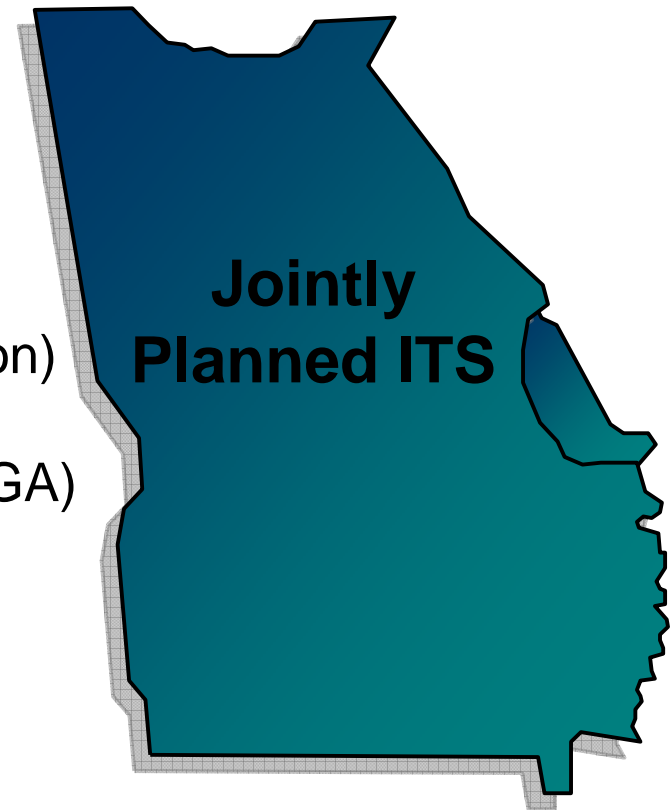


East

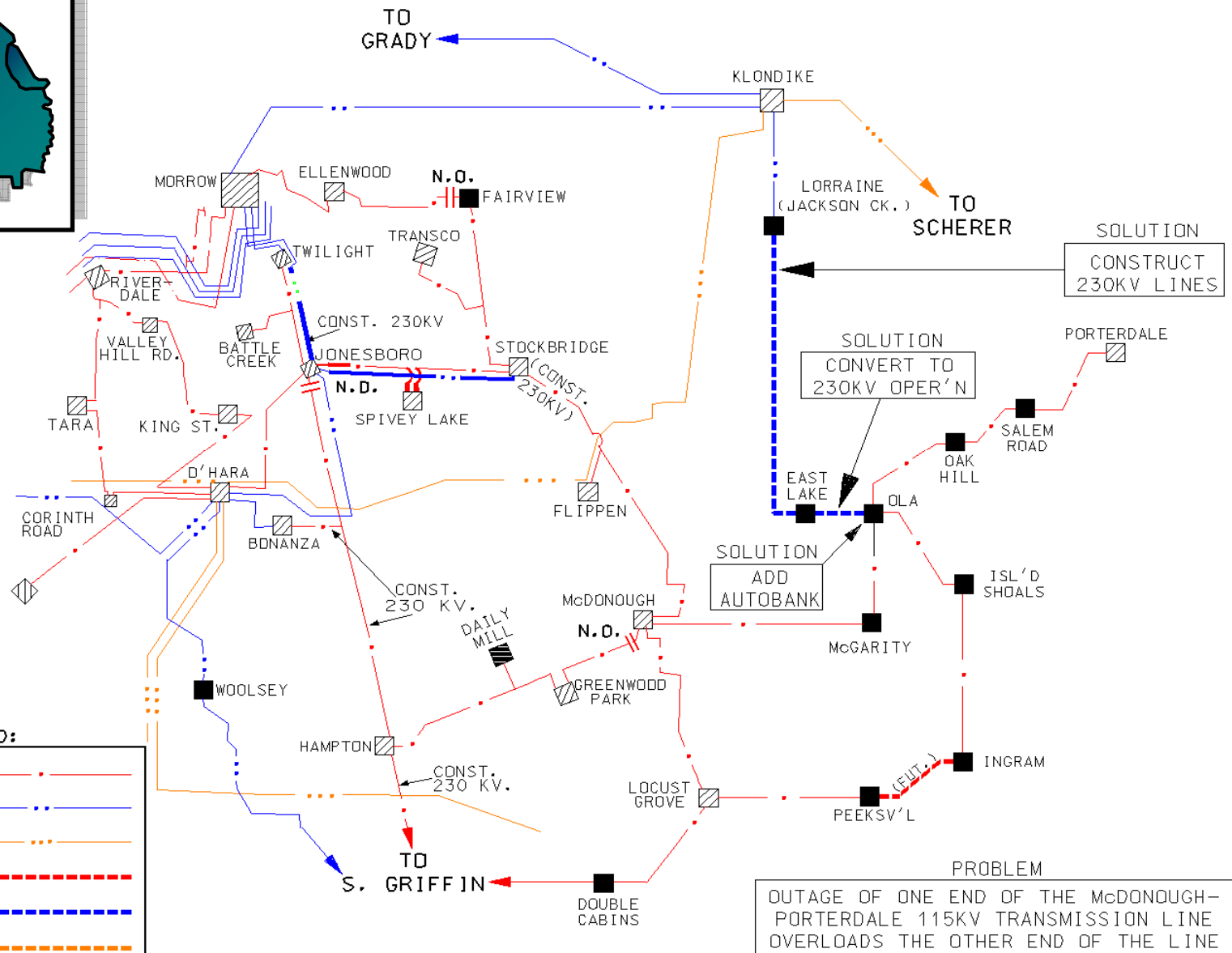
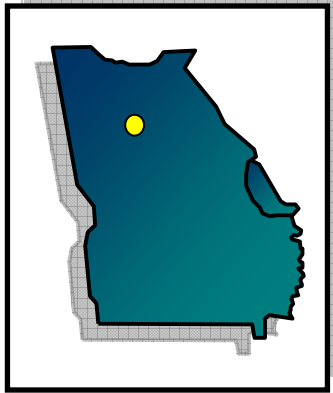
Georgia Integrated Transmission System (ITS)

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



Ola 230/115-kV Project

2010 ITS-1



North Americus Series Reactors

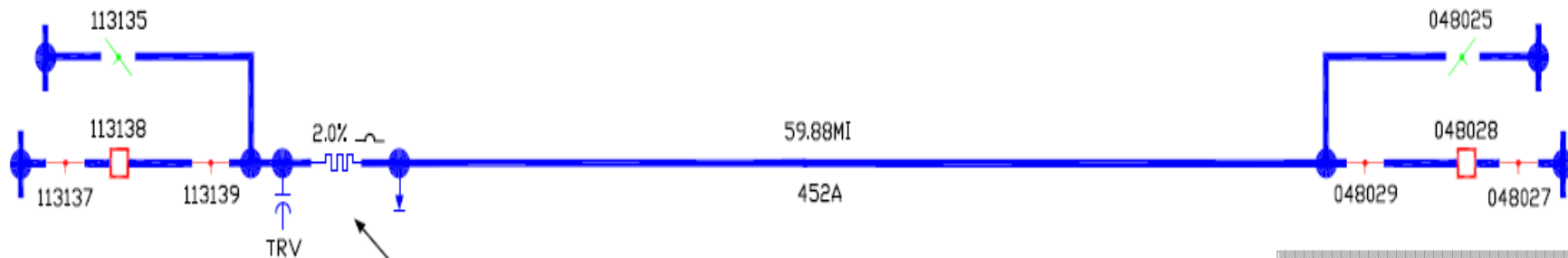
2010 ITS-2a

Problem:

In 2010, The North Americus - North Tifton 230kV line can exceed its 220 MVA thermal rating for the loss of the North Tifton 500/230kV transformer during a outage of the Hatch #1 generating unit.

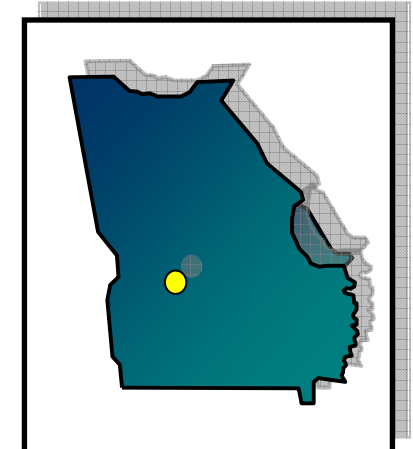
NORTH AMERICUS (GTC)
(N4-102)

NORTH TIFTON
(Q6-106)



Solution:

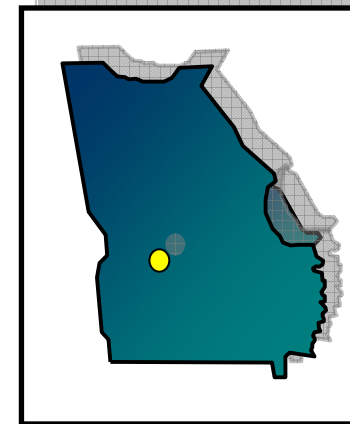
Install a 2% current limiting reactor at North Americus on the North Americus - North Tifton 230kV line.



2010 ITS-2b

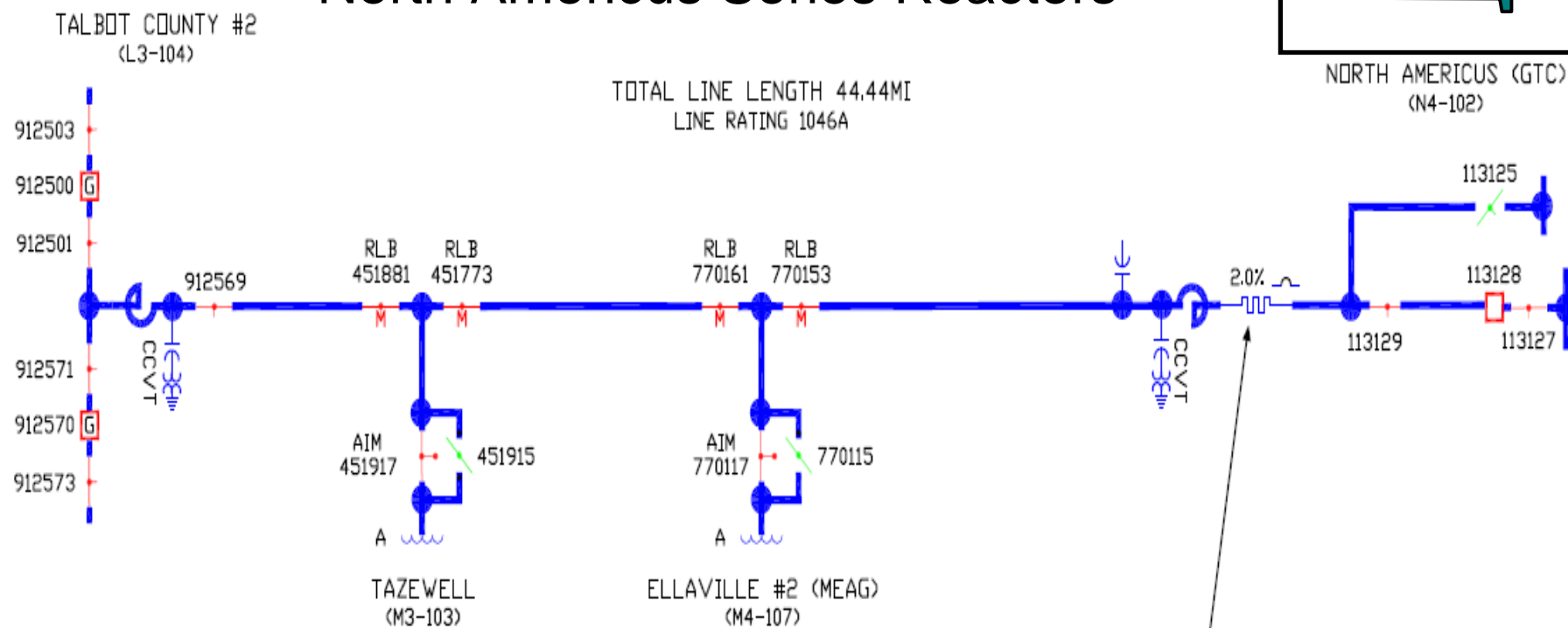
Problem:

In 2010, The Tazwell - Talbot County #2 line section of the North Americus - Talbot County #2 230kV line can exceed its 433MVA line rating for a loss of the Fortson - N. Tifton 500kV line during a outage of Hatch #2 generating unit.



NORTH AMERICUS (GTC)
(N4-102)

North Americus Series Reactors

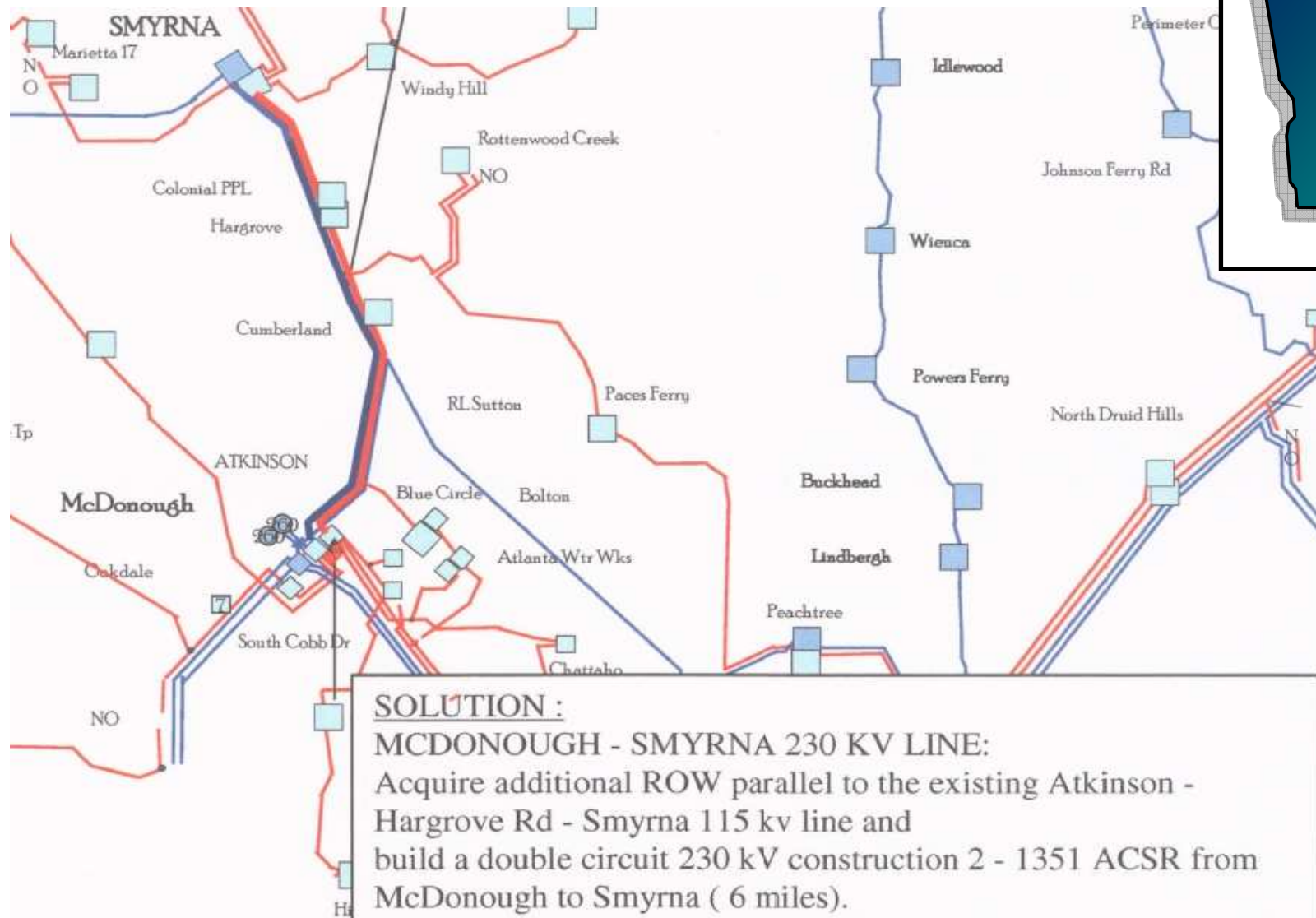
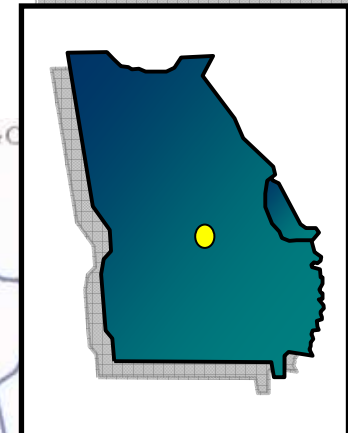


Solution:

Install a 2% current limiting reactor at North Americus on the North Americus - North Talbot County #2 230kV line.

