June 2nd, 2025 *Submitted electronically via: dpu.efiling@mass.gov and marc.tassone@mass.gov*

Mark D. Marini
Secretary
Department of Public Utilities
One South Station
Boston, Massachusetts 02110

Re: D.P.U. 25-08 Inquiry by the Department of Public Utilities on its own Motion into a Seasonal Heat-Pump Rate

Dear Secretary Marini,

On behalf of Northeast Energy Efficiency Partnerships (NEEP)[1], I am pleased to submit comments relative to D.P.U. 25-08 Inquiry by the Department of Public Utilities ("D.P.U.") on its own Motion into a Seasonal Heat-Pump Rate. NEEP is a non-profit whose mission is to accelerate regional collaboration to promote advanced energy efficiency and related solutions in homes, buildings, industry, and communities.

We thank the D.P.U. for the opportunity to provide input on the adoption of the Interagency Rates Working Group ("IRWG") recommendations for seasonal heat-pump rate design. We commend the D.P.U. for their commitment to promoting heat-pump adoption for space heating through the current seasonal heat-pump rates for Unitil and National Grid, and for opening the current inquiry. The following comments are intended to provide technical assistance and resources relating to seasonal heat-pump specific rates. NEEP has tools and resources available, as well as direct technical assistance.

NEEP supports the IRWG recommendation of seasonally differentiated volumetric delivery rates, inclusive of distribution charges, transmission charges, and all reconciling charges

Seasonal heat-pump rates serve as a near-term strategy to remove inherent barriers to space heating electrification in existing rates. This proceeding and the IRWG seek to design cost-based electric rates that encourage ratepayers to electrify end-uses. Under existing electric rates, transitioning from natural gas to an electric heat-pump can increase a household's energy burden and prevent the electrification of space heating, especially for low- and moderate-income ("LMI") customers.

In order to address this economic barrier to equitable building electrification, NEEP supports the recommendations of the IRWG to increase the seasonal differentiation in volumetric delivery rates to bring the cost of heat-pump and natural gas heating closer to parity. NEEP agrees with the IRWG that the inclusion of

[1] These comments are offered by NEEP staff and do not necessarily represent the view of the NEEP Board of Directors, sponsors or partners. NEEP is a 501 (c)(3) non-profit organization that does not lobby or litigate.

volumetric transmission and reconciling charges is the simplest method of achieving a greater seasonal differential in rates and is necessary to make the seasonal heat-pump rates truly revenue neutral with respect to non-participants. Without providing parity in heating costs for converting natural gas customers, the seasonal heat-pump rates will not send effective price signals for electrification or conservation.

NEEP supports the IRWG's recommendations for making enrollment into the heat-pump rate as user-friendly as possible. Customers installing heat-pumps through Mass Save should be seamlessly added to the seasonal heat-pump rate. NEEP recommends that energy efficiency and weatherization upgrades be made in concert with heat pump installation and seasonal heat-pump rate enrollment to the maximum extent possible to further mitigate potential increases in energy burden.

Seasonally differentiated rates that do not achieve cost parity with natural gas heating will not create clear price signals for customers

It is important to ensure that any seasonal rate reduction achieves cost parity with natural gas to drive the market transformation and bill reductions Massachusetts is hoping to achieve. Analysis in the IRWG Near-Term Rate Strategy Report and real-world performance data from local program implementation experts, illustrated in the figures below, shows that the current approved heat-pump rates for Unitil and National Grid do not sufficiently offset the operational costs between heat-pumps and gas heating. The current seasonal heat-pump delivery rates are $0.20/kWh for Unitil ($0.34/kWh including supply) and $0.13/kWh for National Grid ($0.29/kWh including supply, and Eversource's current residential delivery rate is $0.18/kWh ($0.33/kWh including supply).

IRWG proposed seasonal delivery rates of: 0.09 $/kWh for Unitil ($0.23/kWh including supply) and $0.06/kWh for National Grid ($0.22/kWh including supply) and Eversource ($0.21/kWh including supply). As shown by the real-world data, this could still be insufficient to achieve parity with gas heating for installations in Massachusetts.

