



Central Region Public Power Partners (CPPP) and Stakeholders Second Meeting

April 9, 2008 - Nashville

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Agenda

- Recap - Order 890 & TVA Response
- Reliability Planning & Schedule for 2008
- What's Next
- Economic Studies
- Data, Assumptions, Criteria, Results

Recap

- FERC Order 890 - 9 Principles

Coordination

Openness

Transparency

Information Exchange

Comparability

Dispute Resolution

Regional Participation

Economic Planning Studies

Cost Allocation

TVA Response

Within Central region -

- CPPP - AECI, BREC, EKPC, TVA
- Stakeholders - transmission customers, distribution customers, direct served industrial customers, generation owners/developers, neighbor utilities, regional transmission organizations, interested regulatory agencies.

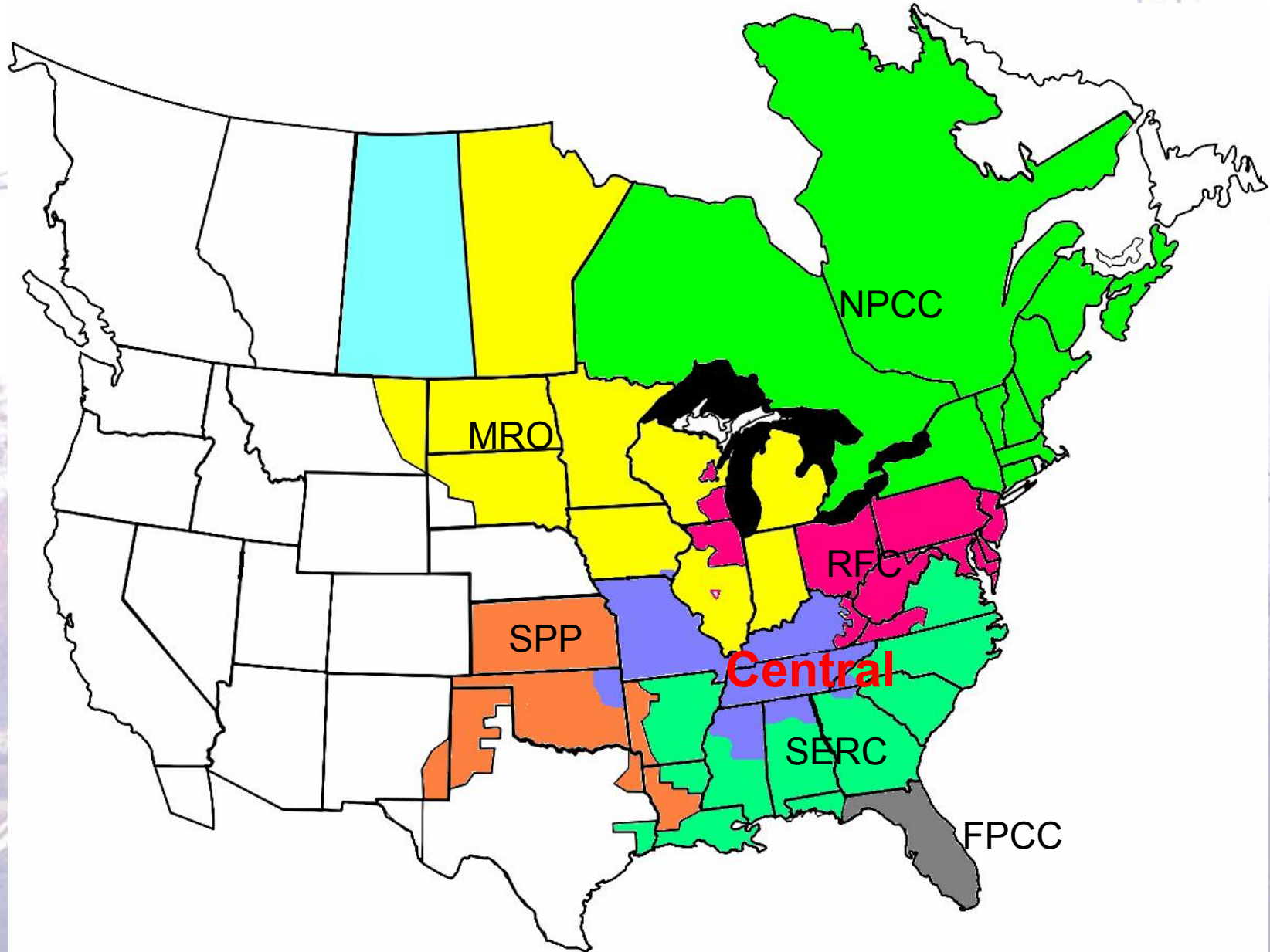
Inter-regional -

- SIRPP, TVA/PJM/MISO/SPP, SERC/ERAG

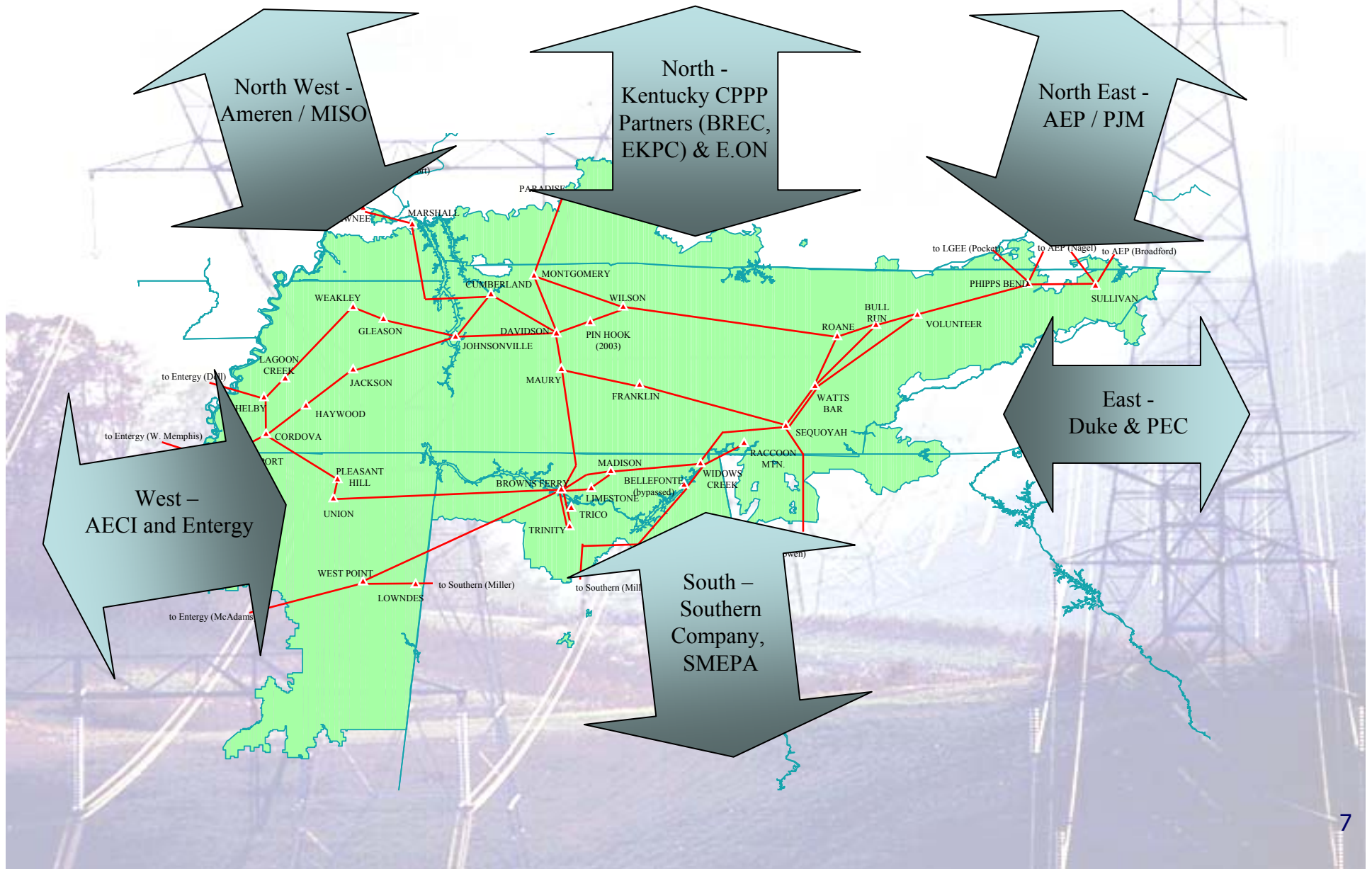
TVA Response

- Attachment K posted on OASIS Dec 7
- http://www.oatioasis.com/tva/tva_docs.htm
- Seeking Board approval for inclusion in "Transmission Guidelines"

Interregional Area



TVA Interfaces



Reliability Planning



Annual cycle of stakeholder involvement

- 1st meeting - data, criteria, assumptions
- 2nd meeting - preliminary studies identify needs, discuss solutions & stakeholder options
- 3rd meeting - final studies, comparison of solutions

Stakeholder Interface with Reliability Process

- Access to study models
- Preliminary results and “30-second” solutions presented
- Input on project alternatives accepted and considered until RS date

TVA Planning Milestones

The background of the slide features a scenic view of a river, likely the Tennessee River, with several high-voltage electrical transmission towers and power lines stretching across the landscape. The scene is captured in a slightly hazy or overcast light, with the towers appearing as dark silhouettes against the lighter sky and water.