2010 ITS-3

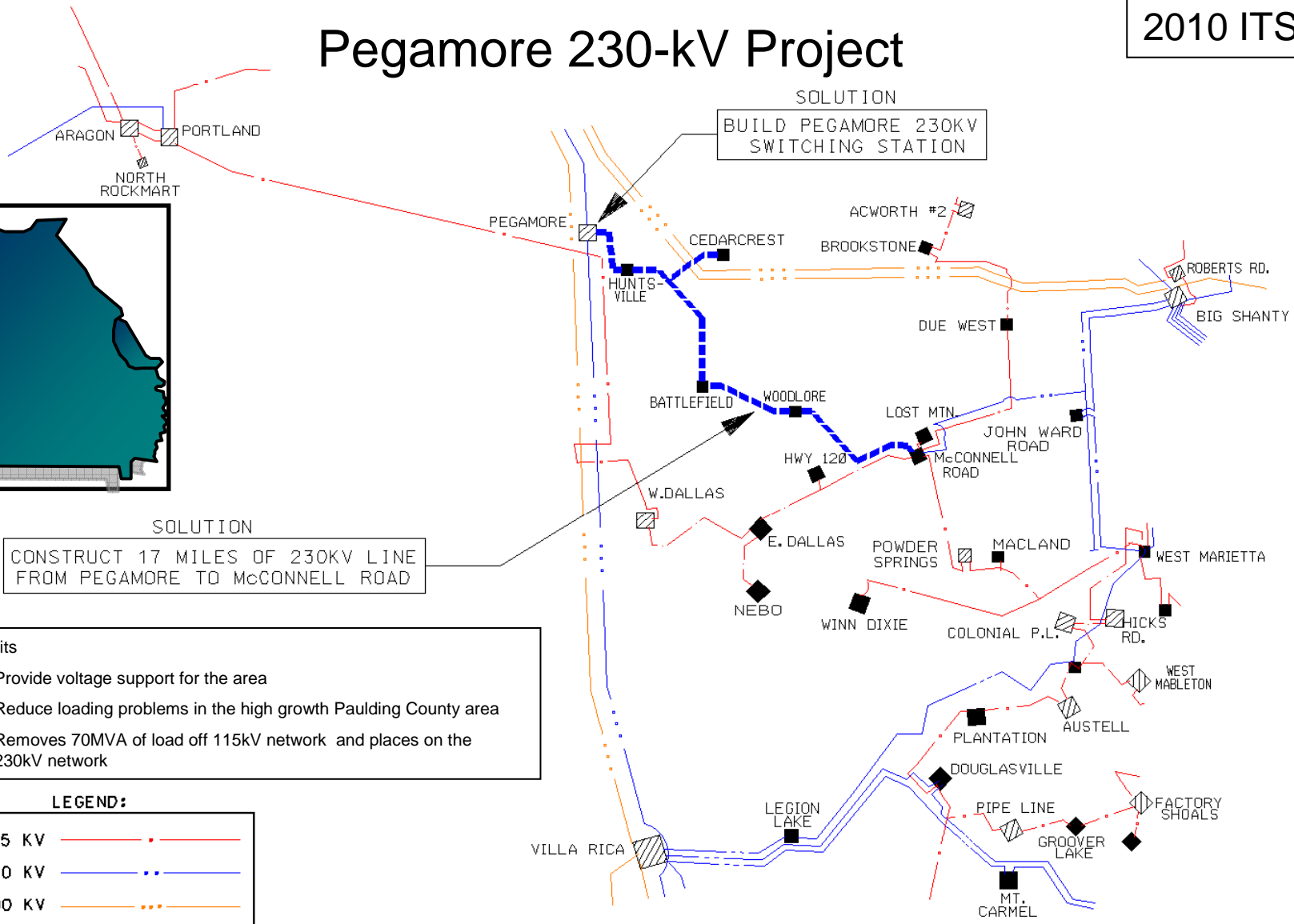
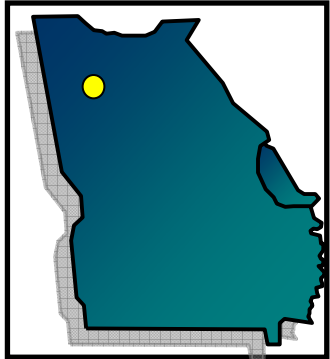
McDonough – Smyrna 230 kV Line



SOLUTION :
MCDONOUGH - SMYRNA 230 KV LINE:
Acquire additional ROW parallel to the existing Atkinson - Hargrove Rd - Smyrna 115 kv line and build a double circuit 230 kV construction 2 - 1351 ACSR from McDonough to Smyrna (6 miles).

The west side of the line will be operated at 230 kV – the east side replaces the existing 115 kV line

Pegamore 230-kV Project



SOLUTION
BUILD PEGAMORE 230KV SWITCHING STATION

SOLUTION
CONSTRUCT 17 MILES OF 230KV LINE FROM PEGAMORE TO McCONNELL ROAD

- Benefits**
- Provide voltage support for the area
 - Reduce loading problems in the high growth Paulding County area
 - Removes 70MVA of load off 115kV network and places on the 230kV network

LEGEND:

115 KV	— · — · — ·
230 KV	— · · — · · — · ·
500 KV	— · · · — · · · — · · ·
NEW 115 KV	- - - - -
NEW 230 KV	- - - - -
NEW 500 KV	- - - - -

PROBLEM
OUTAGE OF THE McCONNELL ROAD 230/115KV TRANSFORMER CAUSES A THERMAL OVERLOAD ON THE PORTLAND-HUNTSVILLE JUNCTION 115KV LINE

Thomson 500/230kV Project

2010 ITS-5



SOLUTION
 REPLACE 140 MVA 230/115KV
 TRANSFORMER W/300 MVA
 (1) 1344 MVA 500/230
 TRANSFORMER

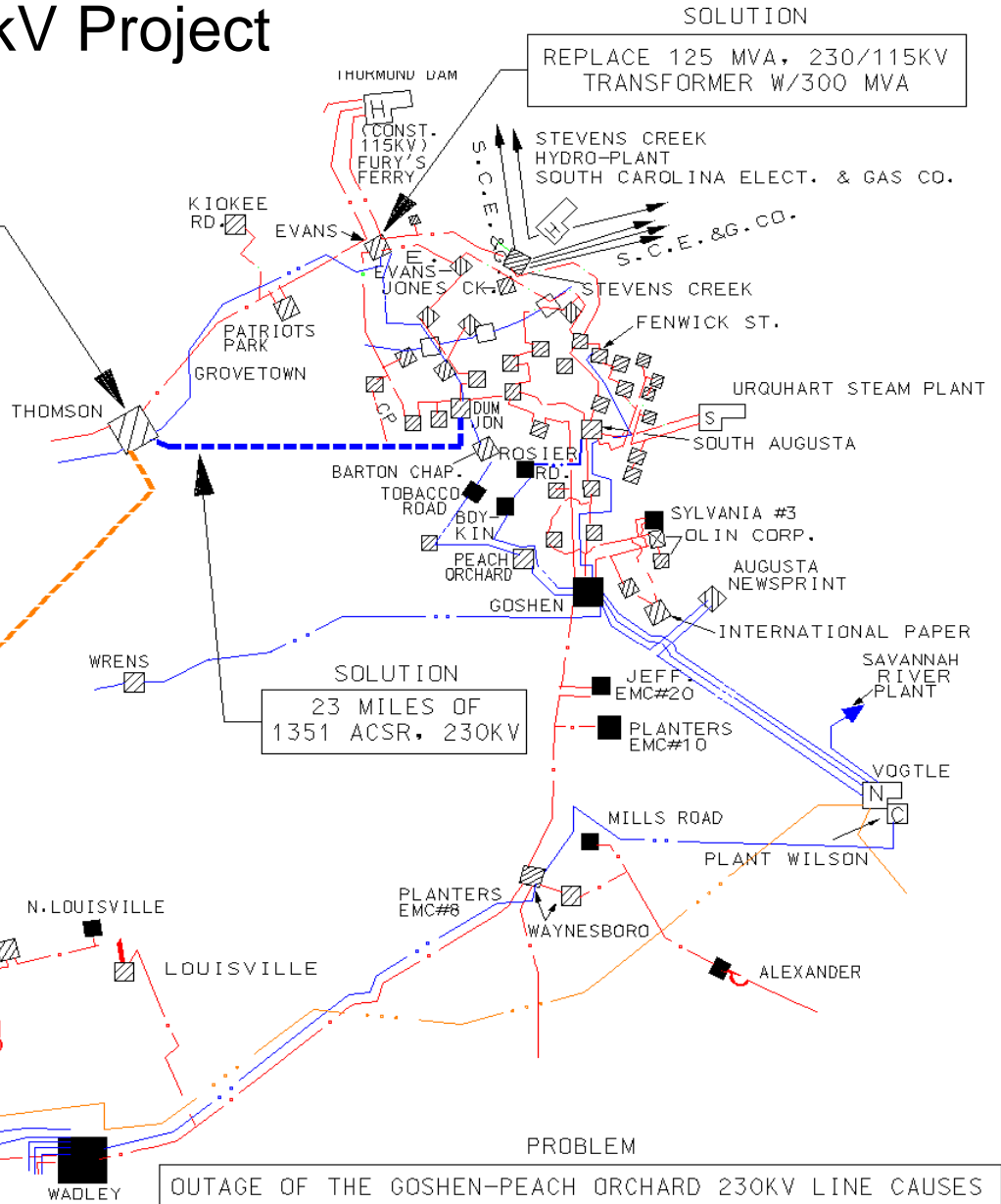
SOLUTION
 GTC TO BUILD
 35 MILES

RELOCATE 500KV LINE

TO
 SCHERER

LEGEND:

115 KV	
230 KV	
500 KV	
NEW 115 KV	
NEW 230 KV	
NEW 500 KV	



SOLUTION
 REPLACE 125 MVA, 230/115KV
 TRANSFORMER W/300 MVA

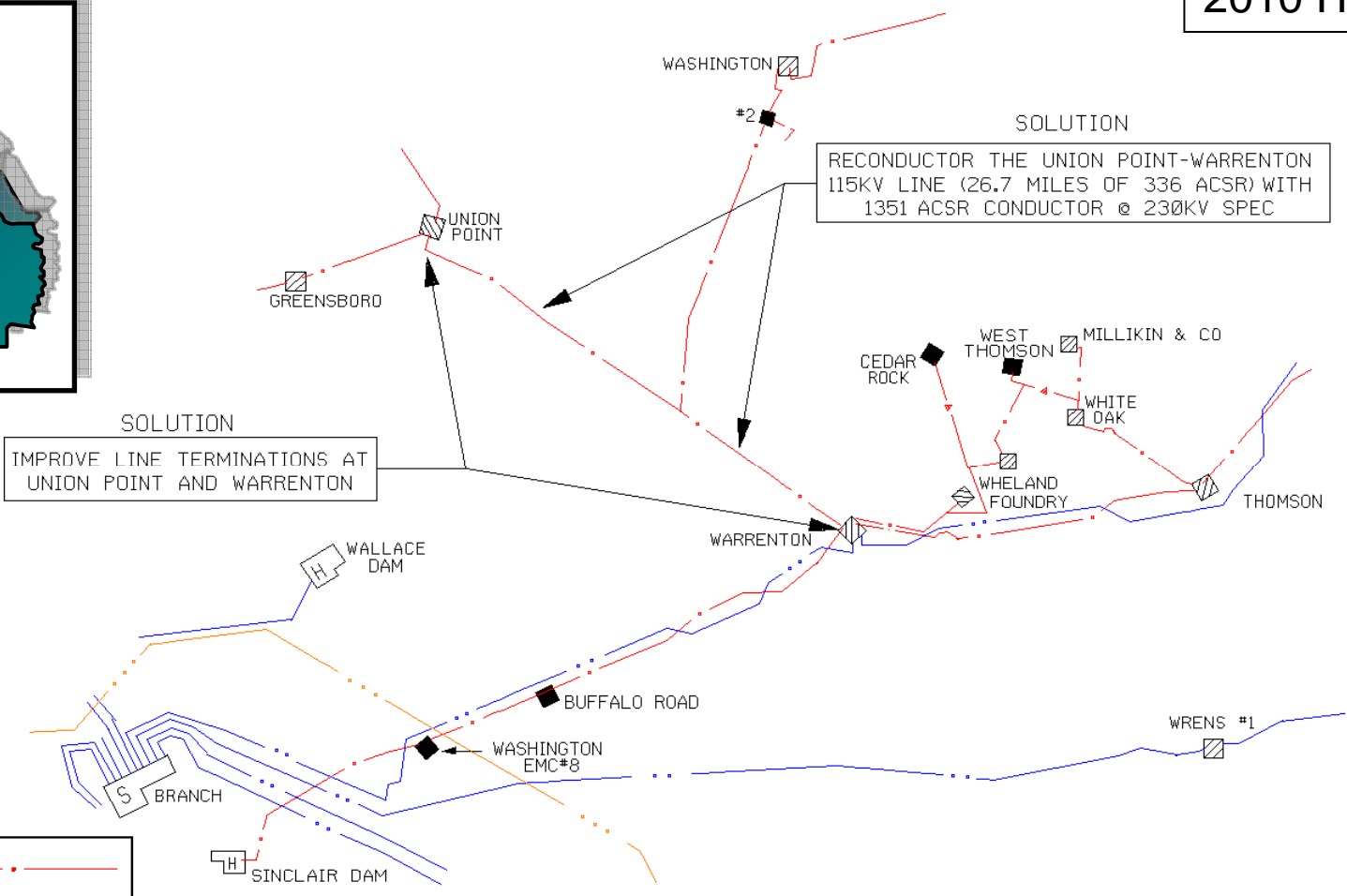
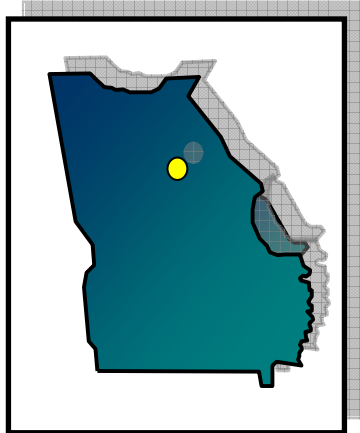
STEVENS CREEK
 HYDRO-PLANT
 SOUTH CAROLINA ELECT. & GAS CO.

