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March 3, 2021

RE: Written Testimony on Bill No. 882, Bill No. 952, Bill No. 6523 of Gravity Renewables, Inc.

To Whom it may concern,

We are pleased to provide testimony in support of Governor's Bill No. 882 (An Act Concerning Climate Change Mitigation and Home Energy Affordability), Raised Bill No. 952 (An Act Concerning Certain Solar Energy Projects), and Raised Bill No. 6523 (An Act Concerning Virtual Net Metering Credits for Manufacturer's in Distressed Communities). In addition to the important measures these pieces of proposed legislation seek to advance, we'd like to draw particular attention to one of Connecticut's oldest forms of renewable energy, hydropower.

Gravity Renewables, Inc (Gravity) is an owner, operator and developer of small Hydroelectric power plants in the United States. Gravity has been an independent small power producer providing long-term, cost-effective clean energy to electricity consumers since 2013, with many of its employees and principals having careers spanning many decades in distributed hydropower. Gravity owns and operates three small hydropower facilities located in Connecticut; Wyre Wynd located in Griswold, CT, Quinebaug located in Brookline, CT and Five Mile located in Killingly, CT. These projects provide significant public benefits to the State of Connecticut but are struggling due to the existing value structures.

Small hydropower generators in Connecticut provide a sustainable, carbon-free source of energy and significant public benefits. These include, but are not limited to: recreational opportunities, river restoration, tax revenues to local jurisdictions and significant long-term property value enhancement. The Wyre Wynd Project dam creates the Aspinook Lake which is approximately 300 acres in size and has spurred waterfront residential development along its shores. There is a public boat ramp at the Lake that is a popular location for boating and swimming. The Wyre Wynd Project is currently in the more-than-five-year process of federal relicensing and has spent several hundred thousand dollars on applications, reports, engineering and site-specific environmental studies in support of the process. Both the Quinebaug and Five Mile projects will begin a similar relicensing process in 2022. We anticipate millions of dollars of investment will be required at the projects in the near future to meet anticipated regulatory requirements. This investment is in addition to the original investment in the stations and ones required to maintain the generation equipment and public safety.

Hydropower operations provide vital maintenance to existing dam infrastructure according to safety requirements established by the state and Federal Energy Regulatory Commission, which prioritizes public safety above all else. The reasons for such stringent dam maintenance and safety standards are that

hydropower operators and industry regulators understand these hydropower dams, though physically small, can have an outsized, adverse economic and safety impact on the communities around them when revenues do not support appropriate operations and maintenance.

Historically, when/if industry operations shut down, the liabilities such as the dam are left for the public to handle. For example the Glasgo Dam located in Griswold, CT was a former power generation site for industry. In 2015 the State of Connecticut spent an estimated four- million dollars repairing the dam for public safety. When hydropower operations continue, there is a sustainable revenue stream to maintain safe structures.

However, these benefits come at great cost to the plants as they must support multi-million-dollar items such as fish passage, dam repairs and life-extension projects. When these costs can no longer be supported the projects are decommissioned, as the MDC did at Colebrook Reservoir in 2019. Decommissioning often shifts the responsibilities (and costs) of maintaining dams and other supporting infrastructure from the private to the public sector (assets become liabilities).

Despite small hydropower projects' ability to deliver long-term benefits, they do not have the same revenue streams, or tax incentives, available to them as other short-lived carbon-free generation sources and yet carry a higher cost burden. In summary we have significant costs and lower revenue which puts these assets and the public benefits they provide at risk.

To maintain viability, small hydropower needs a pathway to recognize the value it provides. Most states in the Northeast have a program specific to small hydropower to support these unique assets; however, Connecticut does not. As a result, many of the State's hydropower resources are in financial risk. In fact, over the past few years several existing Projects in the State have been, or are in the process of being, decommissioned. To be clear, the State's hydropower resources are facing a crisis.

With appropriate value recognition, such as that potentially provided by Connecticut's Virtual Net Metering Program, these assets can continue to provide decades of safe service. However, ensuring this future will require actions that allow these privately-owned assets to reinvest in their continued, and enhanced performance. Many owners are faced with significant costs associated with overhauling turbines and generators, investing in dam safety measures, upgrading controls systems and enhancing environmental performance through the installation and operation of fish passage facilities. All of these measures come at a cost, costs which cannot currently be supported by the existing market structure.

