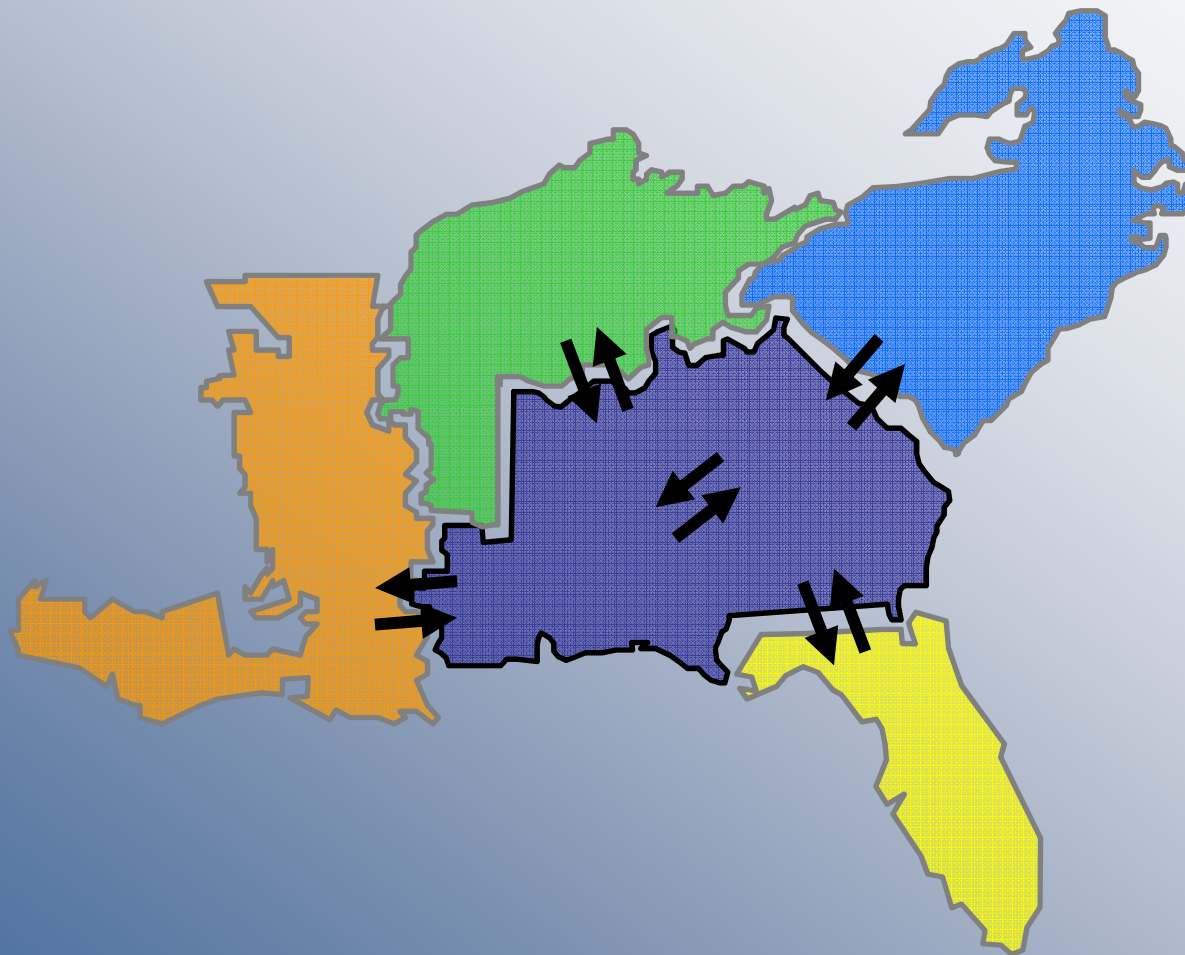


# 2012 SERTP

## 2<sup>ND</sup> QUARTER MEETING



# 2012 SERTP

## WELCOME

### 2012 PRELIMINARY EXPANSION PLAN MEETING

*10:00 AM – 3:00 PM EDT*

(Lunch served at approximately 11:30 PM)

- The SERTP process is a transmission planning process.
- Please contact the respective transmission provider for questions related to real-time operations or OATT transmission service.

## PURPOSES AND GOALS OF THE MEETING

- ❖ Order 1000
- ❖ Modeling Assumptions
  - Load Forecast
  - Generation Assumptions
- ❖ Preliminary 10 year transmission expansion plan
  - Process Overview
  - East
  - West
- ❖ FRCC Update
- ❖ 2012 Economic Planning Studies Scope
- ❖ Next Meeting Activities

# FERC Order 1000 Regional Requirements “Strawman Discussion”

June 27, 2012

## Regional Requirements – Order 1000 A

- A clear enrollment process will be established that defines how public utility and non-public utility transmission providers, make the choice to become part of, or to terminate participation in the SERTP region.

## Regional Requirements – Order 1000

- ❑ Determine which information/data is necessary for merchant developers to provide transmission providers in order to allow transmission providers to assess the reliability and operational impacts of proposed facilities

- Merchant Transmission Developers proposing transmission facilities impacting the SERTP
  - i. Merchant transmission developers who propose to develop a transmission facility potentially impacting the SERTP will provide information and data necessary for the Sponsors to assess potential reliability and operational impacts of the merchant transmission developer's proposed transmission facilities on the region, including:
    - Transmission project timing, scope, network terminations, load flow data, stability data, and HVDC data (as applicable).



## Regional Requirements – Order 1000

- ❑ Develop procedures to identify those transmission needs driven by public policy requirements, for which potential transmission solutions will be evaluated

- Consideration of Transmission Needs Driven by Public Policy Requirements (PPRs)
  - i. SERTP Sponsors address transmission needs driven by PPRs in the routine planning, design, construction, operation, and maintenance of the transmission system.
    - Sponsors address transmission needs driven by PPRs of Load Serving Entities and wholesale transmission customers through the planning for and provision of firm transmission services to meet native load and wholesale transmission customer obligations.
  - ii. Sponsors solicit and address the input of SERTP Stakeholders regarding transmission needs driven by PPRs

- Consideration of Transmission Needs Driven by Public Policy Requirements (PPRs)
  - SERTP Stakeholder input regarding transmission needs driven by PPRs must include:
    - i. The PPR
      - » The PPR identified must be required by state or federal laws and/or regulations.
    - ii. An explanation of the possible transmission need driven by the PPR identified above
      - » Ex: the situation or system condition for which possible solutions will be determined, as opposed to a specific transmission project.

