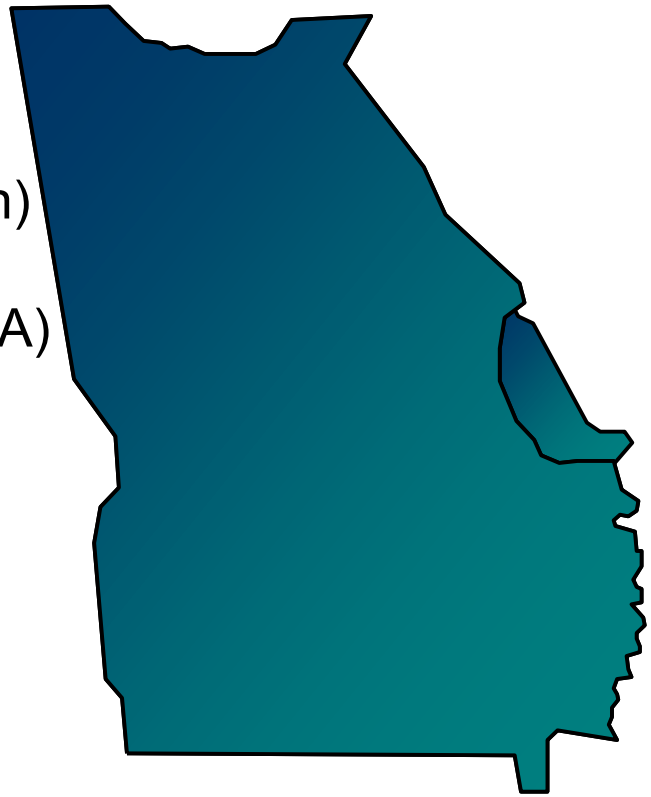
Southeastern Region Transmission Planning

East

- Dalton Utilities
- GTC (Georgia Transmission Corporation)
- MEAG (Municipal Electric Authority of GA)
- Southern Company Transmission



Southeastern Region Transmission Planning

Expansion Item E-1

2013 E-1

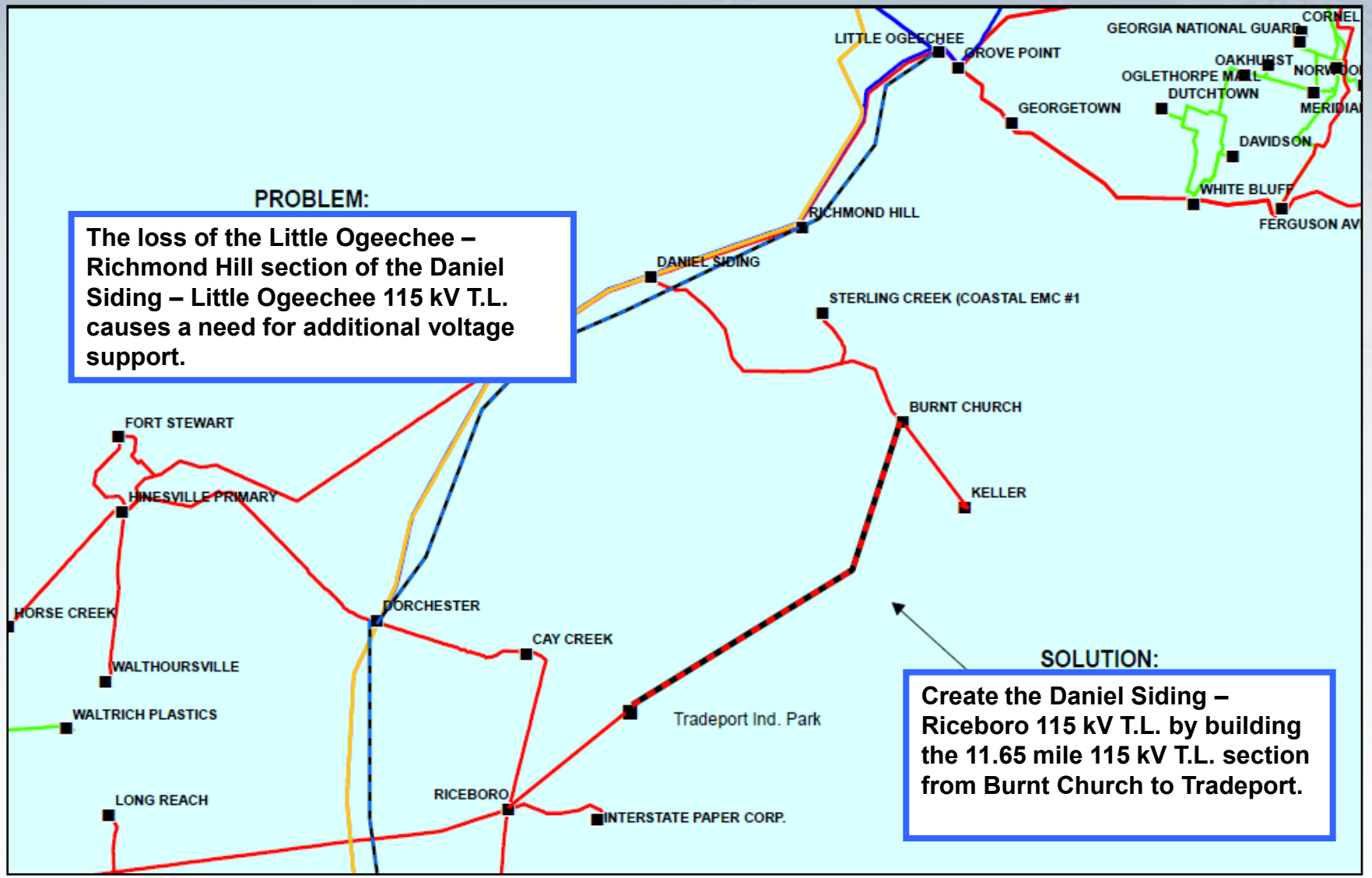
Daniel Siding – Riceboro 115 kV T.L.

- Create the Daniel Siding – Riceboro 115 kV T.L. by constructing 12 miles from Burnt Church to Tradeport.

- The loss of the Little Ogeechee – Richmond Hill section of the Daniel Siding – Little Ogeechee 115 kV T.L. causes a need for additional area voltage support.

Daniel Siding – Riceboro 115kV T.L.

2013 E-1



Southeastern Region Transmission Planning

Expansion Item E-2

2013 E-2

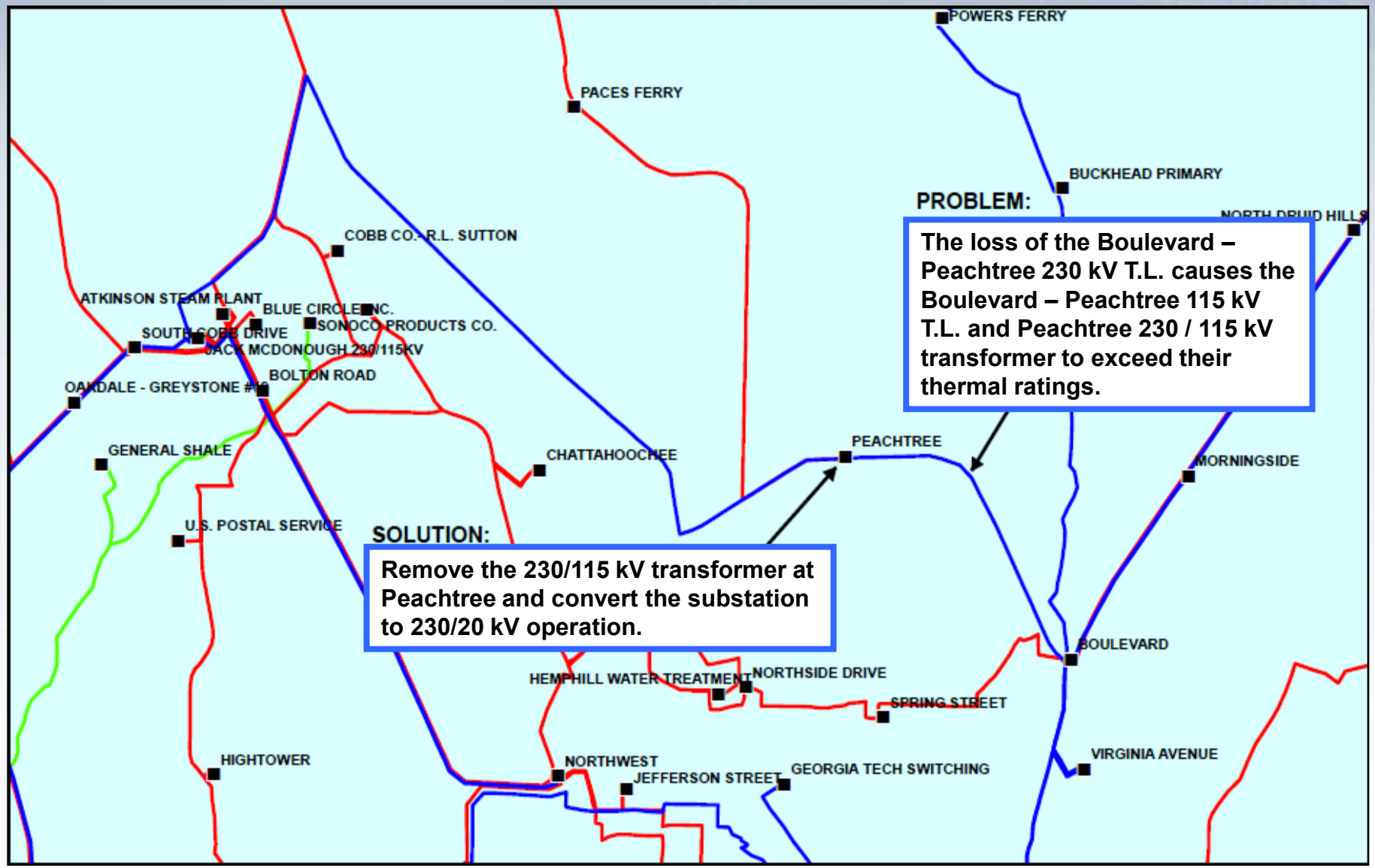
Peachtree 230 kV Substation

- At Peachtree substation, convert the high-side of all load transformers to 230 kV and remove the 230 / 115 kV transformer (Bank A).
- Tie the Boulevard and Rottenwood Creek 115 kV T.L.s together, outside of the substation.

- The loss of the Boulevard – Peachtree 230 kV T.L. causes the Boulevard – Peachtree 115 kV T.L. and Peachtree 230 / 115 kV transformer to become overloaded.

Peachtree 230 kV Substation

2013 E-2



Southeastern Region Transmission Planning

Expansion Item E-3

2014 E-3

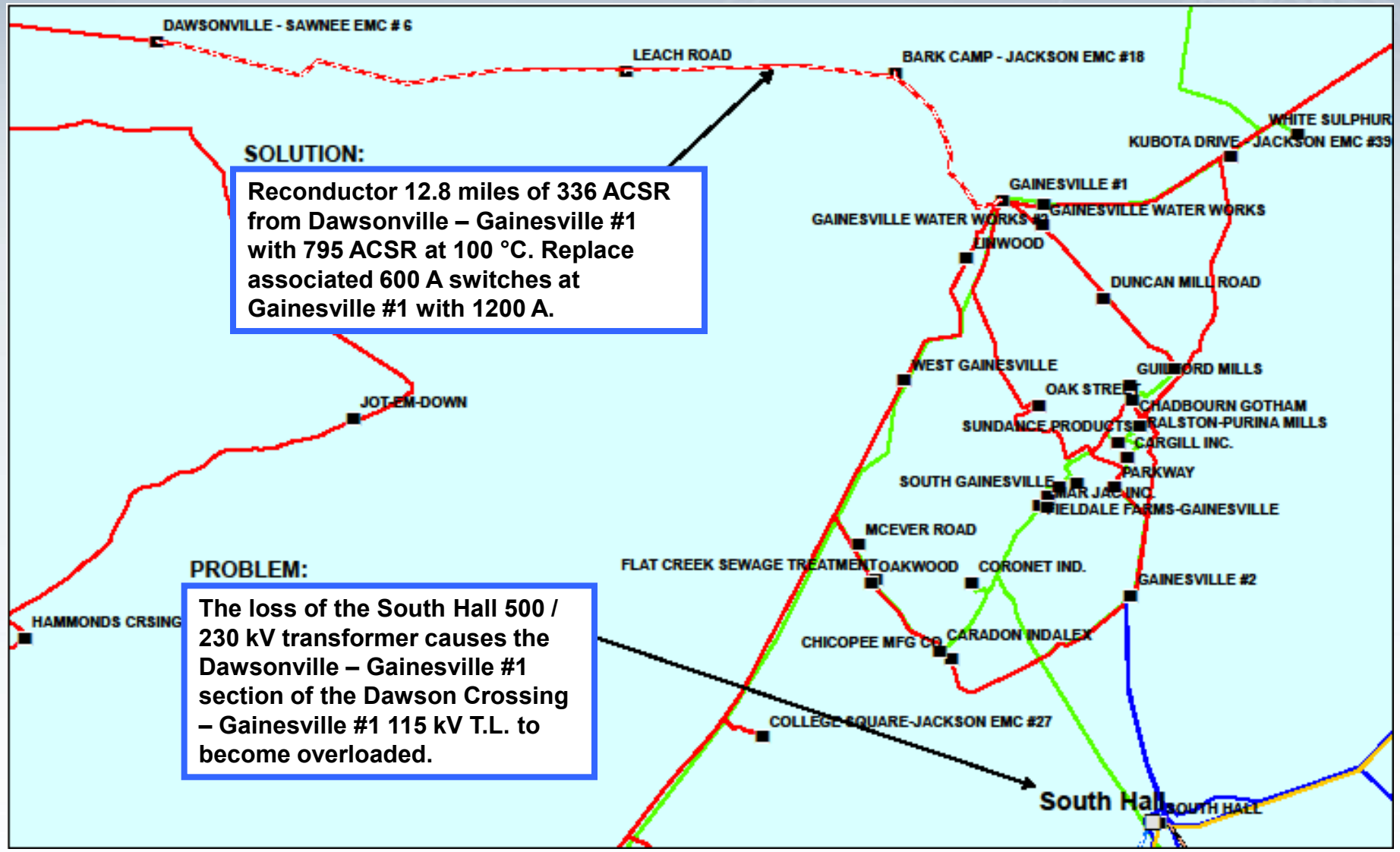
Dawson Crossing – Gainesville 115 kV T.L.

- Reconductor approximately 12.8 miles from Dawsonville to Gainesville #1 of the Dawson Crossing - Gainesville #1 115 kV T.L. with 795 ACSR

- The loss of the South Hall 500 / 230 kV transformer causes the Dawson Crossing – Gainesville #1 115 kV T.L. to become overloaded.

Dawson Crossing – Gainesville 115 kV T.L.

2014 E-3



Southeastern Region Transmission Planning

Expansion Item E-4

2014 E-4

McIntosh – Blandford – Meldrim 230 kV T.L.s

- Reconductor 18.2 miles along the McIntosh – Blandford – Meldrim Black and White 230 kV T.L.s.

- The loss of either McIntosh – Meldrim 230 kV T.L. will overload the parallel 230 kV T.L.

