Southeastern Region Transmission Planning

10 Year Transmission Expansion Plan

Southeastern Region Transmission Planning

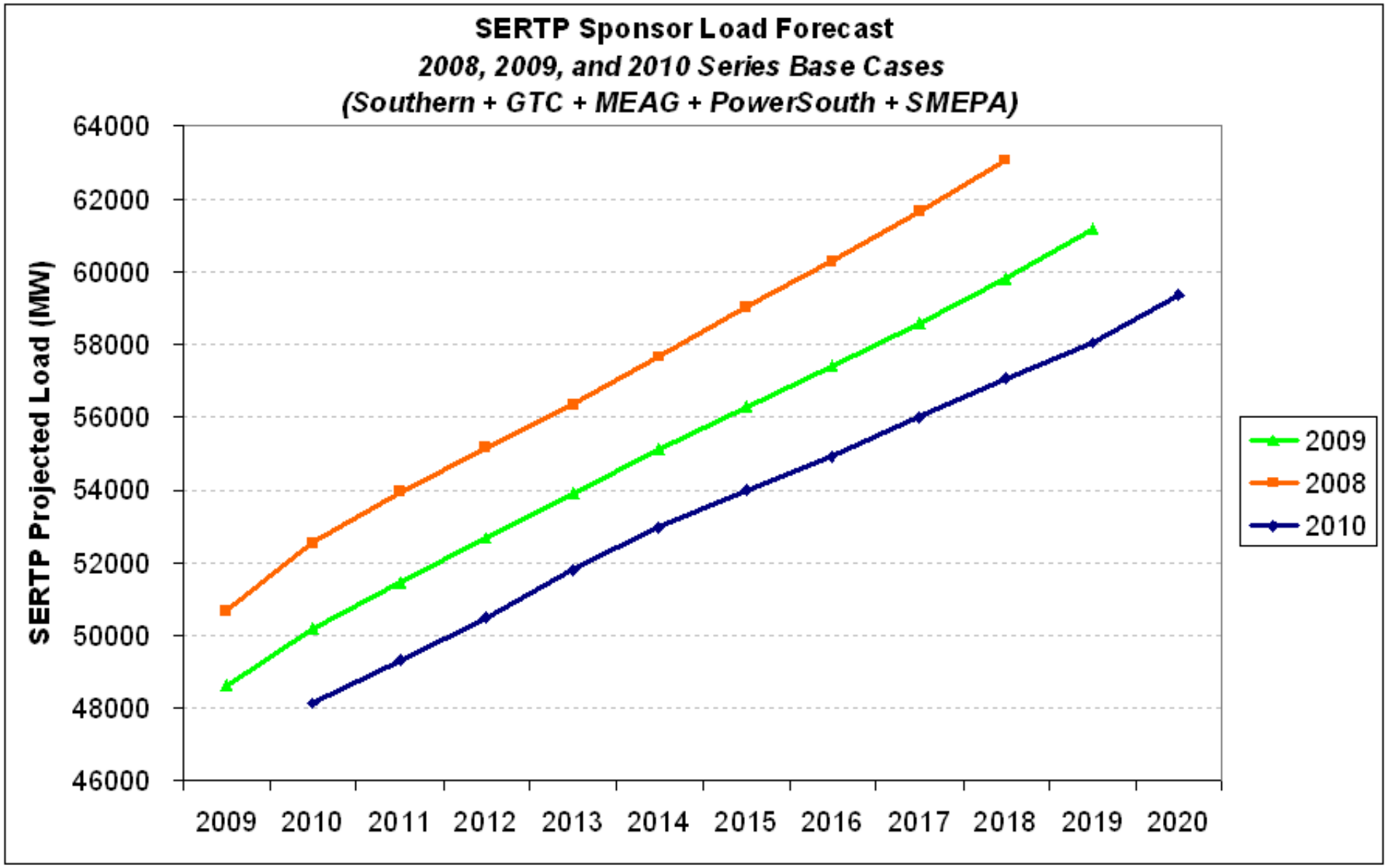
Disclaimer

- The projects described in this presentation represent the current ten (10) year expansion plan. The expansion plan is periodically reviewed and may be revised due to changes in assumptions.
- This presentation does not represent a commitment to build for projects listed in the future.

Southeastern Region Transmission Planning

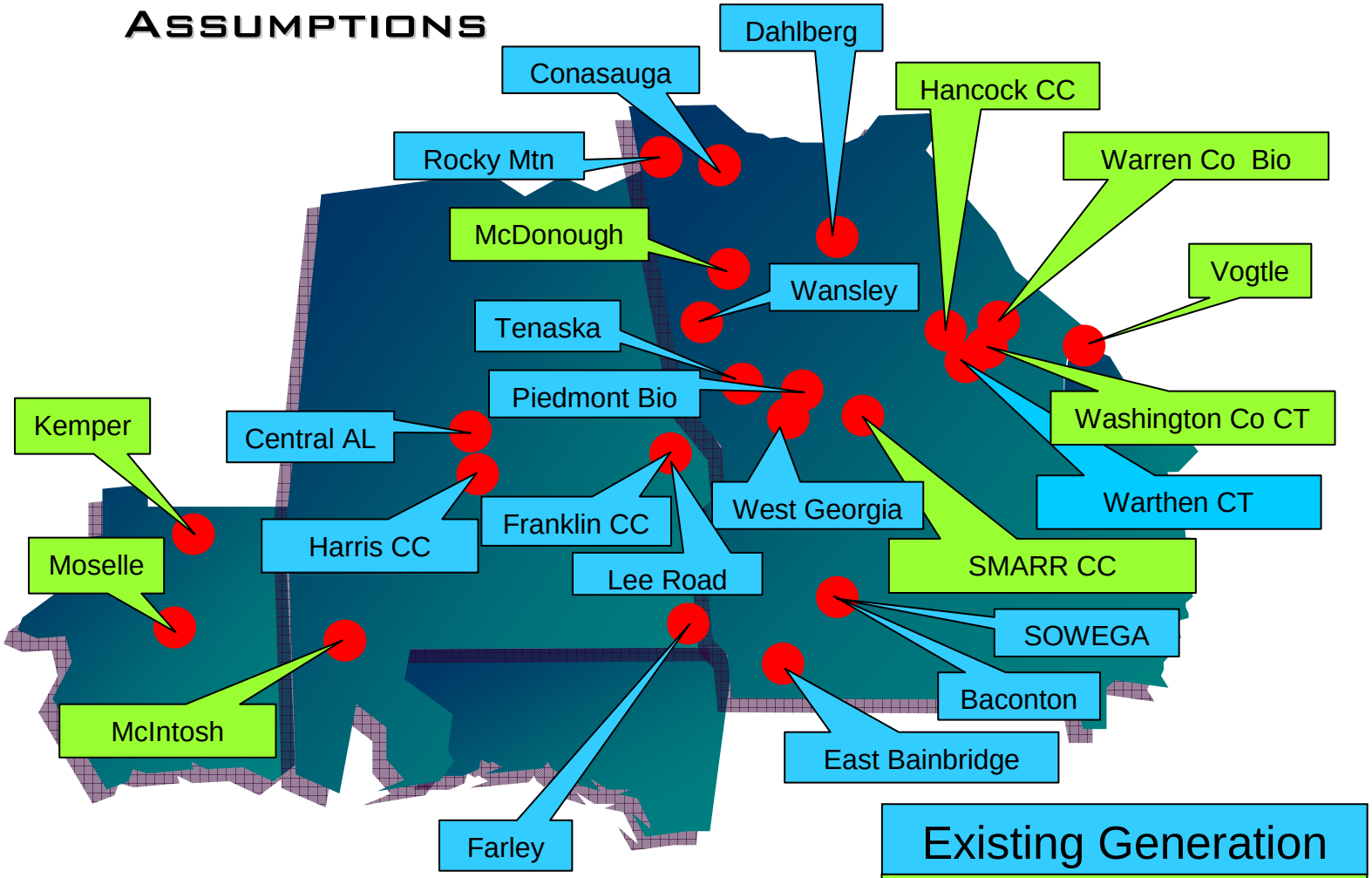
Input Assumptions for 10 Year Expansion Plan

Southeastern Region Transmission Planning



Southeastern Region Transmission Planning

2010 Regional Generation Assumptions



Southeastern Region Transmission Planning

Generation Assumptions for the 2010 Transmission Expansion Planning Process

Year		Site	MW
2010	GTC	Dahlberg CT	-160
		Lee Road CT	-100
		Rocky Mountain	45
		Wansley CC7	572
		Warthen CT	-600
		West GA Gen	150
	SoCo	Dahlberg CT	292
		Exelon Heard CT	942
		Franklin 1	-559
		Harris 1	-627
		Wansley CC7	-572

Year		Site	MW
2011	GTC	Dahlberg CT	-100
		East Bainbridge	-72
		Franklin 2	625
		Lindsay Hill CC	205
		McDonough 2 Coal	-51
		Rocky Mountain	44
		Warthen CT	390
	PS	McIntosh 4 & 5	448
	SoCo	Farley 1 Uprate	35
		Franklin 2	-625
		McDonough 2 Coal	-200

Southeastern Region Transmission Planning

Generation Assumptions for the 2010 Transmission Expansion Planning Process

Year	Site		MW
2012	GTC	Fitzgerald Bio	55
		McDonough 1 Coal	-49
	SMEPA	Moselle	150
	SoCo	Conasauga	-620
		Farley 2 Uprate	35
		McDonough 1 Coal	-202
		McDonough CC4	841
		McDonough CC5	841
		Piedmont Bio	50

Year	Site		MW
2013	SoCo	Central Alabama CC	885
		McDonough CC6	841
2014	GTC	East Bainbridge	78
		Lee Road CT	50
		SOWEGA	90
		Warren Co Bio	100
	SoCo	Baconton CT	-197
		Dahlberg CT	-292
		Kemper IGCC	600

Southeastern Region Transmission Planning

Generation Assumptions for the 2010 Transmission Expansion Planning Process

Year		Site	MW
2015	GTC	Dahlberg CT	300
		East Bainbridge	-78
		Lee Road CT	-50
		SMARR CC	605
		SOWEGA	-90
		Washington Co CT	734
2016	Dalton	Vogtle 3	16
	GTC	Dahlberg CT	-300
		Vogtle 3	330
		Warthen CT	-70
	MEAG	Vogtle 3	250
	SoCo	Vogtle 3	504

Year		Site	MW
2017	Dalton	Vogtle 4	16
	GTC	Vogtle 4	330
		Wansley CC6	561
	MEAG	Vogtle 4	250
	SoCo	Vogtle 4	504
		Wansley CC6	-561

Southeastern Region Transmission Planning

Generation Assumptions for the 2010 Transmission Expansion Planning Process

Year		Site	MW
2018	N/A	N/A	N/A
2019	PS	McIntosh 6	187
	SoCo	Hancock CC1	840
		Harris 2	-628
2020	SoCo	Hancock CC2	840

Southeastern Region Transmission Planning

Generation Assumptions for the 2010 Transmission Expansion Planning Process

PTPs preserved through the planning horizon

Starting in Year	Site		MW
2010	PTP	Dahlberg	75
2010		Franklin	535
2010		Harris 1	584
2010		Hillabee	700
2010		Scherer 3	235
2010		Scherer 4	850
2010		Lindsay Hill	300
2011		Lindsay Hill	200
2012		Dahlberg	180
2015		Vogtle	103
2016		Vogtle	103

PTPs ending within the planning horizon

Year	Site		MW
2010 – 2014	PTP	Scherer 3	42
2010 – 2014		Miller	164
2011		Bowen	50
2011		Wansley	155
2015		Miller	103

Southeastern Region Transmission Planning

10 Year Transmission Expansion Plan

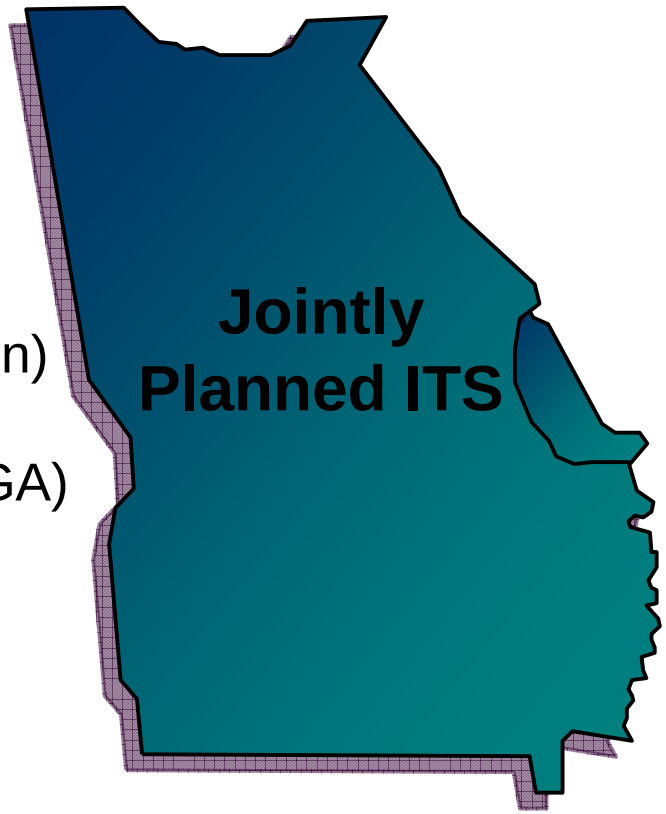
- The in-service date of each project is June 1st of the stated project year unless otherwise specified
- The need date of each project is the same as the in-service date unless otherwise specified

Southeastern Region Transmission Planning

East Region

Georgia Integrated Transmission System (ITS)

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



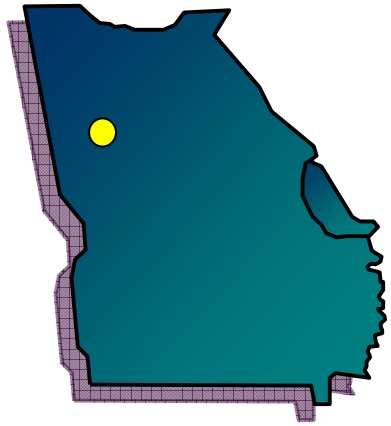
Southeastern Region Transmission Planning

Expansion Item ITS-1a

Factory Shoals

- Create a 230 / 115 kV network substation at Factory Shoals.
- Install one 230 / 115 kV 300 MVA transformer.
- Tap the Adamsville – Douglasville 230 kV line from Buzzard Roost for 230 kV source using existing line.
- Create a 115 kV network station by breakering up the Douglasville – Greenbriar 115 kV line.