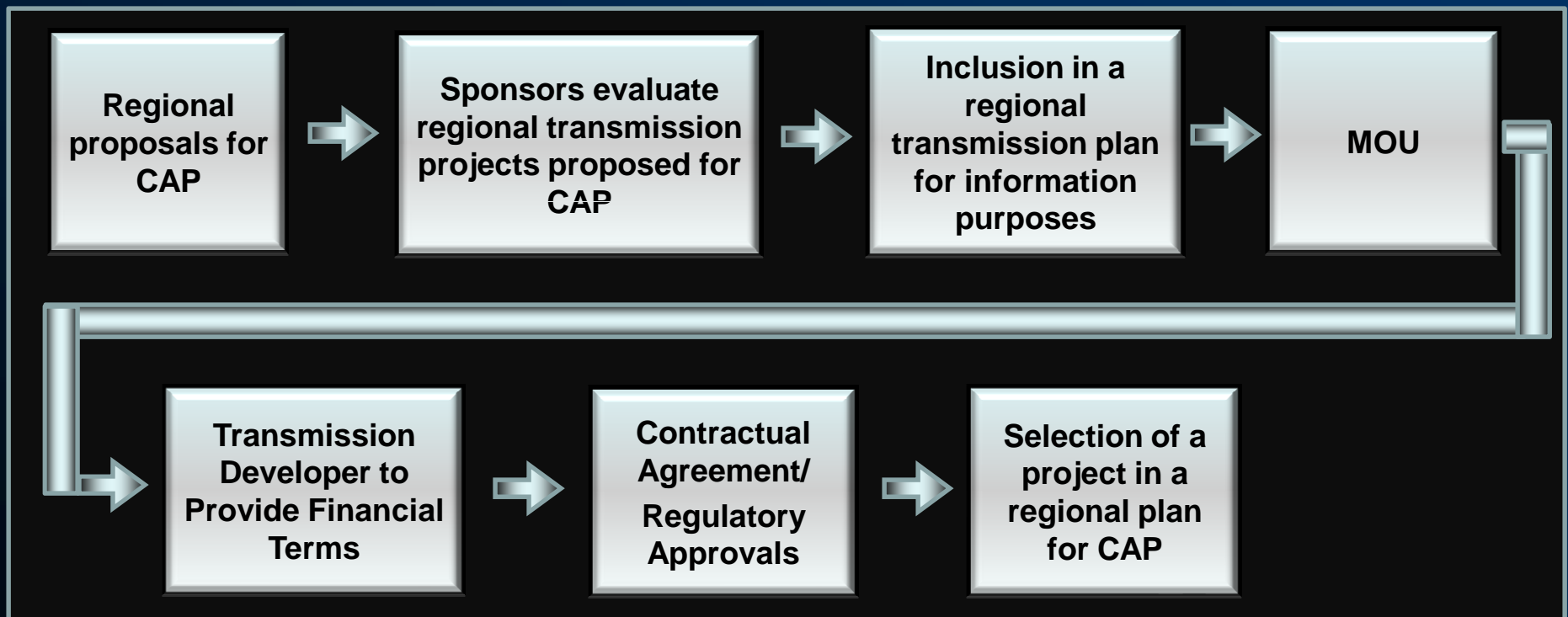
- Consideration of Transmission Needs Driven by Public Policy Requirements (PPRs)
  - The Sponsors will evaluate SERTP Stakeholder input to determine if there is a transmission need driven by the PPR identified by the Stakeholder
  - If a transmission need is identified, that is not already addressed in the expansion planning process, the SERTP Sponsors will identify a transmission solution to address the need in the expansion planning processes.
  - Stakeholder input regarding potential transmission needs driven by PPRs may be directed to the governing OATT process as appropriate.
    - Ex: if the potential transmission need identified by the SERTP Stakeholder is essentially a request by a network customer to integrate a new network resource, the request would be directed to that existing OATT process.

- Consideration of Transmission Needs Driven by Public Policy Requirements (PPRs)
  - The Sponsors will provide and post a response to SERTP Stakeholder input regarding transmission needs driven by PPRs

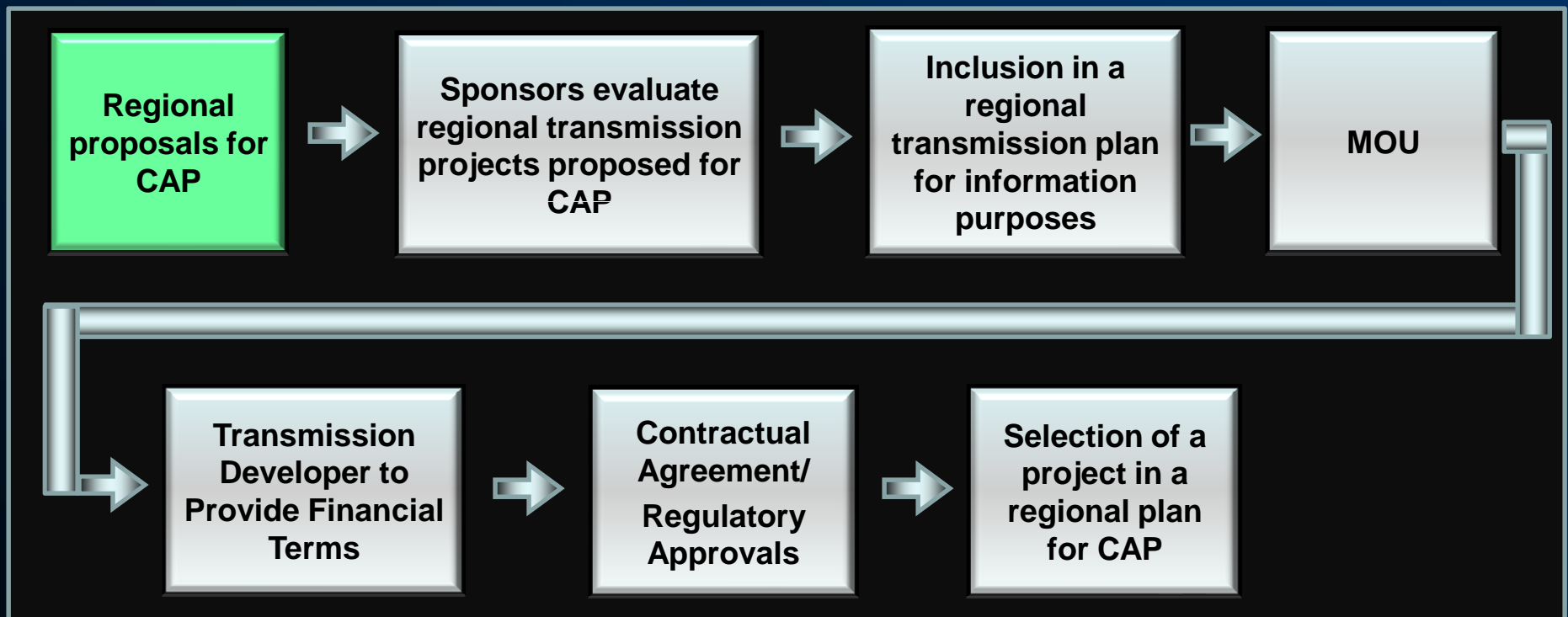
## Regional Requirements – Order 1000

- ❑ Develop a method for allocating costs of those facilities that have been selected in the regional plan for purposes of cost allocation

- Potential process for inclusion in a regional transmission plan for Cost Allocation Purposes (“CAP”)



- Potential process for inclusion in a regional transmission plan for Cost Allocation Purposes (“CAP”)





# ORDER 1000

- Transmission Developer (“TD”) Qualification Criteria
- Proposed Regional Transmission Project Qualification Criteria
- Submittal Enclosures / Supporting Documentation

# ORDER 1000

- Transmission Developer (“TD”) Qualification Criteria
- Proposed Regional Transmission Project Qualification Criteria
- Submittal Enclosures / Supporting Documentation

- Qualification Criteria to Submit a Transmission Project Proposal for Selection in a Regional Transmission Plan for CAP
  - Demonstrate the necessary **financial capability** and technical expertise to develop, construct, operate and maintain the proposed transmission facility.
    - » S&P credit rating of BBB- or higher (or similar credit rating from another agency if not rated by S&P)
    - » -OR- **demonstrated capability to finance U.S.** energy projects equal to or greater than the cost of the proposed regional transmission project

- Qualification Criteria to Submit a Transmission Project Proposal for Selection in a Regional Transmission Plan for CAP
  - Demonstrate the necessary financial capability and **technical expertise** to develop, construct, operate and maintain the proposed transmission facility.
    - » Demonstrated capability to develop, construct, operate, and maintain U.S. electric transmission projects of similar or larger complexity, size, and scope as the proposed project.
      - Summary of transmission projects in-service and under construction including locations, operating voltages, mileages, development schedules, approximate installed costs, and how these facilities are operated and maintained. This may include projects and experience provided by a parent company or affiliates or other experience relevant to the development of the proposed project.
      - List of NERC and/or other industry registrations

- Qualification Criteria to Submit a Transmission Project Proposal for Selection in a Regional Transmission Plan for CAP
  - Provide an explanation of the planned approach to satisfy applicable regulatory requirements and its planned approach to obtain requisite authorizations necessary to acquire Rights of Way and to construct, operate, and maintain the proposed facility in the relevant jurisdictions

# ORDER 1000

- Transmission Developer (“TD”) Qualification Criteria
- Proposed Regional Transmission Project Qualification Criteria
- Submittal Enclosures / Supporting Documentation

