

FERC ORDER 890

Reform of Transmission Planning Process

Sponsored by:

**Florida Power & Light Company
Orlando Utilities Commission
Progress Energy Florida
Tampa Electric Company
JEA**

FERC ORDER 890

Reform of Transmission Planning Process

- Transmission Providers participate in a coordinated open, comparable, non-discriminatory and transparent planning process at the local and regional levels.
- Transmission Providers' local transmission planning processes in conjunction with the FRCC Regional Transmission Planning Process (FRTPP) satisfy the following nine (9) planning principles in Order 890.

FERC ORDER 890

Reform of Transmission Planning Process

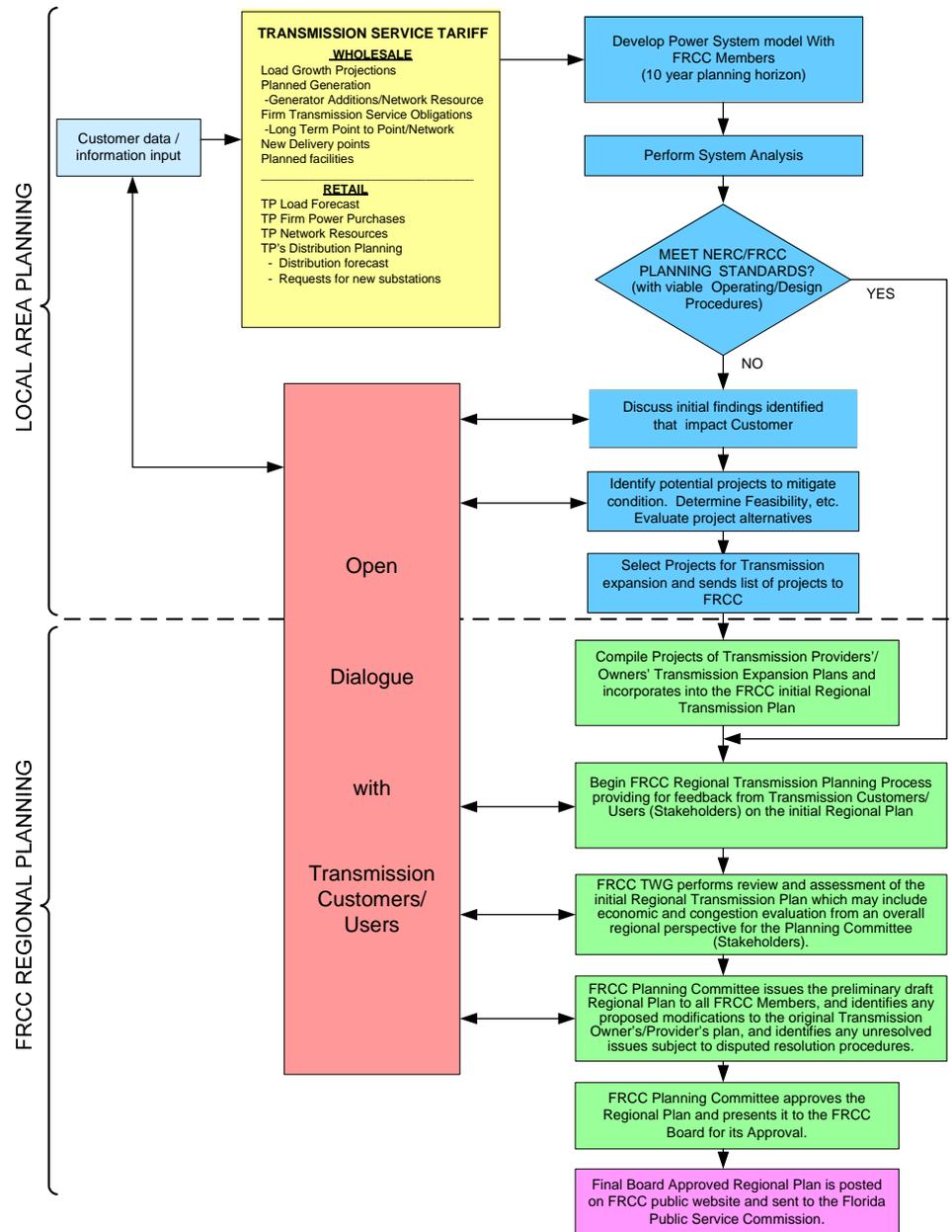
- 1. Coordination** - The process for consulting with customers and neighboring transmission providers (meetings, committees, dialogue, Transmission Provider role)
- 2. Openness** - The notice procedures and anticipated frequency of meetings (participants, data access, process for managing confidentiality of information)
- 3. Transparency** - The methodology, criteria, and processes used to develop transmission plans (standards, processes, methodology, criteria)
- 4. Information Exchange** - The method of disclosure of criteria, assumptions and data underlying transmission system plans (expansion plan development inputs/outputs, customer obligations, data submittal, databank maintenance, update)
- 5. Comparability** - The obligations of and methods for customers to submit data to the transmission provider (applies throughout the planning process, non-discriminatory treatment for all customers)