McIntosh – Blandford – Meldrim 230 kV T.L.s

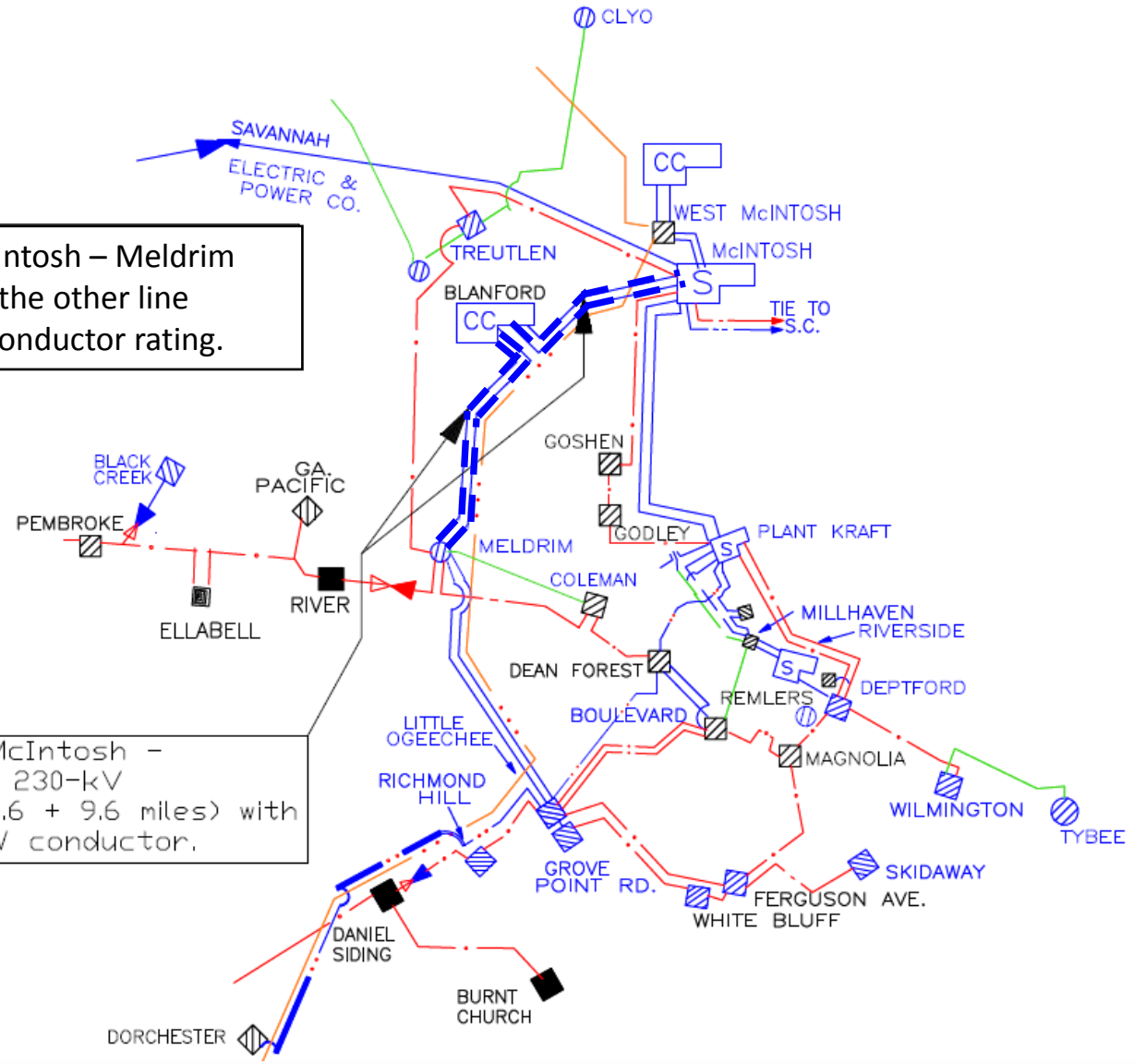
2014 E-4

PROBLEM

Loss of one of the McIntosh – Meldrim 230-kV lines will load the other line beyond its 509 MVA conductor rating.

SOLUTION

Re-conductor the McIntosh – Blandford – Meldrim 230-kV Black/White lines (8.6 + 9.6 miles) with 210C 1-1622 ACCR/TW conductor.



Southeastern Region Transmission Planning

Expansion Item E-5

2014 E-5

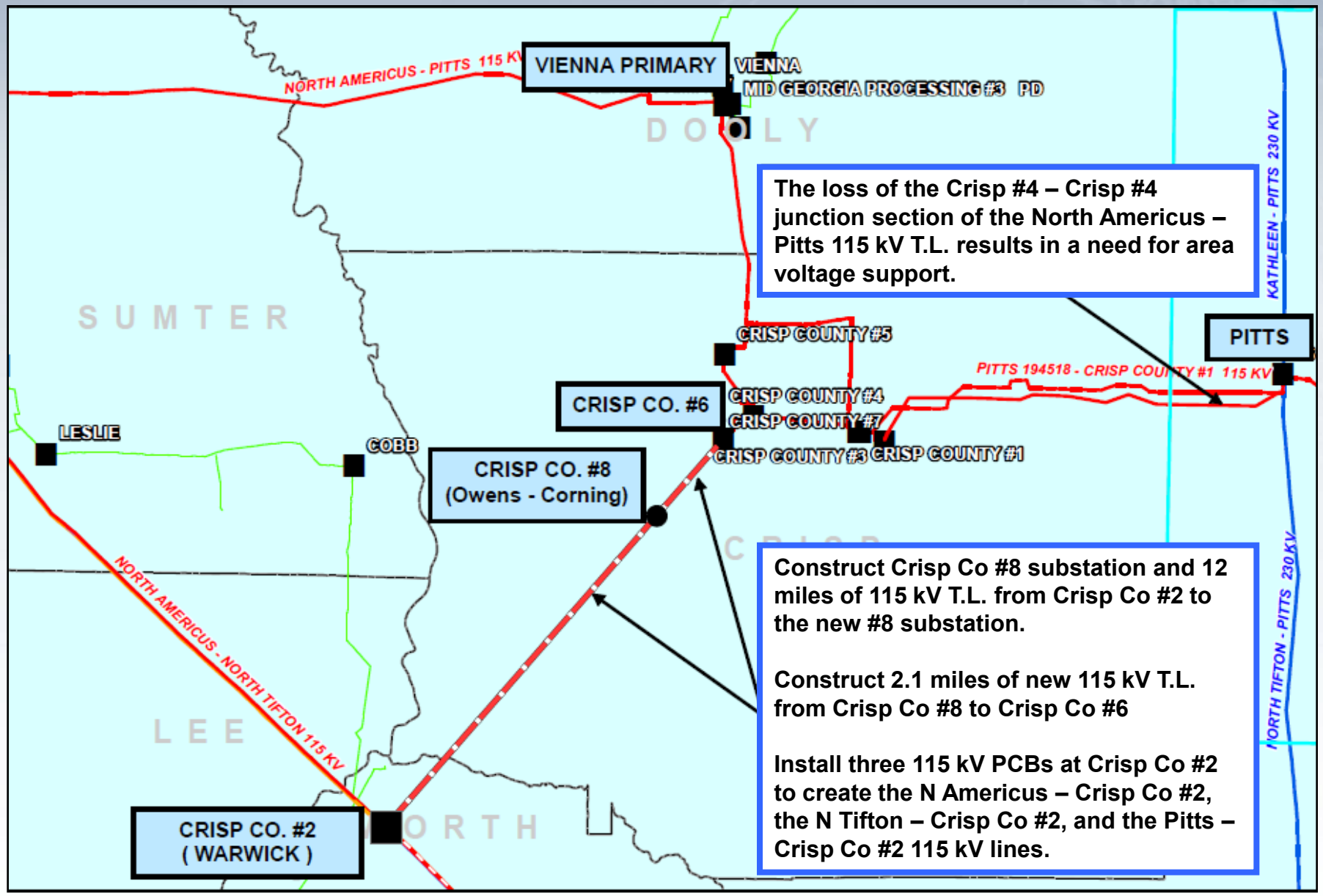
Crisp County Area Improvements

- Construct 12 miles of new 636 ACSR 115 kV T.L. from Crisp Co #2 – Crisp Co #8, creating the North Americus – Crisp Co #2 and North Tifton – Crisp Co #2 115 kV T.L.s.
- Construct 2.1 miles of new 636 ACSR 115 kV T.L. from Crisp Co #8 – Crisp Co #6, creating the Pitts – Crisp Co #2 115 kV T.L.

- The loss of the Crisp #4 – Crisp #4 junction section of the North Americus – Pitts 115 kV T.L. results in a need for area voltage support.

Crisp Co. Area Improvements Phase II

2014 E-5



Southeastern Region Transmission Planning

Expansion Item E-6

2014 E-6

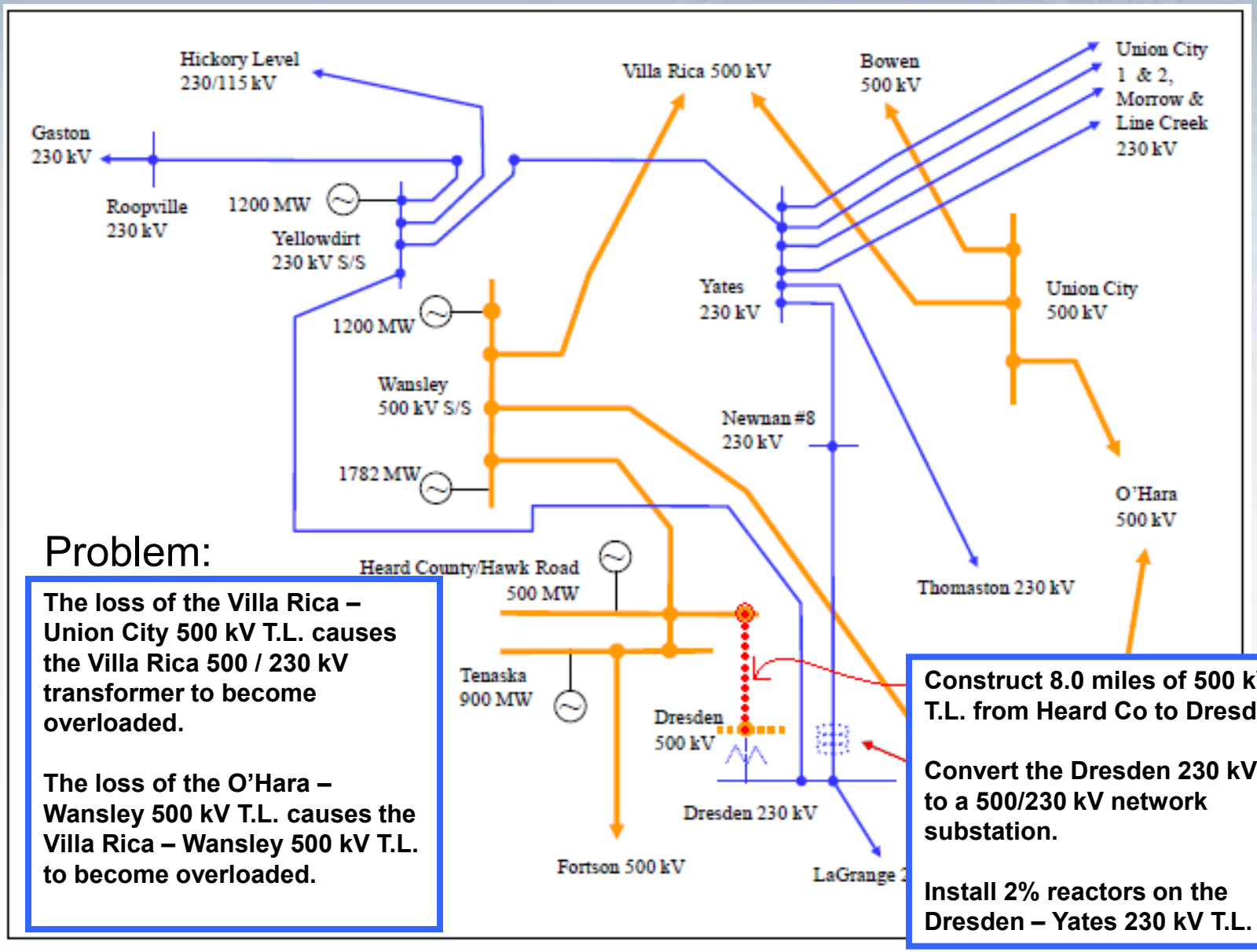
Dresden – Heard County 500 kV T.L.

- Construct 8 miles of new 500 kV T.L. from Heard County to Dresden.
- Install a new 500 / 230 kV transformer at Dresden.

- The loss of the Villa Rica – Union City 500 kV T.L. causes the Villa Rica 500 / 230 kV transformer to exceed its thermal rating.
- The loss of the O'Hara – Wansley 500 kV T.L. causes the Villa Rica – Wansley 500 kV T.L. to become overloaded.

Dresden – Heard Co. 500kV T.L.

2014 E-6



Problem:

The loss of the Villa Rica – Union City 500 kV T.L. causes the Villa Rica 500 / 230 kV transformer to become overloaded.

The loss of the O'Hara – Wansley 500 kV T.L. causes the Villa Rica – Wansley 500 kV T.L. to become overloaded.

Construct 8.0 miles of 500 kV T.L. from Heard Co to Dresden.

Convert the Dresden 230 kV SS to a 500/230 kV network substation.

Install 2% reactors on the Dresden – Yates 230 kV T.L.

