SOUTHERN COMPANY *Transmission*

Transmission Planning for New Generation at Plant Vogtle site

May 30, 2007

Tom Sims

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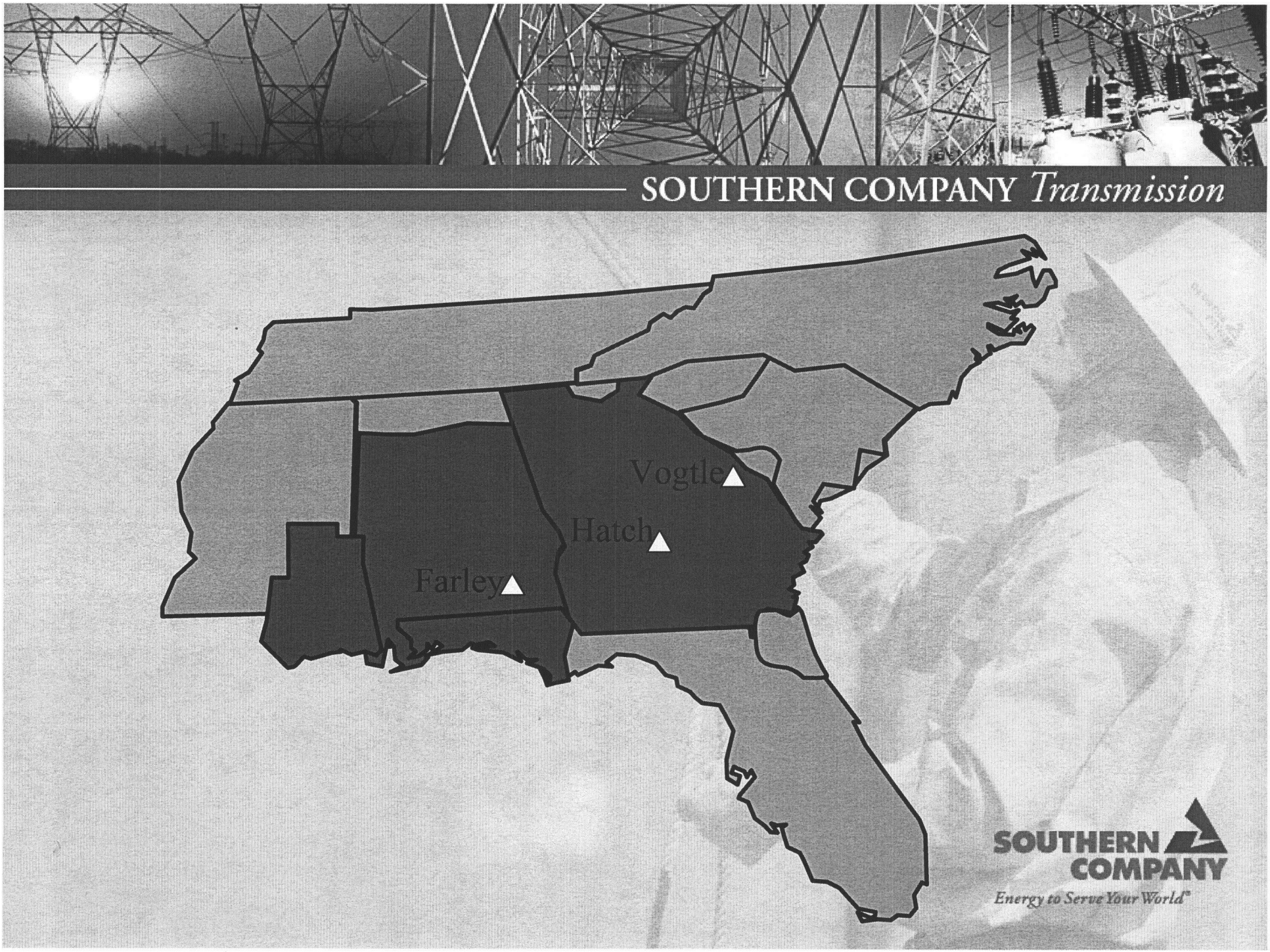
SOUTHERN COMPANY Transmission
Vogtle
Hatch
Farley
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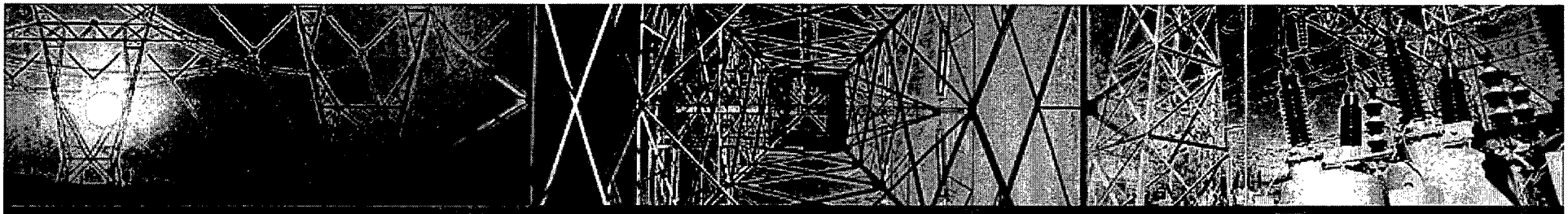

