

January 21, 2024

To ISO-NE and the PAC,

my questions to Eversource ([Hurd State Park Project](#), 1/18/2024) about their proposed conductor type, and my request for data showing that OPGW provides increased reliability and safety were not “off-topic.” Eversource’s Asset Condition projects have been driven by its installation of larger conductors and, to a smaller extent, OPGW. “Right-sizing”, euphemism though it be, describes the problem of Eversource mis-using structure condition to justify installing new and larger structures and conductors, as well as constructing complete line rebuilds.

I should not have been shut down while questioning Eversource because the PAC needed to move on to the next presentation. The time allotment of less than half an hour for questions on projects which are large, complex, and will affect many people, is unacceptable and a mockery of ISO, the PAC and the real stakeholders who have to live with these projects in their sight, on their land, and on public lands, for the rest of their days.

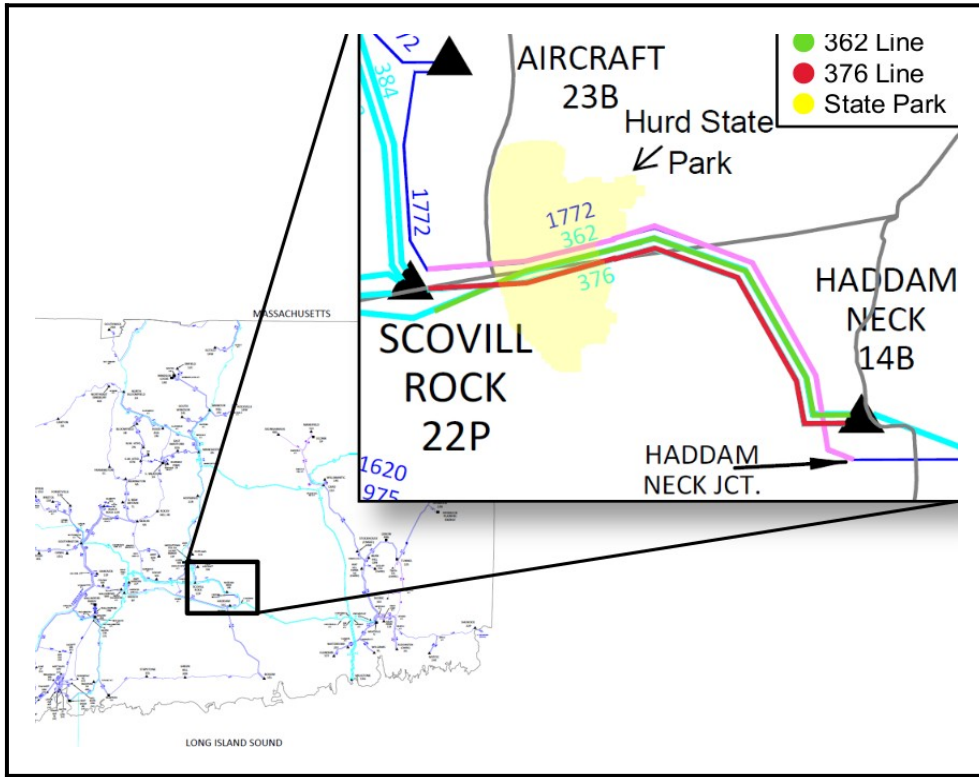
Most people do not want a transmission line on their property or in their sight. Structure size and height increase the imposition and extend of the ugliness. This is understood and why there are terms like ‘NIMBY’, ‘visual impact’ and ‘screening.’

A project that did not involve a change in appearance of existing transmission lines would not be a problem for most stakeholders as long as it did not have health effects (EMR, Dioxin, PFAS) or violate easement conditions, which are only enforceable through a court action, something Eversource pretends is available to any easement-encumbered landowner.

Comments on Eversource’s Hurd State Park project:

Page 4: The map of the project location reduces a real place to a set of lines. This project goes through a State Park and crosses the Connecticut River and deserves a map that shows this, as well as photographs of the existing structures and simulations of the proposed structures. Eversource’s “map” fails to show that the yellow area south of the proposed powerlines project is George Dudley Seymour State Park.

Do the transmission easements pre-date the creation of the State Park?



