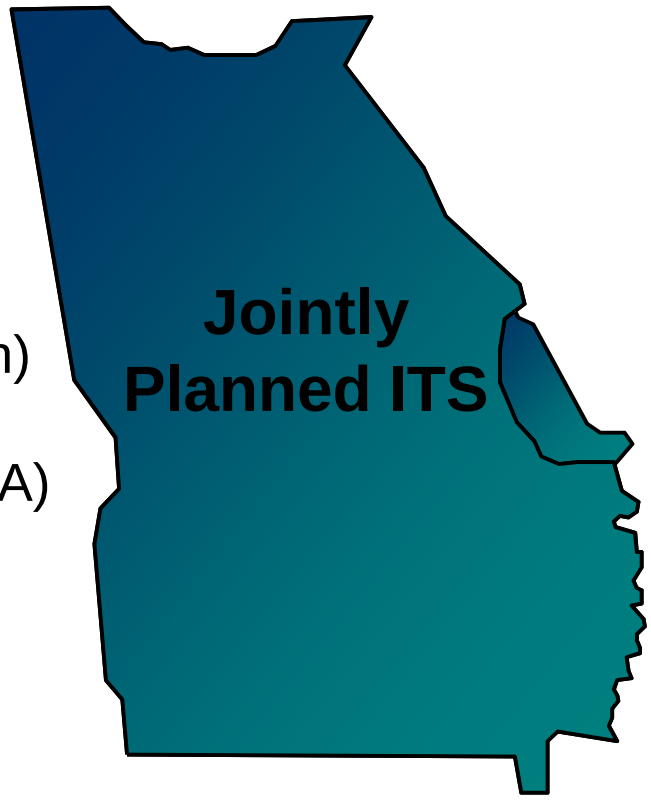
Southeastern Region Transmission Planning

East

Georgia Integrated Transmission System (ITS)

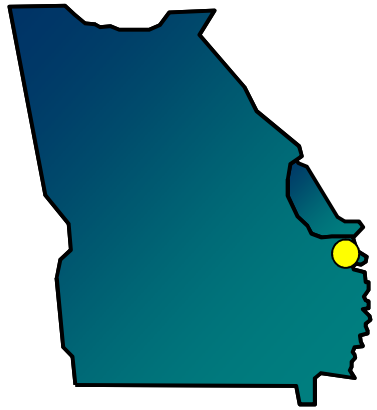
- Dalton Utilities
- GTC (Georgia Transmission Corporation)
- MEAG (Municipal Electric Authority of GA)
- Southern Company Transmission



Southeastern Region Transmission Planning

Expansion Item ITS-1

2012 ITS-1



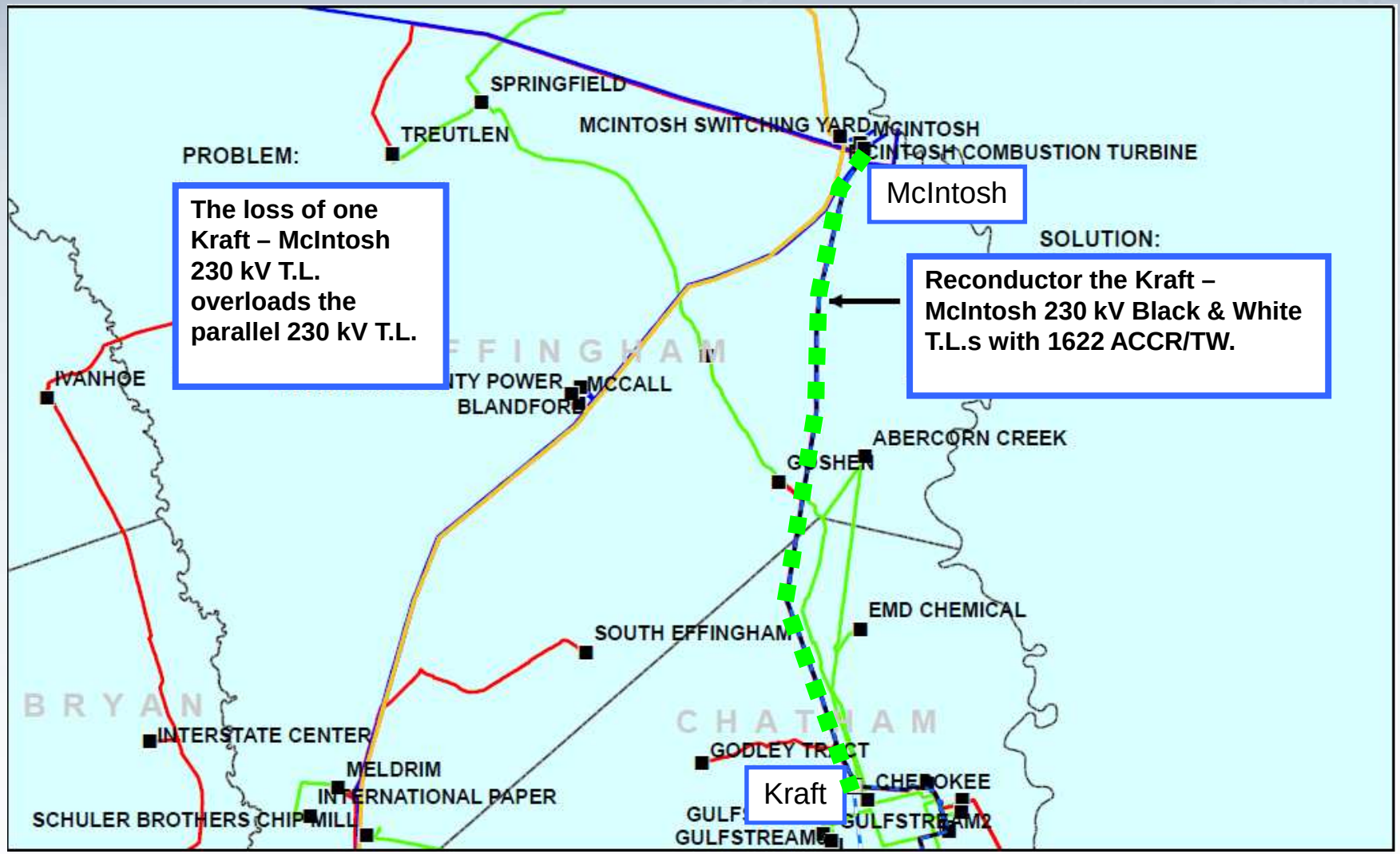
Kraft – McIntosh 230 kV T.L.s

- Rebuild 16 miles along the Kraft – McIntosh Black and White 230 kV T.L.s with 1622 ACCR/TW.

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

Kraft – McIntosh 230 kV T.L.s

2012 ITS-1

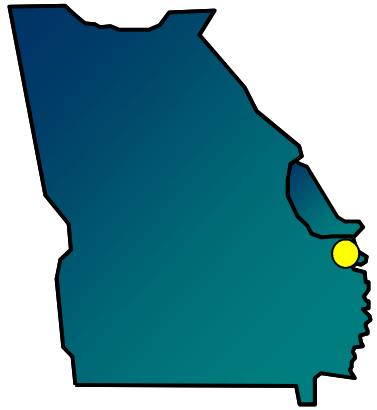


Southeastern Region Transmission Planning

Expansion Item ITS-2

2013 ITS-2

Daniel Siding – Riceboro 115 kV T.L.

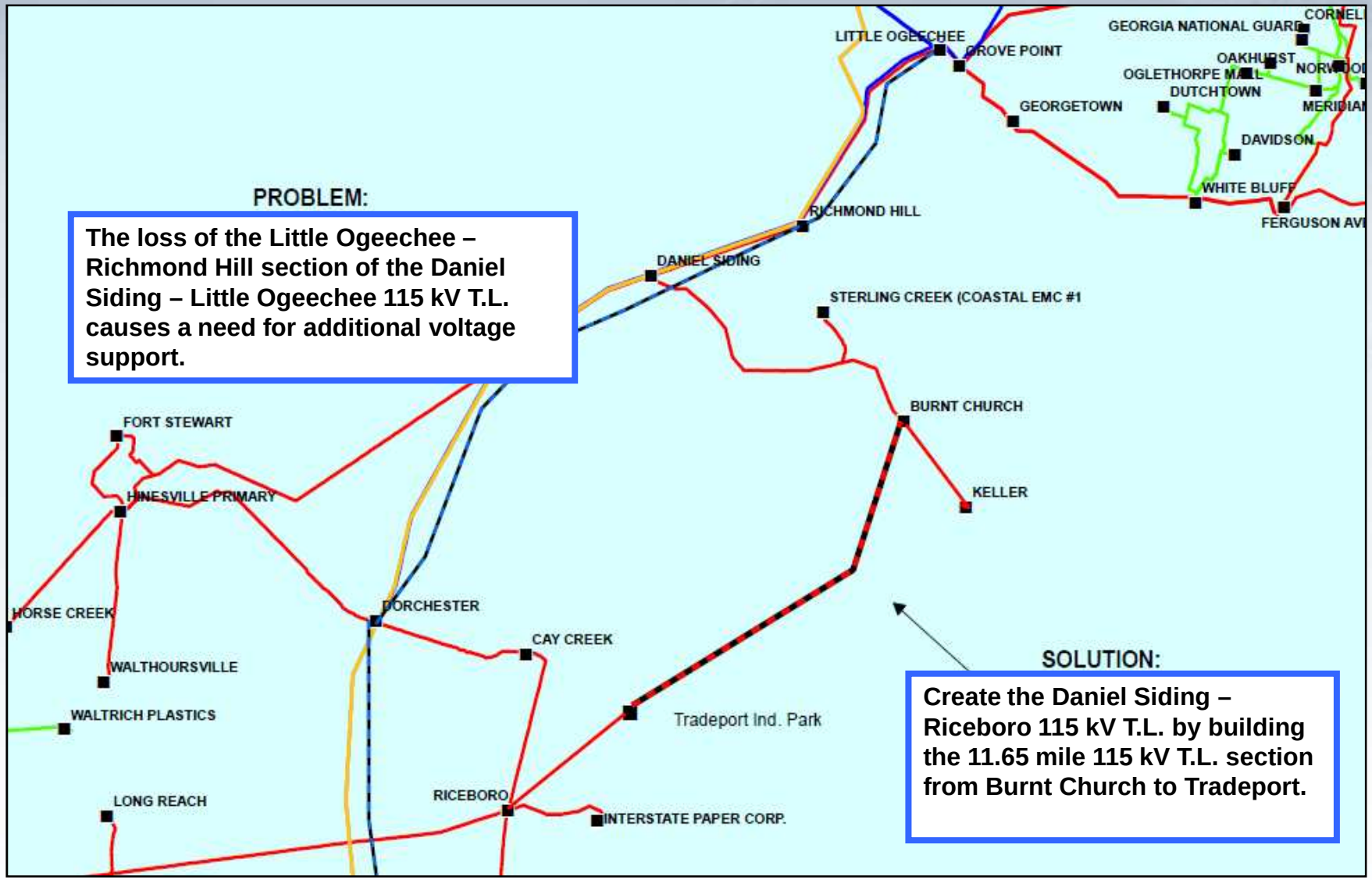


- Create the Daniel Siding – Riceboro 115 kV T.L. by constructing12 miles from Burnt Church to Tradeport.

