TAG Meeting
September 17, 2007

NCEMC Office
Raleigh, NC

TAG Meeting Agenda

1. Update on the 2007 Study and Report on the 2007 preliminary study results as well as the upcoming planned activities
2. General overview of the Duke / Progress draft Attachment K
3. Specific review and discussion on Cost Allocation Proposal
4. NCTPC Process Changes and Next Steps

General Overview
Duke / Progress
Attachment K

Kendal Bowman

Progress Energy

Duke and Progress meet 890 Regional Planning Requirements via:

1. North Carolina Transmission Planning Collaborative (NCTPC) Process
2. SERC, ERAG, SERC - RFC East, VACAR, Bi-lateral study agreements, and the proposed Inter-Regional Participation Process
3. State Integrated Resource Planning

DRAFT Attachment K is a work in progress, enhancements are needed for full compliance with Order 890

Overview of Attachment K

1. Input and communication with customers
2. Notice procedures, meetings, and planning-related communications
3. Methodology, criteria, and processes used to develop transmission plans
4. Criteria, assumptions, and data underlying the Plan

Overview of Attachment K

5. Dispute Resolution Mechanism
6. Transmission Cost Allocation
7. Cost Allocation for Planning Costs
8. Confidentiality
9. Inter-Regional Coordination
10. Integrated Resource Planning

1. Input and communication with customers

- The NCTPC ***annually*** develops a ***single, coordinated transmission plan*** (Collaborative Transmission Plan).
- Plan appropriately ***balances costs, benefits, and risks*** associated with the use of transmission, generation, and demand-side resources to meet the needs of LSEs as well as other Transmission Customers.
- NCTPC ***provides for input and collaboration*** at the detailed level for transmission modeling, analysis, and planning as well as at the steering and oversight levels.
- ***Participation*** in NCTPC includes ***OSC, PWG, TAG and Independent Third Party.***

2. Notice procedures, meetings, and planning-related communications

- All information regarding transmission planning meetings and ***communications are located on the NCTPC Website***.
- Meeting notice procedures, meeting location process, and the associated meeting ***protocols for the OSC, PWG, and TAG are outlined***.
- ***Continuation*** of the ***current process and procedures***.

3. The methodology, criteria, and processes

- ***Reliability Planning Process*** addresses transmission upgrades needed to ***maintain reliability*** and to integrate new designated network resources and/or loads.

- The ***Enhanced Transmission Access Planning (ETAP) Process*** is the economic planning process that allows the TAG to ***propose economic upgrades*** to be studied as part of the transmission planning process.

4. Criteria, assumptions, and data underlying the plan

- Documented in the ***annual NCTPC Study Scope*** document.
- It describes each of the study steps including the ***planning criteria, assumptions and planning data*** associated with the development of the Collaborative Transmission Plan.
- This document is ***reviewed and discussed with the TAG*** and posted for public review on the NCTPC website.

5. Dispute resolution mechanism

- **NCTPC Process Issues**
  - OSC ***voting structure*** and ***NCUC facilitation***
- **Transmission Siting Issues**
  - ***State regulatory law*** provides for resolution of disputes involving utilities' transmission projects
- **Integrated Resource Planning Issues**
  - NCUC permits ***public participation in hearings***

5. Dispute resolution mechanism

- **Open Access Transmission Tariff Issues**
  - Apply to disputes involving compliance with the FERC's transmission planning ***obligations set forth in Order No. 890***
- **Regional Reliability Project Planning Issues**
  - ***FERC's Dispute Resolution Service*** for cost allocation issues

6. Transmission Cost Allocation

NCTPC Transmission Cost Allocation Whitepaper

Review and discussion - next agenda item

7. Cost Allocation - Planning Costs

- Each NCTPC ***Participant*** bears its ***own expenses***.
- ***TAG*** members bear their ***own expenses***.
- The costs of the NCTPC ***base reliability studies*** are borne by ***Duke and Progress***.
- Costs associated with ***incremental reliability studies, the ITP's costs, and the costs of the ETAP*** are all allocated in the manner set forth in the ***Participation Agreement.***

8. Confidentiality

- Aside from CEII information, the only data that is expected to require ***confidentiality protection*** is ***customer-related information***.
- Confidentiality of customer information is ***determined by a NCTPC Participant or TAG member***.

