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 (date) 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 (date)**. 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?	We appreciate that the IESO has included reference to the Program Design serving as a foundation for assets beyond the immediate scope of the initial Program (i.e., those with contracts expiring post 2030 and those with an installed capacity of >10MW). We encourage the IESO to continue to build consideration of these facilities into the design of the program.

Small Hydro Program – Principles & Goals

Topic	Feedback
What questions or feedback do you have on the design goals for the program?	The design goals for the program are set out in the Minister's directive. The Minister notes the important role that all hydroelectric facilities play in meeting Ontario's electricity needs, as well as providing non-electricity benefits, and given investment horizons and asset lifespans, may require a customized program. The Minister "expects that this program will be designed in a way that provides value for ratepayers while sustaining these important assets". WRT "value for ratepayers", we believe small hydro assets have multiple value streams including capacity, energy, and ancillary services. To date, the IESO appears to be consider value primarily associated with capacity and dispatchability, the current focus of Resource Adequacy ("RA") framework and Market Renewable Program ("MRP"). Rather, we believe the approach should be structured to recognize the collective value of the multiple electricity benefits and non-electricity benefits, as well as the history of these facilities and the way they are intended to operate. WRT to "sustaining these important assets", the Minister notes both "investments horizons and asset lifespans" as considerations. The 10-year contracting period proposed by the IESO may be an adequate investment horizon for some,

Topic	Feedback
	typically newer, facilities but fails to adequately address the "asset lifespan" of many older facilities that require significant capital investments with longer planning horizons and payback periods.
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).	As per the previous comment, rather than attempt to fit a small hydro program into the broader RA framework and objectives noted, we believe the small hydro program should be structured as a complimentary program that recognizes the value small hydro was designed to provide while also providing a long-term price hedge and value to consumers.

Small Hydro Program – Design Concepts

Topic	Feedback
What questions or feedback do you have relating to **Design Concept #1: Capacity Payments**	We are supportive of capacity payments provided there is certainty around these payments. Linking capacity payments to an annual capacity auction price would not provide the necessary certainty.
What questions or feedback do you have relating to **Design Concept #2: Dispatchability**	Many small hydro plants were not designed to be dispatchable. For these plants, dispatchability would likely result in notable increases in O&M costs, potential new environmental concerns, and additional public safety issues/risks. We do not recommend the inclusion of dispatchability as a requirement or a significant price differentiator in this program. Rather, small hydro facilities can be incented to shift operations, to the extent possible, during peak periods through the rate structure.
Is your facility currently dispatchable?	No, none of our five contracted small hydro assets are currently dispatchable.
If your facility is currently not dispatchable, is there an interest in becoming dispatchable?	No, this would result in additional operational, environmental, and public safety issues at each facility, as well as incremental O&M costs.

Topic	Feedback
What would be required to become dispatchable and what are the barriers (if any)?	
What questions or feedback do you have relating to **Design Concept #3: Tranching**	The concept of tranching has merit. We believe consideration should be given to the capacity of the facility; the grid connection (distribution or transmission connected); the age of the facility (as it relates to asset's investment needs within its lifespan or lifecycle since we consider hydro assets to be perpetual with appropriate reinvestment), and possibly to ownership to recognize the additional challenges and constraints of certain organizations (i.e., indigenous, community, municipal ownership).
What characteristics would you consider to be defining features of your operations or facilities as it relates to potential criteria for contract payments?	First, energy payments. Our facilities contribute to baseload generation recognizing that it varies seasonally. Secondly, capacity payments, as capacity is generally reliable day-to-day recognizing that it varies seasonally. Thirdly, ancillary services, as hydro facilities typically help regulate voltage & frequency, can shed load, and ramp up quickly, and may have the capability to black start and restore grids. Lastly, non-electricity benefits which are likely best valued as a component of the capacity payment.
What questions or feedback do you have relating to **Design Concept #4: Investment?**	As noted, the investment horizon is influenced heavily by the age of the facility and where the facility is within its lifecycle. We believe this should be considered in the design of the program with provisions provided for a longer term and incremental payments for facilities requiring significant upgrades or repowering.
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?	Yes, we are interested in potentially adding on-site battery storage to one or more of our small hydro facilities. We have provided feedback on the Hybrid Integration Project to recommend providing the opportunity to integrate energy storage facilities at contracted self-scheduling renewable generation facilities, such as small

Topic	Feedback
	hydro facilities, to optimize the use of existing grid connection infrastructure and capacity allocations.
Are you aware of your sustaining capital requirements over the next 5 years?	Yes. However, we wish to note that this amount would vary for several of our older facilities as we are presenting deferring certain capital expenditures in consideration of the revenue uncertainty that exists following the term of our existing contract. These plants require major upgrades and repowering with most capital expenditures being deferred until a viable path forward for upgrading the plants is determined.
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. We have completed upgrades at several of our plants under the existing contract. However, several other plants will require major upgrades and repowering by the end of the term of the existing contract. At this stage, we have only identified this need but have not advanced further development work given the revenue uncertainty. All our facilities have municipal ownership.
What questions or feedback do you have relating to **Design Concept #5: Contract Length**?	Per previous comments, 10-years may be adequate for some more recent facilities with an appropriate forward period that allows for the Owner to plan and complete the work prior to the commencement of the 10-year contract. For major upgrades and repowering, a longer term will be required.
What questions or feedback do you have relating to a program review in 2026?	We assume that a program review means that the program will not be finalized, and contracts will not be available until following the program review. This simply adds to the current situation of revenue uncertainty and will likely result in a continuation if the deferral of capital planning and investments. The IESO is encouraged to provide a forward period of 5 to 8 years (say 5 years for the "standard" contract renewal and up to 8 years for facilities with major upgrades or repowering) to allow Owners to undertake

Topic	Feedback
	appropriate capital planning and investment in advance of the contract renewal.

Small Hydro Program – Other Design Ideas

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Are there any other design ideas for the development of a Small Hydro Program that should be considered?	Keep it simple. Design the program to value what small hydro was designed to provide and will continue to provide in perpetuity.

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?	An appropriate forward period must be provided with the new contracts to allow Owners to make appropriate capital planning and investment decisions.
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?	An option for early transition to the new contract may be necessary for facilities in need of major upgrades or repowering. This provision assumes that a contract with a term longer than 10 years would be provided to such facilities. This provision would mitigate a situation where numerous Owners defer major capital investments until the end of the term of their existing contracts, taking on additional risks and creating a situation where multiple Owners are competing for limited resources to supply equipment and construct upgrades concurrently in around 2030. Allow for an early transition may encourage earlier investment in these major upgrades.

General Comments/Feedback

In addition to the comments we have provided, we support the comments provided by OWA on the small hydro program.