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

Daniel Siding – Riceboro 115kV T.L.

2013 ITS-2

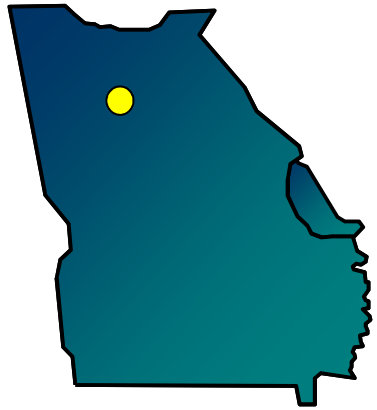


Southeastern Region Transmission Planning

Expansion Item ITS-3

2013 ITS-3

Peachtree 230 kV Substation

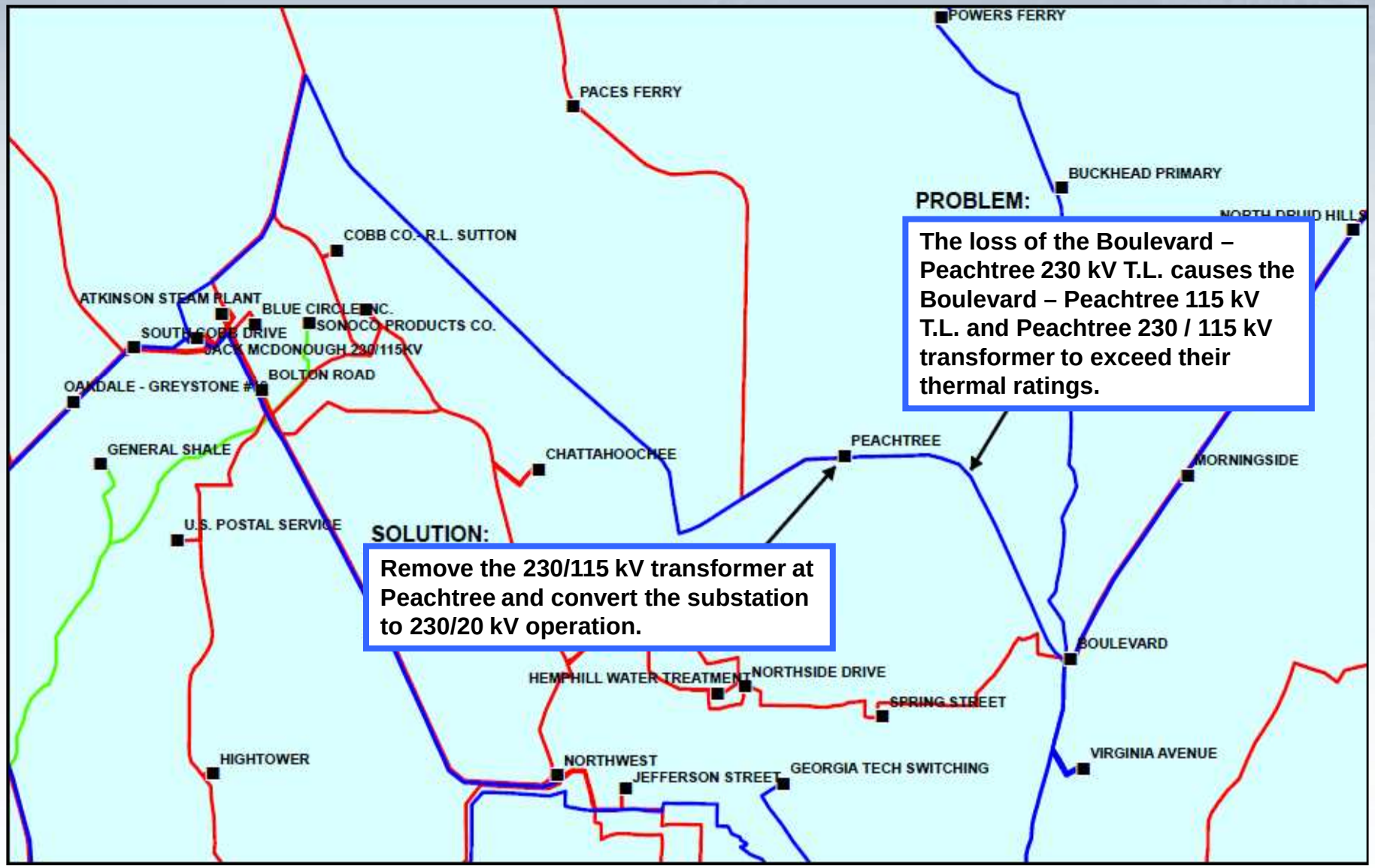


- At Peachtree substation, convert the high-side of all load transformers to 230 kV and remove the 230 / 115 kV transformer (Bank A).
- Tie the Boulevard and Rottenwood Creek 115 kV T.L.s together, outside of the substation.

- 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 ITS-3



Southeastern Region Transmission Planning

Expansion Item ITS-4

2013 ITS-4

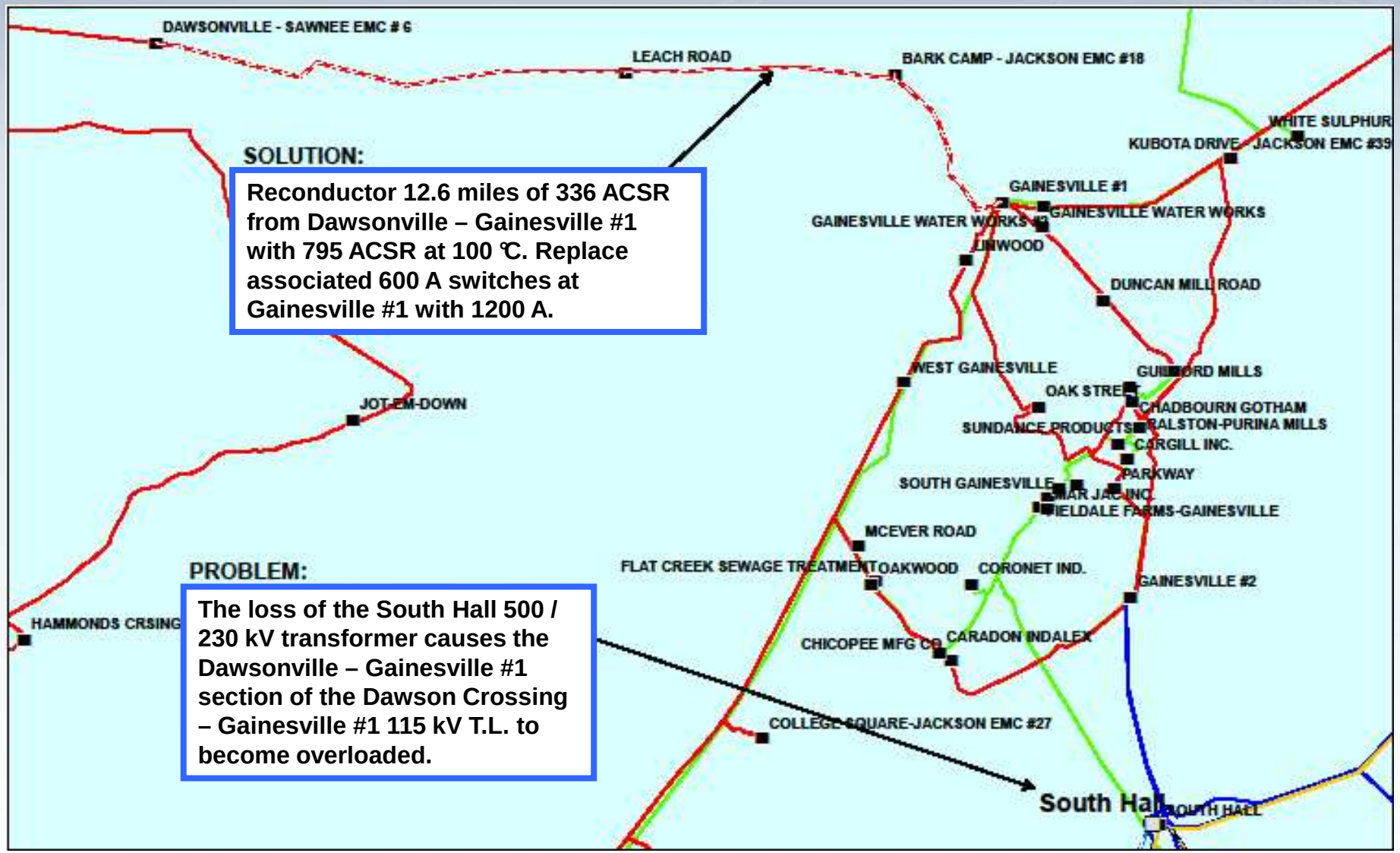
Dawson Crossing – Gainesville 115 kV T.L.

- Reconductor approximately 12.6 miles from Dawsonville to Gainesville #1 along the Dawson Crossing - Gainesville #1 115 kV T.L.

- 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.