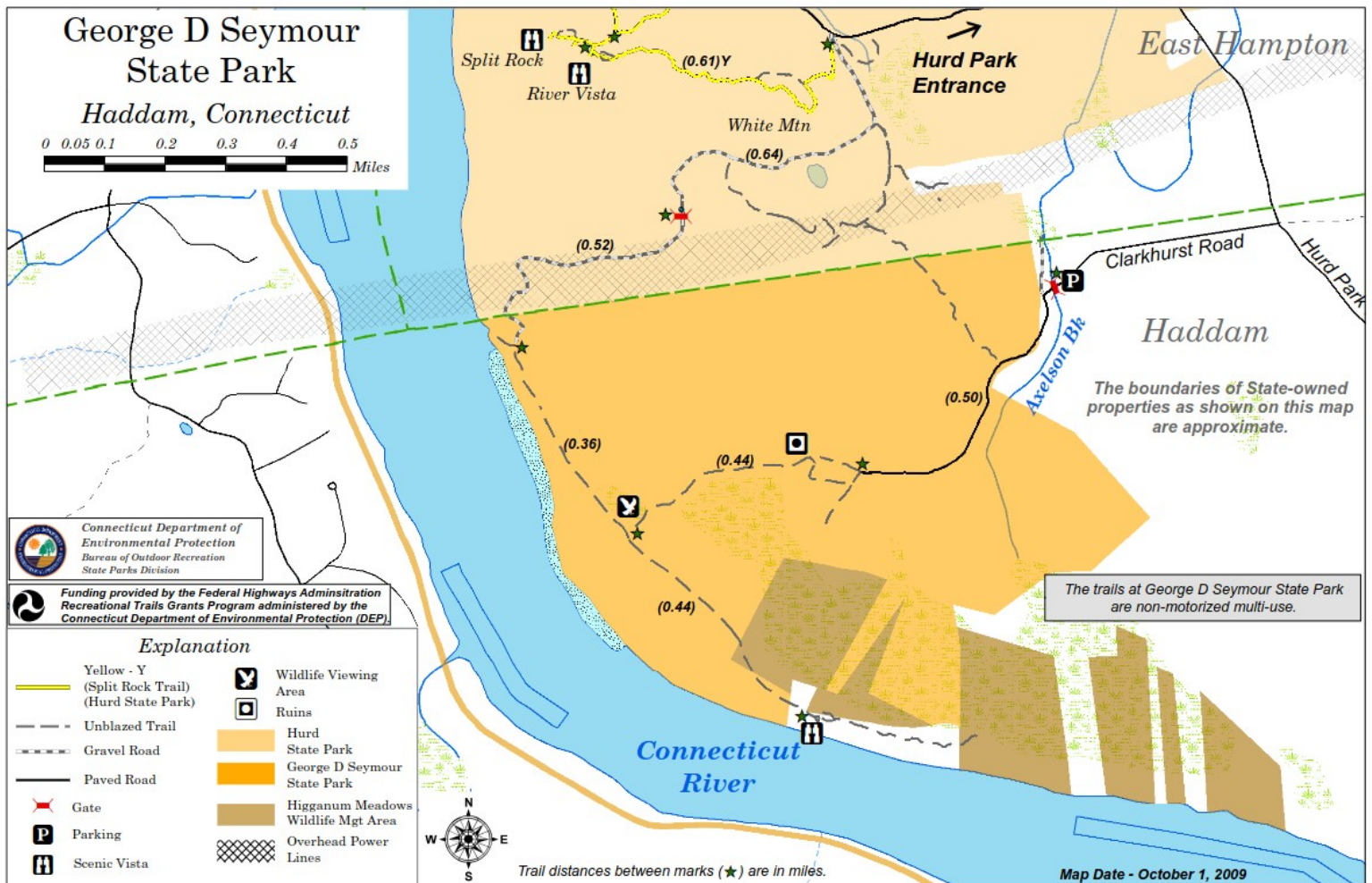
Below: View from Hurd State Park



A view through the pitch pines and across the Connecticut River from the overlook at Hurd State Park.
Peter Marteka

On the map below the faint grey cross-hatching shows the powerline easement. The author of a 12/26/2023 [article](#) about George D. Seymour State Park, wrote: “Follow the transmission right-of-way for about a half-mile and look for a path to a gate that will take you into [Hurd State Park](#). Follow to the end of the road and take the trail marked with orange blazes to the top of White Mountain north to the River Vista and Split Rock overlooks. It is one of the most impressive views in central Connecticut.”

Eversource should have provided, and needs to provide now, a map like the one below but with the addition of topo lines and the proposed locations of the structures Eversource plans to replace. This should have been posted months ago, at both Park entrances, to reach the real stakeholders.



Page 5: Eversource’s cynical use of the pole condition ratings to justify unnecessary structure replacements continues to be accepted without comment by the PAC:

Eversource proposes to replace 30 structures that are “priority B”; that have minimal defects and only need to be monitored, as all transmission structures are.

Four structures that are “priority C” are proposed to be replaced, though poles in this category are supposed to be “repaired or replaced under next maintenance.” The maintenance/inspection cycle is 8-10 years.

This premature replacement of 34 structures and installation of new larger conductors, at a cost of \$46.3 m. is now called “proactive” and “holistic” rather than unnecessary, imprudent and pre-empting ISO-NE’s reliability analyses.

