

Reply to the joint comments of CCEBA, SELC, SACE, NCSEA, Sierra Club, and the Southeastern Wind Coalition.

First, we would like to recognize the amount of effort that the TAG stakeholders have put into proposed MVST (Multi Value Strategic Transmission) scenarios and feedback. The scenarios and sensitivities in the MVST study scope are based on input from these proposals. Although we attempted to include as much scope as possible in this first MVST study scope, some of the proposals will not be included in this year's study or are out of scope for the MVST process. We have included responses to many of the recommendations below.

We look forward to continuing this collaboration as we move through each phase of the MVST process.

Recommendation: Use a Nodal Production Cost Model –

The CTPC will evaluate bringing on a consultant to support nodal modeling for the 2026 study. However, for the 2024 MVST study, production cost impacts for identified transmission constraints will be modeled and quantified in a zonal production cost model that has been used and validated extensively in the Carolinas. To identify the constraints and quantify transfer capability, Duke Energy will leverage the tools available in PowerGEM TARA, a software application that is used extensively in transmission operations.

Recommendation: Expansion Planning / Co-optimization is necessary –

Co-optimizing transmission and generation in DEC and DEP begins with the most recent portfolios filed with the NC and SC commissions that have jurisdiction in the Carolinas for integrated resource planning. The Integrated Resource Plan (IRP) informs the selection of resources in the MVST study and execution planning informs the generation location of resources. The MVST study will inform the transmission assumptions for future IRPs. However, the CTPC is a FERC local transmission planning process and does not have jurisdiction to develop resource plans on behalf of DEC and DEP.

If a TAG stakeholder would like to propose an MVST scenario to evaluate the transmission impacts of a generation mix that does not align with the IRP portfolios (i.e. specific changes to a resource type), that will be considered by the CTPC as a potential scenario but the CTPC will not run IRP processes including Resource Adequacy, Capacity Expansion, and Production Cost Models to validate that it is a viable, reliable and/or cost-effective resource mix. DEC and DEP believe that co-optimization is achieved through the iterative feedback process of IRPs into MVST and MVST learnings back into IRPs.

Recommendation: Develop an ERIS Scenario –

CTCP OSC has considered CCEBA's recommendation for a full ERIS MVST Strategic Planning Scenario as part of the initial 2024 MVST study scope and has concluded that the proposed scenario is not consistent with NC state law and requirements and is not a plausible scenario. In North Carolina, there are express requirements in Section 62-110.9 that Duke must "Ensure any

generation and resource changes maintain or improve upon the adequacy and reliability of the existing grid” and specifically identifies that solar generation procured as part of the Carbon Plan execution process (including both CIPRP annual procurements and customer programs) must provide the purchasing utility both energy and capacity (i.e, NRIS firm deliverability) from the solar energy facilities with “rights to dispatch, operate, and control the solicited solar energy facilities in the same manner as the utility's own generating resources.” Therefore, the proposed scenario does not align with IRP/CIPRPs, which are designed to ensure the system is reliably planned in a least cost manner. Firm deliverability of generation to load (NRIS) is a foundational requirement of the IRP portfolio of resources. Although not directly applicable to the CTPC scenario planning process, Order No. 1920’s requirements for plausible scenarios that give full effect to state laws affecting the resource mix, state-approved IRPs and expected supply obligations reinforce that an ERIS scenario is neither appropriate nor worthwhile for the CTPC to study.

More generally, Duke has concerns that ERIS in perpetuity for a high volume, high density of renewable resources connected to the transmission system that are distant from load centers (e.g. red zone), could pose reliability issues with respect to ensuring solar generation can serve load and provide pumping and charging energy for storage. Duke has also taken reasonable steps to establish a limited non-firm Provisional Interconnection Service process that will allow for non-firm interconnection service until network upgrades are completed for transitioning to NRIS service. Thus, as some solar generators are added under Provisional Interconnection Service, other solar generators will transition from Provisional Interconnection Service to NRIS. The limited duration of Provisional Interconnection Service and continuous transitional process will keep the volume of Provisional Interconnection Service solar generators from becoming so large that curtailments present reliability risks and thus, allow the System Operator to reliably manage the solar generators under Provisional Interconnection Service.

Recommendation: 20-year study instead of 10 years -

Future MVST studies are expected to include 20-year models to align with regional planning. However, the aggressive resource scenarios (i.e. P1) and load sensitivities included in this year’s MVST study scope ensure that most resources and load capacity necessary for the next 20 years will be evaluated in the 10-year case. Without the outside models for years 11-20 available yet, a 20-year model will not be an accurate representation of the transmission system.

Although the transmission model will be based on 2034/2035, evaluations of solutions and benefits will extend across a much longer time horizon to reflect the useful life of assets.

Order 1920 Regional Planning –

The CTPC’s MVST study is part of the local planning process, and the methodology is not defined by FERC Order 1920. Duke Energy is participating in the development process at SERTP to comply with Order 1920 for regional planning but recognize that it will likely not be finalized in time to align any methodologies in this MVST cycle. However, we will monitor developments to look for alignment in this MVST cycle and will discuss with the CTPC potential modifications to the future study cycle processes to align with regional planning.

“We note that the proposed solar capacity distribution in the updated Study Scope for Scenario 3 Option – PWG Solar Shift is inconsistent between the 2034 Summer Cases (6.5 GW in DEC and 4.3 GW in DEP) and the 2034 Winter Cases (2.5 GW in DEC and 10.1 GW in DEP). We also recommend that the CTPC shift some battery storage capacity that is installed as solar plus storage from DEC to DEP in Scenario 3.” - **The CTPC will update the MVST scope to correct this oversight.**

Recommendation: That CTPC review the planning guidelines that CAISO uses for defining simple RAS. The CTPC should also incorporate significant network upgrades recently identified in interconnection studies to be required for interconnecting new resources as potential solutions in the MVST process.

Response: Thank you for providing the CAISO RAS guidelines. Duke Energy has implemented several Remedial Action Schemes in the Carolinas but are open to considering new applications if they do not compromise reliability.

Previous interconnection study results will be one of the considerations when identifying MVST solutions.

Recommendation: Input from developers on attractive locations on the Duke system –

Response: Duke Energy can leverage interconnection projects and resource suitability maps, but we are open to additional input on siting locations for solar and solar plus storage resources. Does CCEBA plan to take the lead on coordinating with solar developers to review the previously provided map of solar locations and provide input on attractive locations for siting future solar resources?