



North Carolina Transmission Planning Collaborative

NCTPC 2015 Collaborative Transmission Plan Update

July 2016

Attached is the mid-year update to the NCTPC 2015 Collaborative Transmission Plan dated January 14, 2016. Also attached is a listing of projects to be added to the 2016 Collaborative Plan. The status and timing of all projects presented in that plan have been reviewed and the attached update reflects all changes that have been identified. In addition, all cost projections have been reviewed and updated to reflect current assumptions.

The total cost estimate of 2015 Plan Reliability Projects changed from \$156 million to \$144 million. In addition to removing one in-service project, the key differences between the original plan and this updated plan are summarized below:

Updates to the 2015 Collaborative Plan		
Project	Change	Reason for Change
Raeford 230 kV Substation, loop-in Richmond-Ft Bragg Woodruff St 230 kV Line and add 3 rd bank	Updated project cost estimate (-\$2M)	Engineering design phase cost estimate update
Jacksonville-Grant's Creek 230 kV Line and Grant's Creek 230/115 kV Substation	Updated project cost estimate (+\$2M)	Engineering design phase cost estimate update
Newport-Harlowe 230 kV Line and Harlowe 230/115 kV Substation	Updated project cost estimate (+\$1M)	Engineering design phase cost estimate update
Fort Bragg Woodruff St 230 kV Sub, Replace 150 MVA 230/115 kV transformer with two 300 MVA banks & reconductor Manchester 115 kV feeder	Updated project cost estimate (+\$1M)	Engineering design phase cost estimate update
Sutton-Castle Hayne 115 kV North line rebuild	Updated project cost estimate (+\$1M)	Engineering design phase cost estimate update

In addition to the 2015 Plan updates, two new projects are being added to the 2016 Plan. Both of these projects are the result of an OATT generator interconnection request.

Projects to be Added to the 2016 Collaborative Plan		
Project	Change	Reason for Change
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	To be added to the Plan	Accommodate OATT generator interconnection request
Cane River 230 kV Substation, Construct 150 MVAR SVC	To be added to the Plan	Accommodate OATT generator interconnection request



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2015 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	6/1/2024	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 transformer	Planned	DEP	6/1/2018	18	2
0031	Jacksonville-Grant’s Creek 230 kV Line and Grant’s Creek 230/115 kV Substation	Mitigate loading and voltage issues on existing Havelock-Jacksonville 230 kV Line	Planned	DEP	6/1/2020	39	4
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	Planned	DEP	6/1/2020	33	4
0033	Fort Bragg Woodruff St 230 kV Sub, Replace 150 MVA 230/115 kV	Mitigate transformer bank and 115 kV feeder loading	Planned	DEP	12/1/2016	14	0.5



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2015 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
	transformer with two 300 MVA banks & reconductor Manchester 115 kV feeder						
0034	Sutton-Castle Hayne 115 kV North line Rebuild	Mitigate contingency loading	Planned	DEP	6/1/2018	11	2
0035	Reconductor Norman 230 kV Lines (McGuire-Riverbend)	Mitigate loading issues that were aggravated by retirement of Riverbend generation	Complete	DEC	12/1/2015	NA	NA
TOTAL						144	

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.



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

Projects to be Added to the 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
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	Planned	DEP	12/1/2019	30	3.5
0037	Cane River 230 kV Substation, Construct 150 MVAR SVC	Transmission required to interconnect two 1x1 combined cycle generating units	Planned	DEP	12/1/2019	30	3.5
TOTAL						60	