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By Electronic Submission

Comments on *Procedures for Conducting
Electric Transmission Congestion Studies*
Office of Electricity, OE-20
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585
<http://energy.gov/oe/congestion-study>

Re: Notice of Procedures for Conducting Electric Transmission Congestion Studies
Comments of Southern Company Services, Inc.

Southern Company Services, Inc. (“SCS”), as agent for Alabama Power Company, Georgia Power Company, Gulf Power Company and Mississippi Power Company (collectively, “Southern Companies”), appreciates this opportunity to provide these comments¹ to the Department of Energy (“DOE”) as it prepares its 2019 National Electric Transmission Congestion Study (“2019 Congestion Study”) pursuant to Section 216 of the Federal Power Act.² In accordance with the request for comments in the Notice, Southern Companies are hereby providing sources of publicly available data, analyses, and information that DOE should consider as it prepares the 2019 Congestion Study. In addition, Southern Companies are also providing comments on several other issues raised in the Notice.

Southern Companies have historically supported DOE’s development of its previous triennial national congestion studies and appreciate this opportunity to do so as again.

¹ Southern Companies are providing these comments in accordance with DOE’s notice of procedures for studies and request for written comments that was published in the Federal Register on August 23, 2018. *See* 83 F.R. 42,647 (the “Notice”) and DOE’s notice of reopening of public comment period that was published in the Federal Register on October 17, 2018. *See* 83 F.R. 52,436.

² 16 U.S.C. § 824p.

I. PUBLICLY AVAILABLE DATA

The Notice “seeks comments on what publicly available data and information should be considered, and what type of analysis should be performed to identify and understand the significance of transmission congestion.”³ As provided further below, there is a significant amount of publicly available data and analyses that DOE should consider as it prepares its 2019 Transmission Congestion Study. With regard to this publicly available information, Southern Companies note an important distinction made by DOE in its *Annual U.S. Transmission Data Review* (March 2018) (“2018 Data Review”).⁴ As explained therein, while there is a significant amount of economic congestion data associated with the *financial* transmission markets administered by RTO/ISOs predicated upon locational marginal pricing (“LMP”), similar economic congestion data is not relevant for non-RTO markets that provide *physical* transmission service:

In contrast to such [RTO LMP] markets, transmission utilities in non-RTO regions generally sell physical rights to transmission customers to transfer physical power among locations in accordance with firm or non-firm commitments. Consistent with the provision of these long-term physical rights to firm customers, the transmission systems for non-RTOs are generally planned, expanded, and operated with the aim that those long-term firm transmission service commitments will be served without congestion or constraint. Since a primary but not sole objective of transmission planning and expansion in non-RTO markets is to allow firm transmission customers to receive transmission service without congestion, congestion cost concepts, in the sense that they are used and applied in RTO regions, cannot be calculated for non-RTO regions.⁵

Accordingly, non-RTO, physical transmission markets do not generate the volume of economic congestion data associated with RTO LMP markets because such LMP-congestion data is simply not relevant to the non-RTO markets. Rather than creating markets to monetize congestion, non-RTO markets seek to plan and expand their system so that long-term firm transmission reservations may be accommodated without congestion. Given this dynamic, the relevant inquiry for non-RTO markets is not the availability of information pertaining to the buying and selling of LMP-congestion products, but instead, the relevant metrics for purposes of evaluating congestion in non-RTO markets are those that measure the ability of physical transmission markets/systems to provide long-term firm transmission service without constraint or curtailment.

³ Notice, at 42,648.

⁴ The 2018 Data Review is available at <https://www.energy.gov/oe/articles/annual-us-transmission-data-review-now-available-0>

⁵ 2018 Annual Data Review, at n.59 p. 45.

While non-RTO markets do not generate LMP-market information, there is a significant amount of publicly available data regarding the non-RTO markets' ability to provide long-term firm transmission service without constraint or curtailment. Southern Companies have historically identified such information to DOE as it prepares its triennial national transmission congestion studies,⁶ and appreciate this opportunity to do so again as the DOE prepares the 2019 Congestion Study.