Eversource has neutered the standards for transmission structure assessment and replacement and no one at the PAC meetings has questioned this.

“Current approaches to regional transmission development heighten the need for effective governance that can protect consumers.”

(1/8/2024 comment of the Harvard Electricity Law Initiative to FERC.)

Right: Eversource transmission corridor in Hurd State Park. (AllTrails)

Eversource states that the current line cannot meet new code. Which codes, and which sections of those codes (books and pages) show this information? Are the current lines and structures grandfathered? What is the required clearance for the proposed conductors and are the proposed clearances higher than required by Code? Where are the profile drawings showing the existing and proposed structures and conductors? Would ACCC conductor meet the current code if placed on the current structures? Are there methods of reducing vibration at the river crossing while using a high-performance ACCC conductor? Where is the independent data showing that the manufacturers’ claims of reduced line-losses for ACCC conductor are overestimated, as Chris Soderman claimed?



Page 6: “The current crossing of the Connecticut River takes place on 2 triple circuit steel pole structures constructed in 1983 – This configuration poses a unique risk to the 3 transmission lines; a failure on these structures would likely result in all 3 lines being taken out of service

[Isn't Eversource financially responsible for their uniquely poor planning here?] – The 362, 376, 1772 lines use 1192 ACSR conductor for the spans crossing the Connecticut River. This conductor is custom-made and no longer readily available. [How available? Does this matter? Isn't Eversource financially responsible for their apparently poor planning here?] On a similar river crossing span on the 1772 and 348 lines where the 1192 ACSR was utilized, damage caused by vibration was observed in 2020” [Is this enough information to justify the replacement of the Hurd conductors?]

Below: “...and of course, gunshots.”

Mitigation of Strand Damage and Broken Conductor Strands

Conductor Damage and Broken Conductor Strands at suspension points are commonly related to Aeolian vibration. Fixed points are those components that are prone to reflect vibration, such as deadends, suspension clamps, and conductor spacers. Many photographs have been circulated in previous Cigre bulletins and other venues throughout the electrical transmission industry. The example photos below, illustrate wear and damage to conductor strands from dampers, spacer dampers, and of course, gunshots. Rarely is there damage to the core wires of ACSR conductors, but it gets very close on occasion.



Abraded Conductor

Gunshot Damage

The resultant damage forces current constriction, driving current through the remaining unbroken strands, which of course results in localized heating and if left unattended will eventually result in local conductor annealing and potentially tensile failure.

Mitigation of this type of problem is easily addressed with EEMS devices known as Conductor Repair Units (CRUs), which serve to provide an alternate current path and restore full mechanical integrity.

The following illustrations depict the installation of a smaller size CRU installed to restore conductor damage on a distribution line. These are commonly installed on energized lines with hotline tools.



No information was given on whether any damage was found on the Hurd conductors, that this damage can be [repaired](#), or how the damage was repaired on the un-named conductor.

What is Eversource's standard conductor? Where is Eversource's cost-benefit analysis of having a standard conductor rather than perhaps five or ten standard conductors, given the different sizes and types of conductor needed for different lines?

P. 7: What is the current and future ability of the OPGW to monitor acoustics and vibration? Some OPGW manufacturers state that the OPGW can detect attempts to vandalize a structure and transmit this information to the transmission line operator. If an easement-encumbered landowner drives a vehicle under a transmission line or uses a chain saw near the easement, does Eversource have a record of that? What are the potential privacy issues with this monitoring?

P. 10: Eversource describes replacing sound structures as taking “advantage of available efficiencies available to a holistic approach.” This sentence has no fixed meaning and no place in a project presentation.

“– Additional projects will be needed in future as asset condition issues are identified [this is true of every transmission line, thus meaningless without specific data]
– Existing conductor does not meet current Eversource design standards [what are Eversource's current design standards for conductors, what is the justification for them and how do they apply, very specifically, to this project?]

P. 11: How tall and wide are the proposed structures? Chris Soderman was unable to provide this information at the PAC presentation. After the primary question of whether the preferred (by Eversource) project is necessary or prudent, the most important questions are: what are the proposed increases in structure height and are they necessary?

Chris Soderman dismissed [ACCC conductors](#) as an option for the Hurd State Park project. That doesn't mean that using them isn't a better plan for everyone but Eversource. Imagine Eversource lowering structure heights and re-conductoring with a lighter weight, lower-sag, lower line-loss conductor. The Department of Energy recommends this, yet Eversource's standard conductor is ACSS. Eversource also failed to present [simultaneous HVAC/HVDC](#) transmission as an alternative.

Eversource's “asset condition” projects are an example of the ‘siloes’ planning and construction that is crippling the evolution of an equitable, least-damaging grid that would serve a higher purpose than profiting Eversource and other transmission corporations.