Status of NCTPC's Review of Red Zone Expansion Plan Projects and Release of Final 2021 Mid-Year Update to the NCTPC Transmission Plan

The NCTPC Oversight Steering Committee ("OSC") appreciates the continuing engagement from Transmission Advisory Group (TAG) participants relating to the Red Zone Expansion Plan ("RZEP") Projects recently identified for consideration by Duke Energy Carolinas, LLC ("DEC") and Duke Energy Progress, LLC ("DEP" and together with DEC, "Duke Energy"). The NCTPC received comments from the Public Staff-North Carolina Utilities Commission, South Carolina Office of Regulatory Staff, and Clean Power Suppliers Association on Duke Energy's recommendation to include the RZEP Projects in the NCTPC 2021 Collaborative Transmission Plan Mid-Year Update ("2021 Mid-Year Update"), and also received procedural questions from the staff of the North Carolina Utilities Commission ("NCUC") regarding the process and timing of the inclusion of updates to the Local Transmission Plan. As noted in the July 19, 2022 communication to the TAG, after considering questions and feedback from the TAG, the NCTPC elected not to pursue OSC approval of the Duke Energy-sited RZEP Projects as part of the 2021 Mid-Year Update. However, the NCTPC intends to continue its consideration of the RZEP Projects such that they may be considered for inclusion in the 2022 NCTPC Collaborative Transmission Plan to be completed at the end of this year, after further TAG review and subject to OSC approval.

To support the continued consideration and evaluation of the RZEP Projects and to hopefully clarify certain issues identified in the comments and feedback received from TAG participants, the NCTPC provides the following information on NCTPC processes generally and the NCTPC's consideration of the RZEP Projects in particular:

- Attachment N-1 of the DEC and DEP Joint OATT governs the NCTPC local transmission planning process. As Section 4.1.3 of Attachment N-1 explains, the local transmission planning process is intended to be iterative and "allow for flexibility to make modifications to the development of the Local Transmission Plan throughout the year as needs change, new needs arise, or new solutions to problems are identified." This iterative nature of local transmission planning allows for mid-year updates to the annual plan. Consistent with this flexibility, Attachment N-1 does not dictate timelines, but rather explains that the schedule of activities will vary from year to year. However, the NCTPC is committed to following the "basic order of events" set forth in Section 5 of Attachment N-1 and keeping TAG members informed of the schedule of activities in order to facilitate effective TAG participation in the NCTPC process.[1]

- The NCTPC local planning process provides several avenues for consideration of new transmission projects driven by different needs:
  (1) reliability projects needed to satisfy NERC Reliability Criteria and maintain reliability;[2]
  (2) projects needed "to integrate new generation resources and/or loads";[3]

[1] Joint OATT, Attachment N-1, Section 4.1.4.
[2] Joint OATT, Attachment N-1, Sections 4.1 and 5.2.1.
[3] Joint OATT, Attachment N-1, Section 4.1, 5.3.2, 5.3.6.

(3) economic projects identified through TAG participant requested economic studies;[4] and
(4) transmission solutions to satisfy public policy needs identified by the OSC or TAG participants.[5]

- As explained during the June 27 TAG meeting, the RZEP Projects are being proposed as transmission expansion projects needed "to integrate new generation resources." In 2020, DEC's and DEP's IRPs filed in North Carolina and South Carolina identified a need to interconnect over 4,500 MW of incremental solar generation between 2026 and 2030. Duke Energy's Carolinas Carbon Plan filed with the NCUC on May 16, 2022, in Docket No. E-100 Sub 179 identified the need to interconnect up to 5,400 MW of incremental solar generation by 2030. DEC and DEP have proposed the RZEP Projects as needed to begin to efficiently and cost-effectively interconnect the large amount of solar generation needed to meet its resource planning goals.[6]

    - While DEC and DEP are developing further support to demonstrate the need for the RZEP Projects (discussed in more detail below) and will present such information to the NCPTC and TAG, Duke Energy continues to believe that the study support presented in the June 27 TAG meeting provides a strong basis for concluding that the RZEP Projects are the first step needed to integrate large amounts of solar generation resources.[7] Specifically, Duke Energy's June 27 TAG Presentation outlined the generator interconnection studies and grouping studies of nearly 80 prior proposed transmission-connected solar sites in areas that would become transmission constrained if any material amounts of incremental resources such as significant solar generation within the red-zone is interconnected without the required network upgrades being constructed to accommodate the additional resources . The studies of these requests were performed from 2016-2021 and identified the RZEP Projects as required Network Upgrades to reliably interconnect additional solar generation in areas with the greatest solar viability.[8] These generator interconnection studies are more rigorous than past public policy studies, studying more robust deliverability scenarios, and have repeatedly

[4] Joint OATT, Attachment N-1, Section 4.2. *See also Duke Energy Carolinas LLC, et al,* 145 FERC ¶ 61,252 at P 62 (2013) (accepting the NCTPC local transmission planning process for TAG-participant requested economic studies).
[5] Joint OATT, Attachment N-1, Section 4.2.
[6] *See* OATT, Attachment N-1, Section 5.3.2 (explaining that data and case development may rely on "resource projections provide by network customers (including the native load of the NCTPC Participants).")
[7] The generator interconnection studies used to support the RZEP Projects are consistent with the NCTPC process of using additional study cases for performing analysis of different forecasted scenarios. See OATT, Attachment N-1, Section 5.3.6 (explaining that "additional cases will be required for different scenarios to evaluate other options to meet load demand forecasts in the study, including where fictitious or as yet undesignated network resources are deemed to be designated.")
[8] *See* TAG Meeting June 27, 2022 Presentation, 21-49, *available at* http://www.nctpc.org/nctpc/document/TAG/2022-06-27/M_Mat/TAG_Meeting_Presentation_for_06-27_2022_FINAL.pdf (June 27 TAG Presentation); Study Mapping to Red-Zone Projects 2022, *available at* http://www.nctpc.org/nctpc/document/TAG/2022-06-27/M_Mat/Study%20Mapping%20to%20Red-Zone%20Transmission%20Expansion%20Plan%20Projects%202022.xlsx.