Ownership of Transmission in Georgia

- ITS (Integrated Transmission System)
  - Multiple Owners
    - Georgia Power Company
    - Georgia Transmission Company
    - MEAG
    - City of Dalton
  - Joint study for use and expansion of system

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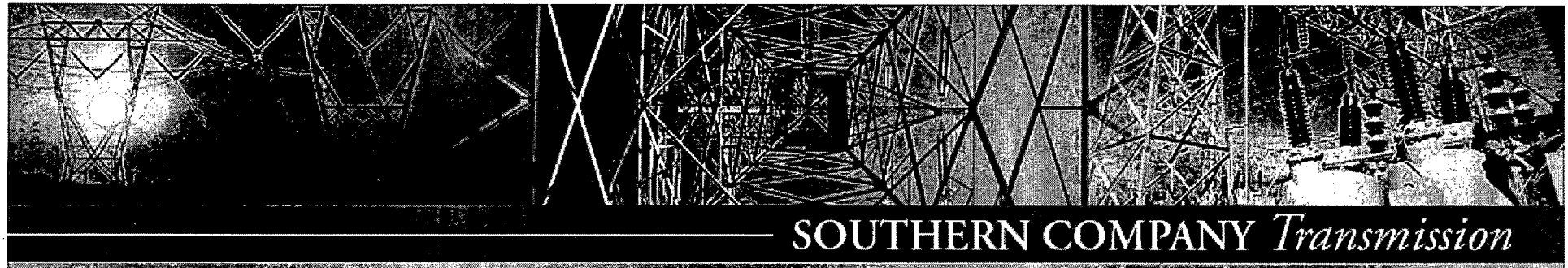

TP's Responsibility in Support of New Generation

- Coordinate Transmission's evaluation supporting SNC's needs regarding:
  - Connections and Improvements
  - Re-routing of lines
  - Schedule requirements
- Ensure reliable (meeting ERO standards), economical, and long-term adequacy of the transmission system for the delivery of power to native-load customers.
- Ensure budgeting of transmission projects and timely construction schedule to meet COD requirements