SOLUTION
 23 MILES OF
 1351 ACSR, 230KV

PROBLEM
 OUTAGE OF THE GOSHEN-PEACH ORCHARD 230KV LINE CAUSES
 THE DUM JON-WEST AUGUSTA 115KV LINE TO OVERLOAD
 OUTAGE OF THE GOSHEN 230KV BUS #1 CAUSES THE
 GOSHEN-VOGTLE 230KV BLACK LINE TO OVERLOAD

Union Point - Warrenton 115 kV Reconductoring

2010 ITS-6



SOLUTION
IMPROVE LINE TERMINATIONS AT UNION POINT AND WARRENTON

SOLUTION
RECONDUCTOR THE UNION POINT-WARRENTON 115KV LINE (26.7 MILES OF 336 ACSR) WITH 1351 ACSR CONDUCTOR @ 230KV SPEC

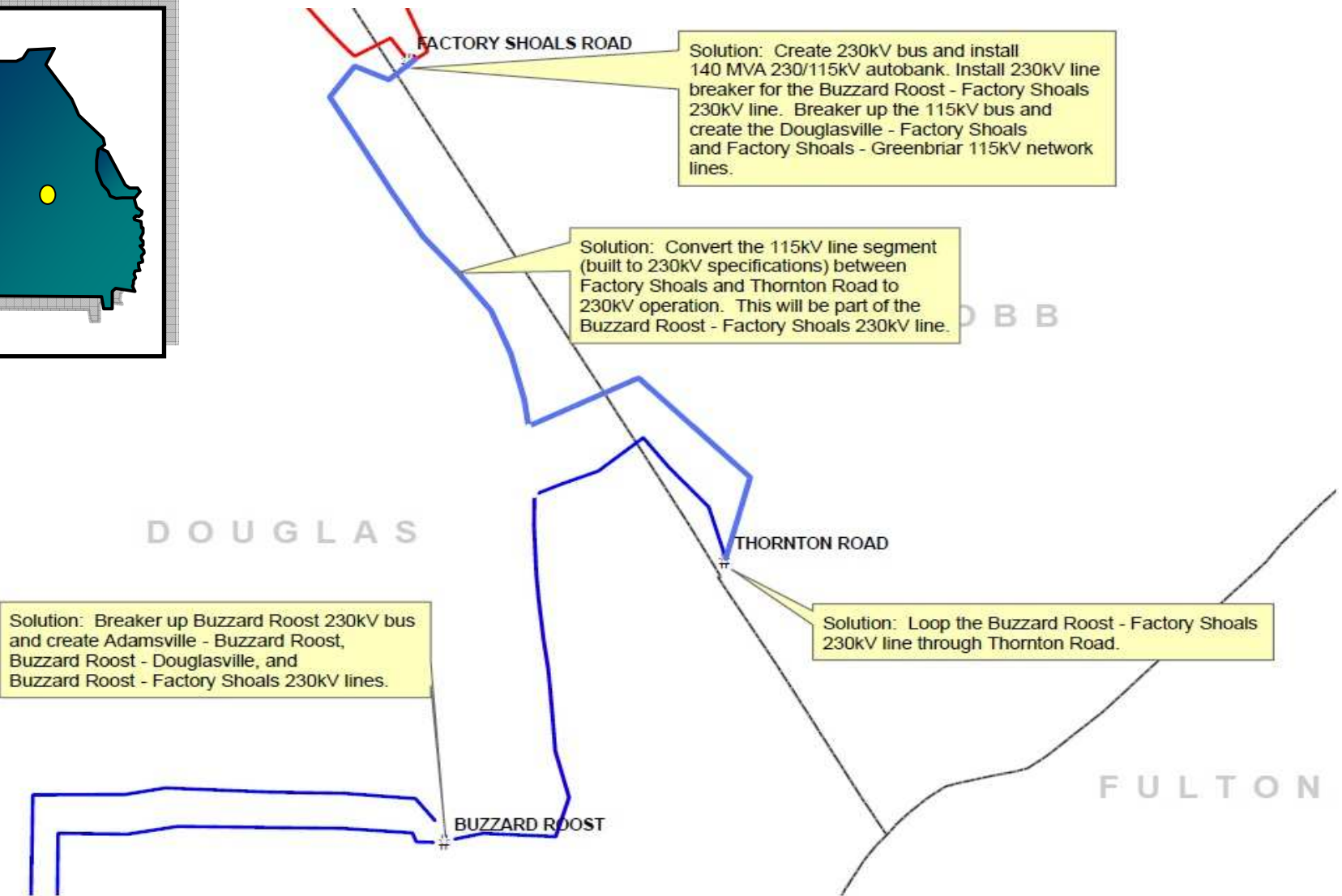
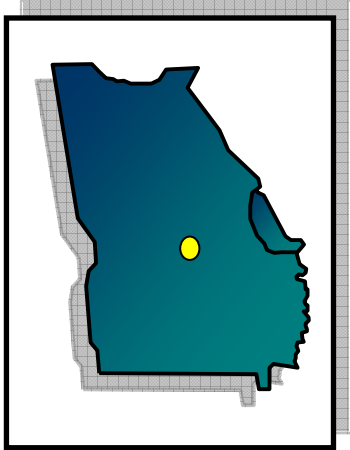
PROBLEM
WITH THE THOMSON 500/230KV PROJECT IN, LOSS OF THE EAST SOCIAL CIRCLE-RUTLEDGE 115KV LINE SECTION WILL OVERLOAD THE UNION POINT-WARRENTON 115KV LINE

LEGEND:

115 KV	— · — · — ·
230 KV	— · · — · · — · ·
500 KV	— · — · — ·
NEW 115 KV	- - - - -
NEW 230 KV	- - - - -
NEW 500 KV	- - - - -

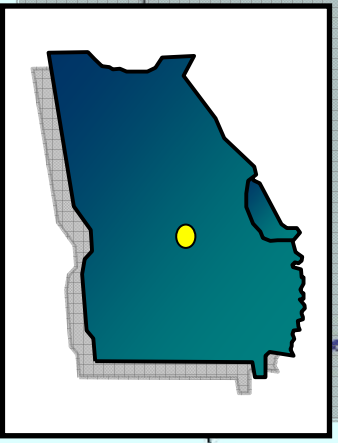
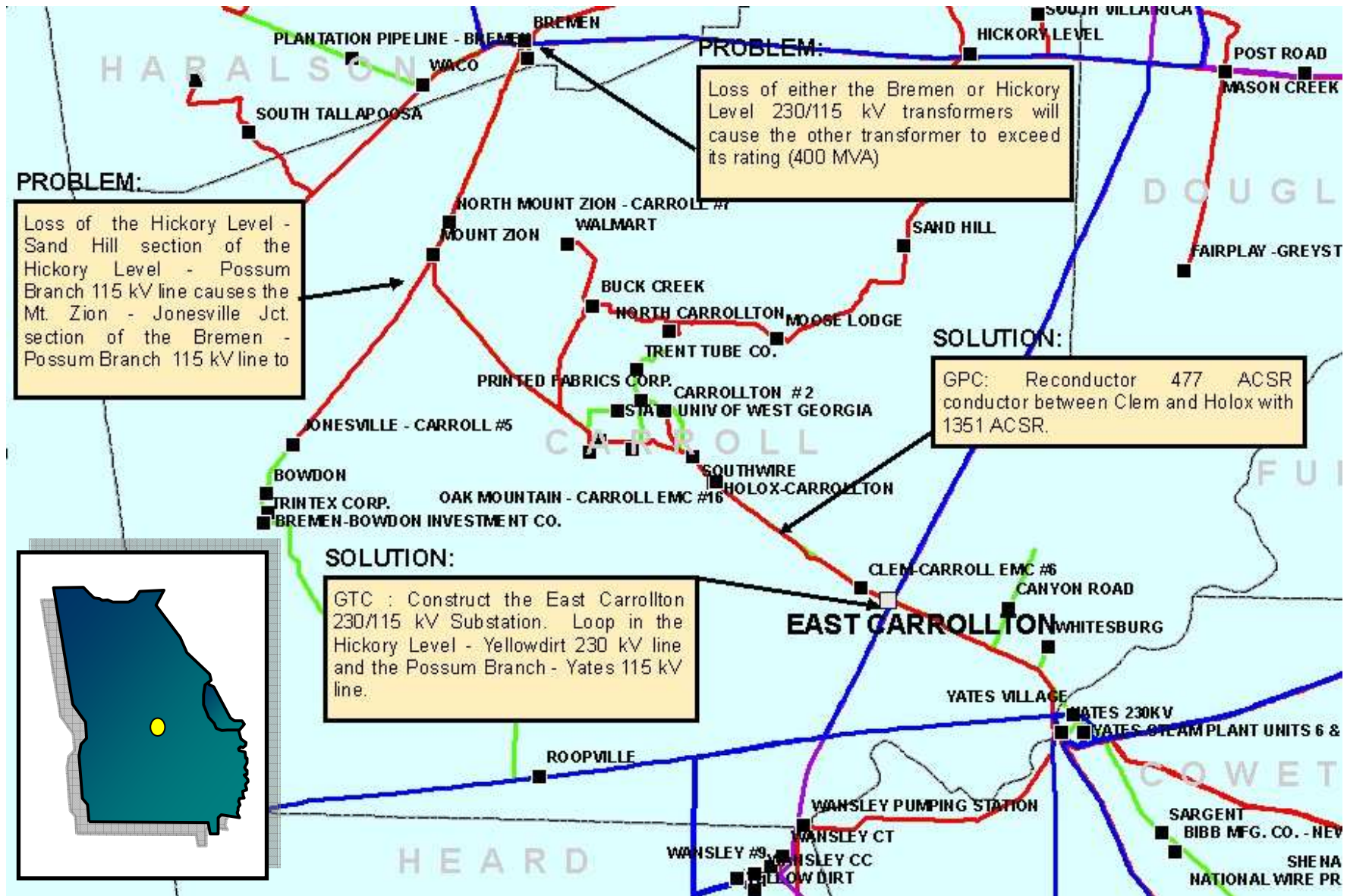
Factory Shoals

