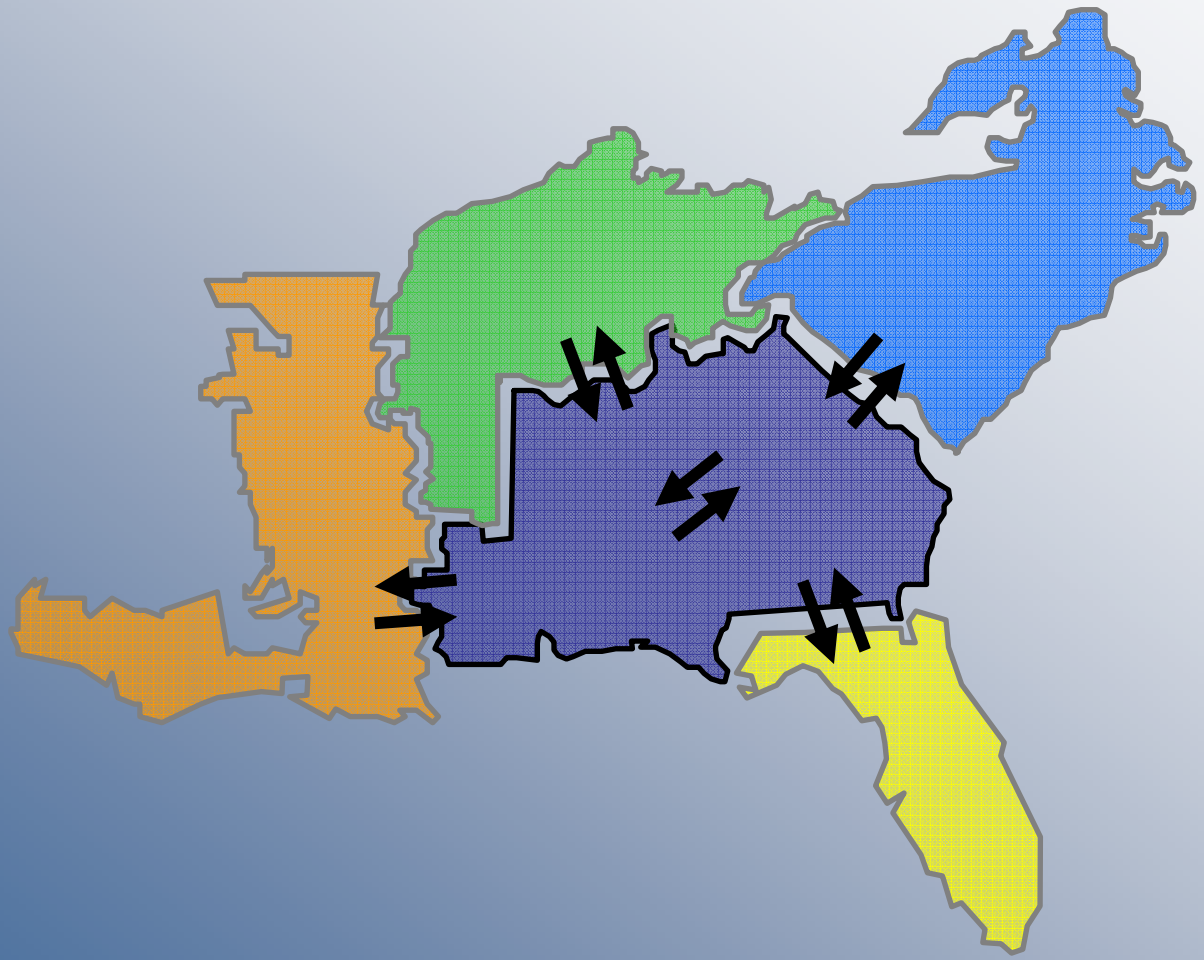
Southeastern Regional TRANSMISSION PLANNING

2010 SERTP

1st Quarter Meeting



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Welcome

SERTP 2010 – 1st Quarter Meeting

9:00 AM – 3:00 PM

(Lunch served at approximately 11:00 AM)

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Purposes and Goals of the Meeting

- Overview of 2010 SERTP Process
- RPSG Formation
  - "Regional Planning Stakeholders Group"
  - Committee Structure and Requirements
- Select and Vote on Five Stakeholder Requested Economic Planning Studies
- Confidential Data – Certification Process
  - Review of Process
- Interactive Training Session
  - Area Transmission Planning

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2010 SERTP Process Overview

- **1st Quarter Meeting**
  - "First RPSG Meeting and Interactive Training Session"
  - RPSG Formation
  - Select Five Economic Planning Studies
  - Interactive Training Session

- **2nd Quarter Meeting**
  - "Preliminary Expansion Plan Meeting"
  - Discuss Preliminary 10 Year Transmission Expansion Plan
  - Stakeholder Input and Feedback Regarding the Plan

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2010 SERTP Process Overview (Cont.)