FERC ORDER 890

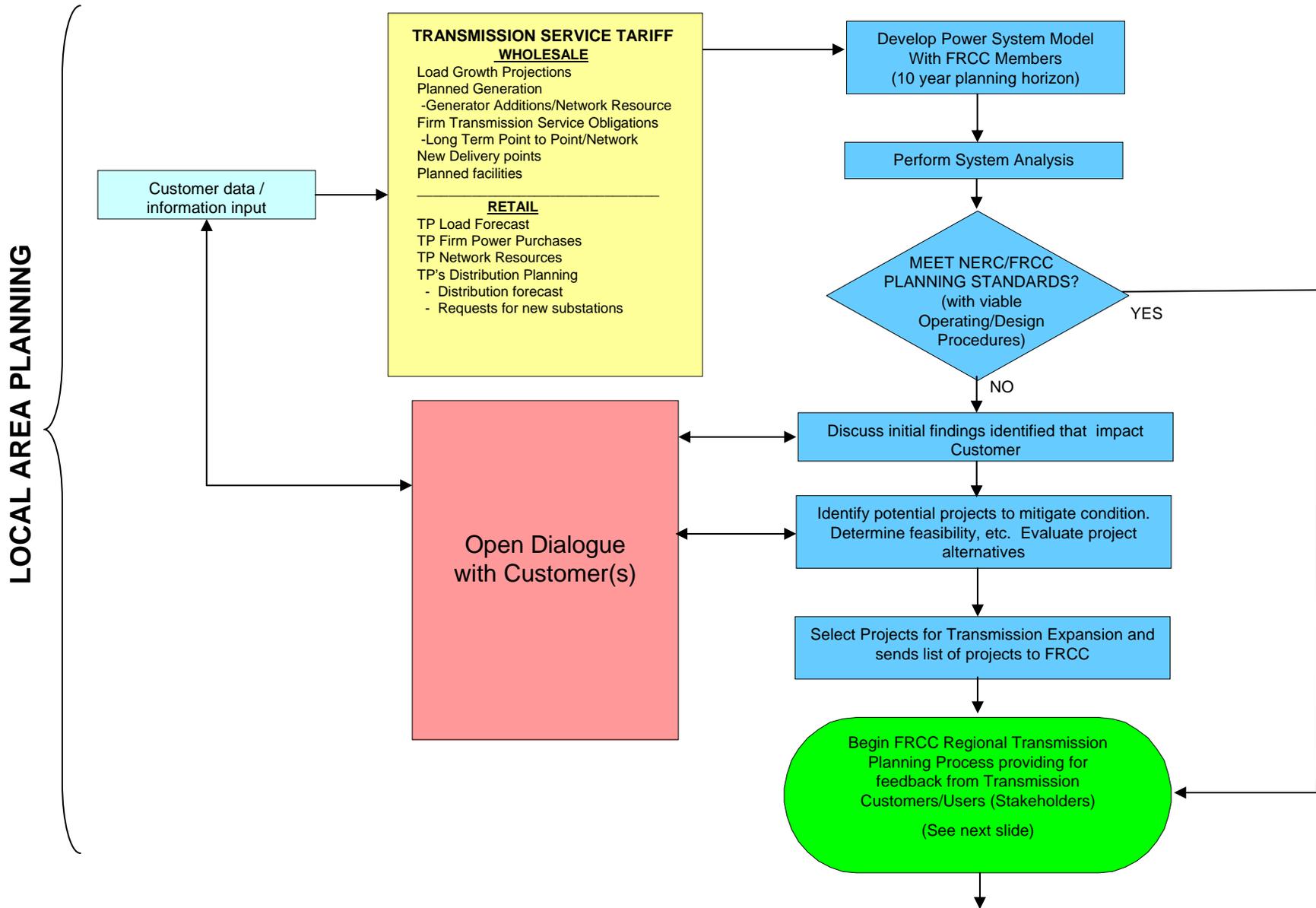
Reform of Transmission Planning Process

6. **Dispute Resolution** - The dispute resolution process (processes for unresolved issues, Florida Public Service Commission (FPSC) regulatory involvement)
7. **Regional Participation** – (within FRCC, FRCC/SERC interaction, sub-regional groups, coordination activities, review processes to ensure reliability)
8. **Economic Planning Studies** - The transmission provider's study procedures for economic upgrades to address congestion or the integration of new resources (scope, procedures, consideration for economic upgrades if cost effective and feasible)
9. **Cost Allocation for New Projects** - The relevant cost allocation procedures or principles (methodology, incentive to build, support by FPSC and participants)