2011 ITS-7



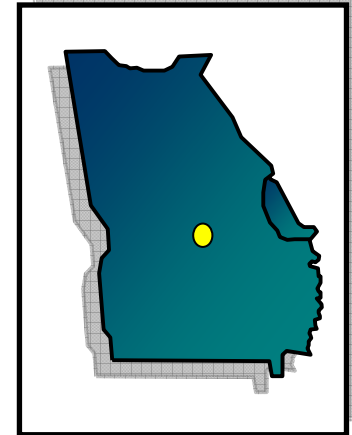
2014 ITS-8

East Carrollton



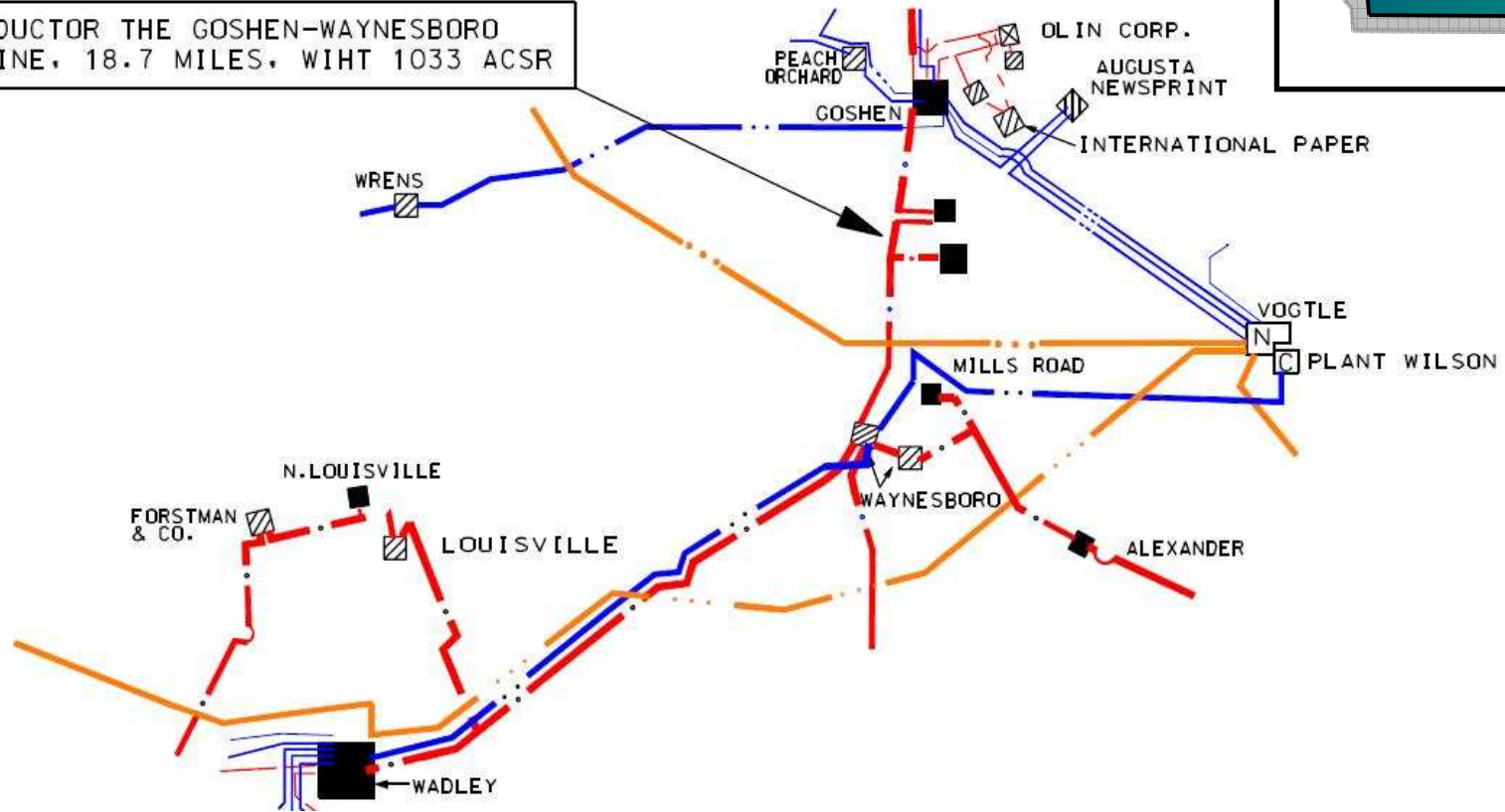
GOSHEN - WAYNESBORO 115-KV RE-CONDUCTOR

2014 ITS-9



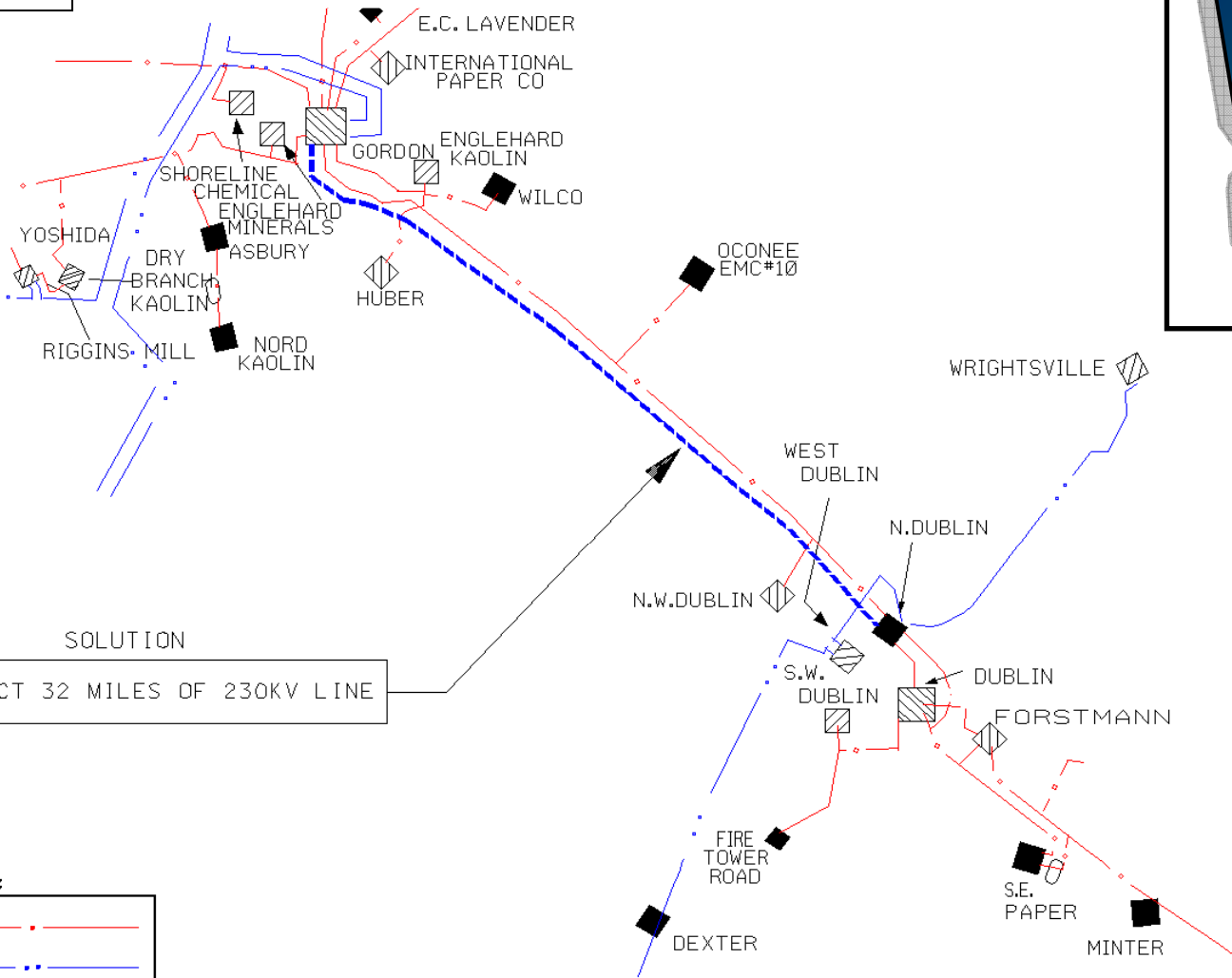
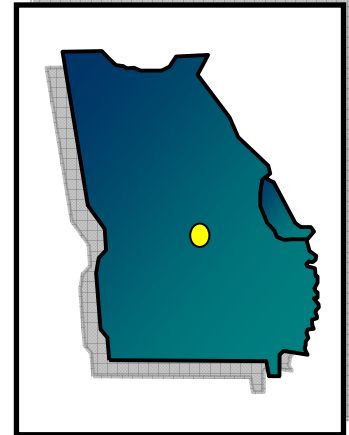
SOLUTION

RECONDUCTOR THE GOSHEN-WAYNESBORO 115KV LINE, 18.7 MILES, WITH 1033 ACSR



2016 ITS-10

Gordon – North Dublin 230 kV Line



SOLUTION
CONSTRUCT 32 MILES OF 230KV LINE

PROBLEM
OUTAGE OF THE NORTH DUBLIN-WADLEY 230KV LINE
OVERLOADS THE GORDON-NORTH DUBLIN 115KV LINE

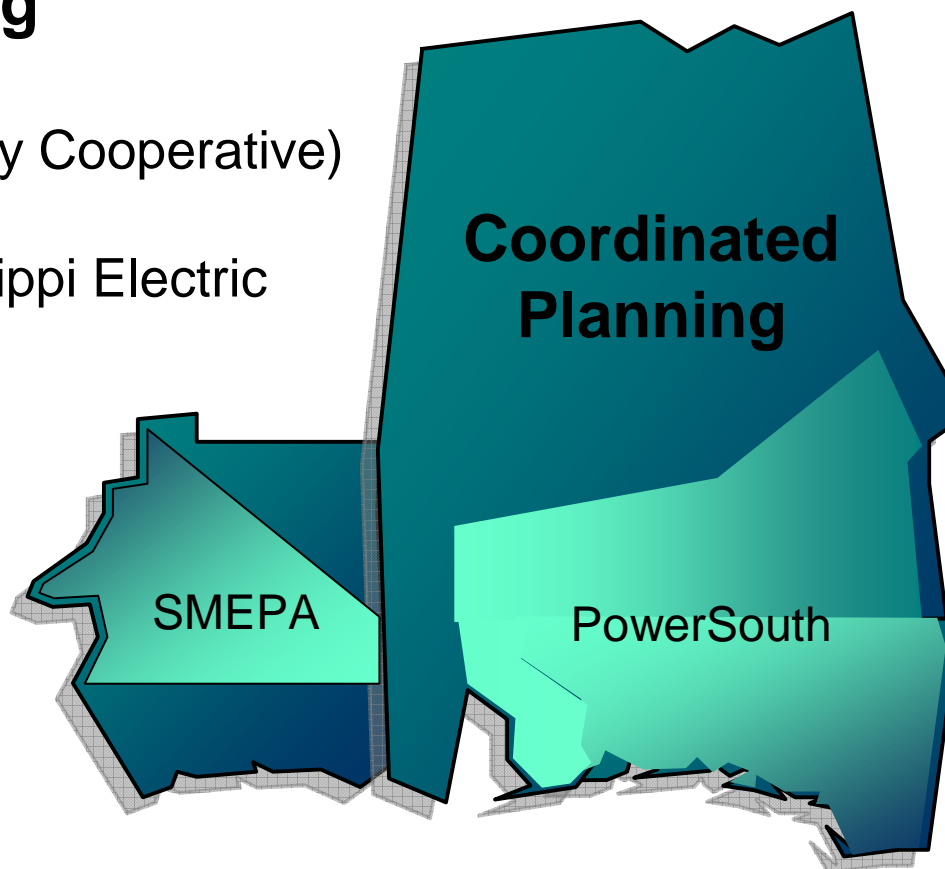
LEGEND:

115 KV	— · — · — ·
230 KV	— · · — · · — · ·
500 KV	— · · · — · · · — · · ·
NEW 115 KV	- - - - -
NEW 230 KV	- - - - -
NEW 500 KV	- - - - -

West

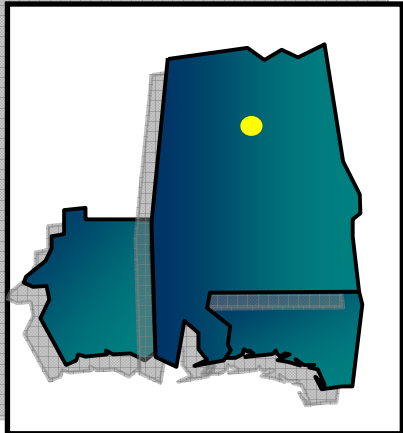
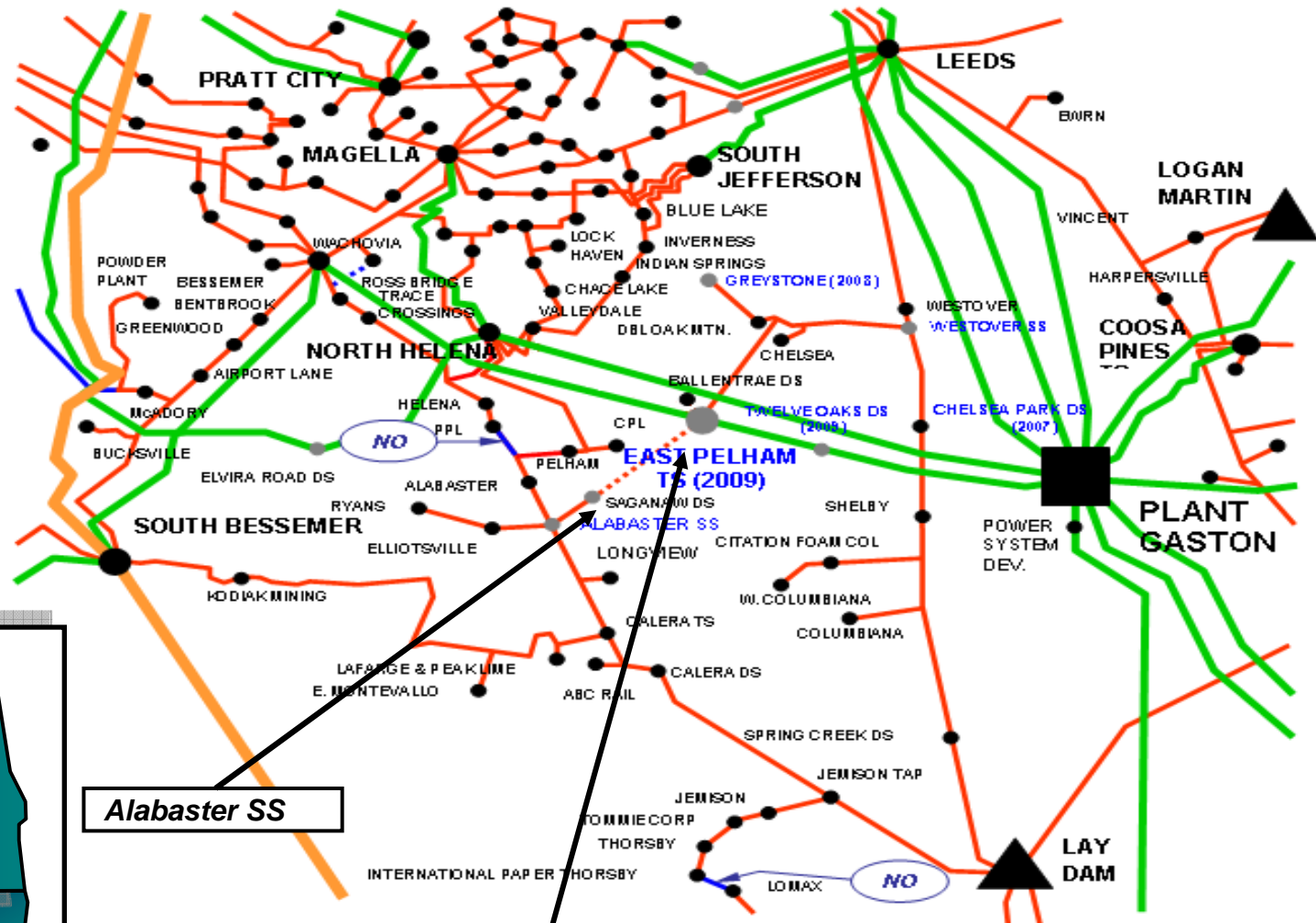
Coordinated Planning

- PS (PowerSouth Energy Cooperative)
- SMEPA (South Mississippi Electric Power Association)
- Southern Company Transmission



