

Feedback Form

Small Hydro Program Design, March 2022

Feedback Provided by:

Name: Akira Yamamoto

Title: Manager, Regulatory & Market Policy

Organization: TransAlta Corporation

Email: [REDACTED]

Date: April 19, 2022

To promote transparency, feedback submitted will be posted on the IESO webpage unless otherwise requested by the sender.

Following the April 1, 2022 Small Hydro Program Design Outreach Session, the Independent Electricity System Operator (IESO) is seeking feedback from stakeholders on the following discussed items. Background information related to these feedback requests can be found in the presentation, which can be accessed from the [engagement web page](#).

Please submit feedback to engagement@ieso.ca by April 19, 2022. If you wish to provide confidential feedback, please mark the document "Confidential". Otherwise, to promote transparency, feedback that is not marked "Confidential" will be posted on the engagement webpage.

Small Hydro Program – Engagement Approach

Topic	Feedback
What questions or feedback do you have about the IESO’s engagement approach?	TransAlta is concerned that the stakeholder engagement process outlined will not provide sufficient opportunity for dialogue with facility owners to refine the design to specifically meet the needs of small-scale hydro resources. The schedule as currently proposed only provides two remaining engagement sessions: one for information purposes only during April stakeholder engagement days and the second workshops in May. The April session is likely to be a repeat of the March working sessions, which didn’t really propose a design but rather proposed a number of potential concepts that may be incorporated into a design. Our concern is that the IESO will decide on its design to close to the date that it is required to report back to the Minister and that the proposed design will be pushed through with minimal consideration of the comments from and needs of the facility owners.

Small Hydro Program – Principles & Goals

Topic	Feedback
What questions or feedback do you have on the design goals for the program?	The Minister of Energy highlights that hydroelectric plays an important role in meeting Ontario’s electricity needs and provides benefits “such as recreational opportunities, flood control, irrigation, tourism and facilitating local employment and economic development”. The IESO recast this design goal as “focus on highlighting and enhancing, where possible, the system value that hydroelectric resources bring to the electricity system”. The IESO’s scope is clearly narrower than the Minister’s acknowledgment that small-scale hydro provides benefits that extend beyond just serving electricity needs and that ignoring those other benefits could result in poor decisions about the overall value of contracting with small-scale

Topic	Feedback
	<p>hydro. We recommend that the IESO reconsider the design goal to be designing a program to recognize all of the value provided by small-scale hydro and support the continued operations of clean hydro resources.</p>
<p>What questions or feedback do you have on the principles that the design is founded on? (focus on value, promote competition, incent market-driven operations and allow for flexibility in future system operation).</p>	<p>Small-scale hydro accounts for approximately 5% of Ontario’s total grid-connected capacity and approximately 69% of the total 224 operating waterpower facilities in Ontario. and the relatively high number of facilities, We understand that the IESO plans to base the small hydro program on the foundational principles of the resource adequacy framework. While we agree that the small hydro program is a constituent part of the overall resource adequacy framework, the modest size of small-scale hydro in Ontario’s suggests that these resources are unlikely to meaningfully influence market fundamentals. In this respect, there are certain foundational principles that make sense at the overall resource adequacy framework level that should not/cannot be mirrored down to a sub-program within the framework. Two examples of the foundational principles that apply to the resource adequacy framework but ought not to be mirrored down to the small hydro program are: “incenting market-driven operations” and “allow for flexibility in future system operation”. The energy market is part of the resource adequacy framework and provides the incentives for market-driven operations. It is a given that small hydro resources operate within the energy market, but the revenue gap sought through the small hydro program is intended to address when market driven revenues are insufficient or create too much revenue uncertainty to support a resource. Similarly, allowing flexibility in future system operations is to be needed to ensure resource adequacy because there is forecast uncertainty about future need. However, this is not a useful principle when it is applied in the lens of a program to contract existing small-scale</p>

Topic	Feedback
	hydro resources – these resources exist with certainty and cannot be un-built depending on future need.