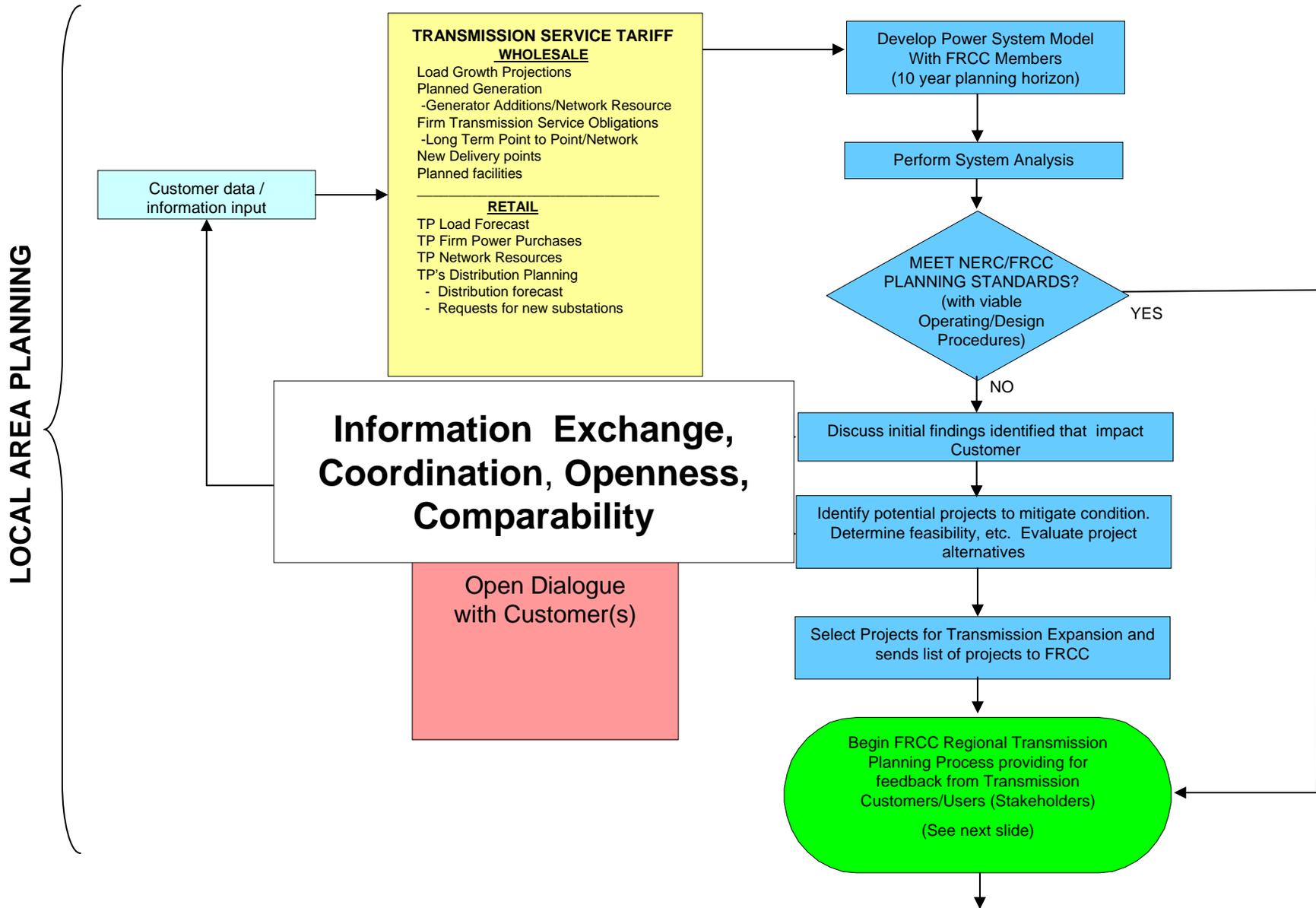
TRANSMISSION PROVIDER (TP) COMBINED LOCAL AND REGIONAL PROCESS OVERVIEW



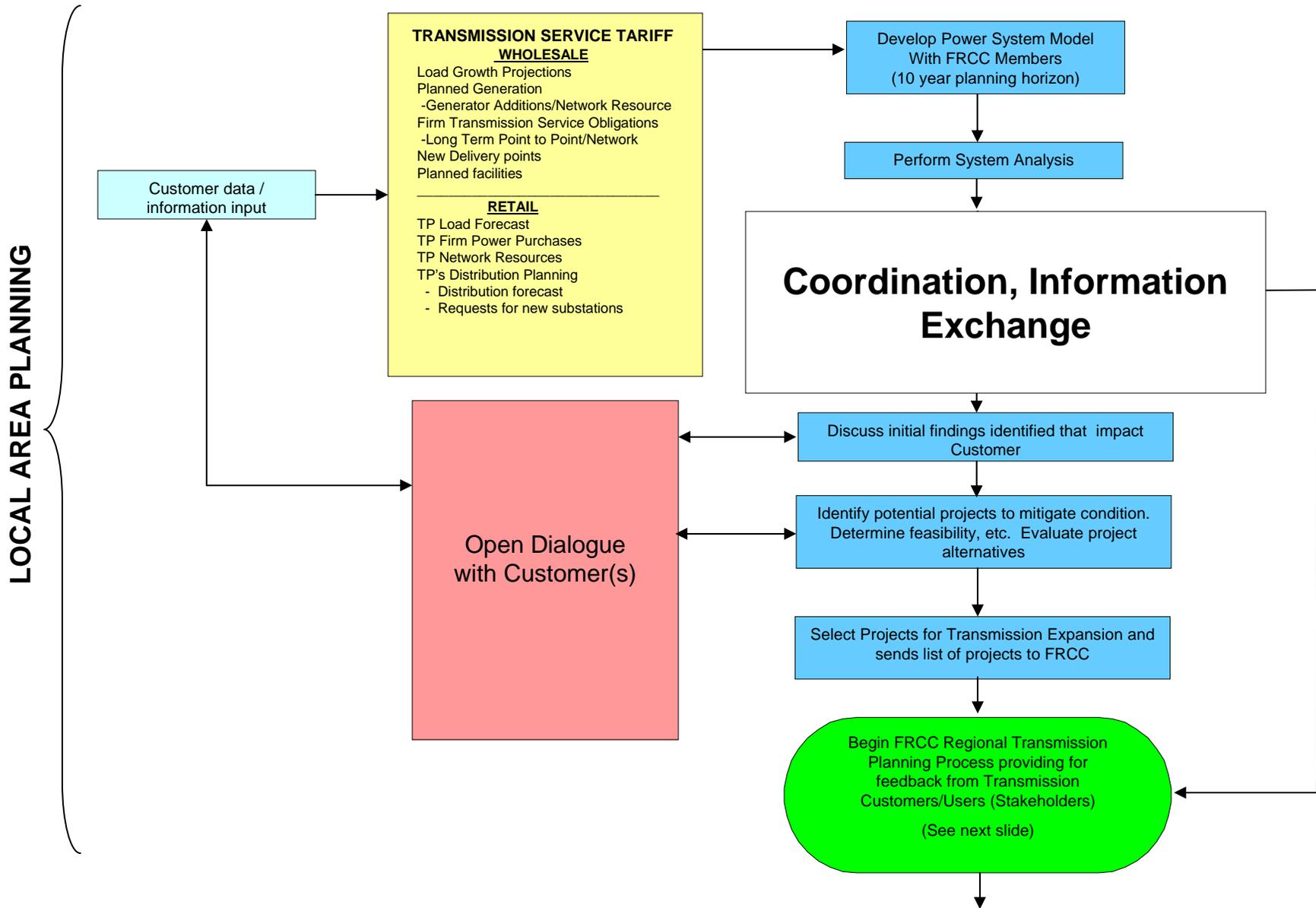
TRANSMISSION PROVIDER (TP) LOCAL PLANNING PROCESS OVERVIEW



TRANSMISSION PROVIDER (TP) LOCAL PLANNING PROCESS OVERVIEW



TRANSMISSION PROVIDER (TP) LOCAL PLANNING PROCESS OVERVIEW



Information Exchange

- **The FRCC power flow base case models contain the data used by the FRCC and transmission providers for intra- and inter-regional assessment studies, and other system studies. The models created also are the basis for the FRCC submittal to the NERC Multi-regional Modeling Working Group (MMWG). TWG members support the data collection requirements and guidelines related to the accurate modeling of generation, transmission and load in the power flow cases. The data collected includes:**

