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April 25, 2008

Via Hand Delivery

Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

Re: **Duke Energy Carolinas, LLC, Docket No. OA07-82-001**

Dear Secretary Bose:

In compliance with the Commission's March 27, 2008 order,[1] and Section 206 of the Federal Power Act ("FPA"), Duke Energy Carolinas, LLC ("DE Carolinas"), tenders for filing its open access tariff ("OATT") compliance filing.

This compliance filing contains the following parts:

- This transmittal letter;
- Attachment A, a clean copy of the revised tariff sheets;
- Attachment B, a redline of the changes.

I. DESCRIPTION OF CHANGES

In the *March 27 Order,* the Commission required that DE Carolinas: 1) post the specific mathematical algorithms used to calculate firm and non-firm Available Transfer Capability ("ATC"); and 2) revise its Attachment C to provide a clear

[1] *Duke Energy Carolinas, LLC,* Dkt. No. OA07-82, Letter Order (Mar. 27, 2008).

definition for existing transmission commitments and a clear description for how rollover rights are accounted for. DE Carolinas has complied with such requirements.

The link to the mathematical algorithms is now found in Section IV.F of Attachment C. As to existing transmission commitments, DE Carolinas was using different terminology to convey the same concept as existing transmission commitments. DE Carolinas thus has clarified its description of how it takes existing transmission commitments into account in calculating ATC in Section IV.D.2 by using the concept of existing transmission commitments to replace the concept it had previously delineated "Scheduled and Reserved Transmission Service." That same section explains that rollover rights are included in ATC calculations by assuming those rights are extensions of firm reservations, unless the deadline for the exercise of such rights has passed.

If you have any questions regarding his filing please do not hesitate to call.

Respectfully submitted,

Jennifer L. Key
Attorney for Duke Energy Carolinas, LLC

Attachments

ATTACHMENT A

CLEAN TARIFF SHEETS

scheduled based on the priorities as established in Duke Energy Carolinas's transmission service tariff. Since Non-Firm ATC is recallable on short notice, it can use the transfer capability that has been reserved for higher priority service but not scheduled.

Existing Transmission Commitments - FERC defines Existing Transmission Commitments as including: (1) native load commitments (including network service), (2) grandfathered transmission rights, (3) appropriate point-to-point reservations, (4) rollover rights associated with long-term firm service, and (5) other uses identified through the NERC process. The table below identifies how Existing Transmission Commitments are reflected in Duke Energy Carolinas' ATC calculations:

ETC Component	**Application In Duke Energy Carolinas' ATC Calculations**
(1) native load commitments (including network service)	1. Firm Network OASIS Reservations and corresponding Firm Network Schedules 2. Secondary Network OASIS Reservations *See* Section IV.F -- Duke Energy Carolinas' ATC Calculation
(2) grandfathered transmission rights	Duke Energy Carolinas no longer has any grandfathered commitments.
(3) appropriate point-to-point reservations	1. Firm Point-to-Point OASIS Reservations and corresponding Firm Point-to-Point Schedules 2. Non-Firm Point-to-Point OASIS Reservations *See* Section IV.F -- Duke Energy Carolinas' ATC Calculation
(4) rollover rights associated with long-term firm service	Rollover rights are included in ATC calculations and are treated as an extension of a Firm Point-to-Point OASIS Reservation or a Firm Network OASIS Reservation, as appropriate, unless the deadline for the exercise of the rollover rights has passed.
(5) other uses identified through the NERC process	Not applicable at this time.

E. Transmission Margins

NERC has recognized the need for and benefits of transmission transfer capability margins in the planning and operation of the interconnected transmission network. In addition to meeting obligations for service to native load customers and deliveries for third-party transmission users, some reserve transmission transfer capability is required to ensure that the interconnected network is secure under a wide range of uncertain operational parameters. Additionally, Duke Energy Carolinas relies upon transmission import capability, through interconnections with neighboring systems, to reduce its committed generating capacity necessary to meet generation reliability requirements and provide reliable service to network customers. With the introduction of mandatory, non-discriminatory access and the need to identify and provide current and projected ATCs to the competitive electric power market, transfer capability margins need to be formally addressed. Currently, through the coordination of ATC, Duke Energy Carolinas is recognizing other control areas' designation of transmission transfer capability margins. Thus on a direct interconnection with another control area, Duke Energy Carolinas and the other control area should indicate the same level of margin.

There are two types of transmission transfer capability margins, Capacity Benefit Margin and Transmission Reliability Margin. These margins are discussed below:

The **Capacity Benefit Margin (CBM)** utilized within SERC is defined as:

> The amount of firm transmission transfer capability preserved for Load Serving Entities (LSEs) on the host transmission system where their load is located, to

available Contingency Reserve capacity on its system and, upon request, will attempt to obtain capacity and/or energy from a third party system.

