NCTPC 2022 Collaborative Transmission Plan Update

July 2023

Following is the mid-year update to the NCTPC 2022 Collaborative Transmission Plan. The status and timing of all projects presented in the Plan have been reviewed and the attached update reflects all changes (shown in red) that have been identified. All in-service dates were adjusted to either June 1 or December 1 to reflect the peak season by which the project will be in service, and to avoid the need for minor in service date adjustments. In addition, all cost projections have been reviewed and updated to reflect current estimates.

The total cost estimate of the 2022 Plan Reliability Projects changed from $936 million to $897 million. The total cost estimate of the 2022 Plan Public Policy Projects changed from $554 million to $567 million, and a new $9 million project is proposed to be added for the 2023 Plan. All costs are rounded to the nearest $1 million. All Public Policy Projects statuses changed from Planned to Underway to reflect that there is money in the current budget year for activities associated with these projects. The key differences between the original plan and this updated plan are summarized below:

Updates to the 2022 Collaborative Plan		
Project	**Change**	**Reason for Change**
DEC		
Windmere 100 kV Line (Dan River-Sadler), Construct	Revised projected in-service date (accelerated 12 months) and cost (+$1M)	Recent projections
Wilkes 230/100 kV Tie Station, Construct	Revised projected in-service date (accelerated 6 months) and cost (-$2M)	Recent projections
Wateree 100 kV Line (Great Falls-Wateree), Upgrade	Revised projected in-service date (delayed 6 months) and cost (-$5M)	Recent projections
Silas 100 kV Line (Mocksville-Idols Tap), Upgrade	Revised cost (-$1M)	Recent projections
Newberry 115 kV Line (Bush River-DESC), Upgrade	Revised projected in-service date (accelerated 18 months) and cost (-$7M)	Recent projections
Cokesbury 100 kV Line (Coronaca-Hodges), Upgrade	Revised projected in-service date (delayed 6 months)	Recent projections
South Point Switching Station, Construct	Revised cost (+$13M)	Recent projections

Updates to the 2022 Collaborative Plan		
Project	**Change**	**Reason for Change**
North Greenville 230 kV Tie Station, Upgrade	Revised projected in-service date (accelerated 12 months) and cost (+$1M)	Recent projections
Lee 100 kV Line (Lee-Shady Grove), Upgrade	Revised projected in-service date (accelerated 12 months) and cost (-$5M)	Recent projections
Coronaca 100 kV Line (Coronaca-Creto), Upgrade and Add Second Circuit	Revised projected in-service date (delayed 12 months)	Recent projections
Wylie 100 kV Line (Wylie-Arrowood Retail), Upgrade	Revised cost (-$2M)	Recent projections
Piedmont 100 kV Line (Lee-Shady Grove), Upgrade	Revised cost (-$5M)	Recent projections
Clinton 100 kV Line (Bush River-Laurens), Upgrade	Revised cost (-$23M)	Recent projections
Monroe 100 kV Line (Lancaster-Monroe), Upgrade	Revised cost (+$21M)	Recent projections
Sandy Ridge 230 kV Line (Newport-Morning Star), Upgrade	Revised projected in-service date (delayed 12 months) and cost (-$24M)	Recent projections
Davidson River 100 kV Line (North Greenville-Marietta), Upgrade	Added projected in-service date and revised cost (-$11M)	Recent projections
Morning Star 230 kV Tie Station, Upgrade	Revised projected in-service date (delayed 52 months) and cost (-$1M)	Recent projections
Westport 230 kV Line (McGuire-Marshall), Upgrade	Revised cost (-$17M)	Recent projections
Skybrook 100 kV Line (Winecoff-Eastfield Retail), Upgrade	Revised cost (-$1M)	Recent projections
DEP		
Carthage 230/115 kV Substation, Construct Sub	Project delayed 6 months, Cost estimate decrease (-$1.5M)	Recent schedule projections, New Class 5 cost estimates
Craggy-Enka 230 kV Line	Cost estimate decrease (-$9M)	New Class 5 cost estimates.
Wateree 115 kV Plant, Upgrade 115/100 kV Transformers	Project delayed by 6 months, Cost estimate increase (+$1M)	Recent schedule projections, New Class 5 cost estimates

