

Feedback Form

Small Hydro Program Workshop, May 19, 2022

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Date: June 2, 2022

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

Following the (Thursday, May 19, 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 Thursday, June 2nd. To promote transparency, feedback provided will be posted on the engagement webpage.

Small Hydro Program – Capacity Payments

	Topic	Feedback
1.1	What feedback do you have on the payment structure as it relates to a capacity payment plus an energy payment with a floor and a ceiling?	The existing system of energy contracts meets the Ministers Directive of providing ongoing production and revenue security from Ontario’s small hydro plants. Moving to a capacity/energy payment structure will complicate settlements and more concerning possibly introduce operational changes that may compromise energy production, safety, reliability and environmental performance. The small hydro plants are unlike gas plants wind or solar plants in that the active hydrological management of water flows is an ongoing 24x7 activity; i.e. the weather and upstream storages releases providing the fuel supply is not controlled by the generator and cannot be shut off at any time. The imperative of a hydro plant is to ensure its energy production reliability to ensure circumstances such as dam overtopping are avoided. The design and production incentive is to produce energy unlike the larger peaking hydro plants specifically built to provide capacity. Given the critical priority need over the next decades in Ontario as outlined in IESO forecasts is energy supply it is unclear how promoting an almost arbitrary one size fits all capacity energy payment approach will provide more capacity availability from the small hydro plants than is already provided by their energy revenue
1.2	What feedback do you have on the assumptions for the reference case used in developing the payment structure? Specifically, what feedback do have on the reference case regarding: an appropriate split between the capacity payment revenue verses the energy payment	The proposed payment structure as presented is not acceptable for its Smooth Rock Falls GS as being a high-capacity factor plant originally built in 1909 and completely modernized and expanded with new Brushless Generators, Turbine, Governors, Transformers, Breakers, SCADA Transfer trip etc under IESO 2018 expansion HCI amendment approval, Gemini would incur a crippling loss of significant loss of revenue unless the nameplate capacity payment was raised from the suggested level by 30% until such time as the current 2030 expiration of the 2018 HCI amended contract. An acceptable option would be that Gemini sign on to the new contract and terms in 2023 or thereafter with the IESO committing to sustain & retire the completed expansion financial obligations until the end of your existing contract. Of equal concern is the proposed 30% energy payment revenue concept that outlines the quantum of energy payments are changeable at the discretion of the IESO. Additionally of concern is that the assumptions for the

	Topic	Feedback
	revenue; the assumed capacity factor; the energy floor price?	reference payment structure (both capacity and energy components) are built on the premise that the small hydro's have control over these characteristics. This is only partially true in that some small hydro's such as Gemini SRF are located such that the upstream discharge of two large storage facilities and three OPG generating stations that fully control the short-term capacity and energy performance capability characteristics of SRF GS. The main controllable KPI of Gemini SRF is that of reliability ICbf MO PO FO. (E.g. High inflows discharged by OPG cause the tailrace at SRF to increase by up to 2 meters with a consequence 20 % reduction of capacity MW and Energy MWhr output)
1.3	What feedback to you have regarding setting the fleet wide capacity factor benchmark at 40%? (Below this capacity factor, capacity payments will be reduced)	Possibly further consideration be given to the merit of using Capacity Factor as a "bench mark" od payment performance. Indeed, with the very obvious continuing unpredictability and frequency of Climate change effects of wind, electric, and hydrology conditions the monthly and annual capacity variations are continuing to increase in any given year for a run or the river plants in Ontario. A better benchmark might be those recognized CEA NERC GADS reliability metrics as it would be unreasonable to penalize plants that may experience poor inflows driven by factors totally beyond their control.
1.4	What feedback do you have regarding the energy ceiling concept and price?	The implementation and administration of the concept will be an onerous settlement function as compared to the current simple meter readout payment that should be avoided This concept combined with the notion of variable hydrology capacity factor penalties is continuing to increase revenue certainty risks for small hydro's, which seems to be at odds with the Ministers directives. The success of the Ontario hydro industry has been built on a long-term sustaining investment approach as is afforded many of the major hydro assets in the province verses trying to emulate the contractual approach of gas turbine generators
1.5	What feedback do you have regarding an appropriate percentage of the capacity factor for which an escalation factor (Ontario all-items CPI)	Both the capacity payment and the energy floor and ceiling should be 100% indexed to the Consumer Price Index, as is the case with existing contracts to support the required sustaining capital investments for these perpetual assets. While capex is "lumpy" over the life of a contract, in general it will be spread out over the time period, so full inflation is justified. There may be some plants that need a major capital outlay early in the new contract, but so too will there be

