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THE MAINE SENATE
131st Legislature

Testimony of Senator Nicole Grohoski
In Support of LD 589, "An Act to Ensure that the Maine Electric Grid provides
Additional Benefits to Maine Ratepayers"

Before the Committee on Energy, Utilities and Technology
11 January 2024

Good afternoon Senator Lawrence, Representative Zeigler, and fellow members of the Joint Standing Committee on Energy, Utilities and Technology. As you know, my name is Nicole Grohoski and I am honored to represent the 22 communities of Senate District 7. I am here in support of LD 589, "An Act to Ensure that the Maine Electric Grid provides Additional Benefits to Maine Ratepayers."

This bill was printed as a concept draft and has been expanded into more detailed language via the sponsor's amendment circulated on January 8, 2024. My testimony will address that amendment, which has two parts.

The first part requires the Public Utilities Commission to investigate grid enhancing technologies (GETs) that our electric utilities could utilize to minimize the need for investment in new grid infrastructure. These technologies would benefit ratepayers by helping us get more out of the grid we have now. Our policies and rate structures need to create a clear pathway for our utilities to use newer technologies that are cost-effective and in the public interest. The use of some technologies may not be in the purview of state regulators, so this investigation will consider how the state might advocate for their adoption.

Some examples of these technologies are: reconductoring transmission and distribution lines, dynamic line ratings, advanced power flow control, and topology optimization software. Instead of elaborating on those here, I've attached a short article on one of these technologies to pique your interest and would also recommend googling "grid enhancing technologies" to find many helpful resources.

The second part of the amendment requires the Commission to conduct a beneficial load study. The goal of this study is to complement ongoing grid planning and clean energy transition planning being conducted by several state entities. We have many electrification policies that

will result in more electrons flowing across our grid, but where and when the increased load ends up on the grid matters to ratepayers and to the efficient use of the infrastructure we have now and how much we will need to build.

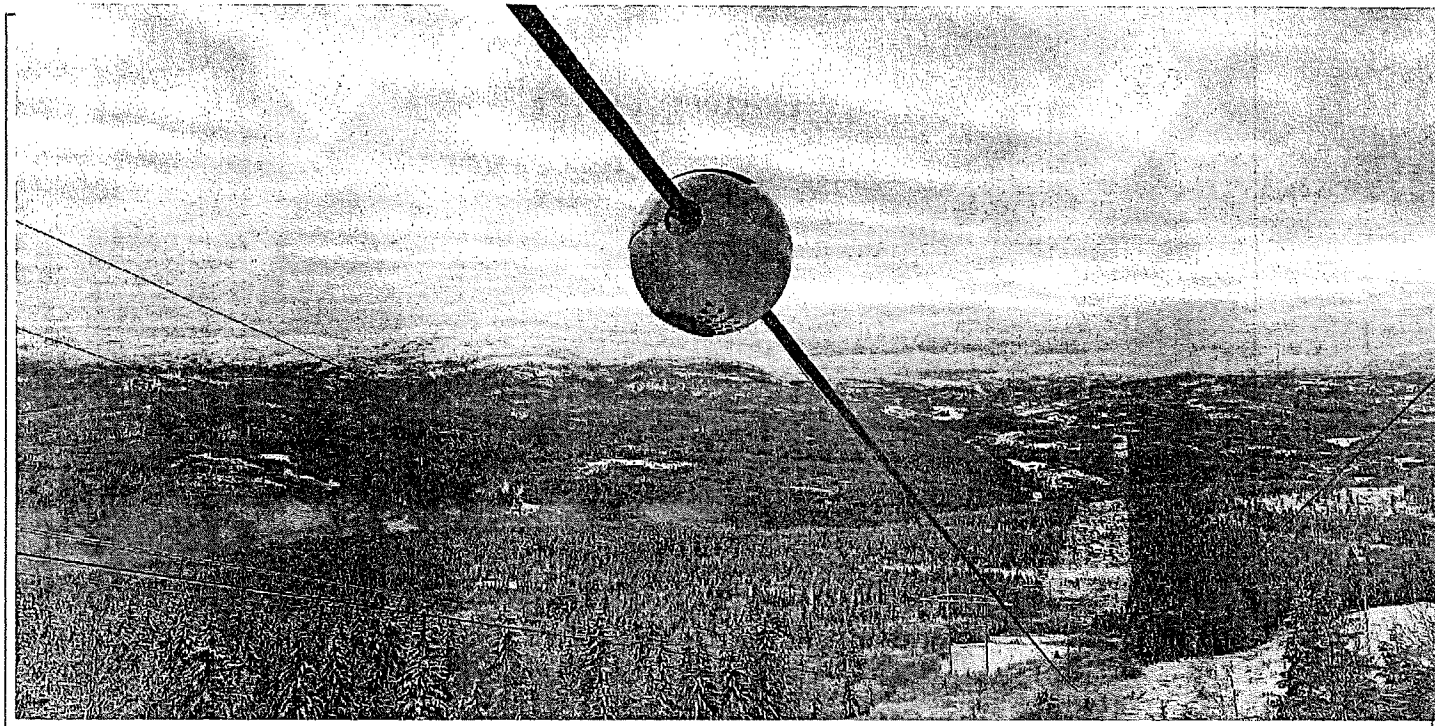
The load study might lead to a map showing where we should concentrate incentives and educational efforts for heat pump adoption, for instance. If more electricity is used in an area without requiring major grid upgrades, that has a rate benefit for all ratepayers. Perhaps we might use other incentive tools, like the Dirigo Business Incentive, to encourage commercial and industrial development in places where there is ample grid capacity. The better we understand the grid at a granular level, the more targeted our policies can be.