- “Project Launch”:
 - There is a problem requiring solution
 - Need date (e.g., Summer '09)
- “Recommend Solution” (RS):
 - Selection of best alternative
 - Planning VP approval
- “Concept Approval” (CA):
 - Construction VP approval
- “Scoping”:
 - Detailed scope, schedule, budget

Schedule for 2008

First year - compressed cycle

- 1st meeting - Nov 14. Introduce CPPP, seek stakeholder comments
- Data availability announcement Feb 19
- 2nd meeting - April 9. Combined data, assumptions, criteria, results
- 3rd (& 4th?) meeting - TBD

What's Next

- Administration of stakeholder group
 - CPPP Members presently administering
- Schedule of meetings, future locations
 - locations throughout region
 - set schedule for reliability studies
 - economic studies - depends on need
- Communications
 - email
 - TVA OASIS site
http://www.oatioasis.com/tva/tva_docs.htm

Economic Studies

- Initial screening studies within region
 - fast response
 - presently no limit to number
 - will reach outside region if feasible
 - no charge
- Inter-regional and detailed studies
 - stakeholder can bring to TVA or other region
- Collaborative interaction during studies
 - dependent on stakeholder capabilities
 - what's reasonable?



Data, Assumptions, Criteria

(David Marler)

Data and Assumptions

The background of the slide features a large, steel lattice transmission tower in the foreground on the right, with several high-voltage power lines stretching across the frame. The lines and towers recede into the distance over a wide river. The sky is a pale, hazy blue, and the overall scene is slightly desaturated, giving it a professional, technical appearance.

Data

- Loadflow base cases available upon request and completion of Non-Disclosure Agreement