2013 ITS-4



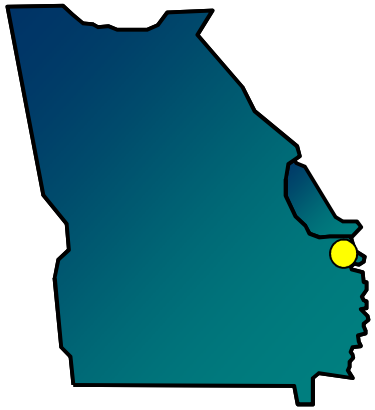
Southeastern Region Transmission Planning

Expansion Item ITS-5

2014 ITS-5

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

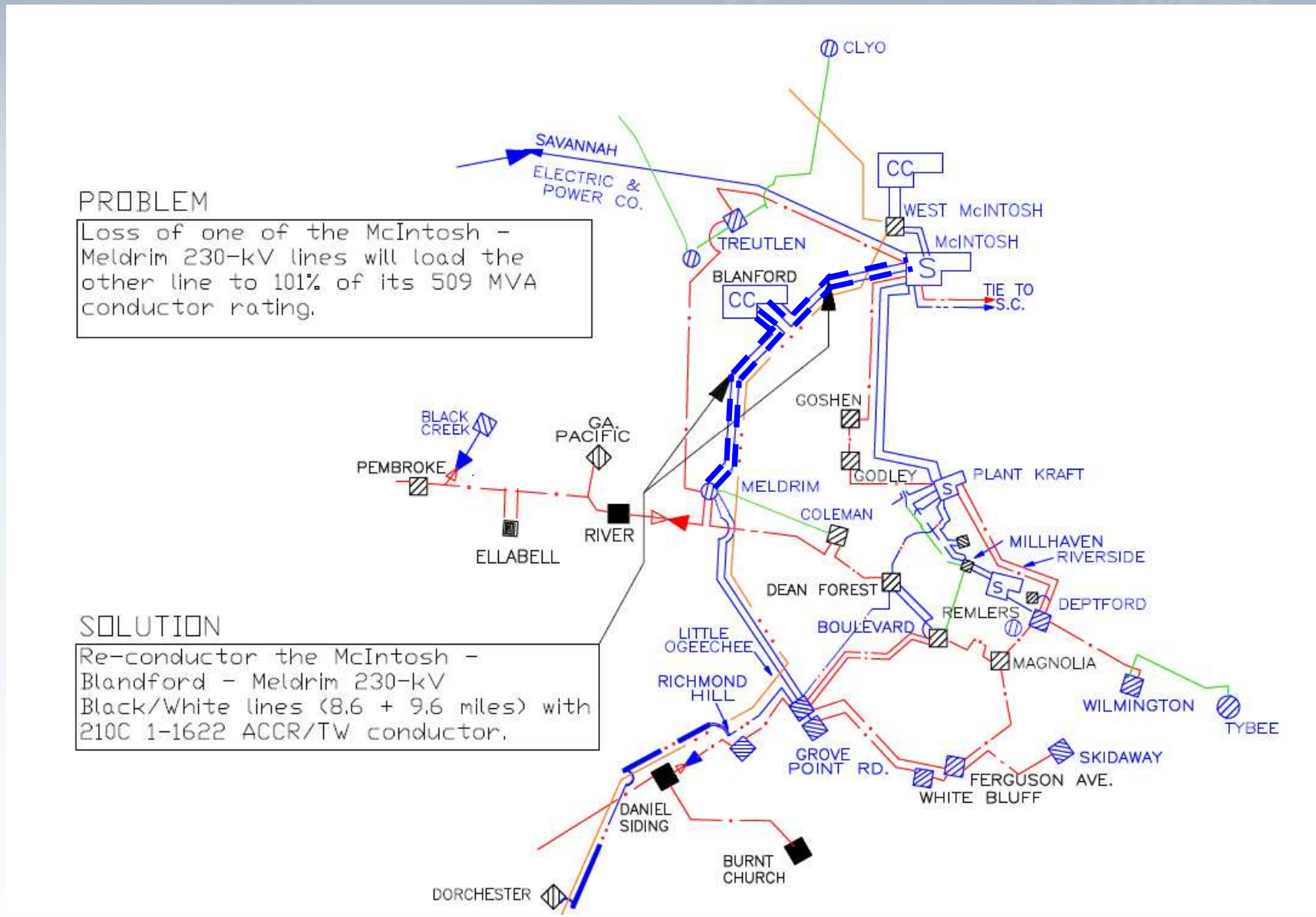
2014 ITS-5

PROBLEM

Loss of one of the McIntosh – Meldrim 230-kV lines will load the other line to 101% of its 509 MVA conductor rating.

SOLUTION

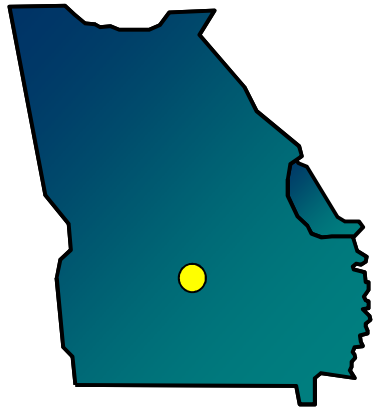
Re-conductor the McIntosh – Blandford – Meldrim 230-kV Black/White lines (8.6 + 9.6 miles) with 210C 1-1622 ACCR/TW conductor.



Southeastern Region Transmission Planning

Expansion Item ITS-6

2014 ITS-6



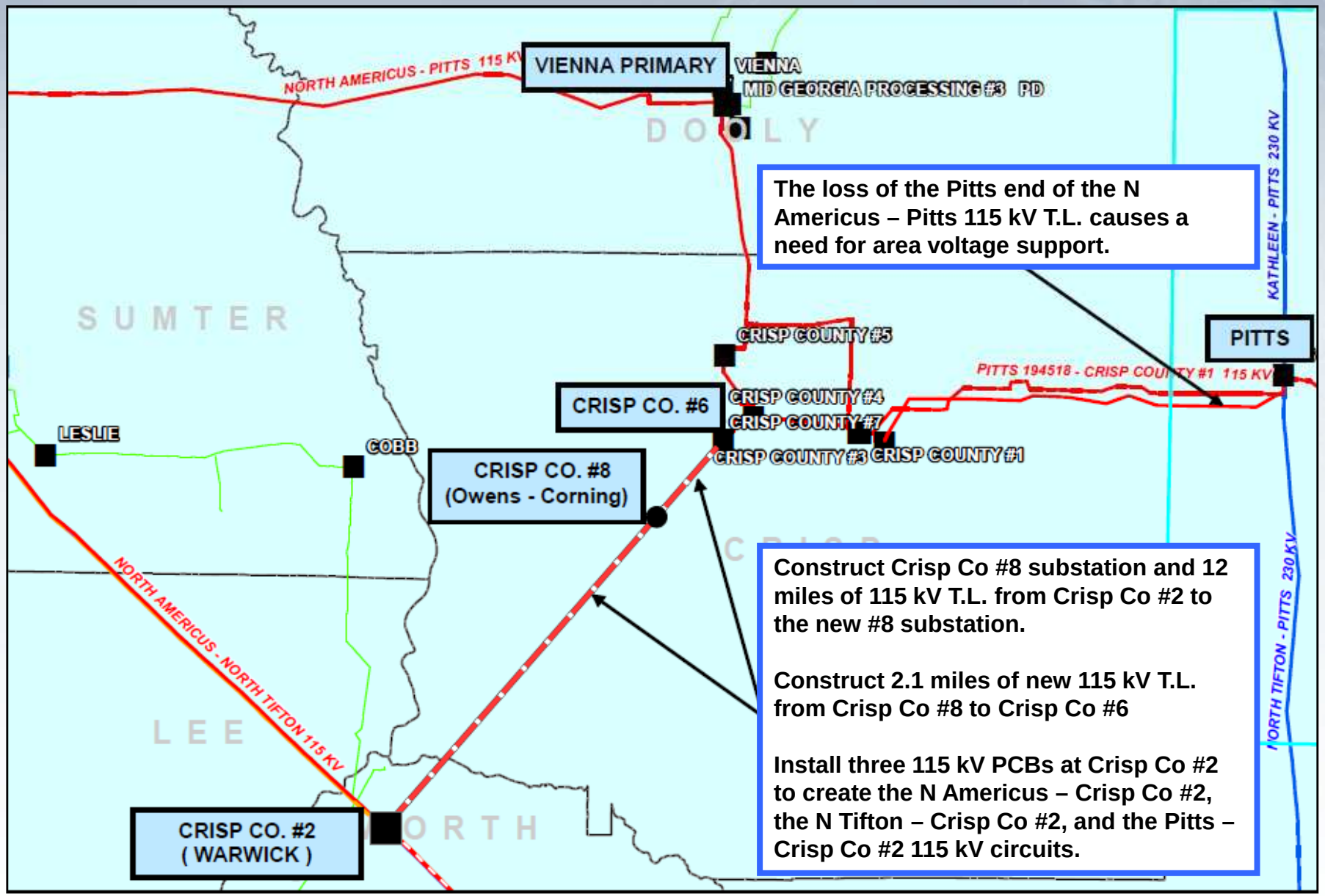
Crisp County Area Improvements – Phase II

- 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 Pitts – Crisp Co #1 115 kV T.L. results in a need for area voltage support.

