STATE OF MAINE
BEFORE THE 132nd MAINE LEGISLATURE

Testimony in Opposition of LD 1321: An Act to Reform Net Energy Billing by Establishing Limitations on the Programs' Duration and Compensation

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DIRECT TESTIMONY OF ALDEN M. HATHAWAY, P.E. C.E.M. ON BEHALF OF COMMUNITY SOLAR ACCESS AND THE CRANBERRY ISLES COMMUNITY SOLAR ASSOCIATION

April 10, 2025

Q1: PLEASE STATE YOUR NAME, TITLE, AND BUSINESS ADDRESS.

A1: My name is Alden M. Hathaway. I am the Senior Energy Engineer and Project Manager for 2RS Consulting, LLC. Our business address is PO Box 541, Palmyra, Virginia 22963, although I also represent, as President, the Cranberry Isles Community Solar Association, 43 Mosswood, Islesford, Maine 04646.

Q2: ON WHOSE BEHALF ARE YOU TESTIFYING?

A2: I am testifying on behalf of the Cranberry Isles Community Solar Association before the 132nd Maine Legislature.

Q3: MR. HATHAWAY, PLEASE SUMMARIZE YOUR EDUCATIONAL AND PROFESSIONAL EXPERIENCE.

A3: I am Professionally Licensed by the States of Georgia and South Carolina as a Professional Engineer in the relevant field of Engineering Power, Energy and General Electrical Knowledge, with over 41 years of consulting, engineering management, sales, and project development experience in the fields of solar, wind and energy efficiency systems. My Georgia State License Number is #035053 My South Carolina License Number is 34482.

Our consulting practice is focused on energy and sustainability support with engagement in the federal, state, and private sectors. I am also a certified Commissioning Agent specializing in solar energy and energy systems commissioning.

My areas of expertise include: energy efficiency, including lighting, HVAC and industrial process energy/efficiency; renewable energy, including solar and wind, bioenergy and renewable natural gas; energy storage technology, including controls, thermal and electric battery; micro-grids, controls and energy dashboards; plug-in electric vehicles; electrical infrastructure; electric demand and energy bill analysis; Renewable Energy Certificates (RECs), Energy Efficiency Credits (White Tags) and Carbon Offsets, development, tracking mechanisms, sales and consulting.

In my 43+ years of experience, I have worked for three years for two electric utilities, including Georgia Power, Atlanta, GA and Eastern Edison, Providence RI in their energy services and power marketing departments. For over a decade, I worked for two manufacturers, GTE Sylvania Lighting, Danvers, MA and Solarex (a solar manufacturer, originally based in Frederick, MD). For another decade, I worked as an energy consultant in Washington, DC for the USEPA's Energy Star and Green Power Partnership programs, marketing for and implementing the program on behalf of over 1,000 member partners as a manager of a team of up to 16 field engineers. The remaining decade and a half I served Sterling Planet, Atlanta, GA, one of the nation's largest retailers of renewable electricity as its SVP for Business Development, supporting utilities and commercial companies alike in renewable energy procurement, green power programs, REC and Carbon Offset sales and solar and energy-efficient lighting project development and application.

I have developed and hold or been named on three US Patents regarding an Energy Efficient Lighting System, a Direct-Current Based Solar and Lighting Interconnection System, and an Energy Monitoring Algorithm using Artificial Intelligence to Predict Baselines for White Tag Measurements. I have been Recognized with Awards by both the USEPA in the Market Development of the Energy Star Buildings Program, 1995 and the US Department of Energy Wind Advocacy Award, 2005. I was named as Loudoun County, Virginia's Environmental Volunteer of the Year in 2001 for the development of the solar and energy system at the Barns of Franklin Park. I was also recognized as an Association of Energy Engineers (AEE), "Legend in Energy" in 2011 and a Certified Energy Manager since 1993.

I co-founded and have maintained my role as Board Member for the 26-year-old non-profit organization, Solar Light for Africa, which has presided over the installation of over 2,800 solar lighting, power and water systems in nine sub-Saharan African Countries, including Uganda, Tanzania, Rwanda, Kenya, Ethiopia, Sudan, Ghana, Liberia and Sierra Leone. Most systems were off-grid Direct Current based systems, but at least 50 of those systems were grid-tied and 20 of them as microgrid systems. I have also been involved with and/or directly developed solar-microgrid type (solar plus battery plus load) systems in Massachusetts, Pennsylvania, Virginia and Georgia.