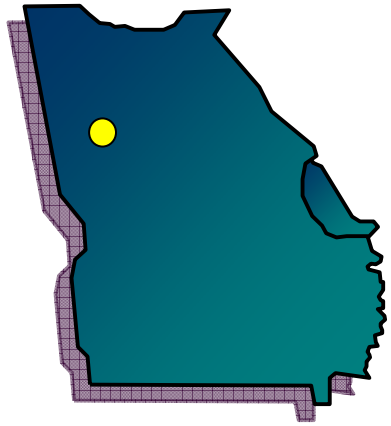
2011 ITS-1a



Southeastern Region Transmission Planning

Expansion Item ITS-1b

2011 ITS-1b



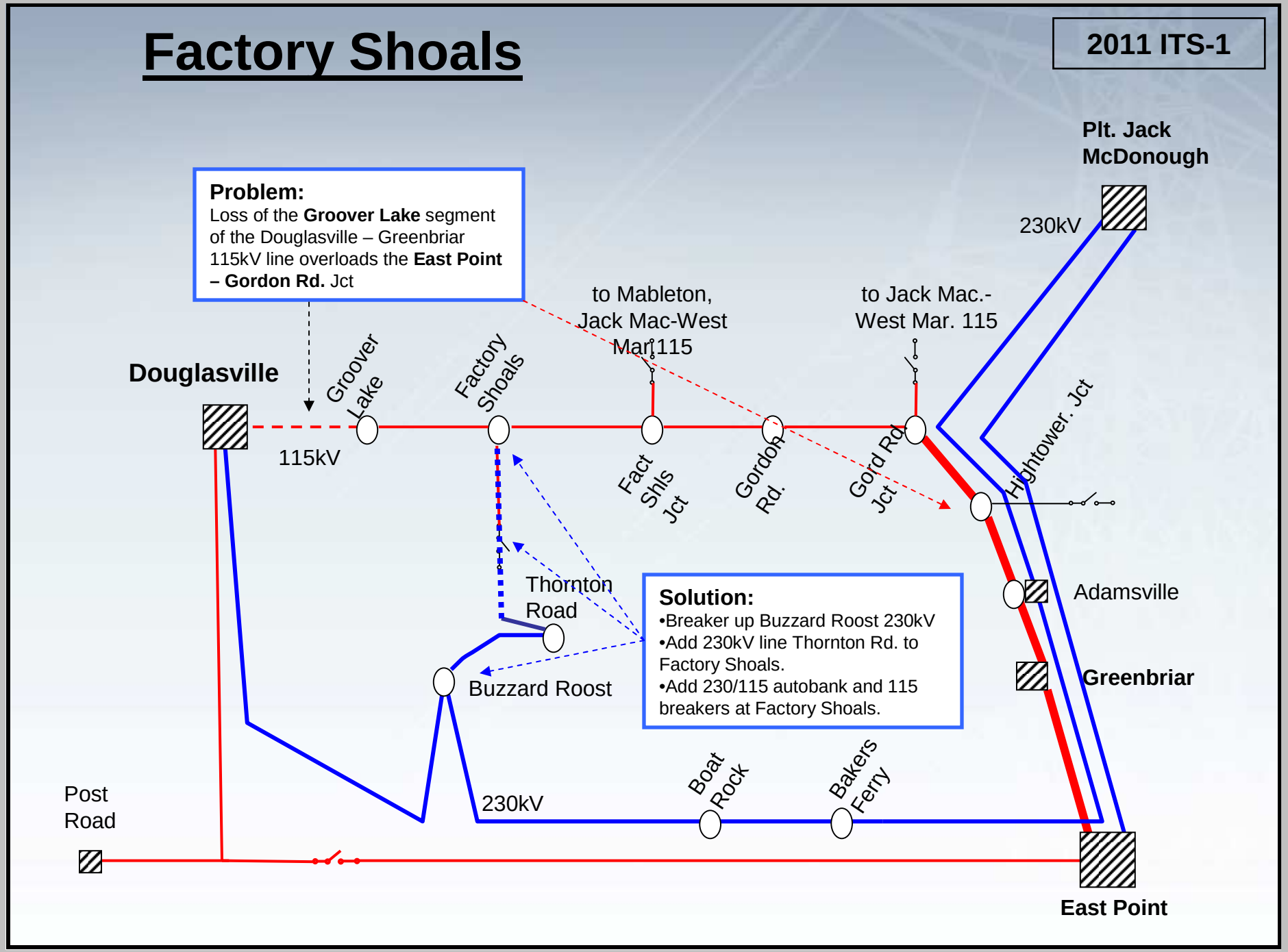
Factory Shoals

- Install three 230 kV breakers at Buzzard Roost, looping in the Adamsville- Douglasville 230 kV line, with a third terminal serving Factory Shoals. Tap the Adamsville – Douglasville 230 kV line from Buzzard Roost for 230 kV source using existing line.

- Alleviates the overload of Gordon Road – Hightower 115 kV T.L., Adamsville – Greenbriar 115 kV T.L. and the Douglasville 230 / 115 kV transformer given various contingencies.

Factory Shoals

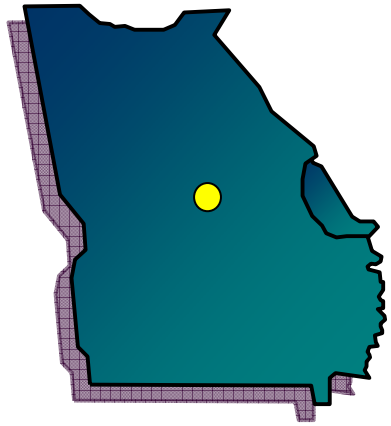
2011 ITS-1



Southeastern Region Transmission Planning

Expansion Item ITS-2

2011 ITS-2



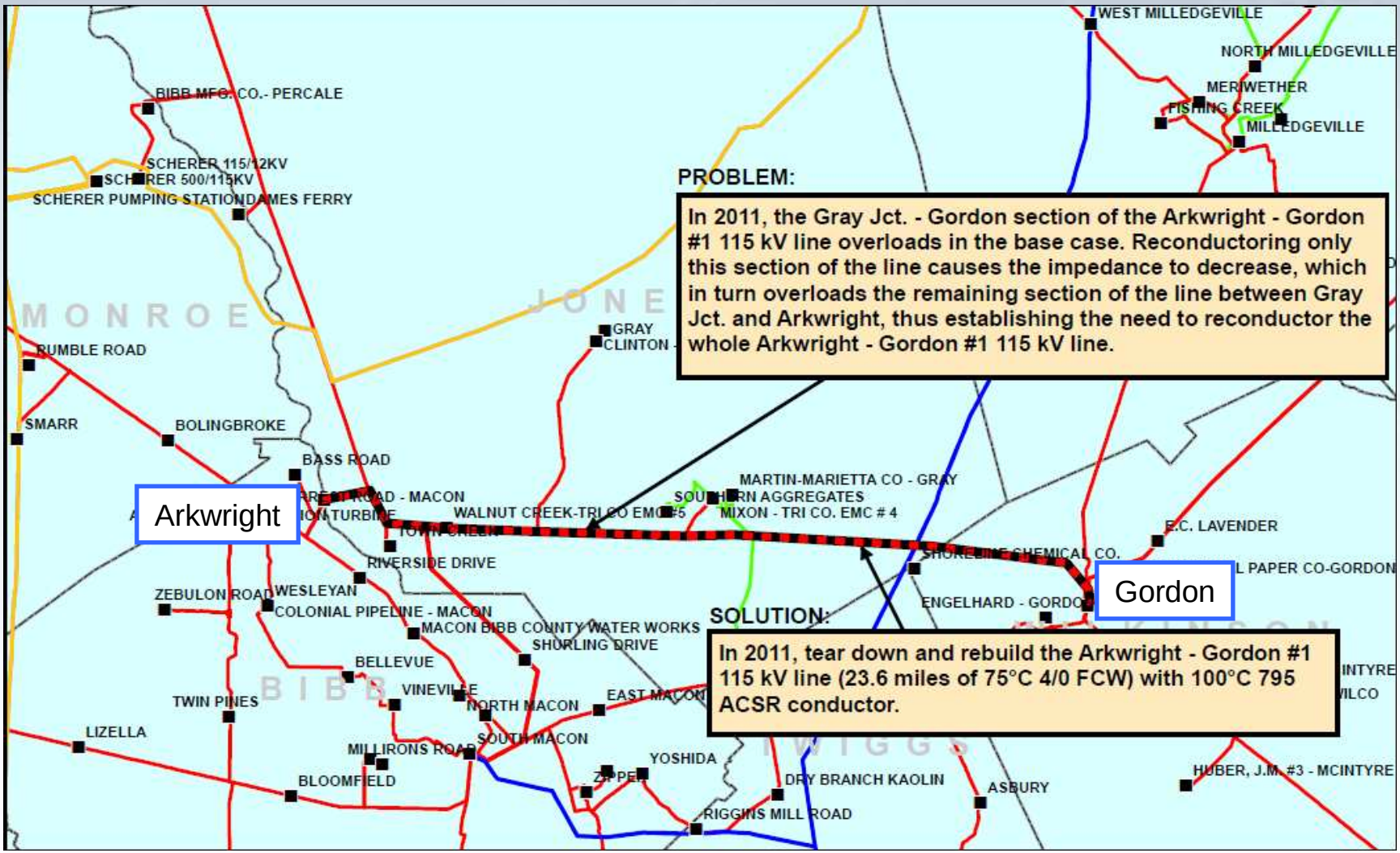
Arkwright – Gordon #1 115 kV Transmission Line

- Rebuild the Arkwright – Gordon #1 115 kV Transmission Line (23.6 miles) with 795 ACSR conductor at 100°C.

- This line becomes thermally overloaded given multiple contingencies in 2011.

Arkwright – Gordon #1 115 kV T.L.