Crisp Co. Area Improvements Phase II

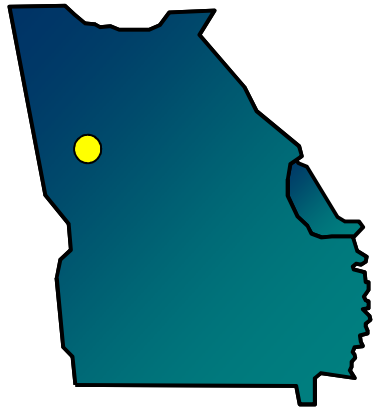
2014 ITS-6



Southeastern Region Transmission Planning

Expansion Item ITS-7

2014 ITS-7



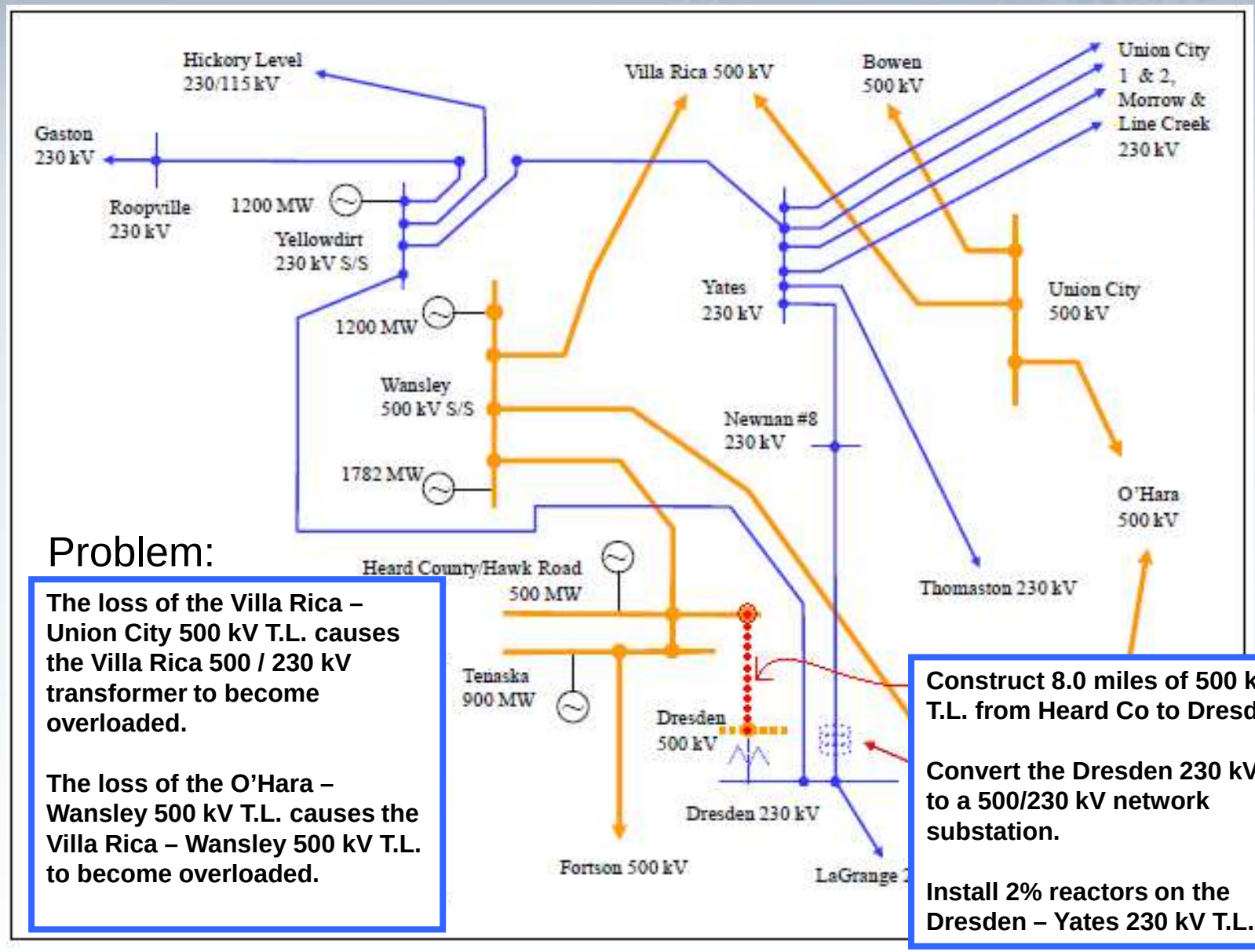
Dresden – Heard County 500 kV T.L.

- 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 exceed its thermal rating.

Dresden – Heard Co. 500kV T.L.

2014 ITS-7



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 ITS-8

2016 ITS-8

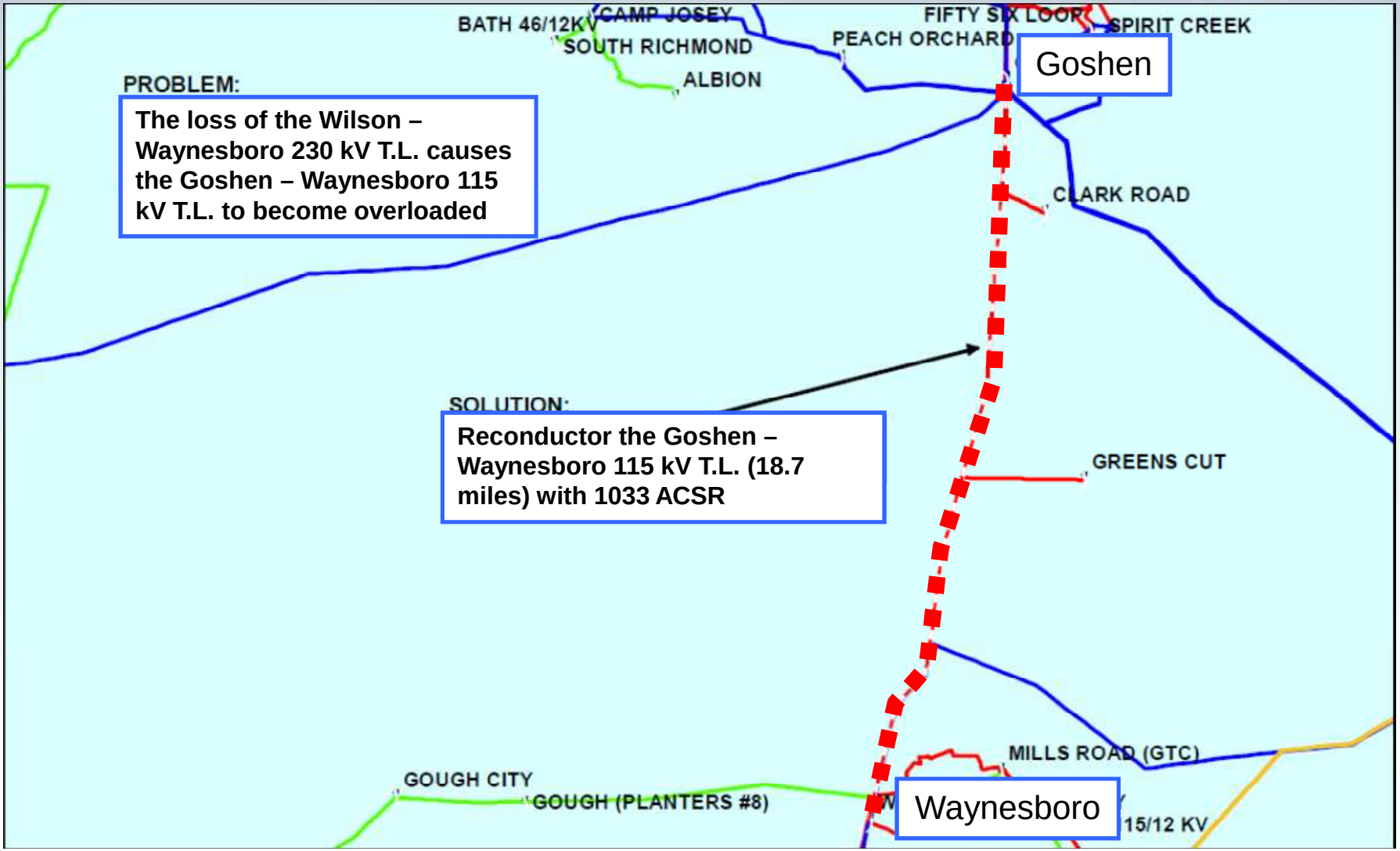
Goshen – Waynesboro 115 kV T.L.

- Reconductor 18.7 miles along the Goshen – Waynesboro 115 kV T.L. with 1033 ACSR.

- The loss of the Wilson – Waynesboro 230 kV T.L., with Hatch Unit #1 offline, will overload the Goshen – Waynesboro 115 kV T.L.

Goshen – Waynesboro 115 kV T.L.

2016 ITS-8



Southeastern Region Transmission Planning

Expansion Item ITS-9

2016 ITS-9

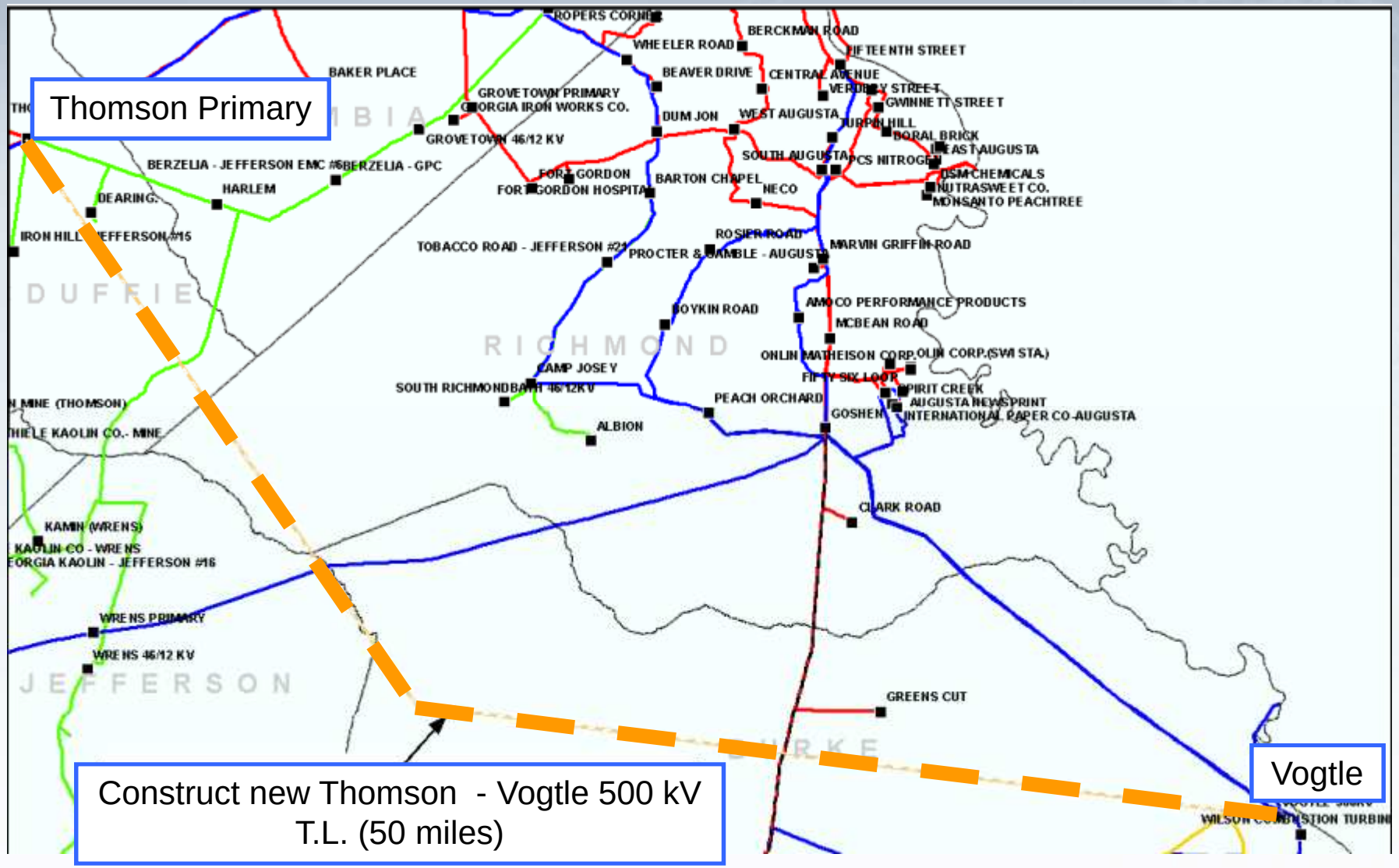
Thomson Primary – Vogtle 500 kV T.L.