I hope you will agree that both of these studies have merit and I will be glad to work with stakeholders to further refine these proposals based on the input we receive today.

Thank you for your attention and I am happy to answer any questions you may have.

GREEN ENERGY ELECTREK GREEN ENERGY BRIEF EGBB ELECTRICAL GRID

Weather intelligence and cutting-edge tech is boosting grid capacity by 30%

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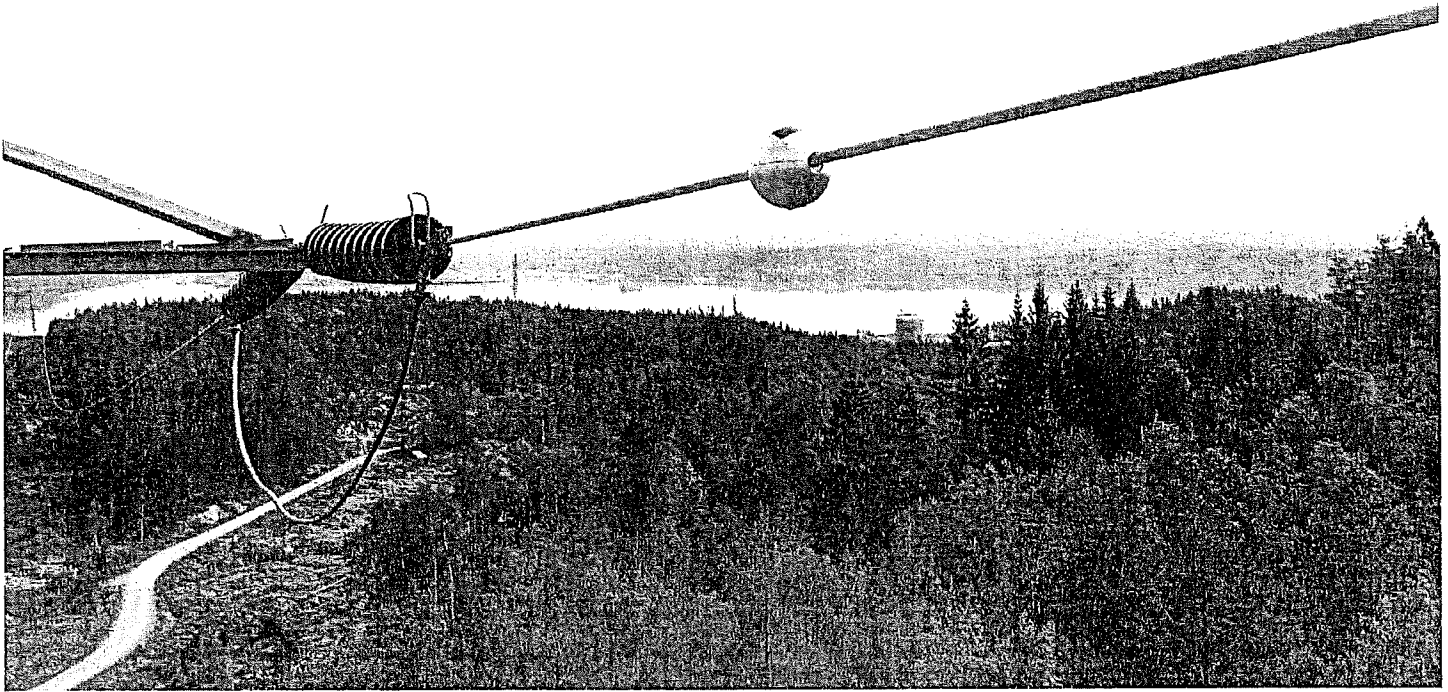
Power grid optimizer Heimdall Power paired up with weather intelligence tech company Meteomatics – and a 30% increase in power grids' transmission capacity resulted.

