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BEFORE THE
ARKANSAS PUBLIC SERVICE COMMISSION

IN THE MATTER OF AN INQUIRY INTO)
ELECTRIC TRANSMISSION ISSUES WITHIN)
THE AREAS SERVED BY THE SOUTHWEST)
POWER POOL REGIONAL TRANSMISSION) DOCKET NO. 08-136-U
ORGANIZATION AND THE ENTERGY)
CORPORATION AS SUCH ISSUES AFFECT)
ELECTRIC SERVICE WITHIN ARKANSAS)

RESPONSE OF ENTERGY ARKANSAS, INC.
TO ORDER NO. 12

Entergy Arkansas, Inc. ("EAI" or the "Company") submits its response to the Arkansas Public Service Commission's ("APSC" or the "Commission") Order No. 12 entered on July 22, 2009 in Docket No. 08-136-U ("Order No. 12").

I. BACKGROUND

The Commission initiated this Docket noting its "growing interest in and realization of the possible need for additional electric transmission infrastructure resources in Arkansas as well as throughout the multi-state Entergy system and Southwest Power Pool Regional Transmission Organization . . . regions."¹ The Commission also has used this Docket to develop information regarding the ongoing operation of the Independent Coordinator of Transmission ("ICT") arrangement.

¹ Order No. 1 at 2.



In Order No. 10, the Commission issued a number of directives to the Company related to its on-going inquiry. As relevant here, the Commission stated: "[I]n order to provide openness to Entergy's development of a Construction Plan and Entergy's use of Note B in the development of the Construction Plan, the Commission . . . directs Entergy to provide the metric or metrics it uses in determining when to use Note B rather than to invest in the transmission facilities."²

EAI responded to that directive on July 1, 2009 (the "July 1 Response"). In that response, EAI discussed how Note B is incorporated into Entergy Transmission's planning process, including the factors or metrics³ Entergy Transmission inputs to an economic analysis model that determines a relative benefit/cost index for each possible solution to potential constraints in Entergy Transmission's ten-year planning model.⁴ EAI also explained that "[u]ltimately . . . the inclusion of any project in the Construction Plan, and when, is not based on any one factor, but instead reflects engineering judgment."⁵

² Order No. 10 at 12.

³ Some of the metrics were labeled as "factors" in the Company's response to Order No. 10.

⁴ July 1 Response at 4-10. Entergy Transmission refers to the Entergy Services, Inc. ("ESI") organization that plans, constructs, and operates the Entergy Operating Companies' transmission facilities system. ESI is a subsidiary of Entergy Corporation that provides technical and administrative services to all the Operating Companies, and which frequently acts as agent on behalf of all the Operating Companies. The Entergy Operating Companies include EAI, Entergy Gulf States Louisiana, L.L.C., Entergy Louisiana, LLC, Entergy Mississippi, Inc., Entergy New Orleans, Inc., and Entergy Texas, Inc.

⁵ *Id.* at 8.

In Order No. 12, the Commission found that EAI's July 1 Response was deficient because, the response "failed to provide the requested specific metric or metrics."⁶ The Commission directed the Company to:

file in this Docket (within forty-eight (48) hours of service of this Order) the specific details of the metric or metrics it uses to determine when to rely upon Note B. Further, Entergy is to provide at the same time the names of the persons responsible for determining and evaluating the metrics used by Entergy regarding the use of Note B.⁷

II. DISCUSSION

A. Note B Metrics

In submitting the July 1 Response, EAI addressed the Commission's directive to provide the Note B "metrics" by identifying the specific "factors" that Entergy Transmission uses (in conjunction with an economic analysis model) to determine the relative "ranking" (or benefit/cost index) for the projects identified in the transmission planning process.⁸

Although Order No. 12 does not identify why the Commission concluded that this description did not meet the Commission's directive to supply the specific details of the Note B metrics, EAI further explains: (a) EAI did not explicitly state that the "factors" included in the July 1 Response were the "metrics" used to apply Note B; and/or (b) EAI did not explicitly state that Entergy Transmission does not rely on specific numerical values or thresholds when applying the "factors" identified in the July 1 Response.

⁶ Order No. 12 at 2.

⁷ *Id.*

⁸ July 1 Response at 4-10.

In response to Order No. 12 and the request for additional information regarding the Note B metrics, the Company provides the following.

First, EAI clarifies that the “factors” discussed in the July 1 Response are, in fact, the specific “metrics” that Entergy Transmission uses to determine when it is appropriate to rely on Note B. To the extent that use of the term “factor” rather than “metric” was imprecise, EAI regrets any confusion this may have caused.

Second, EAI clarifies that there are no specific numerical values or thresholds that Entergy Transmission relies on when applying the metrics identified in the July 1 Response. Instead, the analysis of whether the metrics indicate that a transmission project should be included in the Construction Plan involves engineering judgment exercised on a case-by-case basis. To the extent that Order No. 12 is seeking specific numerical values or thresholds, EAI has no such information to provide the Commission.

Finally, EAI restates the metrics discussed in the July 1 Response below and explains with specific details as required in Order No. 12. The following metrics are used by Entergy Transmission in determining if Note B can be used in lieu of an upgrade.

Metric 1: Amount of load at risk in MW - The amount of load that, due to the identified constraint, cannot be served without exceeding thermal or voltage limits (“transmission system operating limits”).

Details:

- Simulation of event that could potentially result in exceeding transmission system operating limits
- Determination of load amount that would have to be curtailed absent a proposed solution to keep all affected facilities within their operating limits
- Prior to developing a revised 2010-2012 Construction Plan (discussed below), Entergy Transmission did not use a specific

numerical value or threshold for the amount of load at risk in MW when determining which projects to include in the Construction Plan. For example, the ICT applies a 100 MW threshold between breakers to determine whether or not consequential load can be at risk. Entergy Transmission did not establish such a threshold.