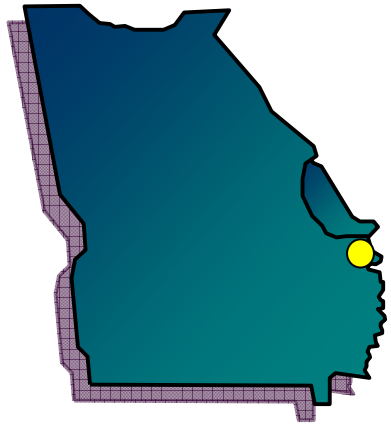
2011 ITS-2



Southeastern Region Transmission Planning

Expansion Item ITS-3

2012 ITS-3



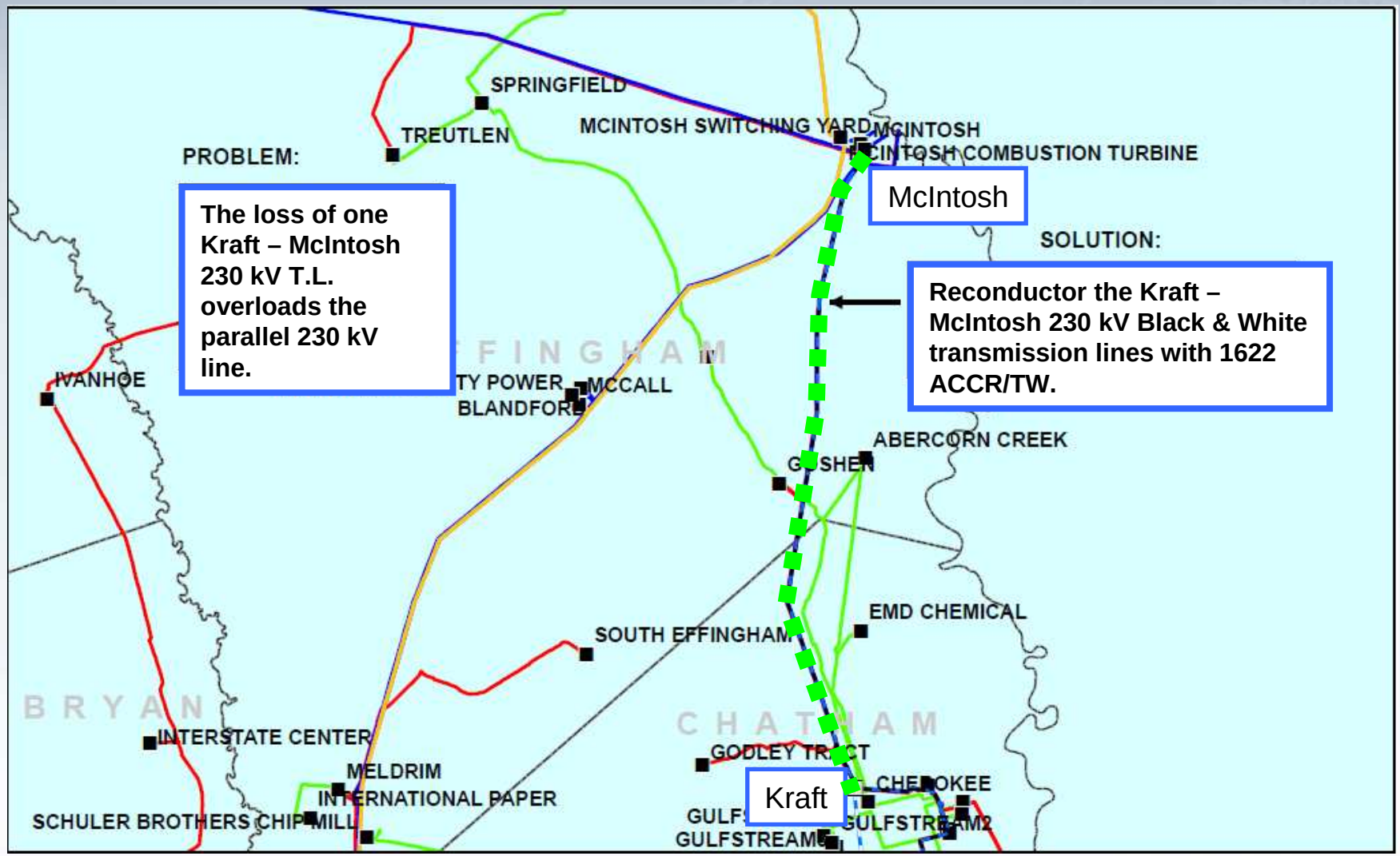
Kraft – McIntosh 230 kV T.L.s

- 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-3

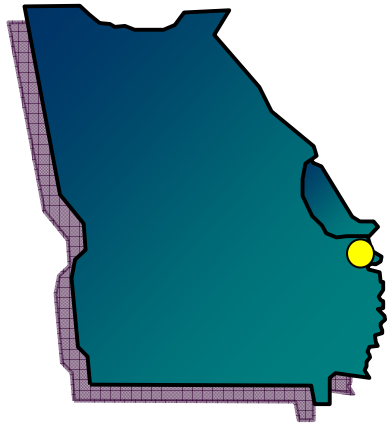


Southeastern Region Transmission Planning

Expansion Item ITS-4

2014 ITS-4

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

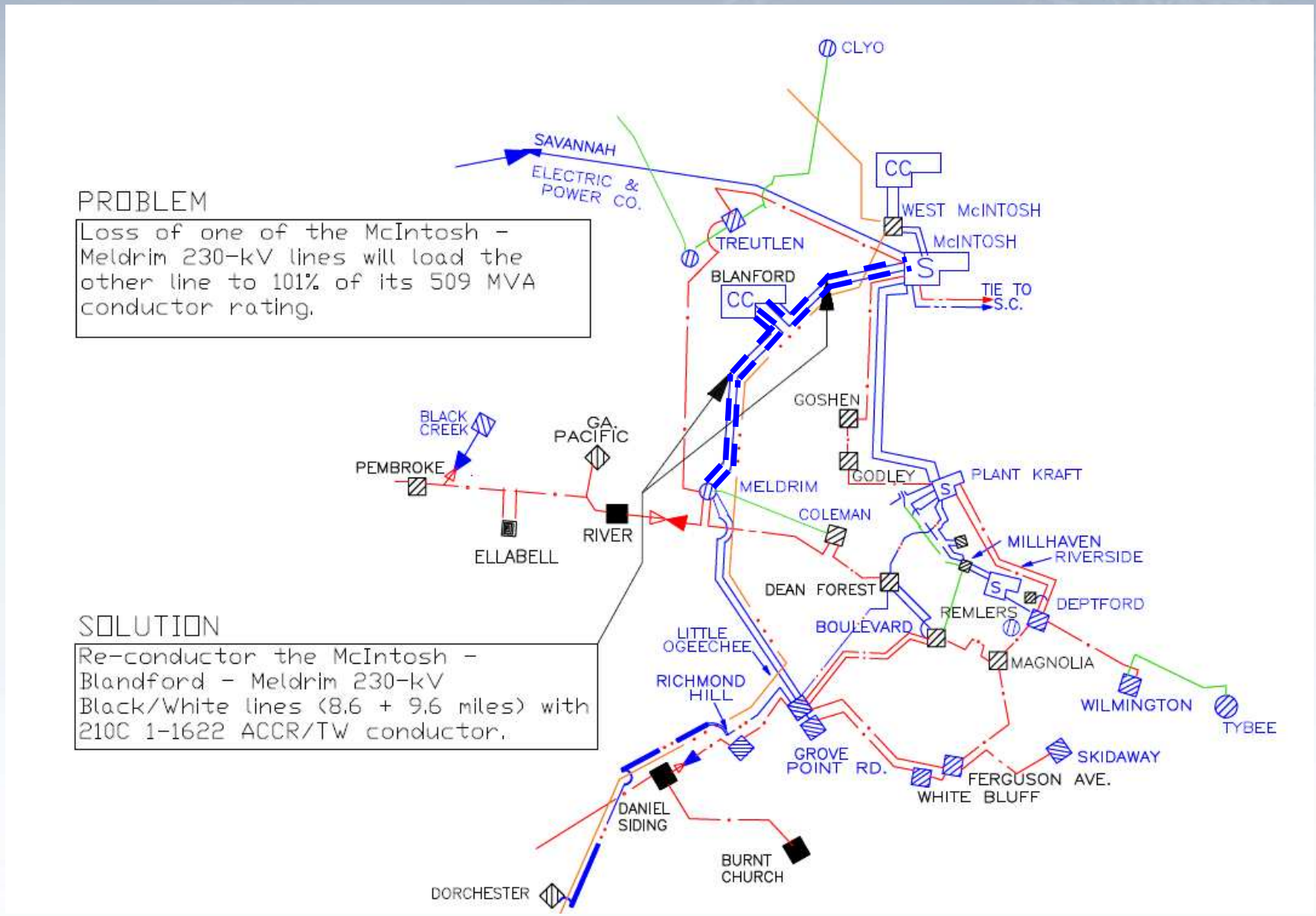


- Reconductor 18.2 miles along the McIntosh – Blandford – Meldrim Black and White 230 kV T.L.s.

- 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 ITS-4

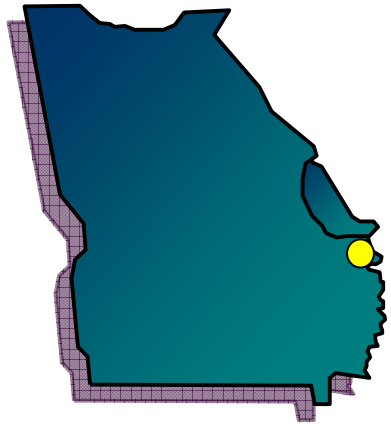


Southeastern Region Transmission Planning

Expansion Item ITS-5

2015 ITS-5

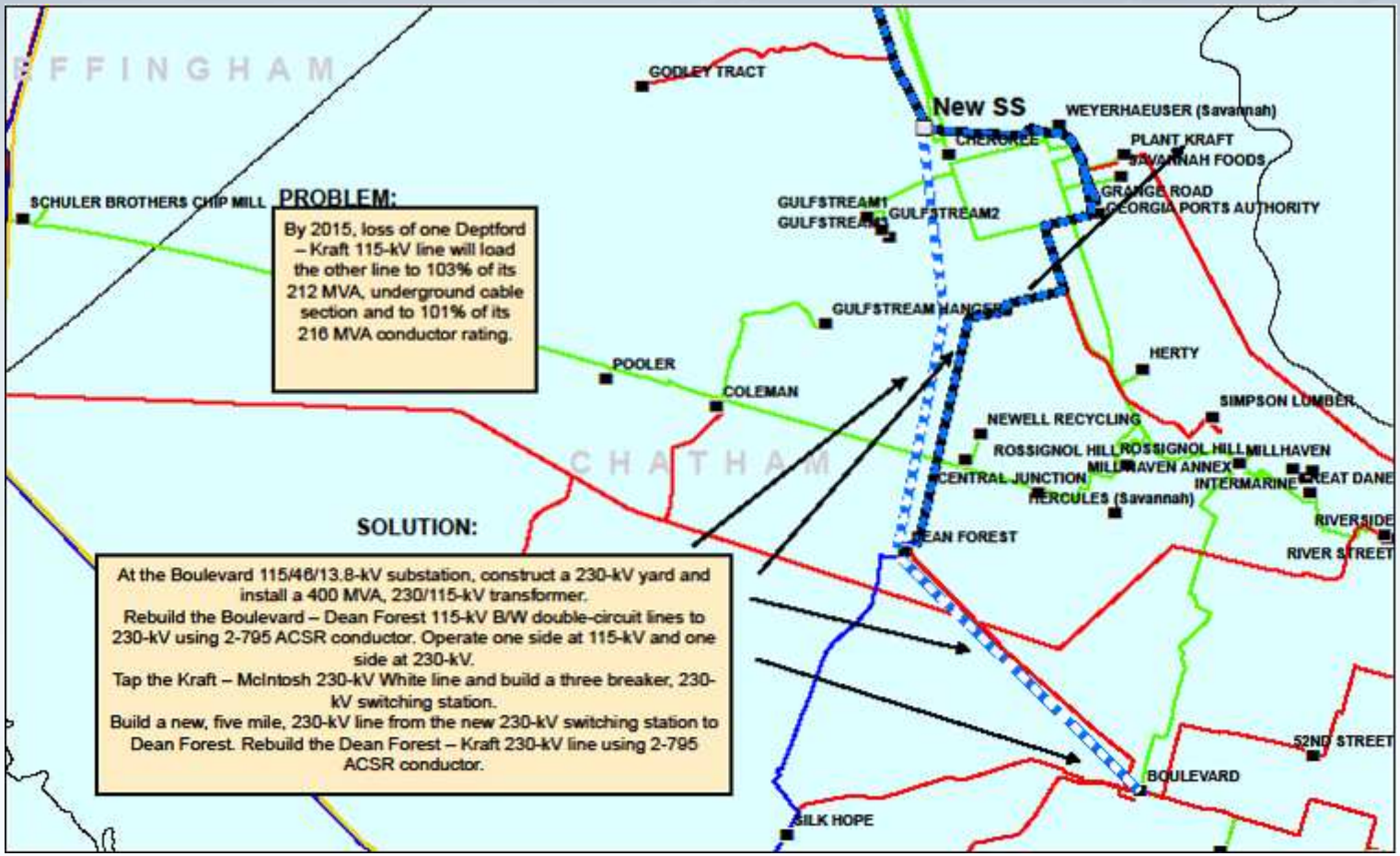
Boulevard 230 / 115 kV Substation



- Install a 230 / 115 kV transformer at the existing Boulevard 115 kV substation.
- Rebuild the Boulevard – Dean Forest 115 kV double circuit line with 2-795 ACSR at 230 kV specifications. Operate one circuit at 115 kV and the other at 230 kV.
- The loss of one of the Deptford – Kraft 115 kV T.L.s causes the other line to become overloaded.