East Pelham TS Project

2010 W- 1



Alabaster SS

**E. Pelham – Alabaster
SS 115kV TL**

McIntosh – CAES 115kV TL

2011 W- 2

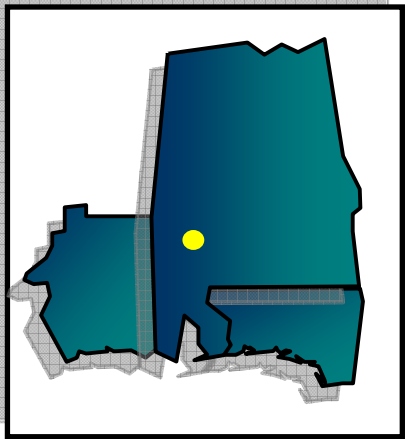
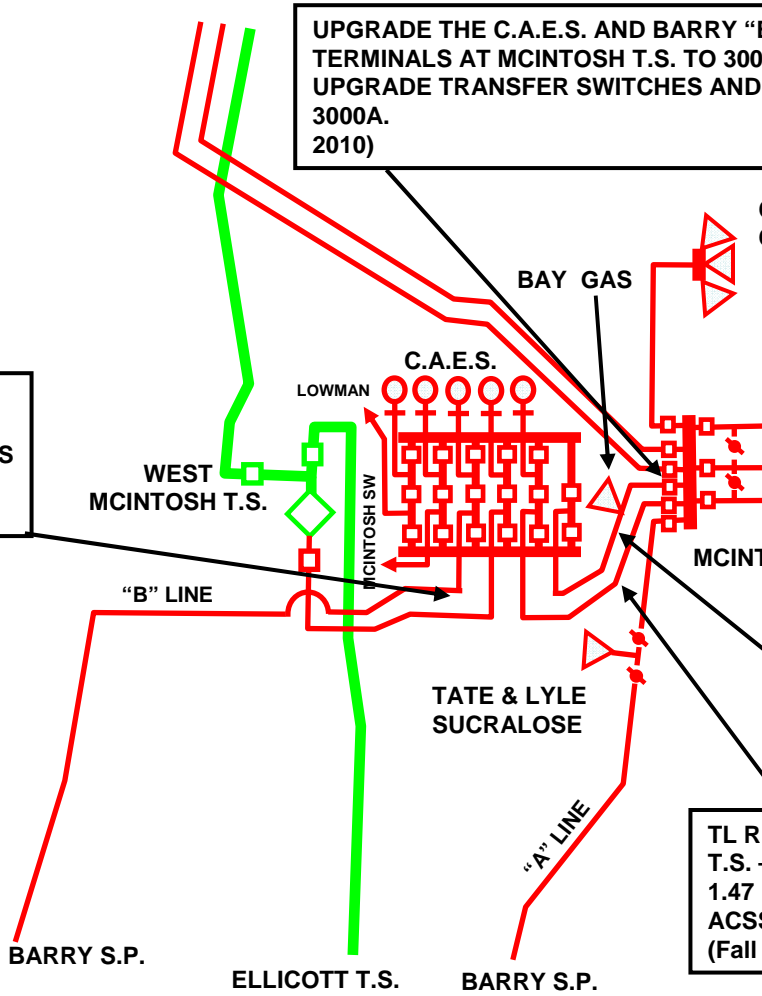
LOOP BARRY S.P. – MCINTOSH T.S. “B” 115KV TL INTO C.A.E.S. (POWERSOUTH TO CONVERT BUS AT C.A.E.S. TO A BREAKER AND HALF) (12-31-2010)

UPGRADE THE C.A.E.S. AND BARRY “B” 115KV TERMINALS AT MCINTOSH T.S. TO 3000A. UPGRADE TRANSFER SWITCHES AND BREAKERS TO 3000A. (12-31-2010)

CIBA SPECIALTY CHEMICALS
 WASHINGTON CO. CO-GEN
 PRAXAIR
 OLIN CORP.

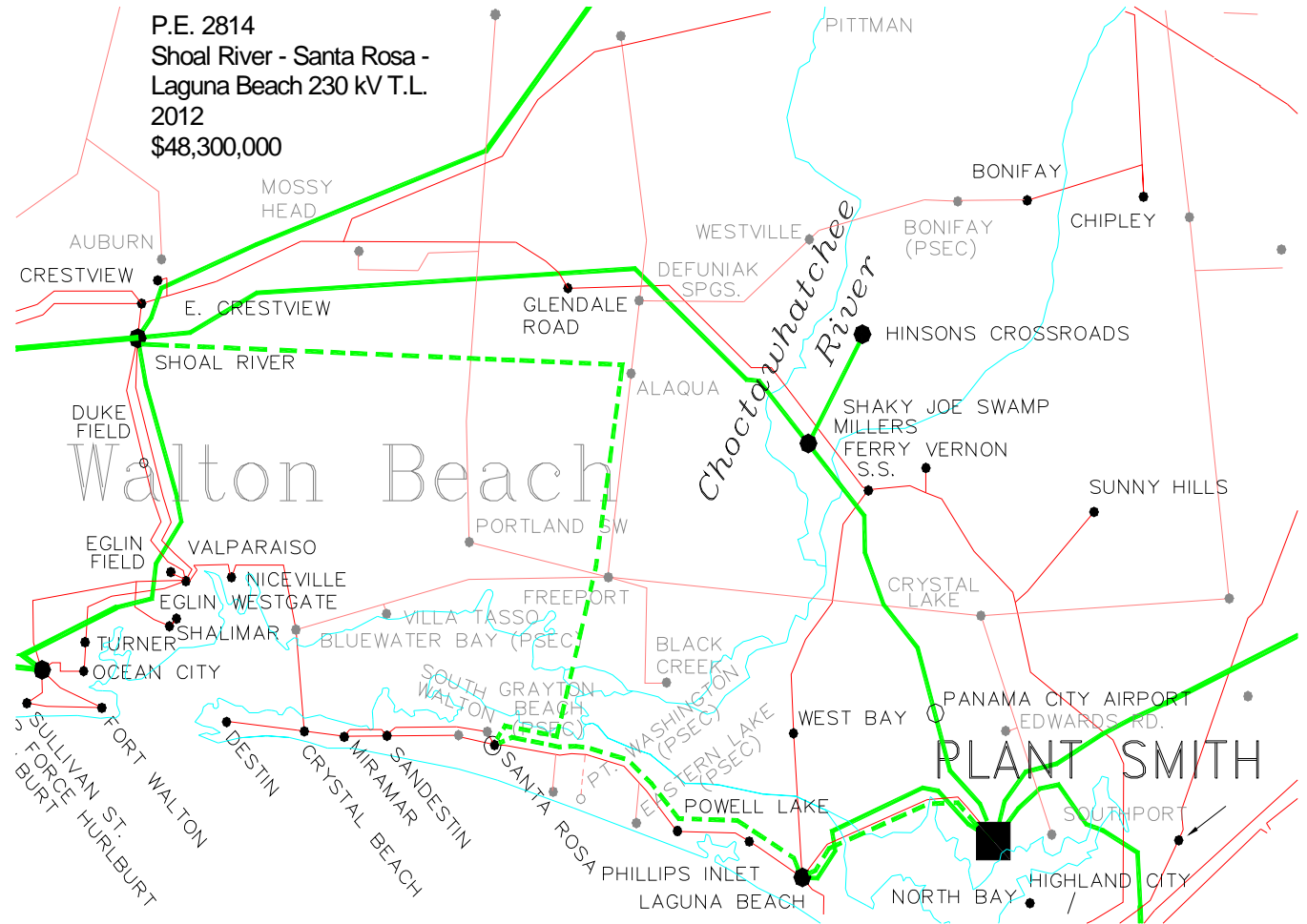
TL RECONDUCTOR: MCINTOSH T.S. – BAY GAS – C.A.E.S. 115KV CIRCUIT #2 1.47 MI BUNDLED (2) 795 26/7 ACSS, R = 2908A (Spring 2010)

TL RECONDUCTOR: MCINTOSH T.S. – C.A.E.S. 115KV CIRCUIT #1 1.47 MI BUNDLED (2) 795 26/7 ACSS, R = 2908A (Fall 2010)

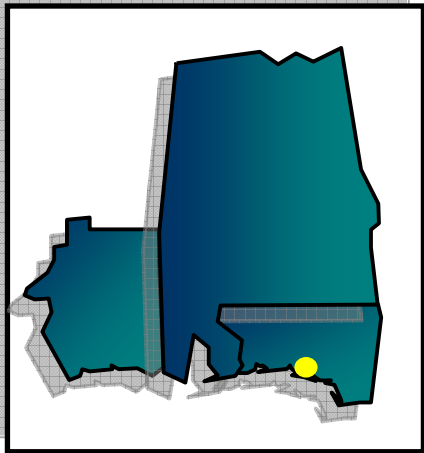


Shoal River to Santa Rosa 230kV T.L

2012 W- 3

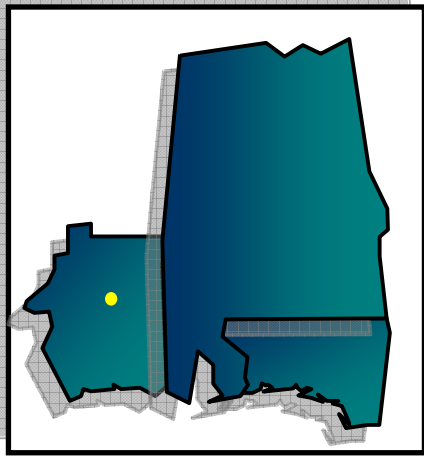
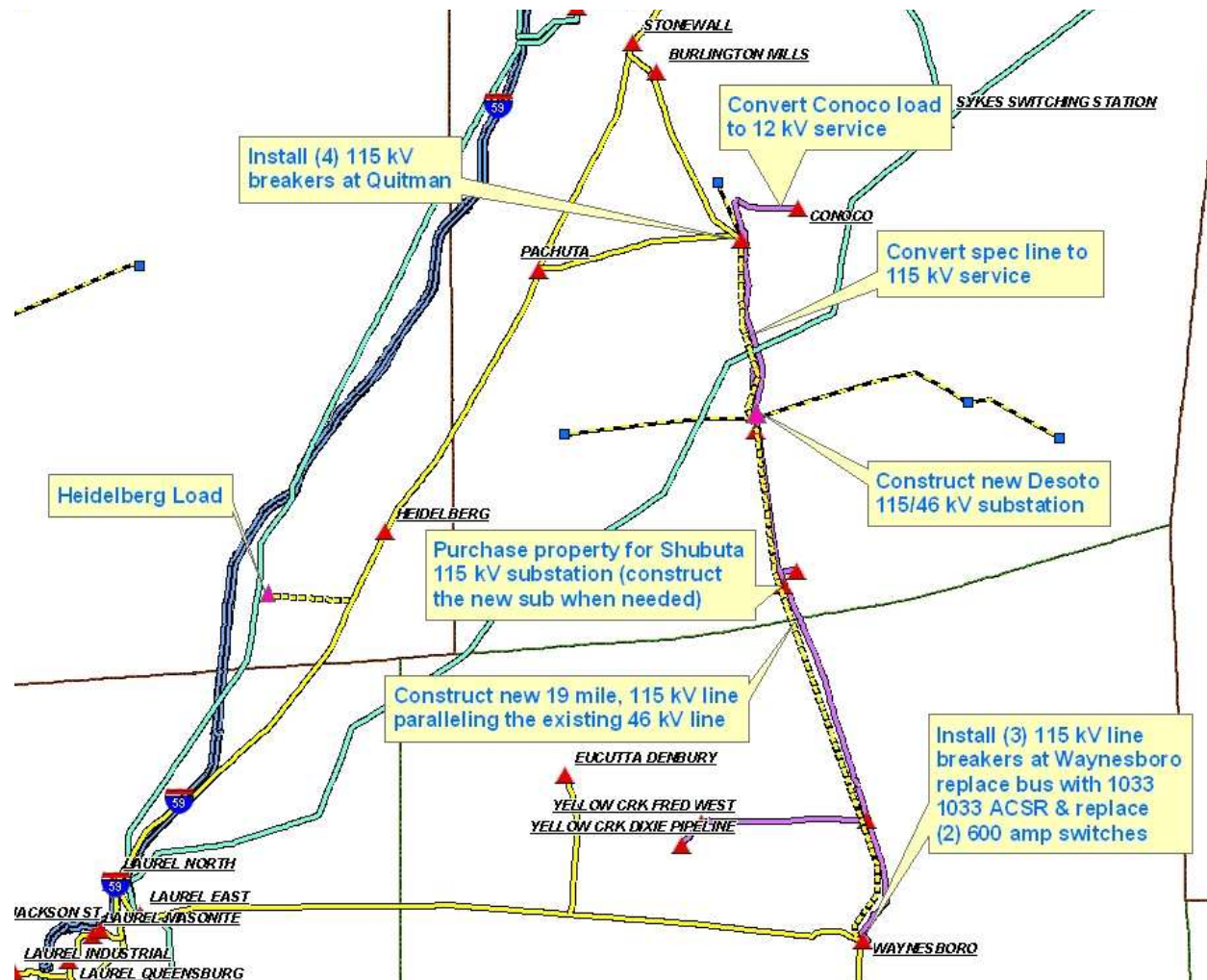


