next year). At the very least the Ministry needs to address how these two processes will work together. The MSA has also observed that there is a [risk of overlap](#) between the AUC Inquiry and an initiative launched by the AESO known as the [Market Pathways Initiative](#) (MPI). This initiative is intended to address a series of market design issues to ensure that the interconnected system delivers "reliability at the lowest cost as Alberta's electric system transforms into a carbon-neutral future." (MPI at 1)

Who Needs to Make the Changes?

Finally, it is worth reflecting on who needs to make what changes. As I observed in my post, “Do we need a forum?”, the electricity policy field is complicated and includes a number of different players: the Ministry, the AESO and the AUC, as well as investor owner utilities and generators. Each has a role to play but it is perhaps worth observing that the Ministry has more freedom to act than players such as the AUC and AESO who are constrained by statutory mandates and rules of natural justice and procedural fairness. The Ministry too must observe the rule of law, but at least when acting in a legislative capacity (creating new regulations for example) it does not owe the same duties of procedural fairness that bind the AUC and the AESO (as vividly demonstrated in a recent decision of the Alberta Court of Appeal: *Alta Link Management Ltd v Alberta Utilities Commission*, [2023 ABCA 325 \(CanLII\)](#).) This suggests to me that where we require expedited changes (i.e. changes that are needed within months rather than years or decades) we will need to see some real leadership from the executive branch of government and the Ministry. This Green Paper is a step in the right direction, but it remains to be seen if the Ministry has the necessary human resources to support such a leadership role, and whether the political commitment is there to make the real changes required to achieve decarbonization goals.

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