- 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.

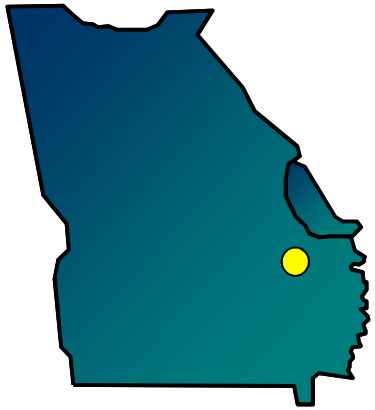
2016 ITS-9



Southeastern Region Transmission Planning

Expansion Item ITS-10

2017 ITS-10



South Georgia 115 kV T.L.s

- Reconductor 9.6 miles from Daniel Siding to Little Ogeechee along the Hinesville – Little Ogeechee 115 kV T.L. with bundled (2) 336 ACSS at 200°C.
- Reconductor 15.6 miles along the Hinesville – Ludowici and Ludowici – Jesup 115 kV T.L.s with 795 ACSR.

- The loss of the Little Ogeechee – Dorchester 230 kV T.L. causes the Little Ogeechee – Hinesville 115 kV T.L. to become overloaded.
- The loss of the McCall Road – Thalmann 500 kV T.L. causes the Hinesville – Ludowici and Ludowici – Jesup 115 kV T.L.s to become overloaded.

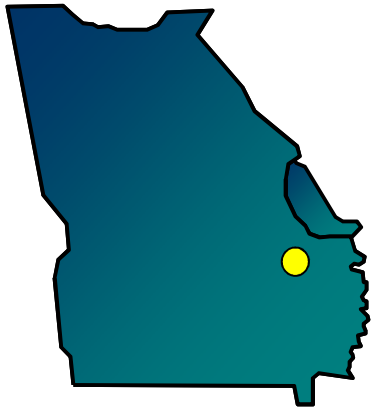
Southeastern Region Transmission Planning

Expansion Item ITS-11

2018 ITS-11

South Georgia 115 kV T.L.s

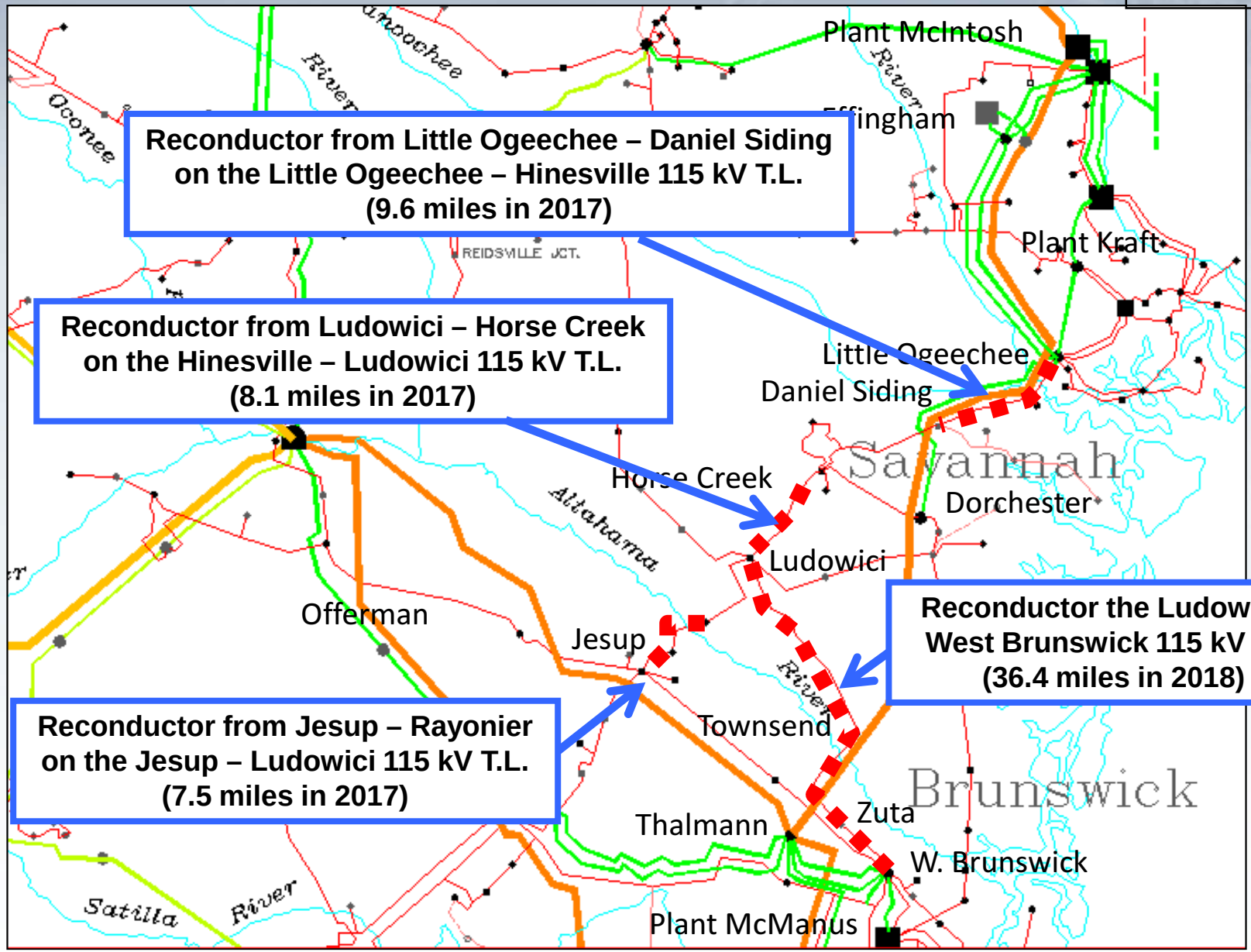
- Reconductor 36 miles from Ludowici – West Brunswick 115 kV T.L. with 795 ACSR.



- The loss of the McCall Road – Thalmann 500 kV T.L. causes the Ludowici – West Brunswick 115 kV T.L. to become overloaded.

South Georgia 115 kV T.L.s

2017 ITS-10
2018 ITS-11



Reconductor from Little Ogeechee – Daniel Siding on the Little Ogeechee – Hinesville 115 kV T.L. (9.6 miles in 2017)

Reconductor from Ludowici – Horse Creek on the Hinesville – Ludowici 115 kV T.L. (8.1 miles in 2017)

Reconductor the Ludowici – West Brunswick 115 kV T.L. (36.4 miles in 2018)

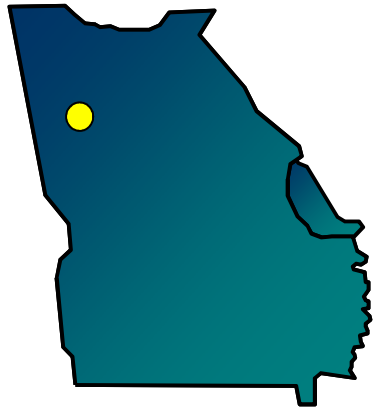
Reconductor from Jesup – Rayonier on the Jesup – Ludowici 115 kV T.L. (7.5 miles in 2017)

Southeastern Region Transmission Planning

Expansion Item ITS-12

2018 ITS-12

Corn Crib 230 / 115 kV Substation

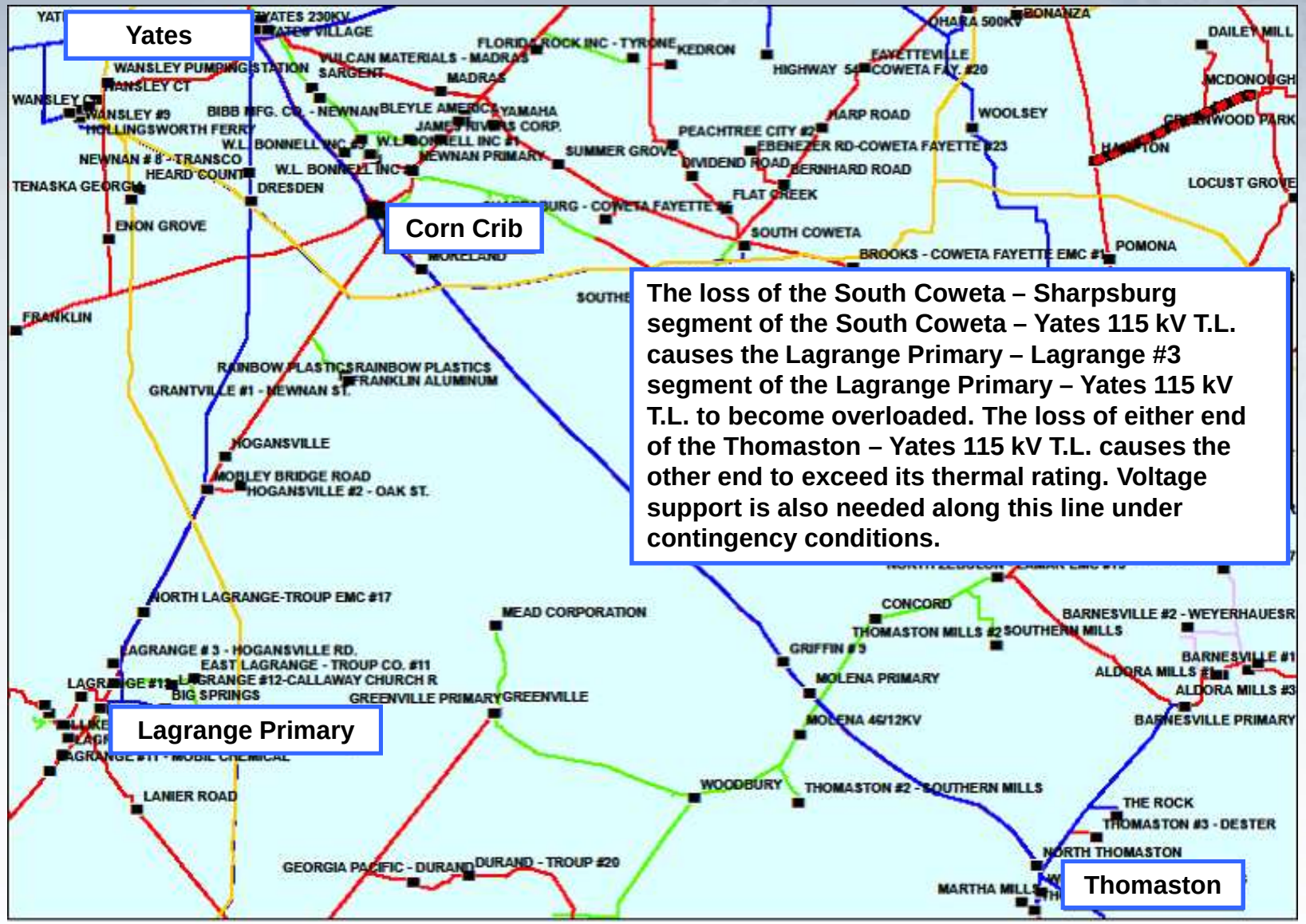


- Construct the Corn Crib 230 / 115 kV substation, looping the Thomaston – Yates 230 kV T.L. and the Thomaston – Yates 115 kV T.L.. Terminate the Yates – Newnan #3 Junction Transmission Line at Corn Crib.