P.E. 2814
Shoal River - Santa Rosa -
Laguna Beach 230 kV T.L.
2012
\$48,300,000



Heidelberg Area 115 kV Network Improvements

2012 W- 4a



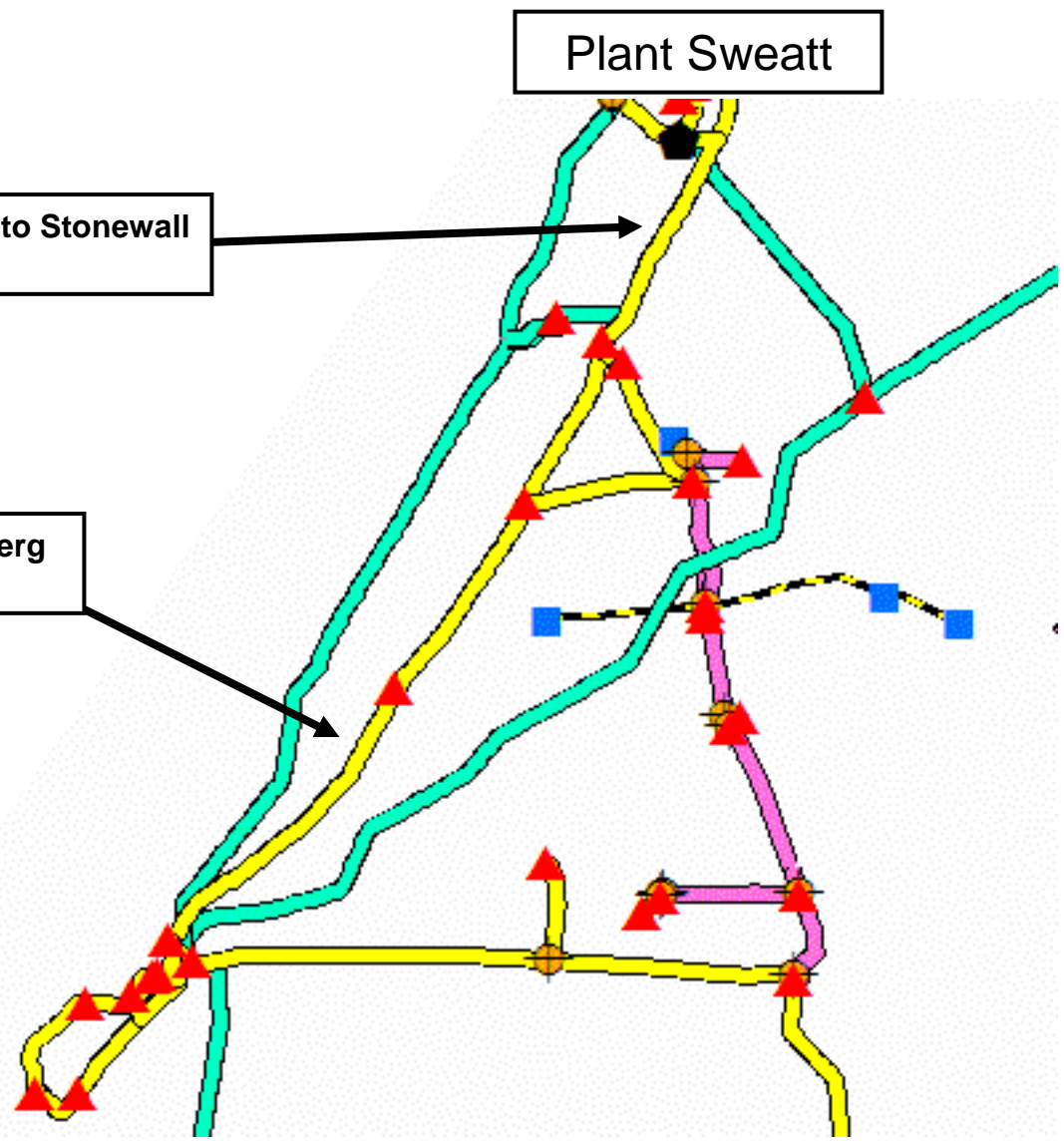
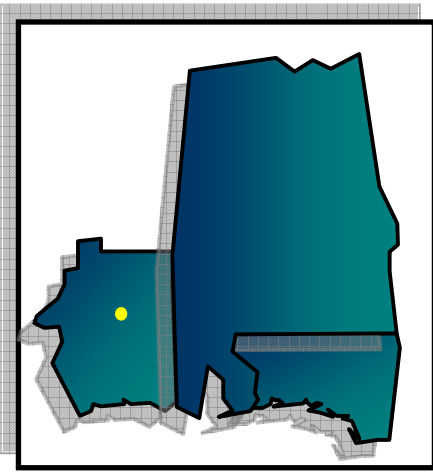
New Plan for Heidelberg Area Improvements

2012 W- 4b

Plant Sweatt

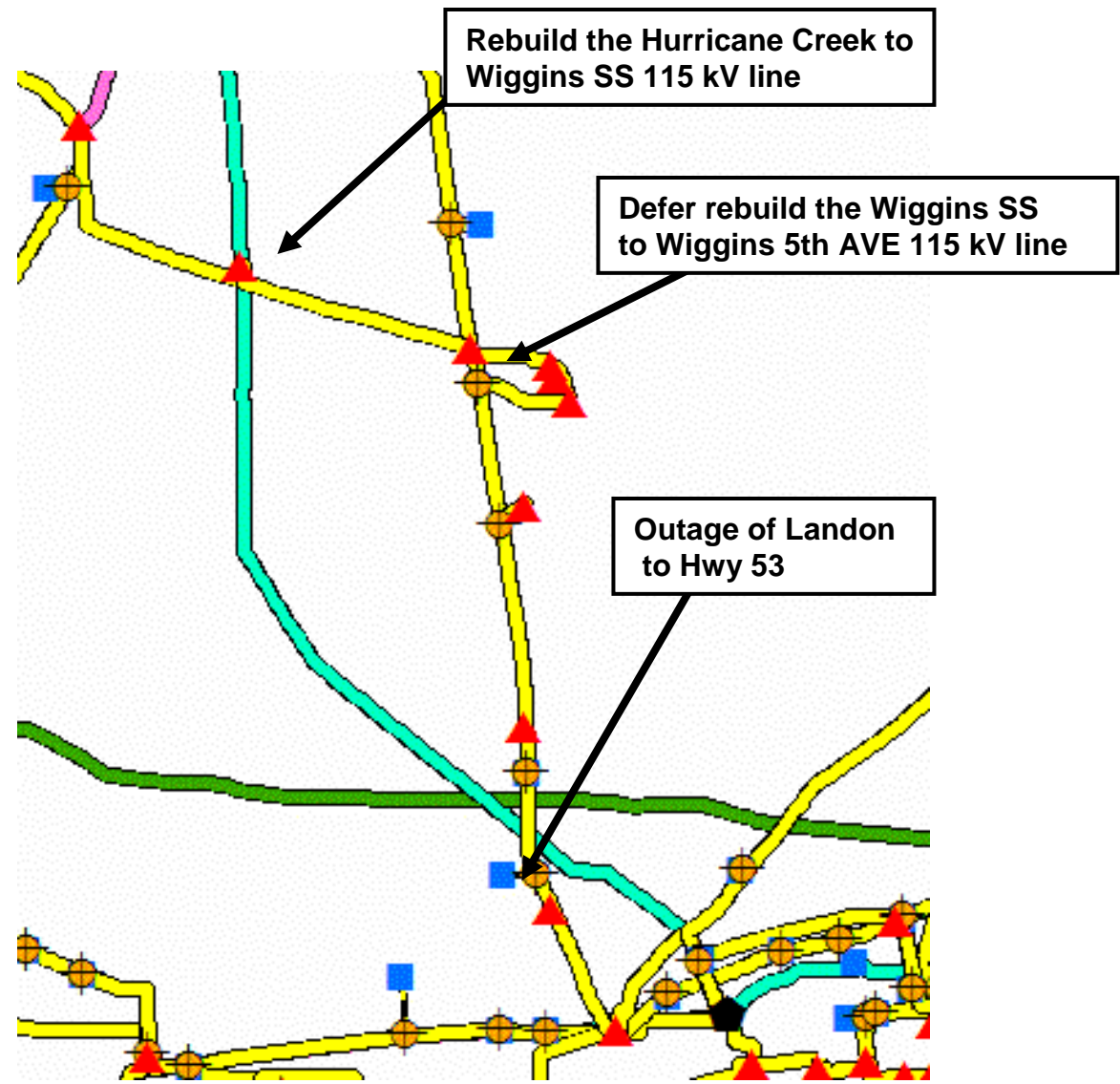
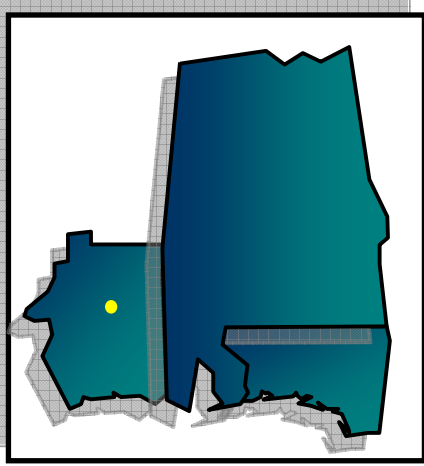
Plant Sweatt to Stonewall
115 kV line

Laurel North to Heidelberg
115 kV line



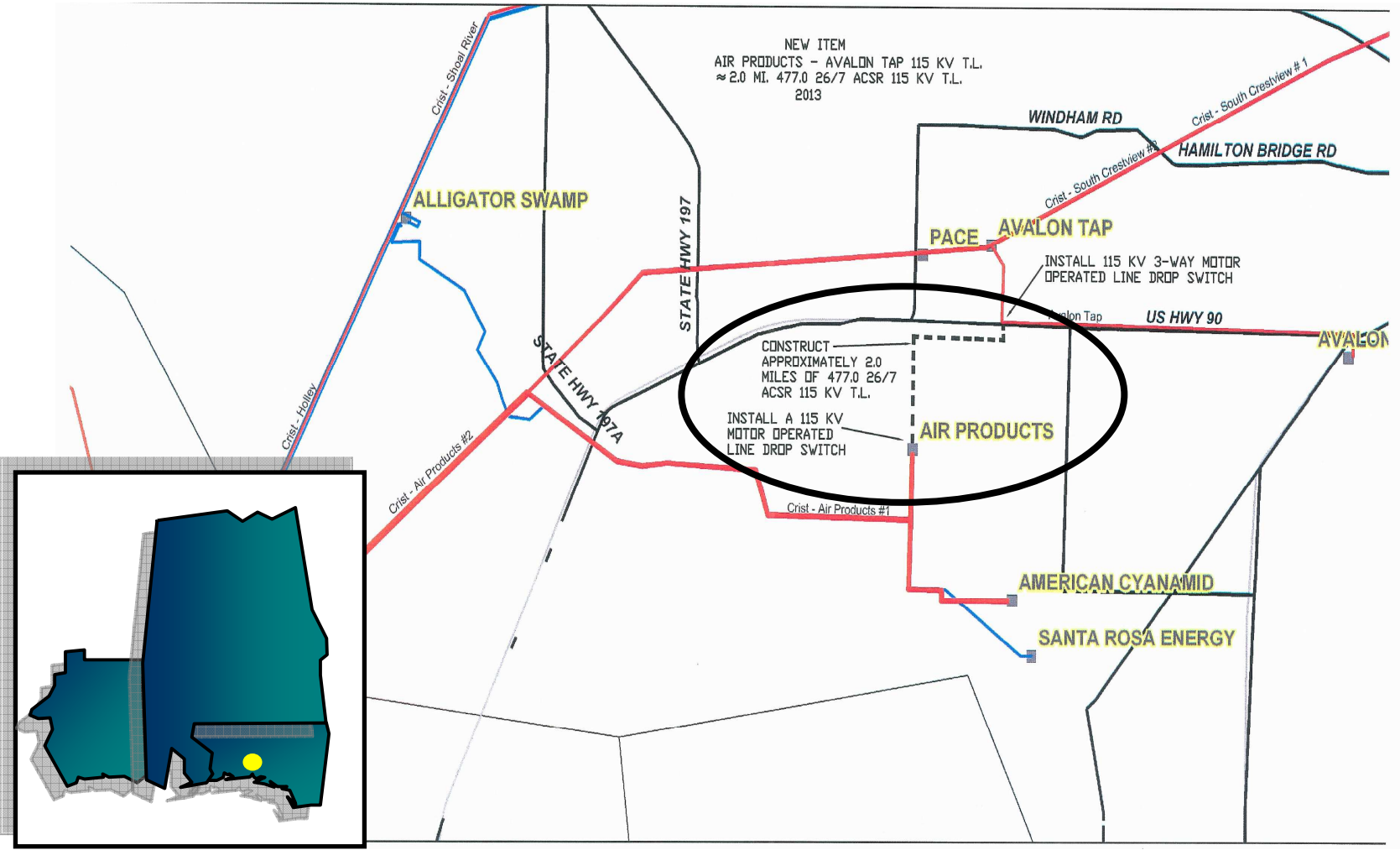
Rebuild Hurricane Creek to Wiggins SS 115 kV Line

2012 W- 5



Air Products - Avalon Tap 115 kV T.L.