9. Inter- Regional Coordination

- **SERC Transmission Assessment Study Process**
  - Joint studies to ***assess the transmission performance*** of the SERC region
  - ***Share*** modeling ***data***, study ***assumptions***, and transmission expansion ***plans***
- **Eastern Interconnection Reliability Assessment Group (ERAG)**
  - ***Periodic reviews*** of generation and transmission expansion programs and forecasted system conditions within the regions
  - Administers the development of a ***library of power-flow base case models***

9. Inter- Regional Coordination

- **SERC - RFC East Planning-Related Activities**
  - ***Transmission assessment studies*** between TVA, VACAR and a portion of eastern PJM
- **VACAR Planning-Related Activities**
  - Conduct ***similar studies*** to the SERC Process but ***focus*** specifically on the ***VACAR sub region***
- **Bilateral Planning-Related Activities**
  - ***Numerous*** planning and operating study agreements
  - ***Coordinated studies*** on as-needed basis

9. Inter- Regional Coordination

"New" Inter-Regional Participation Process

- "***Inter-Regional Participation White Paper"***
- ***Expands upon the existing processes*** for regional planning in the Southeast
- ***"Participating Transmission Providers"*** include: Alabama Electric Cooperative, Progress Energy Carolinas, Duke Energy Carolinas, Santee Cooper, Dalton Utilities, South Carolina Electric & Gas, South Mississippi Electric Power Association, Entergy, Georgia Transmission Corporation, Southern Companies, Municipal Electric Authority of Georgia, and Tennessee Valley Authority

9. Inter- Regional Coordination

- Inter-Regional Participation Process Planning - Related Activities
  - ***Stakeholders request economic studies*** that would be evaluated on an inter-regional basis.
  - Studies to be conducted by Transmission Owners over a ***two year cycle***
  - ***Seams coordination*** would occur at the regional level with neighboring (external) planning processes
  - ***Engaging all SE stakeholders*** in various forums to receive their input concerning this framework

9. Inter- Regional Coordination

Review of the Inter-Regional Participation
Process Diagram - Handout

10. Integrated Resource Planning

- ***Individual assessments*** of the bulk transmission systems
- NC Commission IRP
  - ***Analyze load growth***, future ***generation requirements*** along with ***conservation, load management*** and ***demand-side*** options
  - Includes planned transmission upgrades required to supply system demand during the ***10 year forecast period***
- SC Commission IRP
  - ***Evaluate*** the ***cost effectiveness of supply-side and demand-side options*** in an economic and reliable manner covering a ***15 year forecast*** period

Questions ?

Review and Discussion of Cost Allocation Proposal

Ed Ernst

Duke Energy

FERC Order 890 - Transmission Cost Allocation

Commission's ***Three General Principles*** are:

1. ***Fairly assign costs*** to those who caused the problem as well as to those who will benefit from the solution.
2. Provide ***adequate incentives*** to the Transmission Providers to construct.
3. Generally ***supported by the states and participants*** across the planning region.

Duke / Progress Proposed Cost Allocation - Attachment K to OATT

Does <u>not</u> modify the existing process for:

1. ***Generation Interconnection*** Network Upgrade Projects
2. ***Transmission Service*** Projects

Duke / Progress Proposed Cost Allocation Summary

- ***"Avoided Cost"*** Methodology applies to ***Regional Reliability Projects*** with demonstrated cost savings
- ***"Requestor Pays"*** Methodology applies to ***Regional Economic Transmission Paths (RETP)*** to improve economic power transfers

Duke / Progress OATT Cost Allocation

- ***Costs of Reliability Projects*** included in the Collaborative Transmission Plan are allocated in accordance with the respective ***Duke and Progress OATT.***
- ***"Regional Reliability Projects"*** are an ***exception*** to this rule.