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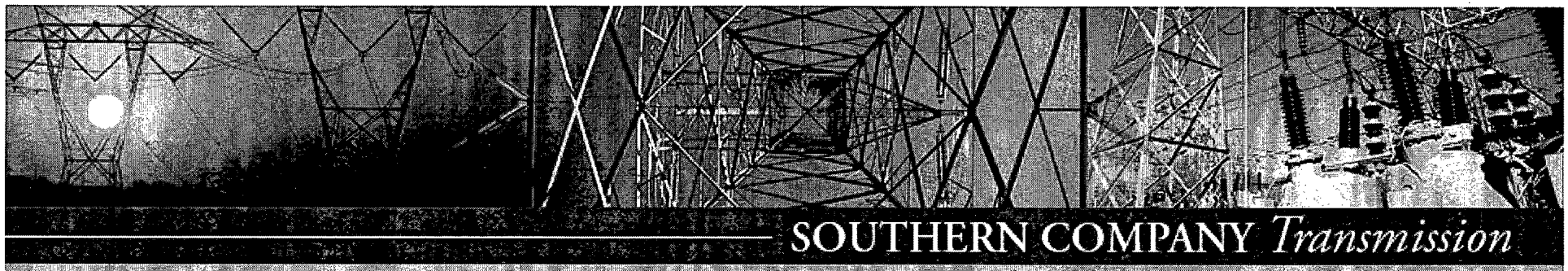

Transmission's Input into Plant Vogtle Site Selection

- Transmission involvement in project began in early 2005
- Performed screening studies
  - Determine if major transmission "brick walls" would be encountered
  - Screening level of cost impact

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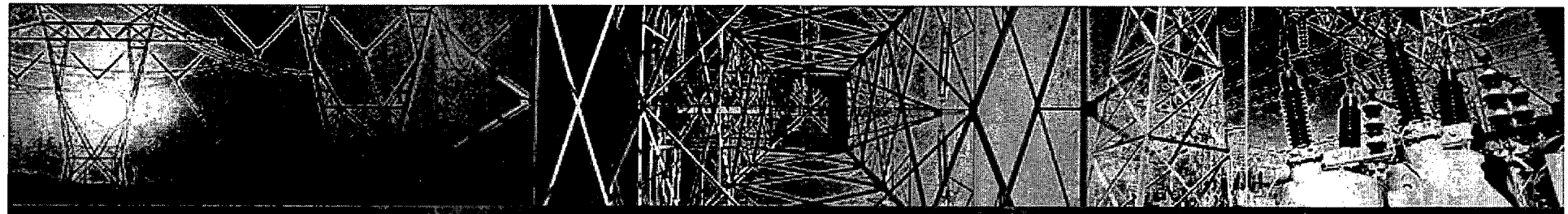

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Vogtle Site Transmission Planning Studies

- Interconnection
  - Stability, short circuit, physical layout
- Delivery
  - Thermal evaluation, voltage support
- Impact to Existing Vogtle Units
  - Studies to evaluate commitments for Unit 1 & 2 offsite source
- Interface to Neighbor systems
- Joint Regional Planning
- Coordination with ITS members
- Construction Schedule - Lead-time issues

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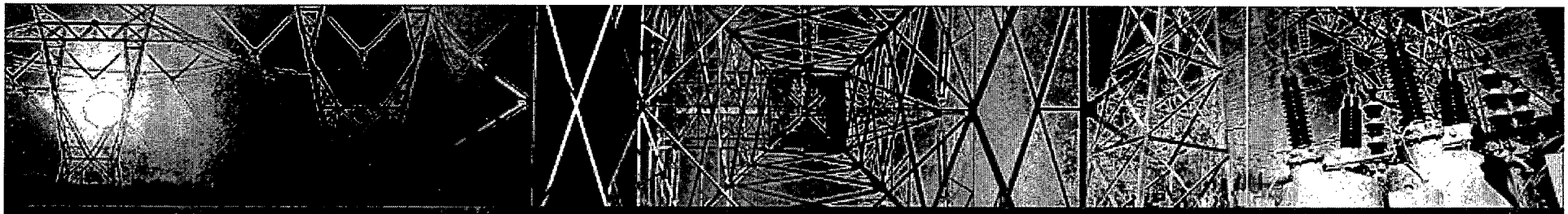

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Plant Vogtle Transmission Study Results