Small Hydro Program – Design Concepts

Topic	Feedback
<p>What questions or feedback do you have relating to Design Concept #1: Capacity Payments</p>	<p>TransAlta does not support a capacity only design based on Qualified Capacities (UCAP) as the recommended design for small hydro resources contracting. TransAlta prefers a simpler construct for small hydro resources that provides greater revenue certainty by compensating resources for capacity and energy value through energy deliveries. Our experience with the IESO’s approach to determining UCAP for resources are that the methodologies, data and calculations that the IESO’s processes are not transparent and the methodologies that have been selected result in very low qualified capacity values for renewable resources. We believe that a capacity payment approach based on the IESO’s UCAP methodology would provide small scale hydro a limited revenue stream that would be insufficient to support sustaining capital investment and does not provide sufficient certainty to support small scale hydro resources.</p>
<p>What questions or feedback do you have relating to Design Concept #2: Dispatchability</p>	<p>TransAlta questions whether the value provided by small scale hydro in terms of dispatchability is truly worth the additional complexity of designing a program that attempts to differentiate more and less dispatchable small scale hydro resources. At a system level, the dispatchability value and contributions of small-scale hydro in aggregate is likely to be insignificant and the additional complexity of trying to quantify the value differences between a more or less dispatchable small scale hydro resource is unlikely to be worth pursuing.</p>

Topic	Feedback
Is your facility currently dispatchable?	TransAlta’s small scale hydro facilities in Ontario are run-of-river facilities with limited capability to adjust output. Our generation is dictated by water flows and do not have associated water reservoir storage. While we may be able to adjust output (spilling water to decrease generation output), we have limited ability to increase generation output on demand or IESO dispatch instruction.
If your facility is currently not dispatchable, is there an interest in becoming dispatchable? What would be required to become dispatchable and what are the barriers (if any)?	This is the first engagement that has raised considerations of dispatchability with small scale hydro resources. We note that all variable generation including small hydro is considered by the IESO to be dispatchable. In this regard, we are unclear how dispatchability is a differentiating characteristic to evaluate small hydro against each other or other generating facilities – moreover the dispatchability that is provided by small hydro resources is likely so small that it would be difficult to measure what incremental value it provides at the system level.
What questions or feedback do you have relating to Design Concept #3: Tranching	TransAlta sees the similar issues with tranching that we do with dispatchability – dispatchability is just another facility characteristic that could be treated as a category in tranching. Tranching could be worse because it is attempting to consider even more granular attributes and characteristics that are unlikely to have a measurable value at a system level. We are highly concerned that the IESO is attempting to import in the complexity of other procurement designs that are unwarranted for small scale resources. The Minister of Energy’s directive issued on January 27, 2022 recognized that small hydro facilities provide many benefits beyond just electricity generation and that it may require a customized program to ensure that these assets are sustained and provide value for ratepayers. We believe that the best approach to achieve this end is to develop a simple, customized program that allow these resources

Topic	Feedback
	to deliver their generation and other attributes under a contract structure that is consistent with these resources existing contracts.
What characteristics would you consider to be defining features of your operations or facilities as it relates to potential criteria for contract payments?	A defining feature for hydroelectric resources is their long asset lives and high capital investment costs. It is highly unlikely that sustaining capital investment can be recouped within a short 10-year term as those investments are likely to extend the life of the facility for well beyond 10 years. We recommend that the IESO consider longer term contracting to align investment horizons with the added useful life associated with those investment.
What questions or feedback do you have relating to Design Concept #4: Investment?	TransAlta supports the IESO recognition that all hydroelectric resources require sustaining capital. These fixed investments are lumpy and can be investments into hydroelectric infrastructure that has a useful life that extends well beyond the 10-year horizon – the IESO’s propose contract length. We are concerned with the mismatch between the magnitude of sustaining capital investment and the contract length; more specifically, we are concerned that a short contract length raises stranded investment risk. The IESO’s tendency to purport that assets coming off contract should have recouped their investment costs within the previous contract term or its views that the assets are nearly fully amortized heightens owners’ concerns about stranded asset risk. An asset that approaches full amortization is likely to require significant future sustaining capital investment and should not be interpreted to mean that the owner has fully recouped its investment (or that it entitles the IESO to treat investments that cannot be recouped during the contract term as sunk costs for the purposes of future recontracting).
Have you considered adding an on-site battery to your facility? If so, what stage of	No, TransAlta has not specifically considering added on-site battery storage to our existing