Duke / Progress OATT Cost Allocation

- ***Economic upgrades*** are studied through ***Enhanced Transmission Access Planning Process.***
- ***No obligation to build or fund*** such projects therefore they are ***not included*** in the Collaborative Transmission Plan, ***unless and until either***:
  1. a ***Transmission Service Request is submitted*** to the appropriate Transmission Provider(s); or
  2. an ***RETP is fully subscribed***.
- If a ***transmission service request*** is submitted for an economic project, its costs will be ***allocated in accordance with the appropriate OATT.***

Regional Reliability Project Cost Allocation

- ***Regional Reliability Project*** can be defined as any reliability project that requires an ***upgrade to one or more Transmission Provider's systems that would not have otherwise been made*** at the time based upon the reliability needs of the individual Transmission Providers.
- ***"Avoided cost"*** cost allocation methodology applies where there is a demonstration that a regional transmission solution and regional approach to cost ***allocation results in cost savings***.
- A ***Regional Reliability Project*** must have a ***cost of at least $1 million*** to be subject to the avoided-cost cost allocation methodology.

Regional Reliability Project Cost Allocation

- Once a ***Regional Reliability Project*** is determined by the NCTPC to be the ***most cost-effective solution***, it then gets ***included*** in the Collaborative Transmission Plan.
- A ***Regional Reliability Project*** that is cost effective will have its costs ***allocated based on an avoided cost approach,*** whereby each Transmission Provider evaluates the stand-alone approach to maintaining reliable service and shares the savings of not implementing the stand-alone approach on a pro-rata basis.

Regional Reliability Project Cost Allocation

Formula for the avoided cost can be expressed as:

(TPx's Avoided Cost/Total Avoided Cost) x cost of Regional Reliability Project = TPx's Cost Allocation

(TPy's Avoided Cost/Total Avoided Cost) x cost of Regional Reliability Project = TPy's Cost Allocation

- Cost responsibility determinations will then be ***reflected in transmission rates***.
- The avoided cost approach also will take into account the ***acceleration and delay*** of Reliability Projects.

Example 1:

A Regional Reliability Project (RRP) on system of one TP solves reliability issue on system of other TP.

(1) Transmission Provider	(2) Cost to Meet Reliability Needs on a Stand Alone Basis (MM)	(3) Cost of Regional Reliability Project (MM)	(4) Avoided Transmission Project Cost (MM)	(5) Costs to Meet Reliability Needs on a Regional Basis (MM) (2) + (3) - (4) = (5)	(6) Final Cost Responsibility (MM)
Duke	$500	0	$50	$450	$480
Progress	$400	$30	0	$430	$400
Total	**$900**	**$30**	**$50**	**$880**	**$880**

*(Duke's Avoided Cost/Total Avoided Cost) * cost of RRP = Duke Cost Allocation*

($50 MM / $50 MM) * $30 MM = $30 MM

*(Progress Avoided Cost/Total Avoided Cost) * cost of RRP = Progress Cost Allocation*

($0 MM / $50 MM) * $30 MM = $0 MM

Cost Incurrence- Duke spends $450 MM and Progress spends $430 MM.

Cost Responsibility - Duke is allocated $30 MM of Progress' costs.

Example 2:

A Regional Reliability Project on system of two TPs solves reliability issue on system of one TP.

(1) Transmission Provider	(2) Cost to Meet Reliability Needs on a Stand Alone Basis (MM)	(3) Cost of Regional Reliability Project (MM)	(4) Avoided Transmission Project Cost (MM)	(5) Costs to Meet Reliability Needs on a Regional Basis (MM) (2) + (3) - (4) = (5)	(6) Final Cost Responsibility (MM)
Duke	$500	$20	$50	$470	$480
Progress	$400	$10	0	$410	$400
Total	**$900**	**$30**	**$50**	**$880**	**$880**

*(Duke's Avoided Cost/Total Avoided Cost) * cost of RRP = Duke Cost Allocation*

($50 MM / $50 MM) * $30 MM = $30 MM

*(Progress Avoided Cost/Total Avoided Cost) * cost of RRP = Progress Cost Allocation*

($0 MM / $50 MM) * $30 MM = $0 MM

Cost Incurrence - Duke spends $470 MM and Progress spends $410 MM.

Cost Responsibility - Duke is allocated $10 MM of Progress' costs.

Example 3:

A Regional Reliability Project on system of two TPs solves reliability issues on systems of both TPs.