Southeastern Region Transmission Planning

Expansion Item E-7

2014 E-7

Dyer Road Substation

- Construct a new 230/115 kV substation at Dyer Road with a 400 MVA transformer.
- Loop in the Thomaston – Yates 230 kV T.L.
- Loop in the Thomaston – Yates and Lagrange Primary – Yates 115 kV T.L.s
- Terminate the East Roanoke – Yates, South Coweta – Yates, and Yates – Newnan Primary 115 kV T.L.s at Dyer Road

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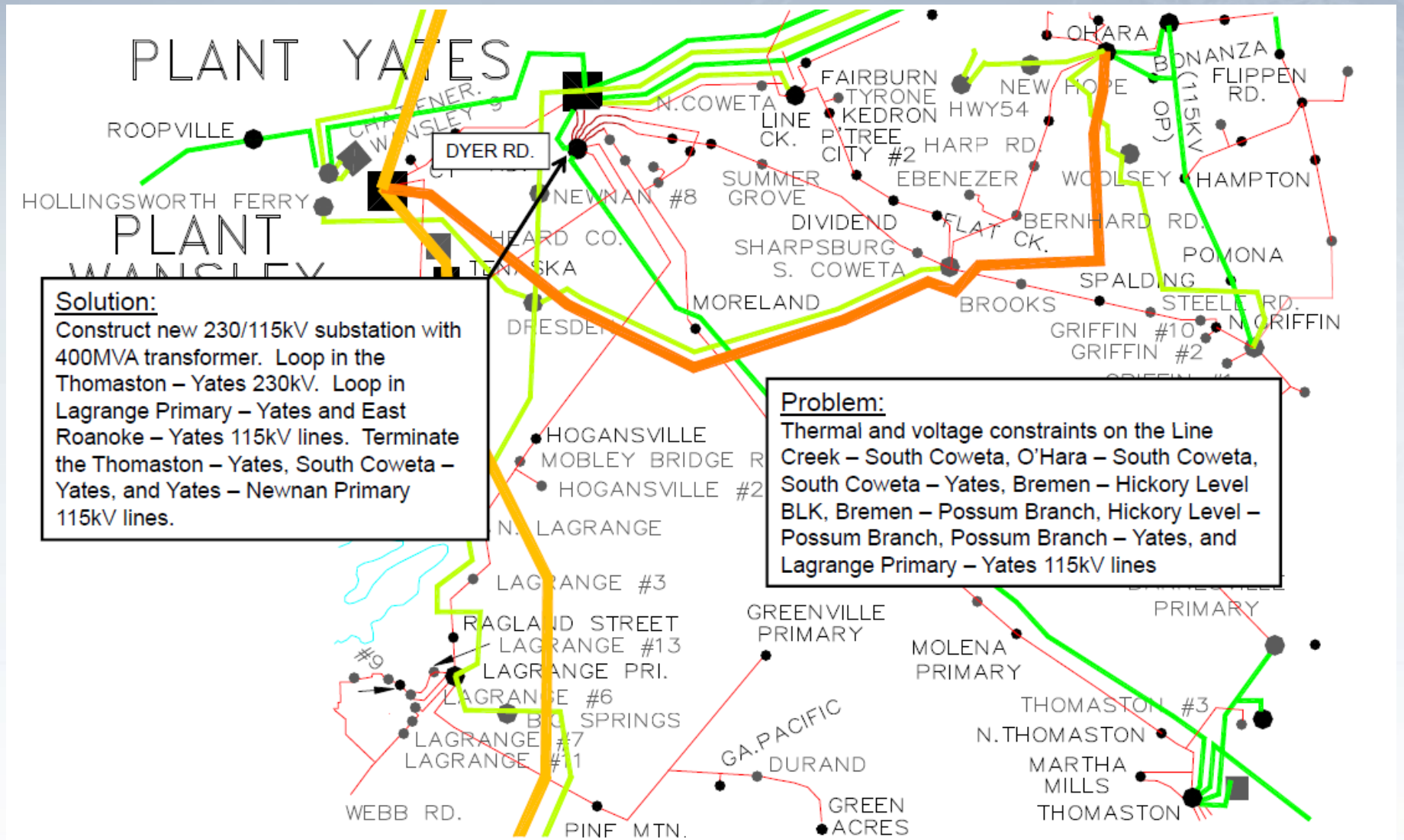
- Alleviates loadings on South Coweta – Yates, O'Hara – South Coweta, Lagrange – Yates, and Yates – Bremen 115 kV T.L.s
- Voltage support.

Dyer Road Substation

2014 E-7



Solution:

Construct new 230/115kV substation with 400MVA transformer. Loop in the Thomaston – Yates 230kV. Loop in Lagrange Primary – Yates and East Roanoke – Yates 115kV lines. Terminate the Thomaston – Yates, South Coweta – Yates, and Yates – Newnan Primary 115kV lines.

Problem:

Thermal and voltage constraints on the Line Creek – South Coweta, O'Hara – South Coweta, South Coweta – Yates, Bremen – Hickory Level BLK, Bremen – Possum Branch, Hickory Level – Possum Branch, Possum Branch – Yates, and Lagrange Primary – Yates 115kV lines

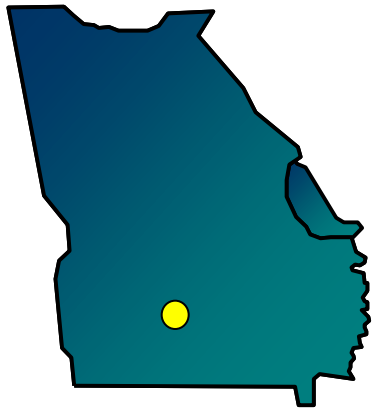
Southeastern Region Transmission Planning

Expansion Item E-8

2014 E-8

North Tifton Substation

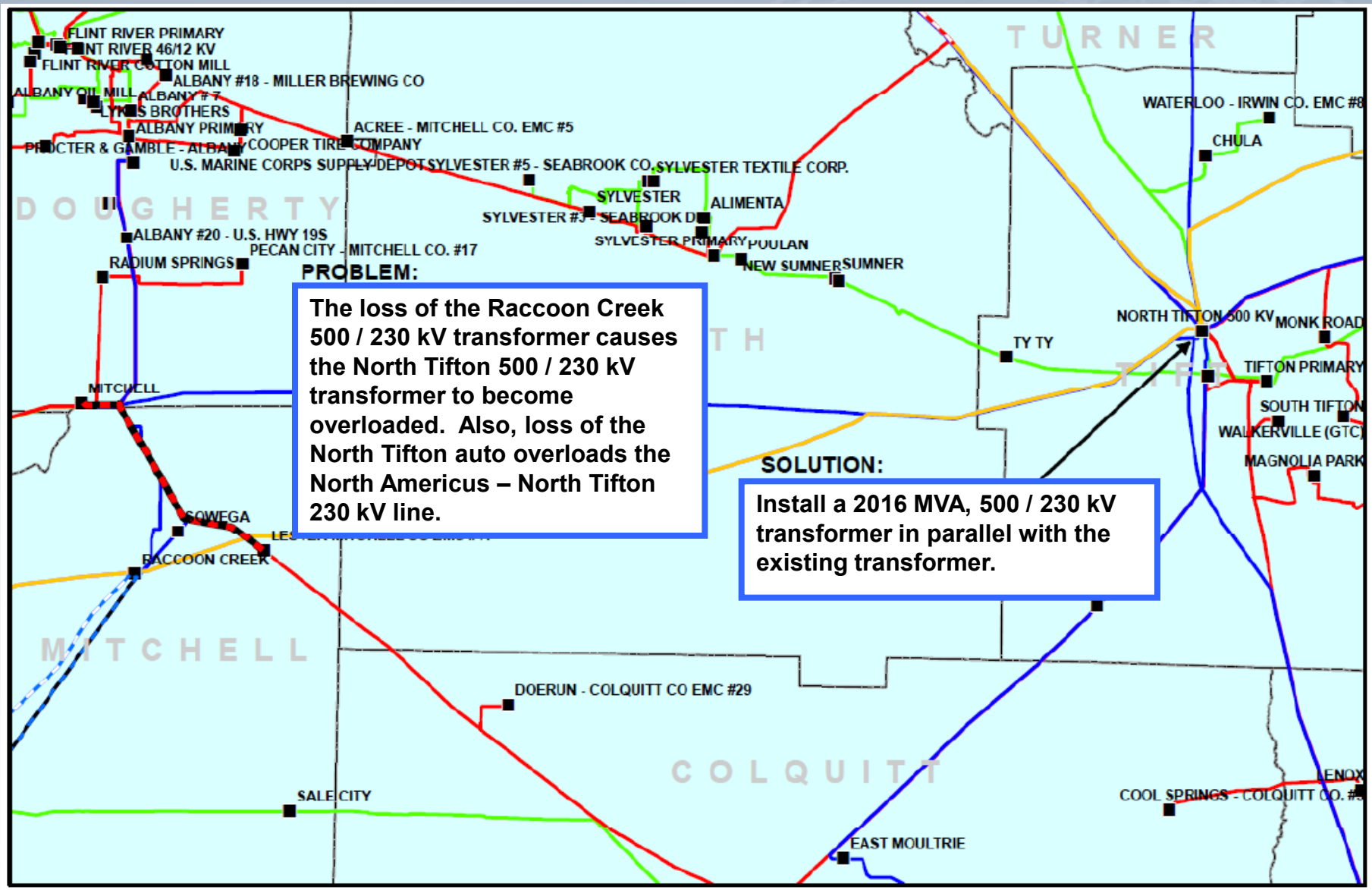
- Install a parallel, 2016 MVA, 500 / 230 kV transformer at North Tifton substation.



- The loss of the Raccoon Creek 500 / 230 kV transformer causes the North Tifton 500 / 230 kV transformer to become overloaded.
- Loss of the North Tifton 500/230 kV auto causes the North Americus – North Tifton 230 kV line to become overloaded.

North Tifton Substation

2014 E-8



Southeastern Region Transmission Planning

Expansion Item E-9

2014 E-9

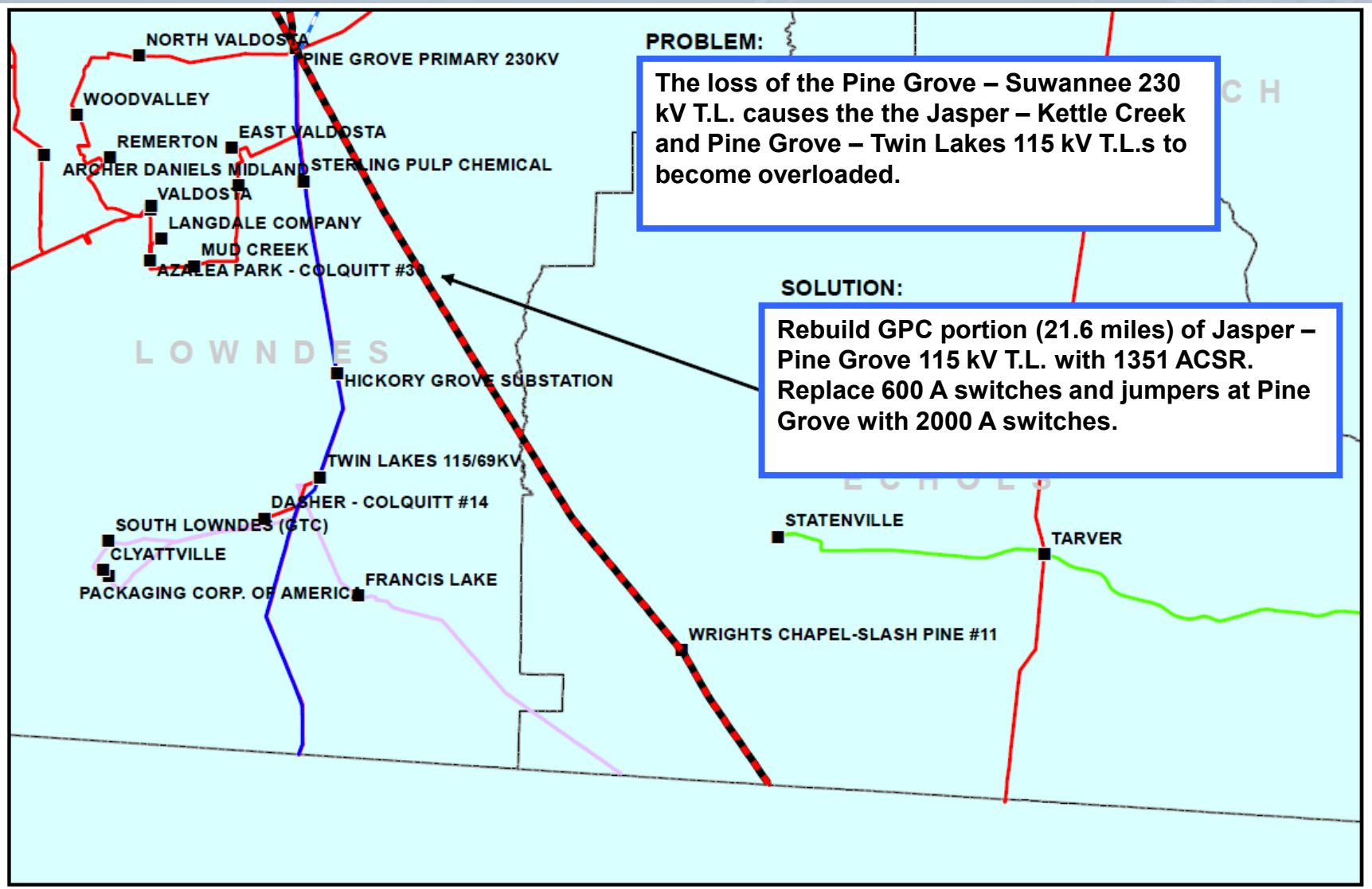
Jasper – Pine Grove 115 kV T.L.

- Rebuild 21.7 miles of the Jasper – Pine Grove 115 kV T.L. with 1351 ACSR at 230 kV specifications.

- The loss of the Pine Grove – Suwannee 230 kV T.L. causes the the Jasper – Kettle Creek and Pine Grove – Twin Lakes 115 kV T.L.s to become overloaded.

Jasper – Pine Grove 115 kV T.L.

2014 E-9



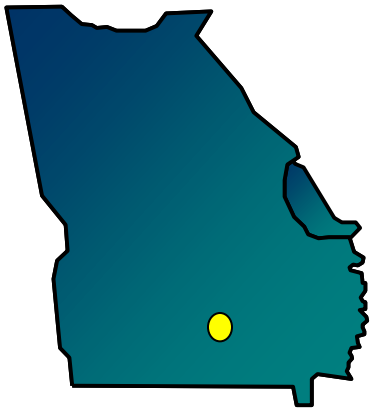
Southeastern Region Transmission Planning

Expansion Item E-10

Douglas – Pine Grove 230 kV T.L.

- Construct 53 miles of new 230 kV T.L. from Douglas to Pine Grove with 1351 ACSR.

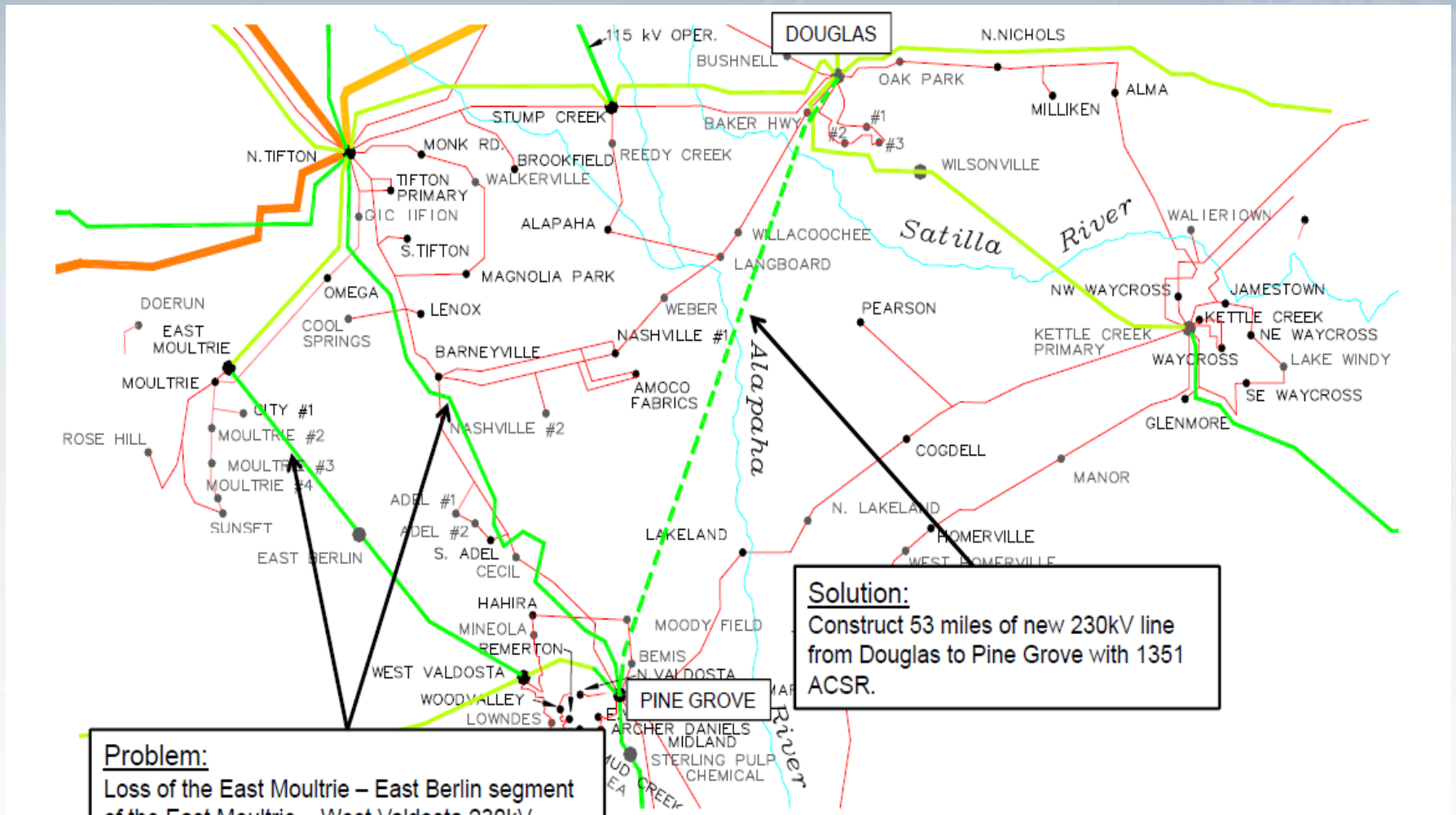
2015 E-10



- The loss of the East Moultrie – East Berlin segment causes the North Tifton – Pine Grove 230 kV T.L. to become overloaded.