Bills 882, 952 and 6523 provide real opportunities to ensure the future of small hydro in the State. For example:

- Bill 882 seeks to establish a goal of 0% carbon emissions by 2040. In order to achieve this goal, the proposal recognizes power purchase agreements as vehicles to secure the products and benefits of renewable energy resources. Reaching a 0% goal will be facilitated by protecting the existing base of renewable energy assets, including in-State hydropower from loss through attrition.
- Bill 952 seeks to expand the existing Virtual Net Metering program, and create a designation within the program which allocates benefits to school districts located in the State's most underserved communities. Small hydropower is well positioned to provide these benefits

immediately. In order to accomplish this, the bill should include language specifically recognizing small hydro's unique attributes.

- Bill 6523 also seeks to expand the existing Virtual Net Metering program, and create a designation to allocate benefits to manufacturing facilities located in distressed municipalities. Again, small hydro is well positioned to provide these benefits immediately.

We are providing specific language suggestions to the existing Virtual Net Metering program that would create a place for existing small hydro and ensure it can continue to provide, and expand, the variety of public benefits for decades to come. Care has been taken to our proposed modifications to avoid conflict with other renewable technologies.

Mark J. Boumansour

Chief Operating Officer

Gravity Renewables, Inc.

# Attachment to Testimony 3-3-21:
# (Proposed wording is underlined)

# Connecticut General Statutes
# CHAPTER 283*
# TELEPHONE, GAS, POWER AND WATER COMPANIES

**Sec. 16-244u. Virtual net metering.** (a) As used in this section:

(1) "Beneficial account" means an in-state retail end user of an electric distribution company designated by a customer host or an agricultural customer host in such electric distribution company's service area to receive virtual net metering credits from a virtual net metering facility or an agricultural virtual net metering facility;

(2) "Customer host" means an in-state retail end user of an electric distribution company that owns, leases or enters into a long-term contract for a virtual net metering facility and participates in virtual net metering;

(3) "Agricultural customer host" means an in-state retail end user of an electric distribution company that uses electricity for the purpose of agriculture, as defined in subsection (q) of section 1-1, owns, leases or enters into a long-term contract for an agricultural virtual net metering facility and participates in agricultural virtual net metering;

(4) (A) "Unassigned virtual net metering credit" means, in any given electric distribution company monthly billing period, a virtual net metering credit that remains after both the customer host and its beneficial accounts have been billed for zero kilowatt hours related to the generation service charges and a declining percentage of the transmission and distribution charges on such billings through virtual net metering;

(B) "Unassigned agricultural virtual net metering credit" means, in any given electric distribution company monthly billing period, an agricultural virtual net metering credit that remains after both the agricultural customer host and its beneficial accounts have been billed for zero kilowatt hours related to the generation service charges and a declining percentage of the transmission and distribution charges on such billings through agricultural virtual net metering;

(5) "Virtual net metering" means the process of combining the electric meter readings and billings, including any virtual net metering credits, for a municipal, state or

agricultural customer host and a beneficial account related to such customer host's account through an electric distribution company billing process related to the generation service charges and a declining percentage of the transmission and distribution charges on such billings;

(6) "Small Hydroelectric Virtual Net Metering" means the process of combining the electric meter readings and billings, including any virtual net metering credits, for an Eligible Hydroelectric Virtual Net Metering Facility customer host and a beneficial account related to such customer host's account through an electric distribution company billing process related to the generation service charges and a declining percentage of the transmission and distribution charges on such billings. Electric distribution companies shall not provide Small Hydroelectric Virtual Net Metering services to a customer host who is an electric distribution company, aggregator, retail energy supplier, or energy broker;

(7) "Virtual net metering credit" means a credit equal to the retail cost per kilowatt hour the customer host may have otherwise been charged for each kilowatt hour produced by a virtual net metering facility that exceeds the total amount of kilowatt hours used during an electric distribution company monthly billing period; and