(1) Transmission Provider	(2) Cost to Meet Reliability Needs on a Stand Alone Basis (MM)	(3) Cost of Regional Reliability Project (MM)	(4) Avoided Transmission Project Cost (MM)	(5) Costs to Meet Reliability Needs on a Regional Basis (MM) (2) + (3) - (4) = (5)	(6) Final Cost Responsibility (MM)
Duke	$500	$20	$50	$470	$477.3
Progress	$400	$10	$5	$405	$397.7
Total	**$900**	**$30**	**$55**	**$875**	**$875**

*(Duke's Avoided Cost/Total Avoided Cost) * cost of RRP = Duke Cost Allocation*

($50 MM / $55 MM) * $30 MM = $27.3 MM

*(Progress Avoided Cost/Total Avoided Cost) * cost of RRP = Progress Cost Allocation*

($5 M / $55 MM) * $30 MM = $2.7 MM

Cost Incurrence - Duke spends $470 MM and Progress spends $405 MM.

Cost Responsibility - Duke is allocated $7.3 MM of Progress' costs.

Example 4:

Accelerating a Reliability Project on one TP system solves reliability issues on another TP system.

(1) Transmission Provider	(2) Cost to Meet Reliability Needs on a Stand Alone Basis (MM)	(3) Cost of Regional Reliability Project (MM) (Cost of Acceleration)	(4) Avoided Transmission Project Cost (MM)	(5) Costs to Meet Reliability Needs on a Regional Basis (MM) (2) + (3) - (4) = (5)	(6) Final Cost Responsibility (MM)
Duke	$500	$20	$0	$520	$500
Progress	$400	$0	$50	$350	$370
Total	**$900**	**$20**	**$50**	**$870**	**$870**

*(Duke's Avoided Cost/Total Avoided Cost) * cost of RRP = Duke Cost Allocation*

($0 MM / $50 MM) * $20 MM = $0 MM

*Progress Avoided Cost/Total Avoided Cost) * cost of RRP = Progress Cost Allocation*

($50 MM / $50 MM) * $20 MM = $20 MM

Cost Incurrence - Duke spends $520 MM and Progress spends $350 MM.

Cost Responsibility - Progress is allocated $20 MM of Duke's costs.

Regional Reliability Project Cost Allocation

- Involving Transmission System(s) ***outside the NCTPC***
  - Costs should be ***fairly allocated*** among the affected Transmission Providers based on ***good-faith negotiation.***
  - The resulting transmission costs and the associated revenue requirements of each Transmission Provider will be ***recovered through their respective existing rate structures*** at the time.

Regional Economic Transmission Paths (RETP) Cost Allocation

- An ***RETP*** is a transmission study scenario that would facilitate potential ***regional point-to-point economic transactions***.
- The costs of upgrades or facilities that result from RETPs are ***allocated on a "requestor pays" basis***.
- RETP Process includes an ***Open Season*** to determine who are the actual requestors.

RETP Cost Allocation - Continued

- ***"NCTPC Transmission Cost Allocation White Paper"*** describes the ***stakeholder process*** for identifying RETPs, the Study Process, and the Open Season Process including examples of how insufficient or over-subscriptions are handled.
- Transmission Customer(s) - ***"requestor(s)"*** that are subscribing to the RETP would provide the ***up-front funding*** of any transmission construction.
- These ***"requestor(s)"*** are the Transmission Customers that were ***awarded the MWs*** as a result of the Open Season process.

RETP Cost Allocation - Continued

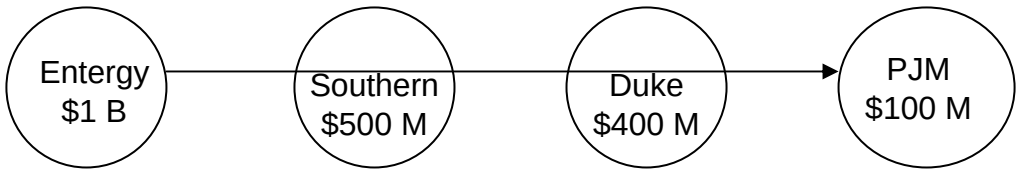
- ***Transmission Customers*** would receive a ***levelized repayment*** of this initial funding amount in the form of monthly transmission credits over a maximum ***20-year period.***
- The Transmission Providers can work with the Transmission Customers to provide ***shorter or different crediting.***
- As ***credits are paid***, Transmission Providers have the opportunity to ***include the upgrade costs in transmission rates***.