I have authored two books on Solar Energy and Net Zero Energy Homes, about our solar home in Virginia and our second solar home in Georgia, including my latest publication, **Energy Independence – The Individual Pursuit of Energy Freedom**, published by River Publishing – 2022. Our first solar home has been featured in at least two other books and major publications: including **The Greened House Effect**, Jeff Wilson, Chelsea Green Publishing, 2013; **The Hathaway "solar patriot" House: A Case Study in Efficiency and Renewable Energy**, Paul Norton, National Renewable Energy Laboratory, 2005; *Piedmont Magazine*, 2008, the front cover of (and inside story) *Mother Earth News*, 2003; the *Washington Post*, 2002; *Solar Today*, 2002; and President Bush's *National Energy Policy* Plan, May, 2001. Our First Solar Home was featured on the National Capital Mall for Earth Day, 2001 and was visited by over 26,000 people including

EPA Administrator Whitman, 14 members of Congress (three US Senators), a number of White House staffers and DOE officials.

I have written extensively on energy policy, energy design and marketing programs, including in: *Public Utilities Fortnightly*, *Consulting/Specifying Engineer*, *AEE Energy Engineering Journal*, *Energy User News*, *World Aid Directory*, *Solar Today* and *North American Clean Energy*. The topics ranged from integrated building designs including lighting, HVAC and solar to increasing load factor on utility systems to reduce overall system cost.

I hold a Bachelor of Science Degree in Electrical Engineering from the University of Virginia. Exhibit A includes my full curriculum vitae.

My work with the Cranberry Isles Community Solar Association is the most significant part of my reason for testifying. Recently, our community was selected by the Energy Transition Initiative Partnership Project to foster greater electric resiliency on our islands. Our plan requires the ability to interact with the electric gird through solar and battery backup, where we require net metering access to enable low and moderate income fishermen, boat builders, carpenters and other grass root business and family members of our community keep their electricity on and at moderate costs.

Q4: HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE MAINE LEGISLATURE?

A4: Yes, I have previously testified before the Maine Legislature. On May 24, 2023, I spoke on behalf of Community Solar Access to the electric grid, Docket No. 1986.

Q5: WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A5: The purpose of my testimony is to comment on the current electrical efficiency of the electric grid in Maine, and the propensity to which that efficiency could be improved through distributed generation technologies deployed at the load, including solar. In my analysis, I project a cost savings across the electrical transmission and distribution system when deploying the same distributed energy technology that rebuts utility claims, testimony suggesting a cost shift from solar customer to non-solar customer. It is my opinion, based on this analysis, that an efficiency across the system benefitting the entire system of ratepayers therefore cannot be a cost shift to non-solar customers adversely affecting their costs, but a natural savings shared by all.

My testimony will address the structure of generating, transmission and distribution assets in Maine, electricity sales through all assets to all Maine customers in the state. I provide a calculation to show the average system load factor, or degree to which those assets are utilized, and then a comparison to other systems where system load factor has been improved and by what degree. I then summarize a system cost reduction on a percentage basis for each basis point improvement in load factor based on other systems, and project the potential system cost reduction in Maine by pursuing a distributed solar generation and battery storage system program.

I will provide a real example of the costs savings opportunity based on our experience on the Cranberry Isles with regard to system investment and maintenance costs serving electricity on a single line serving the islands.

Finally, I will site recent writings by the esteemed, Ahmad Faruqui, Ph.D. a regular witness to many state utility commissions about the costs shifts of solar on the system where he has reversed his position with new found evidence from solar and battery systems, now claiming that solar, especially with battery, reduces transmission and distribution costs across the system. With this information and our own situation, on the Cranberry Isles, I will point with confidence in the ability of distributed generation to lower costs across the system for all rate payers. I will stress that any position by the Maine Legislature on solar net metering should give full energy credit for all kWh generated by individual solar generators to the subscribers of solar systems.

Q4: ARE YOU SUBMITTING EXHIBITS ALONG WITH YOUR TESTIMONY?

A4: Yes, I am submitting one (1) exhibit along with my testimony, as follows:

1 - EXHIBIT-AMH-1: Curriculum Vitae of Alden Hathaway

Q7: MR. HATHAWAY, CAN YOU EXPLAIN WHAT HAPPENS TO ELECTRICAL CURRENT WHEN IT IS GENERATED AT OR NEAR THE LOAD?