F. Duke Energy Carolinas' ATC Calculation

The SERC NTSG OASIS studies are performed quarterly for the next five quarters/seasons. When first completed, the SERC NTSG OASIS studies will cover an 18 month period. Before the next study is produced, that period will have decreased to 15 months. The SERC NTSG OASIS studies can be used for calculating the TTC. The SERC NTSG OASIS studies calculate the FCTTC for each of Duke's interface based on the following formulas:

FCTTC= FCITC + base transfer modeled in the OASIS study for that season

TTC = lesser of (Contract Path or FCTTC)

Where,

FCITC = First Contingency Incremental Transfer Capability as calculated using DC MUST in the OASIS study.

Using the TTC as calculated above, the calculations of Firm Available Transfer Capability (Firm ATC) and Non-Firm Available Transfer Capability (Non-Firm ATC) are completed using the following algorithms:

Firm ATC = TTC – Firm Point-to-Point OASIS Reservations –Firm Network OASIS Reservations – CBM – TRM

Non-Firm ATC = TTC – Non-Firm Point-to-Point OASIS Reservations – Secondary Network OASIS Reservations – Firm Point-to-Point Schedules –Firm Network Schedules – CBM – TRM (after 10AM the day before)

Non-Firm ATC = TTC – Non-Firm Point-to-Point OASIS Reservations – Secondary Network OASIS Reservations – Firm Point-to-Point OASIS Reservations – Firm Network OASIS Reservations –CBM – TRM (before 10AM the day before)

As stated above, the seasonal TTC is based on the corresponding OASIS study. However, as a minimum, Duke Energy Carolinas also re-calculates TTC on a daily basis for the next day up until November 2006 when MISO as the Independent Entity began to perform that task. The load flow model for the appropriate SERC NTSG study is modified to consider near real-time operating data such as units availability, transmission outages and load forecast. The TTC for each interface is calculated using the modified load flow model.

For OASIS posting beyond the time period covered by OASIS studies, the posted TTC is the contract path. The formulas for calculating Firm ATC and Non-Firm ATC in this period remain the same as shown above. Attached is a link to the formulation of the calculation done by the software used by Duke Energy Carolinas: http://www.oatioasis.com/DUK/DUKdocs/Algorithm.htm.

ATTACHMENT B

REDLINE OF CHANGES

Changes to Attachment C, Section IV

D. ATC Commercial Components

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~~c. Scheduled and Reserved Transmission Service - Reserved transmission service constitutes a reserved portion of the transmission network transfer capability, but the actual electric power transfer is not yet scheduled between areas. Scheduled transmission service indicates that an electric power transfer will be occurring on the transmission network for the time period for which the transmission service was reserved. Both terms can apply to either firm or non-firm transmission service, giving the following four transmission service terms:~~

~~Firm Reserved, Firm Scheduled, Non-Firm Reserved, Non-Firm Scheduled~~

Existing Transmission Commitments - FERC defines Existing Transmission Commitments as including: (1) native load commitments (including network service), (2) grandfathered transmission rights, (3) appropriate point-to-point reservations, (4) rollover rights associated with long-term firm service, and (5) other uses identified through the NERC process. The table below identifies how Existing Transmission Commitments are reflected in Duke Energy Carolinas' ATC calculations:

ETC Component	**Application In Duke Energy Carolinas' ATC Calculations**
(1) native load commitments (including network service)	1. Firm Network OASIS Reservations and corresponding Firm Network Schedules 2. Secondary Network OASIS Reservations *See* Section IV.F -- Duke Energy Carolinas' ATC Calculation
(2) grandfathered transmission rights	Duke Energy Carolinas no longer has any grandfathered commitments.
(3) appropriate point-to-point reservations	1. Firm Point-to-Point OASIS Reservations and corresponding Firm Point-to-Point Schedules 2. Non-Firm Point-to-Point OASIS Reservations *See* Section IV.F -- Duke Energy Carolinas' ATC Calculation

(4) rollover rights associated with long-term firm service	Rollover rights are included in ATC calculations and are treated as an extension of a Firm Point-to-Point OASIS Reservation or a Firm Network OASIS Reservation, as appropriate, unless the deadline for the exercise of the rollover rights has passed.
(5) other uses identified through the NERC process	Not applicable at this time.

E. Transmission Margins

NERC has recognized the need for and benefits of transmission transfer capability margins in the planning and operation of the interconnected transmission network. In addition to meeting obligations for service to native load customers and deliveries for third-party transmission users, some reserve transmission transfer capability is required to ensure that the interconnected network is secure under a wide range of uncertain operational parameters. Additionally, Duke Energy Carolinas relies upon transmission import capability, through interconnections with neighboring systems, to reduce its committed generating capacity necessary to meet generation reliability requirements and provide reliable service to network customers. With the introduction of mandatory, non-discriminatory access and the need to identify and provide current and projected ATCs to the competitive electric power market, transfer capability margins need to be formally addressed. Currently, through the coordination of ATC, Duke Energy Carolinas is recognizing other control areas' designation of transmission transfer capability margins. Thus on a direct interconnection with another control area, Duke Energy Carolinas and the other control area should indicate the same level of margin.

