WRITTEN COMMENTS OF PROGRESS ENERGY CAROLINAS, INC.

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PANEL 3 - TRANSMISSION AND OPERATIONAL SEAMS ISSUES: LOOP FLOWS

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Progress Energy Carolinas ("PEC") greatly appreciates the opportunity to participate on a technical conference panel and submit its comments on RTO Border Utility Issues for consideration by the Commission.

PEC's Operations

PEC is engaged in the generation, transmission, distribution and sale of electric power. PEC has 12,500 MW of generation capacity. It provides bundled retail service to 1.4 million customers in the States of North Carolina and South Carolina and it sells power to wholesale customers located in its control area through long-term bilateral contracts. It also transacts in wholesale energy markets in the southeastern region of the United States, in the PJM market and, occasionally, in the Midwest ISO market.

PEC is an open access transmission provider and control area operator that must manage transmission and operational issues to maintain the reliability of its

electric system. When AEP and Dominion joined PJM, PEC became a "border utility" at the southeast interface of the PJM Interconnection. As a direct and contiguous neighbor, PEC must grapple with a tremendous operational challenge because of its proximity to the PJM market and the dynamics of that market.

Loop Flows

The main impact that PEC has experienced upon becoming a "border utility" was and is a voluminous increase in loop flows across the PEC electric system. Loop flows, also referred to as unscheduled flows or parallel flows, are a long-standing issue on interconnected electric systems and we recognize that there are loop flow issues for most entities that border RTOs and ISOs. However, PEC is experiencing an inordinate amount of loop flows across its system.

A look at the recent history of loop flows on the PEC system demonstrates the magnitude of the problem and illustrates how the loop flow problem has grown with PJM's expansion to the west. In 2003, before AEP joined the PJM system, PEC experienced a peak of 500 MW of loop flows across its system. In 2005, after AEP joined the PJM system, PEC experienced a peak of 800 MW of loop flows across its system. In 2006, after Dominion joined the PJM system, PEC reached a peak of 1500 MW of loop flows across its system. On February 7, 2007, PEC experienced 2700 MW of loop flows across its system which resulted in transmission line loading relief ("TLR"). To put the magnitude of these loop flows into perspective, PEC has approximately 3600 MW of import capability into the PEC system. On that day in February, a large percentage of PEC's import capability was used by loop flows.

The loop flow problem also has become a persistent operational issue during peak months of PEC's system usage and stress. In January and February of 2007, PEC typically experienced between 1500 MW and 2700 MW of loop flows on its system.

To understand PEC's loop flow issue, an understanding of the PJM system and the dynamics of the PJM market is necessary. As the Department of Energy and the PJM recognize, the PJM region is characterized by a large amount of excess and inexpensive coal-fired generation in the west, load located at Mid-Atlantic population centers to the east, and large west-to-east power flows as generation in the west responds to price signals to serve load in the east. The operational problem lies in significant transmission constraints on the PJM system that sit between the generation in the west and the load in the east.[1] As a result of these transmission constraints, a significant portion of PJM western generation flows south on the PJM system onto PEC's electric system and then the energy is drawn up the eastern side of PEC's system to the PJM load centers in the east. As a result, PEC experiences counterclockwise loop flows as a border utility of the PJM.

Also contributing to unscheduled flows across PEC are sales made into the PJM market by market participants to the south and west of PEC. These sales generally flow to PJM East through PEC regardless of how the sales of energy are scheduled.

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[1] Indeed, PJM has requested that certain transmission constraints in this region be designated by the Department of Energy as national interest electric transmission corridors. PJM's March 6, 2006 filing at the U.S. Department of Energy, entitled "Request of PJM Interconnection, L.L.C. for Early Designation of National Interest Electric Transmission Corridors." The Department of Energy has already recognized that: "major transmission upgrades will be needed in parts of Delaware, Maryland, New Jersey, Pennsylvania, Virginia, West Virginia and perhaps Ohio to enable delivery of enough Midwestern generation to the Mid-Atlantic area to meet the area's growing reliability and economic needs." U. S. Department of Energy's August 2006 National Electric Transmission Congestion Study, at page 43.

Therefore, the expansion of PJM's footprint and regional market in combination with a PJM transmission system that was not originally designed to support these regional power flows has created a tremendous operational challenge for PEC. The magnitude and persistence of these loop flows is very problematic - it jeopardizes PEC's system reliability, adversely impacts PEC's operations, and harms PEC's ratepayers. Simply put, PEC cannot continue to accommodate unscheduled flows of 2700 MW across its system.

Remedies PEC Is Pursuing to Address Loop Flows

Given the magnitude of the loop flows PEC experienced after AEP joined PJM, PEC anticipated that loop flows would be an issue when Dominion joined PJM and it negotiated a joint operating agreement with PJM in 2005 (the "JOA") that would be used to address those problems. The JOA was the resulting product of a settlement between PEC and PJM in the proceeding before the North Carolina Utilities Commission concerning Dominion's integration into PJM, Docket No. E-22 Sub 418. The JOA also was filed at this Commission.[2] PEC hopes that the JOA will provide a vehicle to equitably address the loop flow issues between PEC and PJM.

PEC anticipates approaching other parties whose unscheduled flows are impacting our system. Hopefully, we can work out these issues with those counterparties as well.

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[2] See the July 29, 2005 filing of the "Joint Operating Agreement Among and Between PJM Interconnection, L.L.C. and Progress Energy Carolinas," PJM Rate Schedule FERC No. 40 and PEC Rate Schedule FERC No. 171, in Docket No. ER05-1279-000, which was accepted by the Commission by letter order dated September 9, 2005.

PEC cannot predict whether FERC will need to take further action. PEC believes that the best approach is for the parties to work out this problem for themselves. However, the situation must be resolved. PEC cannot continue to absorb this level of loop flow without relief and compensation.

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