Douglas – Pine Grove 230 kV T.L.

2015 E-10



Problem:
Loss of the East Moultrie – East Berlin segment of the East Moultrie – West Valdosta 230kV causes the North Tifton – Pine Grove Primary 230kV to exceed its thermal rating.

Solution:
Construct 53 miles of new 230kV line from Douglas to Pine Grove with 1351 ACSR.

Southeastern Region Transmission Planning

Expansion Item E-11

2015 E-11

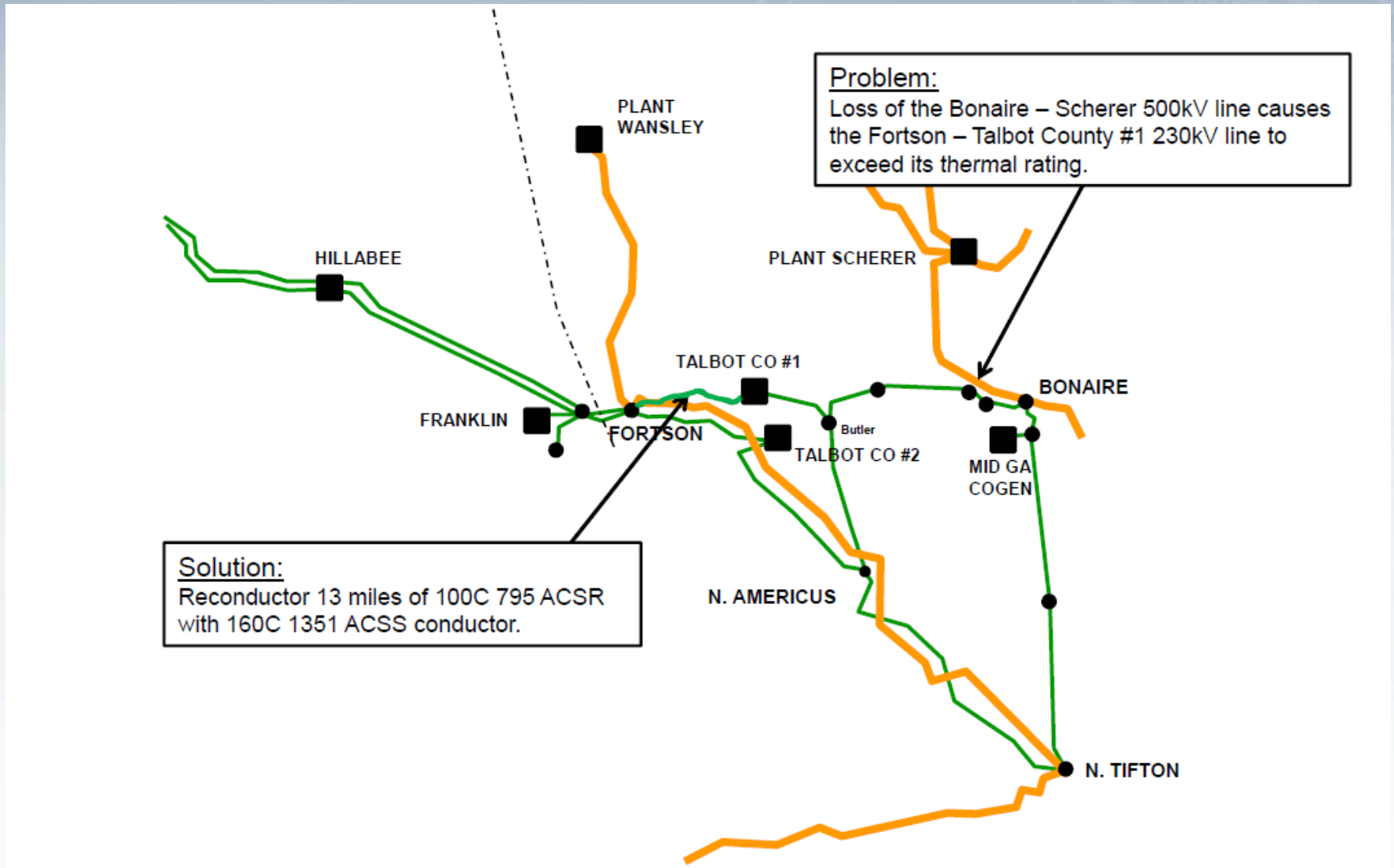
Fortson – Talbot County #1 230 kV T.L.

- Reconductor 13 miles of the Fortson – Talbot County #1 230 kV T.L. with 1351 ACSS at 160 °C

- The loss of the Bonaire – Scherer 500 kV T.L. causes the Fortson – Talbot County #1 230 kV T.L. to become overloaded.

Fortson – Talbot County #1 230 kV T.L.

2015 E-11



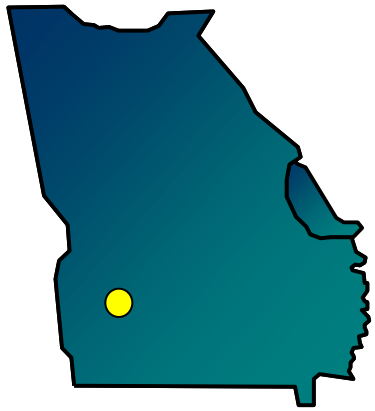
Southeastern Region Transmission Planning

Expansion Item E-12

2015 E-12

Raccoon Creek – Thomasville 230 kV T.L.

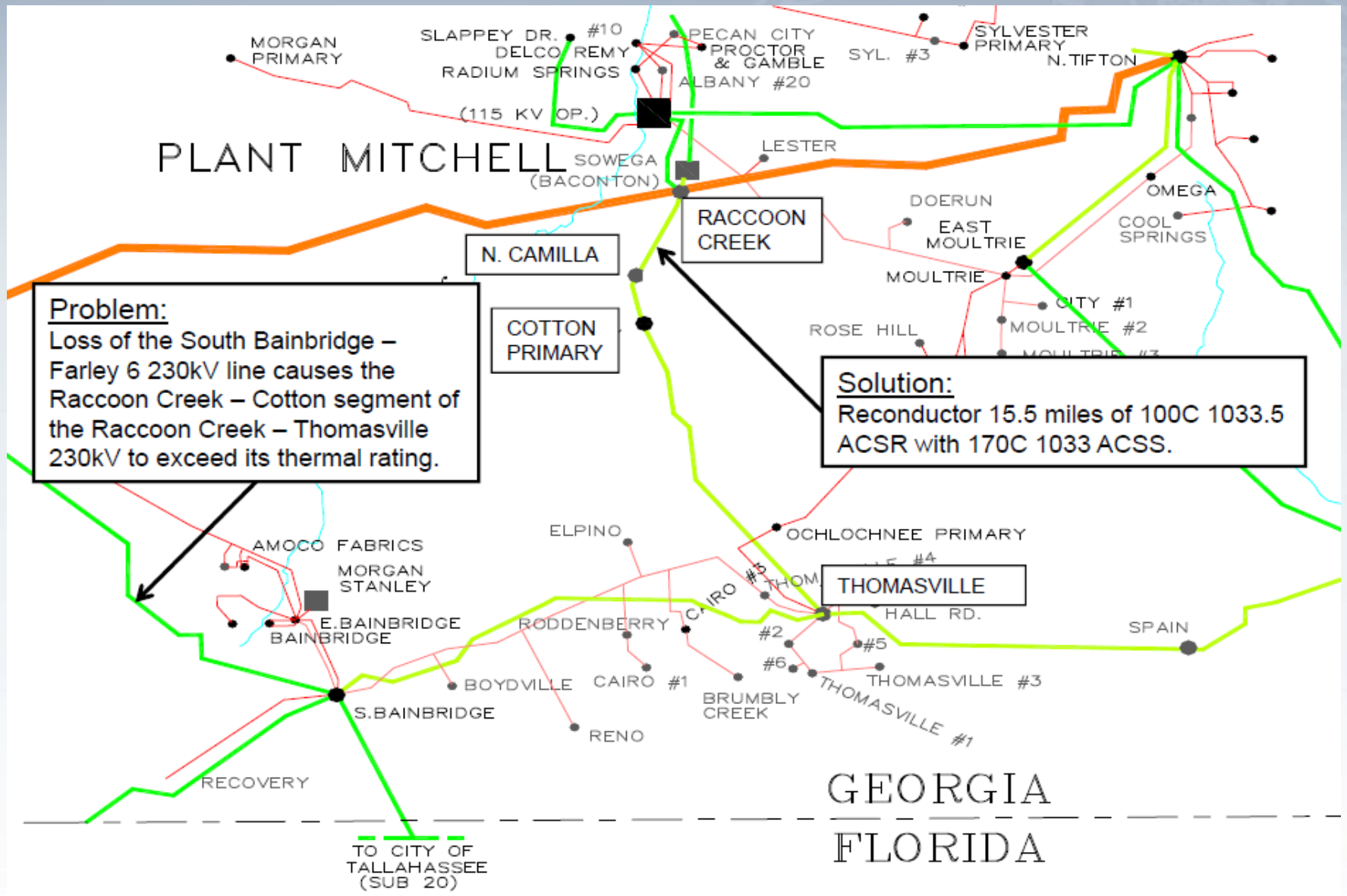
- Reconductor 15.5 miles of 230 kV T.L. from Raccoon Creek to Cotton along the Raccoon Creek – Thomasville 230 kV T.L. with 1033 ACSS at 170 °C



- The loss of the South Bainbridge – Farley 230 kV T.L. causes the Raccoon Creek – Thomasville 230 kV T.L. to become overloaded.

Raccoon Creek – Thomasville 230 kV T.L.

2015 E-12



Southeastern Region Transmission Planning

Expansion Item E-13

2015 E-13

Boulevard 230 / 115 kV Project

- Expand the Dean Forest 230/115 kV substation.
- Construct the Gamble Road 230/115kV substation, the Cemetery Hill 230 kV switching station, and the Cemetery Hill – Dean Forest 230 kV line.
- Rebuild the Dean Forest – Gamble Road115 kV lines and convert one to 230 kV operation.

- Loss of one Kraft 230/115 kV autotransformer causes the other to overload beginning in 2015.
- Loss of one Deptford – Kraft 115 kV line causes the other to overload beginning in 2018.

Boulevard 230/115 kV Project

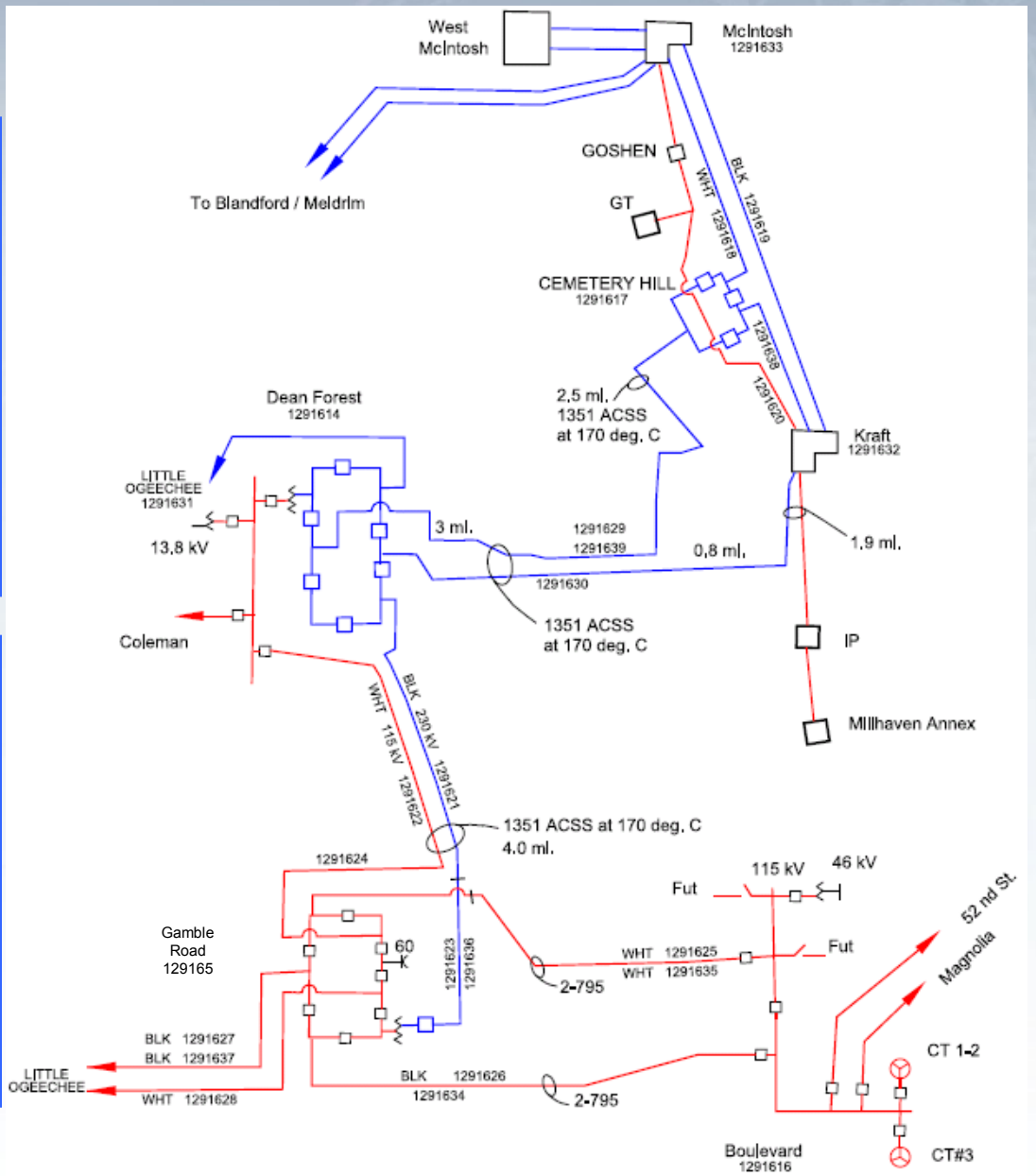
2015 E-13

Problem:

The loss of one Deptford – Kraft 115 kV line causes the other to become overloaded.