- Qualification Criteria to Submit a Transmission Project Proposal for Selection in a Regional Transmission Plan for CAP
  - The project must meet the following criteria to be considered for selection in a regional expansion plan for CAP:
    - » **Regional in nature**
      - Operating voltage of 300 kV or above
      - Spans 100 miles or more
    - » **Green-field project**
    - » **Materially different than those projects previously considered in the expansion planning process**
    - » **Able to be constructed and tied into the network by the recommended in-service date**

# ORDER 1000

- Transmission Developer (“TD”) Qualification Criteria
- Proposed Regional Transmission Project Qualification Criteria
- Submittal Enclosures / Supporting Documentation



- Submission of Proposals for Potential Selection in a Regional Transmission Plan for CAP
  - Demonstration of Qualification Criteria
  - Project Description
  - Capital Cost Estimate
  - Technical Analysis
  - Data/Files to Evaluate the Proposal
  - Administrative Fee May Be Required

- Submission of Proposals for Potential Selection in a Regional Transmission Plan for CAP
  - Demonstration of Qualification Criteria
    - » **Documentation to support ability to satisfy the qualification criteria required to propose a regional transmission project for selection in a regional transmission plan for CAP**

- Submission of Proposals for Potential Selection in a Regional Transmission Plan for CAP
  - Project Description
    - » Should detail the intended scope of the proposed transmission project including various stages such as:
      - Right of Way Acquisition
      - Engineering
      - Construction
      - Recommended In-Service Date

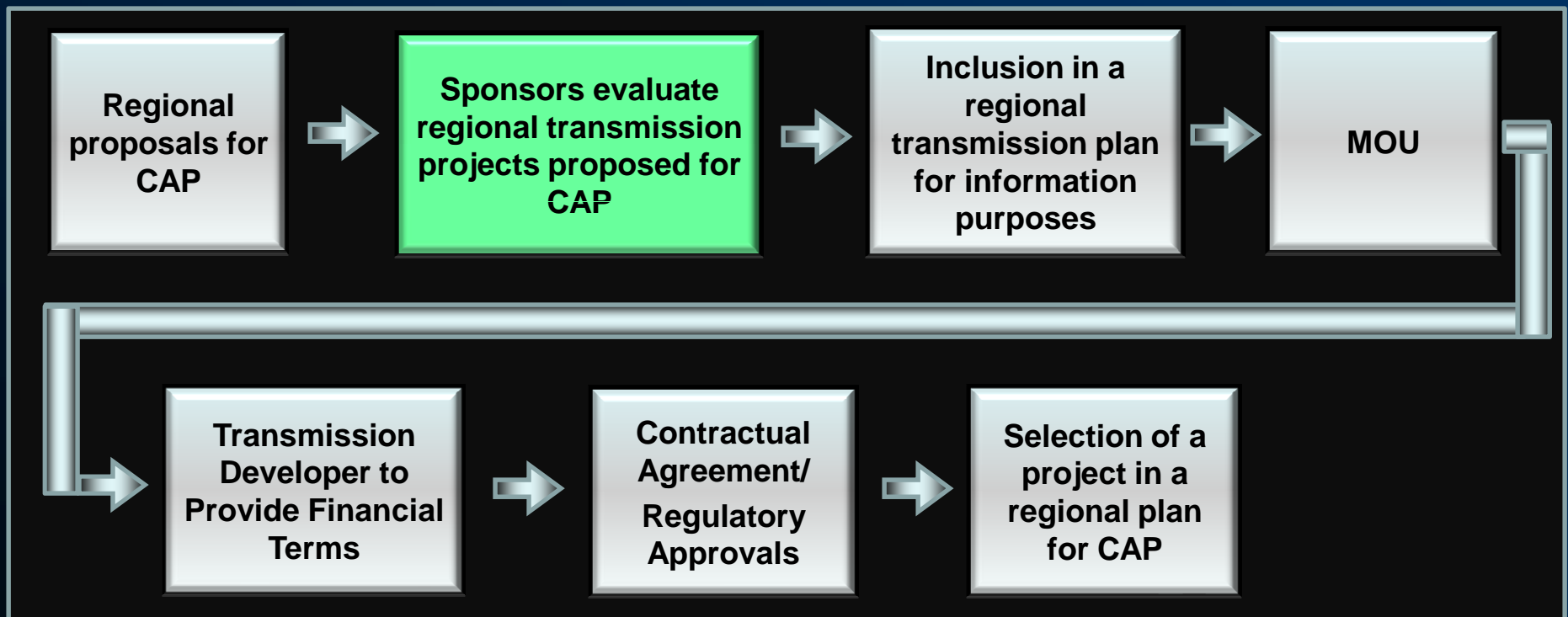
- Submission of Proposals for Potential Selection in a Regional Transmission Plan for CAP
  - Capital Cost Estimate
    - » Provide a capital cost estimate of the proposed transmission project
    - » If the cost estimate differs greatly from generally accepted estimates of projects of comparable scope, the transmission developer will be required to support such differences

- Submission of Proposals for Potential Selection in a Regional Transmission Plan for CAP
  - Technical Analysis
    - » **Documentation of the technical analysis performed to support that the proposed transmission project may be more efficient and cost-effective than specific projects in the latest transmission expansion plans:**
      - Identify transmission projects in the latest transmission expansion plans that may be displaced by the proposed project
      - Additional transmission projects that may be required to implement the proposed project

- Submission of Proposals for Potential Selection in a Regional Transmission Plan for CAP
  - Data/Files to Evaluate the Proposal
    - » **Provide any data/files necessary to allow SERTP Sponsors to evaluate the regional proposal**

- Submission of Proposals for Potential Selection in a Regional Transmission Plan for CAP
  - Administrative Fee May Be Required
    - » An administrative fee may be required for proposals submitted for potential selection in a regional plan for CAP, depending on the volume of submittals

- Potential process for inclusion in a regional transmission plan for Cost Allocation Purposes (“CAP”)





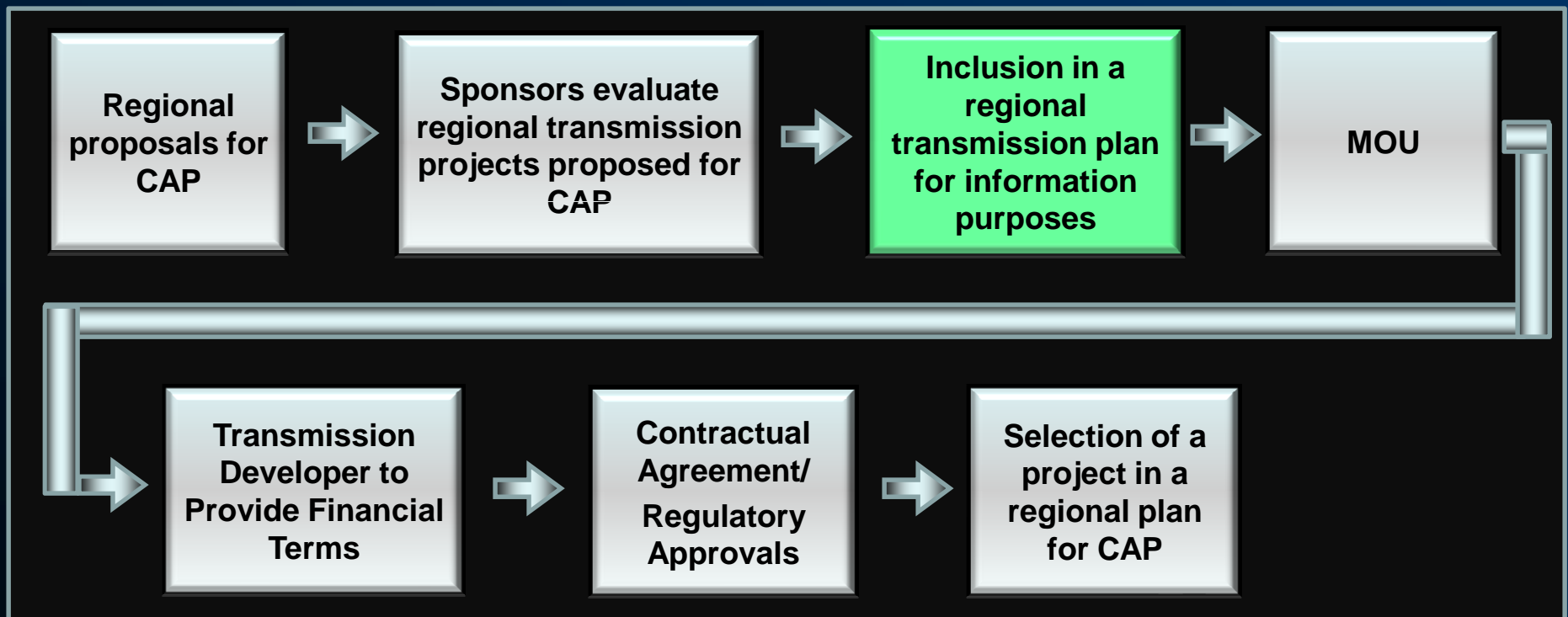
- Evaluation of Proposals for Selection in a Regional Transmission Plan for CAP
  - SERTP Sponsors will evaluate current transmission needs and assess alternatives to address current needs, including the proposed regional transmission projects, during the expansion planning process:
    - » Utilizing coordinated models and assumptions
    - » Applying respective planning guidelines and criteria

