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Testimony Neither for nor Against
LD 1778, "An Act to Ensure a Sustainable Electric Grid"
May 18, 2023

Senator Lawrence, Representative Zeigler and distinguished members of the Joint Standing Committee on Energy, Utilities, and Technology,

My name is William Harwood, here today as Public Advocate, to testify neither for nor against LD 1778, "An Act to Ensure a Sustainable Electric Grid"

The OPA thanks the sponsor for bringing forward this important bill This bill addresses one of the most important issues facing all of us – how to address the exploding cost of Net Energy Billing (NEB) If nothing is done, the OPA estimates that in two years, the cost of NEB will grow to approximately $220M/year or approximately $275/year for each ratepayer Attached is the OPA's calculation We have also attached a memo from former Maine PUC Director of Electricity and Natural Gas, Faith Huntington, which supports our Office's estimates And this increase will continue for the next 20 years These large rate increases will create additional challenges to meeting the state's climate goals of expanding the use of EVs and heat pumps

The NEB program suffers from three flaws not directly related the amount of the direct subsidy First, there was no thoughtful planning about where these projects should be built Unfortunately, the location appears to have been dictated primarily by the availability of inexpensive land and the proximity to a utility substation As a result, many of these projects under development are located in places where the utility has insufficient capacity to interconnect these projects and/or more energy is not needed This creates costs and major headaches for utility engineers responsible for keeping our lights on

Additionally, the entire concept of "subscribing ratepayers" has created billing confusion and controversy for both utilities and consumers For most community projects, these "subscribing ratepayers" have not provided the land on which the project is sited or

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invested any money in the project And despite the fact that these projects are referred to as "community solar," the program is designed so that projects can be located more than 100 miles away from subscribing ratepayer homes and businesses Our office receives a steady flow of NEB subscribing ratepayers who are confused and angry because the invoices they receive from the utility and the invoices they receive from the NEB developer do not match up and often appear to be addressing different ratepayers When we try to explain the complicated billing system, the subscribed customers often become even more frustrated and want to end their participation as a "subscribing ratepayer"

Finally, the NEB program has an especially negative impact on low-income ratepayers Of the approximately 40,000 ratepayers participating in the NEB program, less than 1,000 are customers enrolled in LIAP Clearly, low-income ratepayers (who like all ratepayers, pay for the cost of the NEB program) are grossly under-represented in the pool of ratepayers participating in the program This raises a basic question of equity

For all those reasons, the OPA agrees that something should be done about the NEB program, but the OPA has reservations about ending the program altogether Prior to the enactment of LD 1711 in 2019, NEB existed under PUC Chapter 313 and was not controversial Small roof top solar projects with capacity of less than 660 KW were allowed to participate in net metering and the overall cost to other ratepayers was modest We think that the Committee should consider returning the program to what it was in 2018 so ratepayers who install small roof top solar panels on their homes and businesses continue to receive the full benefits of the NEB program

In addition, the bill appears to be focusing on future NEB projects and does not address those projects already under development Currently there are approximately 1000 NEB solar projects either in operation or under active development Although we certainly understand that not all of those projects will actually be built, there are credible OPA estimates that when the dust settles, the cost will be approximately $220M/year Before we

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close the door on this session, we owe it to the ratepayers to explore ways to reduce the ongoing subsidy paid to all NEB projects

The bill does not address the need to replace the current NEB program with a more cost-effective program to encourage renewable energy development The OPA recognizes that for economic and environmental reasons, Maine needs more wind and solar in the mix to reduce our dependence on burning natural gas to generate electricity So, we need to signal to the solar industry that reforming the NEB program should not be misinterpreted as a lack of support or appreciation for what they bring to the table The OPA recommends that the bill direct the PUC to set up a competitive bidding program for small solar projects whereby the winning bidders would be rewarded with a long-term Power Purchase Agreement (PPA) with one of the utilities To the extent the solar industry needs more help from the State to grow and expand, this is a far more cost-effective way to provide it

Thank you for your time, attention, and consideration of this testimony The Office of the Public Advocate looks forward to working with the Committee on LD 1778 and will be available for the work session to assist the Committee in its consideration of this bill

Respectfully submitted,

William S. Harwood

William S Harwood
Public Advocate

April 6, 2023

The Cost of Net Energy Billing

NEB Will Cost Ratepayers $220 million/year by 2025

Based on recent projections, Office of Public Advocate estimates that Maine's net energy billing (NEB) programs will cost Maine's ratepayers **approximately $220 million per year starting in 2025** Most of these costs will be recovered from CMP and Versant ratepayers in upcoming stranded cost rates that are set by the Maine PUC The remainder will be recovered from those ratepayers in transmission rates set by the Federal Energy Regulatory Commission