RETP Cost Allocation - Continued

- ***No compensation*** is provided for any ***"head-room"*** that would be created.
- The total project cost due to an RETP will be ***adjusted*** to provide compensation for the ***positive transmission impacts.***
- This RETP concept and cost allocation methodology ***applies to the NCTPC footprint***.
- The NCTPC Participants will work with ***other regions*** to ***adopt approaches that are consistent*** with its requestor pays approach.

RETP Cost Allocation & Open Season Example:

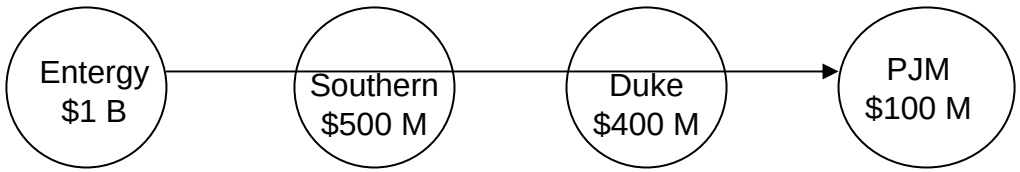
Entergy to PJM 1,000 MW RETP requested for 20 year period.



Note: Above dollars represent transmission investment needed by each Transmission Provider.

1. ***RETP would be identified and studied through the Inter-Regional Participation Process and coordinated with PJM.***
2. ***If Transmission Customers determine that there is sufficient interest to move the RETP from "study" to "Open Season", then the impacted Transmission Providers would hold a coordinated Open Season for the project (subject to impacted TPs' adoption of this Open Season concept).***
3. ***If there is sufficient subscriptions on the project, it would move forward.***
4. ***Duke would use the NCTPC RETP cost allocation methodology.***

RETP Cost Allocation & Open Season Example (cont):
Entergy to PJM 1,000 MW RETP requested for 20 year period.



Note: Above dollars represent transmission investment needed by each transmission provider.

- ***Assume Transmission Customers subscribe at the following levels:***
  - ***TC #1 = 200 MW; TC #2 = 300 MW; TC #3 = 500 MW***
- ***Duke would use NCTPC RETP cost allocation – TCs would provide up-front funding of Duke's needed transmission investment ($400 M) as follows:***
  - ***TC #1 = $80 M; TC # 2 = $120 M; TC # 3 = $200 M***
- ***TC #1, TC #2, and TC #3 would pay Duke for PTP service across the Duke system.***
- ***Duke would provide levelized repayment of the initial funding to each TC over a maximum 20 year period netted against the TCs' PTP service charges.***

Questions ?

NCTPC Process Changes and Next Steps

Rich Wodyka

Gestalt ITP

NCTPC Process Changes

- Update Enhanced Transmission Access Planning (ETAP) Process to include the evaluation Regional Economic Transmission Paths (RETPs).
- Update TAG Scope to reflect the new ETAP/RETP process elements.
  - Need to define scope and number of studies that may be requested by TAG in ETAP Process.
  - Need to establish who will make determination and how that determination will be made as to which studies will be included in ETAP Process.
  - Need to establish the extent to which TAG members also may request additional economic studies at their own expense.

NCTPC Process Changes

- Develop a means for providing data and information that would allow stakeholders to replicate planning studies.
- Solicit TAG input on the interest of members to receive study information and results from all the Inter-Regional planning-related activities at future TAG meetings.
- Update the current NCTPC documentation to reflect all changes and modifications.

NEXT STEPS

- Discuss RETP Open Season and compatibility of respective cost allocation methodologies with surrounding Transmission Providers – On-going
- FERC Order 890 Technical Conference - Oct 1-2
- NCTPC Proposed Process Changes to TAG - Oct 15
- TAG written comments on proposed changes – Oct 24
- TAG Special Meeting - October 31 *(Tentative)*
- TAG Special Meeting - November 15 *(Tentative)*

Questions ?