- Evaluation of Proposals for Selection in a Regional Transmission Plan for CAP
  - The SERTP Sponsors will evaluate proposed regional transmission projects to determine:
    - i. Does the underlying transmission need(s) still exist?
    - ii. Does the proposal address transmission needs that are currently being addressed with projects in the latest transmission expansion plans?
      - Which transmission projects could be displaced due to the proposal?
    - iii. Would any additional projects be required to implement the proposed regional transmission project?

- Evaluation of Proposals for Selection in a Regional Transmission Plan for CAP
  - Based on the previous evaluation, SERTP Sponsors will determine whether the proposed project is more efficient and cost-effective for the region.
    - » The inclusion of the proposed project should yield a regional benefit to cost ratio of at least 1.25 and no individual Sponsor should incur increased, unmitigated transmission costs.

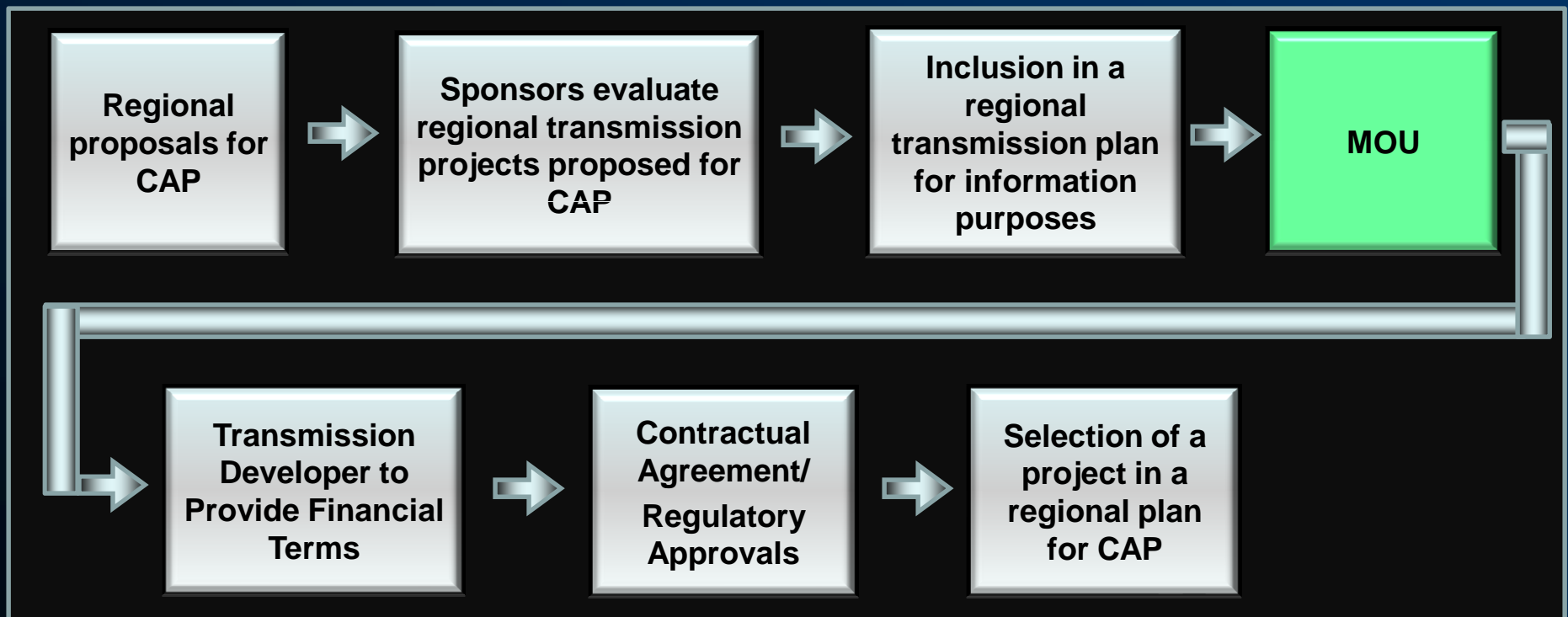
- Evaluation of Proposals for Selection in a Regional Transmission Plan for CAP
  - Regional Benefit to Cost Ratio of at least 1.25:
    - » Benefit: Transmission costs avoided by the displaced projects
    - » Cost: Transmission cost of the regional project proposed for selection in a regional transmission plan for CAP plus any additional projects required to implement the proposal
    - » **SERTP Sponsors will develop planning level estimates** for use in the regional benefit to cost ratio
      - Detailed engineering estimates may be used if available

- Potential process for inclusion in a regional transmission plan for Cost Allocation Purposes (“CAP”)



- Evaluation of Proposals for Selection in a Regional Transmission Plan for CAP
  - The proposed regional transmission project would be included in a regional transmission plan and be eligible, but not yet selected, for CAP, if the proposal:
    - i. Is evaluated to be more efficient and cost effective than other alternatives,
    - ii. The transmission needs continue and the project remains more efficient and cost effective than other alternatives as assessed in subsequent expansion planning processes that reflect ongoing changes in actual and forecast conditions, and
    - iii. Is approved by the Sponsors whose transmission expansion plans would be altered with the inclusion of the proposal

- Potential process for inclusion in a regional transmission plan for Cost Allocation Purposes (“CAP”)

