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| NPRR Number | [1070](http://www.ercot.com/mktrules/issues/NPRR1070) | NPRR Title | ****Planning Criteria for GTC Exit Solutions**** |
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| Date  | July 23, 2021 |
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| Market Segment | N/A |

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| Comments |

The Advanced Power Alliance (APA) appreciates the opportunity to file comments on Nodal Protocol Revision Request (NPRR) 1070, Planning Criteria for GTC Exit Solutions.

Below, the APA provides responses to the Calpine comments submitted on May 14, 2021 in which they put forward the following questions and statements (shown in italics):

1. *Does existing generation experience unforeseeable congestion cost and curtailment or are some developers ignoring market pricing signals?*

Developers consider many factors when deciding on the technology, location, and size of potential new resources. The potential for congestion is certainly on the list and there is every desire to avoid undue congestion. The geographic dispersion of wind and solar power development clearly shows the response to price signals. Wind power resources are very geographically limited; in particular, wind in North, Central, and East Texas is clearly extremely less able to support wind power generation. Wind power development has moved from the best resource in the Panhandle, due to congestion, to lesser resources in Far West Texas, the Rio Grande River Valley, and the Gulf coast in response to price signals; these areas are now also congested. New solar power development is moving aggressively into regions in East, Central, and South Texas in response to price signals, due to the congestion associated with development in Far West Texas. This is even though the solar irradiation in these more Eastern regions is considerably less than in Far West Texas. Thus, the newer solar power development needs more land per unit of energy produced, land that is more valuable for other uses than the more arid Far West Texas land.

Retail customers would likely benefit from more wind and solar power development and thus are likely well served to support that development by curing existing congestion and evaluating measures to reduce the risk of future congestion.

Developers do use non-ERCOT data bases and engineering resources to try to determine the best place to locate resources to avoid congestion. Unfortunately, the degree of congestion experienced once in service is often much more than originally anticipated during development. There are many reasons for this but the most significant is that Generic Transmission Constraints (GTCs) can “pop up” with little or no warning. Developers are not allowed to have the data necessary to evaluate the risks associated with potential new GTCs or the possibility of existing GTCs becoming more constrained more often. Another key uncertainty is possibility of transmission outages well above the historical amount.

1. *Can screening studies be reformed to provide better information to developers?*

Additional studies by ERCOT to evaluate the possibility of GTCs is one of the things that APA members have requested. Unfortunately, that has yet to be scoped and staffed even though ERCOT staff and stakeholders have been having discussions about how to solve that very complex issue. An avenue of study that has only been slightly discussed has been making the confidential data base available to stakeholders by allowing them to specify studies that they pay for and then benefit from the results. This could uncover possible new limits associated with a particular connection location and allow the developer to adjust their plans. The studies needed are complex, the data is very detailed, and the software is limited in speed and scope; it will still be possible, even likely, that real world congestion will still pop up.

Studies of potential future congestion are way more problematic now so all parties, developers and Loads, are less certain of the results. Actual, existing congestion problems, on the other hand, are right there to be seen. It may make much more sense to actively resolve known congestion issues then to spend inordinate time and money to avoid expected congestion, especially, when the ERCOT transmission system is clearly limited in so many locations.

1. *Is ERCOT implementing dynamic tools that will mitigate the impact of Generic Transmission Constraints (GTCs) such as Voltage Security Assessment Tool enhancements?*

ERCOT is already using VSAT and wishes to also use TSAT to refine the Generic Transmission Limits (GTLs) nearer to Real-Time. The inverter-based resource community is working with their vendors to obtain the needed models. Unfortunately, the same vendors are being approached by many customers for models; the vendor’s engineering staffs are having trouble fulfilling all the requests at the same time. It is likely costing wind and solar power considerable money while TSAT is not available. A significant effort is underway and hopefully the bottleneck can be overcome.

Getting better Real-Time GTLs will help, but it is not a solution; it is a modest but real value to retail Loads and generators.