To facilitate DOE's review of this information, Southern Companies' provide below relevant information organized by the separate kinds of data and analyses identified in the Notice. While some of the data provided below is regional and/or national in scope, some of the following is specific to data regarding transmission usage of Southern Companies' transmission system.

a. Electricity market analyses, including locational marginal price [LMP] patterns

As discussed above, such LMP market data is not relevant, and hence is not available, for non-RTO markets.

b. Reliability analyses and actions, including transmission loading relief ("TLR") actions

Transaction curtailment history based on NERC TLR logs is available from NERC at:

<https://www.nerc.com/pa/rrm/TLR/Pages/TLR-Logs.aspx>

c. Historic energy flows

As DOE is aware, it now produces an *Annual U.S. Transmission Data Review*:

<https://www.energy.gov/sites/prod/files/2018/03/f49/2018%20Transmission%20Data%20Review%20FINAL.pdf>

d. Current and projected electric supply and generation plans

The following Designated Network Resources ("DNR") link provides the current generation plan for Southern Companies' Native Load Customers.

http://www.oatiosis.com/SOCO/SOCOdocs/Southern_Company_DNR_2018.pdf

⁶ See Southern Companies' Comments to 2015 Draft National Electric Transmission Congestion Study, Oct. 20, 2014 (<https://www.energy.gov/sites/prod/files/2014/10/f18/CScomments-ATunnell-SCompanies-attach-102014.pdf>).

Reference is made to the presentation available at the following link. The presentation is by the Southeastern Regional Transmission Planning process (“SERTP”) sponsors providing an overview of their preliminary 2018 transmission expansion plan, which presentation includes the sponsors’ generation assumptions for the ten year transmission expansion plan:⁷

<http://www.southeasternrtp.com/docs/general/2018/2018-SERTP-2nd-Qtr-Presentation.pdf>

e. Recent, current, and planned transmission and interconnection queues

With regard to interconnection queues, the following link is to Southern Companies’ Active Generator Interconnection Requests:

<http://www.oasis.oati.com/woa/docs/SOCO/SOCODocs/Active-Gen-IC-Requests.pdf>

f. Results of any “stress test” analysis of a transmission system based on threat and resilience modeling and any contingency modeling incorporating or accounting for interdependencies throughout energy systems

The following link is to NERC’s *Order No. 754, Assessment of Protection System Single Points of Failure Based on the Section 1600 Data Request* (September 2015):

<https://www.nerc.com/comm/PC/System%20Protection%20and%20Control%20Subcommittee%20SPCS%20/FERC%20Order%20754%20Final%20Report%20-%20SPCS-SAMS.pdf>

The following link provides the current import and export forecast values for monthly total transfer capability (“TTC”) for the Southern Balancing Authority Area.

<http://www.oasis.oati.com/woa/docs/SOCO/SOCODocs/OASISpostingMonthly.xls>

The following link provides the current daily limits to transfers into and out of the Southern Balancing Authority Area:

<http://www.oasis.oati.com/woa/docs/SOCO/SOCODocs/OASISpostingDaily.xls>

⁷ Slides 73-81 of the referenced presentation provide information regarding the preliminary generation assumptions for the Southern Balancing Authority Area.

g. Current and forecast electricity loads, including energy efficiency, distributed generation, and demand response plans and policies

The following link provides the non-coincident peak load by NERC assessment area in terms of both actual historic load and forecasted load:

https://www.eia.gov/electricity/data/eia411/xls/peak_load_2016.xls

Reference is made to slide 10 in the presentation provided at the following link. This slide provides the SERTP sponsors' cumulative summer peak load forecast incorporated in their preliminary 2018 transmission expansion plan, along with the load forecast included in their expansion plans for 2013-2017:

<http://www.southeasternrtp.com/docs/general/2018/2018-SERTP-2nd-Qtr-Presentation.pdf>

h. The location of renewable resources and state and regional policies with respect to renewable development

The following link is to an EIA map that identifies the location of energy sources throughout the nation, including renewable resources:

<https://www.eia.gov/state/maps.php>

i. Projected impacts of current or pending environmental regulation on generation availability

The following link provides access to SERC's proactive analyses of the reliability implications from environmental regulations on generation resources from new technologies:

<http://www.serc1.org/program-areas/reliability-assessments/RenewableIntegration>

j. Effects of recent or projected economic conditions on demand and congestion

The following link is to the SERTP Reference Library, which provides substantial relevant information, including the SERTP sponsors' transmission expansion plans and supporting presentations under the General Documents tab:

http://www.southeasternrtp.com/reference_library.cshtml

k. Filings or regional transmission expansion plans developed in compliance with FERC Orders No. 890 and 1000

