

# Feedback Form

## Small Hydro Program Design, March 2022

### Feedback Provided by:

Name: Paul Norris

Title: President

Organization: Ontario Waterpower Association

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 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](mailto: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?	The OWA appreciates 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. The IESO is encouraged to continue to build consideration of these facilities in 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 IESO has proposed that the Program Design Foundation is the “Resource Adequacy Framework” and that, specifically that Programs are a mechanism “to sustain investments in assets, resources and businesses that can help meet electricity and non-electricity objectives”, though it is unclear how consideration of “non-electricity benefits” have been factored in to the design concepts presented. Within the RA Framework, the “Long Term Commitment” is described as a mechanism to “secure resources with very long forward periods or commitments, SUCH AS new-build facilities”. As outlined further herein, capital investment in the waterpower assets to be included in the Program also require very long forward periods or commitments and as such, concepts including contract length (>10 years) and bundled contracts (capacity and energy) should be considered for the Program.
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).	Comment on the applicability of the proposed design principles are as follows: 1. Focus on Value – As the province moves into a requirement of additional supply, both baseload and peaking generation will have increasing value in Ontario’s electricity system, as will

Topic	Feedback
	<p>stability of generation, geographic diversity, ancillary benefits as the "Value" should also include the beyond electricity values that these facilities provide (water management), per the definition of a "Program".</p> <p>2. Competition – Competition is but one means to achieve the IESO's (and government's objective of an affordable, reliable, sustainable electricity system. So too is securing perpetual assets for the long term as a hedge against future price fluctuations.</p> <p>3. Incent market-driven operations – These facilities were designed to operate in a manner decades prior to the introduction of a "Market" and are subject to regulatory restrictions that were specifically introduced at Market opening to restrict responses to market signals in order to achieve non-electricity objectives associated with water management (environmental, public safety etc.). The market alone is not the driver for facility operation.</p> <p>4. Allow for flexibility in future system operation – This has been presented by the IESO as a desire to have optionality with respect to future resource acquisition and a rationale for shorter term commitments. This is inconsistent with the reality of long lifespan assets and the capital investment requirements that support their continued operation.</p>

## Small Hydro Program – Design Concepts

Topic	Feedback
<p>What questions or feedback do you have relating to <b>Design Concept #1: Capacity Payments</b></p>	<p>The IESO has suggested that "Capacity Payments" will be designed to sustain ongoing investment in these facilities. This would necessitate that such payments be at least equivalent to the revenues derived from current contracts, which are based on energy. While the concept may have some merit, it is our view that the approach:</p> <p>1. Adds unnecessary complexity and uncertainty (Contracts based on energy are inconsistent with the history, design</p>

Topic	Feedback
	<p>and operations of small hydro) 2. Provides no definition of how a capacity price will be determined (The IESO has suggested some multiplier of either the results of a capacity auction or mid-term RFP, with no indication of the periodicity of such determination or whether the determination would be based on nameplate or some other metric) Capacity does not truly reflect how much a project contributes. Also it does not promote efficient use of the resource. 3. Does not recognize that existing contracts reflect how these facilities were designed, operate and can be improved (e.g. financial incentives for upgrades, refurbishments and expansions). This framework could only be financeable if there are limited risks to receiving the fixed capacity payment and it is at a level consistent with the energy payments of current contracts.</p>
<p>What questions or feedback do you have relating to <b>Design Concept #2: Dispatchability</b></p>	<p>The approach seems to suggest that flexibility and dispatchability are equivalent. This is not the case. All existing contracts have provisions which encourage the management of water (within the regulatory restrictions) to produce energy to match typical daily and weekly demand curves. While the IESO has suggested that "dispatchability" is an option, it has also been suggested that non-dispatchable facilities are of "less value". This is not the case, particularly as the province enters a period of supply shortfall. The vast majority of facilities are run of river, with regulatory constraints to achieve non-electricity objectives. Moreover, they generally operate as "cascade" river systems, with co-dependencies between facilities and often with water management under the control of non-hydro infrastructure (MNDMNR, Conservation Authorities, Parks Canada). Dispatching these facilities adds risk to plant operations (e.g. more frequent Stops and Starts), flood control, the environment and notably, public safety.</p>