For power flow models:

- Bus data; (name, base voltage, type, area assignment, zone assignment, owner)
- Load data; (bus, MW, MVAR, area assignment, zone assignment, owner)
- Generator data; (bus, machine number, MW, MVAR, status, P_{MAX}, P_{MIN}, Q_{MAX}, Q_{MIN}, MVA base, voltage set-point, regulating bus)
- Branch data; (from bus, to bus, circuit number, impedances, ratings, status, length, owner)
- Transformer data; (from bus, to bus, to bus, circuit number, status, winding impedances, ratings, taps, voltage control bus, voltage limits, owner)
- Area interchange data; (area, slack bus, desired interchange, tolerance)
- Switched shunt data
- Facts device data

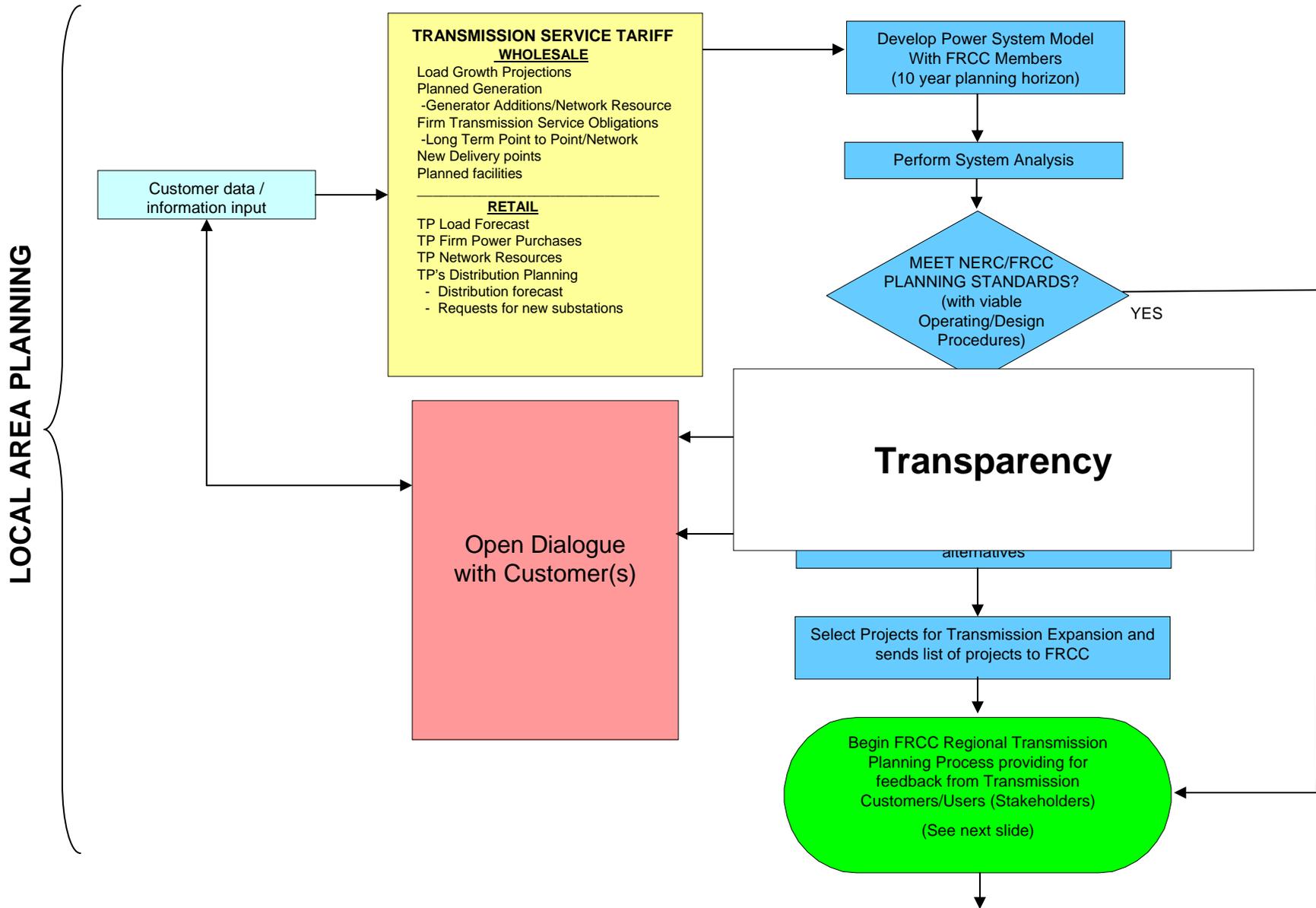
For dynamic stability models: (in addition to power flow model data)