Updates to the 2022 Collaborative Plan		
Project	**Change**	**Reason for Change**
Cape Fear – West End 230 kV Line, Rebuild	Cost estimate increase (+$13M)	New Class 5 cost estimates
Erwin – Fayetteville East 230 kV Line, Rebuild	Cost estimate increase (+$12M)	New Class 5 cost estimates
Erwin – Fayetteville 115 kV Line, Rebuild	Cost estimate increase (+$3M)	New Class 5 cost estimates
Fayetteville-Fayetteville Dupont 115 kV Line, Rebuild 3.2-mile section	Cost estimate decrease (-$2M)	New Class 5 cost estimates
Milburnie 230 kV Substation, Upgrade	Cost estimate increase (+$1M)	New Class 5 cost estimates
Weatherspoon-Marion 115 kV Line, Upgrade	Cost estimate increase (+$8M)	New Class 5 cost estimates
Camden Junction-Wateree 115 kV Line, Rebuild	Cost estimate increase (+$6M)	New Class 5 cost estimates
Robinson Plant-Rockingham 115 kV Line, Rebuild	Cost estimate increase (+$4M) and project was accelerated by 6 months.	New Class 5 cost estimates and recent schedule projection changes
Robinson Plant-Rockingham 230 kV Line, Upgrade	Cost estimate increase (+$6M)	New Class 5 cost estimates
Fayetteville-Fayetteville Dupont 115 kV Line, Rebuild 4.9-mile section	Cost estimate increase (+$2M)	New Class 5 cost estimates
Total Change	**- $26 Million**	**Plan decreased from $1.490 B to $1.464 B**

Projects Proposed To Be Included in the 2023 Plan		
Project	**Change**	**Reason For Change**
Camden - Camden Dupont 115 kV line: Rebuild Line 0.7 miles	Upgrade to be included in 2023 Plan (+$9M)	Additional Information from 2022 DISIS Phase 1 Study and Outage Sequencing

Reliability Upgrades

2022 Collaborative Transmission Plan – Reliability Projects (Estimated Cost > $10M) Items identified in red are changes from the previous report.							
Project ID	**Reliability Project**	**Issue Resolved**	**Status[1]**	**Transmission Owner**	**Projected In-Service Date**	**Estimated Cost ($M)[2]**	**Project Lead Time (Years)[3]**
	DEC						
0046	Windmere 100 kV Line (Dan River-Sadler), Construct	Mitigate contingency loading	Underway	DEC	6/1/2023	27	-
0048	Wilkes 230/100 kV Tie Station, Construct	Mitigate contingency loading and voltage issues	Underway	DEC	6/1/2024	51	1
0061	Wateree 100 kV Line (Great Falls-Wateree), Upgrade	Mitigate contingency loading	Underway	DEC	6/1/2024	5	1
0062	Silas 100 kV Line (Mocksville-Idols Tap), Upgrade	Mitigate contingency loading	Underway	DEC	6/1/2025	21	2
0051	Cokesbury 100 kV Line (Coronaca–Hodges), Upgrade	Mitigate contingency loading	Planned	DEC	12/1/2025	22	2.5
0052	South Point 100 kV Switching Station, Construct	Mitigate contingency loading with retirement of Allen generation	Underway	DEC	12/1/2025	109	2.5
0063	North Greenville 230 kV Tie Station, Upgrade	Mitigate contingency loading. Replace aging infrastructure.	Underway	DEC	12/1/2025	21	2.5
0058	Coronaca 100 kV Line (Coronaca-Creto), Upgrade and Construct	Mitigate contingency loading	Planned	DEC	12/1/2026	18	3
0064	Wylie 100 kV Line (Wylie-Arrowood Retail), Upgrade	Mitigate contingency loading	Underway	DEC	12/1/2026	13	3.5
0059	Monroe 100 kV Line (Lancaster-Monroe), Upgrade	Mitigate contingency loading	Underway	DEC	12/1/2027	74	4.5
0068	Sandy Ridge 230 kV Line (Newport-Morning Star), Upgrade	Mitigate contingency loading	Planned	DEC	12/1/2029	36	6.5
0066	Davidson River 100 kV Line (North Greenville-Marietta), Upgrade	Mitigate contingency loading	Planned	DEC	12/1/2030	19	4
0065	Morning Star 230 kV Tie Station, Upgrade	Mitigate contingency loading	Planned	DEC	12/1/2032	35	6
0060	Westport 230 kV Line (McGuire-Marshall), Upgrade	Mitigate contingency loading with retirement of Marshall generation	Conceptual	DEC	TBD	48	4.5

2022 Collaborative Transmission Plan – Reliability Projects (Estimated Cost > $10M) Items identified in red are changes from the previous report.							
Project ID	**Reliability Project**	**Issue Resolved**	**Status[1]**	**Transmission Owner**	**Projected In-Service Date**	**Estimated Cost ($M)[2]**	**Project Lead Time (Years)[3]**
0067	Harley 100 kV Line (Tiger-Campobello), Upgrade	Mitigate contingency loading	Conceptual	DEC	TBD	45	4
0069	Skybrook 100 kV Line (Winecoff-Eastfield Retail), Upgrade	Mitigate contingency loading	Conceptual	DEC	TBD	16	4
	DEP						
0039	Asheboro–Asheboro East 115 kV North Line, Reconductor	Mitigate contingency loading	In-service	DEP	12/1/2022	27	-
0053	Wateree Hydro Plant, Upgrade	Mitigate contingency loading and voltage issues	Underway	DEP	12/1/2023	16	-
0050	Craggy–Enka 230 kV Line, Construct	Mitigate contingency loading	Underway	DEP	12/1/2024	95	1.5
0056	Castle Hayne–Folkstone115 kV Line, Rebuild	Mitigate contingency loading	Underway	DEP	12/1/2025	95	2.5
0054	Carthage 230/115 kV Substation, Construct	Mitigate contingency loading and voltage issues	Underway	DEP	6/1/2026	27	3
0057	Holly Ridge North 115 kV Switching Station, Construct	Mitigate contingency low voltage	Underway	DEP	12/1/2026	12	3.5
0024	Durham–RTP 230 kV Line, Reconductor	Mitigate contingency loading	Conceptual	DEP	TBD	20	4
0055	Falls 230 kV Sub, Construct SVC	Mitigate future voltage issues with retirement of Person Co. generation	Conceptual	DEP	TBD	45	5.5
TOTAL						**897**	