- **3rd Quarter Meeting**
  - "Second RPSG Meeting"
  - Discuss the Preliminary Results of the Five Economic Studies
  - Stakeholder Input and Feedback Regarding the Study Results
  - Discuss Previous Stakeholder Input on the Expansion Plan

- **4th Quarter Meeting**
  - "Annual Transmission Planning Summit and Assumptions Input Meeting"
  - Discuss Final Results of the Five Economic Studies
  - Discuss the 10 Year Transmission Expansion Plan
  - Obtain stakeholder input on the transmission model assumptions used in developing next year's plan

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The SERTP Stakeholder Group: "RPSG"

- Serves Two Primary Purposes

1) The RPSG is charged with determining and proposing up to five (5) Economic Planning Studies on an annual basis

2) The RPSG serves as the representatives in interactions with the Transmission Provider and Sponsors for the eight (8) industry sectors

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RPSG Committee Structure

- RPSG Sector Representation

1) Transmission Owners / Operators
2) Transmission Service Customers
3) Cooperative Utilities
4) Municipal Utilities
5) Power Marketers
6) Generation Owners / Developers
7) Independent System Operators (ISOs) / Regional Transmission Operators (RTOs)
8) Demand Side Management / Demand Side Response

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RPSG Committee Structure

- Sector Representation Requirements
  - Maximum of Two (2) representatives per sector
  - Maximum of 16 Total Sector Members
  - A single company, and all of its affiliates, subsidiaries, and parent company, is limited to participating in a single sector

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RPSG Committee Structure

- Annual Reformulation
  - Reformed annually at each 1st Quarter Meeting
  - Sector Members will be elected for a term of approximately one year
  - Term ends at the start of the following year's 1st Quarter SERTP Meeting
  - Sector Members shall be elected by the Stakeholders present at the 1st Quarter Meeting
  - Sector Members may serve consecutive, one – year terms if elected
  - There is no limit on the number of terms that a Sector Member may serve

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RPSG Committee Structure

- Simple Majority Voting
  - RPSG decision-making that will be recognized by the Transmission Provider for purposes of Attachment K shall be those authorized by a simple majority vote by the then-current Sector Members.
  - Voting by written proxy is allowed.

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2010 Economic Planning Study Requests

Previous Economic Planning Studies

Discuss Economic Planning Study Requests

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RPSG Formation

Sector Representatives

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2010 Economic Planning Studies

[Vote on Economic Planning Studies]

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Lunch

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Confidential Data:
Certification Process