Most power lines today are "dumb" – that is, operated without insight into their real-time conditions. That means the grid's total capacity is untapped. Power grid optimizers provide grid operators with the data they need to predict the real-time actual capacity of specific power lines and determine new, safe limits for operating them.

Oslo-based Heimdall Power combined its software and sensor data with Switzerland's Meteomatics' weather and climate data to monitor and forecast the real-time capacity of high-voltage power lines in Europe for over three years.

Heimdall Power asserts that power grid operators like Swissgrid, Austrian Power Grid, and TenneT are now able to maximize available capacity on their existing lines. With Meteomatics' data integrated into its technology, Heimdall Power is powering, on average, a 30% increase in utilities' transmission capacity.

Heimdall Power's sensors are installed on live, high-voltage power lines and measure the line's temperature, current, and angle in real-time. The sensor data is collected and processed by the company's software platform, where it's analyzed and paired with Meteomatics' precision weather and climate data gathered by weather drones in the atmosphere's lower 6 km (3.7 miles).



By combining Meteomatics' weather data with power line data and machine learning, Heimdall Power says they've developed a unique algorithm that enables grid operators to enhance their transmission capacity instantly – and safely.

This tech allows grid operators to optimize their transmission and enables them to integrate more renewable energy into the existing grid.

Heimdall Power and Meteomatics are now bringing their tech to the US. They're already working with Heimdall Power's existing US customers, including Great River Energy in Minnesota and a large investor-owned utility in the Midwest.

The two businesses are currently achieving the 10-day transmission line capacity forecasting that Federal Energy Regulation (FERC) Order 881 will require by the summer of 2025.

FERC Order 881 is designed to reduce grid congestion. It will mandate utilities to implement hourly ratings that change based on the projected ambient temperature every hour instead of just summer and winter ratings.

Paul Walsh, CEO of Meteomatics North America, said:

By combining our weather insights with Heimdall Power, we're offering companies a look into their real-time power line capacities – something that a majority of energy grid companies have not had access to before. We're looking forward to continuing our work together stateside.

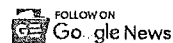
Read more: [This is what the electricity grids need now to support clean energy](#)

Photos: Heimdall Power

To limit power outages and make your home more resilient, consider going solar with a battery storage system. In order to find a trusted, reliable solar installer near you that offers competitive pricing, check out EnergySage, a free service that makes it easy for you to go solar. They have hundreds of pre-vetted solar installers competing for your business, ensuring you get high-quality solutions and save 20-30% compared to going it alone. Plus, it's free to use, and you won't get sales calls until you select an installer and share your phone number with them.

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