

## SERTP - 1<sup>st</sup> Quarter Meeting

*First RPSG Meeting & Interactive Training Session*

March 25, 2025




## Agenda

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- **Welcome and Introductions**
  - Safety Brief
  - Roll Call/Wi-Fi Instructions
- **Miscellaneous Items**
  - Cost Estimate Update
  - Public Policy Requirement (PPR) Stakeholder Requests
- **Interactive Training Session**
  - SERTP Process Overview
  - What is the Regional Planning Stakeholders Group (RPSG)?
- **Form the RPSG**
  - Committee Structure & Requirements
- **Economic Planning Studies**
  - Review Requested Sensitivities for 2025
  - RPSG to Select up to Five Economic Planning Studies
- **Next Meeting Activities**

## Housekeeping

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- This is a hybrid meeting.
  - **Virtual attendees**, please use the  function to ask questions.
  - **In-person attendees**, please raise your  to indicate you have a question, wait to be called on and use the  to ensure all participants can hear.
- All attendees, please state your name and company when asking and answering questions.

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Cost Estimate Update

## Cost Estimate Update

- **SERTP Sponsors located in the Southern Balancing Authority Area (SBAA) have made planning-grade cost estimate information available by request and subject to a confidentiality agreement.**
  - The SBAA includes the following SERTP Sponsors: Southern Company, Georgia Transmission Company, MEAG Power, Dalton Utilities, and PowerSouth.

### Confidential Non-CEII Information Certification

This process allows the requestor, once certified, to access the Confidential Non-CEII Secure Area of this web site and/or to receive confidential non-CEII information directly from the sponsors, depending upon the nature of the request and the information provided. 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 confidential non-CEII information are listed below.

1. Complete and submit the [SERTP Confidential Non-CEII Information Request Form](#), which you may submit by fax to 205-257-6654, via electronic email to [southeasternrtp@southernco.com](mailto:southeasternrtp@southernco.com), or by mail to:

Southeastern Regional Transmission Planning  
600 North 18th Street/13N-8812  
P.O. Box 2641  
Birmingham, Alabama 35291-8821

2. Execute the [SERTP Non-CEII Confidentiality Agreement\(s\)](#), one for each entity that will access confidential non-CEII information distributed through the SERTP.
3. Each individual employee or consultant of an entity that will access confidential non-CEII information distributed through the SERTP must execute Exhibit 2 of the [SERTP Non-CEII Confidentiality Agreement](#) executed by his/her employer.
4. Once you are approved, you will receive a confirmation e-mail with a username and password through which you may access the Confidential Non-CEII Information section of the secure area via the login button below.

LOGIN

[Back to Top >>](#)

To request SBAA planning-grade cost estimate information:

1. Complete the [SERTP Confidential Non-CEII Information Request Form](#) located on the SERTP website
2. Execute the [SERTP Non-CEII Confidentiality Agreement](#) located on the SERTP website
3. Provide both documents to the [Southeasternrtp@southernco.com](mailto:Southeasternrtp@southernco.com) email account.

Once approved you will be granted access to the SERTP Secure Non-CEII Area SharePoint.

## Cost Estimate Update

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- **Duke Energy Progress and Duke Energy Carolinas are compiling cost estimate information and plan to make it available to SERTP stakeholders by the SERTP Q2 meeting in June.**
- **LGE-KU and TVA plan to share cost estimate information for all projects included in the SERTP Preliminary Expansion Plan as part of the SERTP Q2 meeting in June.**
  - Cost estimate information would be updated as needed for the Final Expansion Plan in December.

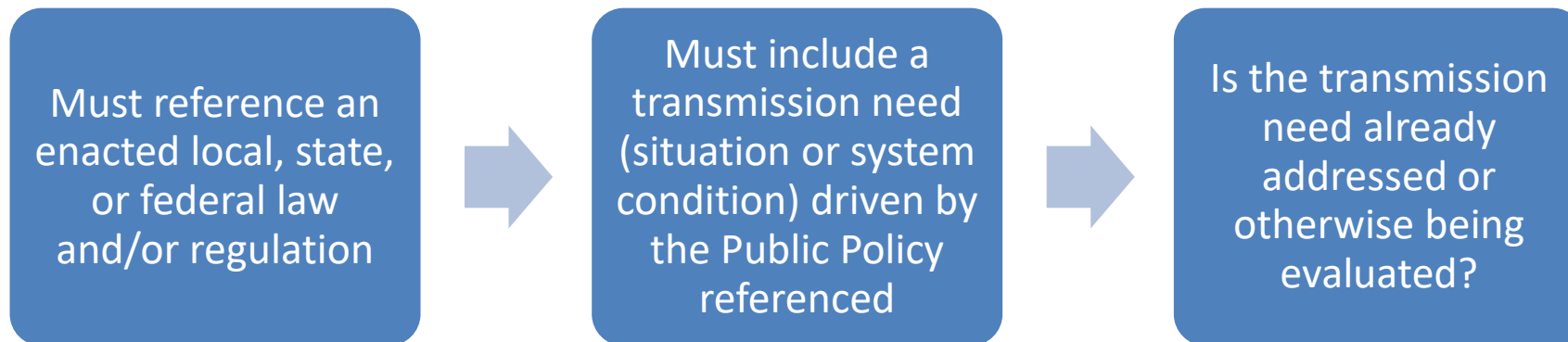
## SERTP

# Public Policy Requirements Stakeholder Proposal and Evaluation

## SERTP PPR Evaluation

### Transmission Needs Driven by Public Policy Requirements (PPRs)

- This year, SERTP received one (1) submission for transmission needs driven by Public Policy Requirements. The submission was related to North Carolina House Bill 951 (“NC HB951”) and the Duke Energy Carolinas (“DEC”) and Duke Energy Progress (“DEP”) Carbon Plan/Integrated Resource Plan (“CPIRP”). The PPR submission requested that SERTP evaluate if there are regional transmission projects that would allow the carbon emissions reduction goals of NC HB951 to be achieved by 2030.
- PPR Evaluation Criteria





## SERTP PPR Evaluation

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- North Carolina House Bill 951 (“NC HB951”) is a North Carolina law and thus a Public Policy Requirement.
- DEC and DEP implement NC HB951 in the Carbon Plan/IRP (“CPIRP”) process which is governed by the NC Utilities Commission.
- SERTP concludes that the identified Public Policy Requirement does not drive regional transmission needs. The submission states that regional transmission projects “could increase transfer capacity between the Duke utilities and other SERTP utilities that can add additional clean energy to the grid faster than DEC and DEP.” NC HB951 does not drive a regional transmission need because DEC/DEP's CPIRP does not include any generation resources that are located outside of the DEC/DEP footprint.
- Therefore, this submission does not constitute a PPR driving transmission needs for further evaluation in the 2025 transmission planning cycle.
- All transmission solutions arising out of the CTPC are included in the SERTP planning process, such as the CTPC Red Zone Expansion Plan 1.0 projects. Projects recently approved in the Red Zone Expansion Plan 2.0 will be included in the 2025 SERTP planning process.

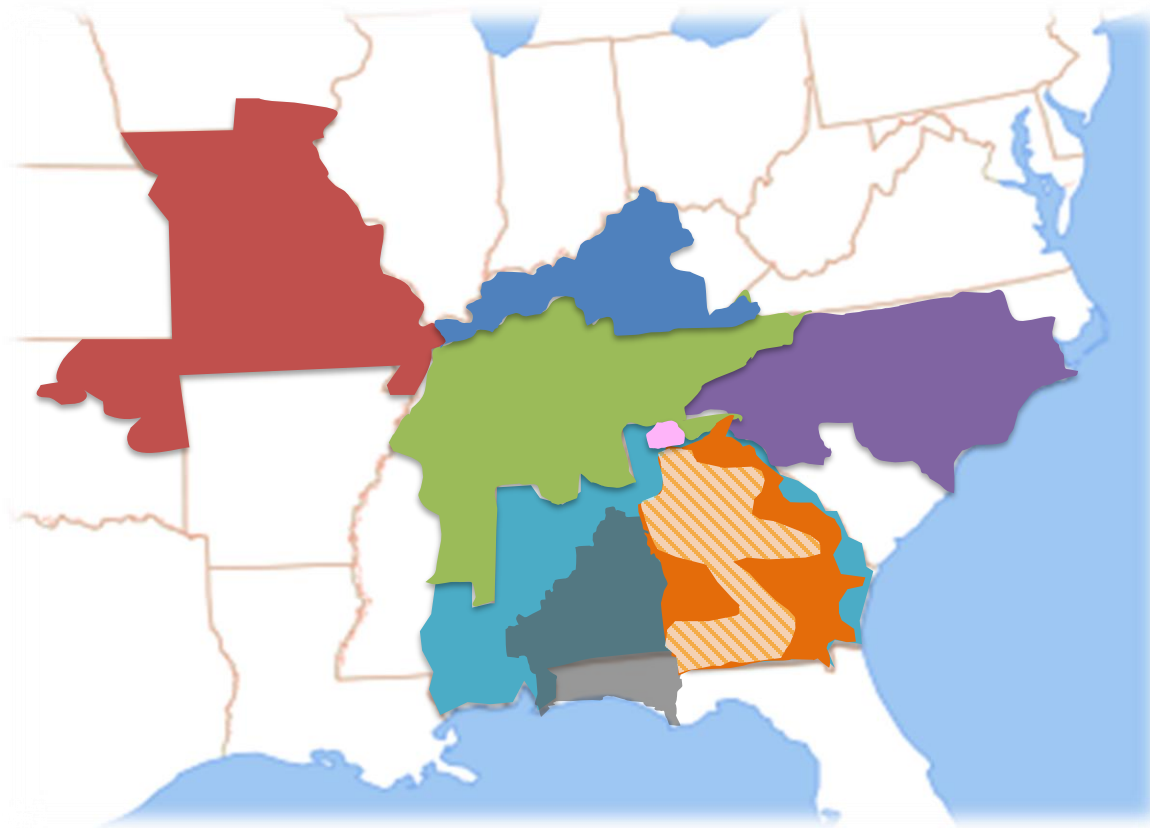
# SERTP – 1st Quarter Meeting Interactive Training Session