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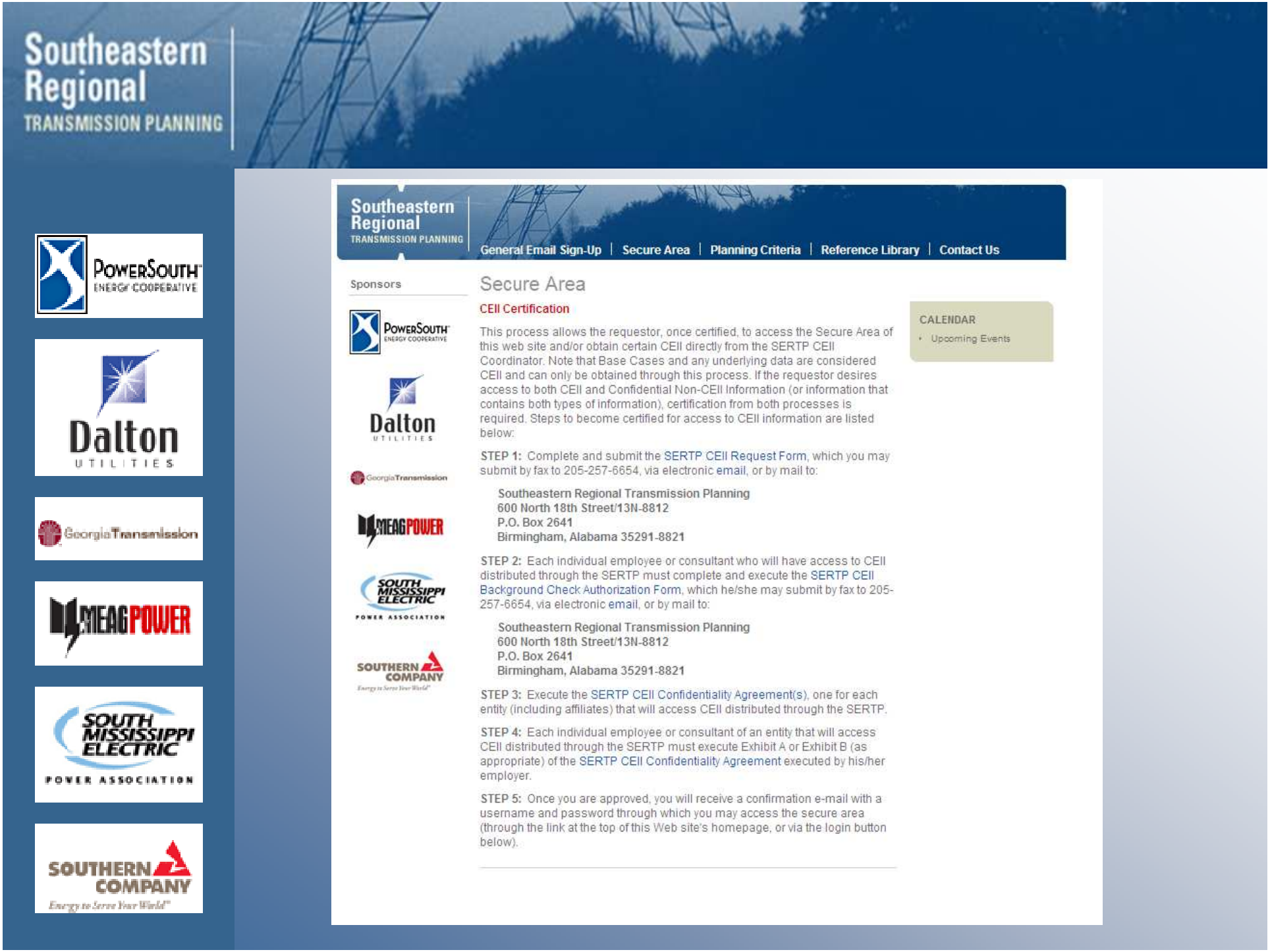
CEII Certification Process

2010 SERTP CEII Certification Overview

- What
  - 2009 Interim Agreements for CEII have expired as 12/31/2009;
  - All Stakeholders must complete new CEII Certification Process outlined on SERTP Website in order to gain access to Secure Area; and
  - CEII used in SERTP is accessible via Secure Area
- Why
  - FERC Oder on Rehearing June 18th 2009 Docket OA08-37-001
  - FERC Form 715 vetting disallowed
- How
  - Complete information request form;
  - Execute background check authorization form;
  - Execute CEII NDA

Access to models used in SERTP requires CEII certification.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Secure Area
CEII Certification
This process allows the requestor, once certified, to access the Secure Area of this web site and/or obtain certain CEII directly from the SERTP CEII Coordinator. Note that Base Cases and any underlying data are considered CEII and can only be obtained through this process. If the requestor desires access to both CEII and Confidential Non-CEII Information (or information that contains both types of information), certification from both processes is required. Steps to become certified for access to CEII information are listed below:
STEP 1: Complete and submit the SERTP CEII Request Form, which you may submit by fax to 205-257-6654, via electronic email, or by mail to:
Southeastern Regional Transmission Planning
600 North 18th Street/13N-8812
P.O. Box 2641
Birmingham, Alabama 35291-8821
STEP 2: Each individual employee or consultant who will have access to CEII distributed through the SERTP must complete and execute the SERTP CEII Background Check Authorization Form, which he/she may submit by fax to 205-257-6654, via electronic email, or by mail to:
Southeastern Regional Transmission Planning
600 North 18th Street/13N-8812
P.O. Box 2641
Birmingham, Alabama 35291-8821
STEP 3: Execute the SERTP CEII Confidentiality Agreement(s), one for each entity (including affiliates) that will access CEII distributed through the SERTP.
STEP 4: Each individual employee or consultant of an entity that will access CEII distributed through the SERTP must execute Exhibit A or Exhibit B (as appropriate) of the SERTP CEII Confidentiality Agreement executed by his/her employer.
STEP 5: Once you are approved, you will receive a confirmation e-mail with a username and password through which you may access the secure area (through the link at the top of this Web site's homepage, or via the login button below).
CALENDAR
Upcoming Events