Solution:

Expand the Dean Forest 230 / 115 kV substation. Construct the Gamble Road 230 / 115 kV substation, the Cemetery Hill 230 kV switching station, and the Cemetery Hill – Dean Forest 230 kV line. Rebuild the Dean Forest – Gamble Road 115 kV lines and convert one to 230 kV operation.



Southeastern Region Transmission Planning

Expansion Item E-14

2016 E-14

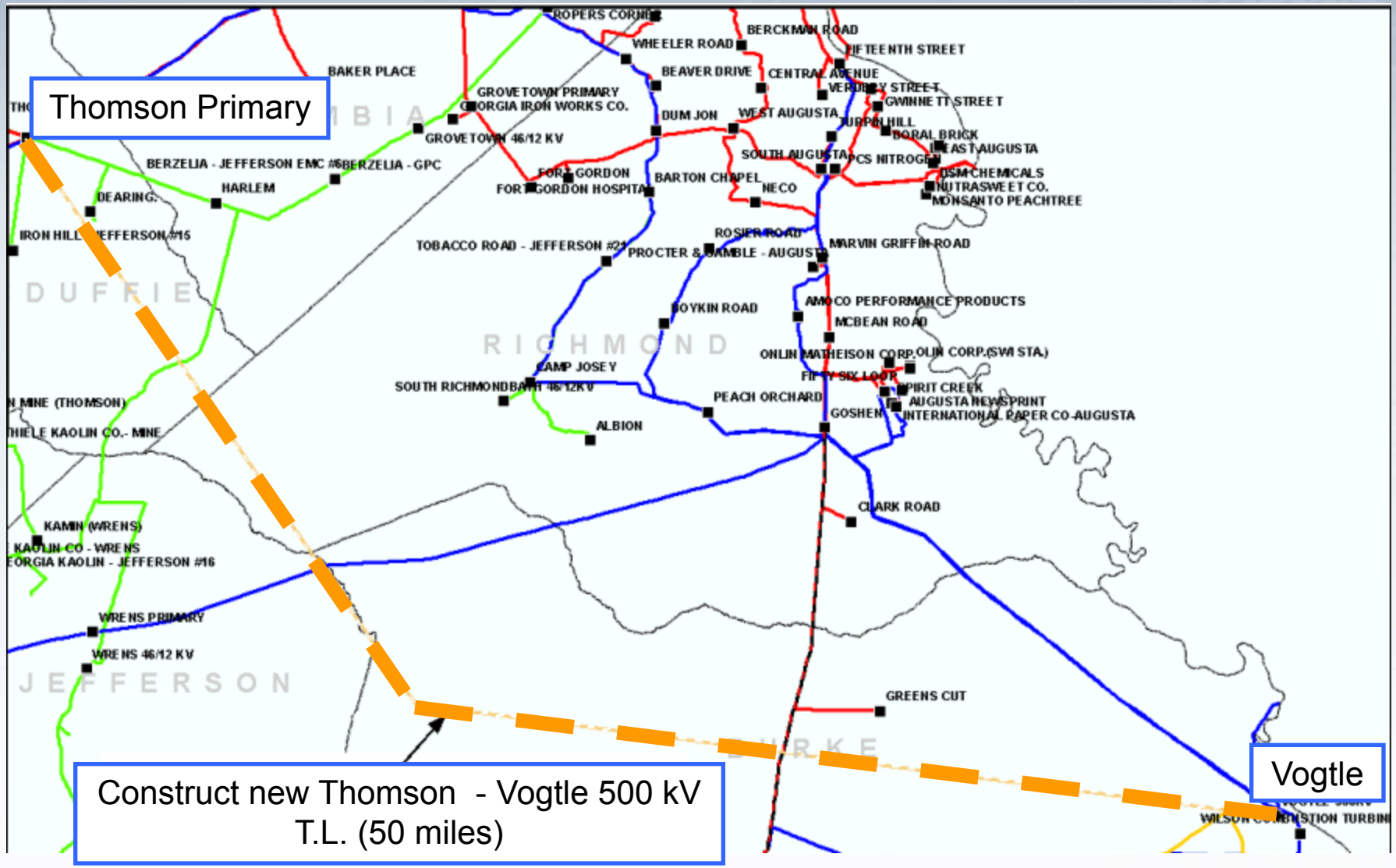
Thomson Primary – Vogtle 500 kV T.L.

- Construct a 500 kV line from Plant Vogtle to the new Thomson Primary 500 / 230 kV substation.

- This project is to support the expansion of Plant Vogtle.

Thomson Primary – Vogtle 500 kV T.L.

2016 E-14



Southeastern Region Transmission Planning

Expansion Item E-15

2016 E-15

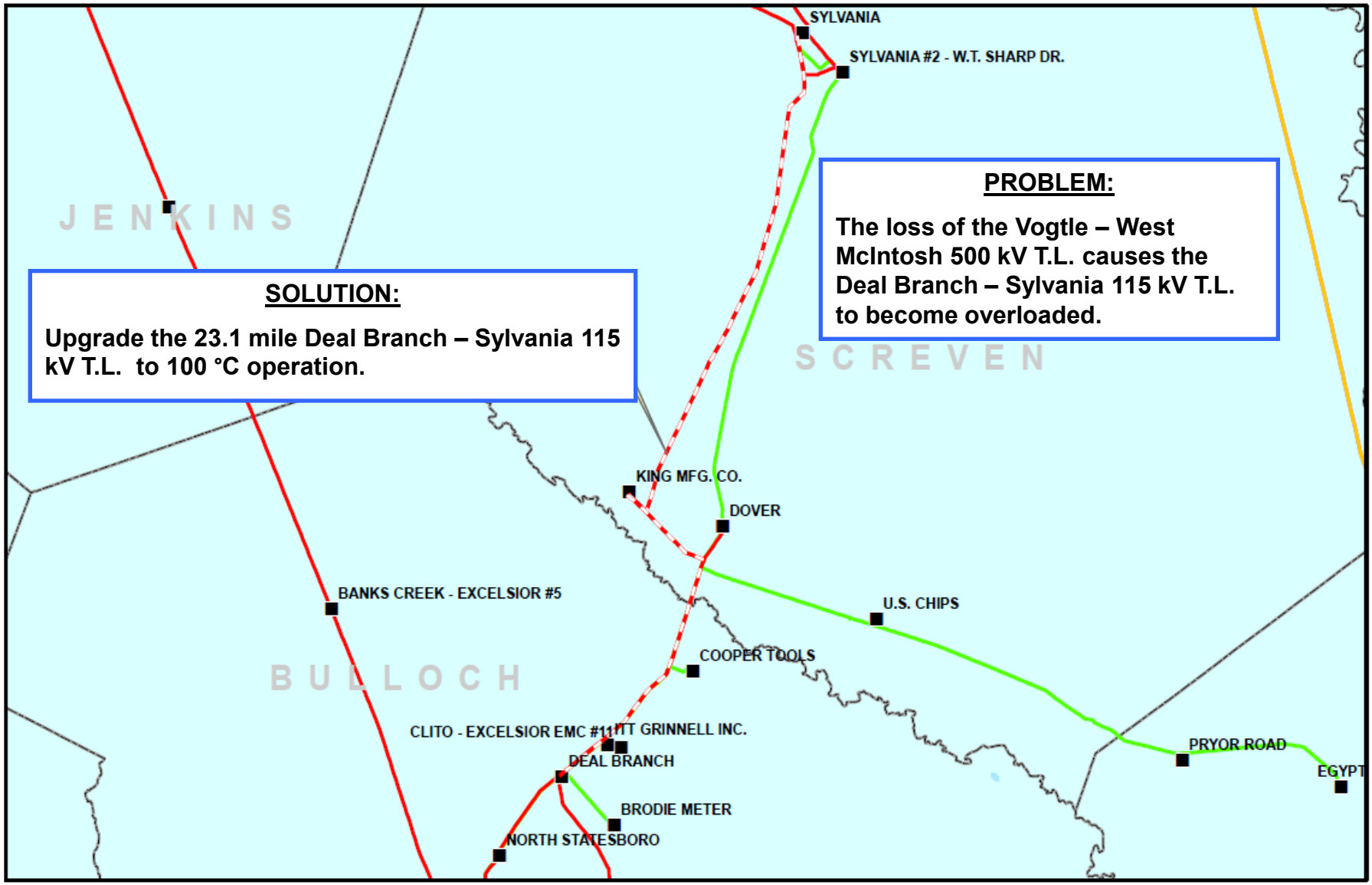
Deal Branch – Sylvania 115 kV T.L.

- Upgrade 23.1 miles along the Sylvania – Deal Branch 115 kV T.L. to 100 °C operation.

- The loss of the Vogtle – West McIntosh 500 kV T.L. causes the Sylvania – Deal Branch 115 kV T.L. to become overloaded.

Deal Branch – Sylvania 115 kV T.L.

2016 E-15



PROBLEM:

The loss of the Vogtle – West McIntosh 500 kV T.L. causes the Deal Branch – Sylvania 115 kV T.L. to become overloaded.

SOLUTION:

Upgrade the 23.1 mile Deal Branch – Sylvania 115 kV T.L. to 100 °C operation.

Southeastern Region Transmission Planning

Expansion Item E-16

2016 E-16

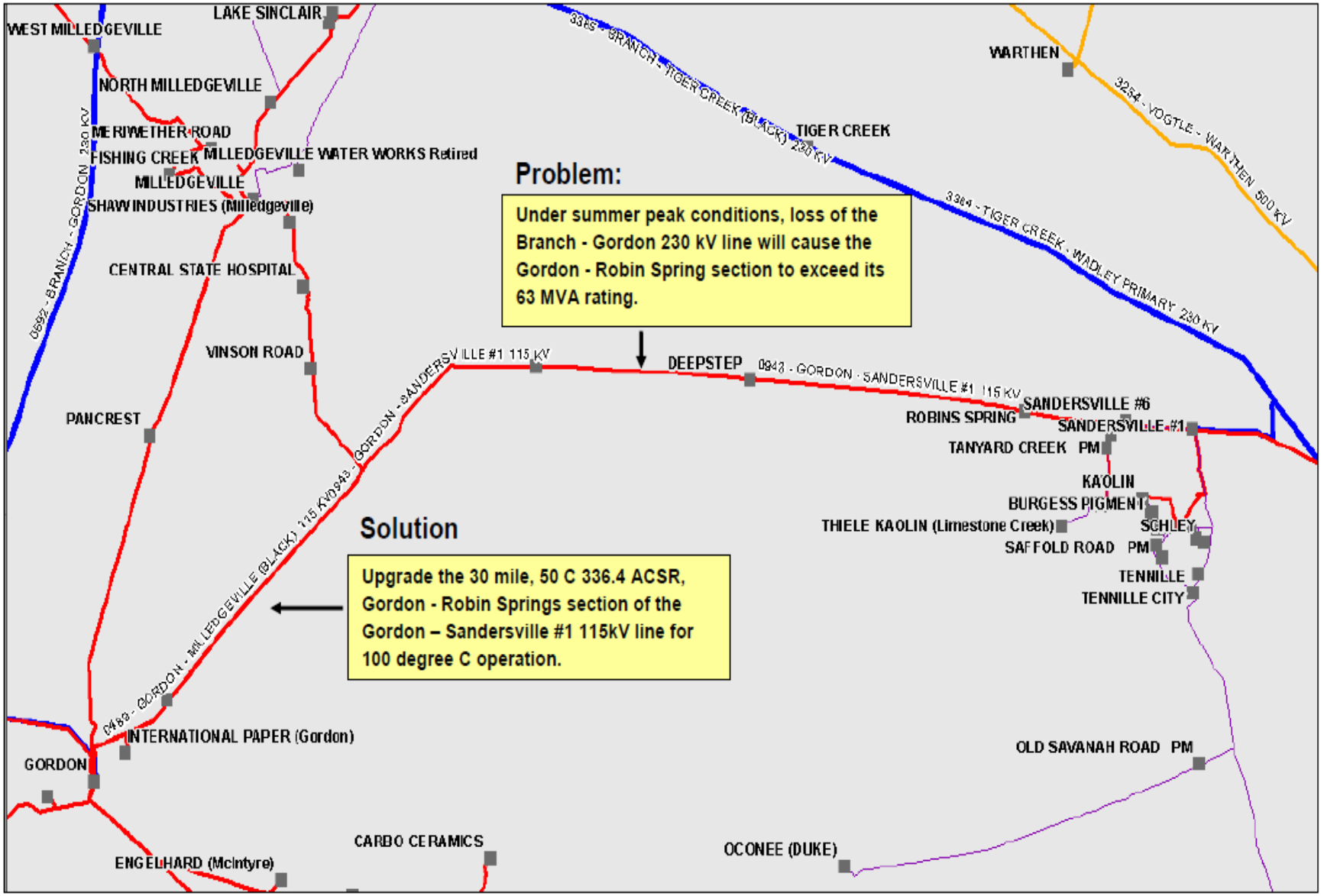
Gordon – Sandersville 115 kV T.L.

- Upgrade 30 miles along the Gordon – Robin Springs section of the Gordon – Sandersville 115 kV T.L. to 100 °C operation.

- The loss of the Branch – Gordon 230 kV T.L. causes the Gordon – Sandersville 115 kV T.L. to become overloaded.

Gordon – Sandersville 115 kV T.L.

2016 E-16



Southeastern Region Transmission Planning

Expansion Item E-17

2018 E-17

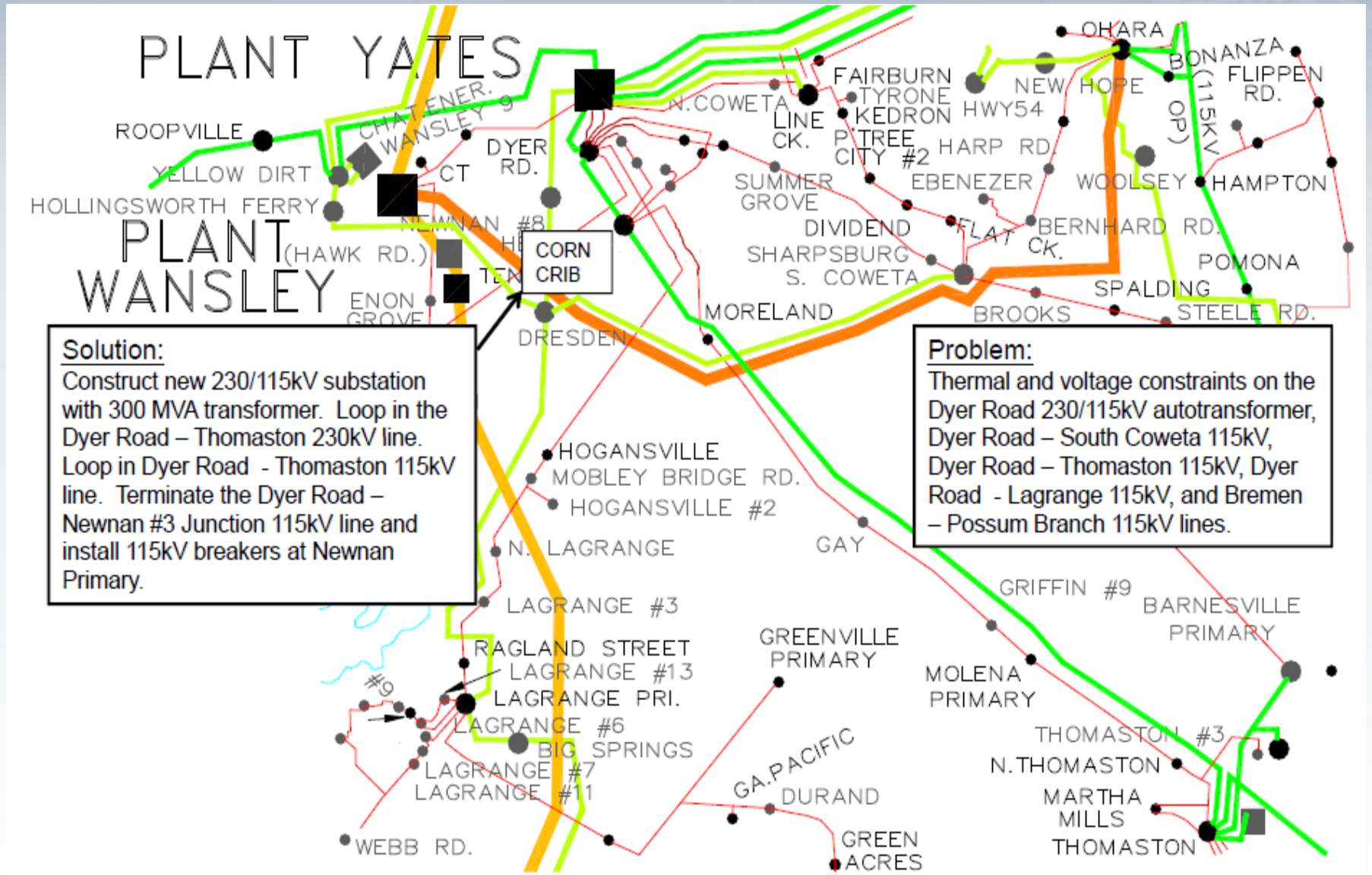
Corn Crib 230 / 115 kV Substation

- Construct the Corn Crib 230 / 115 kV substation, looping the Dyer Road – Thomaston 230 kV T.L. and the Dyer Road – Thomaston 115 kV T.L.. Terminate the Dyer Road – Newnan #3 Junction Transmission Line at Corn Crib.