- Generator models; (turbine, generator, governor, exciter, power system stabilizers)
- Relay models; (distance, out of step, underfrequency)
- Special protection scheme models

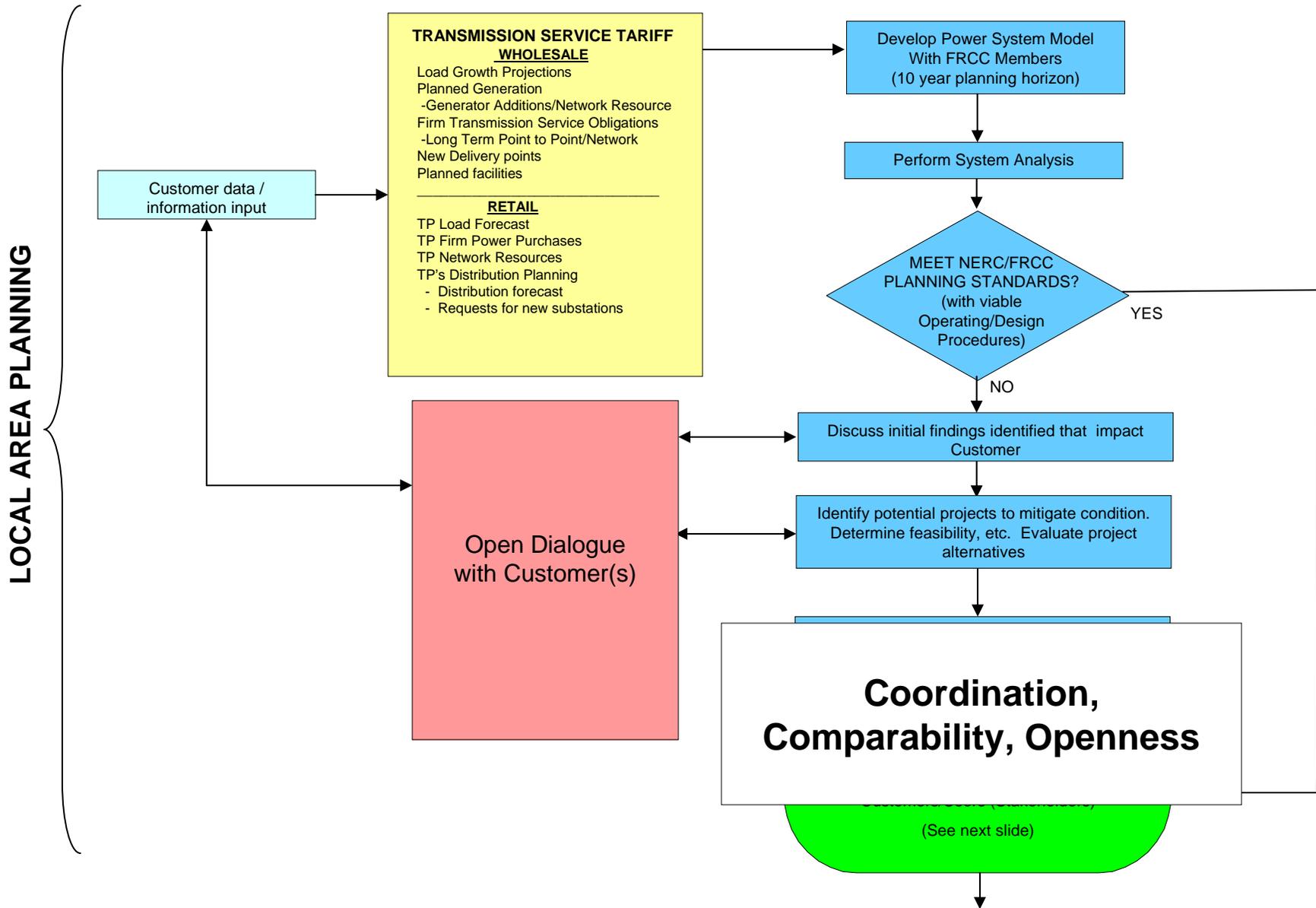
For short circuit models: (in addition to power flow model data)

- Zero and negative sequence impedances;