The Notice notes that in preparing its previous national congestion studies, DOE “gathered historical congestion data obtained from existing studies prepared by regional reliability councils, regional transmission organizations (RTOs) and independent system operators (ISOs), and regional planning groups. The forthcoming study will draw upon many of the same kinds of data, analyses, and information as the early studies.”⁸ Of course, “regional planning groups” include more than just RTOs and ISOs, with WECC and the SERTP constituting two of the largest regional transmission planning groups. With regard to the SERTP, and as indicated above by numerous references, a significant amount of relevant data, information, and analyses is provided in the SERTP Reference Library at the following link, which includes the SERTP sponsors’ transmission expansion plans available under the General Documents tab:

http://www.southeasternrtp.com/reference_library.cshtml

Among the documents available in the SERTP library is the Southeastern Regional Transmission Planning Process’ (“SERTP”) *Preliminary 10 Year Transmission Expansion Plans* (June 14, 2018), which is available in the “General Documents” section of materials available at the following link. This document provides the preliminary expansion plan of the SERTP sponsors:⁹

http://www.southeasternrtp.com/reference_library.cshtml

The following link is to Southern Companies’ list of completed Long-Term Transmission Planning Studies for the previous 5 calendar years:

<http://www.oasis.oati.com/woa/docs/SOCO/SOCOdocs/CompletedStudies.pdf>

Various Relevant Resource and Transmission Assessments

In addition to the above information, data, and analysis provided under the topic headings in the Notice, the following provides various relevant resources and transmission assessments that arguably do not fit under such headings.

The link immediately below is to NERC’s *2017 Long-Term Reliability Assessment* (“2017 LTRA”). This 2017 LTRA serves as a comprehensive, reliability-focused perspective on the 10-year outlook for the North American BPS and identifies potential risks to inform industry planners and operators, regulators, and policy makers:

⁸ Notice, at 42,648.

⁹ More information regarding the SERTP is available at the SERTP website: <http://southeasternrtp.com>

https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_LTRA_12132017_Final.pdf

The following link provides access to numerous NERC long-term, seasonal and special reliability assessments

<https://www.nerc.com/pa/RAPA/ra/Pages/default.aspx>

The SERC Seasonal Assessment Report summaries are available at:

<http://www.serc1.org/program-areas/reliability-assessments/seasonal-outlook>

Numerous special and seasonal SERC studies (*e.g.*, MATS Assessment) are available at:

<http://www.serc1.org/program-areas/reliability-assessments/reliability-assessments>

II. DEFINITION OF CONGESTION: Economic and Public Policy Congestion Is Not Particularly Relevant to Physical Transmission Markets

The Notice discusses three types of congestion: economic, reliability, and public policy.¹⁰ Of these three, only reliability congestion is particularly relevant to *physical* transmission markets in non-RTOs. Again, physical transmission markets are planned and designed with the intent that long-term firm transmission service will be provided without congestion or constraint. The relevant congestion metric is, as discussed above, the extent by which such long-term firm transmission service is provided without constraint or curtailment, which generally falls within the category of reliability congestion described in the Notice.¹¹

In contrast, the Notice discusses economic congestion as being where “the system’s capacity is sufficient to enable compliance with NERC reliability standards but is not able to allow purchasers of wholesale power to obtain supplies from the least-cost sellers at all times.”¹² Such economic congestion is typically in the nature of LMP-based congestion discussed above in RTO markets where congestion is priced into those markets, and where purchasers may not be able to economically access certain nodes due to a high price of congestion and the lack of sufficient hedges. Such economic congestion, however, is not particularly relevant for physical transmission markets because if a purchaser of wholesale power wants the ability to have long-

¹⁰ *Id.*

¹¹ The Notice indicates that reliability congestion refers to the extent that transmission capacity is sufficient to enable compliance with NERC reliability standards. *Id.*

¹² *Id.*, at 42,647.

term access to a least-cost source of power, then all the purchaser has to do is commit to a long-term firm transmission service reservation so that the transmission system will be planned and expanded to provide such service on a long-term basis without constraint or curtailment. To the extent that such a long-term firm transmission commitment is not made, then the lack of such a commitment is indicative that accessing such a power source is truly not the least-cost option on a long-term basis (*e.g.*, if expensive transmission upgrades would be required to provide long-term firm access, then other resource options may be more economical).