Assumptions

- Load Forecast
- Generation Resource Plan
- Transmission Configuration

Criteria

Performance Requirements for N-1

- Normal facility ratings
- Voltage $> 95\%$
- No loss of load

Summary of Results for Summer 2011 Case

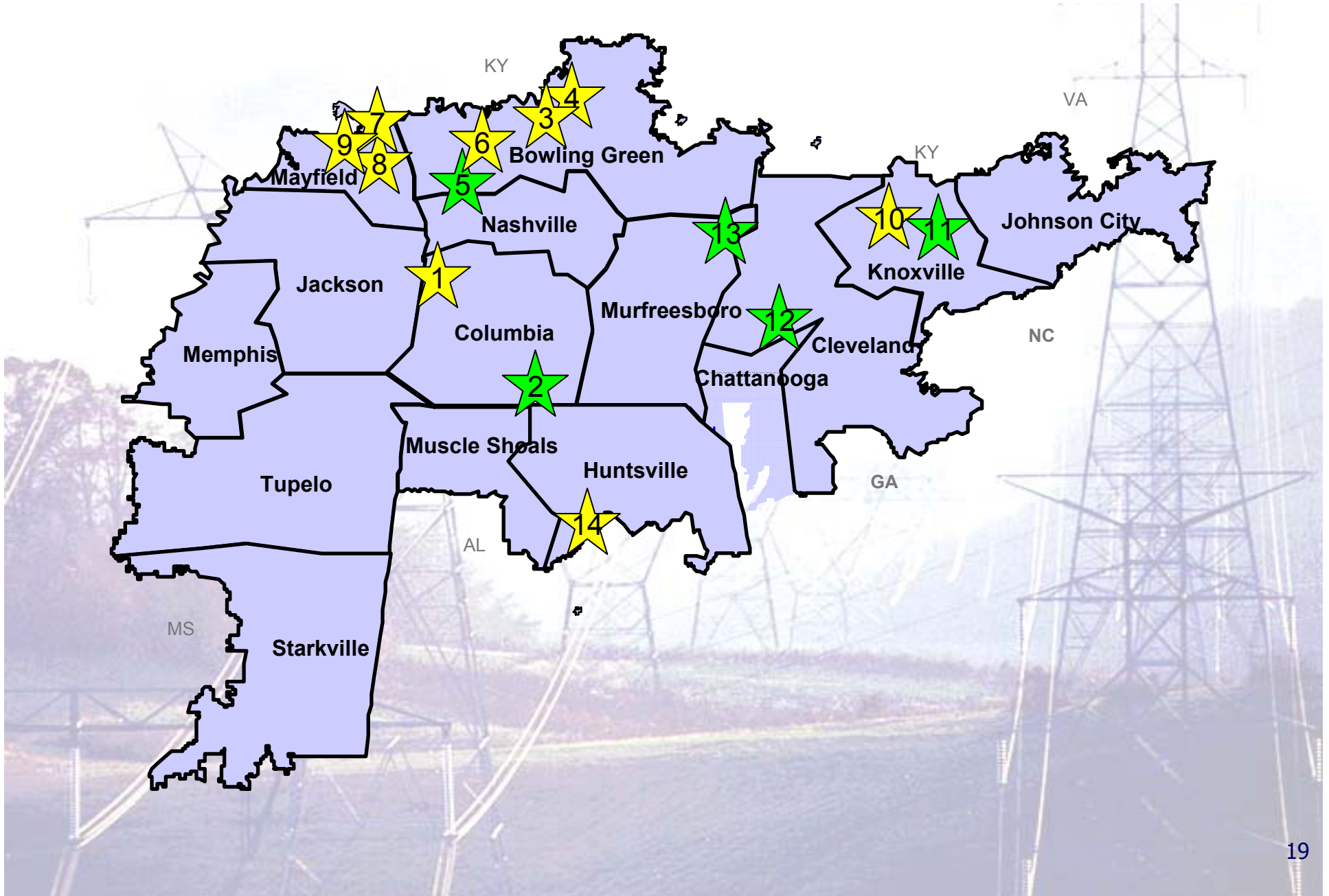
14 Problems Identified for N-1

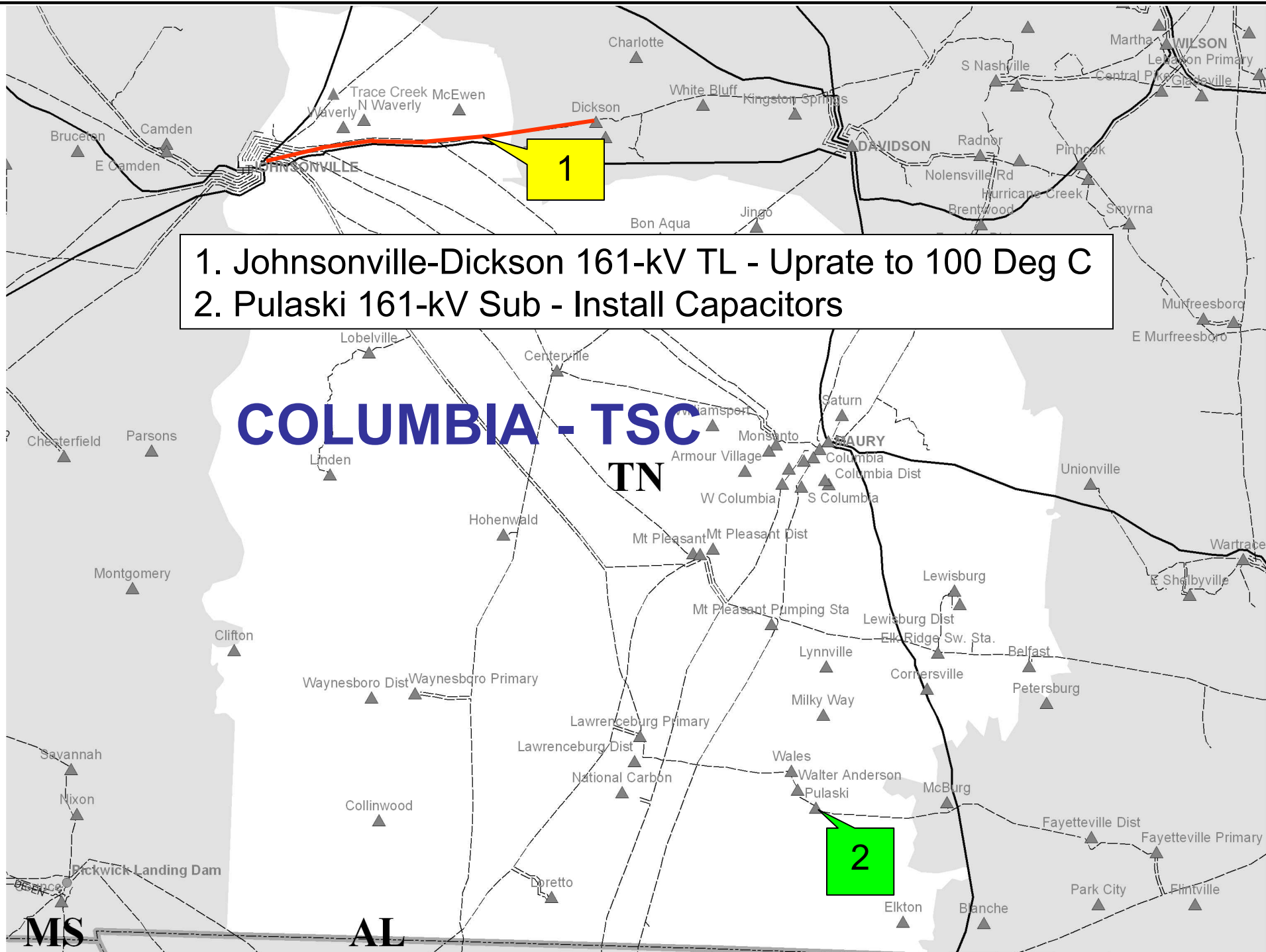
- 9 Overloads
- 5 Low Voltages

Summer 2011 Details

Map#	Contingency					Thermal Overload Violation					%	30 Second Solutions
	From#	From Name	To#	To Name	Ckt#	From#	From Name	To#	To Name	Ckt#		
1	48	8DAVIDSON TN	339	5DAVIDSON #2	1	39	5JVILLE FP#2	313	5DICKSON TN	1	104.3	Johnsonville - Dickson 161-kV TL - UPRATE to 100 C
3	43	5PARADISE FP	331	5BOWLING GRN	1	331	5BOWLING GRN	540	5LOSTCITY KY	1	112.9	Bowling Green - Lost City 161-kV TL - UPRATE to 100 C
4	43	5PARADISE FP	331	5BOWLING GRN	1	43	5PARADISE FP	1032	5ABERD KY TP	1	100.7	Paradise - E. Bowling Grn 161-kV TL - UPRATE to 100 C
6	45	5MONTGOMERY	492	5BARKERSMILL	1	325	5HOPKINSV KY	1302	5SUP GRAPH T	1	111.0	Hopkinsville - Caskey 161-kV TL - RECONDUCTOR
	45	5MONTGOMERY	492	5BARKERSMILL	1	1302	5SUP GRAPH T	329	5CASKY KY	1	104.3	
7	127	5KENTUCKY HP	572	5CALVERT T	1	125	5CALVERT KY	126	5SCALVERT KY	1	109.8	Calvert - KY Hydro 161-kV TL - UPRATE to 100 C
8	16	5MARSHALL KY	1163	5N STAR KY	1	16	5MARSHALL KY	125	5CALVERT KY	1	115.2	Marshall - Calvert #1 161-kV TL - UPRATE to 100 C
9	16	5MARSHALL KY	125	5CALVERT KY	1	16	5MARSHALL KY	1163	5N STAR KY	1	109.0	Marshall - Calvert #2 161-kV TL - UPRATE to 100 C
	16	5MARSHALL KY	125	5CALVERT KY	1	1163	5N STAR KY	1180	5PENNWALT TP	1	108.4	
	16	5MARSHALL KY	125	5CALVERT KY	1	1180	5PENNWALT TP	125	5CALVERT KY	1	105.4	
10	341	5BANGHAM TN	1236	5GAINSBRO TP	1	445	5BRAYTOWN TN	1542	5WINDROCK	1	114.8	Elza - Huntsville 161-kV TL - RECONDUCTOR
	341	5BANGHAM TN	1236	5GAINSBRO TP	1	442	5ELZA TN	1542	5WINDROCK	1	124.7	