Tariff Rate Program – $161 million/year

The tariff rate program requires utilities to pay subscribing ratepayers for each kWh generated by a tariff rate project The utilities purchase the energy from these projects and immediately sell it into the wholesale energy markets Most of the sales by the utilities are at a loss, and the resulting loss is recovered from all ratepayers in stranded cost rates OPA estimates that CMP and Versant's annual costs under the tariff rate NEB program will reach approximately **$161 million by March 1, 2025**

kWh Credit Program - $56 million/year

The kWh credit program requires utilities to reduce subscribing ratepayers' energy usage by the energy generated by a kWh project, on a one-for-one basis Consequently, for every kWh credited to a subscriber's bill, the utility loses the revenue it would otherwise have received from delivering the energy generated by the kWh project to the subscribing ratepayer and must make up this revenue loss from its other customers OPA estimates that CMP's and Versant's annual lost revenues under the kWh credit program will reach approximately **$56 million by March 1, 2025**

NEB PRICE COMPARISON

- kWh credit for residential customer **24-28 cents/kWh** (depending on utility)
- Original tariff rate credit **21-26 cents/kWh** (depending on customer rate class, utility)
- Tariff rate credit under LD 634 **12-15 cents/kWh** (depending on customer rate class, utility)
- Average price per kWh of renewable energy projects awarded contracts in the PUC's competitive bidding solicitations **3 1 cents/kWh** and **3 5 cents/ kWh**
- Estimated cost of Wholesale PPA for DG solar **5 9-8 6 cents/kWh**
- Average wholesale energy price in the Maine Zone (Mar 2022 – Feb 2023) **8 4 cents/kWh**

Sources

These cost estimates are based on

1. Recent projections from CMP and Versant and assume that only a fraction of NEB projects currently under development will be constructed
2. Recent forecasts of future wholesale energy prices
3. Filings in MPUC Docket Nos 2022-00341 (CMP) and 2023-00076 (Versant Power)
4. Current Standard Offer prices for CMP and Versant Power
5. Current transmission and delivery rates for CMP and Versant Power
6. MPUC Orders in Docket Nos 2020-00033 and 2021-0004 awarding long-term renewable energy contracts
7. GEO's consultant, Synapse Energy Economics estimates for the cost of DG solar

Net Costs of Tariff Rate Program	
Utility	**Annual Cost**
Versant/BHD	$37 million[1]
Versant/MPD	$18 7 million[2]
CMP	$105 million[3]
Total	$160 7 million

Lost Transmission Revenues from kWh Credit Program	
Utility	**Annual Cost**
Versant/BHD	$5 2 million[4]
Versant/MPD	$0 8 million[5]
CMP	$18 5 million[6]
Total	$24 5 million

Lost Distribution Revenues from kWh Credit Program	
Utility	**Annual Cost**
Versant/BHD	$10 2 million[7]
Versant/MPD	$1 5 million[8]
CMP	$19 5 million[9]
Total	$31 2 million

[1] MPUC Docket No 2023 0076, 3/31/23, Exhibit B Versant SC Revenue Requirements 2023 Reconciliation, Tab B1 Forecasted 3 Yr BHD, at Cells G25 and G26

[2] MPUC Docket No 2023 0076, 3/31/23, Exhibit B Versant SC Revenue Requirements 2023 Reconciliation, Tab B1 Forecasted 3 Yr MPD, at Cells G16 and G17

[3] MPUC Docket No 2022 00341, 3/31/23 Stranded Cost Revenue Requirement Filing, Summary SC Exh 1, at Cell P20

[4] MPUC Docket No 2023 00076, 3/31/23 Exhibit B Versant SC Revenue Requirements 2023 Reconciliation, Tab B6 NEB BHD at Rows 99 100 (multiply forecasted generation by currently effective transmission rate for residential and small commercial customers, medium commercial revenue loss not included)

[5] MPUC Docket No 2023 00076, 3/31/23 Exhibit B Versant SC Revenue Requirements 2023 Reconciliation, Tab B6 NEB MPD at Rows 99-100 (multiply forecasted generation by currently effective transmission rate for residential and small commercial customers)

[6] MPUC Docket No 2022 00341, 3/31/23 Stranded Cost Revenue Requirement Filing (backup for kWh lost revenues)

[7] MPUC Docket No 2023 0076, 3/31/23, Exhibit B Versant SC Revenue Requirements 2023 Reconciliation, Tab B1 Forecasted 3 Yr BHD, at Cell G27

[8] MPUC Docket No 2023 0076, 3/31/23, Exhibit B Versant SC Revenue Requirements 2023 Reconciliation, Tab B1 Forecasted 3 Yr MPD, at Cell G18

[9] MPUC Docket No 2022 00341, 3/31/23 Stranded Cost Revenue Requirement Filing, Summary SC Exh 1, at Cell P22