identified the RZEP Projects as needed to resolve transmission constraints to reliably interconnect solar generation.[9]

- As demonstrated in Duke Energy's June 27 TAG Presentation, the currently-identified Red Zone transmission constraints have been a persistent and growing issue since 2018 and cannot be resolved without the construction of transmission upgrades.[10] The RZEP Projects alleviate the Red Zone transmission constraints and would allow for integration of needed new solar and potentially other generation resources. The Red Zone and RZEP Projects are also aligned well with the best geographic areas for solar plant viability in North Carolina and South Carolina and delivering that generation to load centers in Greenville/Spartanburg, Raleigh, Charlotte, and Wilmington.[11] Comments from representatives of solar developers that participate in the TAG have reinforced the fact that the Red zone is particularly desirable for solar development due to low land costs, favorable topography and irradiance, availability of large parcels of land, and the willingness of landowners to lease their property out for solar plant development.

- To further support the need for the RZEP Projects, DEC and DEP have initiated the performance of a new study of 5400 MW[12] of recent past solar interconnection requests using current models of the DEC and DEP transmission systems. DEC and DEP expect to have that study completed in August. Duke Energy has advised the NCUC that they plan to present the study as evidence in the NC Carbon Plan proceeding in Docket No. E-100, Sub 179 to demonstrate the RZEP projects are necessary to achieve the objectives of the Carbon Plan.[13] Duke Energy expects the study to also reinforce the study analysis presented to the TAG in June 2022, demonstrating that the RZEP Projects are needed to integrate a significant amount of new solar generation, thus providing additional scenario analysis and study case support.[14]

- Recognizing that the NCTPC is the approved process under OATT Attachment N-1 for developing and approving a single, coordinated local transmission plan, Duke Energy intends to share and discuss the study that is in development within the NCTPC process at the next scheduled TAG meeting, currently scheduled for September.

- While the RZEP Projects are currently being pursued as projects needed "to integrate new generation resources," the on-going public policy requirements study, initiated by a TAG participant, CPSA, in early 2022 to evaluate transmission needed to interconnect additional renewable generation and achieve NC Session Law 2021-165 or "NC HB 951" policy objectives, may provide an additional and alternative avenue for studying the need for the RZEP Projects, as well as longer-term transmission upgrades. However, DEC and DEP believe that consideration and OSC action on the RZEP Projects need not

[9] *See* OATT, Attachment N-1, Section 5.3.6. Transmission constraints refer to overloads and reliability issues identified in various planning studies and scenario analyses for adding additional generation resources, but do not necessarily suggest constraints under current operating conditions.
[10] June 27 TAG Presentation at 39.
[11] June 27 TAG Presentation at 45-46.
[12] Refer to Appendix I of the Carbon Plan
[13] *Issues Report Submitted on Behalf of Duke Energy Carolina, LLC and Duke Energy Progress, LLC*, NCUC Docket No. E-100, Sub 179, page 9 (filed July 22, 2022).
[14] See OATT, Attachment N-1, Section 5.3.6.

and should not wait for the results of that CPSA public policy study, which may not be completed until the first half of 2023. DEC and DEP further believe that delaying NCTPC consideration and approval of the RZEP Projects until the results of the CPSA public policy study are published is not only likely to lead to increases in the costs to develop and construct the RZEP Projects, but is also likely to continue to create barriers to integration of needed generation resources.[15]

- For these reasons and those explained above, the NCTPC recognizes that the RZEP Projects address needs to integrate additional generation resources and, thus, anticipate that these projects will be presented to the TAG along with additional study results and thus, considered by the NCTPC for potential inclusion in the 2022 Local Transmission Plan, to be finalized around the end of 2022. The NCTPC will likely wait on the NCUC Order in the current open Carbon Plan Docket prior to considering approval of a Local Transmission Plan that includes the RZEP Projects.

- The NCTPC is committed to providing TAG participants with meaningful opportunities to provide input on the proposed RZEP Projects. Consistent with Attachment N-1, Section 5.7.2, the NCTPC continues to invite TAG participants to offer alternative solutions to resolve the Red Zone constraints and facilitate the interconnection of the significant amount of solar generation projected to be needed in DEC's and DEP's resource plans and to meet the NC HB951 goals.

[15] Similarly, waiting for a generator interconnection customer or customers to elect to fund the RZEP Projects will also likely lead to increases in costs to develop and construct the RZEP Projects. Moreover, if a FERC-jurisdictional generator interconnection customer elects to fund an RZEP Project as a required Network Upgrade, Duke would be required to reimburse the customer and those costs would ultimately be recovered from DEC and DEP customers. *See Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003, 104 FERC ¶ 61,103 at P 693-696 (2003). Due to generation interconnection timelines, 2024 is the earliest expected timeframe for when generator interconnection customers may begin to sign interconnection agreements, committing to fund and be reimbursed for RZEP Project Network Upgrades.