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Area Planning

"First RPSG Meeting and Interactive Training Session"

- Explain and discuss the underlying methodology and criteria that will be utilized to develop the transmission expansion plan.
- Planning Criteria:
  - On the SERTP Website
  - Stakeholders may submit comments up to 10 business days after the meeting (April 13, 2010).

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Interactive Training
Area Transmission Planning

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Area Planning

Objective

- Review the area planning process used in developing the transmission expansion plan.

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Area Planning

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General Guidelines for Performing Area Planning

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Area Planning

Guidelines

- Area Planning principles are similar for all SERTP Sponsors
  - Meet NERC – TPL Standards
- The values shown in subsequent slides are based on Southern Company guidelines.

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Area Planning

Guidelines

- Voltage
  - Generating Plants: Terminal voltage on high side of GSU should not exceed the maximum or minimum allowable voltage limits for all facilities in service and during planning contingency conditions.

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Area Planning

Guidelines

- Voltage
  - Load Buses:
    - *No contingency:*
      - » < 500 kV: 95% to 105% of connected transformer voltage rating
      - » 500 kV: 98% to 107.5% of connected transformer voltage rating
    - *With contingency*:
      - » +/- 5% deviation for non-regulated buses
      - » +/- 8% deviation for regulated buses
      - » Voltage should not drop below 97% for 500 kV buses and below 90% for buses less than 500 kV.

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Area Planning

Guidelines

- Thermal Loading
  - Transmission Lines: Line loadings should not exceed design specifications of terminal connections, substation infrastructure or the line itself.
  - Transformers: Transformer loading should not exceed nameplate rating for normal conditions. Transformer loading should not exceed calculated capability rating for contingency conditions.

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Area Planning

Guidelines

- Thermal Ratings
  - Summer Ratings
    - In General, thermal ratings are based on 95 ^{o}F ambient temperature
    - Dynamic ratings utilized as needed when evaluating operating procedures

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Area Planning

Planning Contingencies: Guidelines

- Summer Peak
  - Loss of one transmission element and one critical generating unit
- Shoulder Conditions
  - 93% of summer peak load
  - Hydro generation off-line or motoring
  - Loss of one transmission element and one critical generating unit

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Area Planning

Additional Evaluations

- Stability Studies
- Interface Screens

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Area Planning

Planning Contingencies

- Special Studies (as appropriate)
  - Multiple unit and voltage levels at plants
  - Breaker failure/bus differential scenarios
  - Loss of common tower or ROW outages
  - Low probability, high consequence scenarios
  - Valley, Winter, and Hot Weather conditions
  - Below 93% of forecasted peak with loss of multiple units and/or transmission elements

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Area Planning Process

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Area Planning

Planning Process:
The Ten Year Expansion Plan

- First Five Year Focus
- Second Five Year Focus

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Area Planning

First Five Years

- Focus is on near-term reliability constraints.
- Utilize the most recent base case assumptions.
- Re-evaluate existing projects for timing and need.
- Assess need for additional projects.
- Coordinate with SERTP Sponsors and SERC members.
- Input from SERTP Stakeholders.
  - Preliminary plan discussed, along with years 6-10 (projected), at the “Preliminary Expansion Plan Meeting” in the 2nd Quarter.