14	651	3TRAFFORD AL	661	3FULTONDALE	1	279	5GUNTERSV HP	280	3GUNTERSV HP	1	137.1	Guntersville 161-kV HP - INCREASE TRANSFORMER CAPACITY
	651	3TRAFFORD AL	661	3FULTONDALE	1	279	5GUNTERSV HP	280	3GUNTERSV HP	2	136.1	
Map#	Contingency					Bus Voltage Violation			%	30 Second Solutions		
	From#	From Name	To#	To Name	Ckt#	Bus#	Bus Name					
2	391	5FAYETTVL TN	1033	5HAMILTN FAY	1	1033	5HAMILTN FAY	0.92	Pulaski 161-kV Sub - INSTALL ADDITIONAL CAPACITOR BANK			
	391	5FAYETTVL TN	1033	5HAMILTN FAY	1	1303	5MCBURG TN	0.94				
	299	5LAWRENCB TN	1260	5WALTER ANDR	1	1103	5PULASKI TN	0.93				
	299	5LAWRENCB TN	1260	5WALTER ANDR	1	1260	5WALTER ANDR	0.93				
5	325	5HOPKINSV KY	1302	5SUP GRAPH T	1	329	5CASKY KY	0.93	Edgoten 161-kV Sub - INSTALL CAPACITOR BANK			
	325	5HOPKINSV KY	1302	5SUP GRAPH T	1	564	5COMMERCE PK	0.93				
	325	5HOPKINSV KY	1302	5SUP GRAPH T	1	534	5SUP GRAPH	0.92				
	45	5MONTGOMERY	492	5BARKERSMILL	1	492	5BARKERSMILL	0.91				
	45	5MONTGOMERY	492	5BARKERSMILL	1	324	5EDGOTEN TN	0.91				
11	455	5NORRIS HP	1330	5JACKSBRO TP	1	454	5CARYVILL TN	0.92	Lafollette, Jellico, Norris - INSTALL 161-kV CAPACITOR BANKS			
	455	5NORRIS HP	1330	5JACKSBRO TP	1	1331	5JACKSBRO TN	0.92				
	455	5NORRIS HP	1330	5JACKSBRO TP	1	145	5ROYAL BLUE	0.93				
12	87	5WBHP	1041	5DAYTON TAP	1	461	5BRUSHCRK TN	0.94	Dayton 161-kV Sub - CONSTRUCT ALTERNATE FEED			
	87	5WBHP	1041	5DAYTON TAP	1	426	5DAYTON TN	0.92				
	87	5WBHP	1041	5DAYTON TAP	1	1238	5SKYLINE TN	0.93				
	87	5WBHP	1041	5DAYTON TAP	1	1183	5SMITHMTN TN	0.94				
13	341	5BANGHAM TN	1236	5GAINSBRO TP	1	341	5BANGHAM TN	0.91	Livingston / Bangham 161-kV Sub - INSTALL CAPACITOR BANK			
	341	5BANGHAM TN	1236	5GAINSBRO TP	1	1287	5JAMESTWN TN	0.93				
	341	5BANGHAM TN	1236	5GAINSBRO TP	1	342	5LIVINGST TN	0.92				
	341	5BANGHAM TN	1236	5GAINSBRO TP	1	1136	5MONROE	0.92				