*SERTP Process Overview*

*and*

*What is the RPSG?*

## Southeastern Regional Transmission Planning (SERTP)



### SERTP

-  Associated Electric Cooperative Inc.
-  Dalton UTILITIES
-  DUKE ENERGY
-  GeorgiaTransmission
-  IGE & KU
-  MEAGPOWER
-  POWER SOUTH ENERGY COOPERATIVE
-  Southern Company
-  TVA

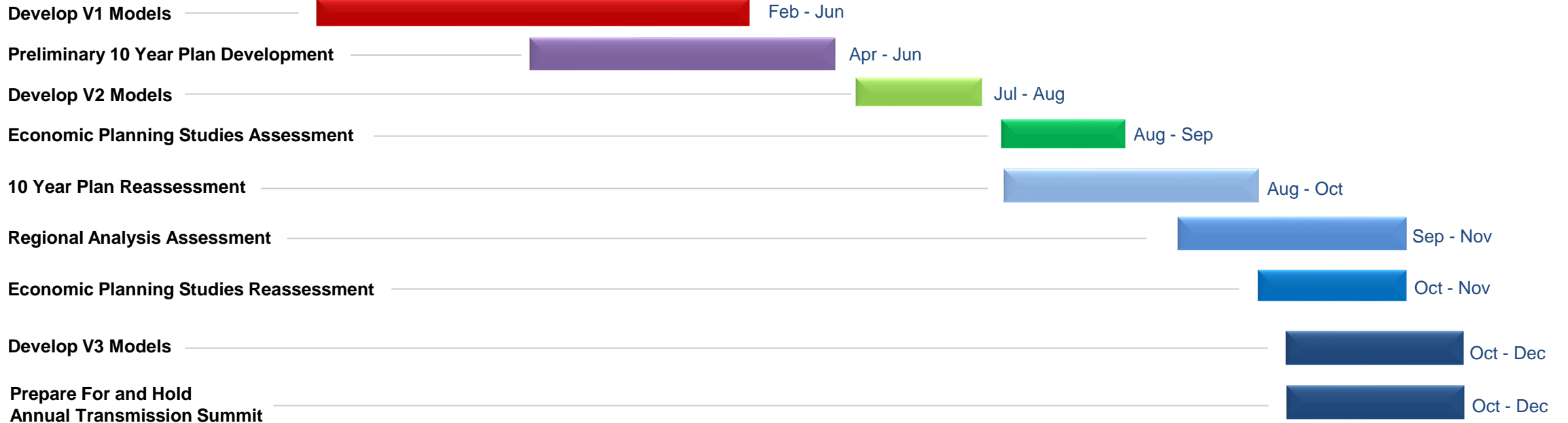
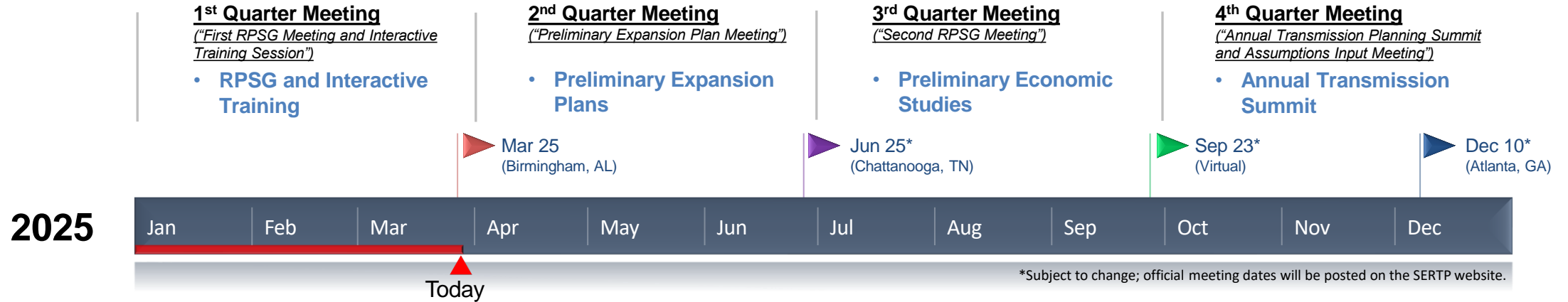
## SERTP Process General Information

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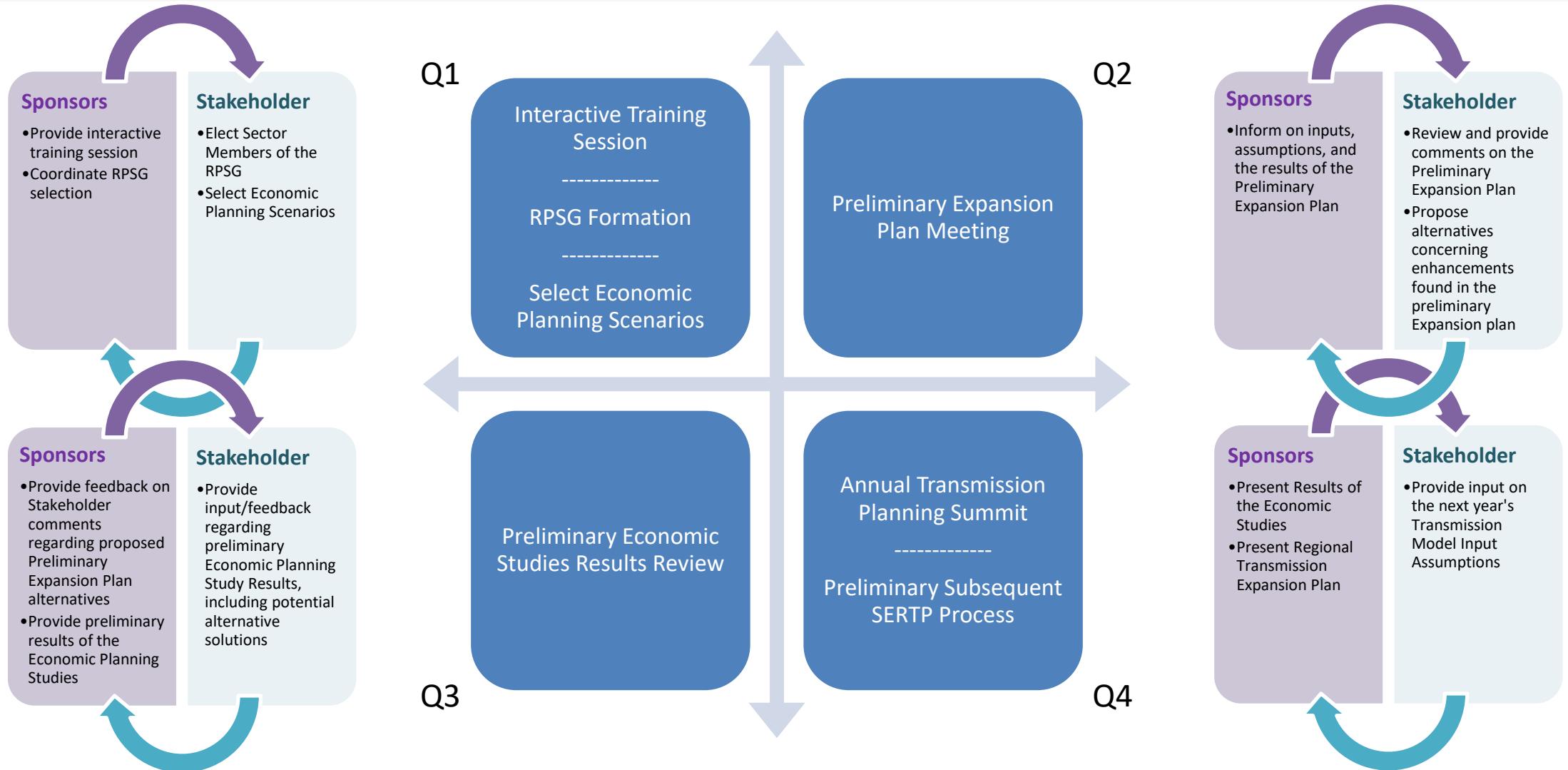
- The SERTP process is a transmission planning process.
- Please contact the respective transmission provider for questions related to real-time operations or Open Access Transmission Tariff (OATT) transmission service.
- SERTP
  - Website Address: [www.southeasternrtp.com](http://www.southeasternrtp.com)
  - E-mail Address: [southeasternrtp@southernco.com](mailto:southeasternrtp@southernco.com)