The third type of congestion described in the Notice, public policy congestion, is a new form of congestion never before mentioned in DOE's earlier congestion studies. The Notice defines this type of congestion as occurring "when the transmission network is not sufficient to enable achievement of established federal, state, or local public policy goals."¹³ As with economic congestion, this public policy congestion also is not relevant to a physical transmission market. This is because if an entity is subject to a public policy requirement that necessitates transmission deliveries without congestion or curtailment, all that entity has to do is to make a long-term firm transmission commitment, and then the transmission system will be planned and expanded accordingly. If such transmission service is taken but then the underlying "firm" transmission deliveries are not provided without curtailment or constraint, then such curtailment or constraint would be in the nature of the reliability congestion described in the Notice.

Furthermore, another problem with moving forward with a "public policy" form of congestion is that it is neither engineering based, as is reliability congestion, nor financially based, as is economic congestion. Rather than being disciplined by engineering or economics, separate public policy congestion would seem to be much more subjective in nature. While the public policies themselves may be readily identifiable, if limited to enacted laws and regulations, there are normally many different options that could be pursued to implement such a requirement, including possibly different transmission upgrade and/or transmission delivery options. Given this implementation optionality, applying a public policy congestion metric would likely be inherently subjective and, hence, not particularly probative.

III. DOE SHOULD REFRAIN FROM PURSUING PROJECT-SPECIFIC STUDIES AND/OR NIETCS

The Notice discusses that some commentors have previously advocated for project-specific transmission congestion studies and the possibility of resulting project-specific "national interest electric transmission corridors"¹⁴ ("NIETCs"). In response to such comments, DOE states that it "agrees, but notes that the need for such studies or corridors might not mesh well (in terms of both timing and appropriate granularity) with the triennial large-geographic scale congestion studies envisioned in FPA Section 216(a)(1)."¹⁵ The Notice then concludes that DOE will continue to produce triennial congestion studies "and would also respond, perhaps

¹³ *Id.*, at 42,648.

¹⁴ *See* 16 U.S.C. § 824p(a)(2).

¹⁵ Notice, at 42,648.

separately, to requests for the preparation of project-specific congestion studies or the designation of related National Corridors.”¹⁶ As discussed below, such project-specific transmission congestion studies and project-specific NIETCs would be inconsistent with Section 216 of the Federal Power Act and should not be pursued.

As an initial matter, the Notice rightly indicates that project-specific congestion studies and NIETCs are not consistent with the FPA. Instead, Section 216 of the FPA requires DOE to triennially perform “*a study of electric congestion*” and then based upon such a study, DOE “may designate any geographic area” experiencing such congestion a NIETC.¹⁷ Therefore, the requirement is for DOE to perform a single study, and obviously, it must be of such a scope that would allow DOE to potentially designate “any geographic area” thereunder as a NIETC. Based on these statutorily prescribed criteria, DOE historically has rightfully prepared and issued triennial congestion studies that have been national in scope.

While a project-specific congestion study would, thus, be inconsistent with the Federal Power Act, so would a project-specific NIETC designation. Under the statute, the report for a NIETC designation is to be “based on the study.” As the statute calls for a single congestion study every three years that necessarily must be broad in scope, it would not appear that such a broad-based study would support the granularity of a project-specific NIETC designation. Furthermore, a project-specific NIETC designation would conflate the DOE’s and FERC’s statutorily prescribed roles under FPA Section 216(a) and (b). Under paragraph (a), DOE is to conduct a triennial congestion study and then potentially issue a report based on that study designating an area as NIETC. FERC is then authorized pursuant to its “backstop” siting authority in paragraph (b) to issue a permit for siting and construction in certain narrowly prescribed circumstances. FERC’s permitting authority is project-specific and includes the evaluation of project-specific criteria such as: an evaluation of how the project fared under state-regulated processes, an evaluation of the efficacy of the proposed facilities under several criteria, an evaluation of the project’s proposed rights of way, and an opportunity for comments from the affected State(s), private property owners, and other interested parties. A project-specific NIETC designation by DOE would inherently intrude into much of the project-specific evaluations that are prescribed by the statute to be performed by FERC (and not DOE).

