Feedback Form

Small Hydro Program Design, March 2022

Feedback Provided by:

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

Following the April 1 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**. 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?	PMHI is appreciative of the opportunity to engage in these working sessions and provide IPP context and feedback. The working session on April 1 was productive and informative, and the IESO representatives were knowledgeable and responsive to the IPP concerns. We look forward to seeing how IESO incorporates this feedback into the Small Hydro program design, particularly for projects whose EPA expiries are after 2030.

Small Hydro Program – Principles & Goals

Topic	Feedback
What questions or feedback do you have on the design goals for the program?	As we have seen from Ontario and other jurisdictions (BC, Quebec), the attrition rate on forecasted future generation can be quite high. How is the IESO considering the risk of new supply either not materializing or at much delayed dates? As hydro projects are built and operated as very long-term assets that often provide substantial other benefits (water regulation for navigation, flood control, recreational uses, etc.), and their removal could have significant costs and consequences, it will be critical that the IESO recognize these attributes and values in the formulation of the power rate to sustain these assets. EPA renewal terms should be for >10 years as longer EPA renewals will help attract the interest of more traditional lenders for these assets (e.g. Life Insurance Companies), and >10 years is often the time horizon one is looking at for funding major CAPEX on hydro projects. Significant lead times in-advance of EPA expiries are also requested to properly plan and implement prudent CAPEX to maintain the facilities in safe working order.

Topic	Feedback
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).	PMHI believes that these are all valuable principles, and is looking forward to receiving more detailed information on the dollar impact of these, and hopes that the constraints facing small hydro generators will not be penalized versus facilities of other renewable technologies (e.g. ramping times, limits regarding dispatchability). PMHI believes that within these principles the need of waterpower to sustain the assets must be recognized through the combination of reasonable power pricing, renewal term lengths, and revenue certainty to allow financing of future investments.

Small Hydro Program – Design Concepts

Topic	Feedback
What questions or feedback do you have relating to **Design Concept #1: Capacity Payments**	PMHI understands that the idea of this concept is to provide a fixed monthly payment to generators for the capacity they can provide. How will this amount be determined, understanding that run of river hydro facilities have monthly generation figures that vary seasonally? Will there be liquidated damages or additional revenues (or ability to sell by other means) for amounts above or below this amount? From a planning perspective, waterpower generally plans maintenance during low flow periods, so if there are deductions for being offline that are not consistent with low flow periods, then our annual generation will be negatively impacted, even though prudent maintenance scheduling was undertaken. PMHI's preference is for a blended rate with revenue certainty to allow for competitive financing terms. The capacity payment structure seems overly complicated and inconsistent with how these facilities have been designed and operated.

Topic	Feedback
What questions or feedback do you have relating to **Design Concept #2: Dispatchability**	PMHI would be open to considering dispatchability to the extent that the pricing accounts for the facility modifications required to make them dispatchable, as well as a dispatchability framework that allows for water management and environmental requirements to remain met. However, a fixed rate with time of delivery incentives that are certain and achievable would be a preferred option given the environmental and operational constraints on our projects.
Is your facility currently dispatchable?	No
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)?	PMHI would explore this option to understand the economic feasibility. In order to become dispatchable, automation upgrades and re-permitting would be required. Water management constraints with regards to reservoir elevation rule curves, headpond drawdown, public safety around dams, ramping and counter balancing between cascading facilities would all be challenging constraints to satisfy.
What questions or feedback do you have relating to **Design Concept #3: Tranching**	PMHI believes that if tranching is pursued, the IESO should engage on the values and attributes of facilities in determining the tranches.
What characteristics would you consider to be defining features of your operations or facilities as it relates to potential criteria for contract payments?	Modest peaking capability coupled with lake storage providing for power generation and water management for navigation, and flood control. Significant indigenous partner and participation in the facility.
What questions or feedback do you have relating to **Design Concept #4: Investment?**	The PMHI facilities include four powerhouses and two dams with significant CAPEX through the project life, particularly as the EPA gets to the latter half of its term. Having certainty of post EPA expiry revenue will allow for financing of large CAPEX to ensure prudent operations of the facilities.

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Have you considered adding an on-site battery to your facility? If so, what stage of development are you in? Is there potential for Indigenous and/or community ownership?	PMHI has not considered on-site batteries.
Are you aware of your sustaining capital requirements over the next 5 years?	Yes
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?	We have identified some minor possibilities for improvements, but none have been acted on as they would require additional permitting and/or IESO approval. Indigenous ownership already exists for these projects.
What questions or feedback do you have relating to **Design Concept #5: Contract Length**?	PMHI would prefer a long contract length and suggests that the stated 10-year term may be costly or prohibitive to secure financing for major CAPEX.
What questions or feedback do you have relating to a program review in 2026?	As stated above, PMHI believe that the EPA renewal should be offered well in-advance of the EPA expiry to allow for time to plan and implement major CAPEX that is often required as EPAs near their expiry. Our concern is that reviews of programs put the certainty of post-EPA revenue at risk and would then restrict the ability to advance prudent major CAPEX. Program reviews should not impact already granted or qualified projects from the agreed upon EPA renewal commercial terms.

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?	Please consider allowing early sign on for facilities with contracts that do not expire before 2030. This would give greater certainty to market participants, allowing for better capital planning. For EPA renewals, the IESO should also consider approving project upgrades or

Topic	Feedback
	optimizations to allow for greater generation potential.

Small Hydro Program – Challenges

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Are there challenges that you foresee in transitioning to a new contract structure? What are these challenges?	PMHI believes that the greatest challenge to transitioning to a new contract structure is quantifying the dollar value impact and revenue certainty.
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?	IESO can alleviate the stated challenges by providing specific pricing details and contract mechanics for review, and highlight known risks with any new proposed structure.

General Comments/Feedback

PMHI thanks the IESO for the opportunity to participate in the design of the small hydro program.