New England States Committee on Electricity

To:	**New England Transmission Owners (NETOs)**
From:	**NESCOE (Contact: Sheila Keane)**
Date:	**June 5, 2024**
Subject:	**NETOs' Asset Condition Process Guide in Lieu of a Guidance Document**
CC:	**ISO-NE; Planning Advisory Committee**

The NETOs' Asset Condition Process Guide (Process Guide) leaves state officials, consumer advocates, consumers, and others waiting for what NESCOE requested: an Asset Condition Guidance Document (Guidance Document) that is criteria-based, brings visibility to NETO decision making, and promotes stakeholder confidence in investment decisions.

What is not waiting is consumer spending. Since NESCOE first asked the NETOs to improve their asset condition processes in early 2023, the NETOs have brought $3.3 billion in asset condition projects through the Planning Advisory Committee (PAC). The NETOs, however, have not yet provided the region with the tools that NESCOE has requested, which are necessary for the states and stakeholders to be confident that asset condition dollars are wisely spent.

NESCOE's Requests for Transparency, Predictability, and Cost Discipline

In February 2023, NESCOE asked the NETOs to reform their asset condition process to bring transparency, predictability, and cost discipline to asset condition projects. The existing process, which was effectively a single power point presentation, was woefully inadequate given the level of consumer spending on asset condition projects.

In July 2023, NESCOE identified some specific deliverables that would bring additional rigor and transparency to the asset condition process in light of the NETOs' quickly accelerating investment of consumer dollars in asset condition projects.[1] Chief among those deliverables was a Guidance Document. Its purpose is to promote a more criteria-based decision-making approach to asset condition projects. Given the Guidance Document's central importance to transmission right-sizing discussions, we urged the NETOs to develop it in parallel with the asset condition database by the end of 2023.

In February 2024, NESCOE expressed concern with the NETOs' communication to others that they planned to delay a draft Guidance Document until May 2024.[2] It is now June 2024, and the NETOs have still not shared a draft Guidance Document with the states.

[1] We appreciate the NETOs' progress on several NESCOE requests, including PAC presentation guidelines, initial asset condition forecasts, and the asset condition database.

[2] *See, e.g.,* NESCOE's request to prioritize the Guidance Document (Feb. 2024) at https://nescoe.com/wp-content/uploads/2024/02/Asset-Cond-Guidance-Document-Feb-2024f-1.pdf.

Massive Spending Continues While the Region Awaits a Guidance Document
In the year that the NETOs have spent on the Process Guide, the pace of spending on asset condition projects continues to be staggering and shows no signs of slowing. Since NESCOE's initial request in February 2023, the NETOs have brought $3.3 billion in asset condition projects through the PAC. This includes over $1.1 billion in projects thus far in 2024 alone.[3]

Because the pace of transmission investment is expected to accelerate in the coming years to meet the region's needs for the clean energy transition, cost consciousness and consumer confidence in spending is paramount. As NESCOE has made clear, maximizing the efficient use of existing infrastructure will be a key component of cost-efficient investment that will give consumers appropriate assurances that their dollars are being spent wisely. Asset condition project spending and right-sizing should be principled and prudent.

It is not possible for New England to develop a sound right-sizing framework without a clear understanding of and comfort with the NETOs' current asset condition processes. Over a year and $3.3 billion later, we are not there yet.

The region still lacks a fundamental understanding of how asset condition evaluations translate into action—initial needs identification, subsequent potential expansion of scope, and solution development—and the cost ramifications of different NETO decisions. NESCOE requested the Guidance Document in an effort to gain this understanding and provide a tool to enable informed consideration of, and decision making about, asset condition projects in New England. However, by its own admission and renaming, the NETOs' Process Guide simply summarizes various existing utility processes at a high level.

Given where we are today, NESCOE offers the recommendations below to assist the NETOs with transforming their process summary into a useful Guidance Document with an emphasis on asset condition decision-making criteria and cost implications. NESCOE recommends that the NETOs include distinct need criteria, develop solution alternatives mapped to these needs, provide details on major cost drivers, and better align their practices with one another.

Need Identification and Criteria
From the outset, NESCOE has sought the NETOs' help to understand the criteria that inform the establishment of asset condition needs and project development. Some progress has been made. For example, the asset condition database includes the age of most major PTF assets. The age of an asset provides useful information concerning which assets a NETO might expect to replace in the future.

Another criterion that NESCOE requested is an asset health score. Several NETOs already provide this information in their PAC presentations. It is entirely unclear what is preventing the NETOs from providing that information uniformly. The Process Guide makes cursory mention of health scores and makes no mention at all of the health scores that some NETOs currently provide. Asset health scores are a way to establish reasonable assumptions around expected replacement actions for assets.

[3] This figure reflects proposed projects with firm cost estimates and does not include the early-stage projects presented without cost estimates.

NESCOE recognizes the complexity of aligning all New England utility asset management practices, but it is both feasible and reasonable for the NETOs to develop uniform basic criteria in the near term. For example, there should be a minimum number of asset health scores for transmission structures that the NETOs could align on, such as: *1) acceptable condition, 2) needs maintenance or repair, 3) planned replacement required, and 4) emergency replacement required*. Although no single criterion should be determinative, taken together, the criteria should provide a reasonable framework for understanding asset condition projects.[4] If the NETOs or stakeholders prefer other criteria, NESCOE requests a discussion of alternatives at the next PAC meeting.