TRANSMISSION PROVIDER (TP) LOCAL PLANNING PROCESS OVERVIEW



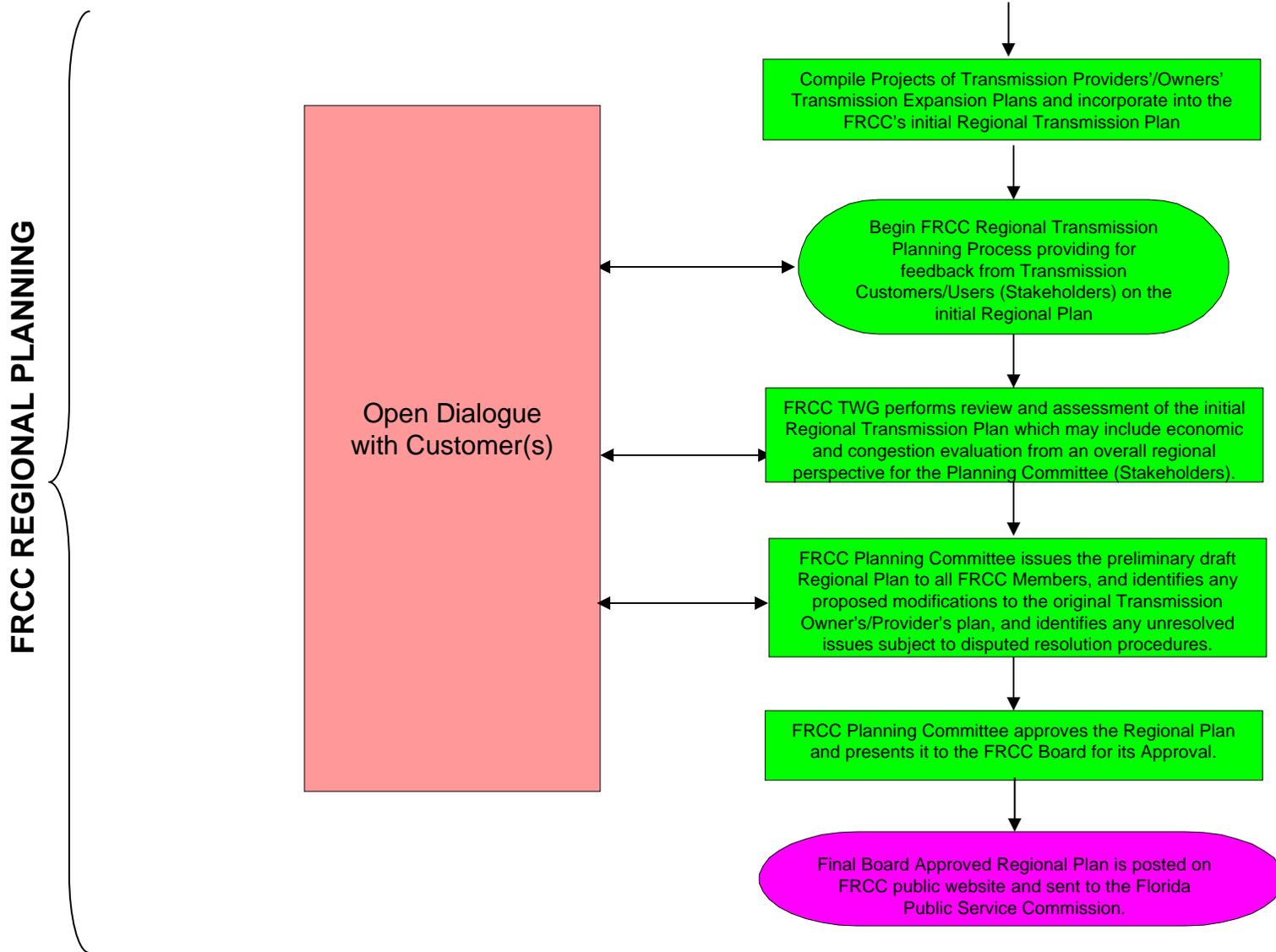
TRANSMISSION PROVIDER (TP) LOCAL PLANNING PROCESS OVERVIEW



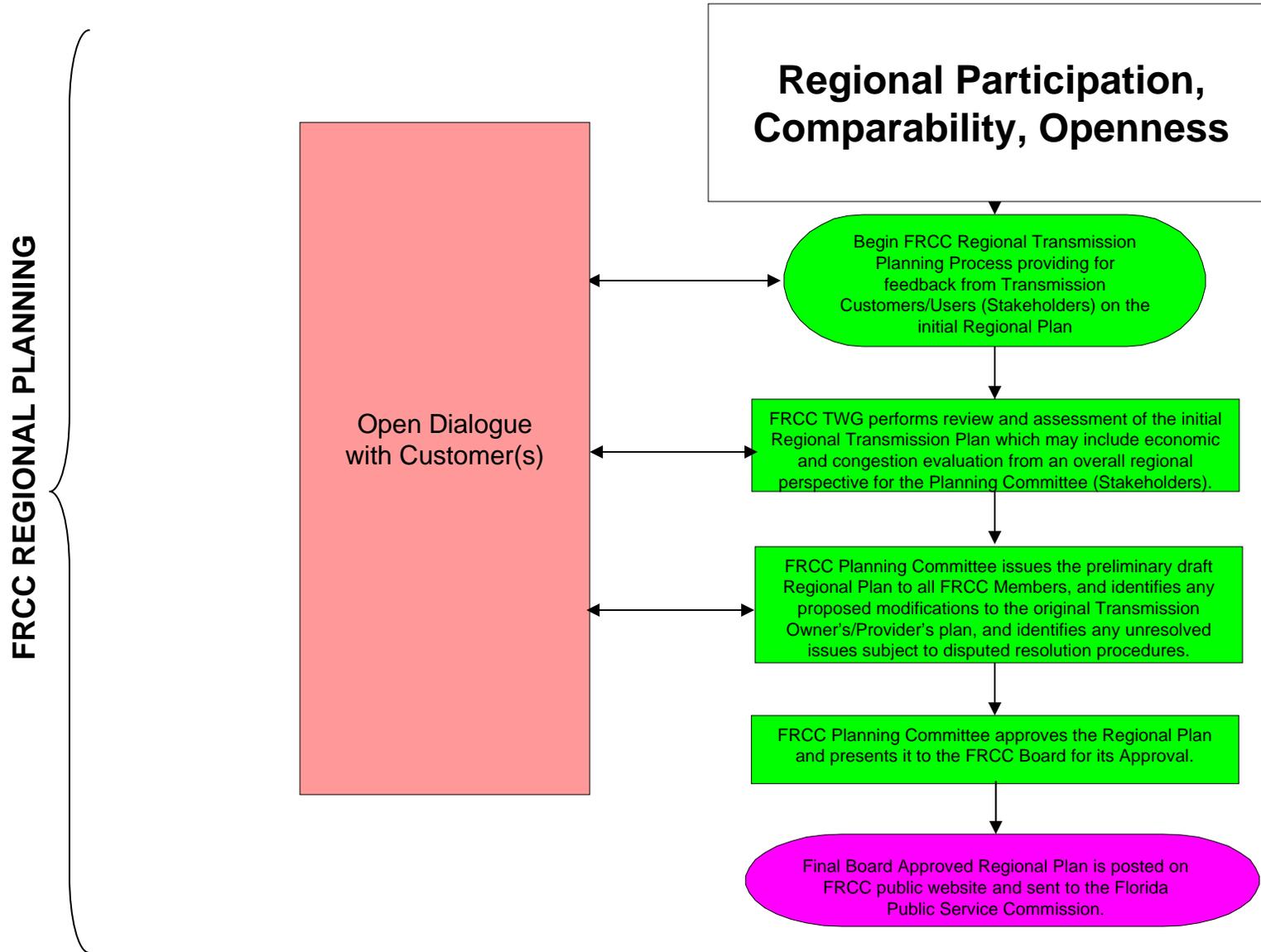
FRCC Regional Transmission Planning Process

- Step 1** – Transmission Owners submit plans to FRCC and plans are compiled and posted for comments
- Step 2** – Feedback from customers and other stakeholders
- Step 3** – Review and assess plans to ensure that composite plans meet customers' needs, ensures reliability and conduct other studies which may include economic and congestion evaluation from an overall regional perspective
- Step 4** – Issues preliminary regional plan and identifies any proposed modifications to the original Transmission Owner's/Provider's plan
- Step 5** – Approves regional plan and sends to FPSC
- Step 6** – Dispute resolution for unresolved issues