- The loss of either end of the Thomaston – Yates 115 kV T.L. will overload the opposite end. This project also provides voltage support along the Thomaston – Yates 115 kV T.L.

Corn Crib 230 / 115 kV Substation

2018 ITS-12



Southeastern Region Transmission Planning

Expansion Item ITS-13

2018 ITS-13

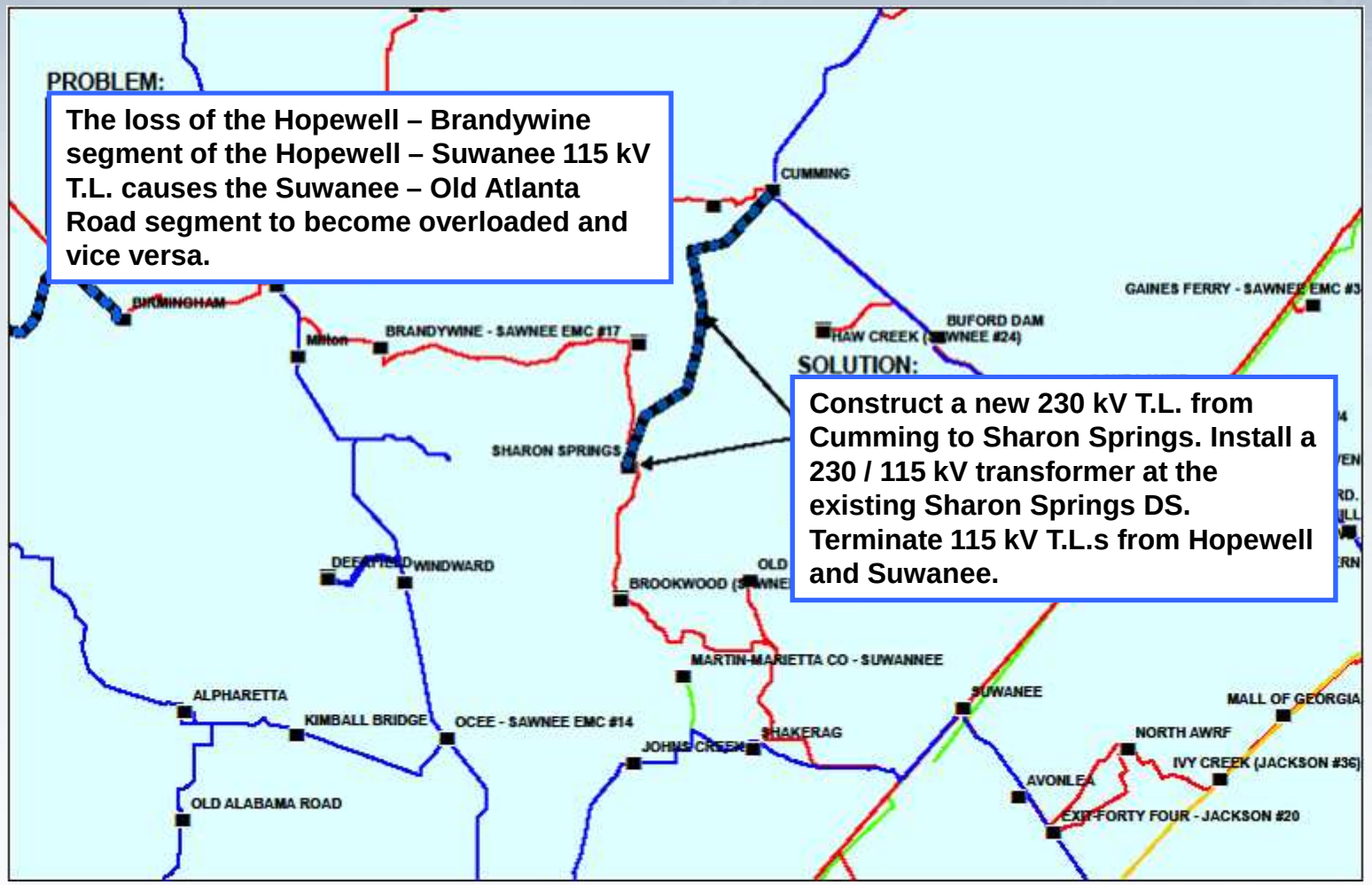
Sharon Springs 230 / 115 kV Substation

- 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

2018 ITS-13



Southeastern Region Transmission Planning

Expansion Item ITS-14

2018 ITS-14

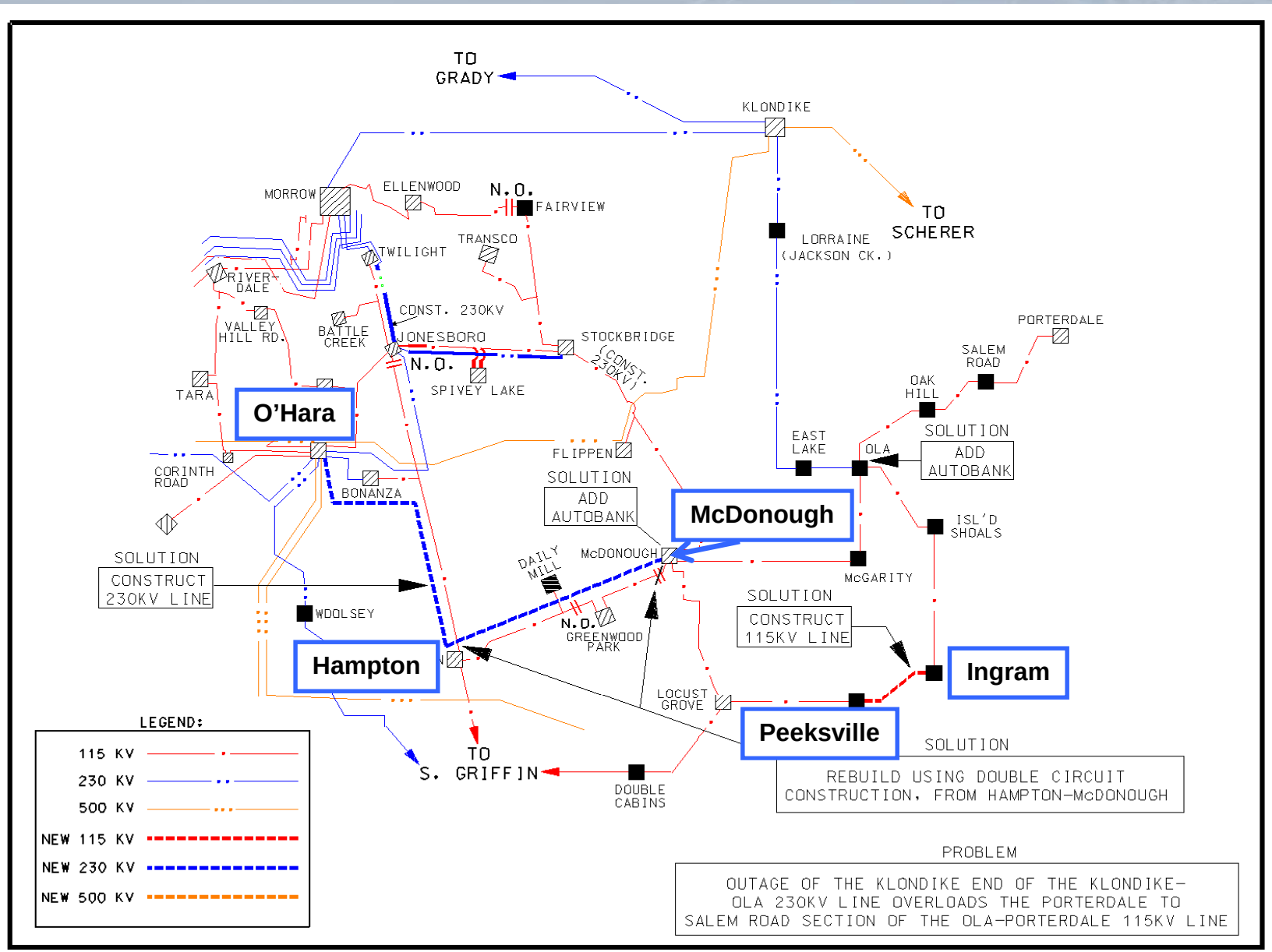
South Metro Phase-III Project

- 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
- Construct a 115 kV T.L. between the Peeksville and Ingram substations.