Boulevard 230 / 115 kV Substation

2015 ITS-5



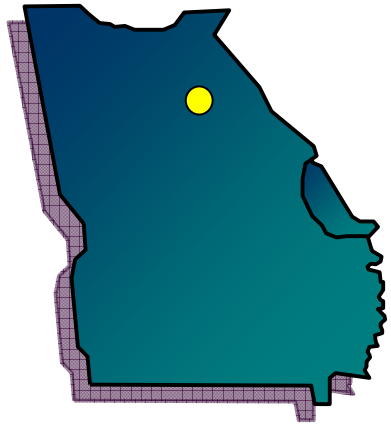
Southeastern Region Transmission Planning

Expansion Item ITS-6a

2015 ITS-6a

East Walton 500 / 230 kV Project

- Construct a new 500 /230 kV Substation at East Walton.
- Construct a new Rockville 500 kV Switching Station.
- Construct a new 500 kV T.L. from the new Rockville 500 kV Switching Station to the new East Walton 500 / 230 kV substation.
- Construct 230 kV T.L. from East Walton to Jacks Creek

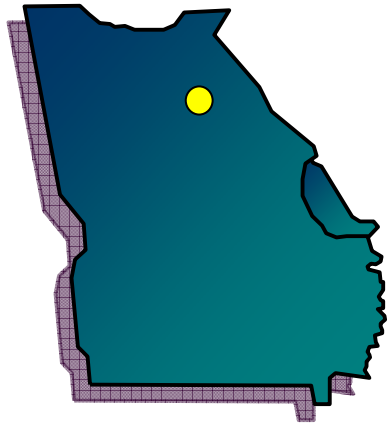


Southeastern Region Transmission Planning

Expansion Item ITS-6b

2015 ITS-6b

East Walton 500 / 230 kV Project

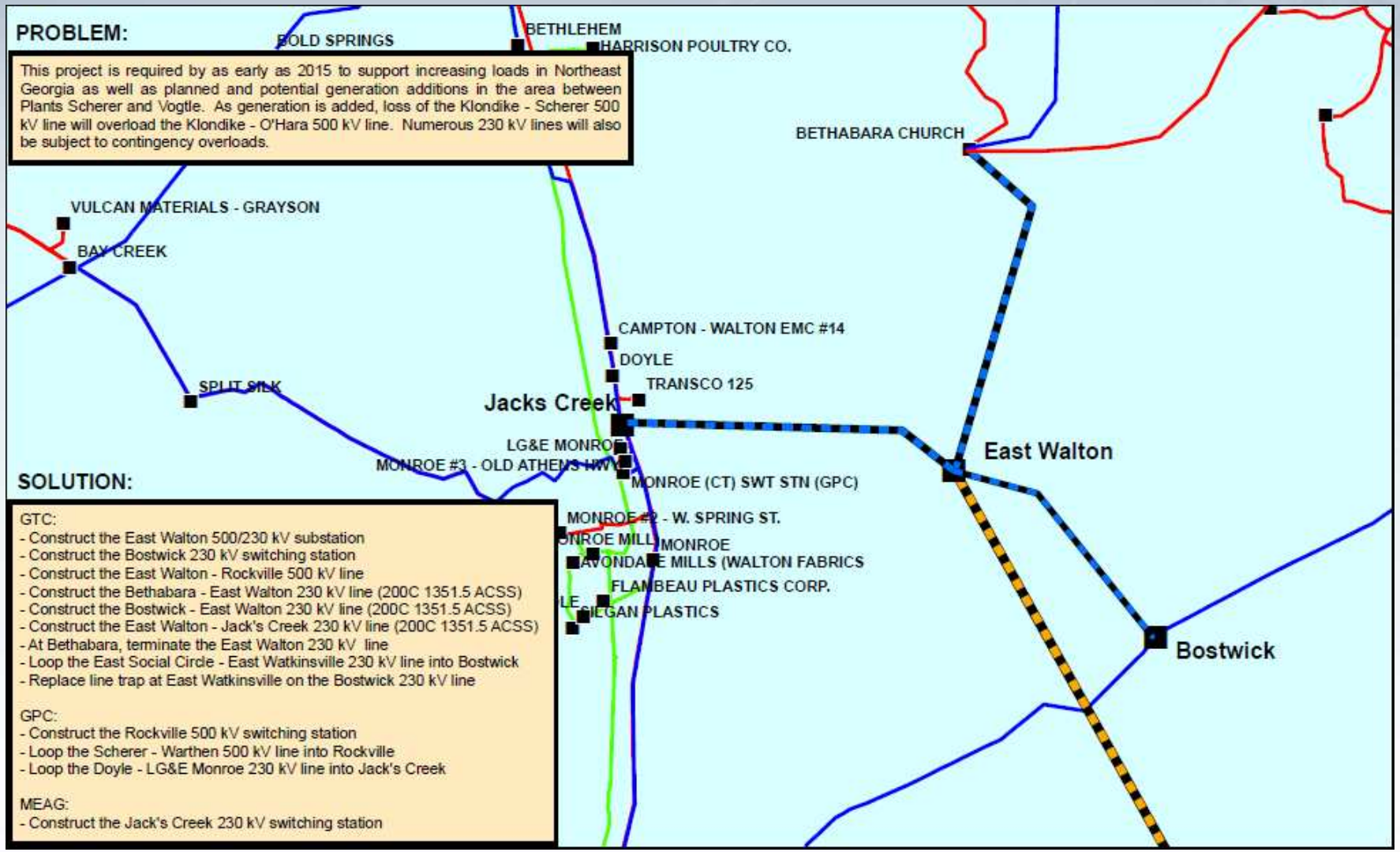


- Construct a new 230 kV T.L. from East Walton to the new Bostwick Switching Station.
- Construct a new 230 kV T.L. from Bethabara to East Walton.

- The loss of the Klondike – Scherer 500 kV T.L. will thermally overload the Klondike – O'Hara 500 kV T.L.

East Walton 500 / 230 kV Project

2015 ITS-6

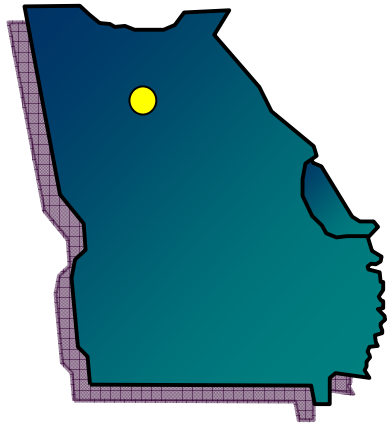


Southeastern Region Transmission Planning

Expansion Item ITS-7

2015 ITS-7

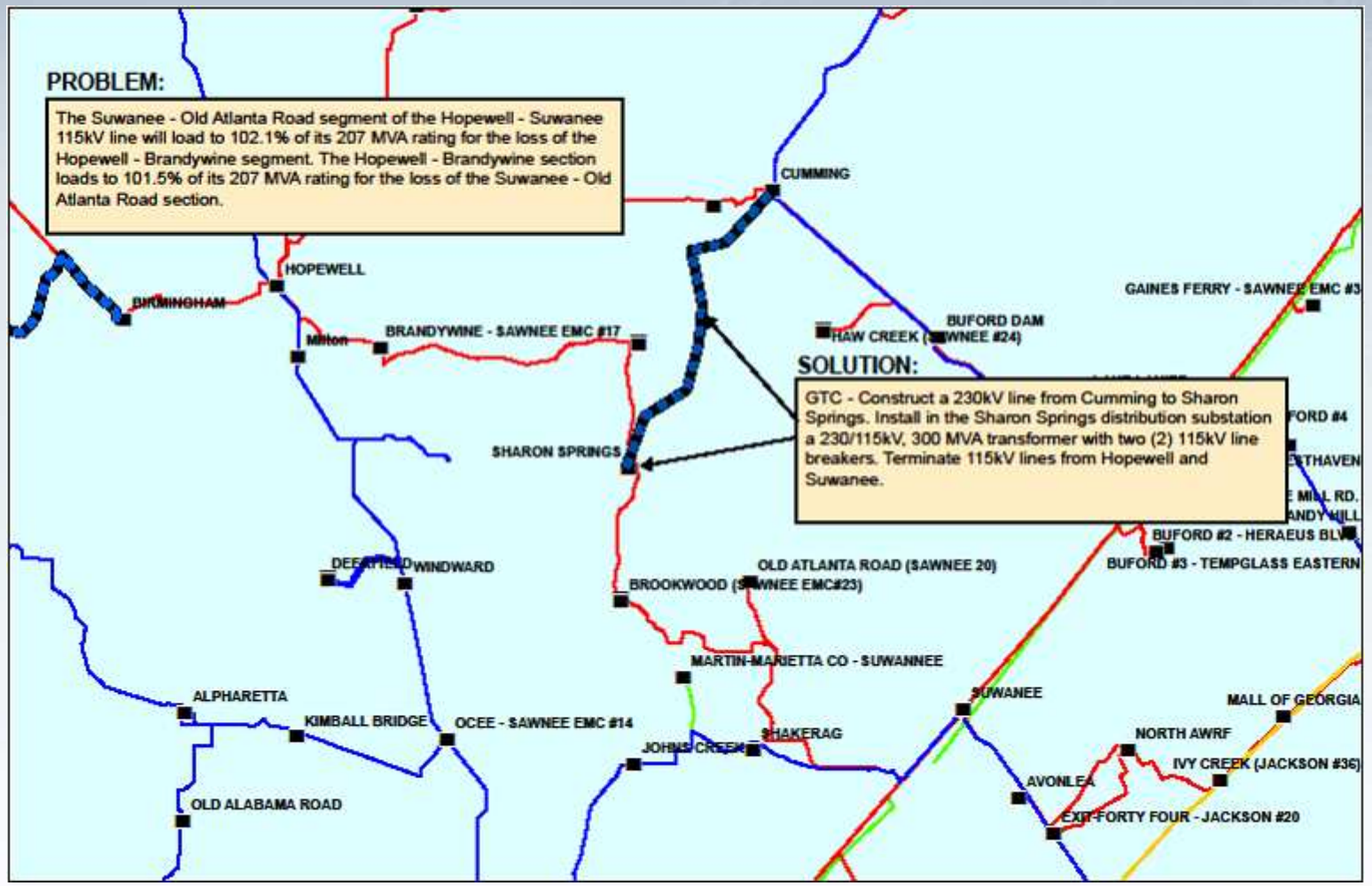
Sharon Springs 230 / 115 kV Substation



- 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

2015 ITS-7

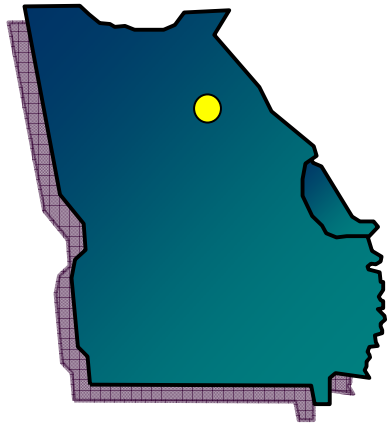


Southeastern Region Transmission Planning

Expansion Item ITS-8

2016 ITS-8

Center Primary – Commerce 115 kV T.L.

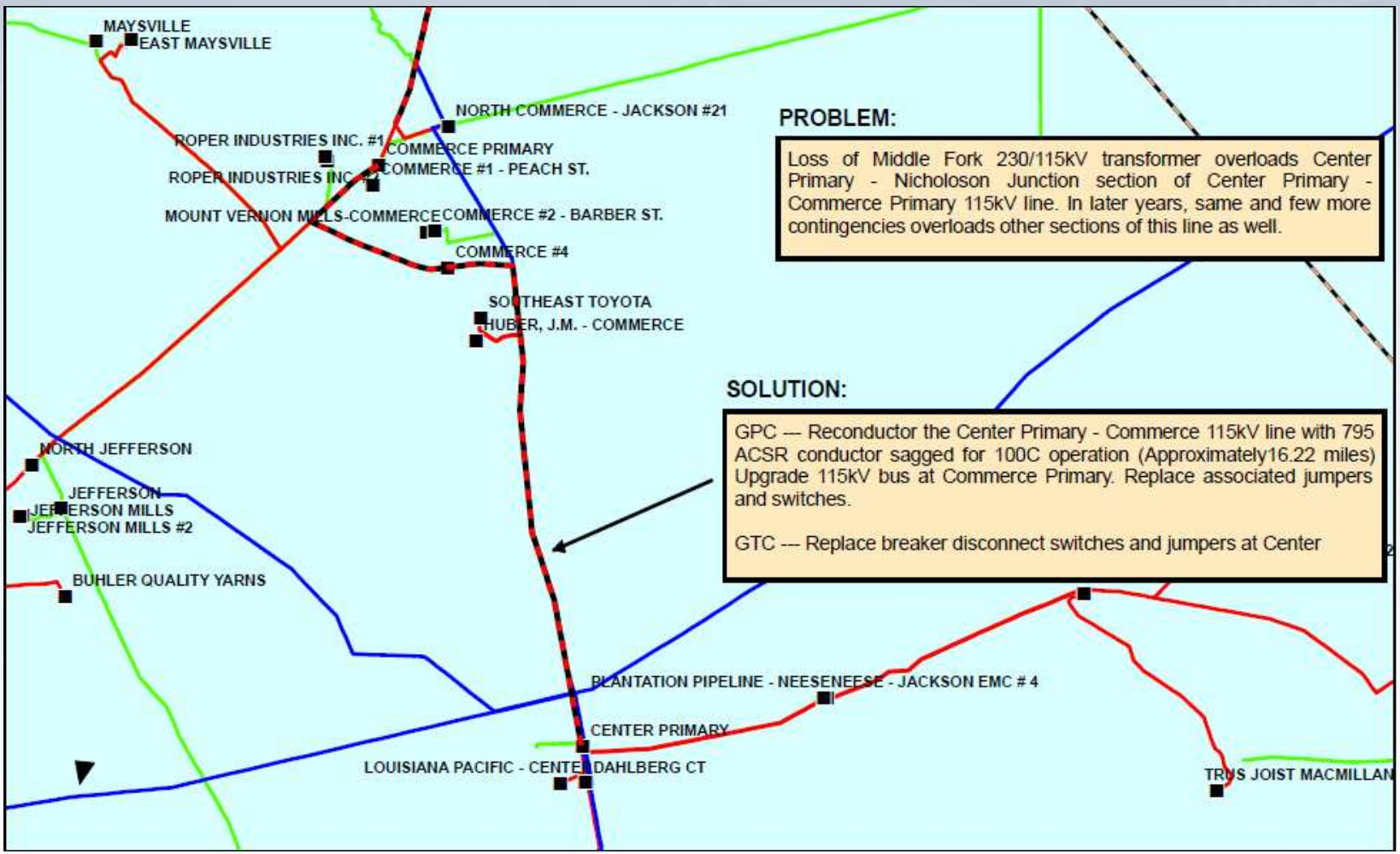


- Reconductor 16.2 miles of 115 kV T.L. from Center Primary to Commerce Primary.