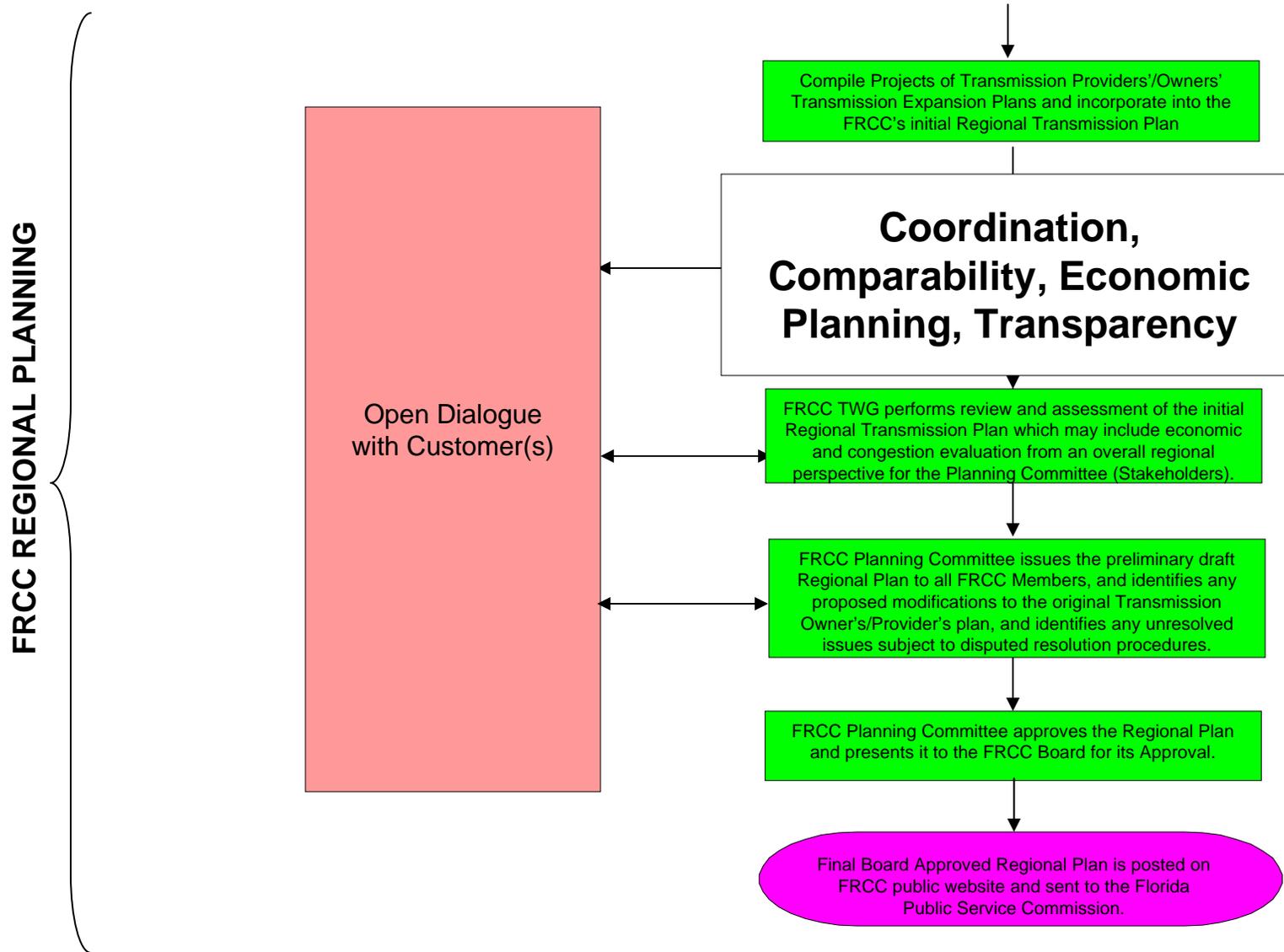
TRANSMISSION PROVIDER REGIONAL PLANNING PROCESS OVERVIEW



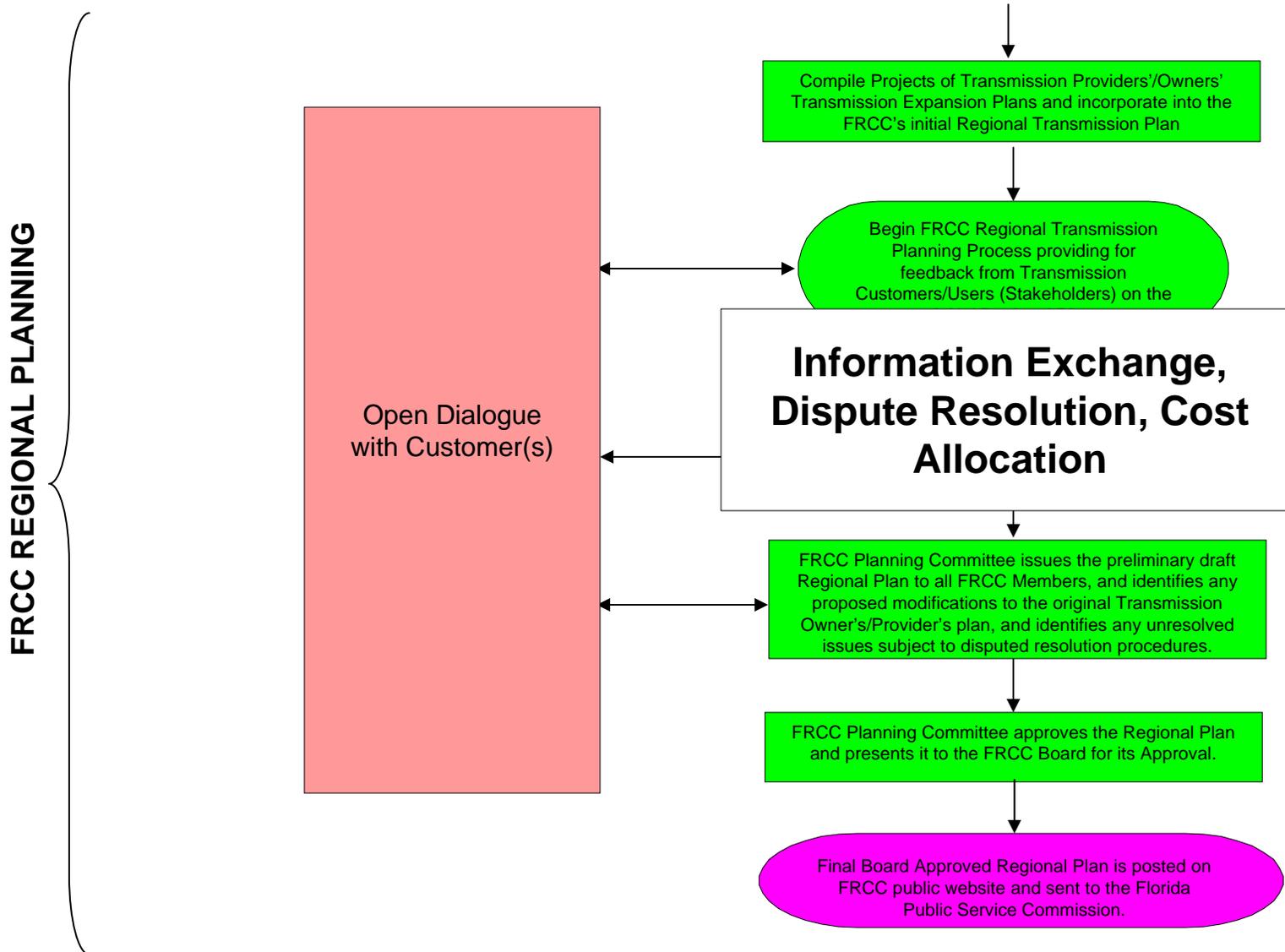
TRANSMISSION PROVIDER REGIONAL PLANNING PROCESS OVERVIEW



TRANSMISSION PROVIDER REGIONAL PLANNING PROCESS OVERVIEW



TRANSMISSION PROVIDER REGIONAL PLANNING PROCESS OVERVIEW



TRANSMISSION PROVIDER REGIONAL PLANNING PROCESS OVERVIEW