A7: Electric current will, as defined by Ohm's law[1], flow in the greater amount through the path of least resistance. Although, current will flow in other paths of higher resistance to ground, ***the majority of current*** will be found in the lowest resistant circuit(s) to ground. Long distance distribution wires have resistance to electric current associated with them. This resistance is directly proportional to the length of the wire and acts as additional resistance to electricity flowing back to the source. The longer the wires the more resistance. When electric current is generated near the load it will flow in the greatest amount through the nearest closed switches and breakers onto electric ground. If all

[1] Ohm, Georg (1827) "The galvanic circuit investigated mathematically" (Ohm's Law)
$I = E/(r + Rl)$ ➔ $I = V / R$, https://en.wikipedia.org/wiki/Ohm's_law

switches are suddenly opened at the main load of the generator source, then the current will now flow in greatest amount onto the connecting wires to the next nearest load and through its switches and breakers to ground. If those switches are opened the current will flow to the next nearest load and so on.

You can picture it like a water system with a water pipe delivering water from a source to a use (or several uses) downhill. The water, once in the pipe, has nowhere to flow but down to the water uses. If additional sources are located near the uses, they will not flow back up hill but rather to the uses further downhill. If the spigot is closed at the first use the water will spill through the pipe to the next nearest use. If that spigot is closed it will flow to the next nearest use and so on. It will, for all intents and purposes, not flow back up the water pipe to the main source because in a multiple use system, there will always be a use open for the water in the neighborhood of uses.

Electric current operates in the same way. There are so many nearby loads that the electric current from a local generating source will always find a nearby load to flow through. The local electric current will always directly support the local electric loads, benefitting the local electric circuit.

Q8: HOW DO THE ELECTRIC METERS OF NEXT DOOR HOMES THAT RECEIVE THIS NEARBY DISTRIBUTED GENERATED ELECTRICITY RECORD THAT ENERGY?

A8: Electric meters do not typically distinguish between electricity from one source or another. The current that flows off of a solar generator system, when not being used by the owner, will flow onto the wires and through the neighbor’s meter to their loads. To the neighbor, the meter simply records electricity used through the wires the house is connected to and would be billed for electricity as if it came from the power plant supplying the electric grid. However, the impact of this to the circuit feeding this neighborhood, is a reduction in the apparent load on the circuit in direct amount equivalent to the capacity of the solar system on the home.

Q9: WHY SHOULD THIS PRACTICE BE ENCOURAGED FROM AN ELECTRICAL SYSTEMS POINT OF VIEW?

A9: Reducing load at the end point of a distribution system reduces the loading on the entire circuit feeding the neighborhood. For utilities with a summertime peak typically occurring in the afternoon, the aggregate summation of solar systems on multiple circuits means that summer peak load reductions are passed back to the substation reducing loading on the transmission lines feeding those substations.

Maine utilities are considered to be summer peaking in general. This means the electric utility can continue to serve a growing commercial and industrial peaking afternoon load with confidence that solar generation is offsetting that growing peak load. Ultimately, this means the utility can forestall otherwise necessary infrastructure investment (additional transmission, new substation transformers, reconductored distribution circuits) saving the entire rate base, otherwise adversely impacted, by those additional costs.

Q10: DO OTHER STATES CONSIDER THE BENEFITS OF DISTRIBUTED GENERATION IN THIS WAY?

A10: Yes, many utilities offer solar net metering with the general understanding that it positively impacts their system offsetting any loss of revenue from the solar generator. Right now, solar net metering (1 to 1 credit for solar generation) is offered in a majority of the states[2] (at least 33 by recent count) across the country. Some states have taken it a step further. In South Carolina, the Commission has introduced the first real-time priced solar net metering, varying the credit with the varying cost to serve electricity within time of use periods.[3]

Q11: ARE THERE ANY STUDIES OF UTILITY SYSTEMS AS A WHOLE ACHIEVING SIGNIFICANT COST REDUCTIONS BY FOCUSING ON DISTRIBUTED GENERATION?

A11: The most famous case of a long-term policy of distributed and demand-side focus by a utility was documented over a 20-year period by the Central Vermont Public Service (CVPS) and published in the Electricity Journal.[4] The report documented a focused utility approach towards investment in energy efficiency, demand response and distributed generation technology in lieu of traditional capacity investment to increase overall system load factor from 55% to 70%.

Q12: WHAT WAS THE REDUCTION IN SYSTEM COSTS FROM THE CVPS PROGRAM?