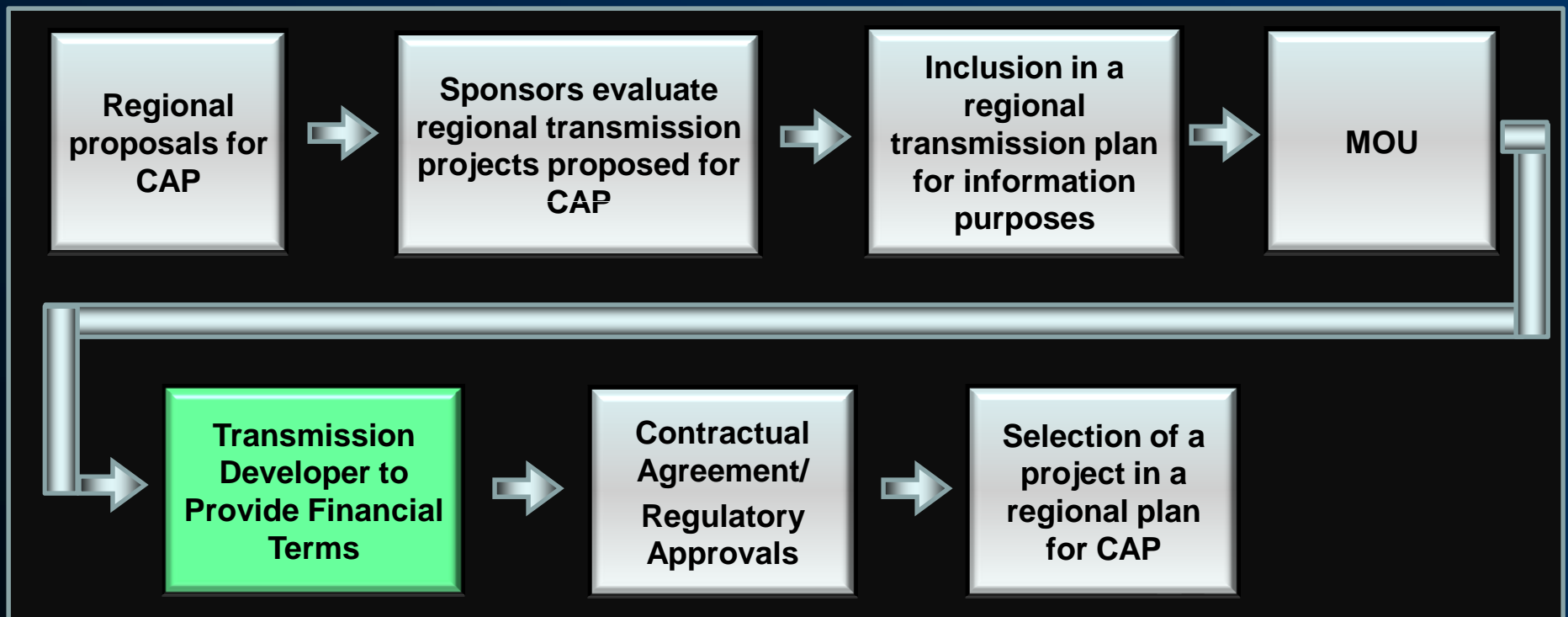




- Evaluation of Proposals for Selection in a Regional Transmission Plan for CAP
  - When a proposal is included in a regional plan, a Memorandum of Understanding (“MOU”) will be developed regarding the regional transmission project to address the following:
    - » **Communication responsibilities of the TD and the Sponsors**
    - » Key milestones and anticipated schedules associated with the proposal
    - » **Circumstances prompting reevaluation in order to assess the appropriate timing of the proposed regional transmission project**
      - Reevaluation may result in the need for potential advancement, deferment, or removal of the proposed project

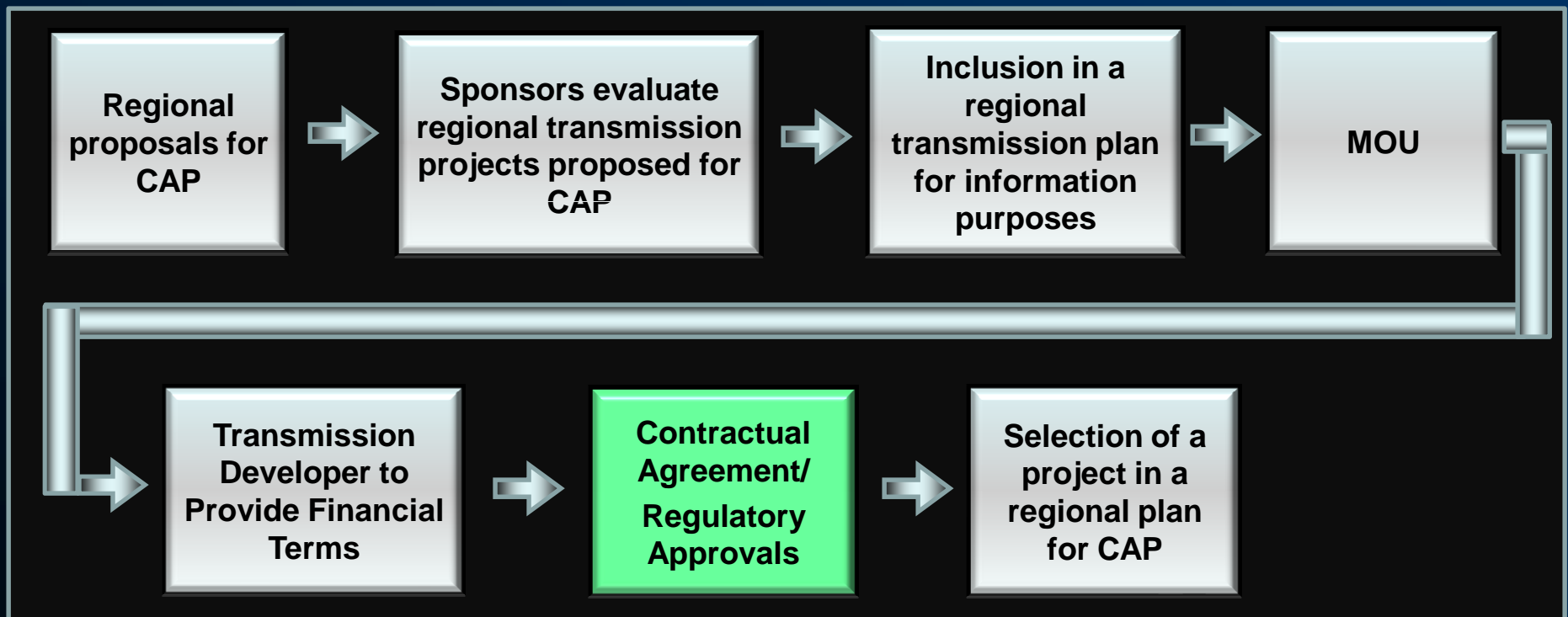


- Potential process for inclusion in a regional transmission plan for Cost Allocation Purposes (“CAP”)



- Selection in the Regional Transmission Plan for CAP
  - Per the milestones initially established in the MOU, and reassessed throughout the expansion planning processes, the TD will provide the SERTP Sponsors with financial terms associated with the proposed transmission project
    - Terms should identify the following:
      - i. The total cost to be allocated to the Sponsors if the proposal were to be selected for CAP
      - ii. The components that comprise that cost, such as the costs of:
        - Engineering, procurement, and construction consistent with good utility practice and standards and specifications provided in advance by the Sponsors,
        - Financing costs and required rates of return,
        - Ongoing operations and maintenance of the proposed facility
        - Provisions for restoration, spare equipment and materials, and emergency repairs

- Potential process for inclusion in a regional transmission plan for Cost Allocation Purposes (“CAP”)