TVA Transmission Service Centers (TSC)





- 1. Johnsonville-Dickson 161-kV TL - Uprate to 100 Deg C
- 2. Pulaski 161-kV Sub - Install Capacitors

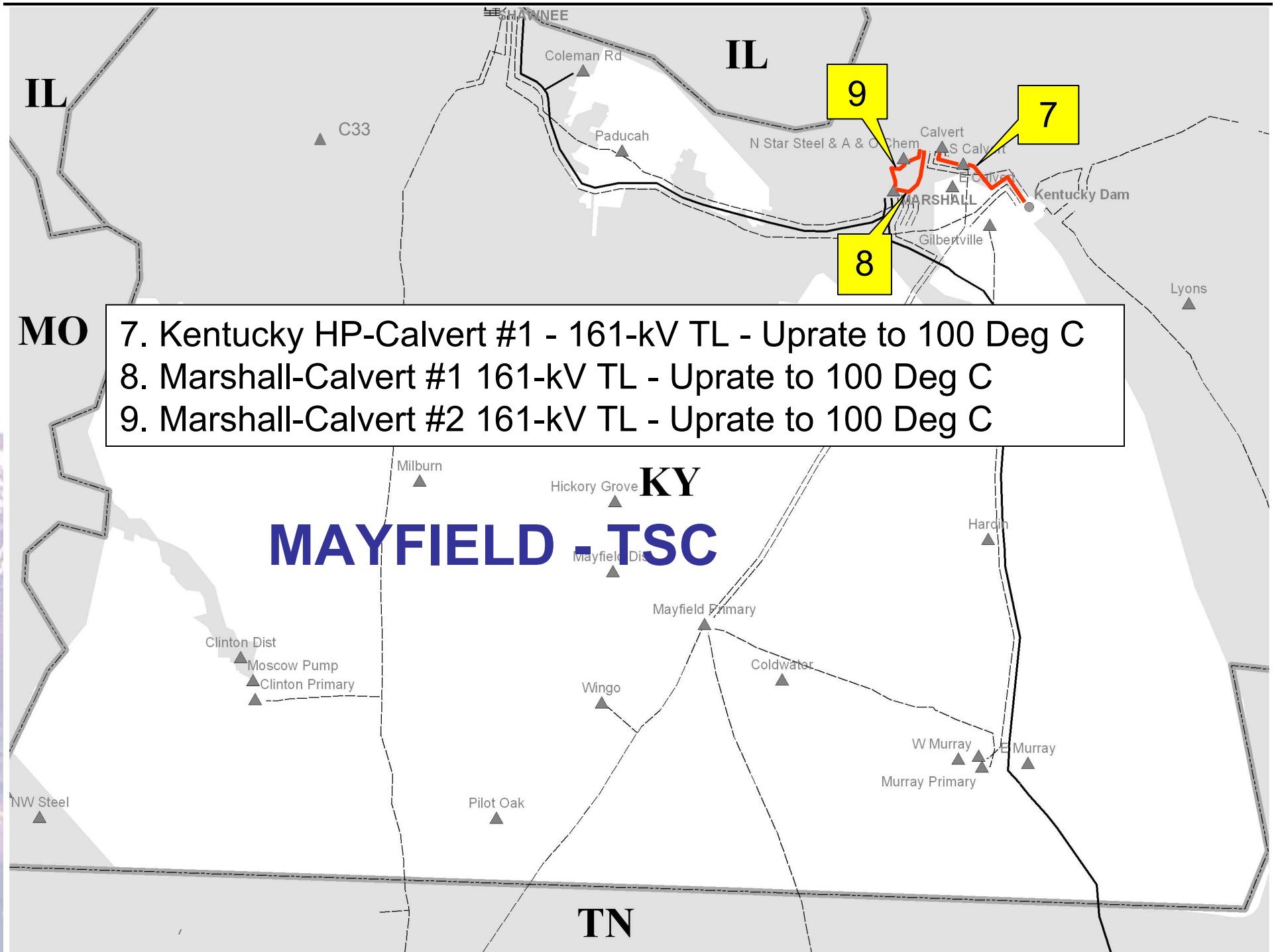
COLUMBIA - TSC TN

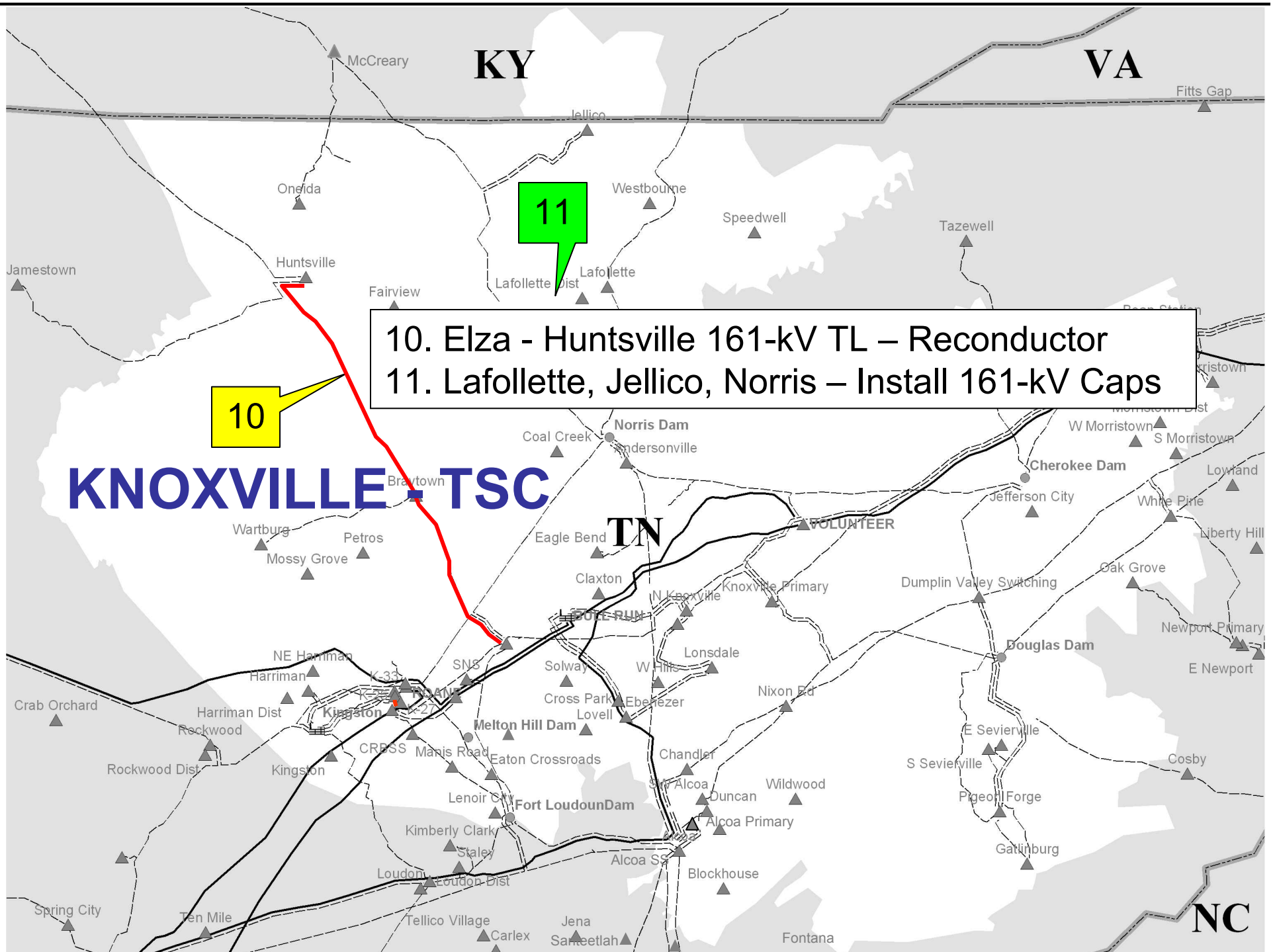