- The loss of the 230 / 115 kV transformer at Middle Fork causes the Center Primary – Commerce Primary 115 kV T.L. to become overloaded.

Center Primary – Commerce 115 kV T.L.

2016 ITS-8



Southeastern Region Transmission Planning

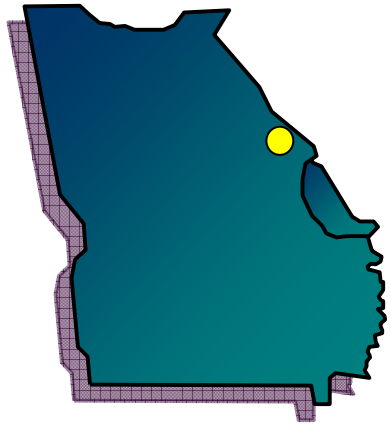
Expansion Item ITS-9

2016 ITS-9

Goshen – Waynesboro 115 kV T.L.

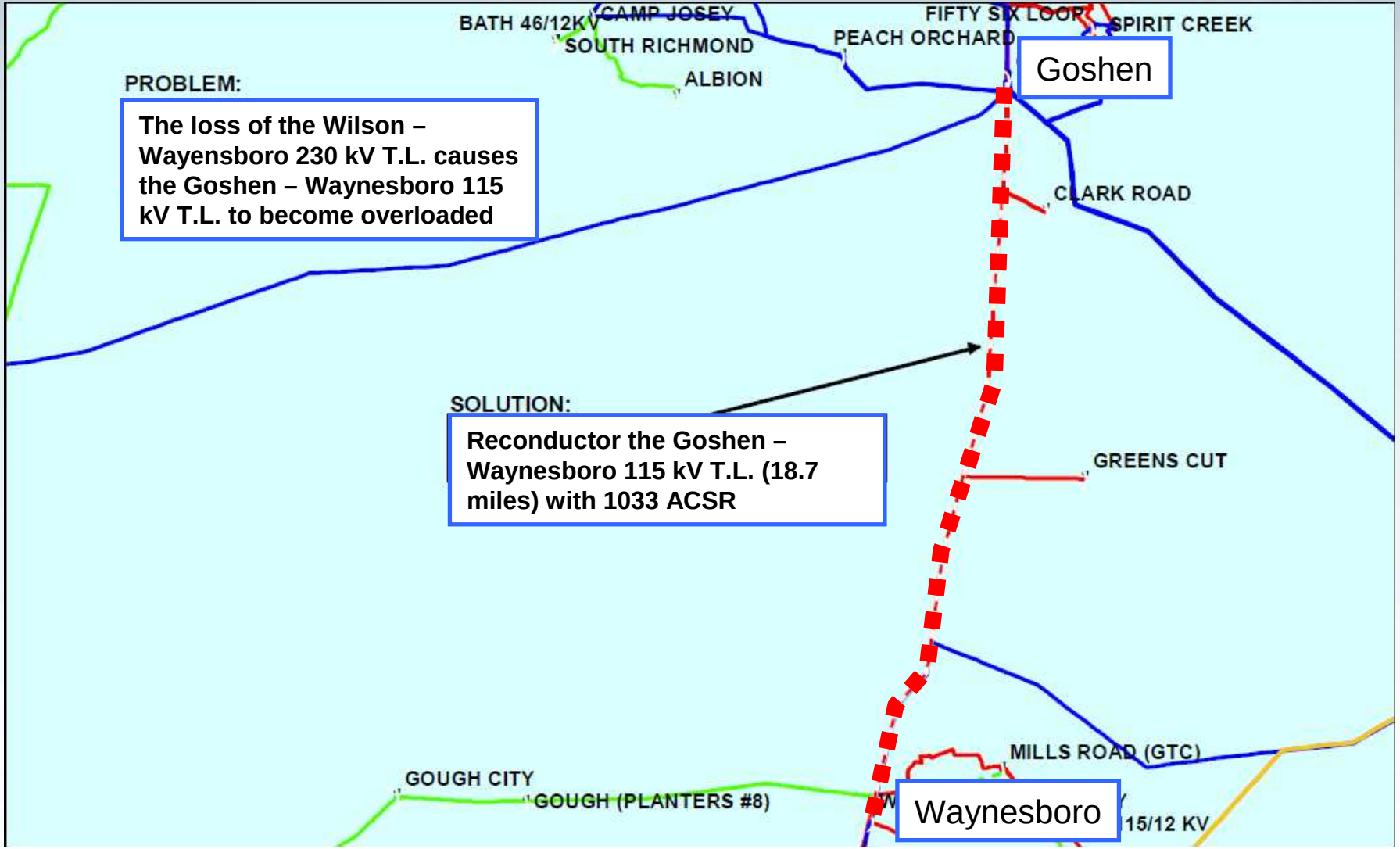
- Reconductor 18.7 miles along the Goshen – Waynesboro 115 kV T.L. with 1033 ACSR.

- 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-9

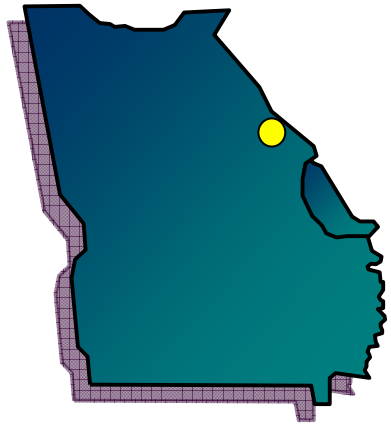


Southeastern Region Transmission Planning

Expansion Item ITS-10

2016 ITS-10

Thomson Primary – Vogtle 500 kV T.L.

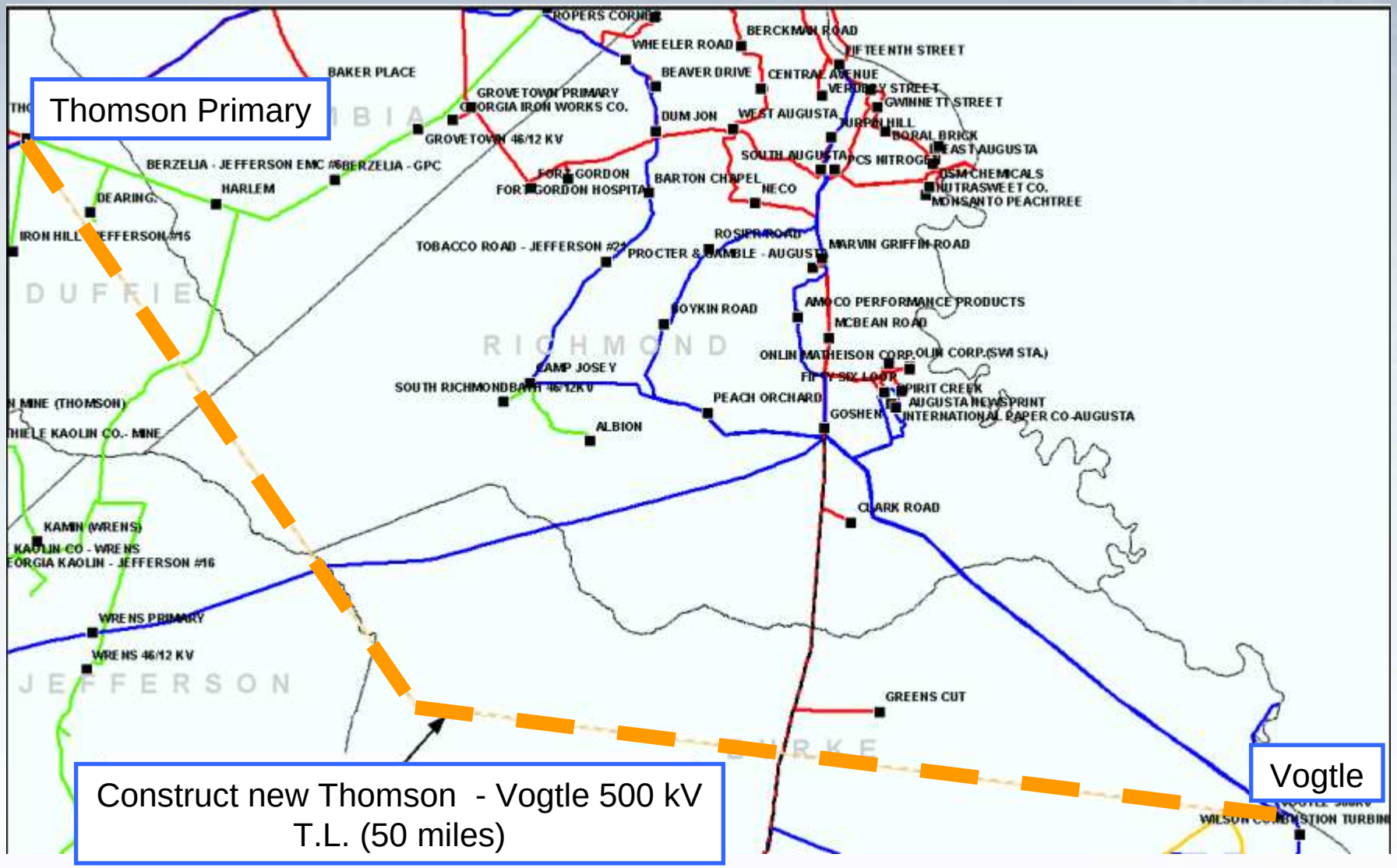


- Construct a 500 kV line from Plant Vogtle to the new Thomson Primary 500 / 230 kV substation.

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

Thomson Primary – Vogtle 500 kV T.L.