- Connect one new unit at 230kV and the second at 500kV
- Transmission improvement recommendations
  - 500kV transmission line recommendations
    - Move W. McIntosh line on site property
    - Add Vogtle – Thomson 500kV line
  - Expand 500 kV substation
  - Install 2 % reactor in each 500/230 kV transformer for fault current and power flow reduction
  - 15+ 230 kV breaker replacements
  - Additional 230kv switchyard to supply reserve aux. transformer
  - Relatively minor 230kV system issues

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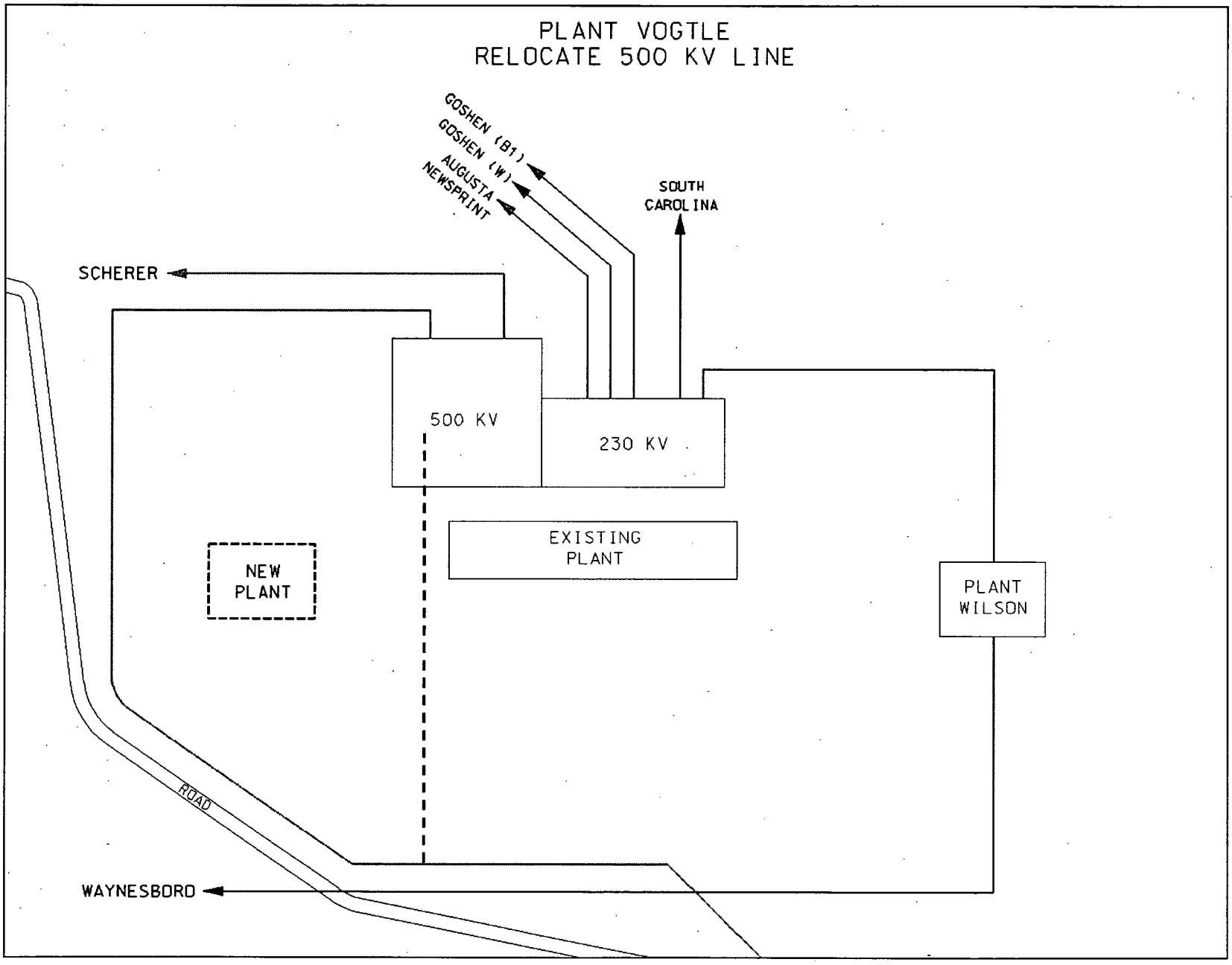
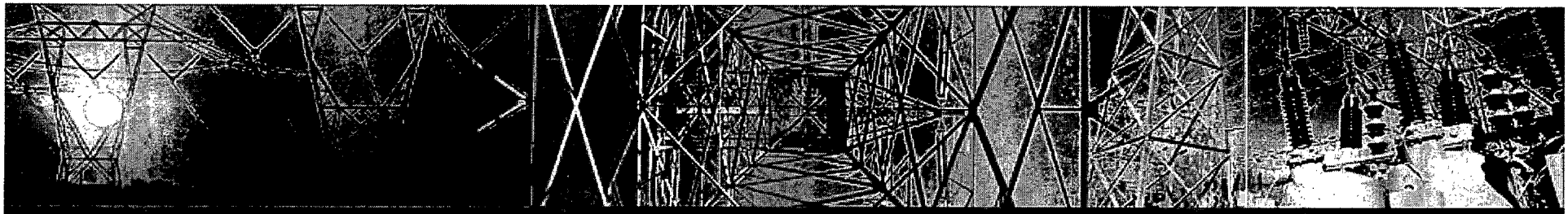