2

1

MS

AL





CLEVELAND - TSC

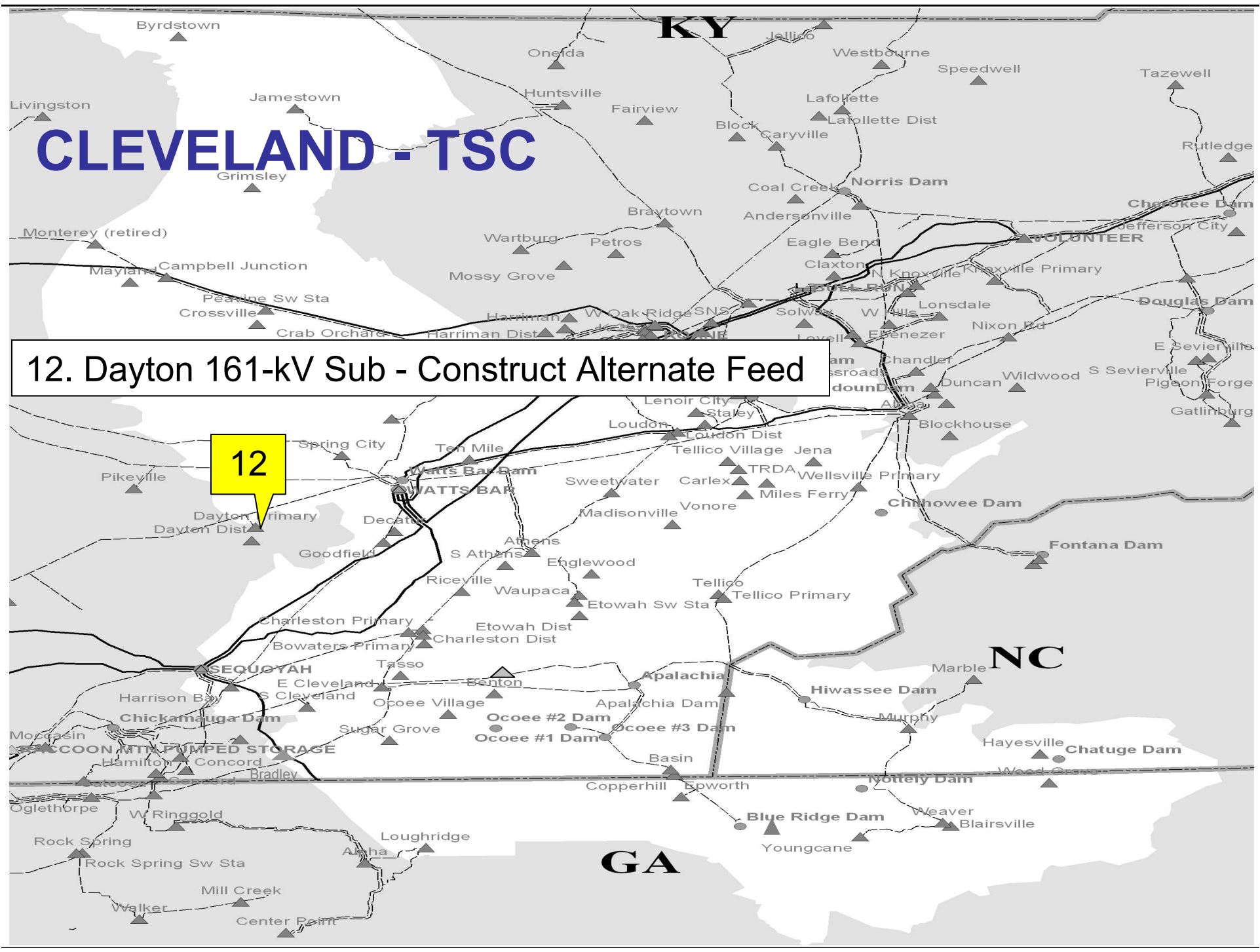
KY

NC

GA

12. Dayton 161-kV Sub - Construct Alternate Feed

12



KY

13. Livingston 161-kV Sub - Install capacitors

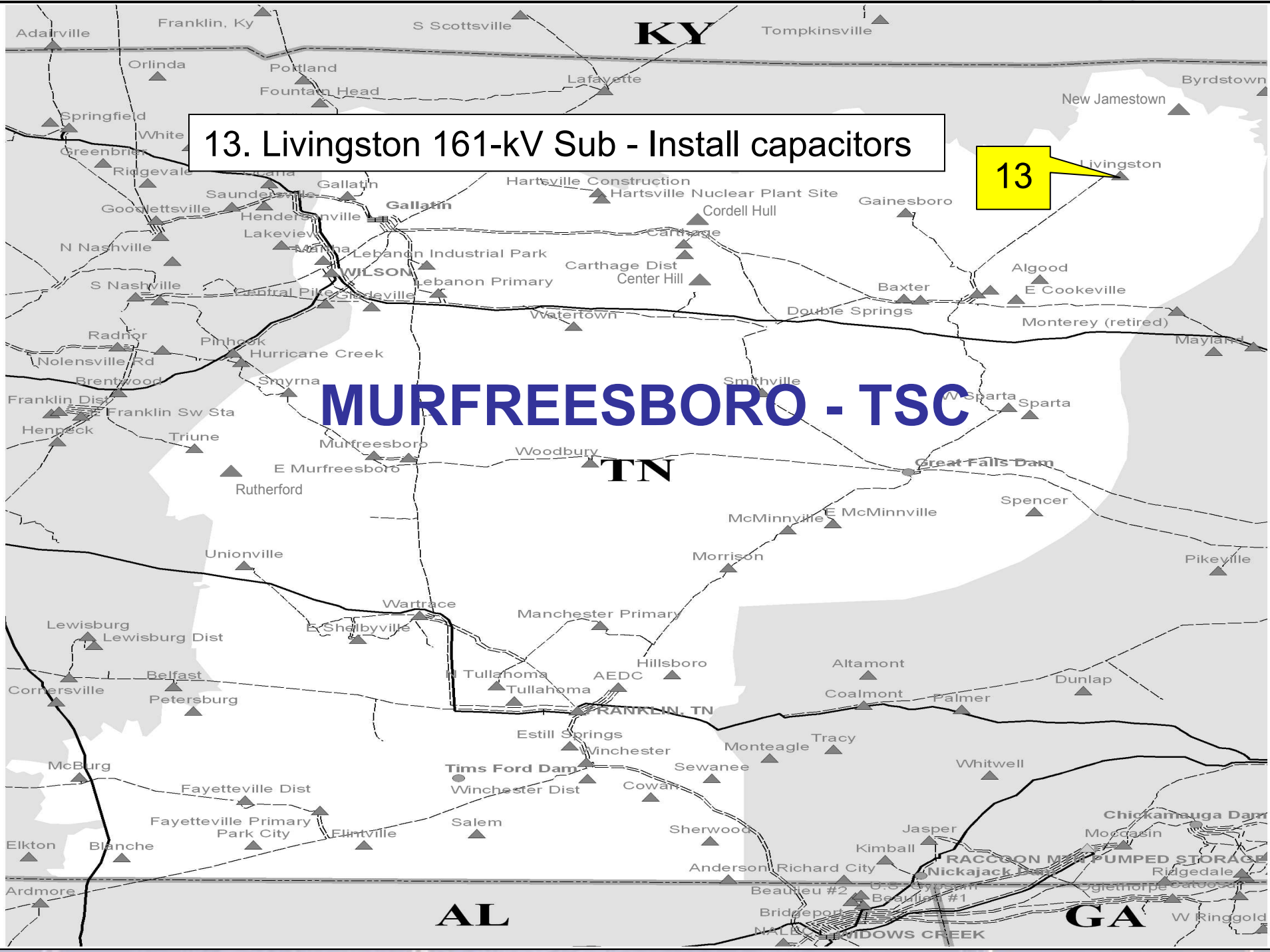
13