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[2] Pickrel, Kelly 2022 Update – Which States Offer Net Metering? **Solar Power World**, - https://www.solarpowerworldonline.com/2020/03/which-states-offer-net-metering/
[3] Penrod, Emma 2021 South Carolina to Implement net metering settlement with time-of-use pricing; **Utility Dive** https://www.utilitydive.com/news/south-carolina-to-implement-net-metering-settlement-with-time-of-use-pricin/600581/
[4] Spinner, Howard (1992) The Peak Shifts – 18 Years of Load Management, **The Electricity Journal**
Havel Nos Spine 2002 Demand Response: The Future Ain't what it used to be or is it? (2002)**, The Electricity Journal**

A12: The project's proponent reported the system achieved an overall reduction of $10 million in system cost. If one were to extrapolate across the average ratepayer's bill, assuming 100% went back to the ratepayer it would represent approximately $38.00 annually in savings (about 4%).

Q13: WHAT IS SYSTEM LOAD FACTOR?

A13: Load factor is the ratio of total energy used to serve the load of a given system divided by the total amount of energy that could be generated and pushed through the transmission and distribution system if the load was operated around the clock (24 hours per day, 365 days per year). The average load factor in the US electrical system is about 50%. A 50% system load factor means that a system designed to supply 1 MW of electric capacity to serve a load and could deliver 8,760 MWh of energy to that load over the course of a year, actually only supplies 4,380 MWh of electricity. Because most of the cost of electric supply is tied up in the capacity of the 1 MW system, including power generation, transmission and distribution, there is little additional cost in operating at a higher load factor other than the additional fuel to keep the plant operating. Therefore, a higher load factor results in a significant reduction in the cost per kWh for energy than a lower load factor does.

Consider load factor like one would consider operating a manufacturing plant on one, two or three eight (8) hour shifts per day operations. The plant that operates on one shift per day shows 8 / 24 = 33% load factor. The plant that operates on two shifts per day shows 16 / 24 = 67% load factor. The plant that operates on three shifts per day shows 24 / 24 = 100% load factor. Obviously, all other things being equal, the high load factor manufacturing plant produces units at lower overall costs than the low load factor plant.

Q14: HOW DOES A UTILITY INFLUENCE THE LOAD TO GET HIGHER SYSTEM LOAD FACTOR?

A14: Central Vermont Public Service proved that long-term investment on the demand-side of the meter in multiple distributed, demand-response and energy efficiency technologies across the entire rate base, often referred to as Demand Side Management (DSM), will achieve the desired increase in load factor. (They started in 1974 at 55% and it took them more than 20 years to raise it to 70%.) Therefore, it should be the policy of the Maine Legislature to seek load factor improvement whenever it is low to produce an offsetting reduction in costs, especially when rates are under increased upward pressure.

Q15: WHAT IS THE SYSTEM LOAD FACTOR IN MAINE?

A15: According to the US Energy Information Administration (EIA) data for the state of Maine[5], peak capacity in Maine is 5,252 MW (5.252 GW). At 100% Load Factor, this would yield energy production of 5,252 MW x 8,760 Hrs per year = 46,007,520 MWHs per year. According to the same report net generating data is actually 12,512,181 MWHs per year. Load Factor then is 12,512,181 / 46,007,520 = 27.2%. In other words, even though ratepayers have essentially paid for a system capable of delivering up to 46,007,520 MWHs per year, the entire Maine electric system barely achieves an average load factor well below a one shift operation.

Q16: HAVE YOU EVER STUDIED LOAD FACTORS IN OTHER STATES?

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[5]Energy Information Administration Maine Electricity Profile 2023 https://www.eia.gov/electricity/state/Maine/

A16: Yes, I wrote about it in *North American Clean Energy Magazine*, 2013.[6]

I looked into the load factors of Tennessee, Alabama, Florida, South Carolina, North Carolina as well as Georgia from a period of 2008 – 2011. I found that during that time all states saw a reduction in their system load factor and an increase in electric rates. Of all the six states load factor is better than Maine's.

Q17: OF THE ARTICLE, WHAT STATES HAD THE BEST LOAD FACTORS?

A17: Both North and South Carolina operated with a system load factor in the 50% range and their electric rates across all sectors (residential, commercial, industrial and transportation) average at least 4.5% lower than Georgia (one of the lower load factors at 40%) and almost 29% below Maine's rates.[7]

Q18: HOW MUCH COULD BE SAVED IF MAINE IMPROVED ITS LOAD FACTOR TO 70%?