To William Harwood, Maine Public Advocate

From Faith Huntington

Re Net Energy Billing Costs

This memo provides an assessment of the Maine Office of the Public Advocate's (OPA) estimates of costs to ratepayers from Maine's Net Energy Billing Program Specifically, the OPA has estimated that, in the near term (i e , within the next few years), the amount of NEB costs that will be reflected in CMP and Versant rates will be about $220 million/year, which OPA indicates is equivalent to about $275 per customer

This assessment is informed by my direct experience with Maine's NEB programs, which, in turn, is informed by my knowledge of and experience with an array of energy and utility-related matters during my tenure as the Maine PUC's Director of Electricity and Natural Gas In particular, prior to my recent retirement, I was involved in the development of the PUC's Net Energy Billing Rule (Chapter 313) and have previously provided assessments of the cost consequences to ratepayers from the NEB programs

In preparing this memo, I developed a comparison set of NEB cost estimates, the detail for which is provided below [1] In short, the OPA estimate of $220 million/year provides a reasonable estimate of near-term NEB cost impacts, but it may significantly understate costs in the medium and longer term given that NEB-related costs are likely to continue to increase over time as (i) projects reach commercial operation and (ii) the retail rates (upon which NEB credits are based) increase As detailed below, ratepayer costs for NEB projects already in operation (as of the end of Q1 2023) are estimated to be in excess of $80 million/year As projects continue to reach commercial operation over the next few years, costs will continue to increase to levels in the range of (or in excess of) the OPA's estimate of $220 million/year By way of example, if all of the

[1] Information about the projects participating in NEB is provided in monthly reports filed by CMP and Versant in PUC Docket No 2020-00199 The number of projects and MW amounts provided in these reports reflect actual projects and their status, i e , are factual, and are not based on utility estimates, assumptions, or projections

NEB projects currently "in the queue" [2] reach commercial operation over the next few years, NEB costs to ratepayers would be in excess of $380 million/year even without factoring in increases to the NEB credits likely to occur as a result of retail rate increases Of course, it is understood that some of the projects currently in the queue will never reach commercial operation, however, the queue is not closed, and projects are likely to continue to seek to participate in the program On this point, the observed growth in NEB projects is worth noting For example, as of the end of Q1 2023, there was about 2,000 MW worth of NEB projects either in operation, under development, or pending, compared to about 1,500 MW as of the end of Q1 2021, i e , an increase of one-third In terms of progress toward reaching commercial operation, as of the end of Q1 2023 there was more than 400 MW worth of NEB projects in operation, compared to about 100 MW at the end of Q1 2021, i e , an increase by a factor of four These trends indicate the strong growth in the NEB program, notwithstanding the reality that there will be "attrition" as certain projects in the queue at any given time drop out

The attached Figures provide additional detail regarding estimates of NEB-related costs As noted, these estimates do not include potential increases/decreases from (i) higher/lower retail rates, (ii) attrition, (iii) continued growth as new projects apply Finally, as noted in the Figures, there are potential ratepayer cost implications for standard offer service that are not reflected in any of these (or the OPA's) estimates

Figures Attached Below

[2] "In the queue" refers to projects that have an executed NEB Agreement or an application pending

Figure 1

NEB MW Amounts Based on CMP and Versant
March 2023 Reports in Docket 2020-00199

OPERATING PROJECTS ONLY ***437*** ***MW***

		MW	kWh/year	Net Cost/kWh	Lost T&D Revenue/kWh	Annual Cost/Lost Revenue
CMP service territory						
Tariff Rate Program	*Note 2*	194	339 888 000	0 1300		$ 44 185 440
kWh Credit Program	*Note 3*	184	322 368 000		0 0842	$ 27 134 359
Total		378	662,256 000			$ 71,319 799
Versant service territory						
Tariff Rate Program	*Note 2*	32	55,538,400	0 1300		$ 7 219 992
kWh Credit Program	*Note 3*	28	48 180 000		0 0948	$ 4 566,019
Total		59	103 718 400			$ 11,786,011
Total						
Tariff Rate Program		226	395 426 400			$ 51,405 432
kWh Credit Program		212	370 548 000			$ 31 700 378
Total		**437**	765 974 400	***Total Cost/Year***		***$ 83,105,810***
Reflects total retail sales	***12,000,000,000 kWh/yr***			***Cost per retail kWh***		***$ 0 007***
				Illustrative Customer Cost per Year		
Reflects customer use of ~	***6,600 kWh/yr***			***Avg Residential***		***$ 46***
Reflects customer use of ~	***10,000 kWh/yr***			***Small Commercial***		***$ 69***
Reflects customer use of ~	***200,000 kWh/yr***			***Medium C/I***		***$ 1,385***
Reflects customer use of ~	***6,000,000 kWh/yr***			***Large C/I***		***$ 41,553***