- Alleviates loadings on the Dyer Road 230/115kV autotransformer, Dyer Road – South Coweta, Dyer Road – Thomaston, Dyer Road – Lagrange, and Bremen – Possum Branch 115kV T.L.s
- Voltage support.

Corn Crib 230 / 115 kV Substation

2018 E-17



Southeastern Region Transmission Planning

Expansion Item E-18

2018 E-18

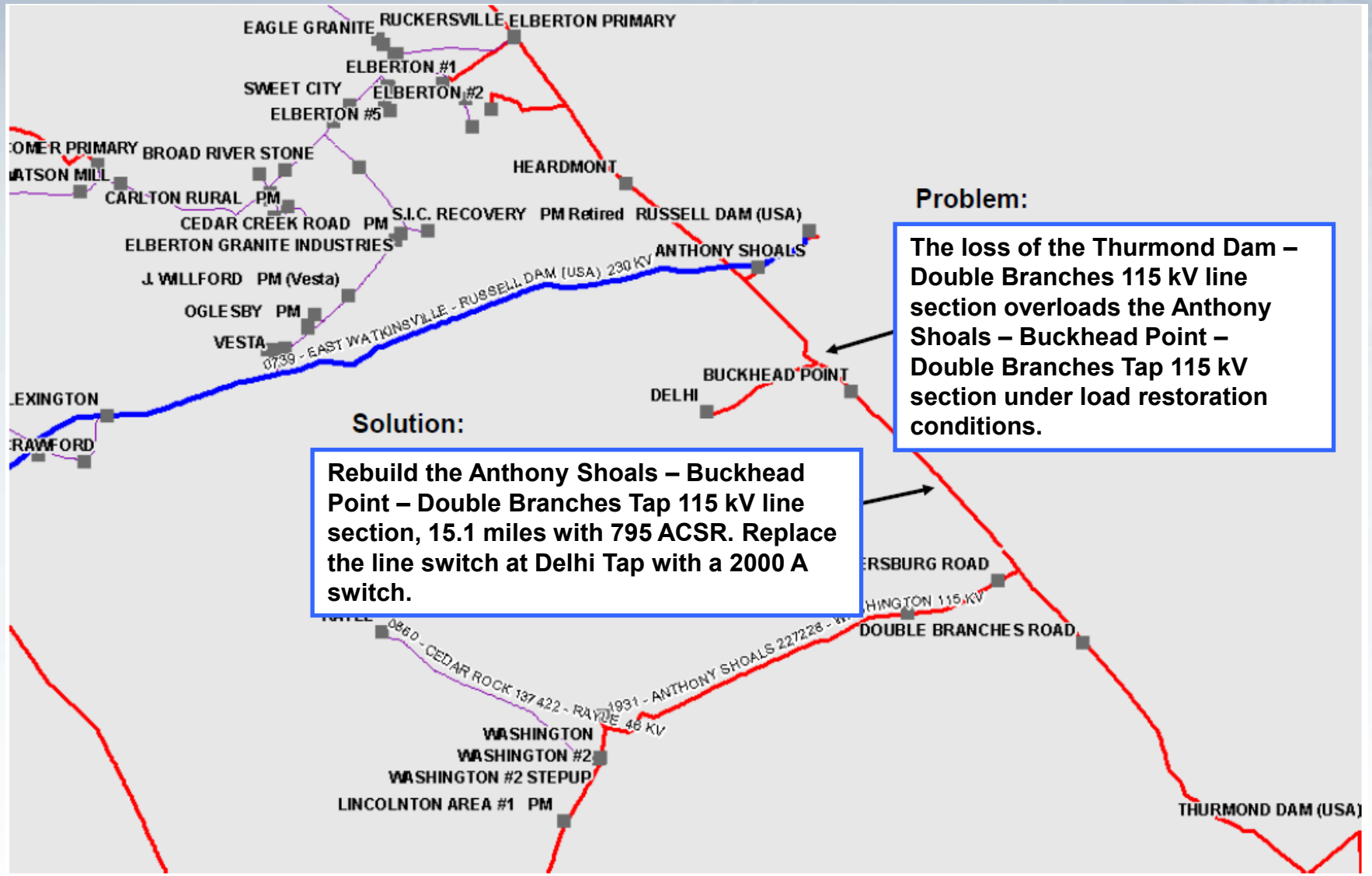
Anthony Shoals – Washington 115 kV T.L.

- Rebuild 15.1 miles from Anthony Shoals – Double Branches tap with 795 ACSR.

- The loss of the Thurmond Dam – Double Branches section causes the Anthony Shoals – Double Branches 115 kV section to become overloaded.

Anthony Shoals – Washington 115 kV T.L.

2018 E-18



Problem:

The loss of the Thurmond Dam – Double Branches 115 kV line section overloads the Anthony Shoals – Buckhead Point – Double Branches Tap 115 kV section under load restoration conditions.

Solution:

Rebuild the Anthony Shoals – Buckhead Point – Double Branches Tap 115 kV line section, 15.1 miles with 795 ACSR. Replace the line switch at Delhi Tap with a 2000 A switch.

Southeastern Region Transmission Planning

Expansion Item E-19

2019 E-19

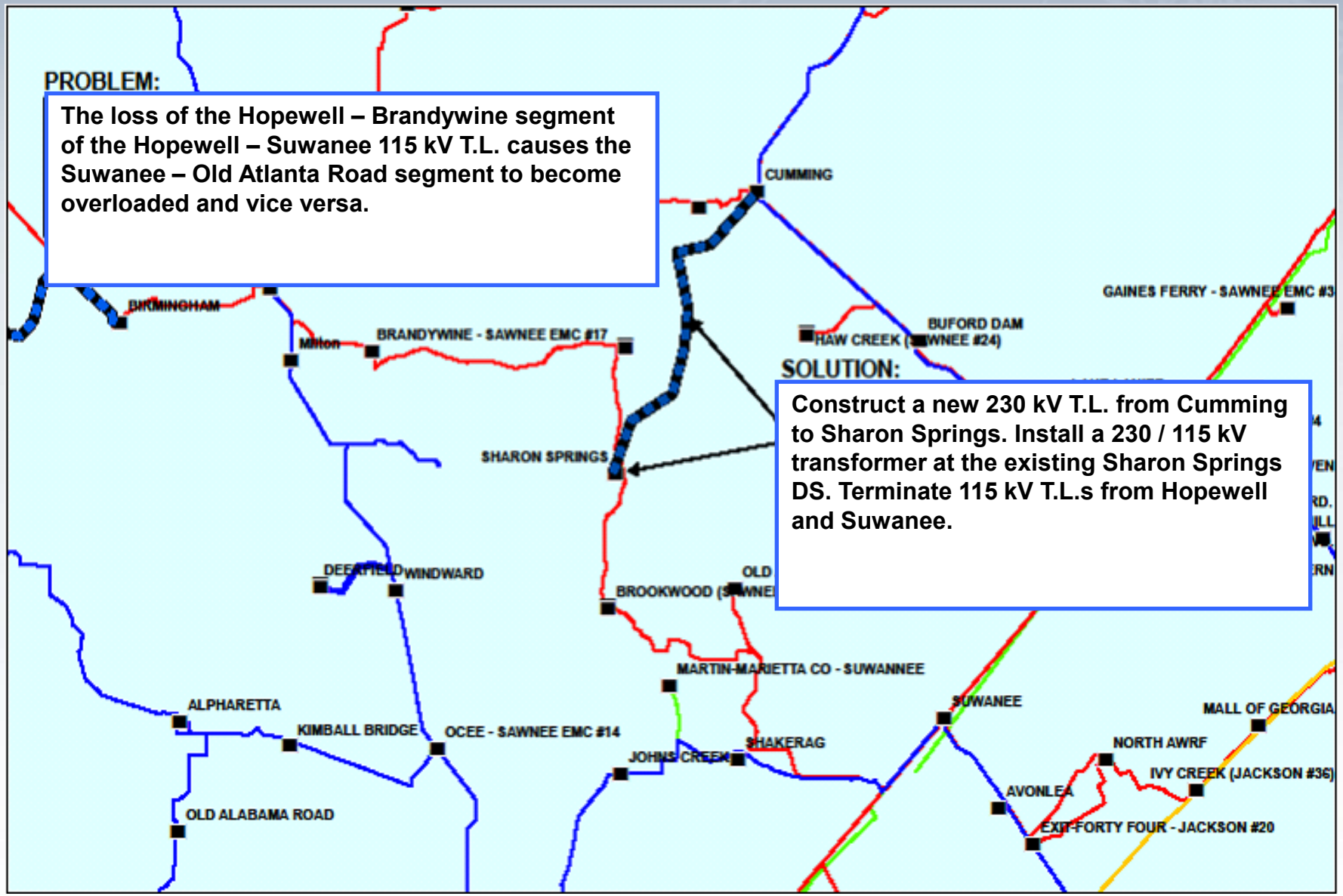
Sharon Springs 230 / 115 kV Substation

- Install a 230/115 kV transformer at the existing Sharon Springs 115 kV distribution substation.
- Construct a new 6.6 mile, 230 kV transmission line from Cumming to Sharon Springs (1351 ACSR at 100 ºC).

- The loss of the Hopewell – Brandywine segment of the Hopewell – Suwanee 115 kV T.L. overloads the Suwanee – Old Atlanta Road segment of the line and vice versa.

Sharon Springs 230 / 115 kV Substation

2019 E-19



Southeastern Region Transmission Planning

Expansion Item E-20

Hatch – Vidalia 230 kV T.L.

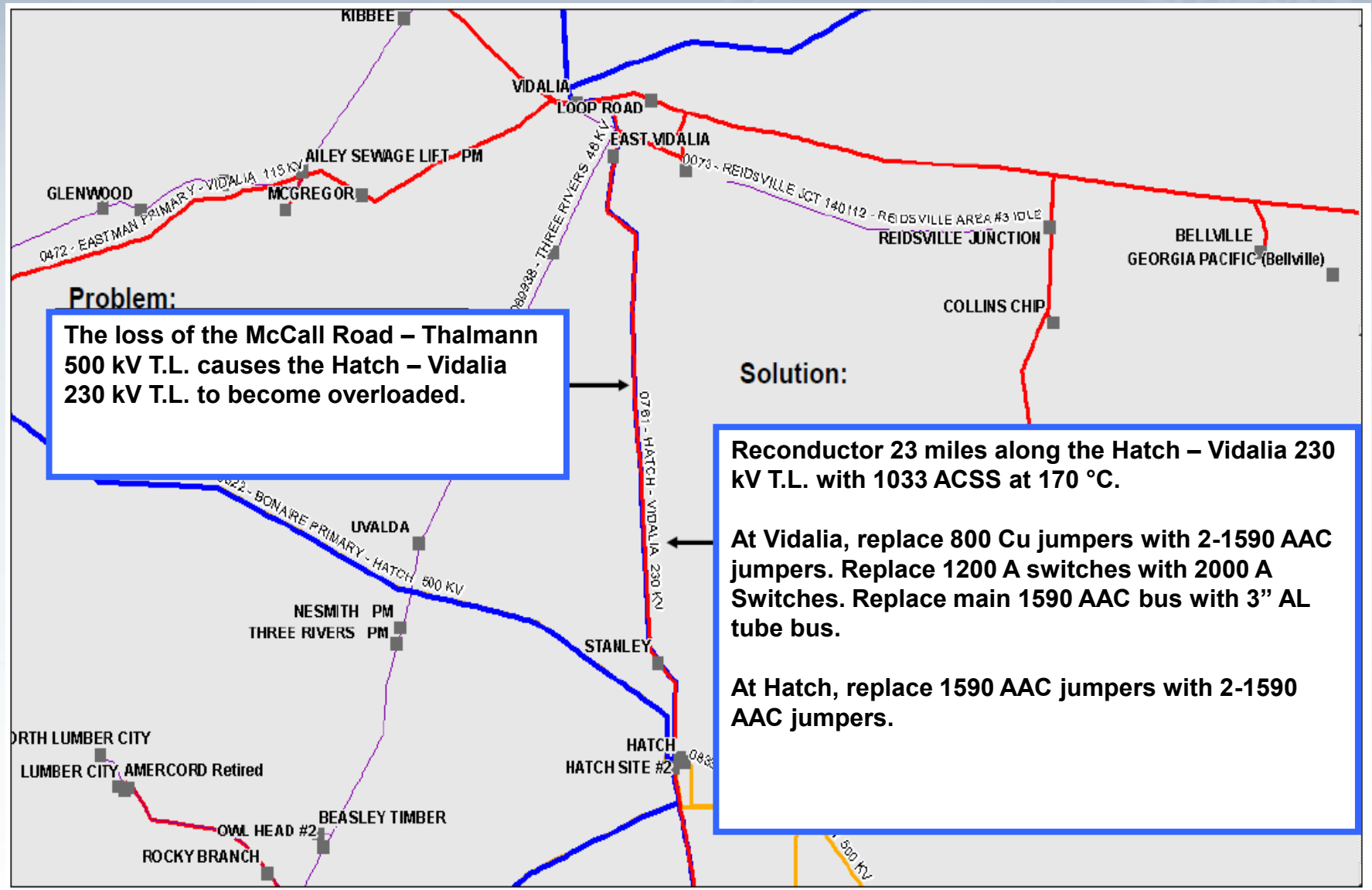
- Reconductor 23 miles along the Hatch – Vidalia 230 kV T.L. with 1033 ACSS at 170 °C.