Metric 2: Number of annual hours load at risk - The number of hours in a year during which the load potentially could not be served fully.

Details:

- Use of load duration curve for the affected area that estimates the projected loading for each hour of the year
- Peak loading is a snapshot; used to represent the transmission system under stress in the given local area
- Transmission system operating limits could be exceeded if contingency occurred coincident with the peak
- At lower load levels, the transmission system operating limits would likely not be exceeded
- Load level at which loads are within transmission system operating limits is equated to the number of hours based on the area's load duration curve
- Entergy Transmission does not use a specific numerical value or threshold to set the maximum or minimum number of annual hours during which the load must be at risk when determining which projects to include in the Construction Plan

Metric 3: Probability of the event occurring - The likelihood of the contingency event occurring that could result in the potential thermal or voltage constraint.

Details:

- Apply historical transmission facility performance data collected on comparable equipment or facilities such as transmission lines, autotransformers and generators
- Example: For a 161 kV contingency in Arkansas, the historical outage information for 161 kV transmission lines in Arkansas is used to determine an outage probability statistic on a per mile basis. The statistic is applied to potential 161 kV contingencies in Arkansas by multiplying the outage rate per mile for 161 kV facilities in the area by the length of the line being studied.
- Entergy Transmission has not established a specific numerical value or threshold that defines a maximum or minimum probability statistic for determining which projects to include in the Construction Plan

Metric 4: Estimated cost.

Details:

- Historical costs of previously-installed projects
- Scoping documents
- General cost per-unit assumption
- Entergy Transmission has not established a specific minimum or maximum cost for determining which projects to include in the Construction Plan

As noted in the July 1 Response, Metrics 1 through 4 along with some of the technical characteristics of the proposed solution (project) are entered into an economic analysis software program that provides an index used to rank all projects.

Entergy Transmission's planning staff uses engineering judgment to evaluate the metrics described above and the resulting ranking of projects to determine whether particular projects should be included in the Construction Plan. This determination integrates the metrics noted above and engineering judgment with the Company's capital resources and commitments to determine the sequencing of projects in a manner consistent with the Company's obligation to provide reliable service at a reasonable cost. The Company seeks to manage its capital deployment wisely so as to minimize the total costs borne by its customer while continuing to provide reliable service.

Occasionally, experience in real-time operating conditions will identify new areas of concern or areas where risk is higher than was anticipated in previous forward looking planning studies. If these conditions are verified to be reliability risks through operating experience, Entergy Transmission may elect to

implement new projects or accelerate projects already planned for construction in future years. The evaluation of real-time operating conditions involves the exercise of engineering judgment, and Entergy Transmission has not developed any specific metrics, numerical values or thresholds for use in applying this judgment.

For example, in the summer of 2006, the Little Rock area was experiencing low voltage due to the unusual heat wave in the Midwestern United States and the subsequent large transfers of power into that region. Subsequently, an autotransformer at EAI's Mabelvale Substation experienced an outage worsening the problem and highlighting the need for the area to better withstand multiple contingencies. In the Spring of 2008, two new capacitor banks were installed in the Little Rock area and two additional capacitor banks were upgraded to support the voltage in the area for these unexpected electric system conditions, additionally, a large new project involving a 500 kV substation and related transmission lines near Cabot, was identified to provide long term support in the area. The expected in service timeframe for this project is the summer of 2011.

B. Individuals Responsible for Application of Note B

George Bartlett, Director of Transmission Operations, and engineers within his organization are responsible for determining and evaluating the metrics used by Entergy Transmission regarding the use of Note B.

C. Additional Information With Respect to the Differences Between the Current Draft 2010-2012 Construction Plan and Base Plan

As EAI explained in a letter filed with this Commission on July 22, 2009, as well as in comments filed with the Federal Energy Regulatory Commission ("FERC") on July 20, 2009, Entergy Transmission is in the process of developing a revised 2010 – 2012 draft Construction Plan that is consistent with the direction that the current draft of the proposed, revised North American Electric Reliability Corporation standards would require and that is more closely aligned with the ICT's current Base Plan. The metrics discussed above were used to develop the 2009 – 2011 Construction Plan (which was presented at the 2008 planning summit), and the initial 2010-2012 Construction Plan, which was released on April 30 2009. However, these metrics are not being used in the development of the revised 2010 – 2012 draft Construction Plan that will be presented during the August 11 Transmission Planning Summit. Instead, Entergy Transmission is applying enhanced criteria that are consistent with the direction of the proposed, revised NERC standards and the criteria the ICT used to develop the corresponding Base Plan, when developing the Entergy Transmission revised draft 2010 – 2012 Construction Plan.

As stated above, Entergy Transmission will present its revised draft Construction Plan covering 2010-2012 at the annual planning summit for the Entergy Transmission System scheduled for August 11, 2009. It the Company's understanding that the ICT will review this plan and subsequently will make

available its analysis of any differences between this revised Construction Plan and the ITC Base Plan.

Respectfully submitted,
ENTERGY ARKANSAS, INC.

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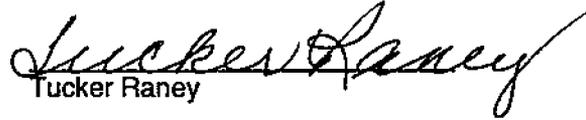
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CERTIFICATE OF SERVICE

I, Tucker Raney, do hereby certify that a copy of the foregoing has been served upon all parties of record this 24th day of July, 2009.


Tucker Raney