(~~7~~8) (A) "Virtual net metering facility" means a Class I renewable energy source or a Class III source that: (i) Is served by an electric distribution company, owned, leased or subject to a long-term contract by a customer host and serves the electricity needs of the customer host and its beneficial accounts; (ii) is within the same electric distribution company service territory as the customer host and its beneficial accounts; and (iii) has a nameplate capacity rating of three megawatts or less; and

(B) "Agricultural virtual net metering facility" means a Class I renewable energy source that is operated as part of a business for the purpose of agriculture, as defined in subsection (q) of section 1-1, that: (i) Is served by an electric distribution company on land owned or controlled by an agricultural customer host and serves the electricity needs of the agricultural customer host and its beneficial accounts; (ii) is within the same electric distribution company service territory as the agricultural customer host and its beneficial accounts; and (iii) has a nameplate capacity rating of three megawatts or less; and

(~~8~~(C) "Eligible hydroelectric virtual net metering facility" means an existing hydroelectric facility that is (i) located within the State of Connecticut, (ii) a run-of-the-river, or run-of-release hydropower facility, and (iii) has a nameplate capacity of three megawatts or less.

(9) “Declining percentage of the transmission and distribution charges” means, during the period commencing on the first day of commercial operation of a virtual net metering facility or an agricultural virtual net metering facility and ending after one year, eighty per cent of the transmission and distribution charges, during the period commencing at the beginning of the second year of commercial operation of a virtual net metering facility or an agricultural virtual net metering facility and ending after one year, sixty per cent of the transmission and distribution charges, and commencing at the beginning of the third year of commercial operation of a virtual net metering facility or an agricultural virtual net metering facility and for each year thereafter, forty per cent of the transmission and distribution charges.

(b) Each electric distribution company shall provide virtual net metering to its municipal, state or agricultural customer hosts and shall make any necessary interconnections for a virtual net metering facility or an agricultural virtual net metering facility. Upon request by a municipal, state or agricultural customer host to implement the provisions of this section, an electric distribution company shall install metering equipment, if necessary. If a virtual net metering facility is already interconnected to the electric distribution company’s system, the existing interconnection shall serve this purpose without the need for modification, study or technical review, excepting necessary changes to the facility’s metering. For each municipal, state or agricultural customer host, such metering equipment shall (1) measure electricity consumed from the electric distribution company's facilities; (2) deduct the amount of electricity produced but not consumed; and (3) register, for each monthly billing period, the net amount of electricity produced and, if applicable, consumed. If, in a given monthly billing period, a municipal, state or agricultural customer host supplies more electricity to the electric distribution system than the electric distribution company delivers to the municipal, state or agricultural customer host, the electric distribution company shall bill the municipal, state or agricultural customer host for zero kilowatt hours of generation and assign a virtual net metering credit to the municipal, state or agricultural customer host's beneficial accounts for the next monthly billing period. Such credit shall be applied against the generation service component and a declining percentage of the transmission and distribution charges billed to the beneficial accounts. Such credit shall be allocated among such accounts in proportion to their consumption for the previous twelve billing periods.

(c) An electric distribution company shall carry forward any unassigned virtual net metering credits earned by the municipal or state customer host or unassigned agricultural virtual net metering credits earned by the agricultural customer host from one monthly billing period to the next until the end of the calendar year. At the end of each calendar year, the electric distribution company shall compensate the municipal, state or agricultural customer host for any unassigned virtual net metering generation credits at the rate the electric distribution company pays for power procured to supply

standard service customers pursuant to section 16-244c and a declining percentage of the transmission and distribution charges.

(d) For facilities participating in the small hydroelectric virtual net metering program, the virtual net metering facility owner shall have the option for the electric distribution company to purchase virtual net metering credits from the customer host, rather than allocating such credits. The virtual net metering facility owner must provide written notice to the electric distribution company of its election to either allocate or have virtual net metering credits purchased by the electric distribution company. For virtual net metering credits purchased under this provision Section 8d, the electric distribution company will make payment by issuing a check to the virtual net metering facility owner each billing period, unless otherwise agreed in writing.