2019 E-20

- The loss of the McCall Road – Thalmann 500 kV T.L. causes the Hatch – Vidalia 230 kV T.L. to become overloaded.

Hatch – Vidalia 230 kV T.L.

2019 E-20



Southeastern Region Transmission Planning

Expansion Item E-21

2021 E-21

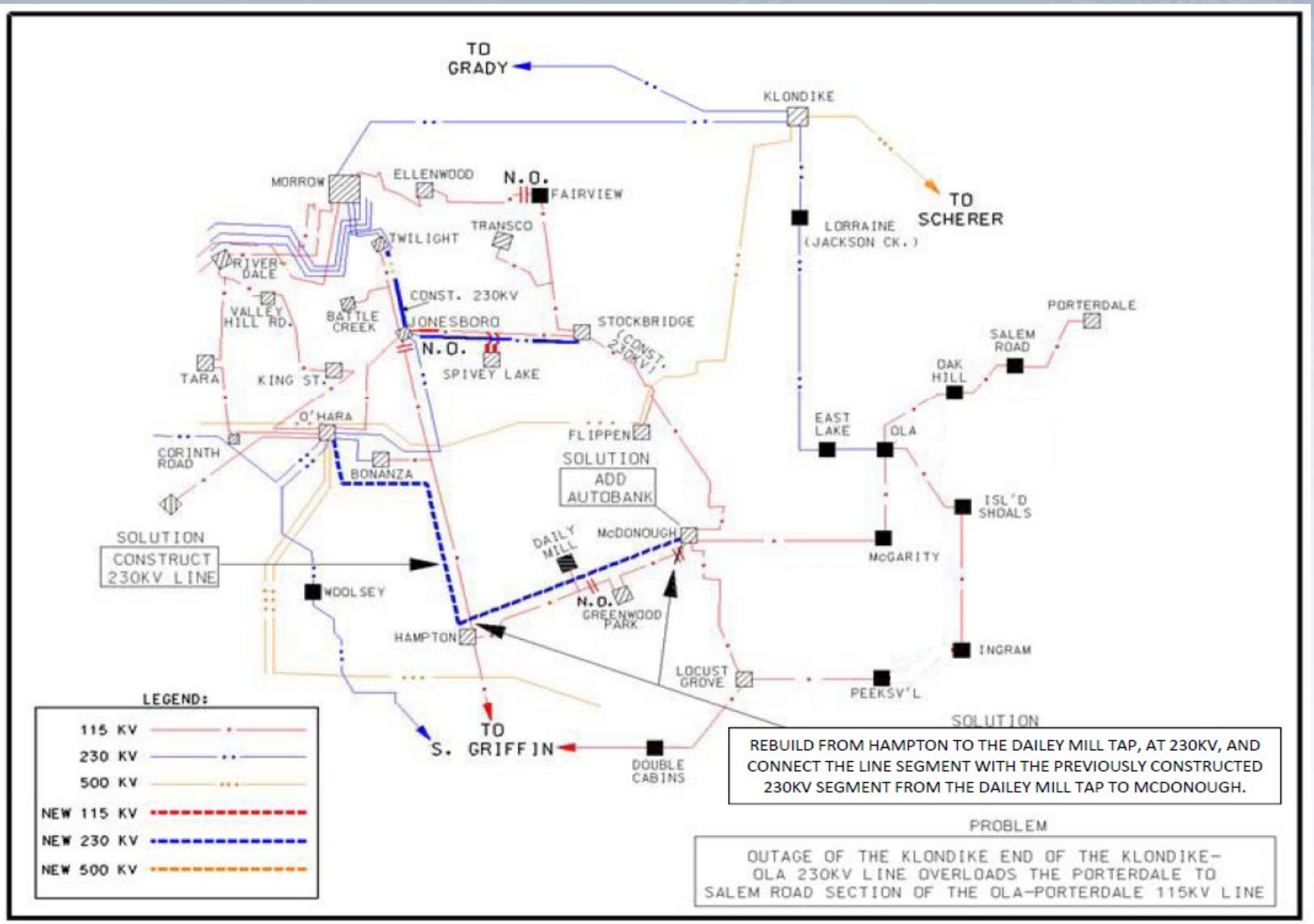
O'Hara – McDonough 230 kV T.L.

- Rebuild the existing O'Hara – Bonanza – Hampton – McDonough 115 kV T.L. with double circuit with ACSR 1351 at 230 kV specifications.
- Create a new 230 kV circuit from O'Hara to McDonough and add a 230 / 115 kV, 400 MVA transformer at McDonough.

- Project alleviates multiple thermal overloads in the metro Atlanta area.

O'Hara – McDonough 230 kV T.L.

2021 E-21



Southeastern Region Transmission Planning

Expansion Item E-22

2021 E-22

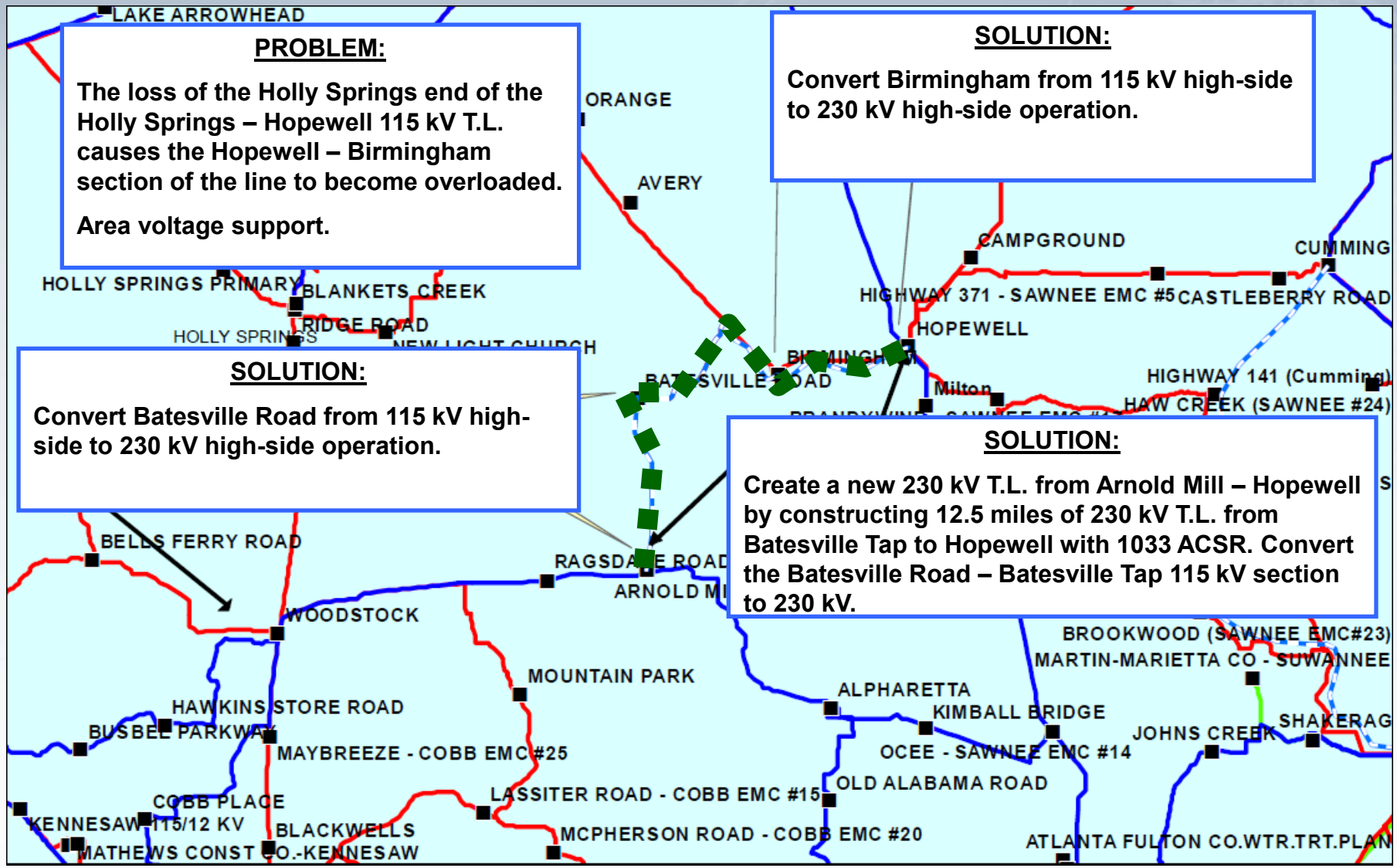
Holly Springs – Hopewell Area Project

- Create a new 230 kV T.L. from Arnold Mill – Hopewell by constructing 12.5 miles of 230 kV T.L. from Batesville Tap to Hopewell with 1033 ACSR. Convert the Batesville Road – Batesville Tap 115 kV section to 230 kV.
- Convert the Batesville Road and Birmingham substations from 115 kV to 230 kV.

- The loss of the Holly Springs end of the Holly Springs – Hopewell 115 kV T.L. causes the Hopewell – Birmingham section of the line to become overloaded.
- Area voltage support.

Holly Springs – Hopewell Area Project

2021 E-22



Southeastern Region Transmission Planning

Expansion Item E-23

2022 E-23

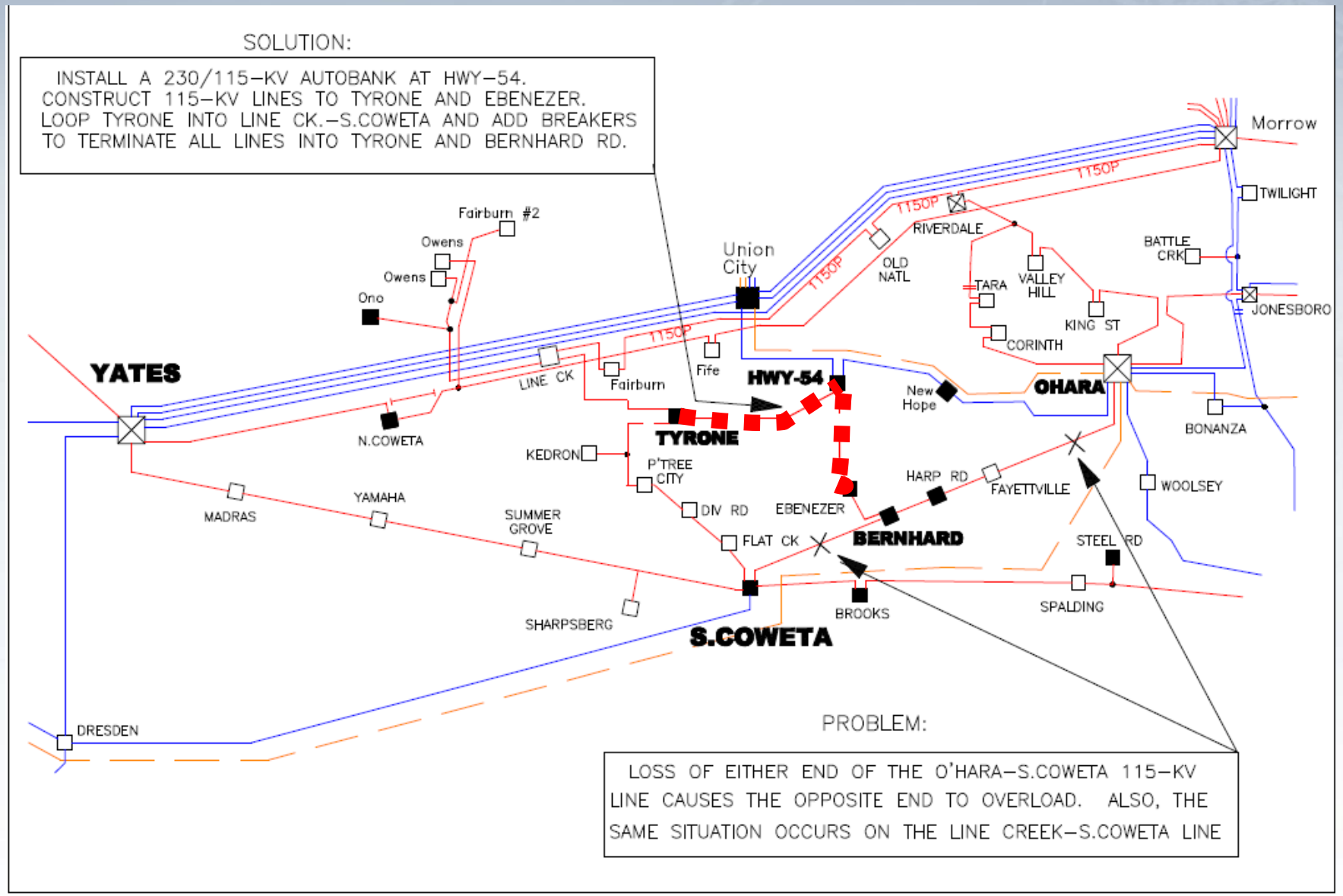
Highway 54 230 / 115 kV Substation

- Construct a 230 / 115 kV transformer at the Highway 54 substation.
- Construct 4.0 miles of new 115 kV T.L. from Tyrone to Highway 54 and 4.5 miles of new 115 kV T.L. from Bernhard Road to Highway 54.
- Loop in the Line Creek – South Coweta 115 kV T.L. into the Tyrone substation.

- The loss of one end of the O'Hara – South Coweta 115 kV T.L. causes the other end to become overloaded.
- The loss of one end of the Line Creek – South Coweta 115 kV T.L. causes the other end to become overloaded.

Highway 54 230 / 115 kV Substation

2022 E-23



Southeastern Region Transmission Planning

Expansion Item E-24

2022 E-24

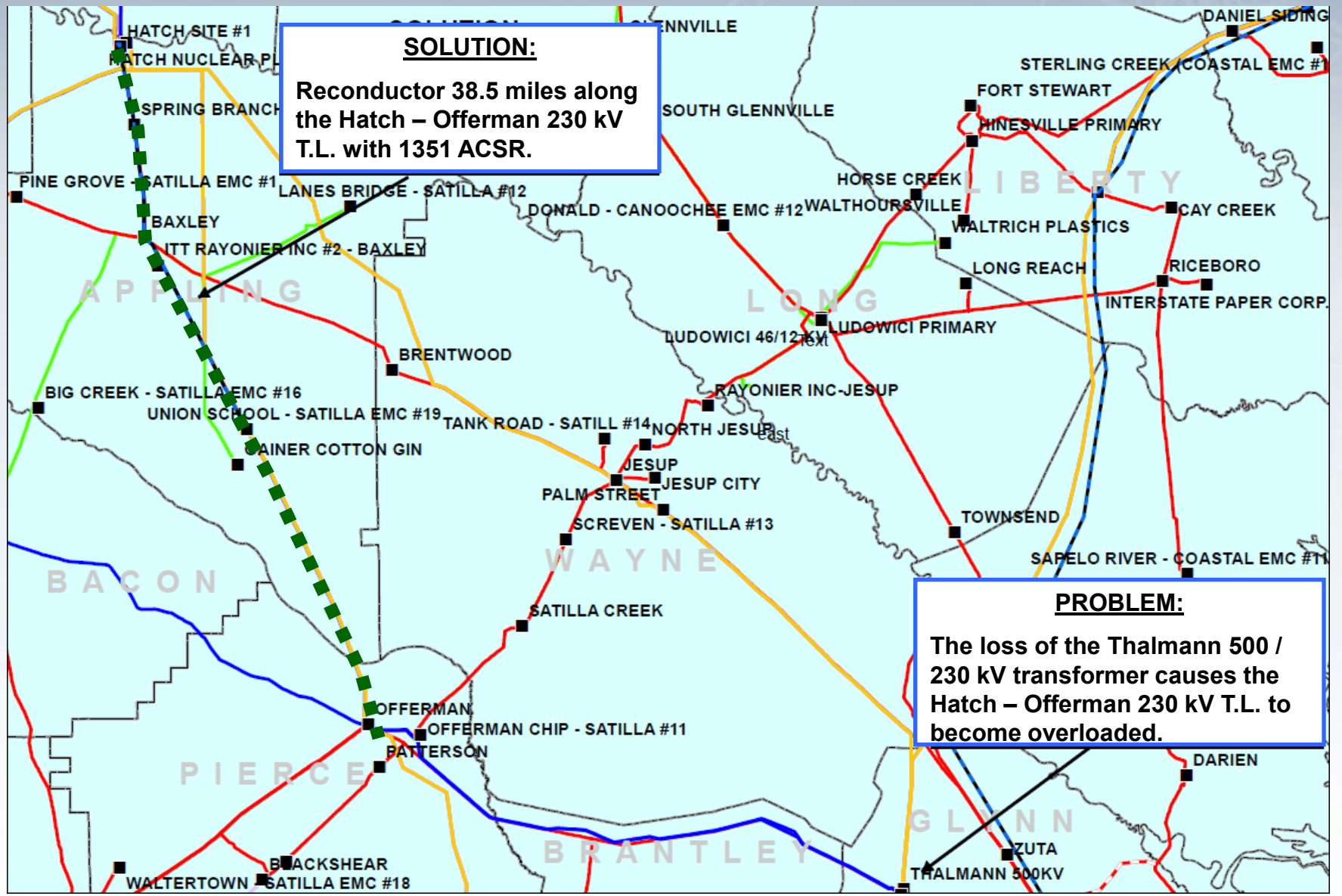
Hatch – Offerman 230 kV T.L.