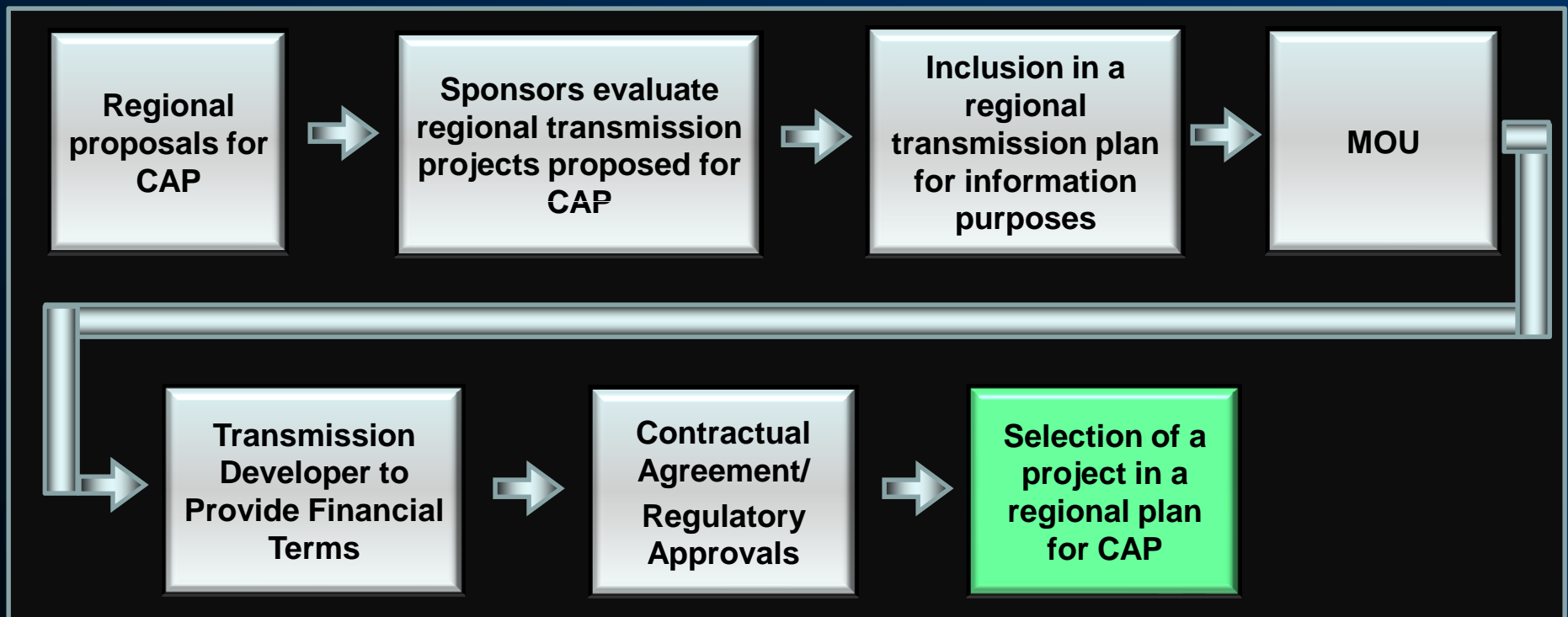


- Selection in the Regional Transmission Plan for CAP
  - An eligible regional transmission project will be selected for CAP, if:
    - i. The proposal is, and remains, more efficient and cost effective based upon the financial terms provided by the TD,
    - ii. An appropriate contractual agreement(s) is reached by the transmission developer and the Sponsors, and
    - iii. Approval is obtained from the relevant jurisdictional and/or governance authorities of the Sponsors who would be allocated costs of the proposal

- Selection in the Regional Transmission Plan for CAP
  - Necessary jurisdictional and/or governance authorities:
    - » Dalton: Board of Commissioners
    - » GTC: Rural Utility Services (as applicable) and Board of Directors
    - » MEAG: Board of Directors
    - » PowerSouth: Rural Utility Services (as applicable) and Board of Directors
    - » SMEPA: Rural Utility Services (as applicable) and Board of Directors
    - » Southern: State public service commissions with purview over the impacted facilities and affected retail rates

- Selection in the Regional Transmission Plan for CAP
  - The contractual agreement(s) will address terms and conditions associated with the development of the regional transmission project in a regional plan for CAP, such as:
    - » Specific financial terms associated with the development of the regional transmission project,
    - » The contracting Sponsor's(s') allocation of the costs of the aforementioned facility,
    - » Creditworthiness/project security requirements,
    - » Operational control of the regional transmission facility,
    - » Milestone reporting, including schedule of projected expenditures,
    - » Engineering, procurement, construction, maintenance, and operation of the regional transmission facility,
    - » Emergency restoration and repair responsibilities,
    - » Reevaluation of the regional transmission facility, and
    - » Non-performance or abandonment

- Potential process for inclusion in a regional transmission plan for Cost Allocation Purposes (“CAP”)





- Selection in the Regional Transmission Plan for CAP
  - If a regional transmission project is selected in a regional plan for CAP, the benefiting Sponsors will be allocated costs of the aforementioned facility in proportion to their displaced transmission costs.



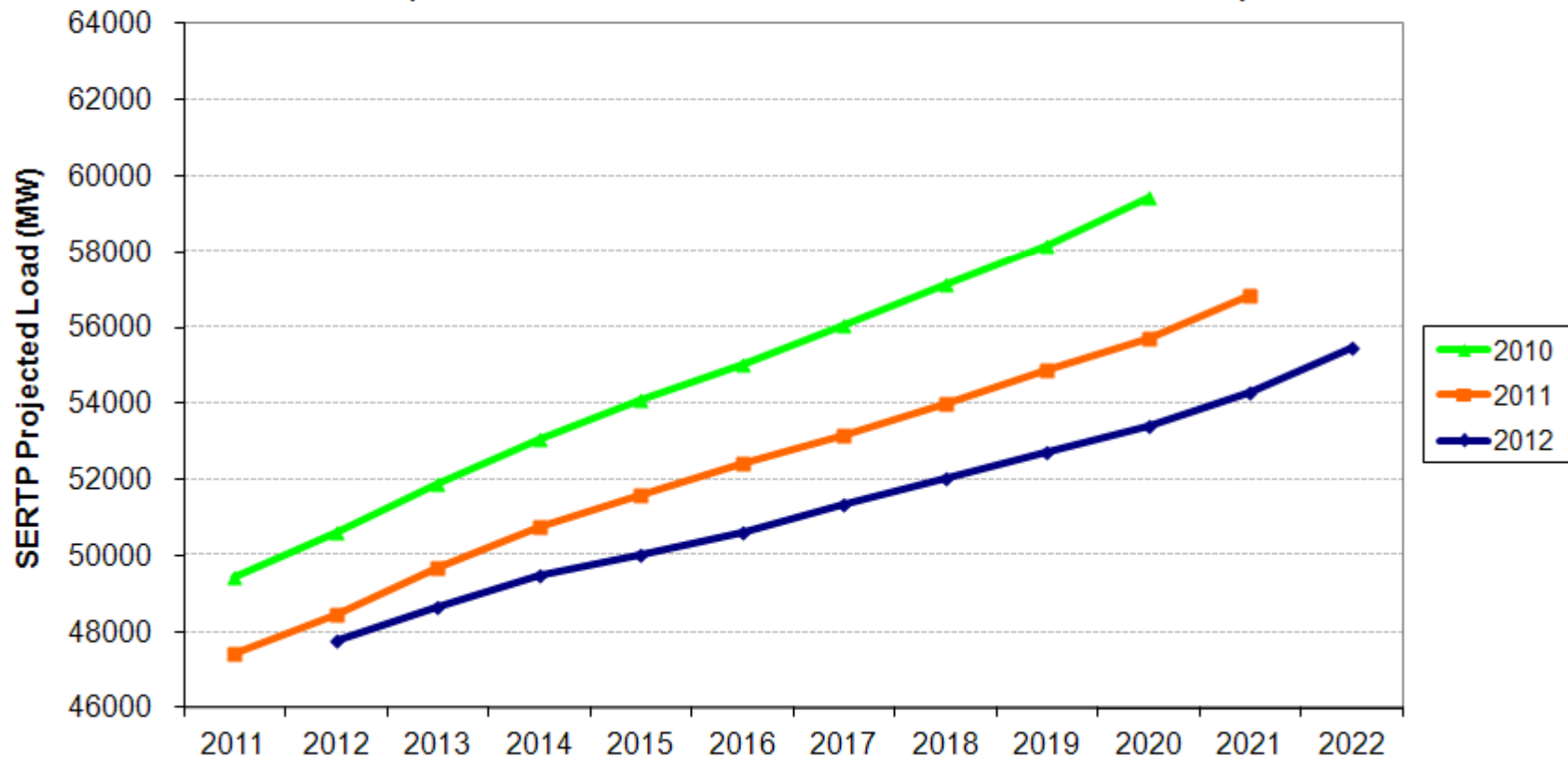
- Selection in the Regional Transmission Plan for CAP
  - In order to ensure that the SERTP Sponsors can efficiently and cost effectively meet their respective reliability, duty to serve, and cost of service obligations, Sponsors will continue to reevaluate the regional transmission plans to:
    - » Assess current transmission needs and determine whether the proposal continues to remain more efficient and cost effective as assessed in subsequent expansion planning process that reflect ongoing changes in actual and forecast conditions, and
    - » Determine if alternative transmission projects may be required in addition to, or in place of, the proposal due to the delay in the development of the regional transmission project. Circumstance prompting this evaluation include:
      - If notification is provided by the transmission developer that the proposed facility will be delayed
      - If the Sponsors are otherwise informed or become aware that the transmission developer is not advancing the project according to established project milestones.

Questions / Comments?