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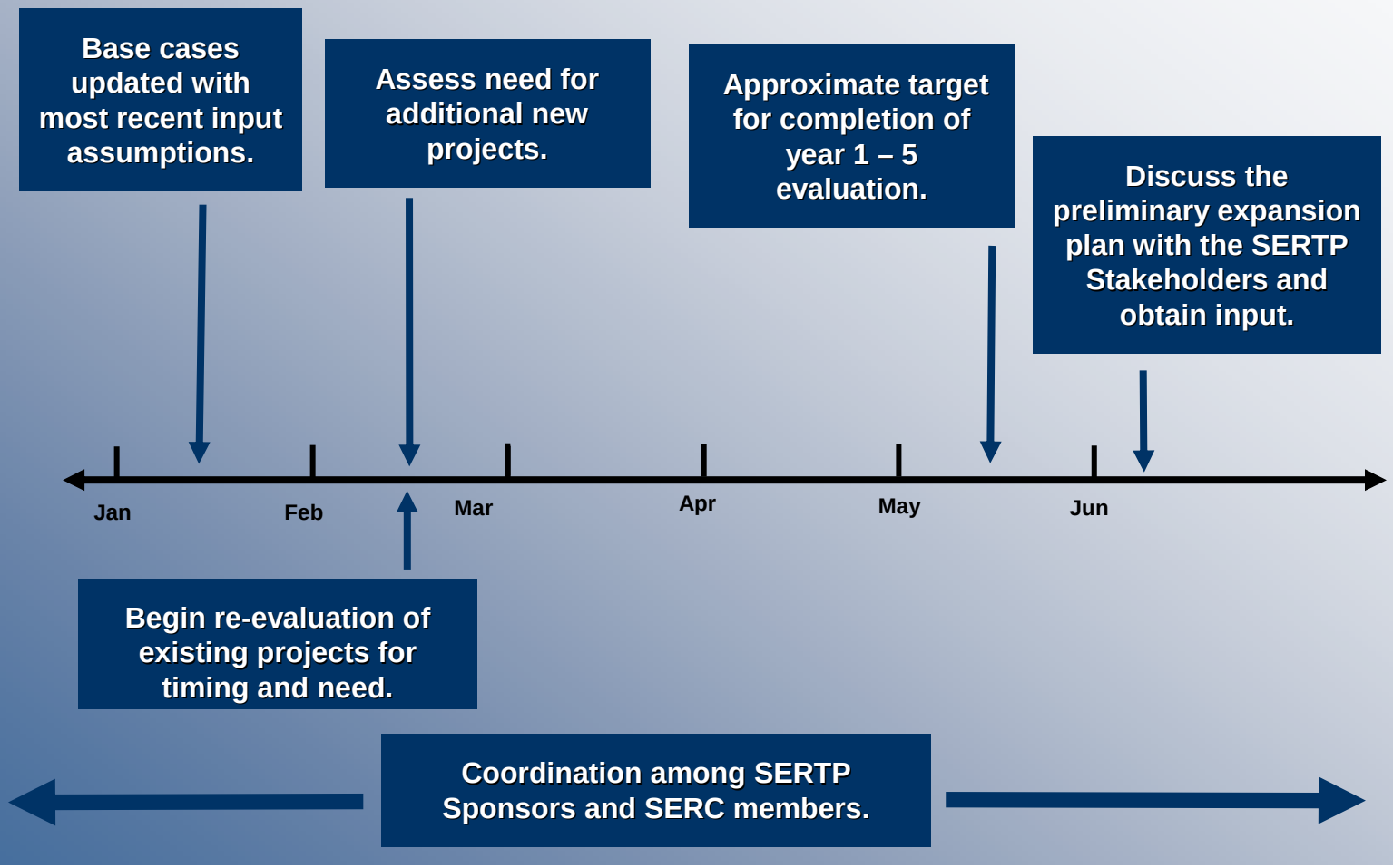
Area Planning

Approximate Time Line for Area Planning (Years 1 – 5)



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Area Planning

Second Five Years

- Focus is on outer-year reliability constraints.
- Update the base cases.
- Re-evaluate existing projects for timing and need.
- Assess need for additional projects.
- Coordinate with SERTP Sponsors and SERC members.
- Input from SERTP Stakeholders.
- Year-end review of 10 year expansion plan and update the base cases.