- Reconductor 38.5 miles along the Hatch – Offerman 230 kV T.L. with 1351 ACSR at 100 ºC.

- The loss of the Thalmann 500 / 230 kV transformer causes the Hatch – Offerman 230 kV T.L. to become overloaded.

Hatch – Offerman 230 kV T.L.

2022 E-24



SOLUTION:

Reconductor 38.5 miles along the Hatch – Offerman 230 kV T.L. with 1351 ACSR.

PROBLEM:

The loss of the Thalmann 500 / 230 kV transformer causes the Hatch – Offerman 230 kV T.L. to become overloaded.

Southeastern Region Transmission Planning

Expansion Item E-25

2022 E-25

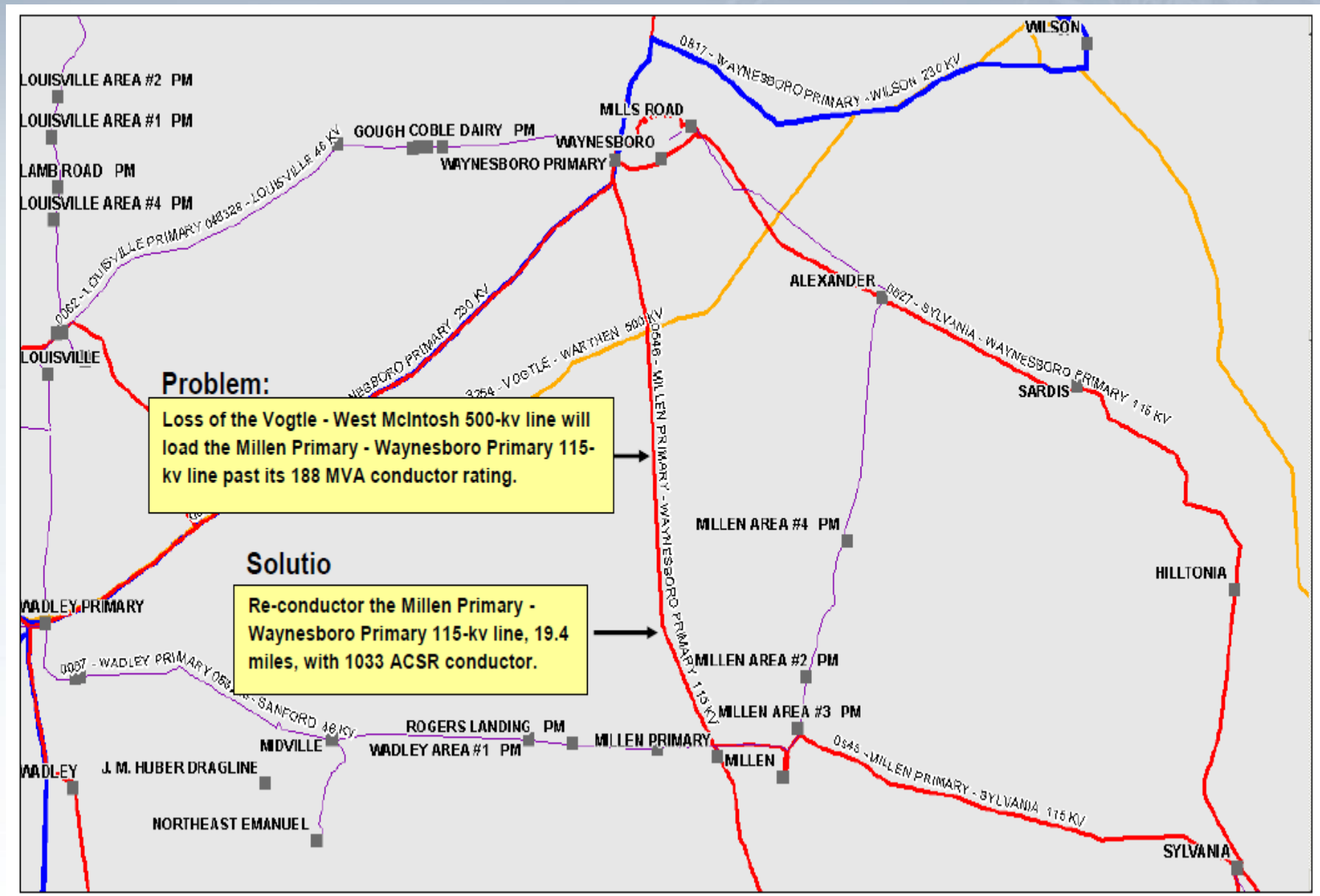
Millen Pri. – Waynesboro Pri. 115 kV T.L.

- Reconductor 19.4 miles of the Millen Primary – Waynesboro Primary 115 kV T.L. with 1033 ACSR.

- The loss of the Vogtle – West McIntosh 500 kV T.L. causes the Millen Primary – Waynesboro Primary 115 kV T.L. to become overloaded.

Millen Pri. – Waynesboro Pri. 115 kV T.L.

2022 E-25



Southeastern Region Transmission Planning

Expansion Item E-26

2022 E-26

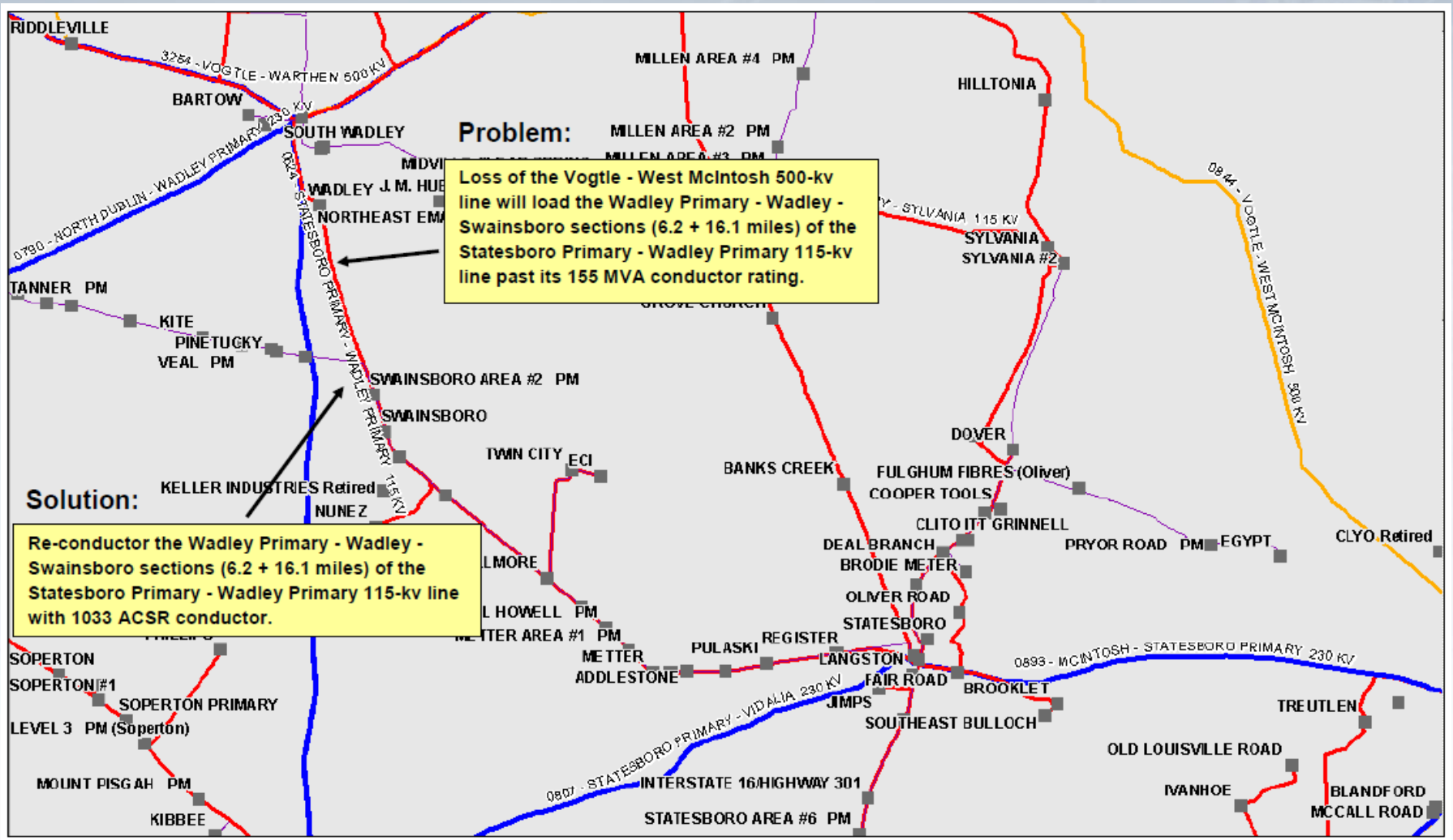
Statesboro Pri. – Wadley Pri.115 kV T.L.

- Reconductor 22.3 miles of the Statesboro Primary – Wadley Primary 115kV T.L. with 1033 ACSR.

- The loss of the Vogtle – West McIntosh 500 kV T.L. causes the Statesboro Primary – Wadley Primary 115 kV T.L. to become overloaded.

Statesboro – Wadley 115 kV T.L.

2022 E-26



Southeastern Region Transmission Planning

Expansion Item E-27

2022 E-27

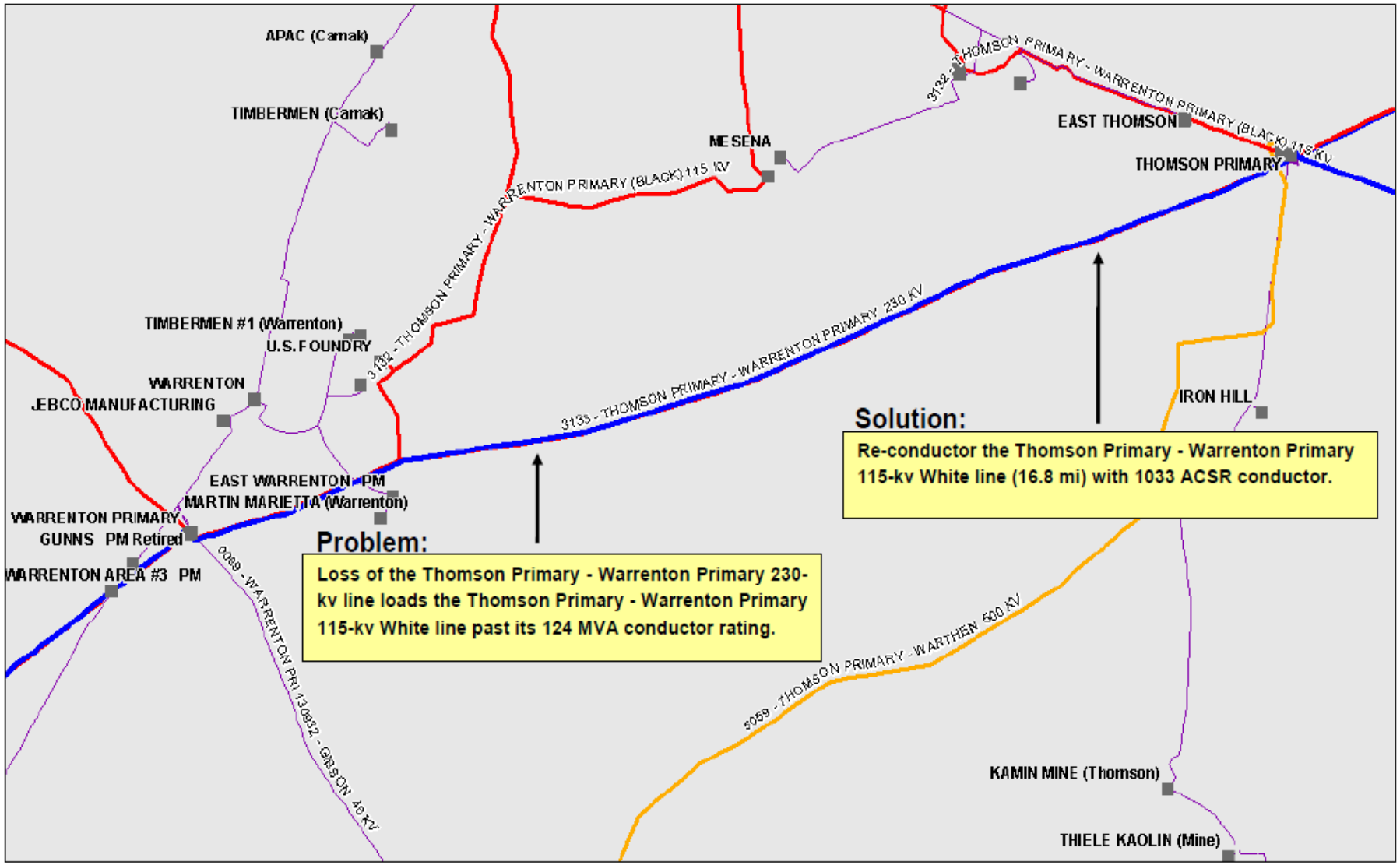
Thomson Pri. – Warrenton Pri. (white) 115 kV T.L.

- Reconductor 16.8 miles of the Thomson Primary – Warrenton Primary (white) 115kV T.L. with 1033 ACSR.

- The loss of the Thomson Primary – Warrenton Primary 230kV T.L. causes the Thomson Primary – Warrenton Primary (white) 115kV T.L to become overloaded.

Thomson Pri. – Warrenton Pri. WHT 115 kV T.L.

2022 E-27



Questions?