2016 ITS-10

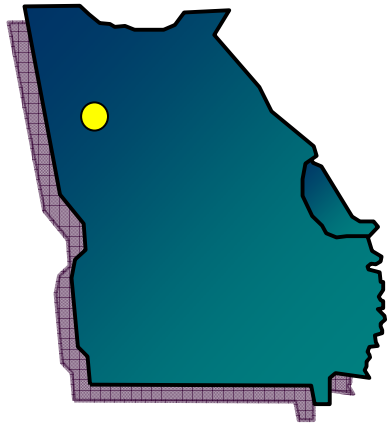


Southeastern Region Transmission Planning

Expansion Item ITS-11

2017 ITS-11

Corn Crib 230 / 115 kV Substation

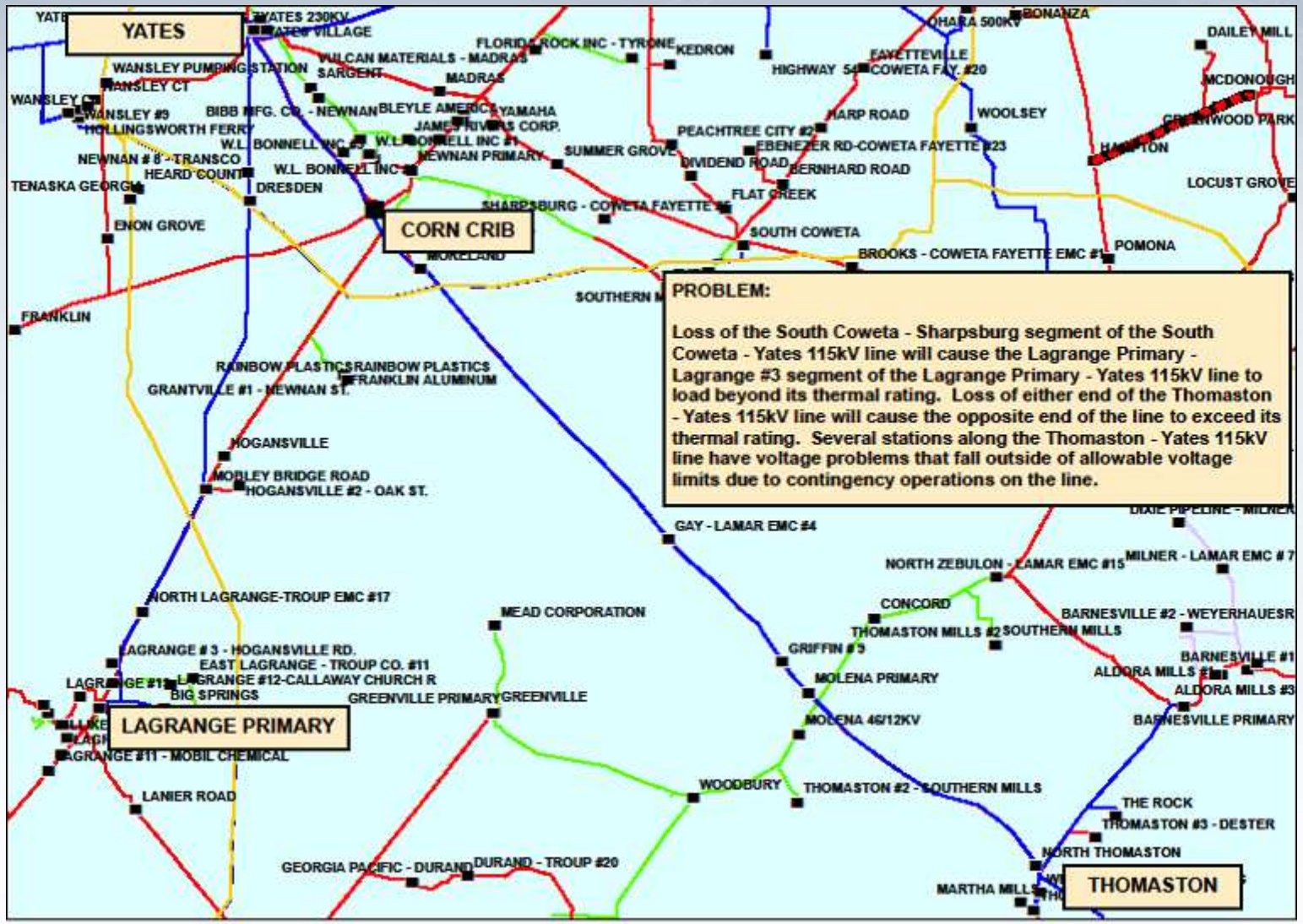


- Construct the Corn Crib 230 / 115 kV substation, looping the Thomaston – Yates 230 kV T.L. and the Thomaston – Yates 115 kV T.L.. Terminate the Yates – Newnan #3 Junction Transmission Line at Corn Crib.

- 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.

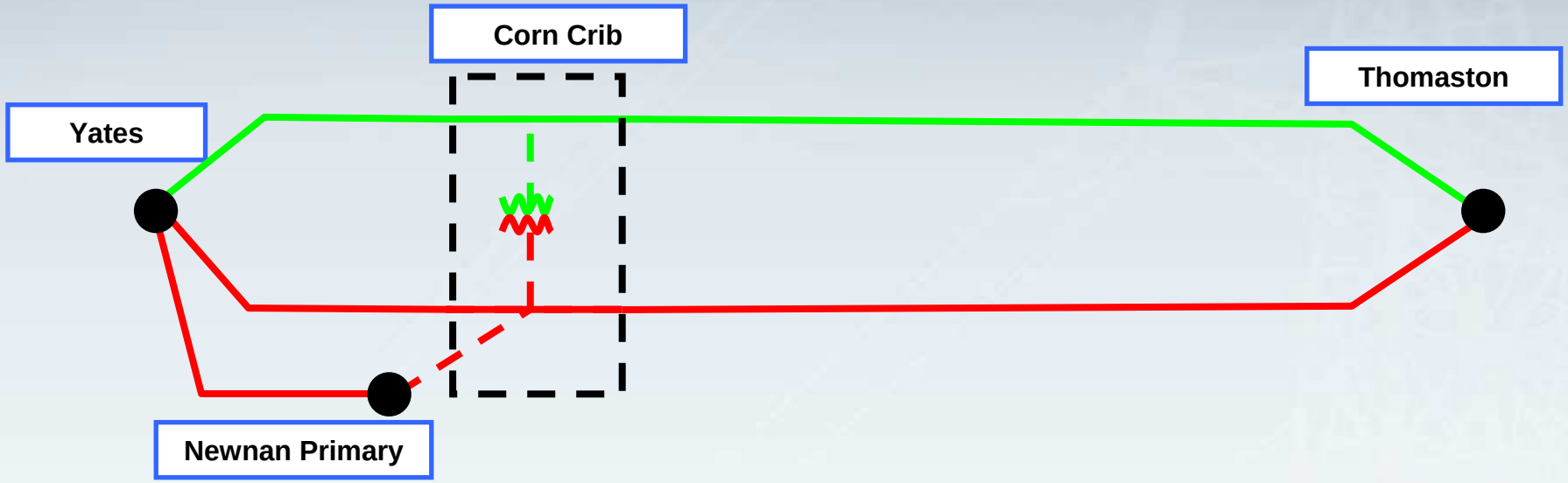
Corn Crib 230 / 115 kV Substation

2017 ITS-11



Corn Crib 230 / 115 kV Substation

2017 ITS-11

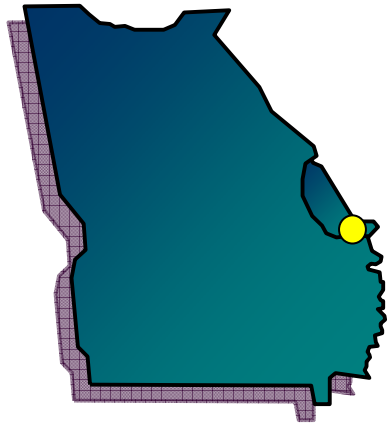


Southeastern Region Transmission Planning

Expansion Item ITS-12

2017 ITS-12

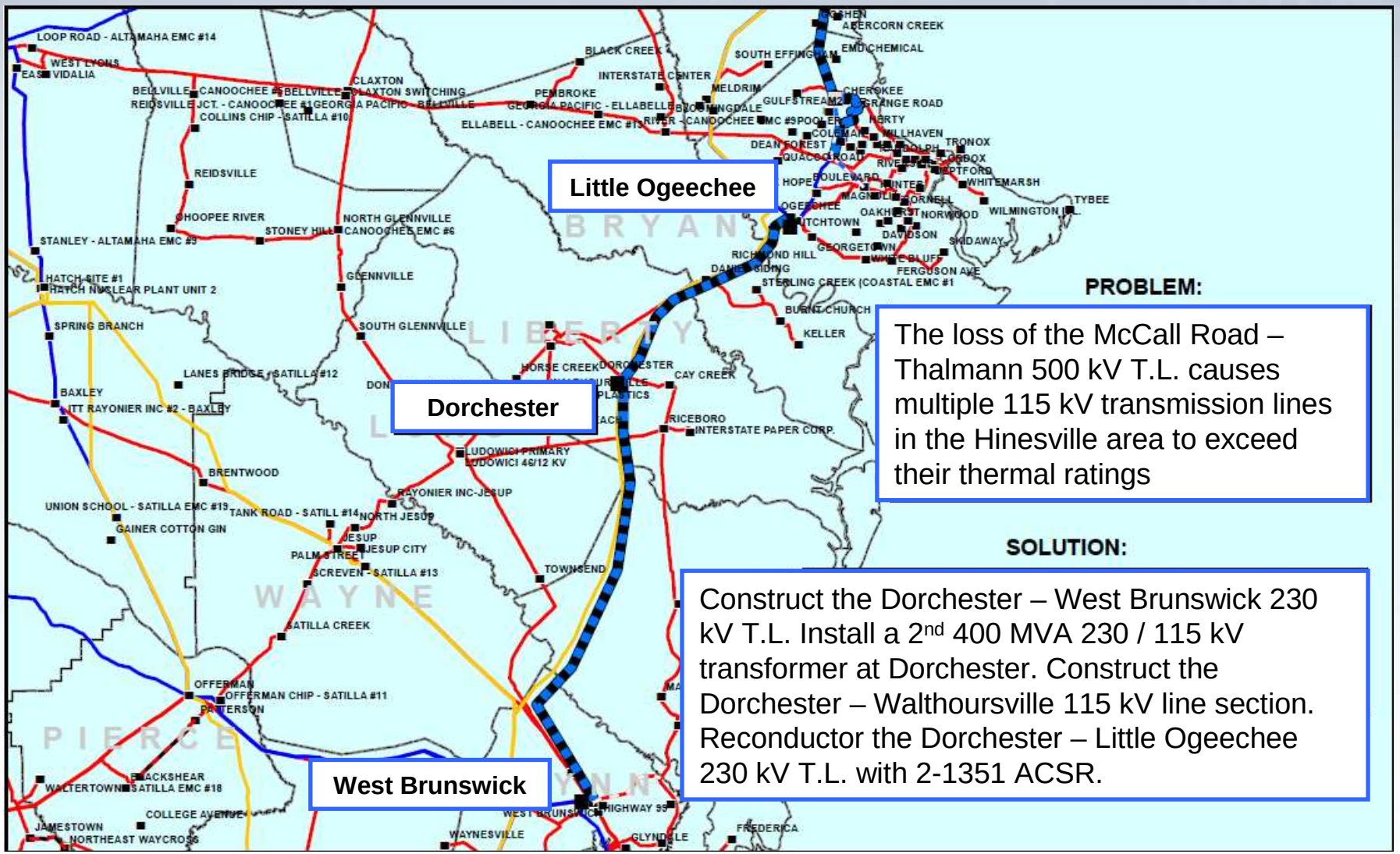
Dorchester 230 kV Project



- Construct a 45 mile 230 kV T.L. from Dorchester to West Brunswick.
- Install a second 230 / 115 kV transformer and 230 kV capacitor bank at Dorchester.
- Reconductor Dorchester – Little Ogeechee 230 kV T.L.
- This project is to alleviate multiple thermal overloads for various contingencies in the Savannah, Georgia area.

Dorchester 230 kV Project

2017 ITS-12

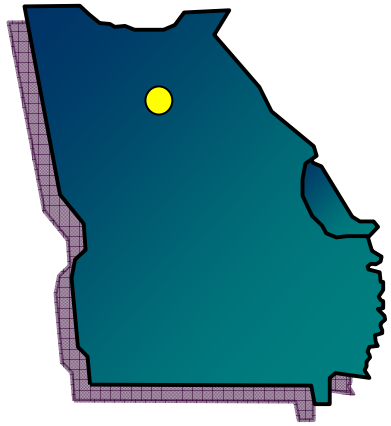


Southeastern Region Transmission Planning

Expansion Item ITS-13

2017 ITS-13

Lawrenceville – Winder 230 kV T.L.