[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.

Public Policy Upgrades

2022 Collaborative Transmission Plan – Public Policy Projects Items identified in red are changes from the previous report.							
Project ID	**Public Policy Project**	**Issue Resolved**	**Status[1]**	**Transmission Owner**	**Projected In-Service Date**	**Estimated Cost ($M)[2]**	**Project Lead Time (Years)[3]**
	DEC						
0082	Newberry 115 kV Line (Bush River-DESC), Upgrade	This upgrade is needed for future solar generation and for compliance with the Carbon Plan goals	Underway	DEC	6/1/2025	35	2
0080	Lee 100 kV Line (Lee-Shady Grove), Upgrade	This upgrade is needed for future solar generation and for compliance with the Carbon Plan goals.	Underway	DEC	12/1/2025	40	2.5
0081	Piedmont 100 kV Line (Lee-Shady Grove), Upgrade	This upgrade is needed for future solar generation and for compliance with the Carbon Plan goals	Underway	DEC	12/1/2026	40	3.5
0083	Clinton 100 kV Line (Bush River-Laurens), Upgrade	This upgrade is needed for future solar generation and for compliance with the Carbon Plan goals	Underway	DEC	12/1/2026	86	3.5
	DEP						
0073	Fayetteville-Fayetteville Dupont 115 kV Line, Rebuild 3.2-mile section	This upgrade is needed for future solar generation and for compliance with the Carbon Plan goals	Underway	DEP	12/1/2024	14	1.5
0072	Erwin – Fayetteville 115 kV Line, Rebuild	This upgrade is needed for future solar generation and for compliance with the Carbon Plan goals	Underway	DEP	6/1/2025	24	2
0075	Weatherspoon-Marion 115 kV Line, Rebuild	This upgrade is needed for future solar generation and for compliance with the Carbon Plan goals	Underway	DEP	12/1/2025	21	2.5
0070	Cape Fear – West End 230 kV Line, Rebuild	This upgrade is needed for future solar generation and for compliance with the Carbon Plan goals	Underway	DEP	6/1/2026	83	3
0071	Erwin – Fayetteville East 230 kV Line, Rebuild	This upgrade is needed for future solar generation and for compliance with the Carbon Plan goals	Underway	DEP	6/1/2026	96	3
0074	Milburnie 230 kV Substation, Upgrade	This upgrade is needed for future solar generation and for compliance with the Carbon Plan goals	Underway	DEP	6/1/2026	5	3
0078	Robinson Plant-Rockingham 230 kV Line, Rebuild	This upgrade is needed for future solar generation and for compliance with the Carbon Plan goals	Underway	DEP	6/1/2026	49	3
0079	Fayetteville-Fayetteville Dupont 115 kV Line, Rebuild 4.9-mile section	This upgrade is needed for future solar generation and for compliance with the Carbon Plan goals	Underway	DEP	6/1/2026	16	1.5
0076	Camden Junction-Wateree 115 kV Line, Rebuild	This upgrade is needed for future solar generation and for compliance with the Carbon Plan goals	Underway	DEP	12/1/2026	16	3.5

2022 Collaborative Transmission Plan – Public Policy Projects Items identified in red are changes from the previous report.							
Project ID	**Public Policy Project**	**Issue Resolved**	**Status[1]**	**Transmission Owner**	**Projected In-Service Date**	**Estimated Cost ($M)[2]**	**Project Lead Time (Years)[3]**
0077	Robinson Plant-Rockingham 115 kV Line, Rebuild	This upgrade is needed for future solar generation and for compliance with the Carbon Plan goals	Underway	DEP	6/1/2027	42	4
TOTAL						**567**	

[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.
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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.

Projects Proposed To Be Included in the 2023 Plan							
Project ID	**Public Policy Project**	**Issue Resolved**	**Status[1]**	**Transmission Owner**	**Projected In-Service Date**	**Estimated Cost ($M)[2]**	**Project Lead Time (Years)[3]**
0085	Camden - Camden Dupont 115kV Line, Rebuild	This upgrade is needed for future solar generation and for compliance with the Carbon Plan goals and must be completed prior to starting the outage for the Camden Junction – Wateree 115 upgrade	Underway	DEP	12/1/2024	9	1.5