



North Carolina Transmission Planning Collaborative

NCTPC 2017 Collaborative Transmission Plan Update

June 2018

Attached is the mid-year update to the NCTPC 2017 Collaborative Transmission Plan dated January 16, 2018. The status and timing of all projects presented in that plan have been reviewed and the attached update reflects all changes (shown in red) that have been identified. In addition, all cost projections have been reviewed and updated to reflect current assumptions.

The total cost estimate of 2017 Plan Reliability Projects changed from \$426 million to \$459 million. The key cost differences between the original plan and this updated plan are summarized below:

Cost Updates to the 2017 Collaborative Plan		
Project	Change	Reason for Change
Fort Bragg WS 230 kV Project	Removed from Plan (-19M)	Project completed in 2017
Newport-Harlowe 230 kV Project	Updated project cost estimate (+30M)	Environmental mitigation and escalating contractor costs
Sutton-Castle Hayne 115 kV North, Reconductor	Updated project cost estimate (+13M)	Environmental mitigation and escalating contractor costs
Orchard Tie 230/100 kV Tie Station, Construct	Updated project cost estimate (+35M)	Initial estimate was preliminary
Reidsville 100 kV (Dan River-Sadler), Reconductor	Updated project status (-13M)	Project has been removed and will be replaced with a different project
Wolf Creek 100 kV (Dan River-Sadler), Reconductor	Updated project status (-13M)	Project has been removed and will be replaced with a different project
Total Change	+33 Million	Plan up from \$426 M to \$459 M



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2017 Collaborative Transmission Plan – Reliability Projects (Estimated Cost > \$10M)							
Project ID	Reliability Project	Issue Resolved	Status ¹	Transmission Owner	Projected In-Service Date	Estimated Cost (\$M) ²	Project Lead Time (Years) ³
0024	Durham - RTP 230 kV Line, Reconductor	Address loading on the Durham - RTP 230 kV Line	Conceptual	DEP	TBD	15	4
0028	Brunswick #1 – Jacksonville 230 kV Line Loop-In to Folkstone 230 kV substation	Address loading on the Castle Hayne - Folkstone 115 kV Line	Planned	DEP	6/1/2024	14	4
0030	Raeford 230 kV substation, loop-in Richmond-Ft Bragg Woodruff St 230 kV Line and add 3rd bank	Address loading on Raeford 230/115 kV transformers	Underway	DEP	7/1/2018	20	0.1
0031	Jacksonville-Grants Creek 230 kV North Line and Grant’s Creek 230/115 kV Substation	Mitigate loading and voltage issues on existing Havelock-Jacksonville 230 kV Line	Underway	DEP	6/1/2020	51	2
0032	Newport-Harlowe 230 kV Line and Harlowe 230/115 kV Substation	Mitigate loading and voltage issues on existing Havelock-Morehead Wildwood 115 kV North Line	Underway	DEP	6/1/2020	70	2
0034	Sutton-Castle Hayne 115 kV North line Rebuild	Mitigate contingency loading	Underway	DEP	12/31/2019	24	1.5



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0036	Asheville Plant, Replace 2-300 MVA 230/115 kV banks with 2-400 MVA banks, reconductor 115 kV ties to switchyard, upgrade breakers, and add 230 kV capacitor bank	Transmission required to interconnect two 1x1 combined cycle generating units	Underway	DEP	12/1/2018	40	0.5
0037	Cane River 230 kV Substation, Construct 150 MVAR SVC	Transmission required to interconnect two 1x1 combined cycle generating units	Underway	DEP	6/1/2019	42	1.0
0038	Reconductor Harley 100 kV Lines (Tiger – Campobello)	Mitigate contingency loading	Conceptual	DEC	TBD	18	3
0039	Asheboro-Asheboro East 115 kV North Line Reconductor	Mitigate contingency loading	Underway	DEP	6/1/2019	12	1
0040	Delco 230 kV Substation, Convert to Double Breaker	Stuck breaker and bus outage contingencies	Underway	DEP	6/1/2019	13	1
0041	Castle Hayne 230 kV Substation, Convert to Double Breaker	Stuck breaker and bus outage contingencies	Complete	DEP	6/1/2018	10	0
0042	Rural Hall 100 kV, Install SVC	Additional voltage support	Planned	DEC	12/1/2019	50	1.5



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Project ID	Reliability Project	Issue Resolved	Status ¹	Transmission Owner	Projected In-Service Date	Estimated Cost (\$M) ²	Project Lead Time (Years) ³
0043	Orchard Tie 230/100 kV Tie Station, Construct	Load growth	Planned	DEC	12/1/2020	80	2.5
0044	Reidsville 100 kV Lines (Dan River-Sadler), Reconductor	Mitigate contingency loading	Removed	DEC	---	---	---
0045	Wolf Creek 100 kV Lines (Dan River-Sadler), Reconductor	Mitigate contingency loading	Removed	DEC	---	---	---
TOTAL						459	

¹ Status: *Underway*: Projects with this status range from the Transmission Owner having some money in its current year budget for the project to the Transmission Owner having completed some construction activities for the project. *Planned*: Projects with this status do not have money in the Transmission Owner's current year budget, and the project is subject to change. *Conceptual*: Projects with this status are not *Planned* at this time but will continue to be evaluated as a potential project in the future.

² The estimated cost is in nominal dollars which reflects the sum of the estimated annual cash flows over the expected development period for the specific project (typically 2 – 5 years), including direct costs, loadings and overheads; but not including AFUDC. Each year's cash flow is escalated to the year of the expenditures. The sum of the expected cash flows is the estimated cost.

³ For projects with a status of *Underway*, the project lead time is the time remaining to complete construction and place in-service.