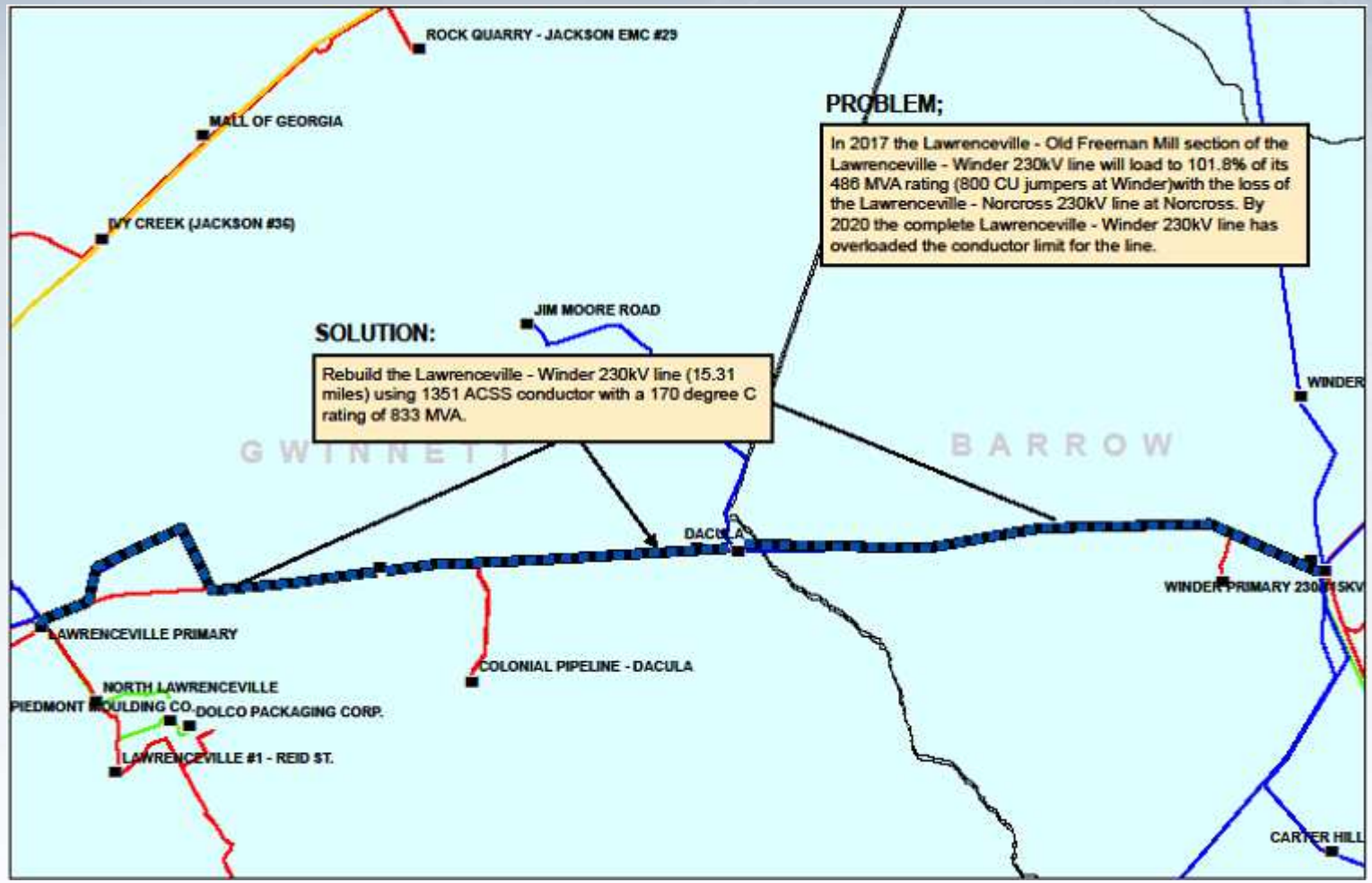


- Rebuild approximately 15.3 miles along the Lawrenceville – Winder 230 kV T.L. with 1351 ACSS at 170 ºC.

- The loss of the Norcross end of the Lawrenceville – Norcross 230 kV T.L. will overload the Lawrenceville – Old Freeman Mill section of the Lawrenceville – Winder 230 kV Transmission Line.

Lawrenceville – Winder 230 kV T.L.

2017 ITS-13

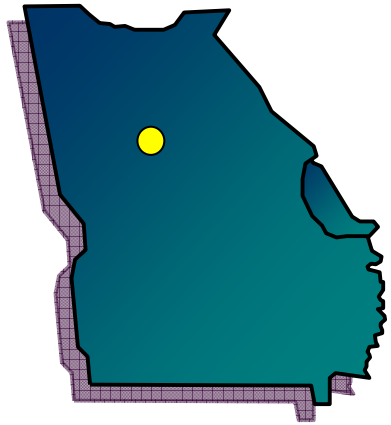


Southeastern Region Transmission Planning

Expansion Item ITS-14

2018 ITS-14

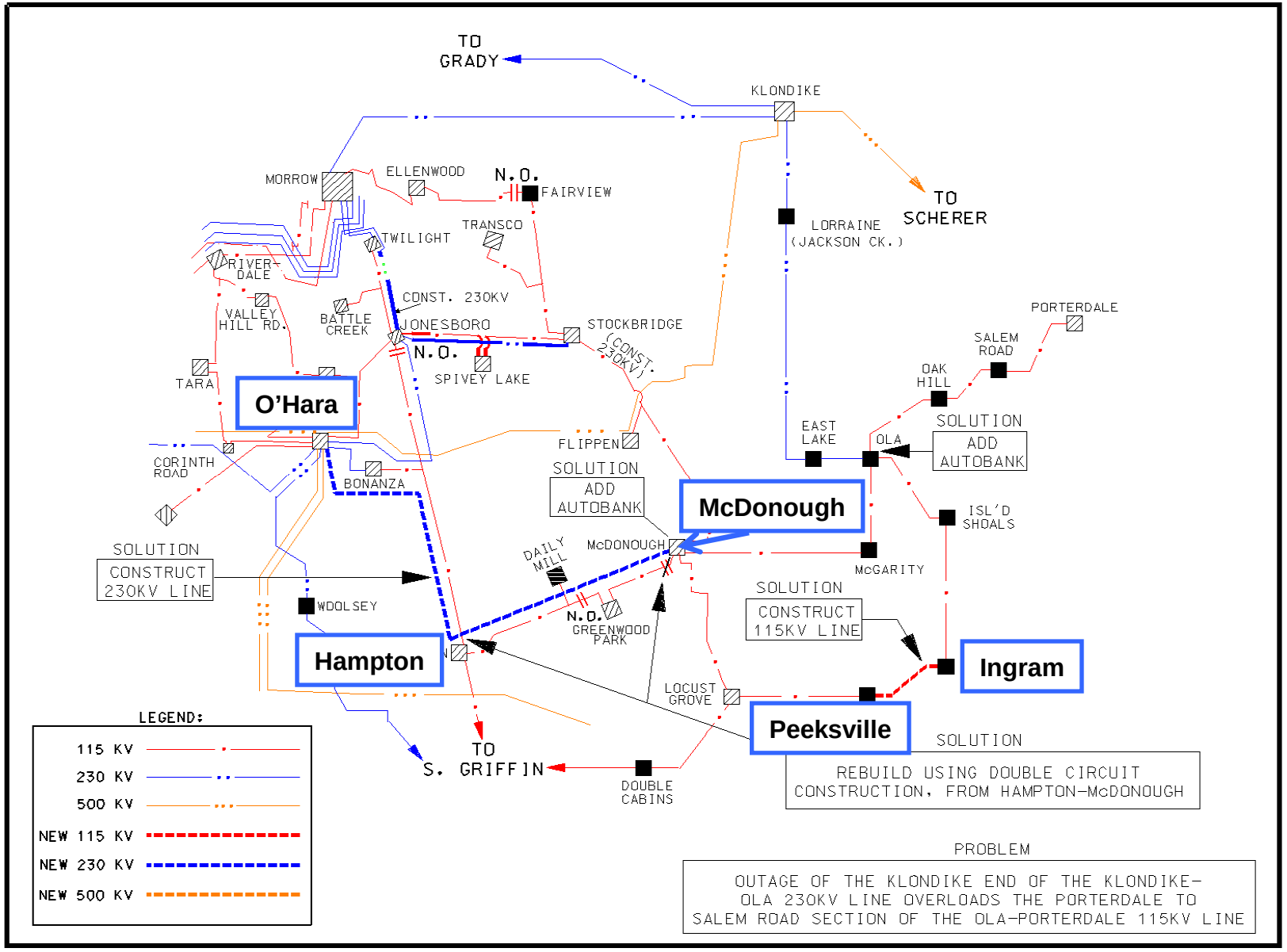
South Metro Phase-III Project



- 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

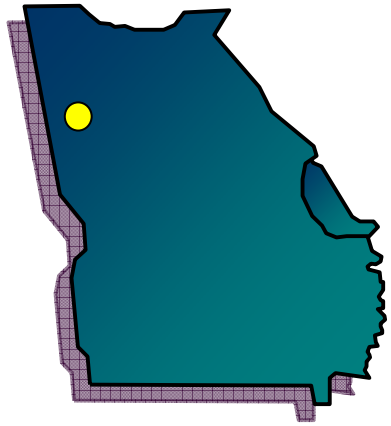
2018 ITS-14



Southeastern Region Transmission Planning

Expansion Item ITS-15

2018 ITS-15



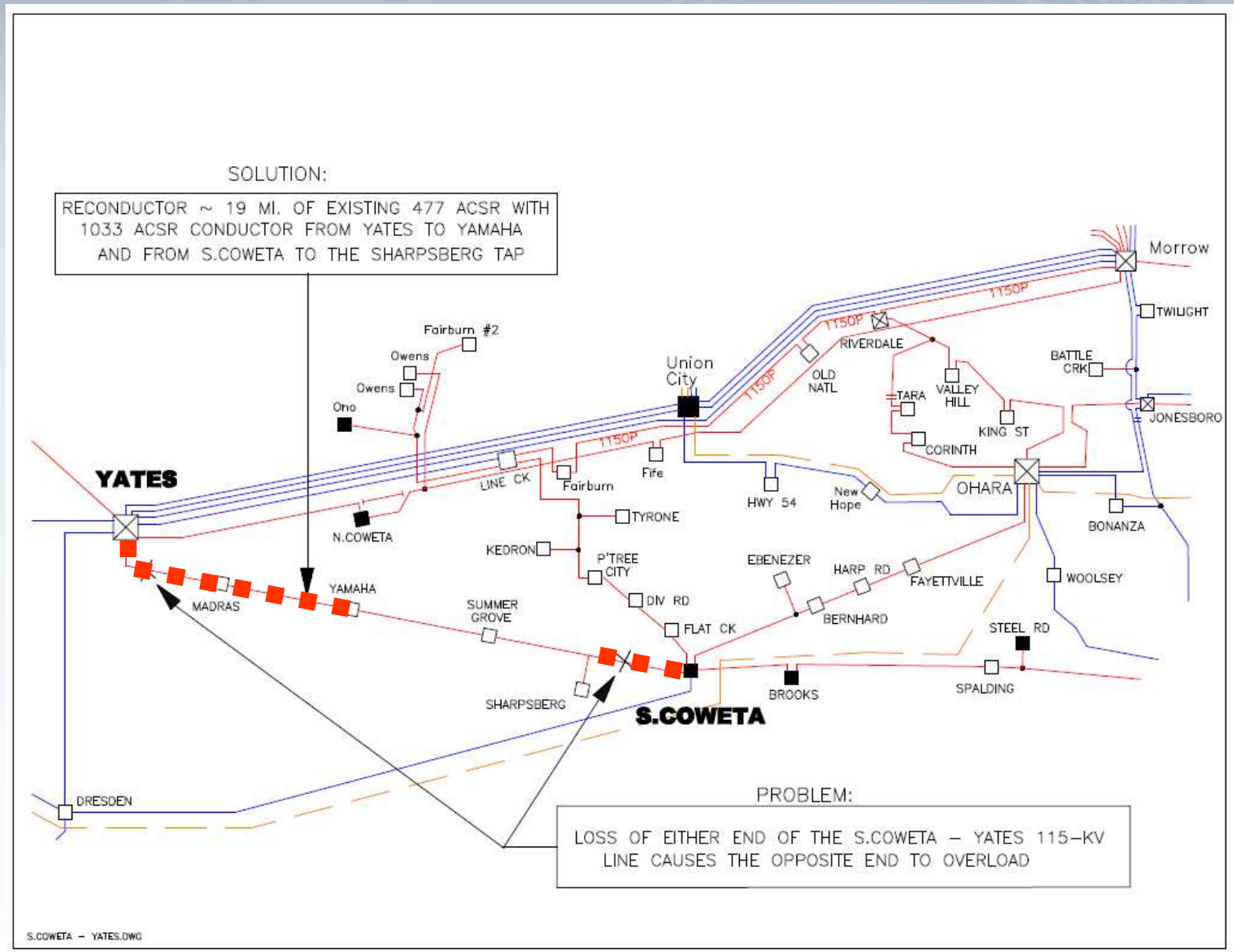
South Coweta – Yates 115 kV Transmission Line

- Reconductor approximately 19 miles consisting of multiple sections of the South Coweta – Yates 115 kV T.L.

- For the loss of either end of the South Coweta – Yates 115 kV T.L., with Yates Unit #3 offline, sections of the South Coweta – Yates 115 kV T.L. become overloaded.

South Coweta – Yates 115 kV T.L.