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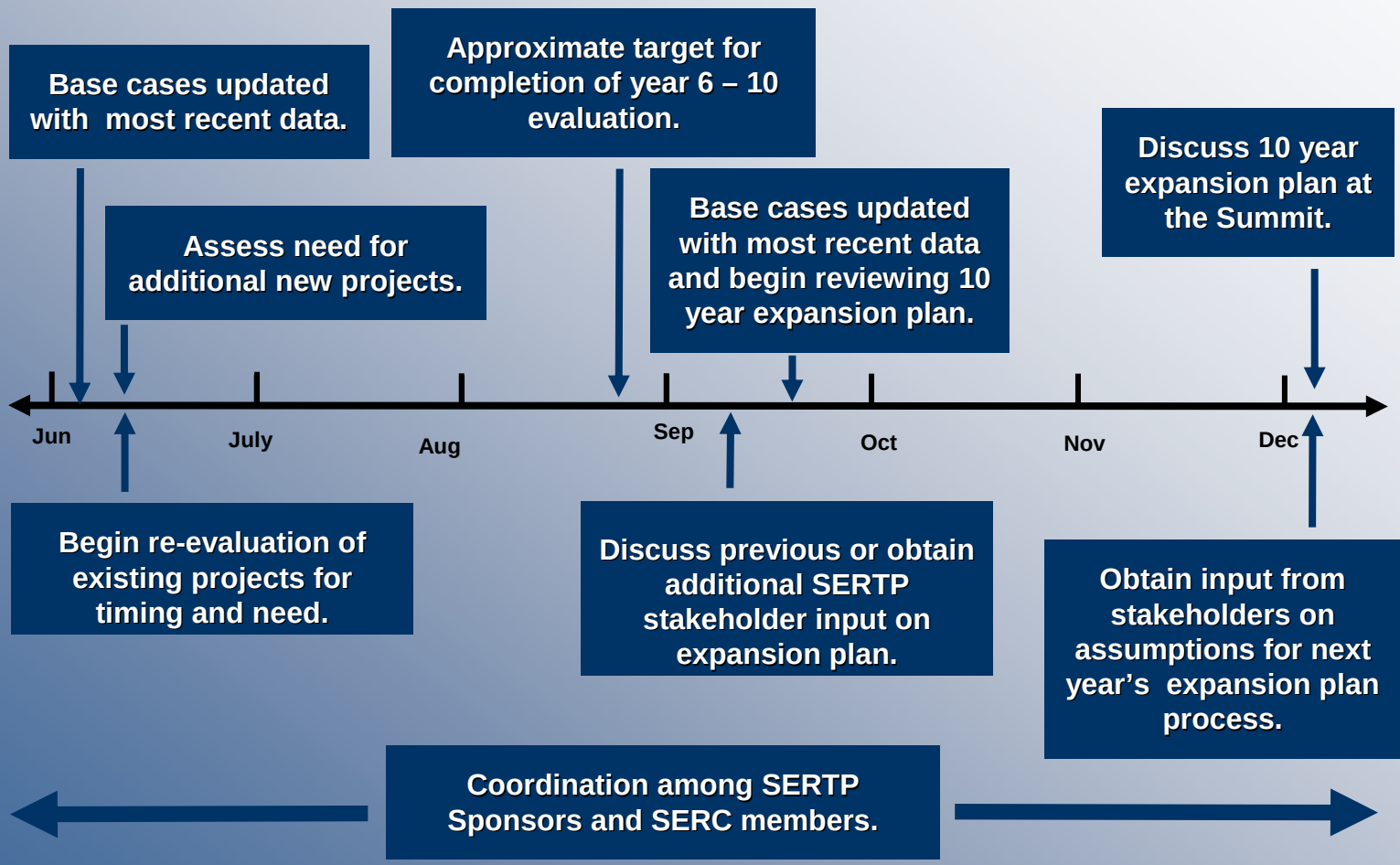
Approximate Time Line for Area Planning (Years 6 – 10)



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Example

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Area Planning

Example

- **Original Project Year from 2008 Expansion Plan:**
  - 2011
- **Constraint:**
  - Douglasville - Post Road 115kV T.L.
- **Contingency:**
  - The loss of the Post Road end of the Douglasville - Post Road 115 kV line overloads the Douglasville end. Also, the East Point - Ben Hill Jct. 115 kV line section will overload if Anneewakee is shifted to this line after loss of the normal source (Douglasville - Post Road).
- **Enhancement**:
  - Replace 6.0 miles of 336 and 397 ACSR 115kV line with 1033 ACSR in 2011.

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Area Planning

Example

- With the 2009 assumptions, which included a downward trend in loading, the thermal constraint was no longer present in 2011.
- The 2009 expansion plan process determined that the line exceeded its thermal rating for the same contingency in 2014.
- Currently, re-evaluating need for project in 2014.