(e) At least sixty days before a municipal or state customer host's virtual net metering facility or an agricultural customer host's agricultural virtual net metering facility becomes operational, the municipal, state or agricultural customer host shall provide written notice to the electric distribution company of its beneficial accounts. The municipal, state or agricultural customer host may change its list of beneficial accounts not more than once annually by providing another sixty days' written notice. The municipal or state customer host shall not designate more than five beneficial accounts, except that such customer host may designate up to five additional nonstate or municipal beneficial accounts, provided such accounts are critical facilities, as defined in subdivision (2) of subsection (a) of section 16-243y, and connected to a microgrid. The agricultural customer host shall not designate more than ten beneficial accounts each of which shall (1) use electricity for the purpose of agriculture, as defined in subsection (q) of section 1-1, (2) be a municipality, or (3) be a noncommercial critical facility, as defined in subdivision (2) of subsection (a) of section 16-243y.

~~(~~ef) (1) On or before October 1, 2013, the Public Utilities Regulatory Authority shall conduct a proceeding to develop the administrative processes and program specifications, including, but not limited to, a cap of ten million dollars per year apportioned to each electric distribution company based on consumer load, for credits provided to beneficial accounts pursuant to subsection (b) of this section and payments made pursuant to subsection (c) of this section, provided the municipal, state and agricultural customer hosts, each in the aggregate, and the designated beneficial accounts of such customer hosts, shall receive not more than forty per cent of the dollar amount established pursuant to this subdivision.

(2) In addition to the provisions of subdivision (1) of this subsection, the authority shall authorize six million dollars per year for municipal customer hosts, apportioned to each electric distribution company based on consumer load, for credits provided to

beneficial accounts pursuant to subsection (b) of this section and payments made pursuant to subsection (c) of this section where such municipal customer hosts have: (A) Submitted an interconnection application to an electric distribution company on or before April 13, 2016, and (B) submitted a virtual net metering application to an electric distribution company on or before April 13, 2016.

(3) In addition to the provisions of subdivisions (1) and (2) of this subsection, the authority shall authorize, apportioned to each electric distribution company based on consumer load for credits provided to beneficial accounts pursuant to subsection (b) of this section and payments made pursuant to subsection (c) of this section three million dollars per year for agricultural customer hosts, provided each agricultural customer host utilizes a virtual net metering facility that is an anaerobic digestion Class I renewable energy source and not less than fifty per cent of the dollar amount for such agricultural customer hosts established under this subparagraph is utilized by anaerobic digestion facilities located on dairy farms that complement such farms' nutrient management plans, as certified by the Department of Agriculture, and that have a goal of utilizing one hundred per cent of the manure generated on such farm.

(4) In addition to the provisions of subdivision (1), (2) and (3) of this subsection, the authority shall authorize up to twenty five (25) cumulative megawatts of eligible small hydroelectric virtual net metering capacity to participate in the program. Such eligible hydroelectric virtual net metering facilities shall be included in the small hydroelectric virtual net metering cap and excluded from other virtual net metering program cost cap limitations. Small hydroelectric virtual net metering shall survive until the cumulative megawatt capacity of eligible hydroelectric facilities, defined in this section, is reached. The authority shall determine an appropriate and proportionate method of allocating costs of eligible hydropower facilities to ensure that the costs of the program are shared collectively among all ratepayers of the electric distribution companies.

(f) On or before January 1, 2013, and annually thereafter, each electric distribution company shall report to the authority on the cost of its virtual net metering program pursuant to this section and the authority shall combine such information and report it annually, in accordance with the provisions of section 11-4a, to the joint standing committee of the General Assembly having cognizance of matters relating to energy.

(g) A municipal, state, public housing authority, low-income customers, moderate-income customers, low-income service organizations, or agricultural customer host shall be allowed to aggregate all electric meters that are billable to such customer host.

(h) Where a virtual net metering facility or agricultural virtual net metering facility requires a permit from the Department of Energy and Environmental Protection under chapter 446c or chapter 446d and the municipal, state or agricultural customer host has

submitted a virtual net metering application to the electric distribution company for such virtual net metering facility or agricultural virtual net metering facility on or before December 1, 2015, and the electric distribution company has accepted such virtual net metering application, such municipal, state or agricultural customer host shall have eighteen months from the date of the issuance of the final permit from the Department of Energy and Environmental Protection to cause such virtual net metering facility or agricultural virtual net metering facility to become operational.