Note 1 NEB reports include projects that are operational as well as projects with NEB Agreements and Applications that are not yet operational
Note 2 Tariff Rate assumed to be $0 20/kWh, Market value of energy assumed to be $0 07/kWh
Note 3 T&D rates from CMP and Versant March 2023 reports in Docket 2020-00199
Note 4 Cost and rate impact amounts do not include potential effects of NEB kWh Credit Program on SOS prices
Note 5 Cost and rate impact amounts do not include savings to participating NEB customers

Figure 2

Net Energy Billing
Ratepayer Cost and Rate Impacts
Updated April 2023

NEB MW Amounts Based on CMP and Versant
March 2023 Reports in Docket 2020-00199

OPERATING PROJECTS AND PROJECTS IN DEVELOPMENT ***1,687 MW***

Note "In Development" refers to projects with exectuted NEB Agreements

		MW	kWh/year	Net Cost/kWh	Lost T&D Revenue/kWh	Annual Cost/Lost Revenue
CMP service territory						
Tariff Rate Program	*Note 2*	735	1 287 019 200	0 1300		$ 167 312 496
kWh Credit Program	*Note 3*	567	992 683 200		0 0842	$ 83 556 130
Total		1,301	2 279 702 400			$ 250 868 626
Versant service territory						
Tariff Rate Program	*Note 2*	228	398 930 400	0 1300		$ 51 860 952
kWh Credit Program	*Note 3*	158	276 290 400		0 0948	$ 26 184 041
Total		385	675 220 800			$ 78 044 993
Total						
Tariff Rate Program		962	1 685 949 600			$ 219 173 448
kWh Credit Program		724	1 268 973 600			$ 109 740 172
Total		**1,687**	2 954 923 200	***Total Cost/Year***		***$ 328,913,620***
Reflects total retail sales	***12,000 000,000 kWh/yr***			***Cost per retail kWh***		***$ 0 027***
				Illustrative Customer Cost per Year		
Reflects customer use of ~	***6,600 kWh/yr***			***Avg Residential***		***$ 181***
Reflects customer use of ~	***10,000 kWh/yr***			***Small Commercial***		***$ 274***
Reflects customer use of ~	***200,000 kWh/yr***			***Medium C/I***		***$ 5,482***
Reflects customer use of ~	***6,000,000 kWh/yr***			***Large C/I***		***$ 164,457***

Note 1 NEB reports include projects that are operational as well as projects with NEB Agreements and Applications that are not yet operational
Note 2 Tariff Rate assumed to be $0 20/kWh, Market value of energy assumed to be $0 07/kWh
Note 3 T&D rates from CMP and Versant March 2023 reports in Docket 2020-00199
Note 4 Cost and rate impact amounts do not include potential effects of NEB kWh Credit Program on SOS prices
Note 5 Cost and rate impact amounts do not include savings to participating NEB customers

Figure 3

Net Energy Billing
Ratepayer Cost and Rate Impacts
Updated April 2023

NEB MW Amounts Based on CMP and Versant
March 2023 Reports in Docket 2020-00199

OPERATING PROJECTS AND PROJECTS IN DEVELOPMENT OR PENDING 2,000 MW

Note "In Development" refers to projects with executed NEB Agreements,
"Pending" refers to projects that have submitted NEB applications but do not yet have an executed Agreement

CMP service territory		MW	kWh/year	Net Cost/kWh	Lost T&D Revenue/kWh	Annual Cost/Lost Revenue
Tariff Rate Program	*Note 2*	806	1 411 761 600	0 1300		$ 183 529 008
kWh Credit Program	*Note 3*	676	1 185 052 800		0 0842	$ 99 748 264
Total		1,482	2 596 814 400			$ 283 277 272
Versant service territory						
Tariff Rate Program	*Note 2*	279	489 158 400	0 1300		$ 63 590 592
kWh Credit Program	*Note 3*	239	418 728 000		0 0948	$ 39 682 853
Total		518	907 886 400			$ 103 273 445
Total						
Tariff Rate Program		1,085	1 900 920 000			$ 247 119 600
kWh Credit Program		915	1 603 780 800			$ 139 431 117
Total		**2,000**	3 504 700 800	***Total Cost/Year***		$ ***386,550,717***
Reflects total retail sales	***12 000,000,000 kWh/yr***			***Cost per retail kWh***		$ ***0 032***
				Illustrative Customer Cost per Year		
Reflects customer use of ~	***6,600 kWh/yr***			***Avg Residential***		$ ***213***
Reflects customer use of ~	***10,000 kWh/yr***			***Small Commercial***		$ ***322***
Reflects customer use of ~	***200,000 kWh/yr***			***Medium C/I***		$ ***6,443***
Reflects customer use of ~	***6,000,000 kWh/yr***			***Large C/I***		$ ***193,275***

Note 1 NEB reports include projects that are operational as well as projects with NEB Agreements and Applications that are not yet operational
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