MURFREESBORO - TSC

TN

AL

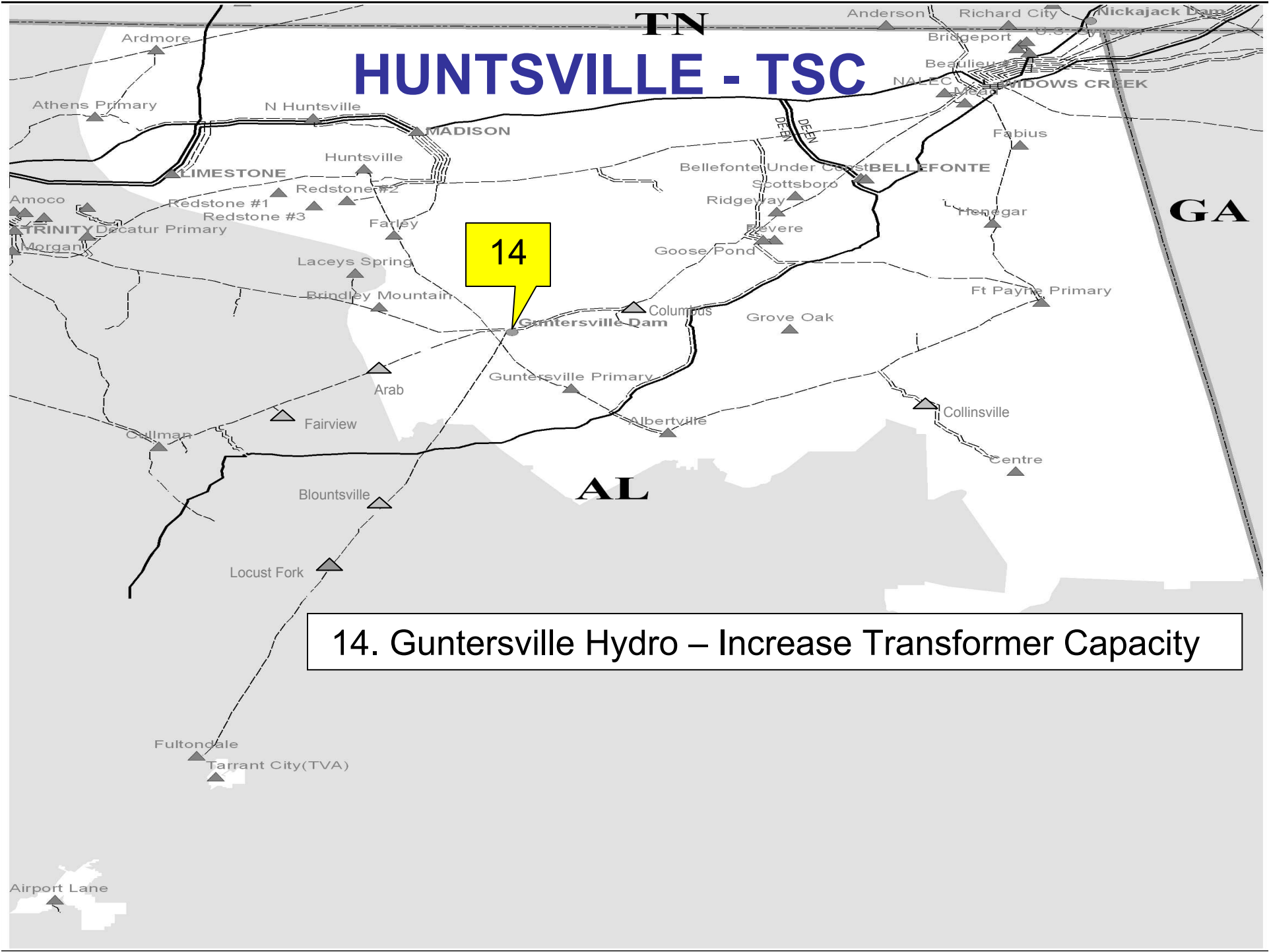
GA



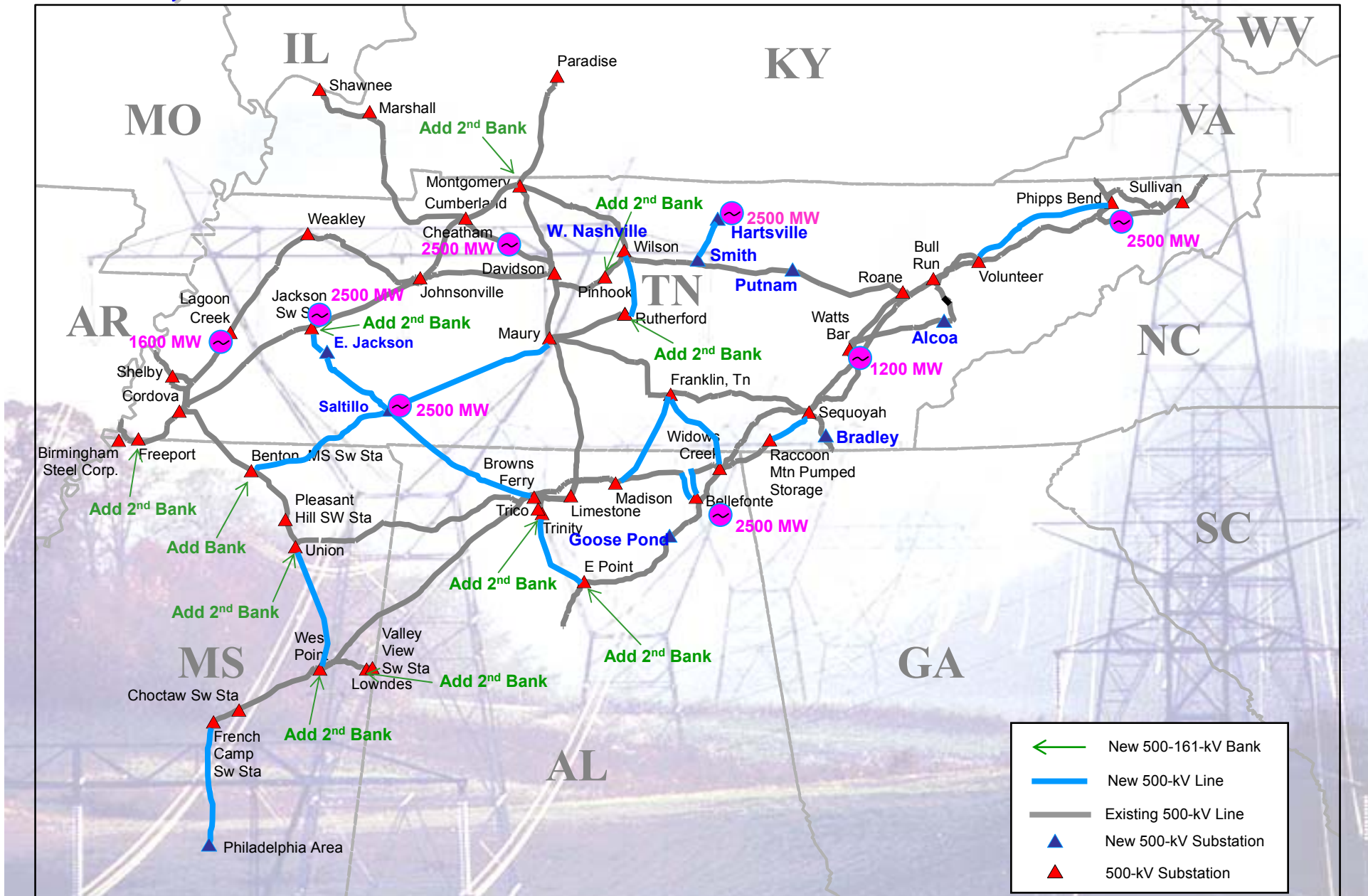
HUNTSVILLE - TSC

14

14. Guntersville Hydro – Increase Transformer Capacity



60,000 MW Plan - Resources Assumed



A photograph of a power line tower in a landscape with trees and a body of water. The tower is a lattice structure, and the background shows a line of trees and a body of water under a bright sky. The word "Questions?" is overlaid in the center.

Questions?