# 2025 SERTP

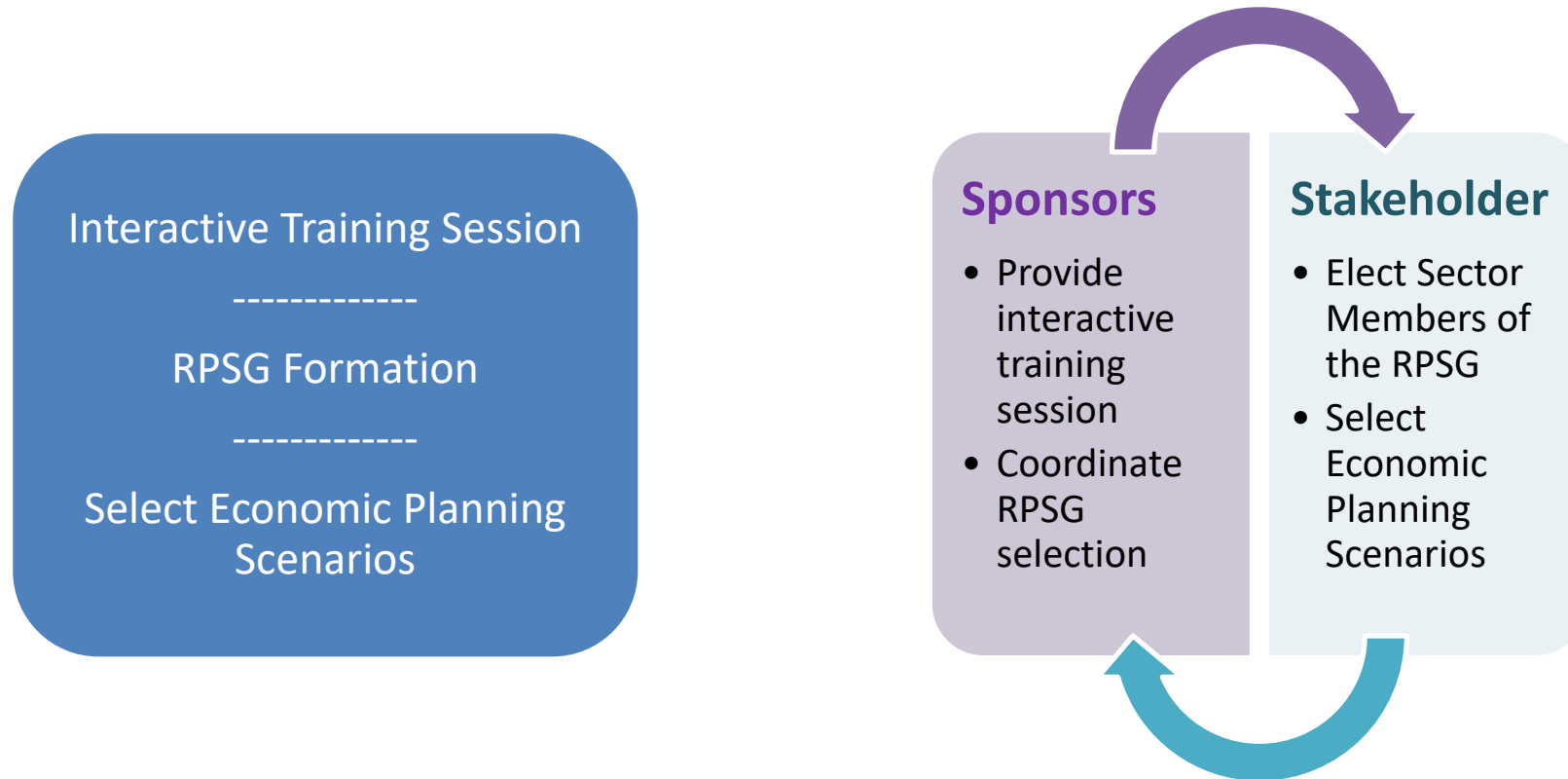
## 10-Year SERTP Process



## Quarterly Meeting Functions

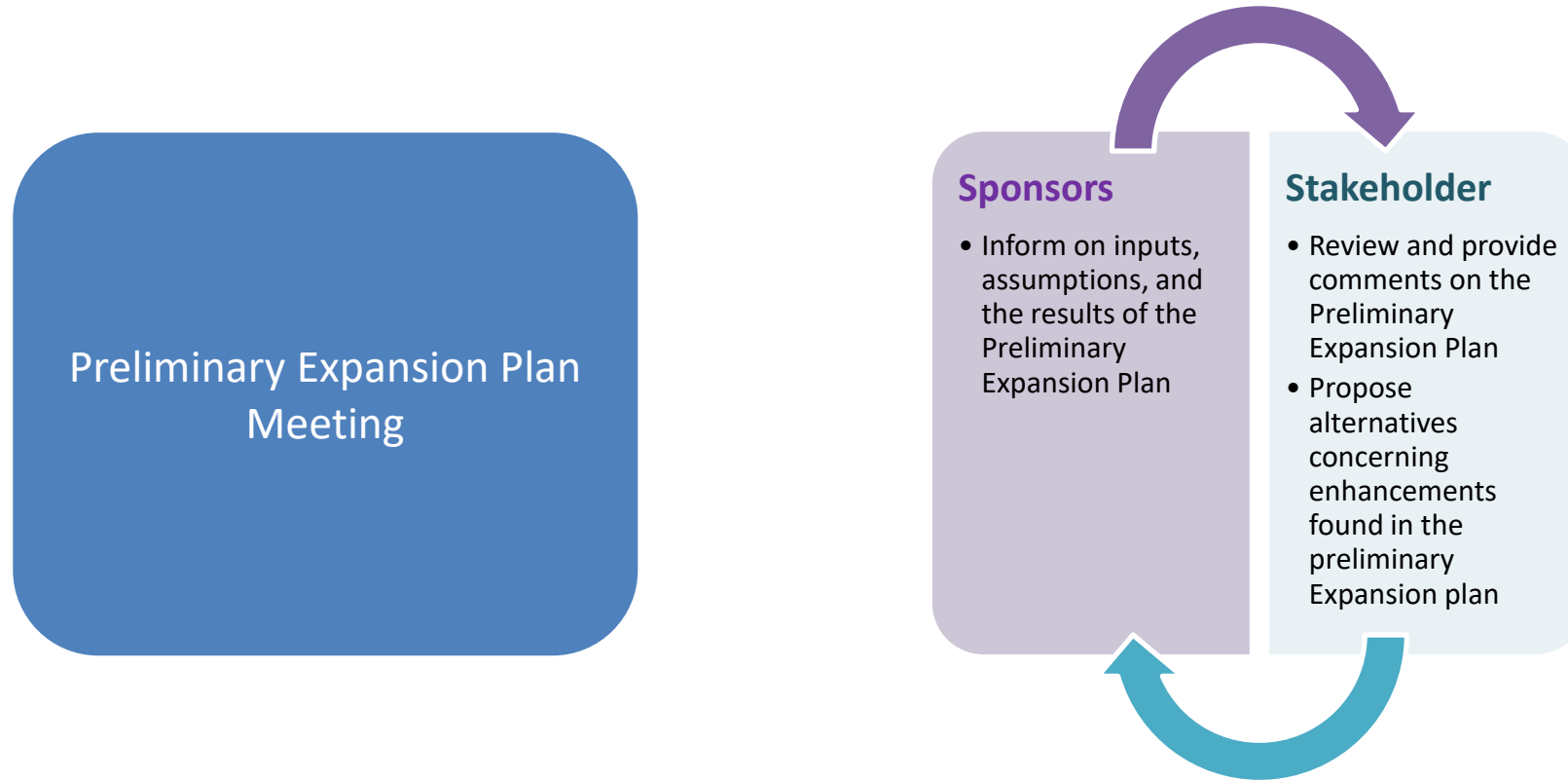


## First Quarter Meeting Functions (Q1)



Typ. held annually in March as an in-person/hybrid meeting

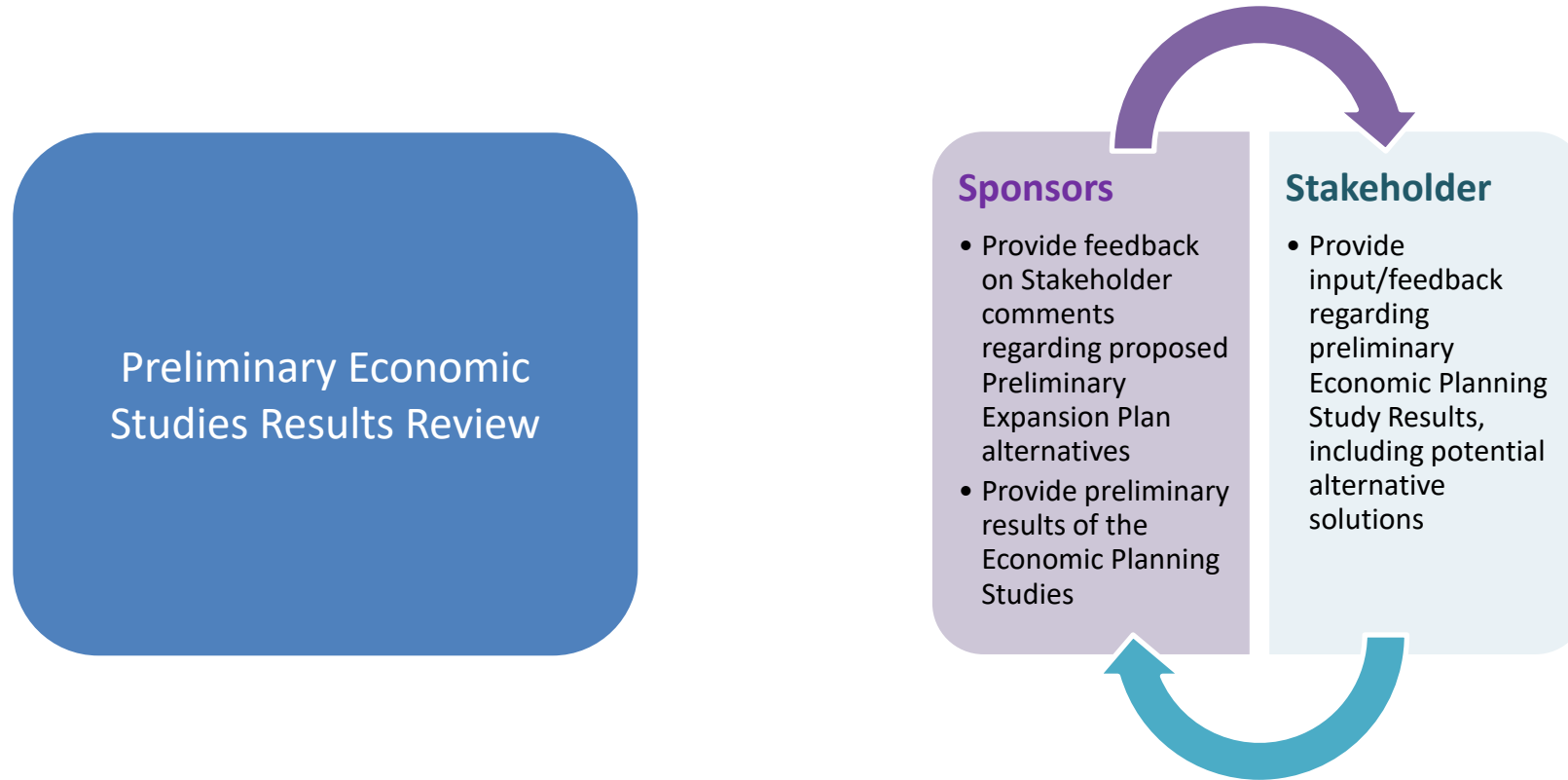
## Second Quarter Meeting Functions (Q2)



Typ. held annually in June as an in-person/hybrid meeting

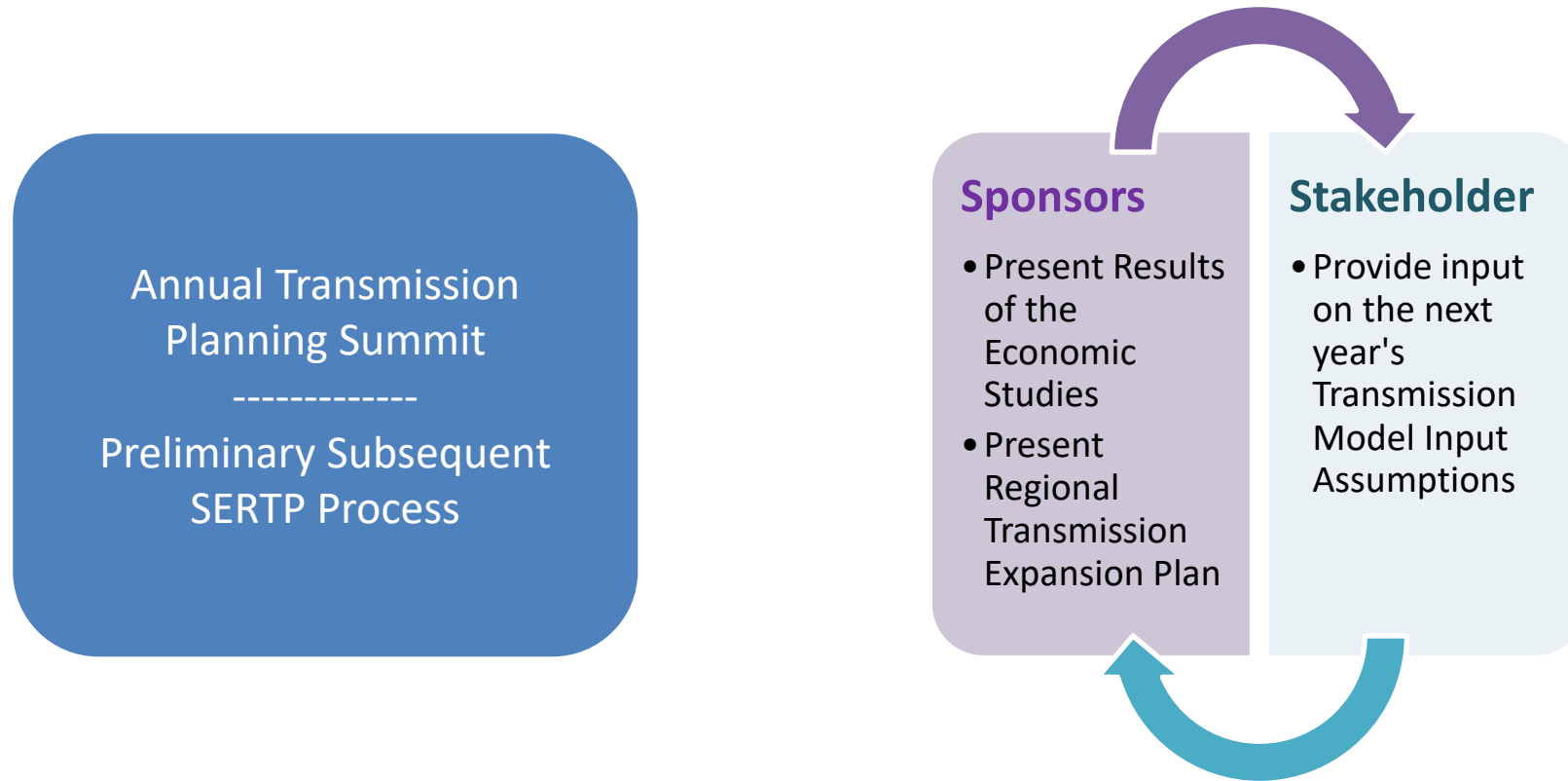


## Third Quarter Meeting Functions (Q3)



Typ. held annually in September as virtual meeting

## Fourth Quarter Meeting Functions (Q4)



Typ. held annually in early- to mid- December as an in-person/hybrid meeting

## SERTP Processes

### Expansion Plan

- Inputs:
  - Previous year Q4 Preliminary Assumptions and Inputs
  - Transmission Provider Presentation and Continued Stakeholder feedback
- Outputs
  - Q2: Preliminary Expansion Plan
  - Q4: Final 10-Year Expansion Plan