Topic	Feedback
Is your facility currently dispatchable?	All existing contracts have provisions which encourage the management of water (within the regulatory restrictions) to produce energy to match typical daily and weekly demand curves
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)?	N/A
What questions or feedback do you have relating to <b>Design Concept #3: Tranching</b>	The concept of tranching, depending on design, may have merit (for example fixed costs for smaller facilities are disproportionate). At least one current Program already differentiates based on size and connection (Dx/Tx) – a concept that could be applicable to future contracts. Again, the IESO concept put forward (payment for an individual resource depending on several factors) introduces unnecessary complexity to what should be a “simple” Program.
What characteristics would you consider to be defining features of your operations or facilities as it relates to potential criteria for contract payments?	Revenue quantity and certainty need to be preserved to maintain infrastructure and energy delivery
What questions or feedback do you have relating to <b>Design Concept #4: Investment?</b>	All of these facilities should be considered perpetual assets, with long investment horizons. The IESO needs to understand that capital investment planning for hydro facilities are decades long, and that the concept of “end of life” is not applicable to hydro, regardless of facility age. Importantly, any type of investment mechanism (i.e., contract) needs to be designed such that it is bankable and, given the concepts proposed, this would not appear to be the case. Again, unnecessary complexity adds risk and cost.
Have you considered adding an on-site battery to your facility? If so, what stage of	N/A

Topic	Feedback
development are you in? Is there potential for Indigenous and/or community ownership?	
Are you aware of your sustaining capital requirements over the next 5 years?	All facilities have sustaining capital requirements that extend well beyond the next five (5) 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?	Facility upgrades should be enabled, regardless of ownership structure. Current contracts include proven mechanisms for incenting and enabling facility expansion/efficiency and should be carried forward in the Program. Community/Indigenous/Other (e.g. CA) ownership could be enabled through price "adders". Again, the proposed cost/investment approach should recognize the beyond electricity value of these facilities
What questions or feedback do you have relating to <b>Design Concept #5: Contract Length</b> ?	As noted previously, capital investment in the waterpower assets to be included in the Program require very long forward periods or commitments and as such, Long-Term Commitment concepts including contract length (>10 years) and bundled contracts (capacity and energy) should be considered for the Program. This approach could apply to the Program to be designed for the >10MW facilities as well. Those facilities with contracts expiring post 2030 would become eligible for new contracts on a rolling basis (i.e. in 2023, facilities with contracts expiring in 2031 would become eligible etc.)
What questions or feedback do you have relating to a program review in 2026?	The IESO has suggested that the 2026 review is premised on consideration of the potential outcomes of the "Market Renewal" initiative. The IESO is already approaching existing contract counterparties to address key proposed changes (e.g. migration from HOEP to Ontario Zonal Pricing). Contracts issued in 2023 can be designed to anticipate future changes, without the requirement for a "Review" in 2026. The OWA is recommending a forward period (up to 8 years) for Program certainty so that major

Topic	Feedback
	CAPEX can be planned and funded early, however if a 'program review' puts commercial terms at risk, there is then no ability to secure funding certainty early to start CAPEX. Only once commercial terms are set-in-stone can long term CAPEX works be committed.

## 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?	Keep it simple. The current contractual frameworks for waterpower assets were deliberately and specifically designed by the IESO to reflect the value and contribution of these perpetual assets. The focus should be on providing value for ratepayers while providing a reasonable revenue stream for facilities to continue operating. Collectively, these facilities represent a miniscule proportion of the market and an even smaller proportion of the province's electricity supply. Devising a complex approach to re-contracting serves neither the ratepayer, the taxpayer (i.e. water management benefits) or the facility owners and operators well.

