NCTPC 2018 Collaborative Transmission Plan Update

June 2019

Attached is the mid-year update to the NCTPC 2018 Collaborative Transmission Plan dated January 17, 2019. 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 2018 Plan Reliability Projects changed from $657 million to $664 million. The key cost differences between the original plan and this updated plan are summarized below:

Cost Updates to the 2018 Collaborative Plan		
Project	**Change**	**Reason for Change**
Brunswick #1-Jacksonville 230 kV Loop-in Project	Updated project cost estimate (+1M)	Initial estimate was preliminary
Raeford 230 kV Substation, Line loop-in and 3rd Bank	Final project cost estimate (-1M)	Final project cost
Jacksonville-Grants Creek 230 kV Project	Updated project cost estimate (+2M)	Environmental mitigation and escalating contractor costs
Newport-Harlowe 230 kV Project	Updated project cost estimate (+3M)	Environmental mitigation and escalating contractor costs
Asheville Plant, Replace 230/115 kV transformers, Upgrade breakers, Add 230 kV Capacitor	Removed from list (-40M)	Project already shown as complete
Asheboro-Asheboro East 115 kV North Line, Reconductor	Updated project status (+9M)	Project has been delayed 2 years and cost estimate has been updated
Delco 230 kV Substation, Convert to double breaker	Final project cost estimate (-2M)	Final project cost
Castle Hayne 230 kV Substation, Convert to double breaker	Removed from list (-11M)	Project already shown as complete
Total Change	**-39 Million**	**Plan up from $657 M to $618 M**

2018 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	15	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	Complete	DEP	12/1/2018	28	-
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	75	1
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	67	1
0034	Sutton-Castle Hayne 115 kV North Line Rebuild	Mitigate contingency loading	Underway	DEP	12/31/2020	25	1.5

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0037	Cane River 230 kV Substation, Construct 150 MVAR SVC and 4 CB Ring Bus	Transmission required to interconnect two 1x1 combined cycle generating units	Underway	DEP	9/1/2019	42	0.25
0038	Harley 100 kV Lines (Tiger – Campobello), Reconductor	Mitigate contingency loading	Conceptual	DEC	TBD	18	3
0039	Asheboro-Asheboro East 115 kV North Line Reconductor	Mitigate contingency loading	Underway	DEP	6/1/2021	24	2
0040	Delco 230 kV Substation, Convert to Double Breaker	Stuck breaker and bus outage contingencies	Complete	DEP	3/1/2019	13	-
0042	Rural Hall 100 kV, Install SVC	Additional voltage support	Planned	DEC	4/1/2020	50	0.5
0043	Orchard Tie 230/100 kV Tie Station, Construct	Load growth	Planned	DEC	12/1/2020	80	1
0046	Windmere 100 kV Line (Dan River-Sadler), Construct	Mitigate contingency loading	Planned	DEC	12/1/2021	26	2.5
0047	NTE II, Generator Interconnection	Generator interconnection	Underway	DEC	12/1/2021	53	2.5

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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]**
0048	Wilkes 230/100 kV Tie Station, Construct	Mitigate contingency loading and voltage issues	Planned	DEC	12/1/2023	22	3
0049	Ballantyne Switching Station, Construct	Mitigate contingency loading	Underway	DEC	12/1/2019	15	0.5
0050	Craggy-Enka 230 kV Line, Construct	Mitigate contingency loading	Conceptual	DEP	12/1/2025	50	4
TOTAL						**618**	

[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.