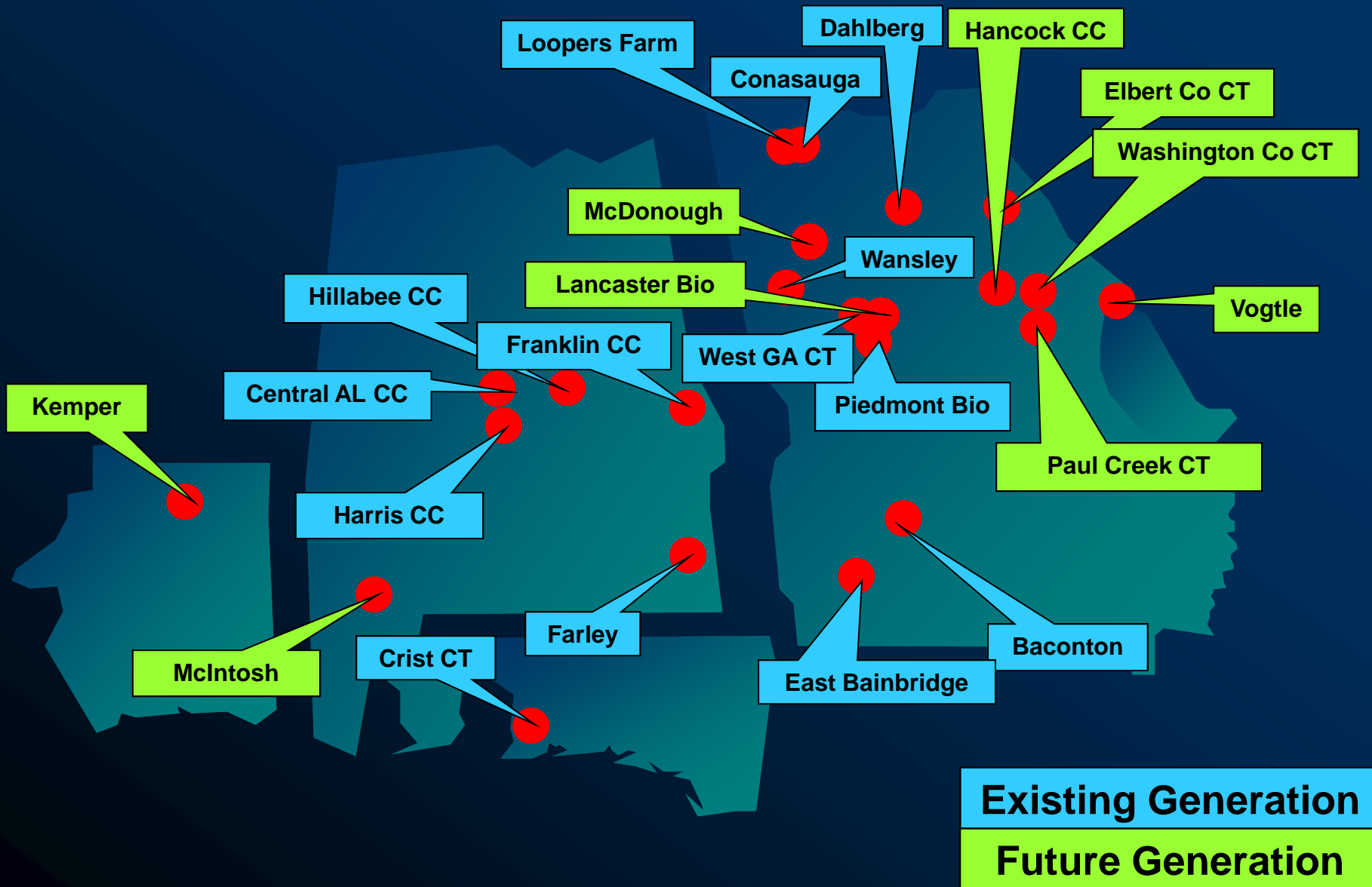
## 2012 MODELING ASSUMPTIONS

# 2012 LOAD FORECAST

SERTP Sponsor Load Forecast  
2010, 2011, and 2012 Series Base Cases  
(Southern + GTC + MEAG + Dalton + PowerSouth + SMEPA)



# 2012 REGIONAL GENERATION ASSUMPTIONS



# 2012 REGIONAL GENERATION ASSUMPTIONS

The following tables depict changes in the generation assumptions for the 2012 Transmission Expansion Planning Process<sup>1</sup>

## SOUTHERN

Site	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
McDonough CC 6	841	841	841	841	841	841	841	841	841	841
Central Alabama CC	885	885	885	885	885	885	885	885	885	885
Baconton CT	197	0	--	--	--	--	--	--	--	--
Dahlberg CT	584	292	367	367	367	367	367	367	367	367
Kemper IGCC	--	600	600	600	600	600	600	600	600	600
Branch 1	266	0	--	--	--	--	--	--	--	--
Branch 2	325	0	--	--	--	--	--	--	--	--
Vogle 2	584	584	540	540	540	540	540	540	540	540
West Georgia CT	--	--	298	298	298	298	298	298	298	298
Franklin 2 CC	--	--	625	0	--	--	--	--	--	--

<sup>1</sup>The years shown in the following tables represent Summer Peak conditions



# 2012 REGIONAL GENERATION ASSUMPTIONS

## GTC

Site	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Loopers Farm CC	620	620	620	620	620	620	620	620	620	620
Lancaster Biomass	--	10	10	10	10	10	10	10	10	10
Dahlberg CT	--	75	262	375	375	375	375	375	375	375
Santa Rosa	225	225	0	--	--	--	--	--	--	--
Branch	90	90	0	--	--	--	--	--	--	--
Gaston 1&2	104	104	0	--	--	--	--	--	--	--
Hammond 2	21	21	0	--	--	--	--	--	--	--
McManus CT	30	30	0	--	--	--	--	--	--	--
Mitchell	38	38	0	--	--	--	--	--	--	--
Scherer 3	233	233	132	132	132	132	132	132	132	132
Wilson 5 CT	21	21	0	--	--	--	--	--	--	--
Yates	244	244	0	--	--	--	--	--	--	--



# 2012 REGIONAL GENERATION ASSUMPTIONS

## GTC (Cont.)

Site	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Franklin CC 2	375	375	0	625	625	625	625	625	625	625
Franklin CC 3	600	600	600	620	620	620	620	620	620	620
Warthen CT	600	600	600	320	320	320	320	320	320	320
Wansley CC 6	--	--	--	--	561	561	561	561	561	561
Vogle 3	--	--	--	--	330	330	330	330	330	330
Vogle 4	--	--	--	--	--	330	330	330	330	330
Baconton CT	--	--	--	--	--	--	49	98	147	196
Elbert County CT	--	--	--	--	--	--	400	400	400	400
Paul Creek CT	--	--	--	--	--	--	200	200	200	200
Washington County CT	--	--	--	--	--	--	359	359	359	359

# 2012 REGIONAL GENERATION ASSUMPTIONS

## MEAG

Site	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Vogle 1	248	248	248	248	248	248	248	248	248	248
Vogle 2	204	204	248	248	248	248	248	248	248	248
Vogle 3	--	--	--	--	250	250	250	250	250	250
Vogle 4	--	--	--	--	--	250	250	250	250	250

## Dalton

Site	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Vogle 3	--	--	--	--	16	16	16	16	16	16
Vogle 4	--	--	--	--	--	16	16	16	16	16

## PowerSouth

Site	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
McIntosh CC 6	--	--	--	--	--	--	187	187	187	187

**SMEPA: None**

# 2012 REGIONAL GENERATION ASSUMPTIONS

## Generation Assumptions for the 2012 Transmission Expansion Planning Process

### PTPs preserved through the planning horizon

Starting in Year	Site	MW
2013	PTP Dahlberg	251
2013	Franklin	535
2013	Harris 1	584
2013	Hillabee	700
2013	Lindsay Hill	500
2013	Scherer 3	235
2013	Scherer 4	850
2015	Scherer	60
2015	Vogle	103
2016	Vogle	103

### PTPs ending within the planning horizon

Year	Site	MW
2013 – 2014	PTP Scherer 3	42
2013 – 2014	Miller	164
2015**	Miller	103

**\*\*Point to Point is assumed for the stated year only**

**PRELIMINARY TEN YEAR  
EXPANSION PLAN**

# 10 YEAR EXPANSION PLAN

## APPROXIMATE PLANNING TIME LINE (YEARS 1 – 5)

Base cases updated  
with most recent  
input assumptions.