2018 ITS-15

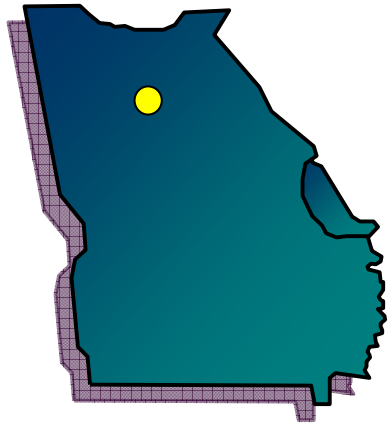


Southeastern Region Transmission Planning

Expansion Item ITS-16

2018 ITS-16

Hopewell – McGrau Ford 2nd 230 kV Line

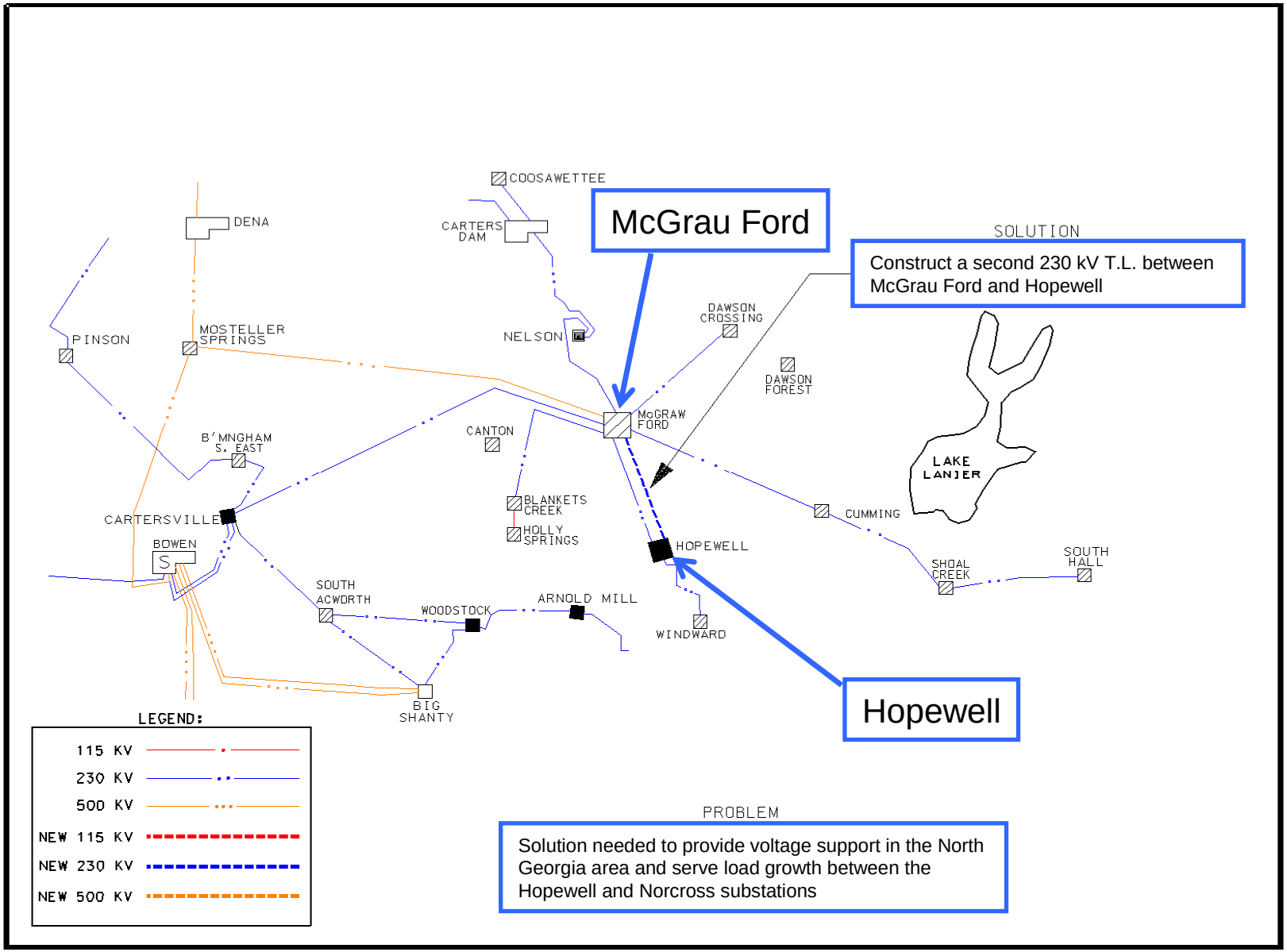


- Construct a second 230 kV Transmission Line between McGrau Ford and Hopewell.

- This project alleviates thermal overloads on the Norcross – Ocee 230 kV T.L. and provides additional voltage support for the North Georgia area.

Hopewell – McGrau Ford 2nd 230 kV

2018 ITS-16

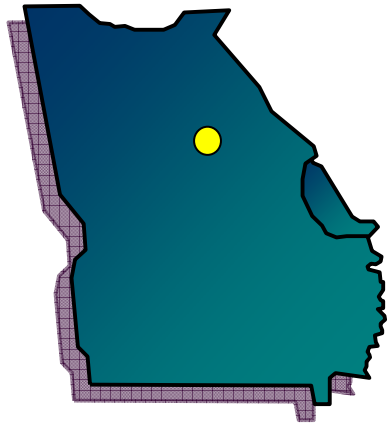


Southeastern Region Transmission Planning

Expansion Item ITS-17

2019 ITS-17

Branch – West Milledgeville 230 kV T.L.

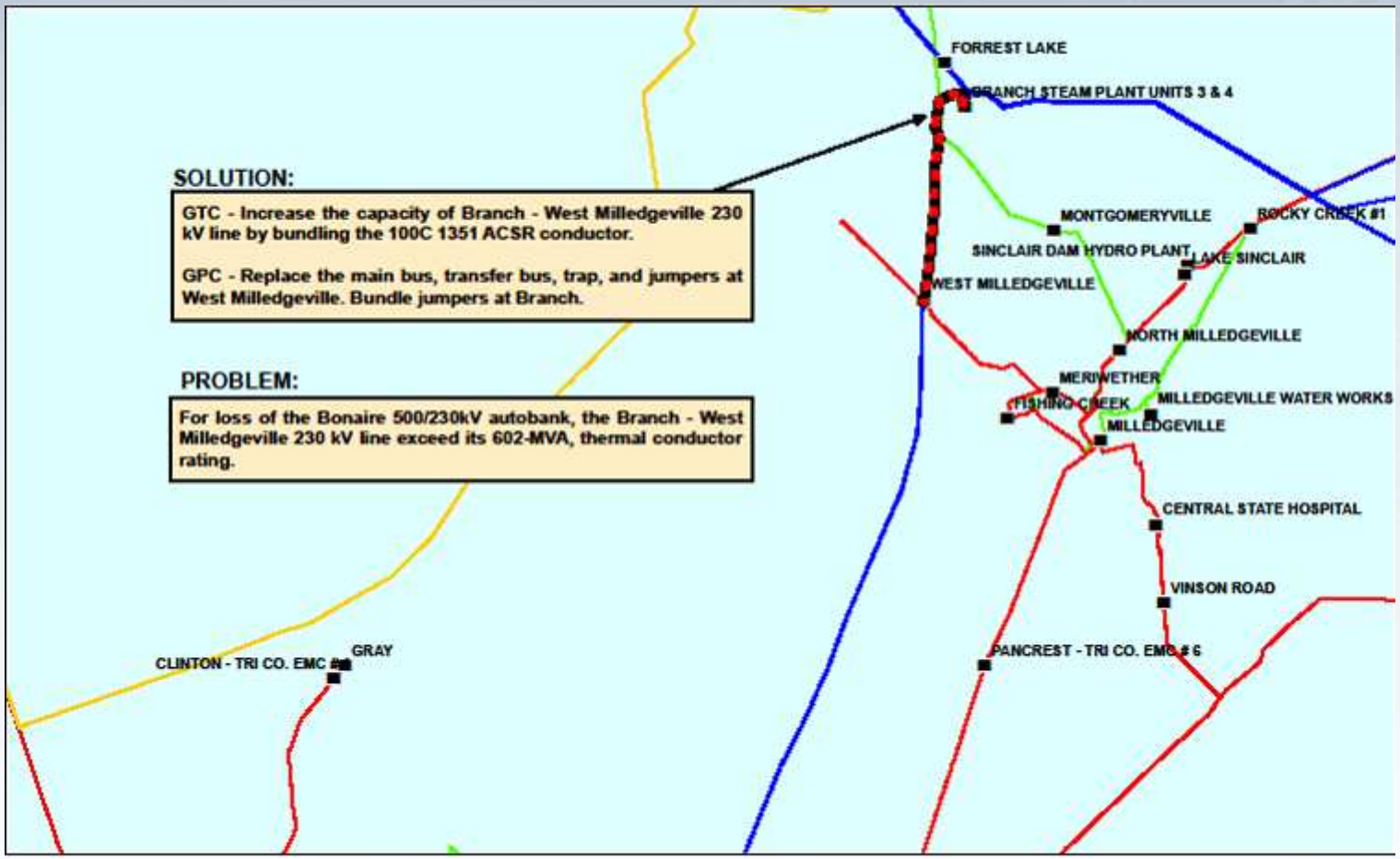


- Bundle the Branch – West Milledgeville 230 kV T.L. with 2-1351 ACSR at 100 ºC.

- With Hatch Unit #1 offline, the loss of the Bonaire – Scherer 500 kV T.L. causes the Branch – West Milledgeville 230 kV T.L. to become overloaded.

Branch – West Milledgeville 230 kV T.L.

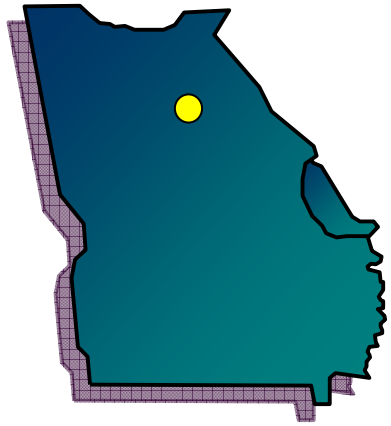
2019 ITS-17



Southeastern Region Transmission Planning

Expansion Item ITS-18

2020 ITS-18

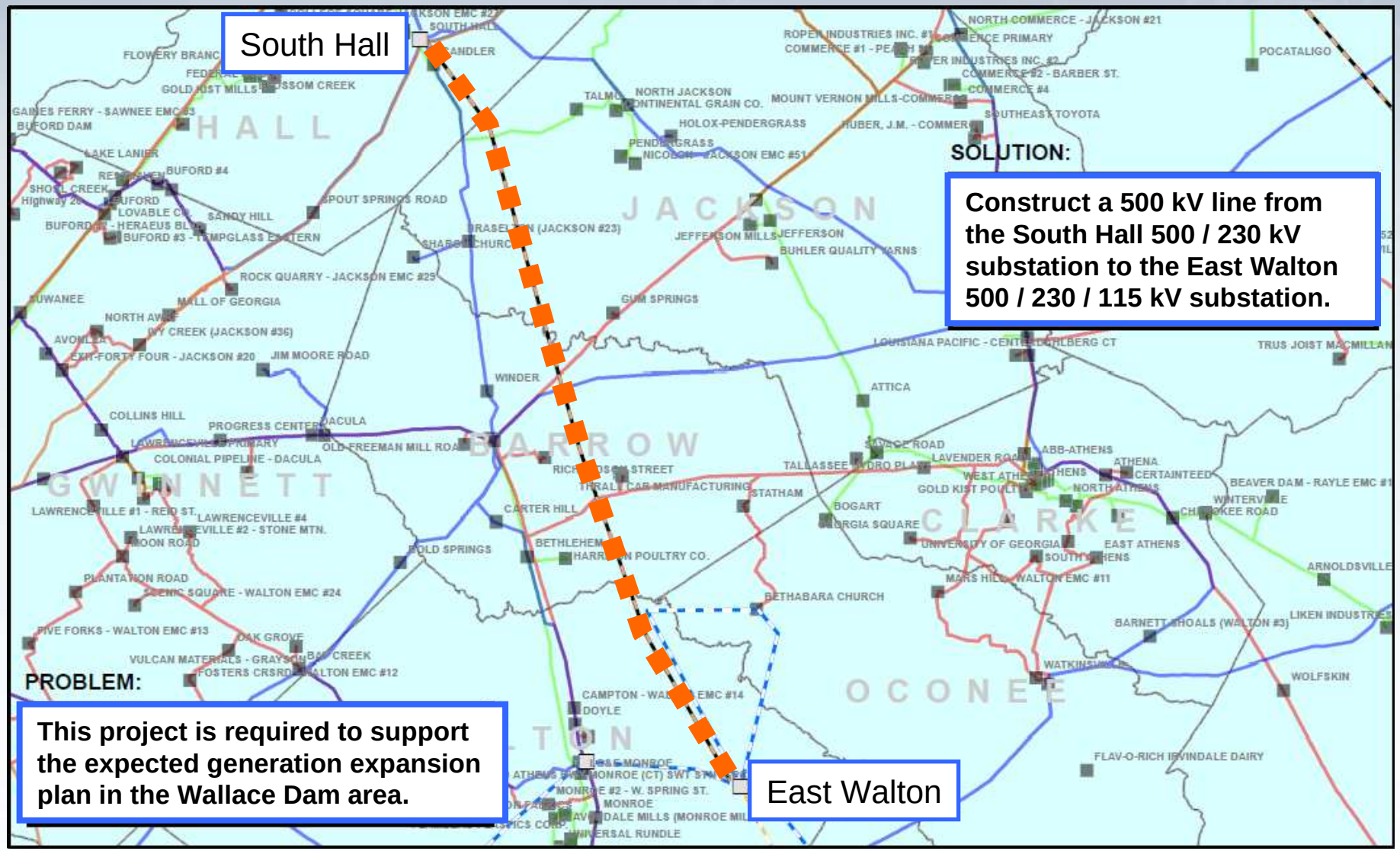


East Walton – South Hall 500 kV Transmission Line

- Construct a 500 kV T.L. from South Hall to East Walton.
- Required to support generation expansion in the central Georgia area.

East Walton – South Hall 500 kV T.L.

2020 ITS-18



Questions?