### Regional Transmission Planning Analyses

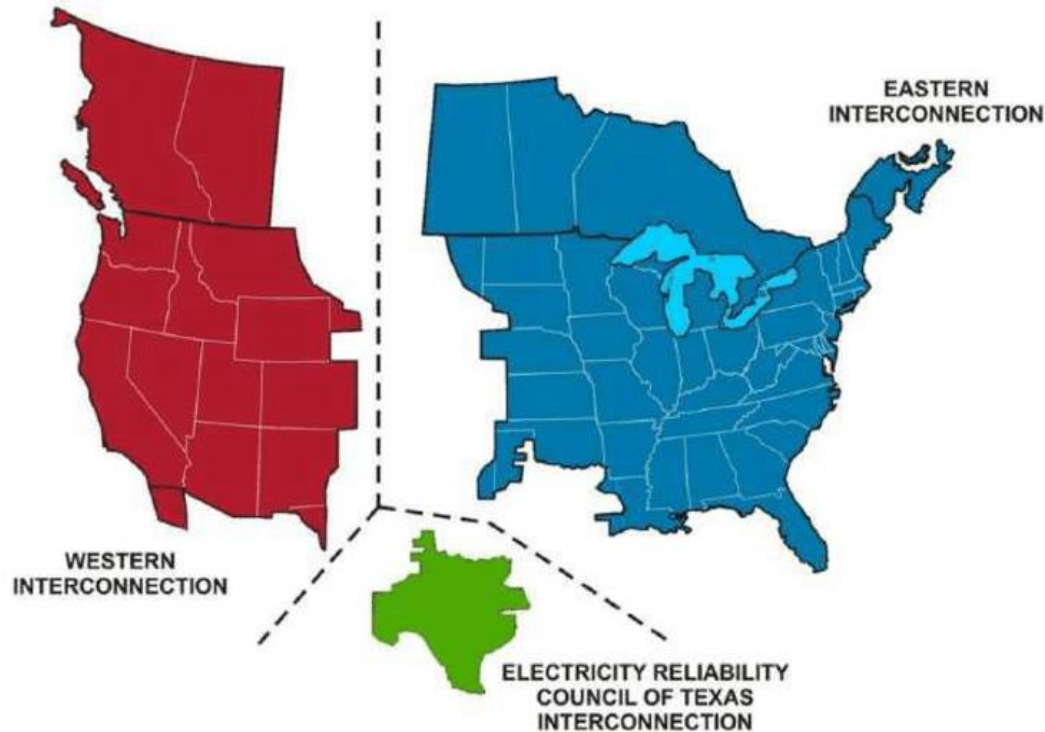
- Identify potentially more efficient or cost-effective solutions from the preliminary 10-year regional expansion plan
- Verify that the regional expansion plan is coordinated and cohesive

### Economic Studies

- Hypothetical scenarios to move large amounts of power above and beyond existing long-term, firm transmission service commitments requested by the stakeholders, selected by the RPSG, and do not represent an actual transmission need or commitment to build (consistent with NERC standards and company-specific planning criteria)

# What are Power Flow Models

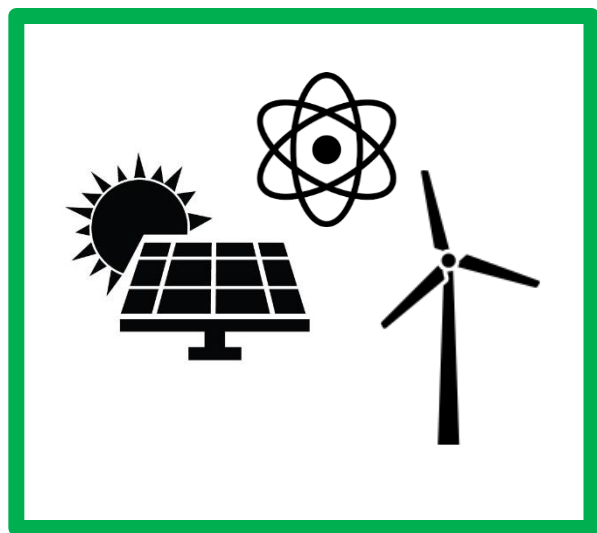
- Power Flow models (also called cases) are a mathematical representation of the Bulk Electric System and consist of detailed information for each transmission element.
- Used to simulate and analyze the flow of electrical power through a transmission network.
- Models are broken down into Areas and Zones to represent individual Balancing Authority Areas and Companies.



## Fun Facts

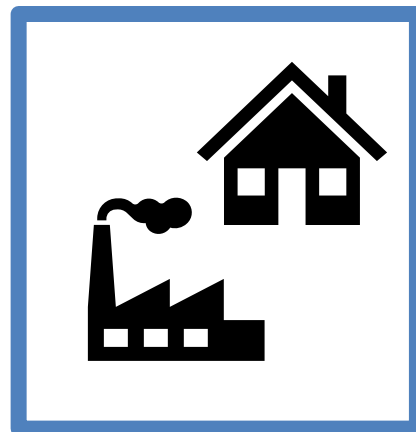
- The Eastern Interconnection is the largest power system in the world.
- There are over 130,000 substations modeled for the Eastern Interconnection.
- The models include transmission voltages from 44 kV to 765 kV.
- To solve a power flow model requires thousands of simultaneous equations.