Topic	Feedback
development are you in? Is there potential for Indigenous and/or community ownership?	hydro facilities in Ontario. That said, we are currently actively pursuing the development of a hydro + 180 MW battery energy storage facility in Alberta. The IESO has many initiatives ongoing including market renewal and resource adequacy procurements that have raised a significant degree of regulatory uncertainty. Given this heightened level of uncertainty, we have not focused in on small scale development in Ontario.
Are you aware of your sustaining capital requirements over the next 5 years?	Yes, TransAlta’s practices are to prepare long term capital plans for our power generation/ hydro facilities. These include planning capital maintenance and projecting sustaining capital requirements for our facilities over the next five years.
Have you considered any upgrades or capital projects at your facility? If so, what stage of development are you in? Is there potential for Indigenous and/or community ownership?	Yes, TransAlta has consider the feasibility of upgrades that could significantly expand the output of our hydro facilities. However, the lack of any certainty about long-term contracting to support that type of investment was too high to advance these initiatives to development and engineering stages. Given the lack of any commercial certainty to support this work, we did not advance to development stages that would warrant engagement with Indigenous or community investment.
What questions or feedback do you have relating to Design Concept #5: Contract Length ?	The IESO proposal to issue a contract with a length of 10-years provides more certainty to a hydro resource owner than the length of a medium-term contract length. However, TransAlta recommends that the IESO consider a contract length of 15 years as contemplated for the long-term request for proposal. The concern with a shorter contract term is that the IESO may over-procure new resources and seek to use its “flexibility” to choose not to re-contract with existing small scale hydro resources. The IESO should seek to avoid over-procurement and, at a

Topic	Feedback
	minimum, existing small scale hydro resources should not bear the risk if this does occur.
What questions or feedback do you have relating to a program review in 2026?	Yes, TransAlta agrees with and supports a program review after the implementation of the market renewal program. We recommend that this occurs at a point where there is sufficient data and experience under the new energy market design (e.g., after one year under market renewal).

Small Hydro Program – Other Design Ideas

Topic	Feedback
Are there any other design ideas for the development of a Small Hydro Program that should be considered?	TransAlta recommends the development of a bundled capacity and energy contract, a simplified contract obligation based upon generation, and a contract term that better aligns with sustaining capital investment (e.g., 20-year contracts).

Small Hydro Program – Challenges

Topic	Feedback
Are there challenges that you foresee in transitioning to a new contract structure? What are these challenges?	The capital investment profiles for a hydroelectric facility change over the life of the asset. For example, the capital investments required for a relatively young facility (<30 years) are very different than its requirements as it ages (>30 years). This includes the types and magnitude of investment. Turbine replacements and civil infrastructure investments are large and lumpy investments that are likely to be incurred as a power plant facility ages. Generally, the need for longer term contract certainty is higher when faced with these large and significant life-extending types of sustaining capital investment for older facilities.

Topic	Feedback
<p>If you expect any challenges in transitioning to a new contract structure, do you have any suggestions on how the IESO can assist in the transition or reduce any anticipated barriers?</p>	<p>A significant challenge is transitioning from a simple to a more complicated contract structure. This challenge can be avoided or mitigated by adopting a simple new contract structure that conforms with the previous contracts. Hydroelectric resources have many water management considerations that can impose limitations on their flexibility relative to other types of generation resources. In this respect, the IESO should be considerate of these realities and cautious of imposing the complex contract constructs that could have unintended consequences. We ask the IESO to consider the old adage: "if it isn't broken, don't fix it" to assist in the transition and reduce any anticipated barriers or unanticipated challenges.</p>

General Comments/Feedback

TransAlta appreciates the opportunity to provide preliminary comments on the small-scale hydro program. We ask the IESO to carefully consider the comments it receives from hydro owners and that it ensures the small hydro program provides adequate support for clean, small-scale hydro to continue to play an important role in clean and reliable electricity delivery in Ontario.