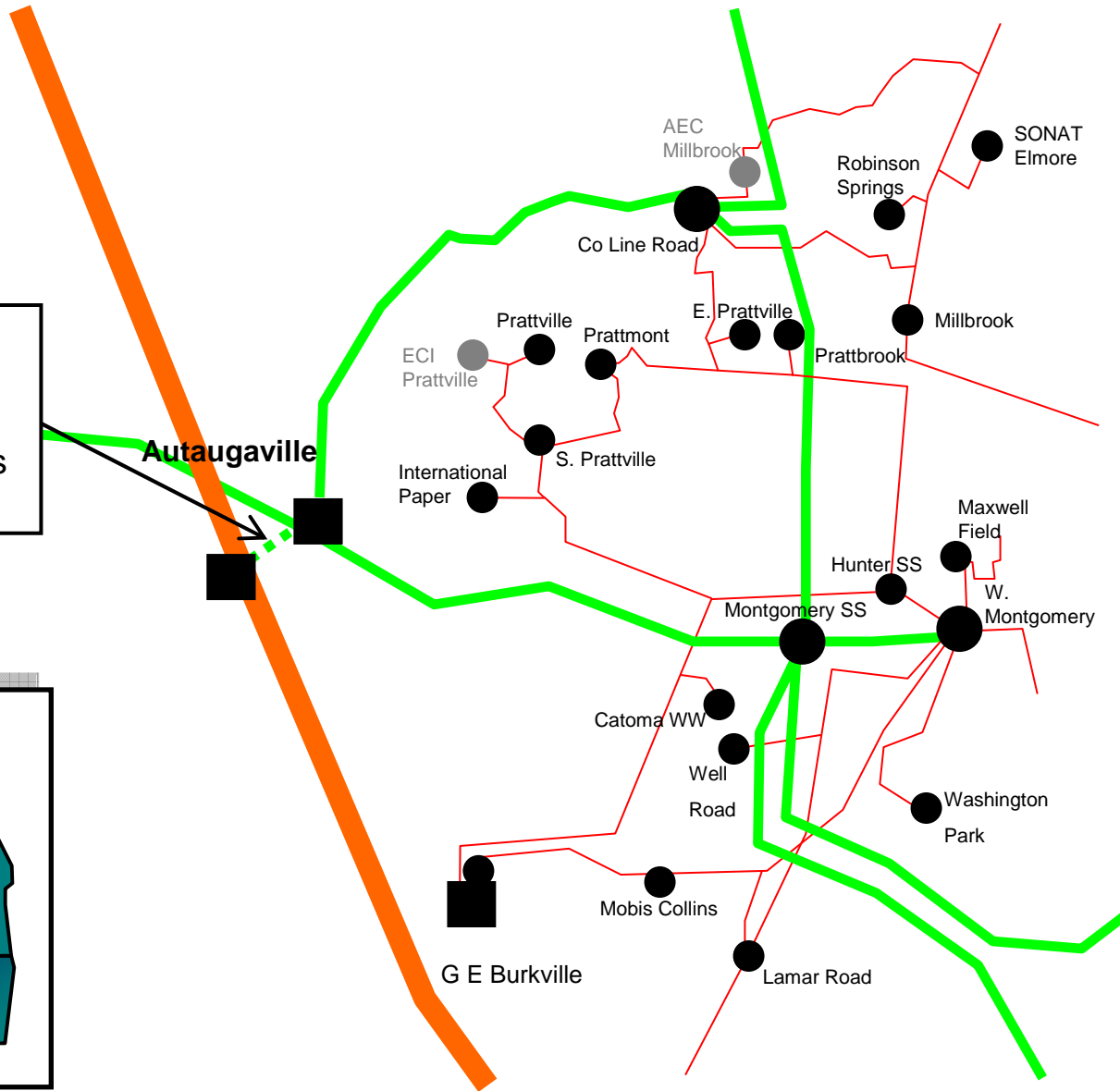
2013 W- 6



Autaugaville

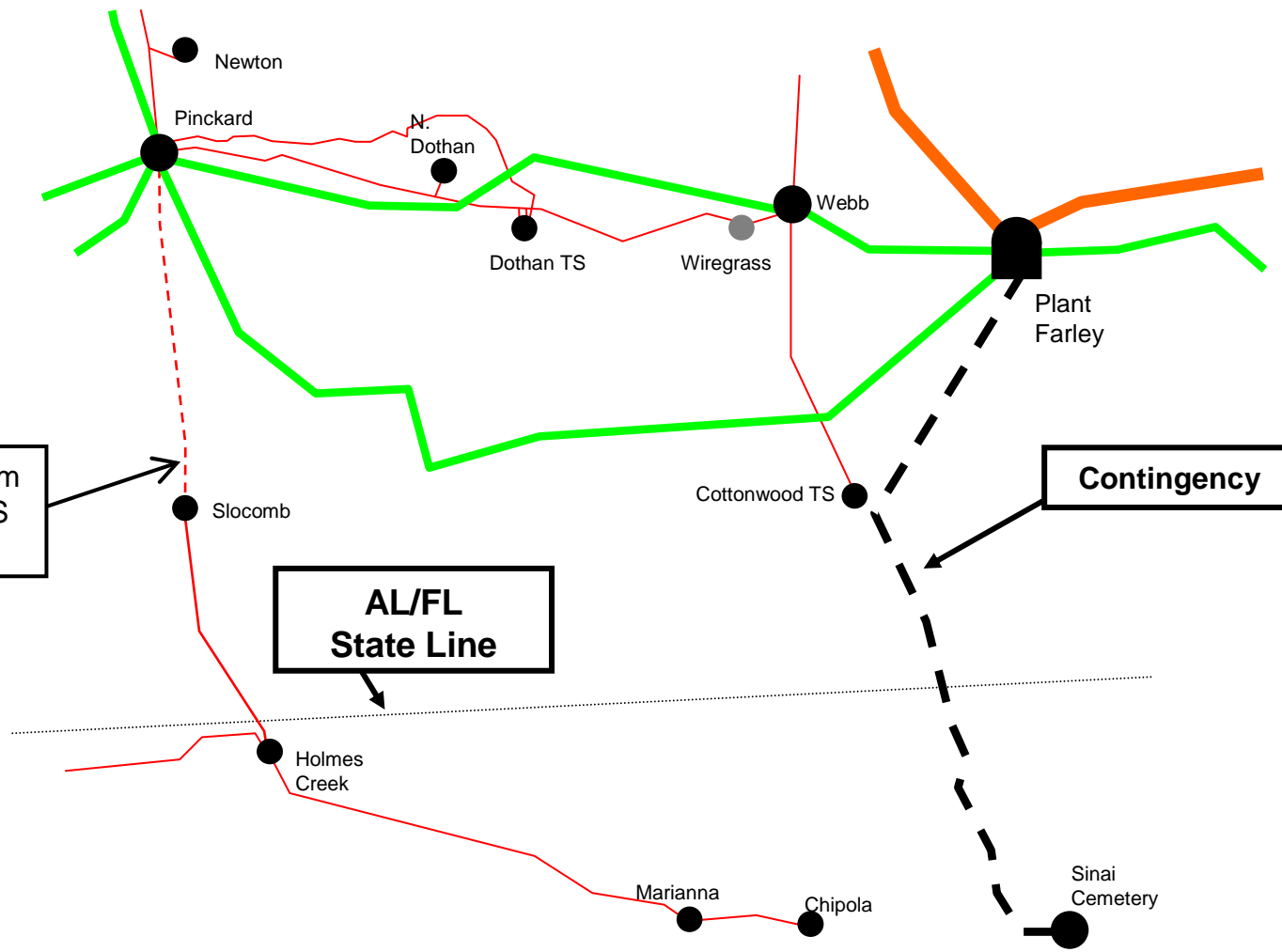
2013 W- 7

Install 500/230kV
Autobank at
Autaugaville and
construct 1.3 miles
of 230 kV TL



Pinckard TS – Slocomb TS 115 kV TL

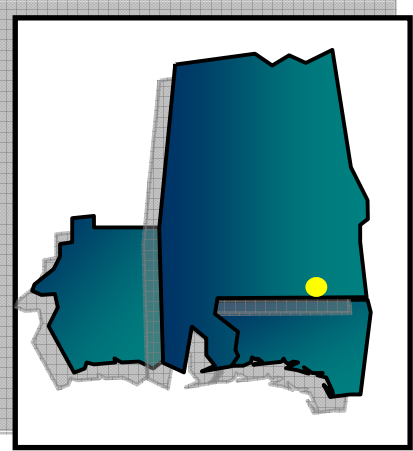
2013 W- 8



Reconductor 12.5 miles from Pinckard TS – Slocomb TS

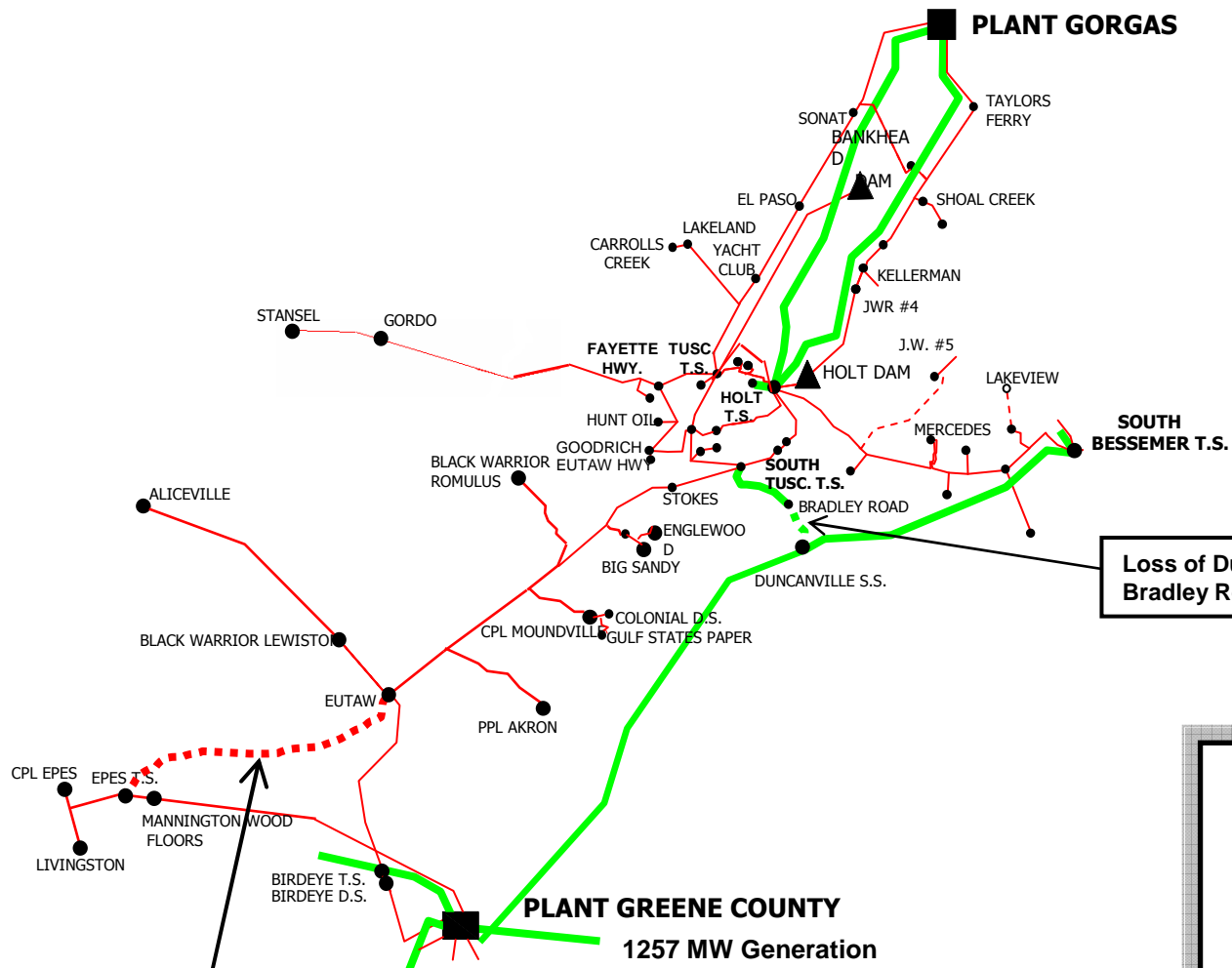
AL/FL State Line

Contingency



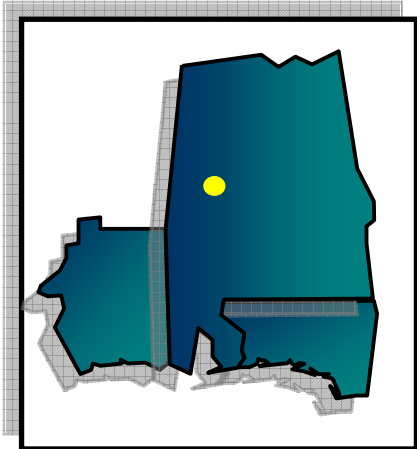
Epes – Eutaw 115 kV T.L.

2014 W- 9



Loss of Duncanville S.S. – Bradley Road 230kV TL

Epes – Eutaw 115 kV T.L.
22.5 miles 1033 54/7 ACSS @ 160°C
Rate B = 1711 A

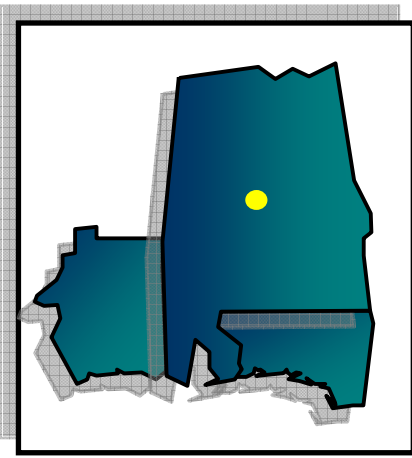
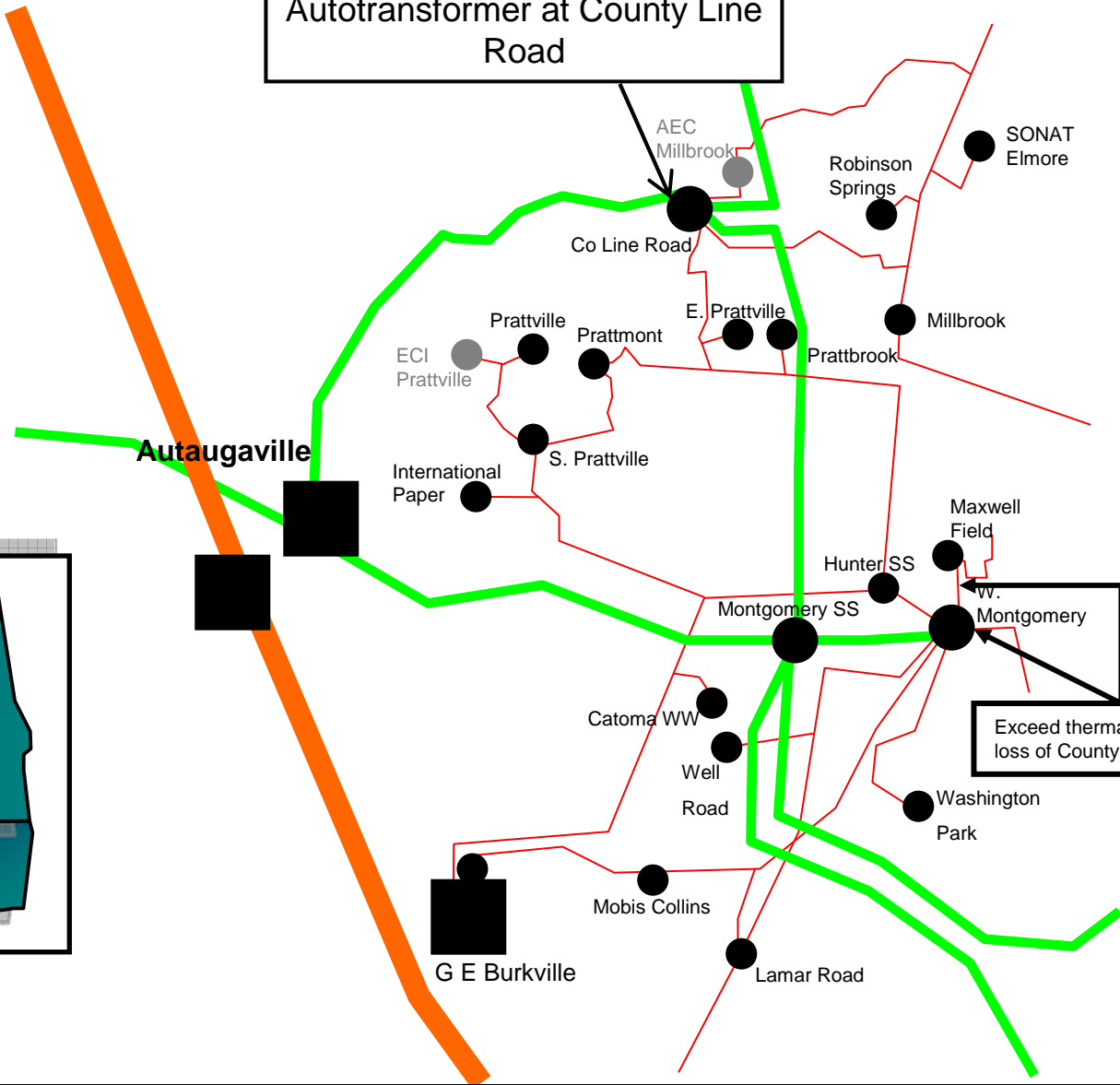