## Power Flow Modeling: Fundamental Equation



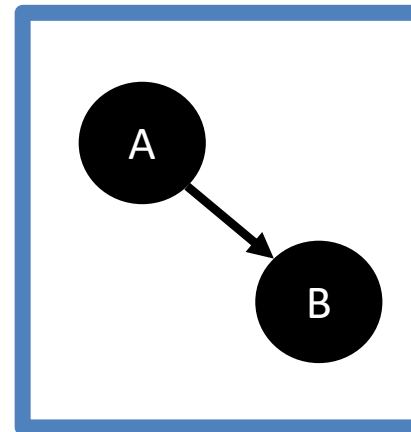
Generation

=



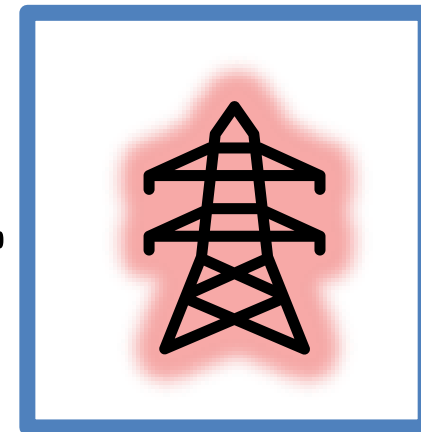
Load

+



Interchange

+



Losses

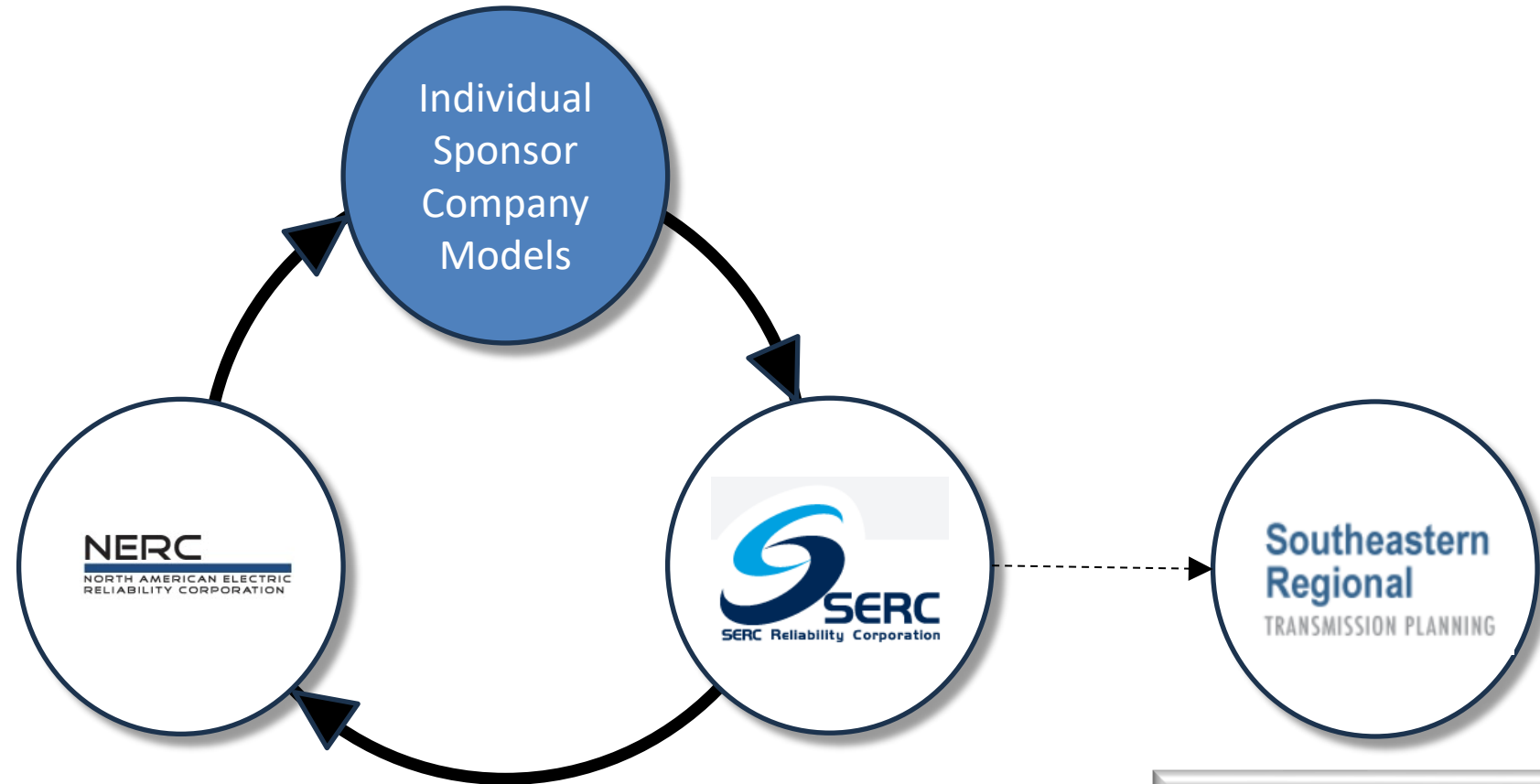
## 2025 SERTP Regional Models

- SERTP will develop 6 regional models
- Models include latest transmission planning model information within the SERTP region
- Will be available on the [Secure Area](#) of the SERTP website

SERTP 2024 Model Development Training

No.	Season	Year
1	Summer (S)	2027
2		2030
3		2035
4	Shoulder (H)	2030
5	Winter (W)	2030
6		2035

## Model Building Cycle



[MMWG Procedural Manual v39.pdf](#)  
([rfirst.org](http://rfirst.org))

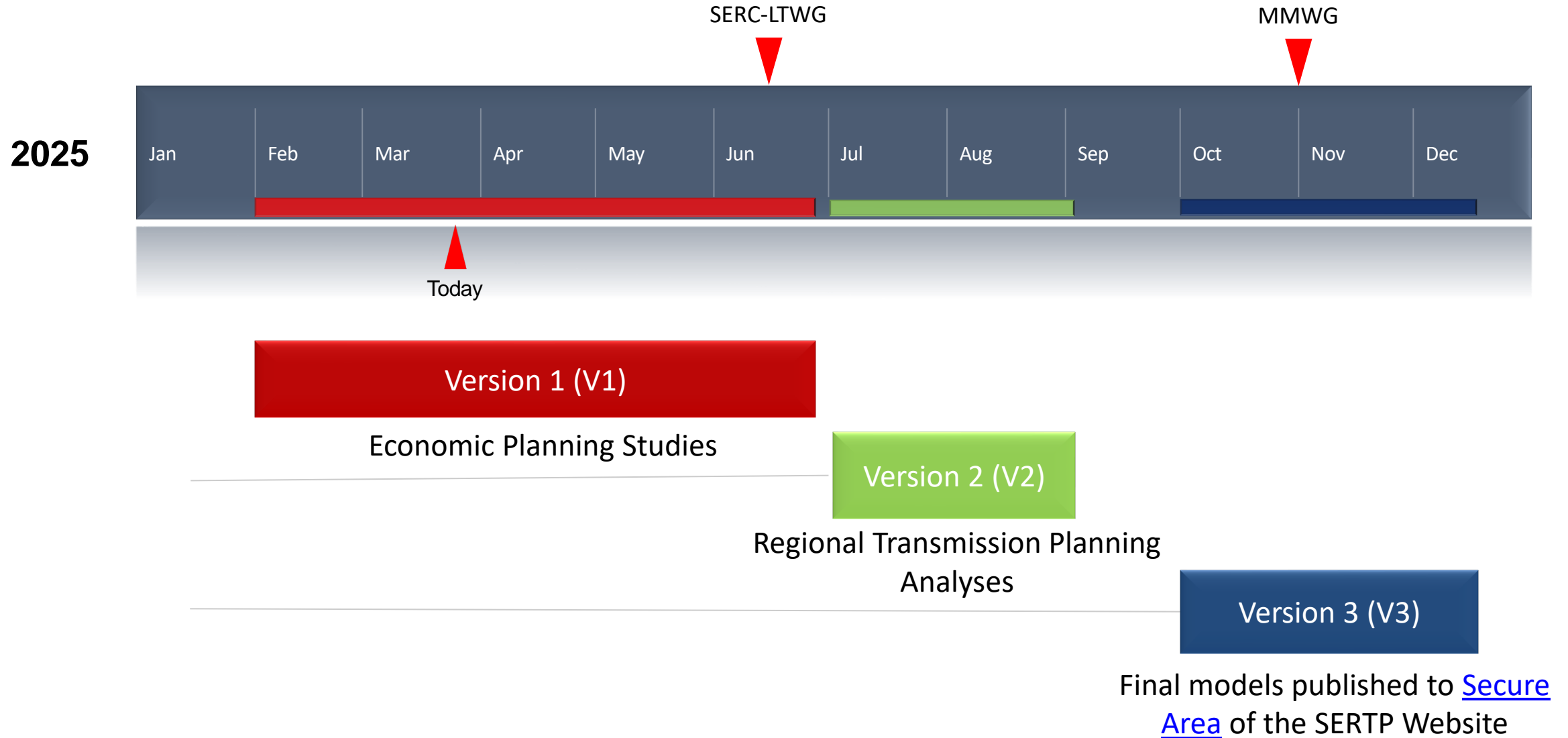
SERTP 2024 Model  
Development Training

# References and Further Information

- To learn more about Power Flow Modeling
  - [NATF Power Flow Modeling Reference Document](#)
  - [Eastern Reliability Assessment Group – MMWG Manual](#)
  - [NERC MOD-032 Standard](#)



# SERTP Model Development and Usage\*

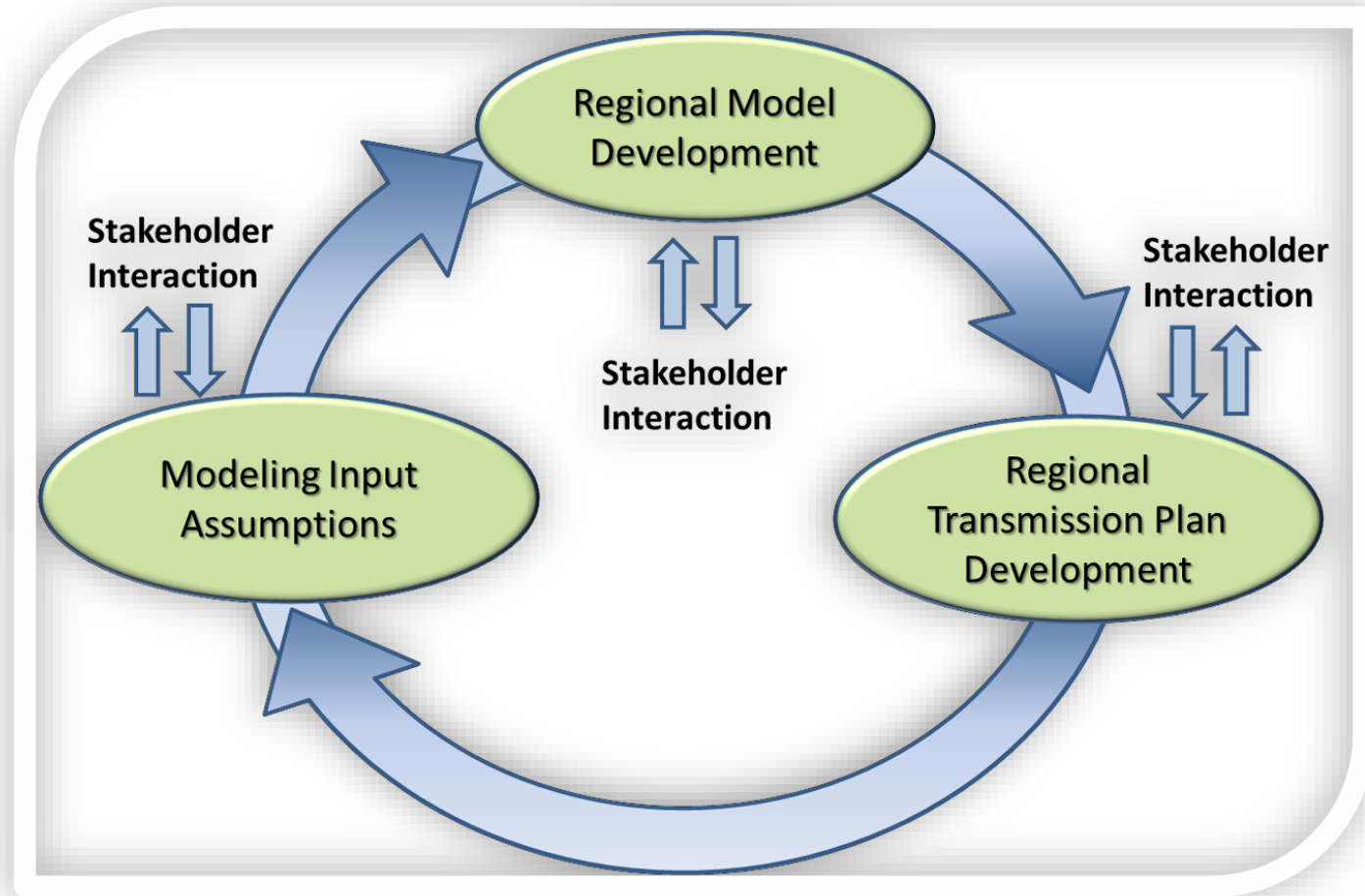


\*Depending on when studies are performed in the SERTP, different versions of the models may be utilized