Topic	Feedback
should apply? What is the justification for the percentage you are recommending?	plants that have invested significant capital before the new contract and will be forecasting heavy capex later in the new contract term. Anything less than 100% indexing would be to deny that heavy industry hydro generation technology, manufacturing and technical expertise has in many cases to be acquired and is priced driven by world markets. Compounding this issue of inflationary pricing is the ever-increasing time to supply after order which causes increased outage times, lost production revenue and interest costs during construction or repair

Small Hydro Program – Dispatchability

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2.1 What feedback do you have on the approach to enhance payment for dispatchable facilities (increase capacity payment by X%, increase ceiling price or revenue share above ceiling price)? In your response, please note if you are a dispatchable facility / intent to become one as this design feature may only	Given the historical experience of remote dispatch of generation in Ontario has led to some serious consequences of life loss and plant loss the adoption of this concept should be approached with caution. Gemini SRF is not a dispatchable, there being two restrictions- inflows controlled by OPG from two upstream storages and three generating stations; no live storage; one sluice gate 18 log sluices. Another consideration that has not as yet come to light in the program discussion are the costs incurred by small hydro plants providing dispatchable service are the usual increase in start stops, ramping, rough zone operation, that have been found to incur significant consequential costs that to date have been recognized or compensated for by the IESO. It is not the intent of SRF to become a dispatchable as the facility is not designed or equipped to do so

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	impact a very small portion of facilities.	

Small Hydro Program – Tranching

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3.1	What feedback do you have regarding the recognition of economies of scale by providing an adjustment to the capacity payment of facilities under 1MW? What feedback do you have regarding an appropriate adder (in terms of a % of the capacity payment)?	The OWA supports the recognition of economies of scale by providing an adjustment to the capacity payment of facilities under 1MW and recommends a 10% adder to the total revenue to support sustaining capital investment. The smaller facilities are subject to the same legislative, regulatory and policy requirements as all other facilities (environmental, public safety, water management) and therefore bear a disproportionate financial burden.

Small Hydro Program – Contract Length

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4.1	What feedback do you have regarding the option to terminate existing contracts and sign into the program at any time, with all contracts ending 20 years from program opening (ie. May 2043), regardless of when a contract is signed?	The OWA supports this concept but recommends that there be a third option – that a current facility owner is permitted to sign a new contract at any time for the period between the expiry of the existing contract and May 2043. This is particularly relevant for facility owners who have recently invested in financially IESO approved expansions under the provisions of their existing contracts and require the current revenues to support previous plant expansions or entire generation replacement investment above the going forward operation maintenance and repair costs covered under the standard HCI contract

Small Hydro Program – Community, Conservation Authority & Indigenous Ownership

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5.1	What feedback do you have on a minimum Indigenous, Conservation Authority or Community ownership stake to qualify for an enhanced payment?	Gemini agrees with the OWA recommendation that enhanced payment eligibility for Indigenous participation begin at a 10% equity ownership level and be scaled up to full ownership partnerships at 51%. The enhanced payment eligibility for CA or Municipal ownership should begin at 20% and scaled up to 50%. Conservation Authorities are funded primarily by municipalities and, like the municipally owned infrastructure, play an integral role in water management. These locally owned and operated facilities provide community benefits that extend well beyond the production of electricity including public safety, recreation, tourism, economic development, local employment and environmental benefits. Additionally, to these noted local benefits Gemini SRF contributes \$50,000 per year directly to the township of Smooth Rock Falls
5.2	What feedback do you have on the maximum value of an	As noted above, there should be a sliding scale applied to the adder based on the level of ownership, consistent with previous approaches. Under those initiatives, the maximum value of

Topic	Feedback
adder (in the case of 100% ownership by an Indigenous Community, Community or Conservation Authority)?	community equity participation was approximately 10% (1.5 cents per kwh). The maximum under this Program should be similar.

General Comments/Feedback

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6.1 Please provide any additional comments or feedback that would assist in the design, development and implementation of a Small Hydro Program	<p>1. Most importantly as noted above, there is a need to explicitly address those facilities which already invested in expansions under the existing contract within either the revenue streams proposed or through a forward period for the new contract that is consistent with the period remaining on the existing contract. These investments cannot be recovered by migrating to a new generic contract prior to current contract expiration and the risk of not receiving a follow on contract (i.e. should the Program be cancelled in the future) will deter future investment.</p> <p>2. In addition, there should be some discussion on the ownership of environmental attributes, particularly given the IESO's work on recommendations design of a Clean Energy Credit Registry. Some reasonable sharing of credits between the IESO and the generator would be appropriate, particularly with new expansions.</p> <p>3. Finally, the IESO is currently proposing to settle existing contracts on the Ontario Zonal Price (rather than the locational marginal price) post market renewal. This approach should be brought</p>

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	forward for consideration in detailed Program design. 4. Finally it would be helpful if financial spread sheets can be provided by the IESO to enable individual generators to assess the financial merits of the proposed contracts to confirm it meets the goals of the program