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2014: Douglasville – Post Road 115 kV Line Reconductor

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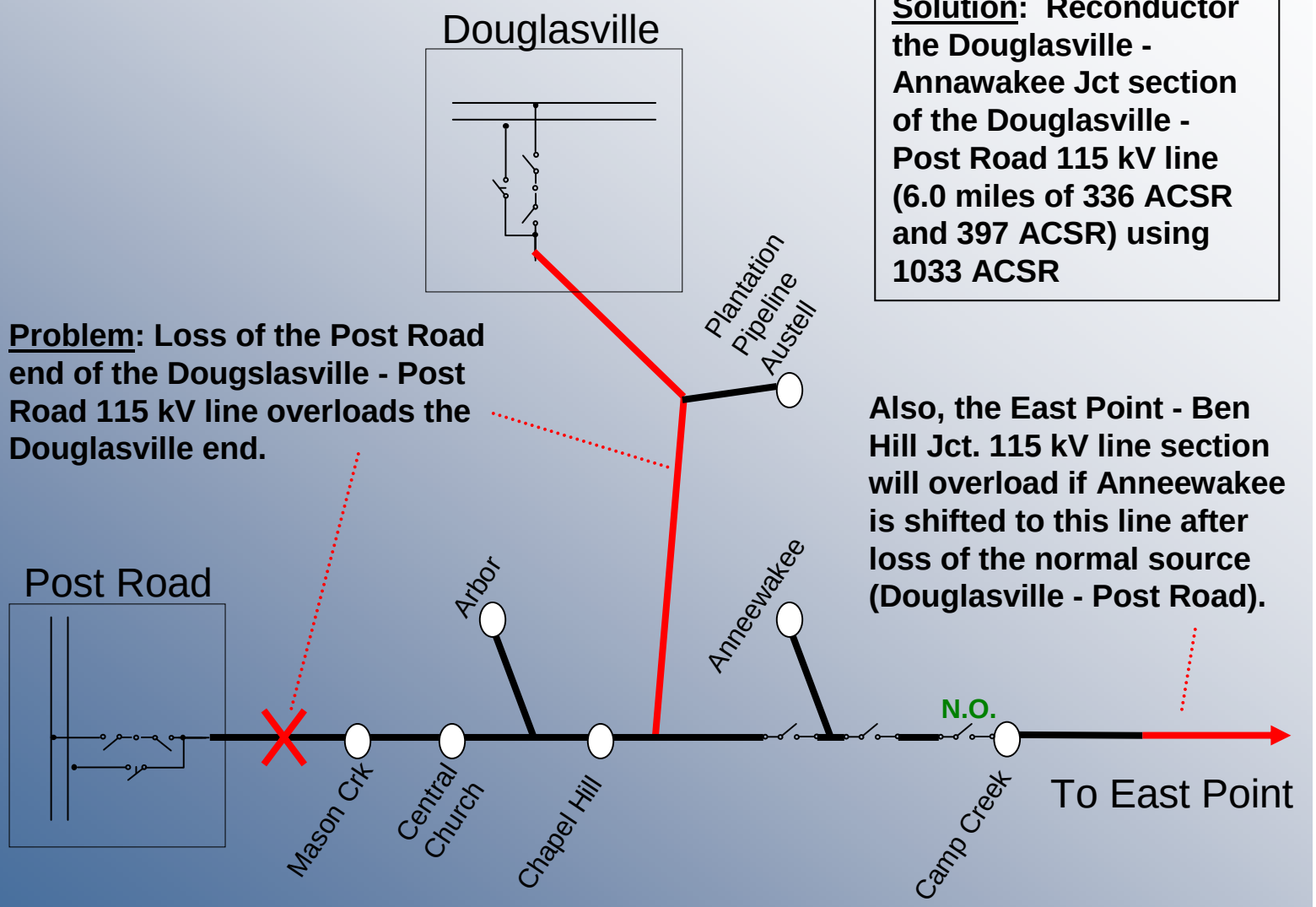
Solution: Reconductor the Douglasville - Annawakee Jct section of the Douglasville - Post Road 115 kV line (6.0 miles of 336 ACSR and 397 ACSR) using 1033 ACSR

Problem: Loss of the Post Road end of the Dougslasville - Post Road 115 kV line overloads the Douglasville end.

Also, the East Point - Ben Hill Jct. 115 kV line section will overload if Anneewakee is shifted to this line after loss of the normal source (Douglasville - Post Road).



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Area Planning

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Discussion

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Next Meeting Activities

"Preliminary Expansion Plan Meeting"

Location: TBD

Date: June 2010

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Questions?