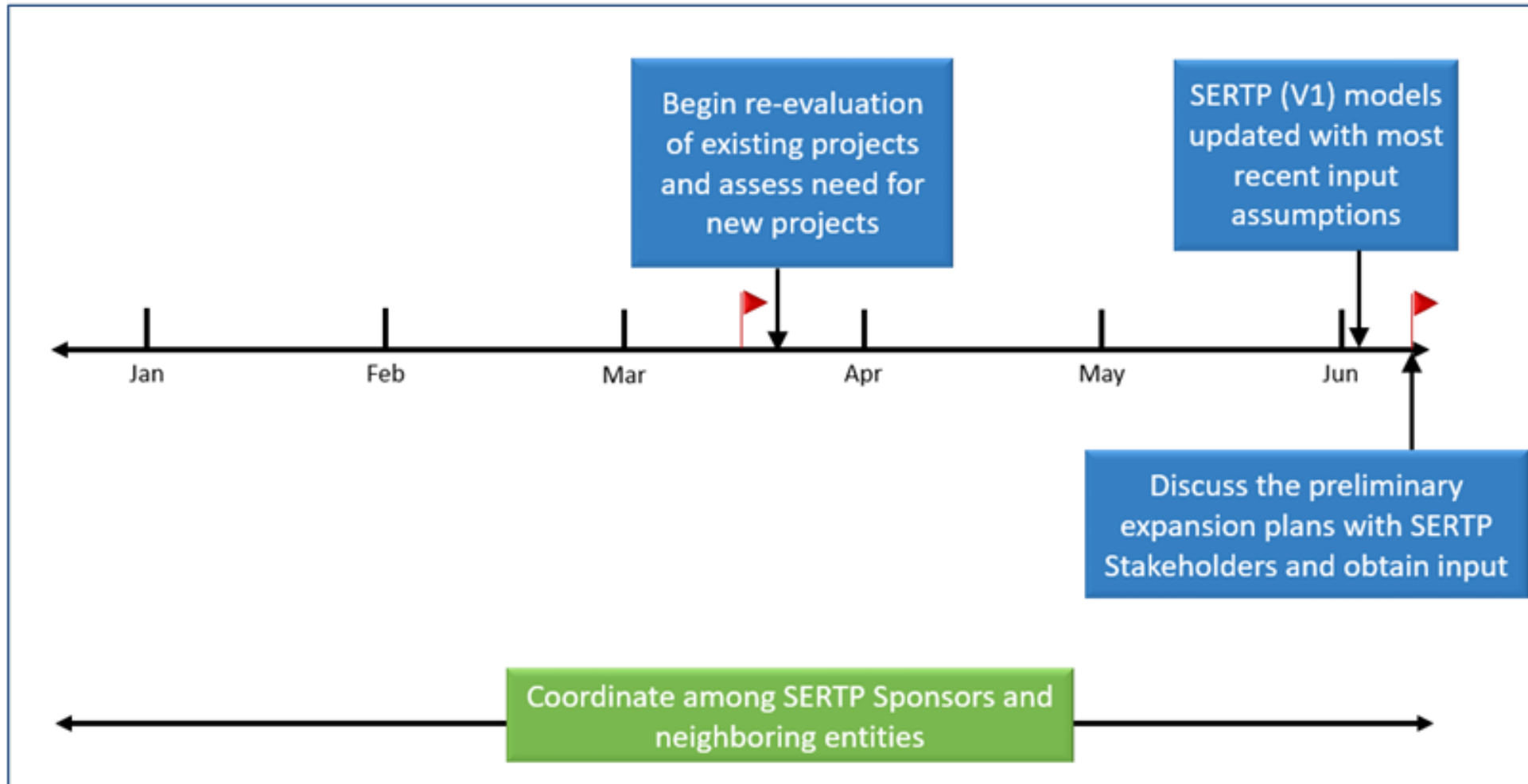
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Expansion Plan Development

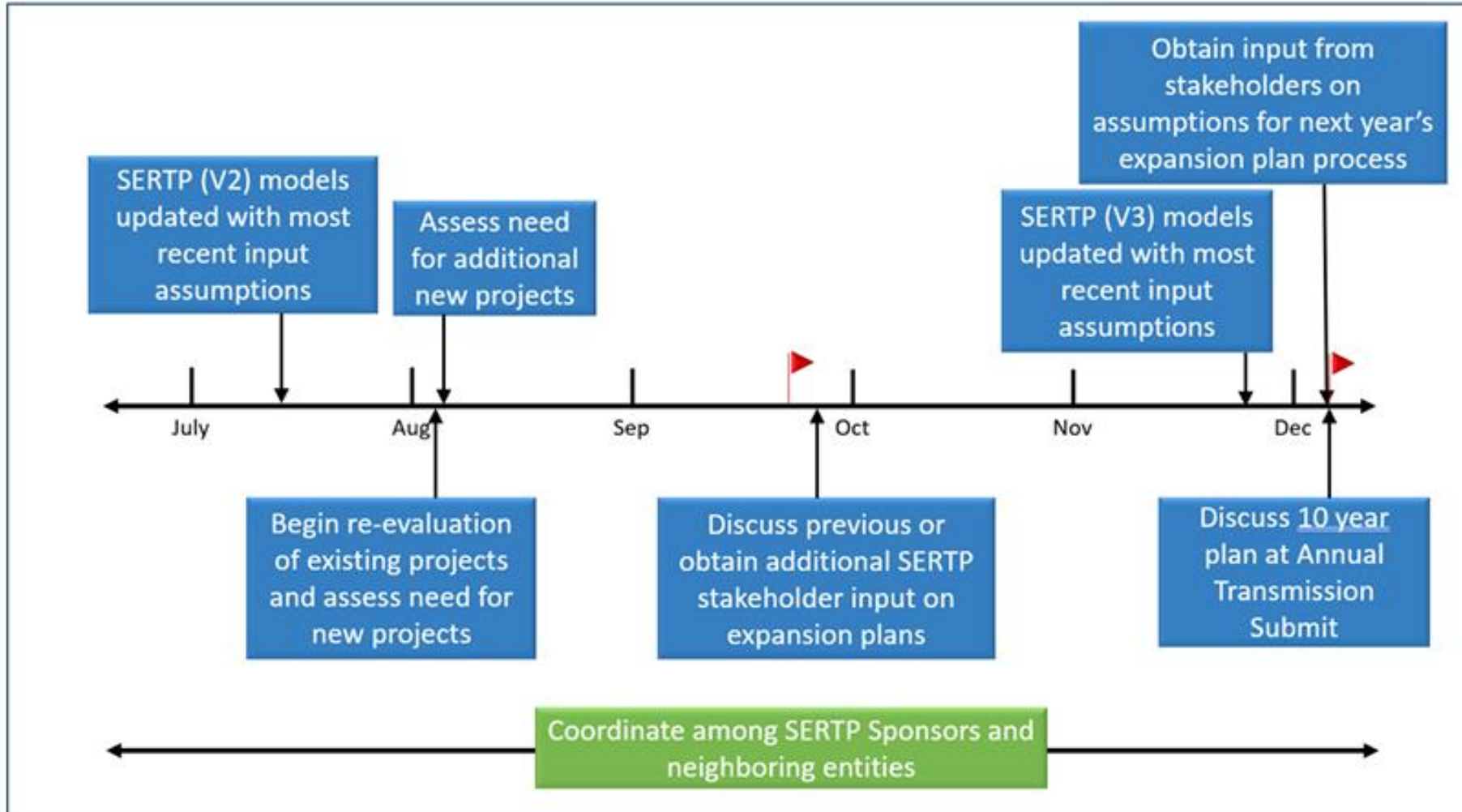
## Iterative Transmission Plan Development Process



