

## **CTPC – 2024 MVST Study - Preliminary Solutions Scopes**

This document summarizes the previously shared project scopes for each of the 11 preliminary MVST Solutions that were advanced to benefit analysis. The 11 projects are grouped into 1 of 5 clusters based on the primary MVST Needs they address. This list does not include all solutions tested to address MVST Needs, which were previously shared.

**Note:** These preliminary costs are fully burdened Class 5 estimates unless identified otherwise.

### **#1 - Badin Cluster**

#### **Badin Rebuilds**

Scope:

- Rebuild 14.59 miles with 795 ACSS/TW and upgrade to 2000A equipment
- Upgrade Badin Transformer #1 and #2 to 168 MVA transformers

Cost: \$41.4M

### **#2 - 500/230 kV Cluster**

#### **Cliffside 500-230 Transformer**

Scope:

- Add Cliffside 500/230 kV autotransformer,
- Add 3% reactors on Cliffside 5 230/100 kV transformer,
- New 230 kV bus line between Cliffside Tie and Cliffside 5
- Rebuild 5 miles of Earl Bl/Wh 100 kV lines

Cost: \$90.3M

#### **Newport 500-230 Reactor**

Scope:

- Add series reactors to Newport AT5 transformer

Cost: \$22.7M

### **#3 – Harley Hogback Cluster**

#### **Harley Hogback - 44 to 100 Conversion**

Scope:

- Convert Campobello line from 44 kV to 100 kV; AEU upgrades
- Add 100 kV breakers at Campobello Tie
- Finish asset management project to re-build Tuxedo lines to 556 ACSR

- Convert one Tuxedo line from 44 kV to 100 kV and move loads to remaining 44 kV line
- Replace transformer and add breakers at Tuxedo Hydro
- Re-build 2 miles of Roper line from 44 kV to double-circuit 100 kV/44 kV

Cost: \$49.3M

### Harley Hogback - Rebuilds

Scope:

- Rebuild 11.9-mile Harley Bl/Wh 100 kV lines to 1158 ACSS/TW
- Rebuild 17.8-mile Hogback Bl/Wh 100 kV lines to 1158 ACSS/TW

Costs: \$125M

## #4 Wateree Cluster

### Wateree - 5% Reactor

Scope:

- Add 5% series reactors on Wateree Bl/Wh 100 kV lines
- Add 2-100 kV breakers and bus lines to reactors

Costs: \$31.1M

### Wateree - 5% Reactor + Winnsboro

Scope:

- Add 5% reactors at Wateree Bl/Wh 100 kV lines with new breakers and bus lines
- Re-commission and rebuild 52 miles of Winnsboro Bl/Wh 100 kV lines to 1158 ACSS/TW

Cost: \$256.1M.

### Wateree - Open Wateree B&W

Scope:

- Open Wateree Bl/Wh 100 kV lines

Cost: Negligible

### Wateree - Rebuilds

Scope:

- Rebuild 8.5-mile Camden DuPont - DPC Wateree Plant to 795 ACSS/TW
- Rebuild 11.1-mile Camden - Camden Junction 115 kV to 795 ACSS/TW
- Rebuild 17.8-mile Robinson Plant - Camden Junction 115 kV to 795 ACSS/TW
- Upgrade Wateree Plant - 115/100 kV Banks 1&2 to 168 MVA
- Upgrade Camden 230/115 kV Bank 1 to 336 MVA
- Rebuild 13.4-mile Edgemoor Bl/Wh 100 kV lines
- Rebuild 19.6-mile Landsford Bl/Wh 100 kV lines
- Rebuild 19.9-mile Wateree B&W 100 kV line to 1158 ACSS/TW

- Rebuild 6.3-mile Huckleberry BL 100 kV line
- Cost: \$349.9M (rough planning estimate)

## #5 - Woodruff Cluster

### Woodruff - New 100 KV Lines

Scope:

- Rebuild 15.8 miles of Enoree 44 kV lines from Laurens Tie to Woodruff Tie as 100 kV / 44 kV lines including some Right-of-way expansion
- Extend Van Patton 100 kV line 5.7 miles to Woodruff Tie
- Finish converting 44 kV Switzer line to 100 kV Knollwood line by upgrading 8.4 miles.
- Upgrade substation to accommodate 3 new 100 kV lines

Cost: \$96.1M

### Woodruff - Rebuilds

Scope:

- Rebuild 4.5-mile Bainbridge BL/WH 100 kV lines to 1158 ACSS/TW
- Rebuild 12.5-mile Mauldin BL/WH 100 kV lines to 1158 ACSS/TW
- Rebuild 29.4-mile Pacway BL/WH 100 kV lines to 1158 ACSS/TW
- Rebuild 18.9-mile Midway BL/WH 100 kV lines to 1158 ACSS/TW
- Rebuild 26.2-mile Rabon BL/WH 100 kV lines to 1158 ACSS/TW
- Rebuild 11.8-mile Tiger BL/WH 100 kV lines to 1158 ACSS/TW

Cost: \$422.9M