1. *Does assuming negative bids based on sunsetting federal tax policy overweight uncertain long-term benefits?*

Using actual bid values would more accurately represent the value of reducing congestion to both retail Loads and generators. There is a good case to be made that it would likely be more accurate to do a multiyear study, as is done in most every other ISO, to evaluate the cost benefit more completely. Unfortunately, the Public Utility Commission of Texas (PUCT) rules specify a single year approach, so a multiyear approach is not available to stakeholders. Stakeholders can, however, specify the parameters used in the one year. Bid values make the most sense for retail customers.

1. *How is the cost of the production tax credit (“PTC”) and investment tax credit (“ITC”) factored into societal benefit calculation and do the cost of the tax credits combined with negative bids net to zero? Should decommissioning costs be included?*

Societal benefit is not the standard set out by PUCT rules. Societal benefit was discussed by parties to the proceedings at the PUCT that led to the current PUCT rules; but not all parties agreed to the societal benefit approach. The rules, as adopted by the PUCT do not include societal benefit as a criterion.

1. *Are there costs that are not contemplated by this NPRR that should be included? For example:*
* *Increased likelihood of early retirement of existing resources and probability of Reliability Must-Run (RMR) contracts?*

Replacing less efficient more expensive generation is part of the value of this market.

* *Additional transmission costs associated with RMR solutions?*

See above.

* *Additional Reliability Unit Commitment (RUC) costs to balance the system due to increased intermittency from generation that benefits from eliminating GTCs.*

There is absolutely no historical data supporting this kind of need to date and no reason that it will become an issue in the future. There is clear data showing that ERCOT purchases of Ancillary Services have remained steady or declined slightly for over a decade.

* *Potential increased transmission costs to manage future grid stability issues.*
* *Increases to wholesale energy and Ancillary Service prices due to an increased intermittency of the system.*

There is absolutely no historical basis for this assertion and no basis for this to be changing in the future (see answer above).

* *Resource adequacy impacts and costs due to the displacement of other generation resources.*

Good point, transmission additions that reduce congestion INCREASE capacity available to serve Load and that benefit should be counted.

* *Increased socialized transmission losses with additional long transfer paths.*

Existing study methods consider the value of reducing losses when evaluating transmission additions.

1. *Do other developers, like battery developers, use congestion pricing signals for siting their resources and does inclusion of the proposed benefits negatively affect their development plans?*

Hopefully all developers use price signals for a part of their decision making. There is no question that changes in the transmission system and congestion related pricing effects everyone in the market. Market prices will be reduced if constrained generation is able to get more generation to market due to system improvements. Retail Loads will benefit from the lower market prices and relatively unconstrained, existing generation will likely see their revenue decrease.

1. *Is it practical for ERCOT to model future outages based on past outages? ERCOT’s planning model include about 9200 different contingencies which are an alias to transmission outages? Many of the long-term outages in WEST zone (responsible for past derates to Panhandle GTC) were necessary to complete transmission upgrades to increase transfer capabilities of GTCs. Should this past data be used to justify derates to GTCs in the future?*

The reality is that the actual congestion experienced by generators in Real-Time is substantially more and occurs more often than is represented in planning studies. We need an evaluation of how well the planning studies benchmark against the real word experience. There are many N-1-1… situations that effect thermal as well as GTC limits that are simply not considered in the studies. Besides developing a better reflection of “routine” outages in the planning process; there is a need to recognize that there is a risk of “black swan” events that needs to be included in the evaluations. Yet another source of outages are the planned outages that will be needed to add new transmission.

1. *In practice how would ERCOT determine the avoided cost of reliability projects?*

This deserves to be discussed. There are a lot of assumptions and studies that may be required. We do have some existing studies that showed that after CREZ was approved, the Long-Term System Assessment (LTSA) studies removed some future projects around San Antonio and DFW.

1. *Are there revisions to the firm Load shed process that can mitigate the impact of GTCs if Load shed occurs?*

Not sure what the question is; please elaborate.