A18: If the Central Vermont Public System (CVPS) could achieve a 4% cost reduction for a 27.3 % increase in load factor, then it seems quite possible that Maine utilities with a 157 % increase (27.2 – 70 - approximately 5.75 times) could see a 157% fold increase in cost reduction or approximately 10% downward pressure on electric costs. It would take an aggressive program of distributed generation focus to get there, but allowing solar and batteries to be part of the solution under continued net metering is certainly a step in the right direction.

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[6] Hathaway, Alden 2013 Improving System Load Factor – A recipe for containing rates & growing renewable energy, **North American Clean Energy**, www.nacleanenergy.com

[7] USEIA 2021 Total Electric Industry- Average Retail Price (cents/kWh), Available at: eia.gov/electricity/sales_revenue_price/pdf/table4.pdf

Q19: HOW DOES SOLAR, WITH A LOW CAPACITY FACTOR, CONTRIBUTE TO A HIGHER OVER ALL LOAD FACTOR?

A19: For summer peaking utilities, the peak output of the solar, occurring as it does in the afternoon at 12 Noon, lines up well with the natural peak of the Maine electric utility system. As such, distributed solar, especially when placed near the load end of a circuit, reduces that peak demand throughout the system with affects felt back to the supply. Yet, energy use at the load is not reduced as much, thus flattening the load curve and freeing up capacity in the circuit for other loads.

Q20: HOW DOES SOLAR BEHIND-THE-METER BENEFIT THE SYSTEM WHEN APPLIED AT THE LOAD?

A20: When solar is placed at the load it reduces peak demand across the board from the end circuit all the way back to the plants energizing the electric grid. The savings are seen in reduced distribution and transmission impacts, and improved operating efficiencies at the central generating stations. The projection of peak solar demand reduced through a program that added 50,000 more solar roofs or solar subscribers by 2028 would yield as much as 250 MW of offsetting peak load reduction at the circuit end of the electric system about 5% of the system peak demand.

According to a well-publicized article in Electricity Journal, ***The Power of 5 Percent***, [8] "Even a 5 percent drop in peak demand can yield substantial savings in generation, transmission, and distribution costs – enough to eliminate the need for

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[8] Ahmad Faruqui, Ryan Hledik, Sam Newell, Hannes Pfeifenberger, (2007), The Power of 5 Percent, **The Electricity Journal**

installing and running 625 infrequently used peaking power plants and associated power delivery infrastructure. At the national level, this translates into savings of $3 billion a year, or $35 billion over the next two decades."

Q21: WHAT ESTIMATES DO YOU CLAIM ARE THE SAVINGS OF A DISTRIBUTED ROOFTOP SOLAR PROGRAM IN MAINE TO RATEPAYERS?

A21: Let us focus on that prospective size of 5 kW per solar subscriber and an additional 50,000 subscribers for increasing the amount of solar use by residential and small business consumers. This corresponds to a 5% reduction in peak demand and improvement in system load factor by the same amount.

Using the Central Vermont Public Service (now Green Mountain Power) as a reference point; they raised their load factor by 27.3% from 55% to 70% and saw a corresponding 4% savings in utility costs. Thus, raising load factor by 5% should see a corresponding ((5/27.3) x 4%) = 0.7% decline in utility operating costs per year, seen primarily in distribution, transmission and improved central plant operating cost savings.

If we use the metrics suggested by the article, ***The Power of 5 Percent***, as a reference point and extrapolate across the national population (333.29 million) to Maine's population (1.36 million), then the cost reduction projected can be calculated as; (1.36 / 333.29) x $3.0 Billion = $12.2 million per year.

At $12.2 million per year for 50,000 solar subscribers points to a net benefit of $244 per solar customer per year that benefits all Maine ratepayers.

Q22: DO YOU HAVE A REFERENCE FROM YOUR EXPERIENCE ON THE CRANBERRY ISLES THAT DEMONSTRATE SAVINGS FOR ALL MAINE RATE PAYERS?

