

# Feedback Form

## Small Hydro Program Workshop, May 19, 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 (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](mailto:engagement@ieso.ca) by Thursday, June 2<sup>nd</sup>.** To promote transparency, feedback provided will be posted on the engagement webpage.

About H2O Power - H2O Power owns and operates eight hydro generating stations in Ontario all of which have HCI contracts. Three of the eight stations are under 10 MW the other five stations are above 10 MW. Two of the five were upgraded from below 10 MW to above 10 MW with IESO approval under the existing HCI contract. The eight H2O stations have been producing electricity for 100 years and have shaped their communities. H2O Power appreciates that the IESO has included reference to the 10MW Program serving as a foundation for assets with an installed capacity of greater than 10 MW. The IESO is encouraged to continue to build consideration of the above 10 MW facilities into the design of the Program as this is an efficient and effective use of time. The differences between a 9 MW station and the same station upgraded to 12 MW are obviously minimal.

The H2O Power facilities were constructed many decades before the advent of the energy market. They were designed and operated to provide energy to local communities and industry, manage water levels for flood control, recreation, fisheries, and provide other non-electricity benefits. The facilities have been continually maintained and refurbished over the decades through planned capital reinvestments and are considered perpetual assets. They can continue to operate indefinitely with coordinated long-term reinvestments and Capex planning. These proven facilities provide both baseload and peaking generation and provide value to Ontario’s electricity system.

The development of the Hydro Program is vitally important to our company and to the ongoing operation of Ontario’s existing hydro assets. If the program for the under 10 MW hydro facilities is well structured, then H2O believes that this program can easily be adapted for the over 10 MW hydro facilities.

## Small Hydro Program – Capacity Payments

	<b>Topic</b>	<b>Feedback</b>
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 proposed structure has the potential to add significant complexity for H2O Power and the IESO. The IESO has noted that the majority of the small facilities have little operational flexibility due to water management limitations. Most of these facilities, purpose-built decades ago, were specifically designed to optimize the production of energy over an annual hydrologic cycle. Bundled energy contracts remain the simplest structure for H2O’s facilities.
1.2	What feedback do you have on the assumptions for the reference case used in developing the payment structure? Specifically, what	The proposed structure appears to disproportionately penalize higher capacity factor facilities, like H2O’s which were built site specifically decades prior to the introduction of the market in Ontario. To address this, rather than using nameplate as the only basis for the calculation, it is suggested that a facility’s actual annual capacity factor, as derived over a significant period of energy production (5-10 years) be considered along with the nameplate capacity as the basis for the

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	feedback do have on the reference case regarding: an appropriate split between the capacity payment revenue verses the energy payment revenue; the assumed capacity factor; the energy floor price?	derivation of the capacity portion of the revenue stream. The higher capacity factor facilities could receive a higher capacity payment \$MW/day than the lower capacity facilities. In keeping with the design parameter of providing similar revenues to the HCI revenues the capacity payment must be 100% indexed to Ontario CPI to ensure the revenue stream is adequate to sustain the facilities. The energy floor price (\$20) and ceiling price (\$45) seem reasonable, applied to the monthly generation, and adjusted to Ontario CPI. The relative split between capacity and energy revenues (70/30) using the energy floor price as the basis for the calculation is reasonable to H2O.
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)	H2O recommends that the benchmark be calculated on an annual basis due to seasonal variations and weather constraints. In H2O's case, 40% on an annual basis is reasonable but may be too high for other generators. In order not to penalize for a poor hydrology year perhaps the benchmark for reduction should be 30%.
1.4	What feedback do you have regarding the energy ceiling concept and price?	Based on the proposed structure of capacity and energy payments it is appropriate. H2O is assuming that the prices would be assessed monthly. The floor and ceiling should be adjusted to 100% of Ontario CPI on an annual basis.
1.5	What feedback do you have regarding an appropriate percentage of the capacity factor for which an escalation factor (Ontario all-items CPI) should apply? What is the justification for the percentage you are recommending?	H2O recommends that both the capacity payment and the energy floor and ceiling price be 100% indexed to Ontario CPI, as is the case with the existing HCI contracts to support the required sustaining capital investments for these perpetual assets. The \$69/MWh strike price for the Contract for Differences HCI contract that was negotiated in 2009 was predicated on that price being subject to 100% Ontario CPI. Therefore, to provide sufficient revenues similar to the HCI contract in order to ensure the ongoing operation of these facilities the escalation factor needs to be 100%. Recent inflation has shown how quickly buying power is eroded. H2O has a continuous capex program and strives to plan and execute the necessary capex expenditures at our 8 facilities over the life of the contract to minimize the loss of generation in any one year. Capex expenditures will vary over the life of the new contract, major items such as turbines, step up