Part of this gap stems from the need to accurately estimate the real-world SCOP of commonly installed heat-pumps. Abode Energy Management collects and analyzes a substantial data set of real-world SCOPs, through both bin analysis using NEEP's manufacture-provided performance data and with continuous electricity use monitoring. Unfortunately, real-world SCOPs of commonly installed equipment fall in the 2.3-2.7 range. This is substantially lower than the E3-prepared results in the IRWG Near-Term Rate Strategy Report estimating SCOPs of 2.6-3.2. Actual SCOPs are lower; therefore, rates must be substantially lowered to achieve the goal of rate parity between heat-pumps and natural gas. The following tables lay out the rates needed to achieve parity based on real-world, commonly installed equipment in Massachusetts.

Change in Annual Heating Cost

Average performing 1800 sqft home in MA

Gas to Heat Pumps

Existing Annual Heating Cost ***$1,630***

Cost increase			Avg Performance (SCOP)				
Electric Rate	3.1	2.9	2.7	2.5	2.3	2.1	1.9
$0.34	$394	$534	$694	$880	$1,098	$1,358	$1,673
$0.33	$335	$470	$626	$806	$1,018	$1,271	$1,576
$0.32	$275	$406	$557	$732	$938	$1,183	$1,479
$0.31	$215	$343	$489	$659	$858	$1,095	$1,382
$0.30	$156	$279	$421	$585	$777	$1,007	$1,284
$0.29	$96	$215	$352	$511	$697	$919	$1,187
$0.28	$37	$152	$284	$437	$617	$831	$1,090
$0.27	-$23	$88	$215	$363	$537	$743	$993
$0.26	-$82	$24	$147	$289	$456	$655	$896
$0.25	-$142	-$39	$79	$215	$376	$567	$799
$0.24	-$202	-$103	$10	$142	$296	$479	$701
$0.23	-$261	-$167	-$58	$68	$215	$391	$604
$0.22	-$321	-$230	-$127	-$6	$135	$303	$507
$0.21	-$380	-$294	-$195	-$80	$55	$215	$410
$0.20	-$440	-$358	-$263	-$154	-$25	$127	$313
$0.19	-$499	-$421	-$332	-$228	-$106	$40	$215
$0.18	-$559	-$485	-$400	-$302	-$186	-$48	$118

Current residential rate (Eversource and National Grid)

DPU- Approved rate (National Grid)

IRWG Proposed rate (Eversource and National Grid)

Oil to Heat Pumps

Existing Annual Heating Cost ***$1,890***

Cost increase			Avg Performance (SCOP)				
Electric Rate	3.1	2.9	2.7	2.5	2.3	2.1	1.9
$0.34	$170	$312	$475	$664	$886	$1,150	$1,469
$0.33	$110	$248	$406	$589	$804	$1,060	$1,371
$0.32	$49	$183	$336	$514	$723	$971	$1,272
$0.31	-$11	$118	$267	$439	$641	$882	$1,173
$0.30	-$72	$54	$197	$364	$560	$793	$1,075
$0.29	-$132	-$11	$128	$289	$478	$703	$976
$0.28	-$193	-$76	$58	$214	$397	$614	$877
$0.27	-$253	-$140	-$11	$139	$315	$525	$778
$0.26	-$314	-$205	-$81	$64	$233	$435	$680
$0.25	-$374	-$270	-$150	-$11	$152	$346	$581
$0.24	-$435	-$334	-$220	-$86	$70	$257	$482
$0.23	-$495	-$399	-$289	-$161	-$11	$167	$384
$0.22	-$556	-$464	-$358	-$236	-$93	$78	$285
$0.21	-$616	-$528	-$428	-$311	-$174	-$11	$186
$0.20	-$677	-$593	-$497	-$386	-$256	-$100	$88
$0.19	-$737	-$658	-$567	-$461	-$337	-$190	-$11
$0.18	-$798	-$722	-$636	-$536	-$419	-$279	-$110

Current total cost/kWh (Eversource and National Grid)

DPU- Approved rate (National Grid)

IRWG Proposed rate (Eversource and National Grid)

Assumptions:

Electric rate: Total electricity rates including delivery and supply
Load: Average 1800 sqft MA home with a heating load of ~64 MMBtus
Fuels and efficiency: Gas at 90% AFUE requiring 700 therms. Oil at 84% AFUE requiring 550 gallons
Rates: Gas $2.33 per therm. Oil $3.43 per gallon.