A22: In fact, I do. The cost to serve electricity on the Cranberry Isles is much higher than the cost for electricity on the mainland, while the cost of frequent and prolonged power outages on the islands exacts a higher cost to islanders than to electric consumers on the mainland. Yet islander electric rates are similar to those on the mainland. In 2022 it was necessary for Versant to lay an underwater distribution cable between Great and Little Cranberry Islands, because the existing one was approaching end of life and was in danger of failing catastrophically. The cost for overhead distribution and one that all ratepayers typically cover in their rates is approximately $700,000 per mile. The cost for that same mile underwater is at least $2 million per mile. The distance underwater for this cable of approximately 0.6 miles means an additional cost for electric service of $800,000 or more that is supported by all Versant rate payers not placed only on the electric customers on Little Cranberry Island (approximately 400 households). In addition, when power outages occur on the single line from the mainland a Versant utility truck and crew must be barged over to stage back in the power at much higher cost than normal.

The Cranberry Isles Community Solar Association believes a solar microgrid (solar plus battery) will improve resiliency on the island saving islanders the cost of power outages and Maine ratepayers the frequent cost of barging a utility crew and truck over to the island. It should also help extend the life of the new underwater cable because of less propensity for heavy electric loading.

Q23: MR. HATHAWAY, DO YOU AGREE THAT SIMPLE RATES ARE IMPORTANT FOR CUSTOMER SATISFACTION?

A22: Yes, one of the reasons we advocate for solar net metering is that we agree with that principle above as electric customers understand the 1 for 1 credit when they generate their own solar energy, especially as they believe they are doing what is right for a resilient and robust electric grid and for the environment. Any rate plan that recalculates the buyback for solar based on what is generated at a different rate than what they pay introduces confusion and suspicion.

Q24: DO YOU AGREE WITH AHMAD FARUQUI'S REFORMED VIEWS ON NET ENERGY METERING?

A24: Yes. Before 2020, Dr. Ahmad Faruqui was a major proponent and witness to utility commissions around the country for restricting net metering.

I draw your Attention to the September 27, 2022 Issue of PV Magazine[9] to the article entitled "Why did I reform my views on Net Energy Metering (NEM)?" by Dr. Ahmad Faruqui. In the article Dr. Faruqui claimed his position against NEM policies had him standing on the wrong side of history. He said people "rich and poor, want to install solar panels. They enhance affordability and green energy. When paired with batteries, they enhance local resilience. They lower investments in the distribution and transmission system."

[9] Faruqui, Ahmad 2022 Why did I reform my views on net energy metering (NEM)? **PV Magazine**, https://pv-magazine-usa.com/202209/27/why-did-i-reform-my-views-on-net-energy-metering-nem/

I reached out to Dr. Faruqui through my linked-in network and told him that I would be speaking to the Georgia Public Service Commission in December, 2022. I asked him what I could say to the Commission about solar panels in the neighborhood. This is what he said: “I am making a qualitative statement here, based on the fact that when many homes in a neighborhood have solar panels, they will be drawing less power from the grid and therefore reduce the need for distribution investments over the long haul. Solar paired with storage effectively resolves the stress on the grid during peak load hours.”

Q25: HAVE YOU SEEN ANY EVIDENCE THAT DISTRIBUTED SOLAR HAS REDUCED DISTRIBUTION COSTS?

A25: Yes. I had the opportunity to attend the National Association of State Energy Officials conference in St. Petersburg, Florida Wednesday, October 12, 2022, where Dr. Justin M. Hill, PhD. PE, Senior Research Engineer for Southern Company Services Inc. was presenting the results on two solar microgrid residential projects for moderate income neighborhoods in Alabama and Georgia. The solar microgrids were successful in their ability to island full neighborhoods - completely separating from the electric grids for periods. I asked Dr. Hill if he could relate the solar microgrids in terms of cost savings to the distribution equipment installed to serve the neighborhood. He addressed me and the audience with his answer. “There was significant reduction in distribution cost required including substation transformer. For the Alabama project the reduction in required equipment size was 50%, freeing up capacity for other loads.”

Q26: WHAT ARE THE CONCLUSIONS OF YOUR ANALYSIS?

A26: In conclusion, if distributed solar helps lower the cost for the entire electric system, it, therefore, cannot be considered as a cost shift subsidy funded by the rate base. In fact, the cost savings of between $200 and $300 per solar subscriber in Maine suggests the Maine Legislature, should be doing all it can to see that consumers can continue to subscribe for solar under net metering provisions for the benefit of all ratepayers. Ensuring access to Net Metering 1:1 credit for all solar at the load is the simplest way to proceed.

Q27: DOES THIS CONCLUDE YOUR TESTIMONY?

A27: Yes.