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| **NPRR Number** | [**1247**](https://www.ercot.com/mktrules/issues/NPRR1247) | **NPRR Title** | **Incorporation of Congestion Cost Savings Test in Economic Evaluation of Transmission Projects** |
| **Date of Decision** | | December 3, 2024 | |
| **Action** | | Recommended Approval | |
| **Timeline** | | Urgent | |
| **Estimated Impacts** | | Cost/Budgetary: Annual Recurring Operations and Maintenance (O&M) Between $360k and $440k (2 FTEs)  Project Duration: No project required | |
| **Proposed Effective Date** | | First of the month following Public Utility Commission of Texas (PUCT) approval | |
| **Priority and Rank Assigned** | | Not applicable | |
| **Nodal Protocol Sections Requiring Revision** | | 3.11.2, Planning Criteria | |
| **Related Documents Requiring Revision/Related Revision Requests** | | None | |
| **Revision Description** | | This Nodal Protocol Revision Request (NPRR) incorporates the consumer energy cost reduction test as the congestion cost savings test in economic project evaluation to address recent amendments by the PUCT to 16 Texas Administrative Code § 25.101 —specifically adding the requirements in § 25.101(b)(3)(A)(i). Consistent with the PUCT’s rule, this NPRR also preserves the production cost savings test as another standalone means to establish economic need for a transmission project.  This NPRR also removes obsolete language regarding transmission projects’ benefits evaluation in paragraph (6) of Section 3.11.2.  Additional details regarding how the congestion cost savings test will be performed are included in the [*Congestion Cost Savings Test Evaluation Guideline*](https://www.ercot.com/files/docs/2024/10/15/Congestion%20Cost%20Savings%20Test%20Evaluation%20Guideline_Draft%20V2%20redline.docx) white paper, which will be available on the Planning page of the ERCOT website once finalized. ERCOT may also apply the longstanding [*Impact of Weather Uncertainty and Transmission Outages on Economic Project Evaluations*](https://www.ercot.com/files/docs/2021/05/11/Whitepaper_EcononmicPlanning.pdf) white paper in the instances specified therein to evaluate the impact of weather uncertainties and the impact of including transmission outages on the congestion cost savings test, as it has for the production cost savings test. This white paper is also available on the Planning page of the ERCOT website. | |
| **Reason for Revision** | | [Strategic Plan](https://www.ercot.com/files/docs/2023/08/25/ERCOT-Strategic-Plan-2024-2028.pdf) Objective 1 – Be an industry leader for grid reliability and resilience  [Strategic Plan](https://www.ercot.com/files/docs/2023/08/25/ERCOT-Strategic-Plan-2024-2028.pdf) Objective 2 - Enhance the ERCOT region’s economic competitiveness with respect to trends in wholesale power rates and retail electricity prices to consumers  [Strategic Plan](https://www.ercot.com/files/docs/2023/08/25/ERCOT-Strategic-Plan-2024-2028.pdf) Objective 3 - Advance ERCOT, Inc. as an independent leading industry expert and an employer of choice by fostering innovation, investing in our people, and emphasizing the importance of our mission  General system and/or process improvement(s)  Regulatory requirements  ERCOT Board/PUCT Directive  *(please select ONLY ONE – if more than one apply, please select the ONE that is most relevant)* | |
| **Justification of Reason for Revision and Market Impacts** | | As required by 16 Texas Administrative Code § 25.101(b)(3)(A)(i), as amended in PUCT Project No. 53403, ERCOT, in consultation with PUCT Staff, must develop a congestion cost savings test to be used in economic project evaluation. ERCOT retained Energy + Environmental Economics, Inc. (E3) to identify a set of viable options and provide recommendations of the most suitable congestion cost savings test based on the ERCOT market structure. E3 presented its work at the September 2023 Planning Working Group (PLWG) meeting and recommended system-wide energy cost reduction (referred to in E3’s analysis as a “System-Wide Gross Load Cost (GLC) Test”) as the most suitable congestion cost savings test for the ERCOT Region. ERCOT worked with PUCT Staff to review the E3 recommendation, considered stakeholder feedback, and agreed with E3’s recommendation. This NPRR incorporates the recommended congestion cost savings test in ERCOT’s economic project evaluation. | |
| **PRS Decision** | | On 9/12/24, PRS voted unanimously to table NPRR1247 and refer the issue to ROS. All Market Segments participated in the vote.  On 11/14/24, PRS voted to grant NPRR1247 Urgent status; to recommend approval of NPRR1247 as amended by the 11/11/24 ERCOT comments; and to forward to TAC NPRR1247 and the 8/9/24 Impact Analysis. There were two opposing votes from the Cooperative (STEC) and Independent Generator (Luminant) Market Segments, and four abstentions from the Independent Generator (Constellation), Independent Power Marketer (IPM) (Tenaska), and Independent Retail Electric Provider (IREP) (2) (Reliant, Chariot) Market Segments. All Market Segments participated in the vote. | |
| **Summary of PRS Discussion** | | On 9/12/24, participants declined to grant Urgent status, requested additional process details, and tabled NPRR1247 for further review by PLWG.  On 11/14/24, participants recounted recent PLWG and ROS discussions and reviewed the 11/11/24 ERCOT comments. ERCOT Staff requested Urgency to qualify for consideration at the December 3, 2024 ERCOT Board meeting and reiterated the preference to exclude white paper references from the Protocols, citing their separate approval process. Some stakeholders expressed concern regarding incomplete details and possible suboptimal outcomes that might arise from the expedited stakeholder process. ERCOT Staff confirmed a forthcoming Planning Guide Revision Request (PGRR) to provide additional detail. | |
| **TAC Decision** | | On 11/20/24, TAC voted to recommend approval of NPRR1247 as recommended by PRS in the 11/14/24 PRS Report. There were three opposing votes from the Independent Generator (2) (Calpine, Luminant) and IPM (Shell) Market Segments; and one abstention from the IREP (Reliant) Market Segment. All Market Segments participated in the vote. | |
| **Summary of TAC Discussion** | | On 11/20/24, opponents reiterated concerns regarding incomplete congestion process information, planning model details, supporting data and analysis, and white paper language; noted possible negative effects of expedited stakeholder review; and requested additional discussion regarding relevant large load issues. Supporters acknowledged time constraints, emphasized a need to comply with established PUCT rule and legislature, and welcomed continued evolution of the process through submission of future Revision Requests. | |
| **Explanation of Opposing TAC Votes** | | **Independent Generator/Calpine** – Opposed to urgency and the incompleteness of the NPRR. It references white papers/processes which aren't yet available for market review.  **Independent Generator/Luminant** – Luminant submitted written comments on October 28, 2024 and November 15, 2024 that reflect Luminant’s concerns with NPRR1247. Luminant believes that the selected Gross Load Cost test methodology overstates the actual net benefits associated with the test, and that there are important test parameters that are left to white papers that operate outside of the Protocols and therefore outside of the stakeholder review process that culminates with ERCOT Board and ultimately PUCT endorsement. The result of this imbalance will be trading off hedgeable congestion costs (the costs of which are returned to loads) for unhedgeable transmission costs.  **IPM/Shell** – Shell Energy North America (Shell Energy) supports making prudent investment in transmission projects that are needed to facilitate the build out of substantiated loads. We voted in opposition largely based on our concerns with the lack of transparency and control over the methodology for the incorporation of fictitious generation on the ERCOT system to solve power flow issues with the projected load growth. The methodology used by ERCOT to determine where this generation will be located on the system will have a significant impact on the modeled power flows and the congestion patterns that are used for project evaluation under the congestion cost savings test. This could create congestion cost savings test results that do not produce outcomes consistent with the intent of the methodology. This also raises concerns with the potential for unintended consequences of ERCOT reports containing these congestion patterns impacting the value and certainty of hedging instruments in the forward market. Furthermore, we believe that there is benefit in additional discussion to determine how the gross load cost test can be modified to better reflect the actual net benefits. | |
| **TAC Review/Justification of Recommendation** | | Revision Request ties to Reason for Revision as explained in Justification  Impact Analysis reviewed and impacts are justified as explained in Justification  Opinions were reviewed and discussed  Comments were reviewed and discussed (if applicable)  Other: (explain) | |
| **ERCOT Board Decision** | | On 12/3/24, the ERCOT Board voted unanimously to recommend approval of NPRR1247 as recommended by TAC in the 11/20/24 TAC Report. | |