There are two types of transmission transfer capability margins, Capacity Benefit Margin and Transmission Reliability Margin. These margins are discussed below:

The **Capacity Benefit Margin (CBM)** utilized within SERC is defined as:

> The amount of firm transmission transfer capability preserved for Load Serving Entities (LSEs) on the host transmission system where their load is located, to enable access to generation from interconnected systems to meet generation reliability requirements. Preservation of CBM for a LSE allows that entity to reduce its installed generating capacity below that which may otherwise have been necessary without interconnections to meet its generation reliability requirements. The transmission capacity preserved as CBM is intended to be used by the LSE only in times of emergency generation deficiencies.

Duke Energy Carolinas has not defined a need for CBM on any of its interfaces in the

Operating, Operational Planning, or Planning Horizons. The importing and exporting CBM on all interfaces is set to zero. The reasoning is as follows:

- Duke Control Area uses 12-hour line ratings in its calculation of TTC. When operating the system, Duke uses short-term or one-hour line ratings where available. This affords an operating margin for unexpected conditions or inaccuracies in data used in the TTC calculations.

- Duke Control Area uses the single worst transmission contingency when calculating all TTCs. These transmission contingencies may be either inside Duke Control Area or outside its boundaries. External contingency limits to TTC are verified with the owning Control Area before they are posted. Duke Energy Carolinas uses adverse generation participation when calculating import TTC. This methodology is consistent with Duke Energy Carolinas' planning criteria, and it allows Duke Energy Carolinas to operate the system consistent with NERC operating guidelines. Adhering to the criteria reduces the need to maintain additional margins on Duke Energy Carolinas' interconnections.

- In general, there are few limits to transfer that have been identified within the Duke Control Area. This fact further reduces the need for Duke Energy Carolinas to include CBM in its calculation of ATC.

Duke Energy Carolinas has posted its CBM amounts (values) for each path that it posts ATC and where Duke Energy Carolinas is either the source or the sink for the reservation. When Duke Energy Carolinas is requested to transmit power across its transmission system on a "through path," the lesser of the ATCs at the Point of Delivery (POD) and at the Point of Receipt (POR) is used to post ATC and evaluate whether or not the request can be accommodated. The ATCs for the POD and POR have the declaration of CBM embedded in the calculation based on the methodology found in the NERC "Available Transfer Capability Definitions and Determination" reference document.

Duke Energy Carolinas does not address generation reliability assessments through the utilization of CBM so this document does not contain the methodology and assumptions that Duke Energy Carolinas uses for generation reliability requirements.

Historically Duke Energy Carolinas' Network Customers have not requested CBM, however in the event a Network Customer does request CBM, Duke Energy Carolinas will provide for it and will comply with all of the Tariff requirements associated with the provision of CBM.

The **Transmission Reliability Margin (TRM)** utilized within the SERC Region is defined as:

> The amount of transmission transfer capability necessary to provide a reasonable level of assurance that the interconnected transmission network will be secure. TRM accounts for the inherent uncertainty in system conditions and its associated effects on ATC calculations, and the need for operating flexibility to ensure reliable system operation as system conditions change. All transmission system users benefit from the preservation of TRM by Transmission Providers.

For Duke Energy Carolinas, TRM is dependent upon the direction of the transfer capability across an interface. For imports, each VACAR interface is set equal to the opposing control area's share of the VACAR reserve requirement. The importing TRM on interfaces with non-VACAR control areas is set to zero until such time as contingency reserves are identified and contracted for on those interfaces. The TRM for exports on each interface is set equal to Duke's contractual obligation to meet the opposing Control Area's TRM requirement.

Duke Energy Carolinas' position is that in order to declare TRM there should be a contractual obligation for reserves. When Duke Energy Carolinas has a contractual transmission reservation obligation to supply and/or receive capacity other than reserves, then Duke Energy Carolinas will show this amount as a discrete transmission reservation as opposed to TRM. For that reason, existing and new declared network resources are not counted under TRM.

The basis for the selection of paths for which Duke Energy Carolinas has set aside TRM is a contractual obligation to supply and receive operating reserves to and from the members of Virginia-Carolinas Reliability Group. The contractual requirements for reserve sharing are reviewed and updated on an annual basis.

An emergency within the Virginia-Carolinas Reliability Group is the loss of a resource including the loss of a generation unit or plant or purchase (capacity). In the event of such an emergency loss, each system will make available to the other, up to the total available Contingency Reserve capacity on its system and, upon request, will attempt to obtain capacity and/or energy from a third party system.

F. Duke Energy Carolinas's ATC Calculation

The SERC NTSG OASIS studies are performed quarterly for the next five quarters/seasons. When first completed, the SERC NTSG OASIS studies will cover an 18 month period. Before the next study is produced, that period will have decreased to 15 months. The SERC NTSG OASIS studies can be used for calculating the TTC. The SERC NTSG OASIS studies calculate the FCTTC for each of Duke's interface based on the following formulas:

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