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

South Metro Phase III Project

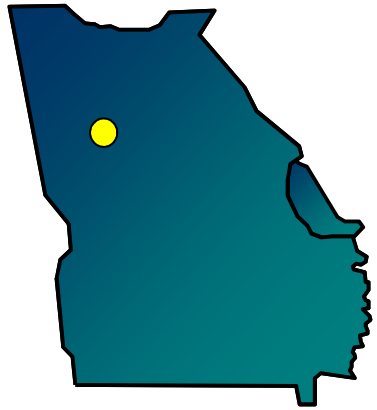
2018 ITS-14



Southeastern Region Transmission Planning

Expansion Item ITS-15

2019 ITS-15



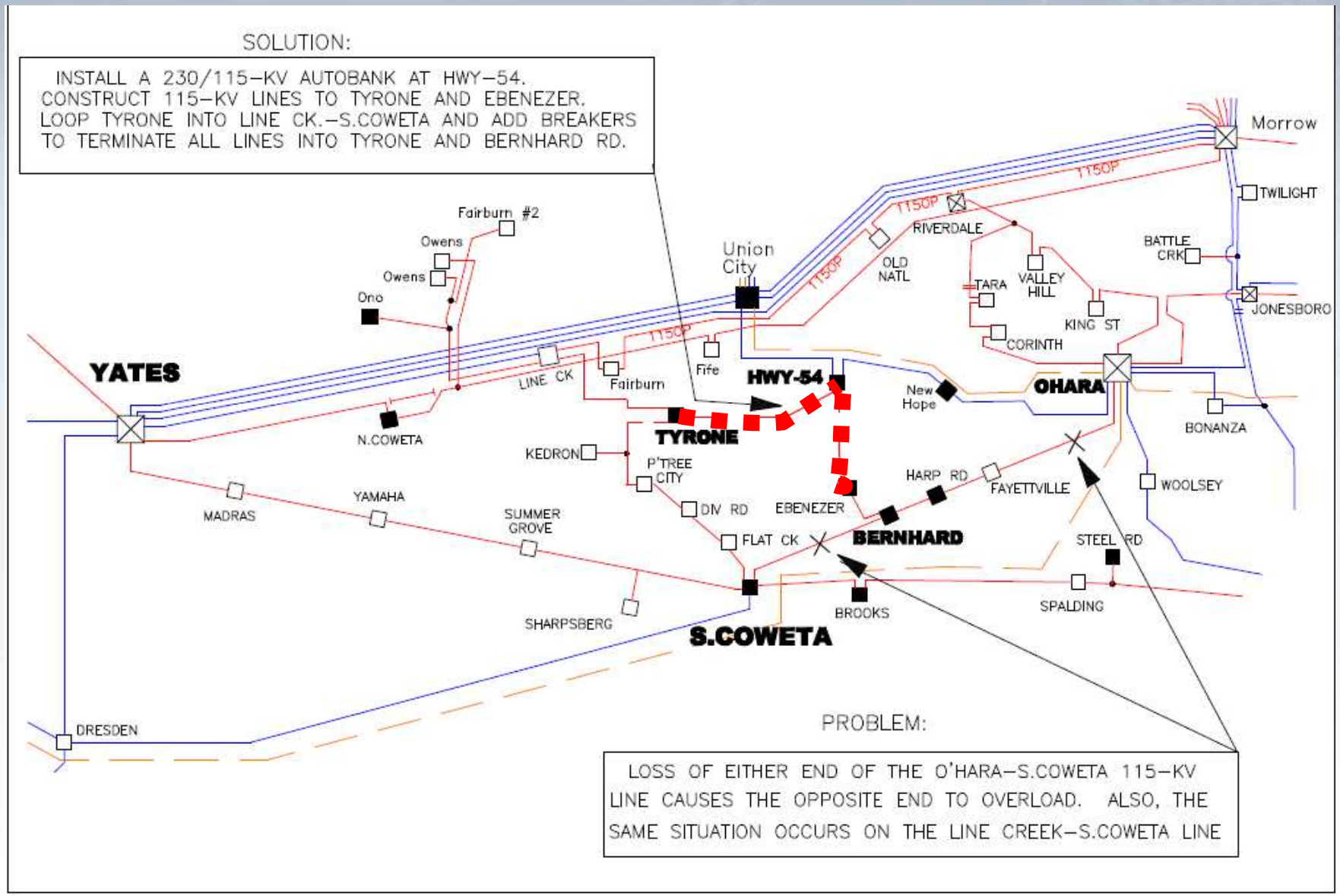
Highway 54 230 / 115 kV Substation

- 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

2019 ITS-15



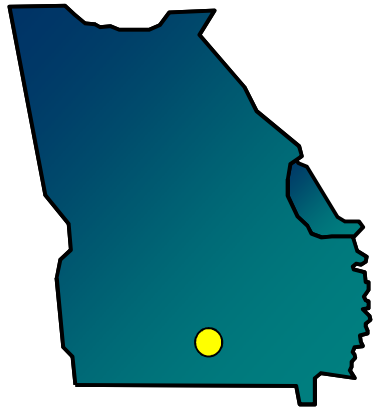
Southeastern Region Transmission Planning

Expansion Item ITS-16

2019 ITS-16

Douglas – Pine Grove 230 kV T.L.

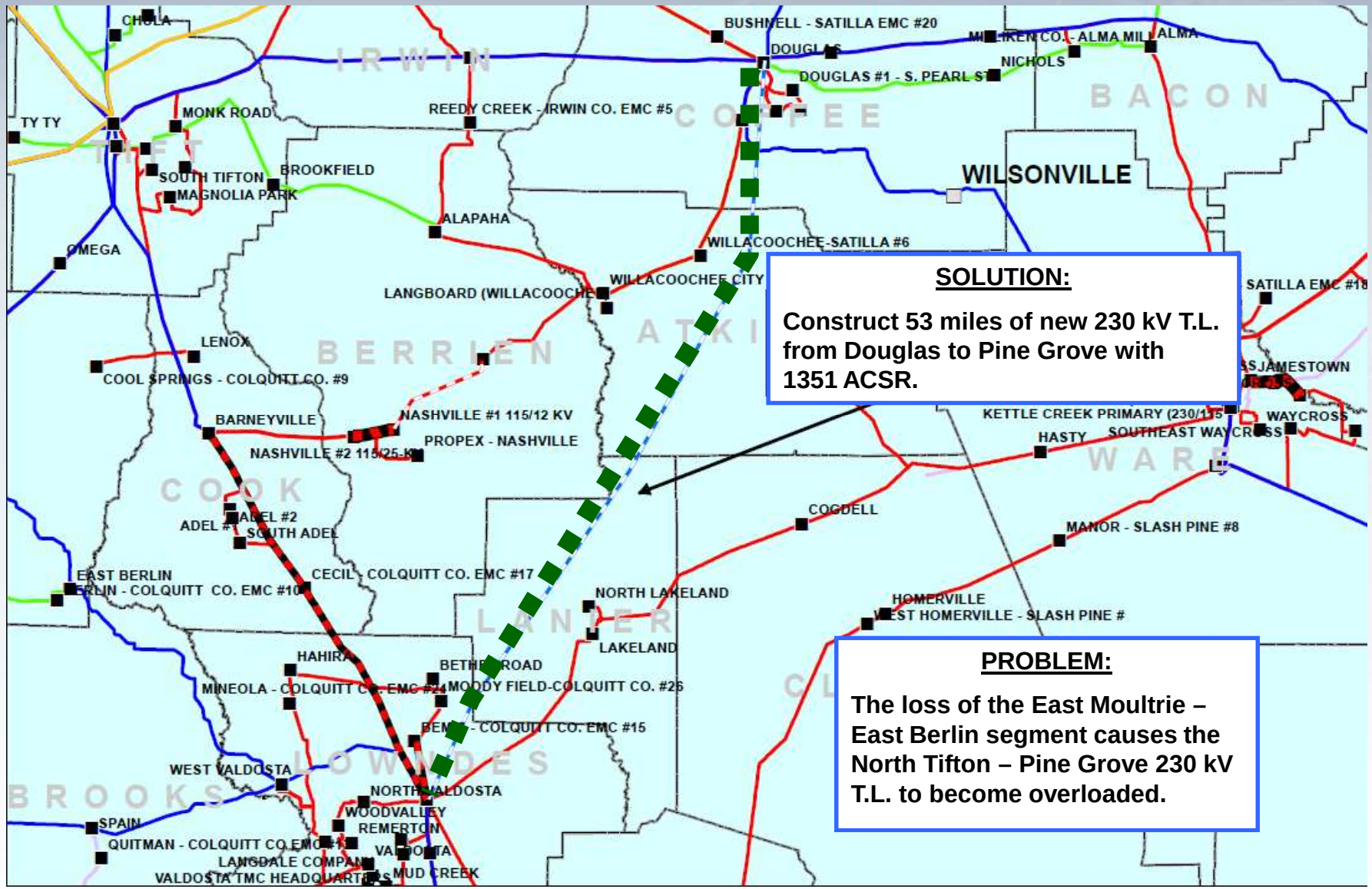
- Construct 53 miles of new 230 kV T.L. from Douglas to Pine Grove with 1351 ACSR.



- 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.

2019 ITS-16



SOLUTION:

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

PROBLEM:

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

Southeastern Region Transmission Planning

Expansion Item ITS-17

2021 ITS-17

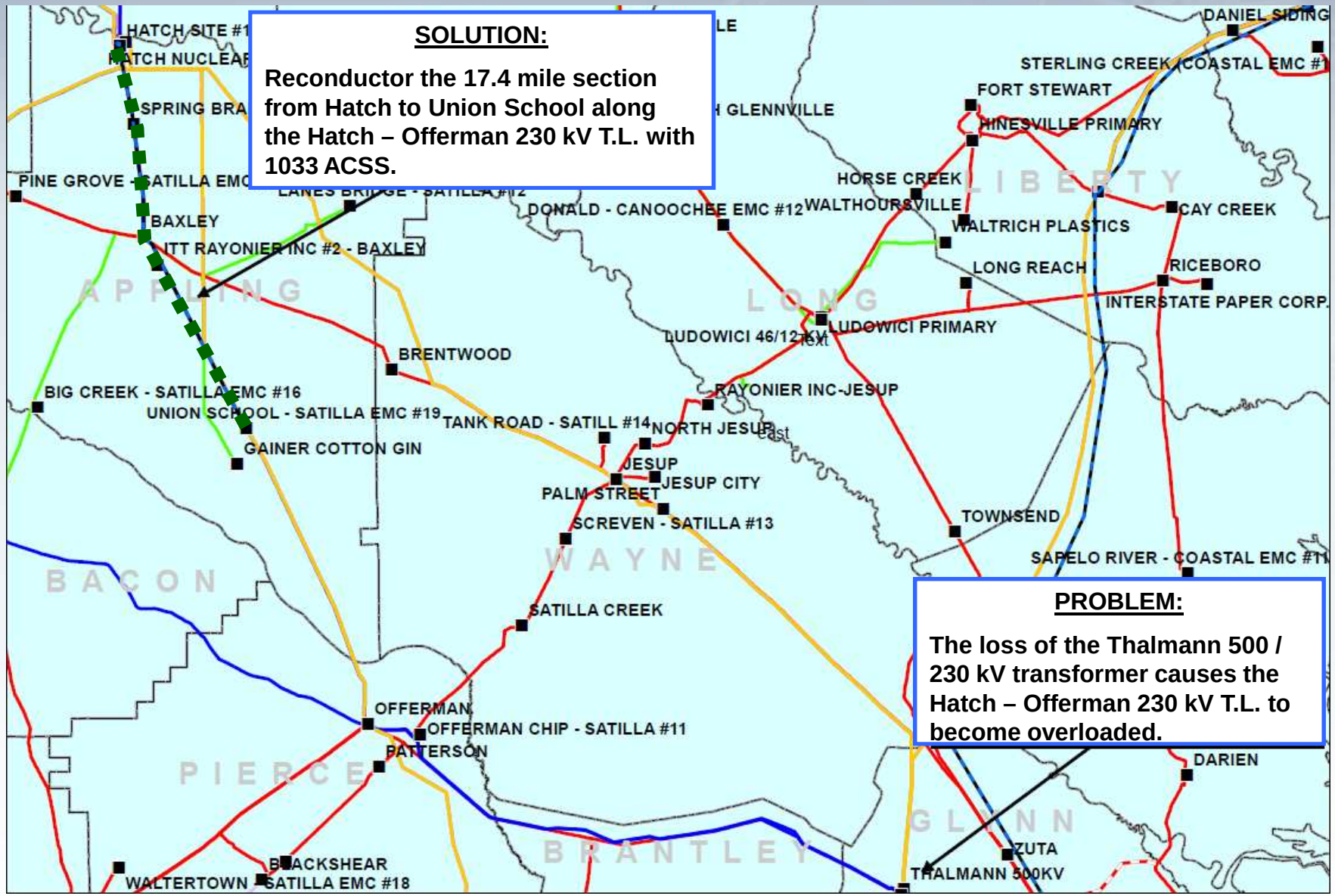
Hatch – Offerman 230 kV T.L.