Even more fundamentally flawed with a project-specific NIETC approach is that it would upend Congressional intent to only provide a “measured, although important, transfer of jurisdiction to FERC.”¹⁸ Congress’ limited grant of siting authority to FERC in FPA Section 216 is typically described as “backstop,” and viewing FPA Section 216 in its entirety, is only to be triggered if there is some failure in the exercise of a state’s exercise of its traditional jurisdiction over siting with regard to a project addressing congestion of national significance. Specifically, the statute starts with the backdrop of the states traditionally having “assumed all jurisdiction to approve or deny permits for the siting and construction of electric transmission.”¹⁹ With

¹⁶ *Id.*

¹⁷ 16 U.S.C. § 824p(a)(1)-(2) (emphasis added).

¹⁸ See *Piedmont Environmental Council v FERC*, 558 F.3d 304, 314 (4th. Cir. 2009).

¹⁹ *Id.*, at 310.

concerns at the time of enactment of FPA Section 216 about the capacity and reliability of the grid, Congress enacted FPA Section 216 and granted FERC certain transmission siting authority. However, the statute did not fully preempt state authority but instead narrowly prescribes the circumstances in which FERC may exercise that authority so as to only preempt state authority after certain checks and balances by DOE have been fulfilled and should there be a failure with the state jurisdictional process. Specifically, as mentioned above, DOE first has to perform a triennial congestion study in consultation with affected states, and then based upon that study, may issue a report identifying an area characterized by congestion of such a magnitude to be of national importance.²⁰ Only then may FERC move forward with potentially issuing a permit for a specific transmission project, but before doing so, FERC must make a specific finding that there essentially has been some failure in the underlying state siting process to address the siting of the contemplated project²¹ and that the project is of national importance.²²

Issuing project-specific NIETC designations would break the carefully measured process that Congress prescribed for the limited circumstances where it has authorized FERC to exercise its back-stop siting authority and thereby preempt state siting authority. Again, issuing a project-specific NIETC would conflate paragraphs (a)-(b) and inappropriately fast-track the potential preemption of state siting authority. Accordingly, DOE should refrain from moving forward with such an approach.²³

IV. DOE'S PROCESS FOR COMPLETING THE 2019 STUDY IS UNCLEAR

While Southern Companies have confidence that the yet-to-be completed 2019 Study will fulfill the requirements of FPA Section 216 for preparing a triennial congestion study, it is unclear from the Notice how those requirements will be fulfilled. Specifically, FPA Section 216 requires that the triennial studies shall be prepared “in consultation with affected States”.²⁴ This language has been construed to mean more than just allowing the states to participate in a notice-and-comment process but to require DOE to “seek information or advice from [an affected state]’ or to ‘have discussions or confer with [an affected state], typically *before*

²⁰ 16 U.S.C. § 824p(a)(2)-(4)

²¹ See 16 U.S.C. § 824p(b)(1).

²² See 16 U.S.C. § 824p(b)(2)-(6).

²³ Presumably, some of the push for adopting an abbreviated process so as to expedite FERC’s potential exercise of its “backstop” siting authority is due to the fact that FERC has never actually issued a permit under that authority. However, the lack of such FERC permits is not evidence of a failure of the process but instead is due to the effectiveness of the underlying state siting processes. Again, in accordance with FPA Section 216, FERC’s siting authority is only to be triggered if there has essentially been a failure of the state siting process resulting in congestion of national significance. 16 U.S.C. § 824p. While the U.S. had experienced a trend of decreasing levels of transmission investment prior to the enactment of FPA Section 216 in 2005, that trend has since reversed with there now being increasing levels of transmission investment. See DOE, *National Electric Transmission Congestion Study*, at 27-30 (September 2015). Stated simply, FPA Section 216’s back-stop siting authority has not proven necessary to-date.

²⁴ 16 U.S.C. § 824p(a)(1).

undertaking a course of action.”²⁵ The Notice simply states that it “expects to release its next triennial study in 2019 for a 45-day comment period.” It is unclear to Southern Companies how such a process would satisfy DOE’s statutory requirement to prepare its triennial congestion studies “in consultation with affected States.”

V. CONCLUSION

Southern Companies reiterate their support for DOE as it prepares its 2019 Congestion Study. If there is anything that Southern Companies can do to support DOE in its efforts, feel free to contact us.

Sincerely,

/s/Andrew W. Tunnell

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²⁵ *California Wilderness Coalition v. U.S. Dept. of Energy*, 631 F.3d 1072, 1087 (9th Cir. 2011).