## Small Hydro Program – Challenges

Topic	Feedback
Are there challenges that you foresee in transitioning to a new contract structure? What are these challenges?	The OWA is recommending that the IESO leverage existing and proven effective waterpower specific contract structures. Provided that the industry's recommendations are accepted, transition should not be an issue.
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?	N/A

## General Comments/Feedback

The OWA has provided the IESO with detailed information on “Capital Investment Planning” for waterpower facilities in previous submissions. All of the assets to be included in the initial and subsequent Program have sustaining capital requirements that extend over the next 20+ years. Ongoing capital investment in waterpower facilities over their life-span is substantial and planned. This cannot be understated. To properly plan for such capital investments, revenue certainty is required for at least 15-20 years and preferably longer. In short – longer term revenue security for these perpetual assets provides the best value to the both the ratepayer and the taxpayer. Capital investment and planning for these facilities is required on an ongoing basis to sustain these facilities over their multigenerational lives. The form and time frame for capital investments in waterpower facilities over their lives includes:(1) minor maintenance; (2) major maintenance such as generator rewinds, turbine refurbishments & structural repairs, upkeep of dams, spillways and other water regulating equipment linked to the societal benefits of water management;(3) regulatory upgrades to conform with new regulations or best management practices such as dam safety & public safety; (4) optimization projects to restore or enhance plant efficiency & production over time; and lastly, (5) significant plant upgrades including redevelopment or expansion to ensure these plants continue to serve their communities and the province into the future..

Importantly, owners and financiers of these facilities must consider the impact of future CAPEX in their revenue rates today in order to plan for the facility’s maintenance and operation into the future. This is usually done by site owners and lenders whereby they calculate all future CAPEX and OPEX expenditures and determine an amount that needs to be set-aside today in a Major Maintenance Reserve account that accumulates and disperses monies based on the timing requirements of the various major maintenance items. As many dam owners have large CAPEX items to manage, these set-aside amounts can be substantial, so a power price rate based on simply annual OPEX and CAPEX would not capture those costs that are expected to occur in future years.

In closing and in consideration of the feedback from generators at the IESO’s engagement sessions, the OWA recommends the following:

1. **Keep it simple** – According to IESO data, the “Program” for <10MW facilities will apply in total to less than 300MW of capacity – spread across the province at approximately 80 small facilities. To put this in context, collectively these assets represent less than 2% of the capacity that is to be subject to other resource re-acquisition mechanisms. At a time when the APO and AAR are projecting a short term and enduring requirement for additional capacity and energy, the IESO should be re-contracting these perpetual assets through a simple process and focus its limited resources on more significant challenges.
2. **Contract now** – the OWA has provided detailed asset management rationale for the recommended 8 year forward period. Put simply, a contract provides investment confidence while a Program potentially available at some future date does not. Owners are making decisions to defer investments in these assets now. A shorter forward period unnecessarily creates investment risk, pulsed investment and increased costs to the ratepayer.
3. **Contract to at least 2040** – The IESO’s APO looks out to 2042 and the recent AAR identifies targets in the “Long Term” RFPs for in service dates of 2027 and 2030, for a total requirement of ~4,000MW of effective capacity. Further, the IESO has extended the contract

length for LTRFP projects to 15 years, in order to offer longer commitments to “provide investors with a higher level of certainty around investments in new and incremental capacity”. This same principled approach should be applied to these perpetual waterpower assets to match asset management frameworks and smooth investment over time.

4. **Provide the option for bundled contracts** – Based on the feedback from generator members, it is apparent that many have a strong preference for the option of a bundled energy/capacity contract, as has been the case for more than fifty (50) years in some cases. The vast majority of these small facilities were built to provide local energy and ancillary services and all are subject to water level and flow restrictions and financial penalties deliberately introduced by the government to discourage the potential to respond to “market signals”. The OWA has recommended that the IESO apply a form of weighted average contractual energy price as a floor, with provisions (as currently exist) for expansions and bilateral capital investment negotiations.
5. **Provide the potential for additional value** – All current waterpower contracts contain incentives for “on peak” production and disincentives for production “off peak” that are fixed for the term of the contract and in some instances may not match overall system need. Again, while these assets collective represent less than 2% of contracted supply, there may be some potential for some of these assets to shift their daily production within the water management restrictions to better reflect system requirements over time. The OWA recommends that this concept be further explored in detailed design.