PLANT GREENE COUNTY
1257 MW Generation

County Line Road

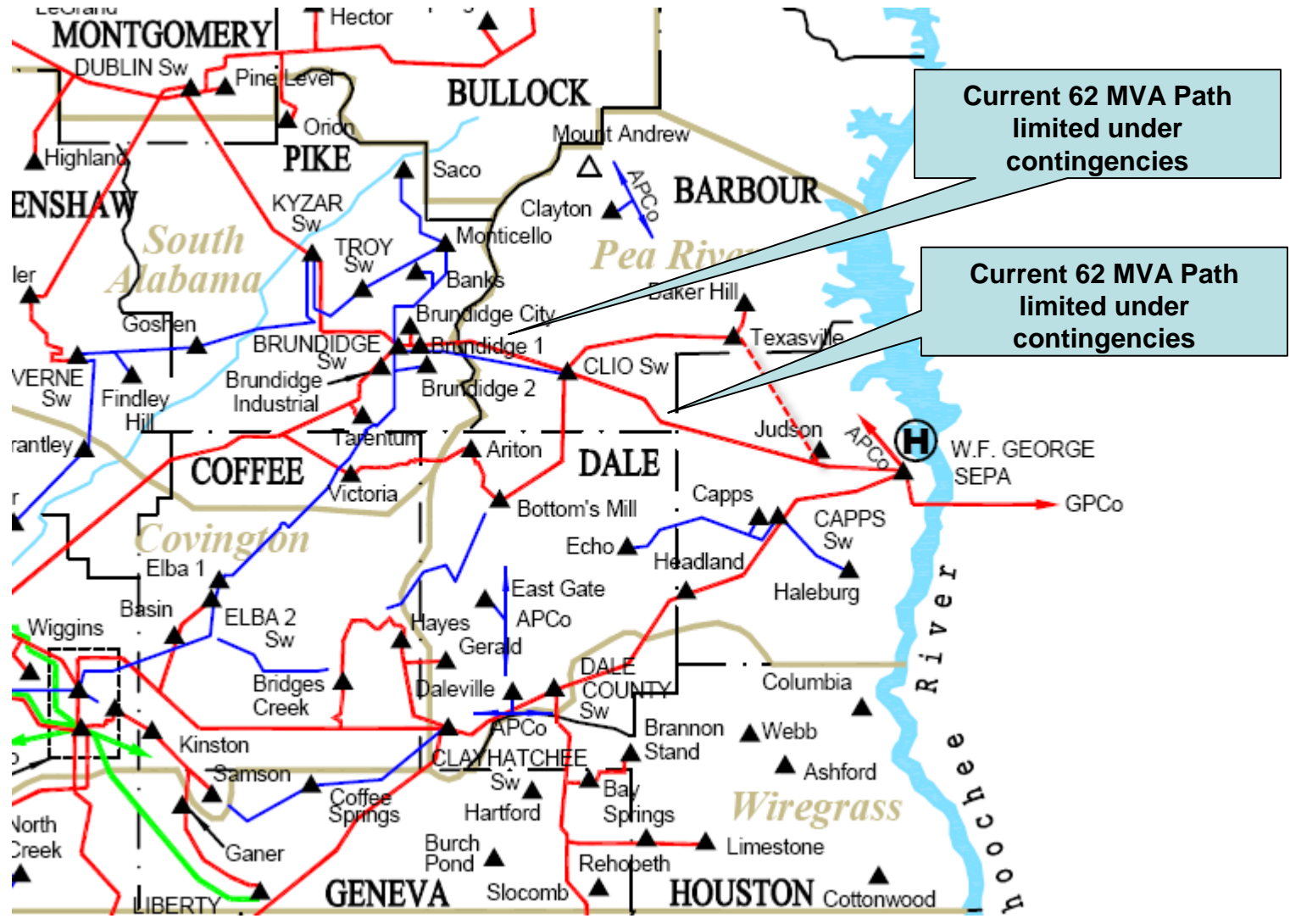
2014 W- 10

Install 2nd 230/115kV
Autotransformer at County Line
Road



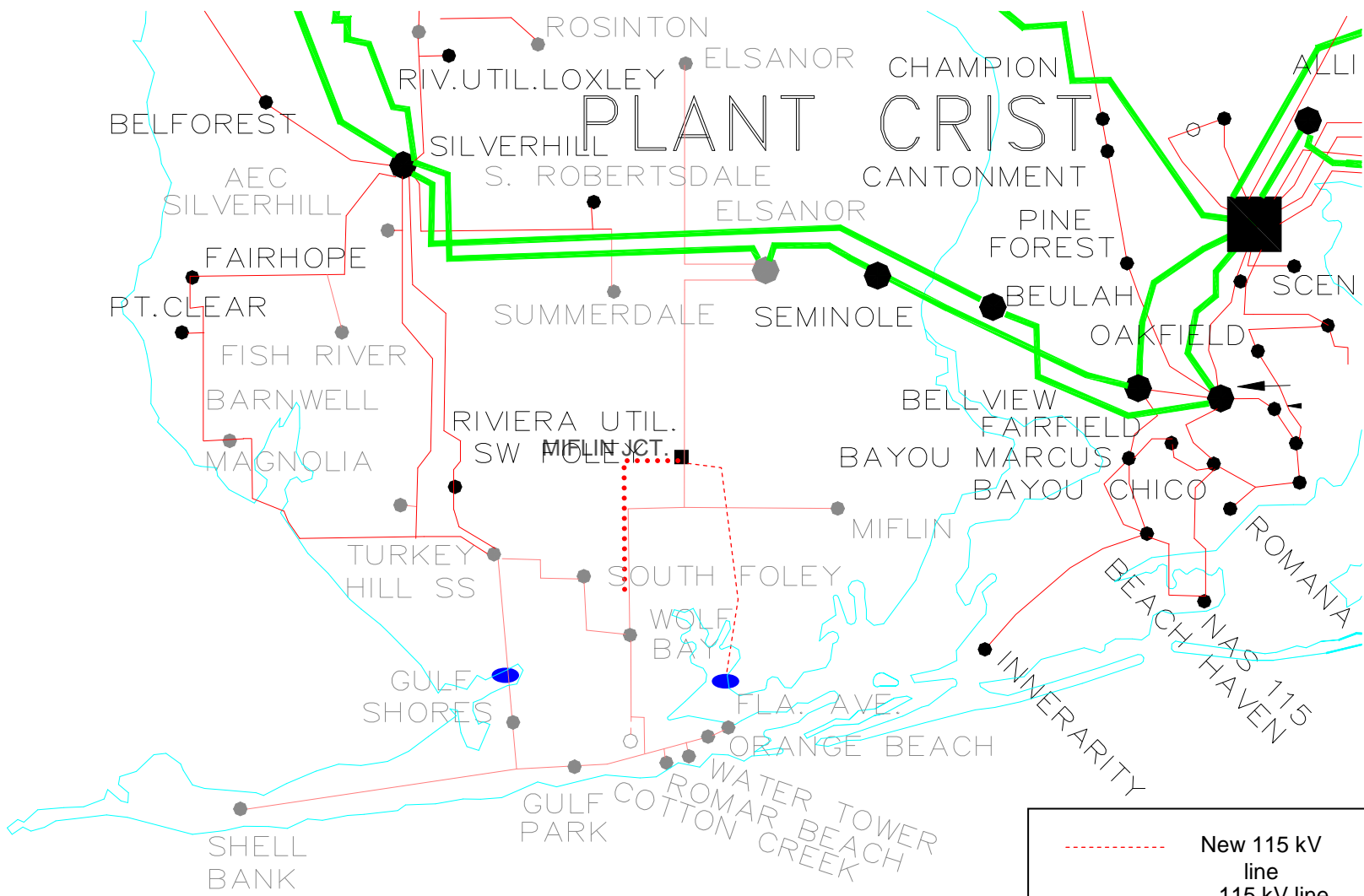
Clio area Upgrades

2010 PS-1



Baldwin County, AL

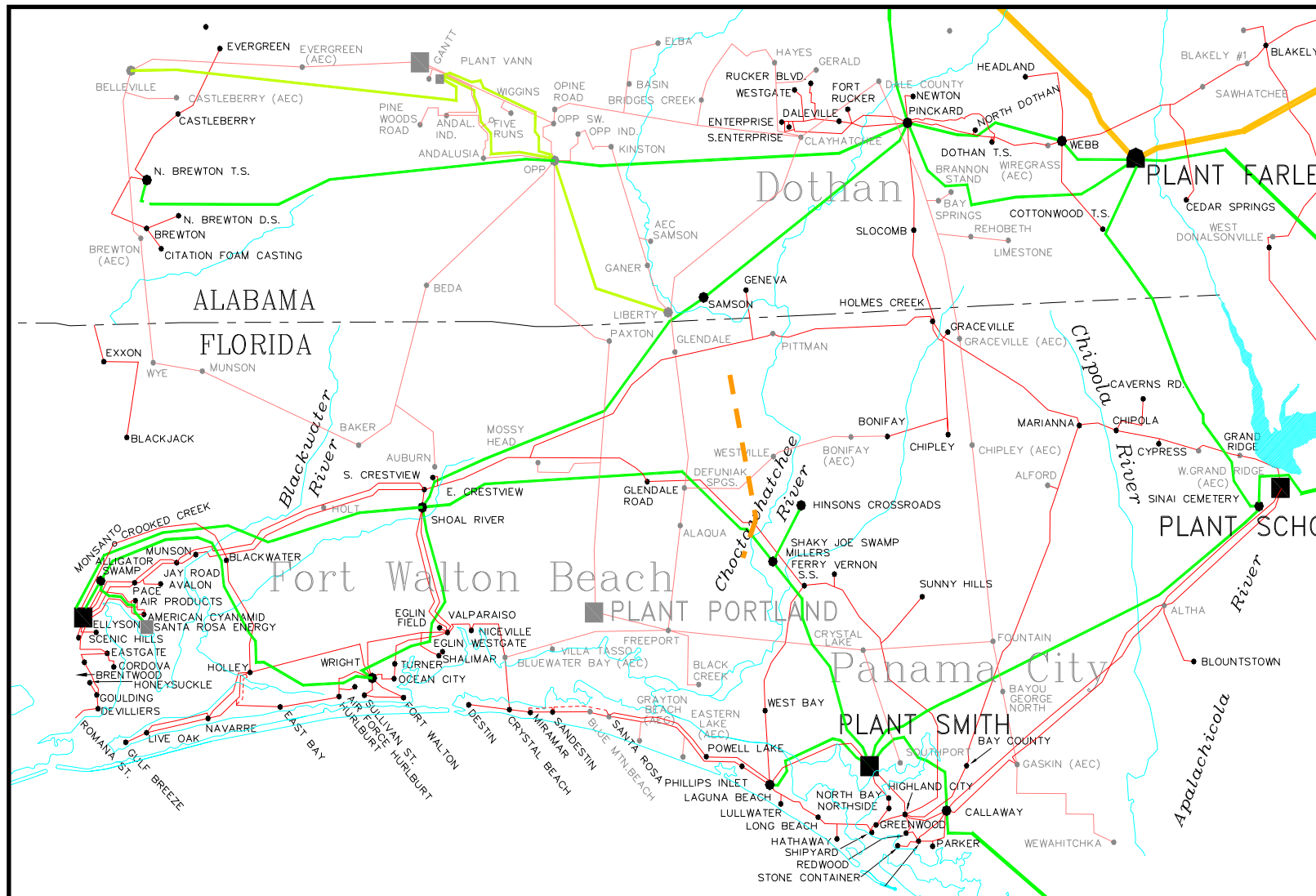
2011 PS-2



- New 115 kV line
- 115 kV line
- Upate Capacitor Additions

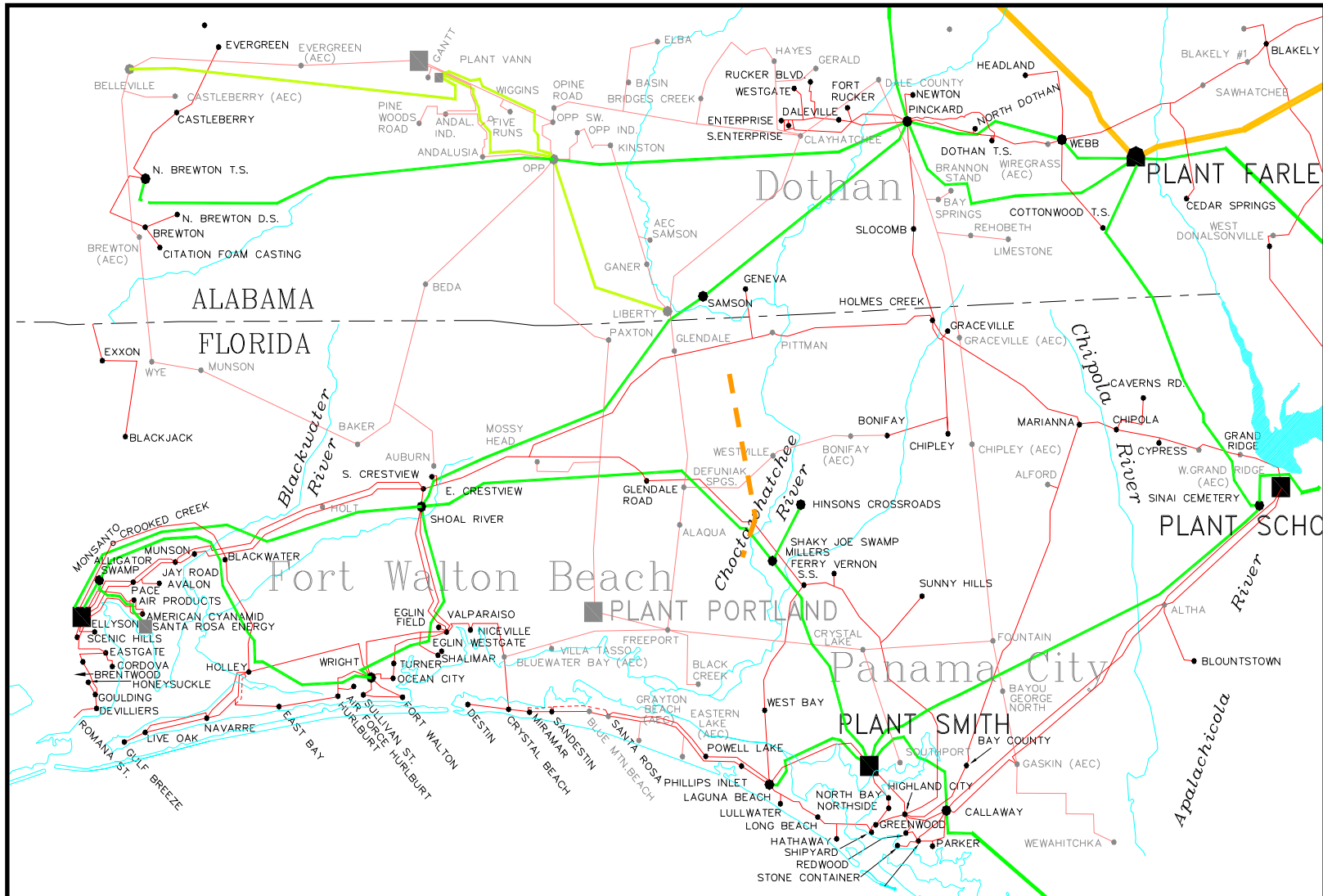
Liberty-Defuniak 115kV Line

2011 PS-3



Bluewater – Villa Tasso Jct.

2010 PS-4



Dale Co – Bay Spring Jct.

2011 PS-6