PLANT VOGTLE
RELOCATE 500 KV LINE
GOSHEN (B1)
GOSHEN (W)
AUGUSTA
NEWSPRINT
SOUTH
CAROLINA
SCHERER
500 KV
230 KV
EXISTING
PLANT
NEW
PLANT
PLANT
WILSON
ROAD
WAYNESBORO



500 kV New Line Recommendation

- New Vogtle to Thomson 500 kV line
  - Addresses Stability and Thermal issues
  - Lowest cost option
  - Preliminary right-of-way work in progress
- New line description loosely defined in Vogtle ESP
  - Three mile corridor included
    - Route details unknown at time of submittal

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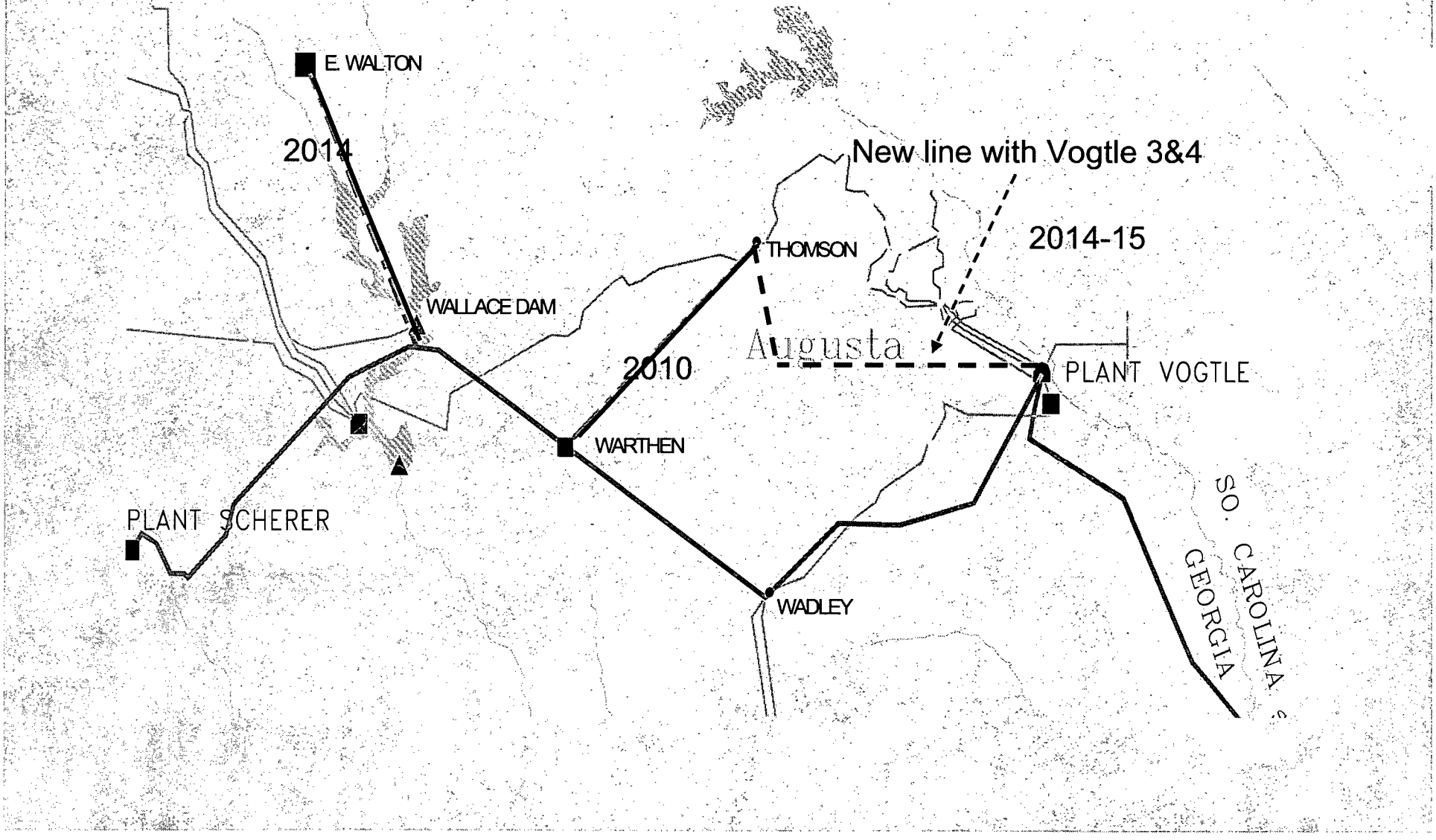
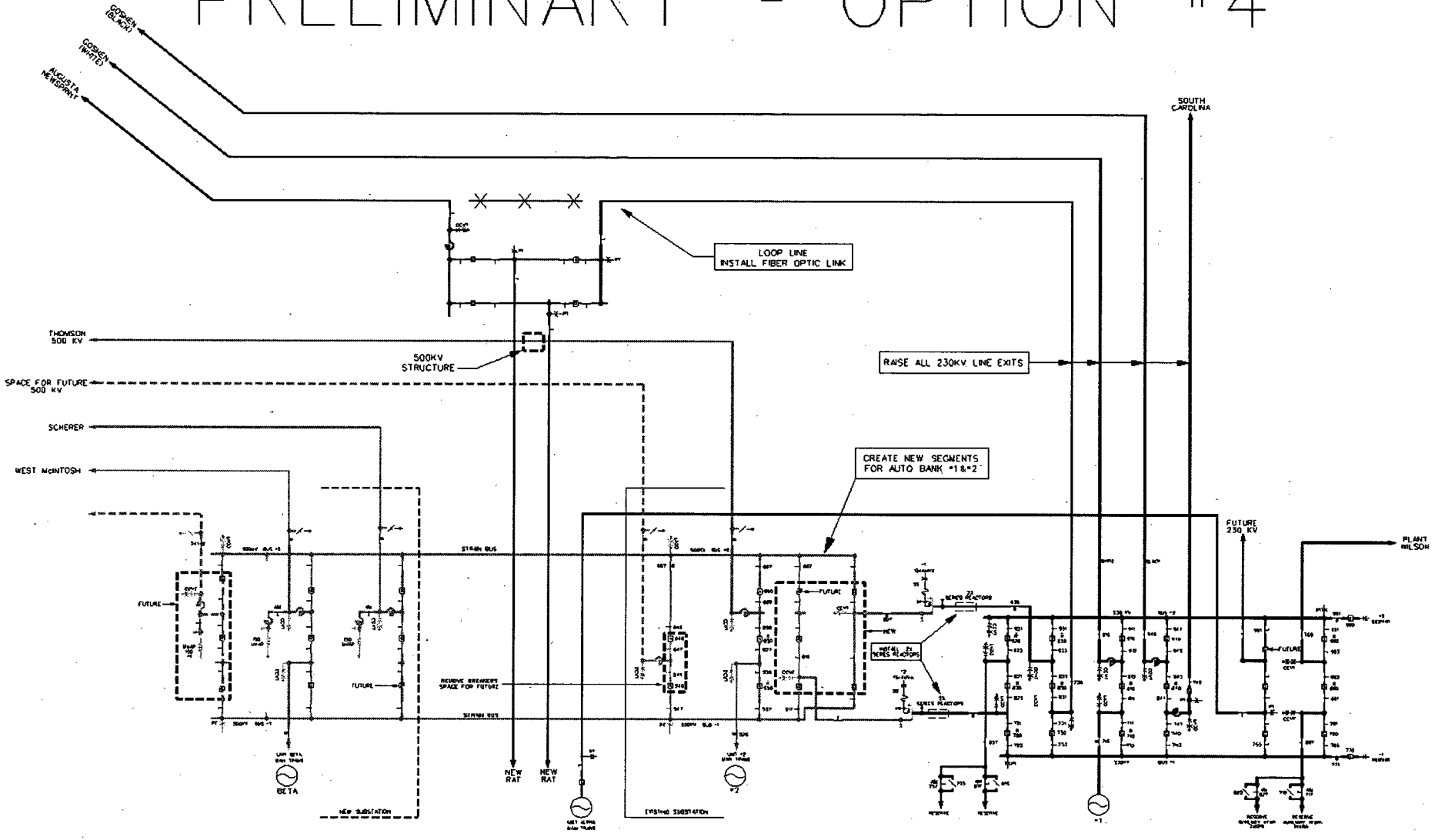
New 500KV in Vogtle Area