The NETOs' Process Guide references numerous codes and standards in Appendices A and B. It also states more generally what we all understand: corporate decisions, company policies, and individual company factors influence the development of asset condition projects. However, it is not clear which standards, criteria, or practices are appropriate for establishing the needs of legacy assets placed in service long before the adoption of modern standards, which themselves continue to evolve. NESCOE expects that modern industry standards and individual utility preferences should, with limited exception, not be used to establish needs but should be considered as solution enhancements for new or substantially upgraded assets. A NETO should support any finding that certain assets are obsolete with convincing evidence, such as industry advisory bulletins or national industry group reports.[5] The NETOs should clearly explain exceptions within the evaluation of Solution Alternatives and Recommendations for a given project (see Solution Development and Evaluation section below). NESCOE requests that the Guidance Document make clear which standards and guidelines are applicable to existing infrastructure that are in otherwise serviceable condition.

Solution Development and Evaluation

The Guidance Document, coupled with PAC presentation guidelines, should provide transparency into the process and criteria by which the NETOs identify needs, develop potential solution alternatives, and determine the preferred alternative. This process should allow for the NETOs to meaningfully incorporate stakeholder feedback before making significant expenditures. Once a comprehensive list of project needs is established, a solution alternative evaluation would provide a range of mitigating solutions. The following are related requests and recommendations:

[4] A criteria-based framework also allows for informed discussion of underlying drivers of poorly performing assets. For example, National Grid's recently proposed W-149 $491.5M 115 kV Line Asset Condition Refurbishment and larger 101-mile E205E and E 205W 230kV Line Asset Condition Refurbishment projects appear driven by the poor health of structures that are relatively young. This raises questions of whether this issue is pervasive across NETOs using structures of this make and vintage, as well as whether different approaches may be deployed in the future to prevent the premature degradation of assets.

[5] NESCOE has raised this issue previously. This is particularly important in instances when obsolescence may result in complex and costly programmatic replacements. *See, e.g.*, NESCOE comments on Eversource's 1704/1722 Underground Cable Rebuild Project (2023) at https://nescoe.com/wp-content/uploads/2023/07/Letter-to-Eversource-PACf.pdf.

- Base Alternative: NESCOE requests that the term "Base Alternative" be added and defined within a Guidance Document. In virtually all cases, the Base Alternative should represent the lowest cost or targeted solution alternative that effectively mitigates all identified needs and be supported by compelling evidence (e.g., needs based on applicable criteria and not utility preferences). This solution alternative should exclude any optional scope enhancements.[6]

- Additional Alternatives: In virtually all cases, additional alternatives beyond the Base Alternative are expected. NESCOE supports considering these additional alternatives, especially in cases where they can be achieved for a modest incremental cost (e.g., consideration of higher capacity conductors or voltage class, or OPGW instead of traditional shield wire for line rebuild projects). All alternatives should be developed to a sufficient cost estimate accuracy level that allows for comparison in support of a recommendation. For example, if a full rebuild of a substation at a higher elevation within an existing floodplain is a likely recommendation and developed to a +50/-25% level, then a natural competing alternative could be relocating the substation outside of the flood zone. This alternative may have a lower cost accuracy range of, for example, +200/-50%, if it is clear that a cost-effective recommendation can be made (i.e., the alternative project cost would be orders of magnitude higher than the recommended project).

- Recommendations: The Guidance Document should describe how to effectively compare the Base Alternative to the other alternatives under consideration. A comprehensive comparison should include costs and benefits (both qualitative and quantitative), along with a comparative list of pros and cons for each alternative. The NETOs should include a robust justification with any recommendations that extend beyond selection of the Base Alternative.

Major Cost Drivers

While the Process Guide references the NETOs' efforts to ensure cost-effective projects, it does not identify or describe the typical major cost drivers for projects. Further, it does not explain the cost implications of different techniques or decisions that the NETOs may consider during solution development (e.g., temporary vs. permanent access roads, using a helicopter for targeted replacements in hard to access areas, etc.).

Costs of seemingly similar asset condition projects are increasing at an accelerating rate without a clear explanation of the reasons why. For example, a cursory look at the cost per mile of several transmission line rebuilds suggests that even unitized (per mile) project costs often vary significantly and there is no supporting information to explain the differences.[7] This lack of cost

[6] Earlier this year NESCOE requested that the NETOs provide a targeted base alternative that resolved identified asset condition needs without optional communication systems upgrades. *See, e.g.*, NESCOE comments on Eversource's New Hampshire Line X-178 Rebuild (March 2024) at https://nescoe.com/wp-content/uploads/2024/03/Feedback-on-ES-X-178.pdf.

[7] For example, National Grid's recent projects indicate a cost of approximately $11.2 million per mile. Other projects that appear similar in scope have per mile costs of half that—at around $5 million per mile.

transparency is further compounded by the fact that the NETOs' PAC presentations typically only show total project costs without a breakout of the major contributors to overall project costs. For these reasons, NESCOE requests that cost estimates for all future projects include a breakout of major costs contributing to the total overall project cost (e.g., access roads, matting, structures, conductors, OPGW, etc.). The NETOs should include a breakout of costs for each solution alternative provided. The NETOs should coordinate and include the requirements for these major cost drivers—as well as all other relevant information included in the final version of the Guidance Document—in an update to the PAC presentation guidelines.

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NESCOE is anxious to explore holistic transmission development approaches with ISO-NE, the NETOs, and stakeholders. The NETOs should promptly consider and resolve the concerns above so that we can together move onward to developing cost-conscious, right-sizing transmission planning approaches, in which consumers can have confidence.