- Reconductor the 17.4 mile section from Hatch to Union School along the Hatch – Offerman 230 kV T.L. with 1033 ACSS.

- 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.

2021 ITS-17



SOLUTION:

Reconductor the 17.4 mile section from Hatch to Union School along the Hatch – Offerman 230 kV T.L. with 1033 ACSS.

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 ITS-18

2021 ITS-18

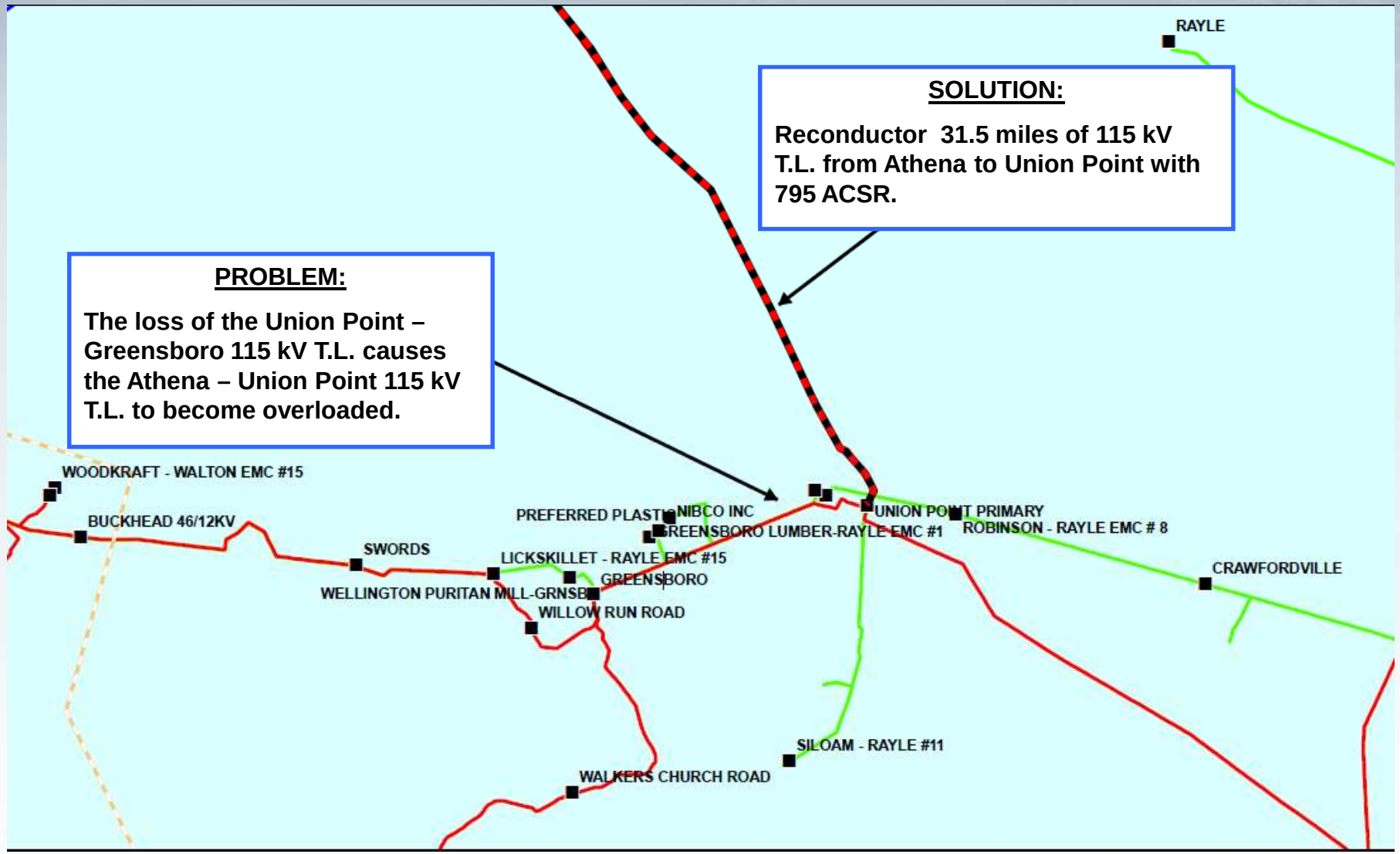
Athena – Union Point 115 kV T.L.

- Reconductor 31.5 miles of 115 kV T.L. from Athena to Union Point with 795 ACSR.

- The loss of the Union Point – Greensboro 115 kV T.L. causes the Athena – Union Point 115 kV T.L. to become overloaded.

Athena – Union Point 115 kV T.L.

2021 ITS-18



Southeastern Region Transmission Planning

Expansion Item ITS-19

2021 ITS-19

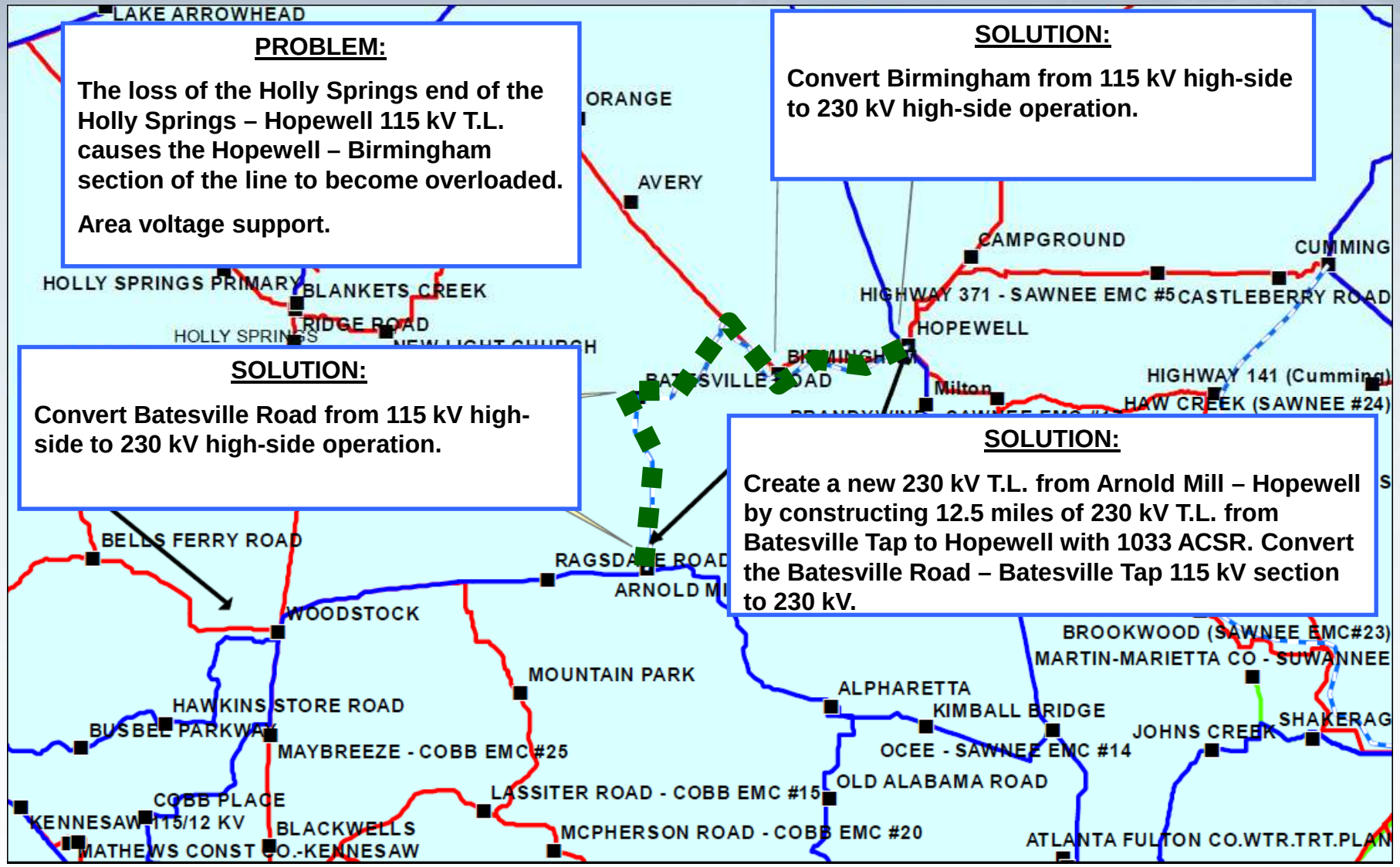
Holly Springs – Hopewell Area Project

- 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 ITS-19



PROBLEM:

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.

SOLUTION:

Convert Birmingham from 115 kV high-side to 230 kV high-side operation.

SOLUTION:

Convert Batesville Road from 115 kV high-side to 230 kV high-side operation.

SOLUTION:

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.

Questions?