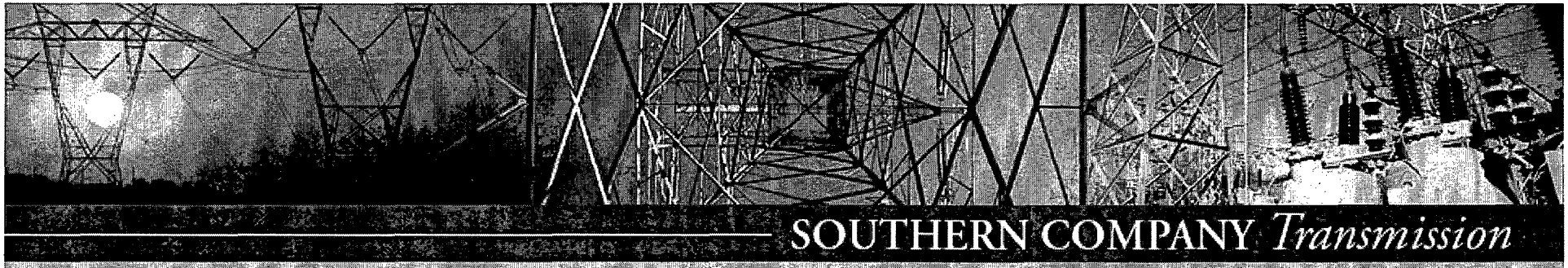


PRELIMINARY - OPTION #4



PRELIMINARY

VOGTLE UNITS 3 & 4
OPTION - #4
07-05-2006 (Revision #1) M. A. CARDEN



Next Steps

- Expect Spring 2008 filing with GPSC for approval to construct new units
- Continue to develop transmission implementation plans for meeting construction schedule including:
  - Moving of 500kV line in time for plant construction activity
  - Construction of new 500kV line
  - Ordering of long-lead time equipment
  - 230kV breaker replacement plan

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