



North Carolina Transmission Planning Collaborative

NCTPC 2016 Collaborative Transmission Plan Update

June 2017

Attached is the mid-year update to the NCTPC 2016 Collaborative Transmission Plan dated January 13, 2017. 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 2016 Plan Reliability Projects changed from \$214 million to \$282 million. The key differences between the original plan and this updated plan are summarized below:

Updates to the 2016 Collaborative Plan		
Project	Change	Reason for Change
Raeford 230 kV Substation, loop-in Richmond-Ft Bragg Woodruff St 230 kV Line and add 3rd bank	Updated project cost estimate (+\$4M)	The prior estimate did not include all overheads/burdens.
Jacksonville-Grants Creek 230 kV North Line and Grant's Creek 230/115 kV Substation	Updated project cost estimate (+\$20M)	Engineering commitment phase cost estimate update. The prior estimate did not include all overheads/burdens.
Newport-Harlowe 230 kV Line and Harlowe 230/115 kV Substation	Updated project cost estimate (+\$10M)	Engineering commitment phase cost estimate update. The prior estimate did not include all overheads/burdens.
Sutton-Castle Hayne 115 kV North Line Rebuild	Updated project cost estimate (+\$2M)	The prior estimate did not include all overheads/burdens.
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	Updated project cost estimate (+\$10M)	Engineering commitment phase cost estimate update. The prior estimate did not include all overheads/burdens.

Cane River SVC	Updated project cost estimate (+\$12M)	Engineering scoping phase cost estimate update. The prior estimate did not include all overheads/burdens.
Reconductor Harley 100 kV	Updated project cost estimate (-\$2M)	Revised cost estimate and ISD. ISD moved up 6 months.
Asheboro-Asheboro East 115 kV North Line Reconductor	Updated project cost estimate (from \$9M to \$12M)	The prior estimate did not include all overheads/burdens. Added to Plan since project estimate exceeded \$10M.
Total Change	+68 Million	Plan up from \$214 M to \$282 M



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2016 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	Planned	DEP	6/1/2025	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	6/1/2018	20	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	3
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	40	3



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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
0033	Fort Bragg Woodruff St 230 kV Sub, Replace 150 MVA 230/115 kV transformer with two 300 MVA banks & reconductor Manchester 115 kV feeder	Mitigate transformer bank and 115 kV feeder loading	Complete	DEP	2/24/2017	19	-
0034	Sutton-Castle Hayne 115 kV North line Rebuild	Mitigate contingency loading	Planned	DEP	6/1/2019	11	2
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	12/1/2019	40	2.5
0037	Cane River 230 kV Substation, Construct 150 MVAR SVC	Transmission required to interconnect two 1x1 combined cycle generating units	Underway	DEP	12/1/2019	42	2.5
0038	Reconductor Harley 100 kV Lines (Tiger – Campobello)	Mitigate contingency loading	Planned	DEC	12/1/2020	18	3
0039	Asheboro-Asheboro East 115 kV North Line Reconductor	Mitigate contingency loading	Underway	DEP	6/1/2019	12	2



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2016 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
TOTAL						282	

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.

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.