It is important to consider that if seasonal heat-pump electric rates are set below the standard residential rate but above the rate necessary to equal the cost of gas heating, hybrid heat customers have a clear price signal to over-rely on their gas heating instead of only using gas as a supplement to their heat-pump on the coldest days of the year. Hybrid heat customers will also have less of a price signal to conserve their non-heating electric usage during the seasonal period due to the lower than standard residential rate.

NEEP supports the IRWG recommendations on customer outreach, education, and protection and emphasizes the importance of energy efficiency upgrades in bill increase mitigation

Easy enrollment and successful promotion of the seasonal heat-pump rate will be crucial to ensuring it achieves its policy goal of increasing heat-pump adoption and reducing energy burdens for current heat-pump customers. Customers receiving incentives for heat-pump installation from Mass Save should be seamlessly added to the seasonal heat-pump rate. It will be important to also educate contractors on the heat-pump rates so they can inform customers of the opportunity. Massachusetts can also consideration creation of an online resource center for rate assistance and energy efficiency programs to help LMI customers connect with programs to lower their energy bills or lower their energy usage. Pairing information on budget billing with materials promoting the seasonal heat-pump rate for LMI can help to prevent any unexpected high bills from the addition of summer cooling for those who currently do not have it.

Heat-pump installation and seasonal heat-pump rate enrollment should be paired with building envelope and weatherization upgrades to further decrease energy burden impacts, especially for LMI participants

As detailed above, the IRWG proposed seasonal heat-pump rates would approach cost parity with gas heating, but may still result in slight bill increases for some customers based on real-world performance. The Massachusetts Study on Time-Varying Rate Design to Enable Electrification prepared by Advanced Energy United shows that pairing enhanced insulation with heat-pump installations saves an extra $765 annually at current residential rates. Even with discounted seasonal heat-pump rates this still represents a significant savings benefit, and the bill savings from efficiency paired together with the rate sends a strong price signal in favor of electrification. This can also reduce energy burdens while simultaneously electrifying which is especially important for LMI customers and those already facing high energy burdens from their current heating.

One of the key challenges in the low-income segment is that existing financial support mechanisms—such as reduced utility rates and fuel assistance—often make fossil fuel options equally or more affordable than electrification. As a result, customers may have a greater financial incentive to remain on their current fossil fuel systems and apply for reduced rates and fuel assistance, especially if they are not already enrolled. This further emphasizes the impact that pairing electrification with simultaneous efficiency and weatherization upgrades can have in driving low-income heat-pump adoption and reducing low-income energy bills. The D.P.U. could also consider including a provision to ensure that R2 rates are reduced by a comparable or greater amount than the IRWG proposal which could help shift the economic balance inclusive of subsides, making electrification a more attractive and financially viable option for low-income households.

Conclusion

We thank the D.P.U. for the opportunity to provide input in the development of Massachusetts' seasonal heat-pump rates, and the IRWG for performing their analysis and providing their detailed recommendations. NEEP supports the adoption of the rates and customer engagement provisions proposed in the IRWG Near-Term Rate Strategy Recommendations. In addition, pairing the IRWG recommended rates with other building efficiency upgrades and potential further rate modifications can provide an equitable transition for LMI customers who may face an effective increased differential between the cost of gas and electric heating and are already energy burdened. These near-term changes can start to allocate costs more equitably and efficiently while driving electrification and reducing emissions.

Seasonal heat-pump rates can also serve as a gateway to additional next-generation rate designs, like time-of-use rates, while the utilities finish their advanced metering infrastructure rollouts, which are projected to finish by 2029. These next-generation rates can account for the changes will be needed to account for the increased demand, summer to winter peak shift, and increasing prevalence of distributed energy as detailed in the IRWG Long-Term Ratemaking Study. We appreciate the opportunity to provide input, and NEEP is available to provide technical assistance and assist the D.P.U. in designing equitable rates and other electrification and efficiency provisions.

Sincerely,

Joseph O'Brien-Applegate
Manager, Policy and Programs
Northeast Energy Efficiency Partnerships
jobrienapplegate@neep.org