



HINGHAM MUNICIPAL LIGHTING PLANT

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Laura M. Burns, Chair
Michael Reive, Vice-Chair
Tyler Herrald, Secretary

REGULAR MEETING
HINGHAM MUNICIPAL LIGHT BOARD
January 14, 2025

A regular meeting of the Board of Commissioners of the Hingham Municipal Light Plant (HMLP) was called to order by the Board's Chair, Laura Burns, at 4:00 pm on Tuesday, January 14, 2025, via Zoom.

Present:

Board Members:

Laura Burns, Chairperson
Michael Reive, Vice-Chairperson
Tyler Herrald, Secretary

HMLP:

Thomas Morahan, General Manager
Mark Fahey, Assistant General Manager
Steven Girardi, Engineering Manager
Joan Griffin, Business Manager
Brianna Bennett, Sustainability Coordinator

Meeting Called to Order

Ms. Burns read the following disclaimer into the record: *This meeting is being held remotely as an alternative means of public access pursuant to Chapter 2 of the Act of 2023 and all other applicable laws temporarily amending certain provisions of the Open Meeting Law. You're hereby advised that this meeting and all communications during this meeting may be recorded by the Town of Hingham in accordance with the Open Meeting Law. If any participant wishes to record this meeting, please notify the chair at the start of the meeting in accordance with M.G.L. c. 30A, § 20(f) so that the chair may inform all other participants of said recording.*

Ms. Burns asked if anyone other than HMLP wished to record the meeting. No one responded affirmatively.

HMLP Sustainability Plan - David Shpigler – The Shpigler Group

Hingham Municipal Lighting Plant (HMLP) is considering partnering with The Shpigler Group to develop a strategic plan for HMLP, using modeling to evaluate future actions, costs, benefits, and impacts. David Shpigler presented an overview of the firm's proposal to assess grid modernization opportunities.

The Shpigler Group, a utility-focused consulting firm with over 23 years of experience, specializes in power supply strategies, distribution automation, metering infrastructure, and rate structures. Their approach emphasizes industry expertise, data-driven analysis, and efficient execution. Having worked with 280 utilities nationwide, they offer tailored assessments and full project support. For HMLP, the plan includes an initial evaluation to establish a foundation for long-term initiatives.

HMLP is focused on maintaining reasonable rates, high quality service, and environmental sustainability. Over the next five years, key priorities include grid modernization, power supply challenges, electrification, and distributed energy resources (DERs).

To navigate industry changes, HMLP must assess its resource mix, market conditions, and infrastructure needs, including metering upgrades for better data-driven decisions. Electrification growth will require grid readiness and pricing strategy adjustments, while DER integration should consider generation, storage, and demand management solutions.

A strategic approach must identify high-value initiatives while balancing economic, operational, and environmental benefits. Tailored planning, network architecture integration, impact analysis, and funding opportunities will be crucial in shaping a sustainable and resilient future for HMLP.

Ms. Burns questioned whether a five-year study timeframe was appropriate, considering the rapidly changing energy landscape. It was explained that while longer projections introduce more uncertainty, a five-year outlook provides a solid foundation with high confidence. Typically, models extend over 10 years, with the first five being more predictable. Monte Carlo simulations can help manage uncertainty by analyzing potential outcomes and guiding risk-informed decisions.

Mr. Reive raised two key points: the influx of new technologies and grant funding, and the identification of the top five most valuable options, including Artificial Intelligence (AI) role in the models.

Mr. Shpigler clarified that AI is not a standalone use case but an enabler that enhances existing initiatives. He highlighted the potential of leveraging metering systems for infrastructure insights, such as detecting transformer issues or managing capacity constraints from increased Electric Vehicle (EV) usage.

Ms. Burns asked whether purchasing batteries and discharging them during peak hours (5–7 PM) could help reduce electricity costs, particularly for the 10% of power supply not covered by existing contracts. She also inquired about emerging battery technologies suited for this purpose.

Mr. Shpigler confirmed that energy storage can optimize costs through energy arbitrage—charging batteries during off-peak hours and discharging during peak times to capitalize on price differences. He highlighted additional benefits, such as collaborating with generation and transmission providers for frequency regulation, reducing demand at the transmission level to defer infrastructure investments, and improving grid stability at the distribution level.

Regarding battery types, Mr. Shpigler explained:

- **Power batteries (e.g., lithium-ion):** Provide short, high-power discharges (15–30 minutes), ideal for quick response applications.
- **Energy batteries (e.g., flow or metal-air):** Offer longer discharge durations (4–8 hours), making them better suited for sustained peak-time use, such as the proposed 5–7 PM window.

Ultimately, the choice of battery technology depends on specific operational goals.

The proposal outlines several key phases for grid modernization:

1. **Grid Modernization Assessment** – Modeling and developing the grid system.
2. **Power Supply Analysis** – Evaluating the energy resource mix and storage options.
3. **Program Definition** – Defining various use cases based on modeling.
4. **Program Optimization** – Running analyses (e.g., Monte Carlo simulations) to determine optimal scenarios.
5. **System Analysis** – Designing system architecture by integrating all components.
6. **Funding Strategies** – Identifying and securing funding sources like government grants.
7. **Strategy Development** – Creating an overarching plan based on findings.
8. **Final Recommendations** – Delivering a roadmap for implementation.