## SERTP Process – Q1 and Q2 Timeline



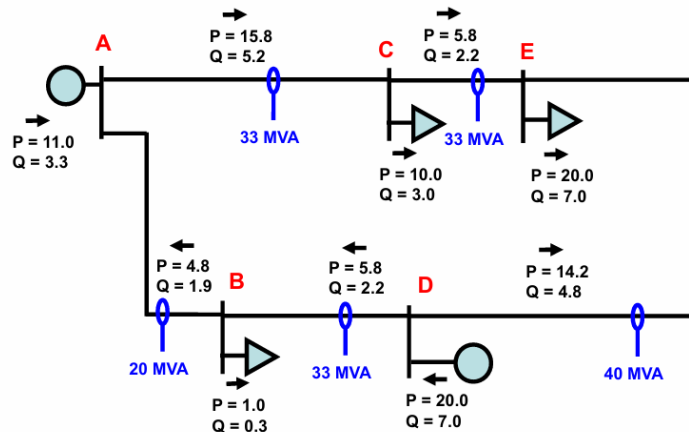
## SERTP Process – Q3 and Q4 Timeline



## Transmission Expansion Plan Example

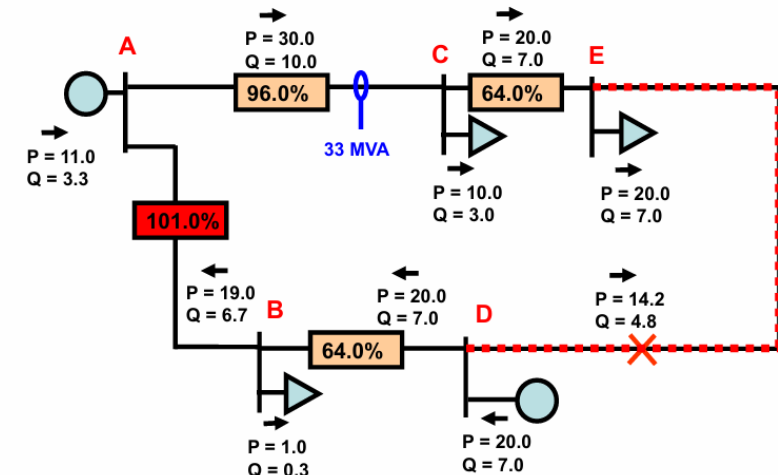
### ❖ Simple Example

- Neglects transmission losses
- N – 1 evaluation only (no unit offline scenarios)
- Voltage impacts not assessed



No transmission lines overloaded without contingencies

### Under Contingency



Line A – B overloaded for contingency D – E

## Transmission Expansion Plan Reassessment Example

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- **Original project from previous year expansion plan:**
  - Reconductor line A – B in 2032
- **Thermal Constraint:** Line A - B
- **Contingency:** Line D - E
- **With the updated current year assumptions, which included an upward trend in large loads in the area, the thermal constraint was now present in 2028 instead.**
  - The current year expansion plan process determined that the line exceeded its thermal rating for the same contingency in 2028.
  - Currently, re-evaluating need for advancing the same reconductor in 2028, versus selecting an alternative transmission technology.

SERTP

## Regional Transmission Planning Analysis

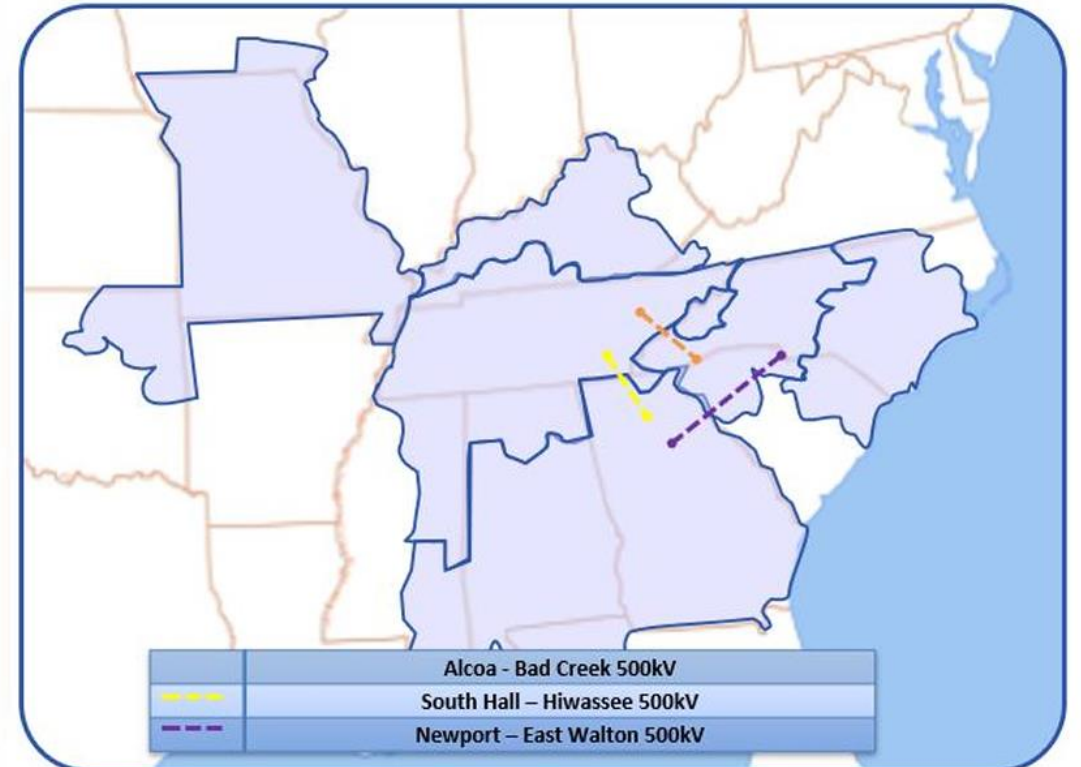


## Regional Transmission Planning Analyses

### Purpose

- Affirms effectiveness of transmission projects contained within the regional transmission plan
- Identifies and evaluates potentially more efficient or cost-effective *alternative* transmission projects for the purpose of Regional Cost Allocation compared to those in the regional transmission plan

### 2024 Alternatives Example



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Regional Planning Stakeholder Group (RPSG)

## The SERTP Regional Planning Stakeholder Group

### Serves Two Primary Purposes

- Determines and proposes up to five (5) Economic Planning Studies annually
- Serves as stakeholder representatives for the eight (8) industry sectors in interactions with the SERTP Sponsors

### Sector Representation Requirements

- Maximum of two (2) representatives per sector
- Maximum of sixteen (16) total Sector Members
- A single company\* is limited to participating in a single sector

### Annual Reformation of Sector Members

- Reformed annually through *election by the Stakeholders present at the 1st Quarter SERTP Meeting*
- Elected for a term of approximately one year, ending at start of subsequent 1st Quarter SERTP Meeting
- May serve unlimited one-year terms

### Simple Majority Voting

- RPSG decision-making that will be recognized by the SERTP Sponsors for purposes of Order 1000 Compliance shall be those authorized by a simple majority vote by then-current Sector Members
- Voting by written proxy is allowed

\* Including all of its affiliates, subsidiaries, and parent company

## RPSG Committee Structure

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### RPSG Sector Representation

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

## RPSG Formation

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- [2023 SERTP RPSG Sector Members](#)
- [2024 SERTP RPSG Sector Members](#)
- 2025 SERTP RPSG Sector Members
  - to be uploaded to the General Documents > “2025 March 25th - 1st Quarter SERTP Meeting” section following 2025 1<sup>st</sup> Quarter SERTP Meeting

## RPSG Schedule of Events

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- Formed at Q1 Meeting
  - Selects up to 5 scenarios for the Economic Planning Studies
  - Additional EPS scenarios may be selected *if funded by Stakeholders*
- Scoping Meeting typically held in April/May
- Selected Economic Study Request Reports are posted on the SERTP Website in the General Documents section of the Reference Library tab
  - Q3 posting is the preliminary results
  - Q4 posting is the final results

## SERTP

Formation of the RPSG and Selection of the 2025  
Economic Planning Studies

## RPSG Actions

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- **List of Sectors and Sector Members**
- **List of Economic Planning Study (EPS) requests**
- **Date for EPS Scoping Meeting**
  - Typically held in April/May



## Next Meeting Activities

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- **2025 Economic Planning Study Scoping Meeting**
  - **Date:** TBD at Q1 Meeting or shortly thereafter
  - **Held Virtual**
  - **Purpose:**
    - Review Study Assumptions for each Selected Economic Planning Study
    - RPSG Input & Feedback for Study Assumptions
- **2025 SERTP 2<sup>nd</sup> Quarter Meeting**
  - **Date:** June 25<sup>th</sup>, 2025
  - **Hosted by TVA in Chattanooga, TN**
  - **Purpose:**
    - Review Modeling Assumptions
    - Discuss Preliminary 10 Year Expansion Plan
    - Stakeholder Input & Feedback Regarding the Plan



# Questions?

[www.southeasternrtp.com](http://www.southeasternrtp.com)  
[southeasternrtp@southernco.com](mailto:southeasternrtp@southernco.com)