Assess need for  
additional new projects.

Approximate target for  
completion of year 1 – 5  
evaluation.

Discuss the preliminary  
expansion plan with the  
SERTP Stakeholders and  
obtain input.



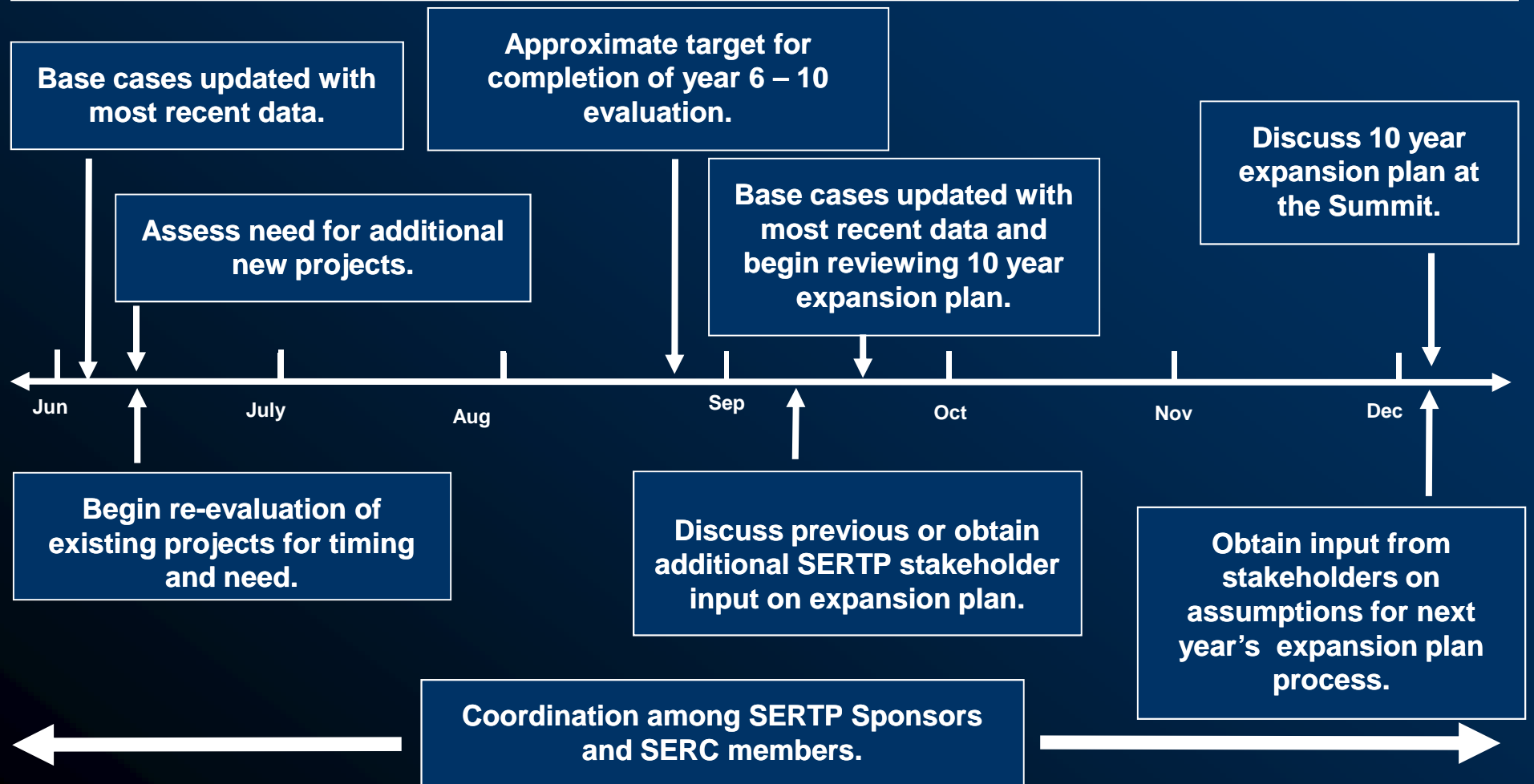
Begin re-evaluation of  
existing projects for timing  
and need.

Coordination among SERTP Sponsors and  
SERC members.

# 10 YEAR EXPANSION PLAN

## APPROXIMATE PLANNING TIME LINE

(YEARS 6 – 10)



- ❖ The projects described in this presentation represent the preliminary ten (10) year expansion plan. The expansion plan is periodically reviewed and may be revised due to changes in assumptions.
- ❖ This presentation does not represent a commitment to build for projects listed in the future.

# 2012 SERTP

- ❖ The in-service date of each project is June 1<sup>st</sup> of the stated project year, unless otherwise specified.
- ❖ The need date of each project is the same as the in-service date, unless otherwise specified.



# 2012 SERTP

**EAST**

**WEST**

**FRCC COORDINATION  
UPDATE**

## ❖ FRCC Coordination Update

- Exchanged the latest transmission models for the ten year planning horizon
- Models will be incorporated into subsequent base cases

# 2012 ECONOMIC PLANNING STUDIES SCOPE

## ECONOMIC PLANNING STUDIES

---

❖ TVA Border to Southern

- 500 MW
- 

❖ PJM West to Southern Balancing Authority (“SBA”)

- 3500 MW
- 

❖ SBA to TVA Border

- 1000 MW
- 

❖ SCPSA Border to EES Border

- 500 MW
- 

❖ SCPSA Border to GTC

- 200 MW
-

## POWER FLOW CASES UTILIZED

- ❖ Load Flow Cases:
  - 2012 Series Version 2A
  - Summer Peak
- ❖ Study Years: 2013, 2017

## ECONOMIC PLANNING STUDIES

### ❖ Analyses to be performed:

- Thermal Analysis
  - DC contingency analysis to attain monitored/contingency pairs with Siemens PSS MUST
  - AC verified with Siemens PTI PSS/E
- Interface Transfer Capability Impacts
- Stability Impacts
- Potential Solutions
  - Transmission Projects and Cost Estimates

## TVA Border to Southern

- **Transfer Amount:** 500 MW
- **Year:** 2017
- **Transfer Type:** Load to Generation
- **Source:**  
Uniform load reduction in TVA
- **Sink:**  
Southern Generation



## PJM West to SBA

- **Transfer Amount:** 3500 MW
- **Year:** 2017
- **Transfer Type:** Generation to Generation
- **Source:**  
New generator interconnecting to the Sullivan 765 kV substation in AEP
- **Sink:**  
Generation within the SBA

## SBA to TVA Border

- **Transfer Amount:** 1000 MW
- **Year:** 2013
- **Transfer Type:** Generation to Load
- **Source:** Generation within the SBA
- **Sink:** Uniform load increase in TVA

## SCPSA Border to EES Border

- **Transfer Amount:** 500 MW
- **Year:** 2013
- **Transfer Type:** Load to Load
- **Source:** Uniform load reduction in SCPSA
- **Sink:** Uniform load increase in EES

## SCPSA Border to GTC

- Transfer Amount: 200 MW
- Year: 2013
- Transfer Type: Load to Generation
- Source: Uniform load reduction in SCPSA
- Sink: GTC Generation

## NEXT MEETING ACTIVITIES

### ❖ Second RPSG Meeting

- Location: TBD
- Date: September 2012
- Purpose:
  - Discuss Preliminary Economic Planning Study Results

### ❖ Order 1000 – Interim Meeting

- Location: TBD
- Date: July/August
- Purpose:
  - Continue discussing Order 1000 regional requirements
- Written comments by July 13<sup>th</sup>

# 2012 SERTP

QUESTIONS?