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	transformers and switchgear will be spread out over the contract period as they come due, so full inflation is justified. There may be some of H2O's facilities that require major capital expenditures early in the new contract, but there will also be facilities within H2O's fleet where significant capital was invested before the new contract, and we will be forecasting heavy capex later in the new contract term.

### 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	The approach seems to suggest that flexibility and dispatchability are equivalent. This is not the case. The HCI 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. Many 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 (MNDMNRF, International Joint Commission). Dispatching these facilities adds risk to plant operations. All of the 8 H2O facilities were built and in operation decades before the grid was established in their areas and were the only source of electricity to the local towns and industries. The facilities were constructed to run continuously and not be stopped or started

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<p>impact a very small portion of facilities.</p>	<p>on a frequent basis. The H2O facilities are in Northern Ontario and unlike other renewables (wind and solar) dispatching hydro requires the operator to deal with the fuel (the water). In some cases, the water can be saved and turbined later but generally minimum flows must be respected and the water must be spilt through sluice gates. This is difficult to do in the winter at these northern Ontario locations. The facilities were not designed to cycle on and off and spill water. They were designed to, and have been, producing clean non emitting electricity on a continuous basis for over 100 years and can continue to produce power for another 100 years given proper capex planning and reinvestment.</p> <p>Dispatchable generators like some of H2O's hydro fleet should have the option to determine which approaches are best suited to individual facilities. Each of the IESO suggested approaches has merit and should not be considered mutually exclusive. A combination of the three approaches could prove most effective. For example, the IESO could increase the capacity payment for those who provide more value to the system or chose to become dispatchable. The IESO could also increase the energy price ceiling. Third, for those above the energy price ceiling, a program in which the generator gets to keep more makes sense. It should be noted that the responsibilities associated with becoming dispatchable such as structuring offers, responding to dispatches and dealing with the complexities of the Market Rules and Market Power Mitigation may be untenable for a small generator.</p>

### Small Hydro Program – Tranching

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<p>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</p>	<p>H2O Power 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.</p>

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feedback do you have regarding an appropriate adder (in terms of a % of the capacity payment)?	

### 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?	H2O Power 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 H2O Power who have recently invested in IESO approved expansions under the provisions of their existing contracts and require the current revenues to support that previous investment.

### 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?	H2O Power recommends that enhanced payment eligibility for Indigenous participation begin at a 10% equity ownership level and be scaled up to 50%. H2O Power's experience indicates that many Indigenous communities begin with a minority position in a facility and that the revenue streams often support broader community objectives, including in some cases the increase in the ownership stake.
5.2	What feedback do you have on the maximum value of an adder (in the case of 100% ownership by an Indigenous Community, Community or Conservation Authority)?	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 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,	As noted above, there is a need to explicitly address those facilities, like H2O Power's, which already invested in IESO approved expansions under the existing contract within either the revenue streams proposed or through a forward period for the new contract that is consistent

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development and implementation of a Small Hydro Program	<p>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. In addition, H2O Power has additional opportunities for expansions at its existing facilities but will not undertake these without security of the associated revenue stream. 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 forward for consideration in detailed Program design.</p>