The project will involve financial analysis which will cover benefits, expenses, capital costs, and cash flows under different scenarios. Initial steps include data gathering and strategic visioning to build an analytical model. The program optimization phase will assess the financial viability of different initiatives, while system integration will focus on aligning new and existing technologies.

Risk management is a key component, with considerations for cybersecurity and technical gaps. The roadmap and deployment phase will outline procurement, design, and execution strategies. Additionally, ratepayer incentives can be analyzed to optimize programs like demand response.

Regarding study duration, modeling can be set for five or ten years at no extra cost if determined upfront, but mid-study changes would require a rebuild.

Ms. Burns recommended that Mr. Morahan and Mr. Shpigler continue discussions, as the study's details fall under the General Manager's authority. The board supports the study but will defer the final decision to him.

Meeting Minutes 12/17/24

A vote to approve the meeting minutes of 12/17/24 was moved to the next Board meeting.

General Manager Contract Expiring 6/30/25

The Board was informed that the General Manager's contract expires on June 30th and that a review process must be established. Some aspects of the review can be conducted in executive session, while others must be public. HMLP Counsel, Deidra Lawrence, will provide guidance on legal considerations. The goal is to notify the Board and begin work on a new contract.

HMLP Budget

The five-year capital plan focuses on system capacity and reliability improvements, including upgrading main lines to a larger system, ongoing tree trimming, and adding reclosers for better load-shifting. HMLP will add SCADA Controlled equipment including fiber installation to improve communication and equipment monitoring. Transmission projects are ongoing, with a 2026 focus on consultation and permitting. Vehicle fleet upgrades and planned projects include AMI metering in 2027, with a new enterprise system to manage it in 2026.

Ms. Burns inquired about the percentage of the system already upgraded, with 75% completed and remaining work focused on certain circuits. Mr. Reive suggested moving the AMI metering project forward, which Ms. Burns agreed, citing clearer project impact once everything is connected. Mr. Morahan said the transition to a new enterprise system before AMI is necessary, and the water system's customer service will also be transferred in July and they will need to be converted into the Cogsdale system before we can transition to a new AMI system.

Regarding the 2025 budget, operating revenues were based on 2024 figures with a 3% increase in expenses. Net income was calculated, but the estimated return on the gross plant is slightly above the 8% threshold, prompting adjustments via the Power Cost Adjustment (PCA) to stay within limits.

Weir River Water Customer Service/Billing

Mr. Morahan has made the decision to take over customer service and billing for the Weir River Water System (WRWS) and is seeking the Board's support. He stated that this transition will not affect Hingham Light ratepayers, as all costs will be covered by WRWS. He believes this change will benefit both water and electric ratepayers and welcomes any concerns from the Board before moving forward.

3-year Summary and YTD – November 2024

For November 2024, net income was \$448,000, bringing the year-to-date income to just over \$5 million—very close to last year's figures. The main concern this year has been staying within the 8% cap while also setting aside funds for the transmission project.

Currently, as long as December’s net income remains below \$700,000, the total return should stay within the 8% limit. Historically, net income for December has not exceeded this amount, so we are confident that we will remain under the cap for 2024.

month/year	kwh sold	revenue	expenses	net income
Nov-24	14,301,194	2,528,453	2,079,558	448,895
Nov-23	13,607,917	2,289,528	2,135,773	153,755
Nov-22	12,716,842	2,435,127	2,161,879	273,248
YTD/year				
Nov-24	175,872,535	32,533,825	27,471,507	5,062,318
Nov-23	171,662,047	32,257,633	27,202,876	5,054,757
Nov-22	176,469,589	31,318,141	28,330,871	2,987,270

Updates: Transmission Line Project, Municipal Solar, Capital Projects

The Solar Task Force proposes submitting a warrant article to Town Meeting, requesting funds from the unassigned fund balance to conduct a study on the condition of municipal and school roofs for potential solar panel installations. The Light Plant’s legal counsel advised that ratepayer funds couldn’t be used, as the study would benefit the town more than the ratepayers. The unassigned fund balance exceeds policy thresholds, so the task force suggests using these funds for the study.

The study's cost is uncertain, but the Town Administrator’s staff recommended issuing an RFQ to determine pricing. Initial discussions with Select Board members indicate support for the idea. A draft warrant article has been prepared, requesting town funding for the roof condition study for capital planning.

The Light Board seeks approval to advance the proposal to the Select Board and Advisory Committee to obtain a cost estimate via RFQ. Ms. Burns moved to forward the article to the Select Board with the Hingham Light Board's support. The article would be stated as “Will the Town raise and appropriate, or transfer from available funds, a sum of money for conducting a study of the condition of Town and School roofs for the purpose of capital planning?”.

The Board then voted to approve the motion.

- Mr. Herrald: "Aye."
- Mr. Reive: "Aye."
- Ms. Burns: "Aye."

Motion to adjourn

Ms. Burns entertained a motion to adjourn.

Mr. Reive: “Aye”

Mr. Herrald: “Aye”

Ms. Burns: “Aye”

The meeting adjourned at approximately 5:40 pm.