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| **Opinions** | |
| **Credit Review** | ERCOT Credit Staff and the Credit Finance Sub Group (CFSG) have reviewed NPRR1247 and do not believe that it requires changes to credit monitoring activity or the calculation of liability. |
| **Independent Market Monitor Opinion** | IMM supports NPRR1247. |
| **ERCOT Opinion** | ERCOT supports approval of NPRR1247. |
| **ERCOT Market Impact Statement** | ERCOT Staff has reviewed NPRR1247 and believes that it provides a positive market impact through regulatory requirements by making the consumer energy cost reduction test the congestion cost savings test in economic project evaluation in response to recent amendments by the PUCT to 16 Texas Administrative Code § 25.101. |

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| **Sponsor** | |
| **Name** | Ping Yan |
| **E-mail Address** | [Ping.Yan@ercot.com](mailto:Ping.Yan@ercot.com) |
| **Company** | ERCOT |
| **Phone Number** | 512-248-4153 |
| **Cell Number** |  |
| **Market Segment** | Not Applicable |

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| **Market Rules Staff Contact** | |
| **Name** | Jordan Troublefield |
| **E-Mail Address** | [Jordan.Troublefield@ercot.com](mailto:Jordan.Troublefield@ercot.com) |
| **Phone Number** | 512-248-6521 |

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| **Comments Received** | |
| **Comment Author** | **Comment Summary** |
| TIEC 091124 | Clarified the time horizon, specified what data the congestion cost savings test measures, and established a requirement for ERCOT to publish data related to its modeling |
| AEPSC 100324 | Proposed clarifying language to describe the model and to address the specifics of the production cost savings and congestion cost savings |
| ROS 100424 | Requested PRS continue to table NPRR1247 for further review by PLWG |
| ERCOT 101124 | Responded to the 9/11/24 TIEC and 10/3/24 AEPSC comments with characterization edits; clarified that simulations qualify and assess benefits during the planning horizon with the expectation that benefits continue over the life of a project; requested that congestion cost savings test performance descriptions be relegated to the white paper *Congestion Cost Savings Test Evaluation Guideline*; and expressed concern that the TIEC requirement to “publish all relevant modeling assumptions and outputs” is too broad and vague for ERCOT to reasonably comply with beyond what relevant information is already published via the Market Information System (MIS) Secure Area and on the ERCOT website Planning page |
| Joint Commenters 101524 | Proposed language to clarify how benefits are measured and to codify ERCOT’s existing practices for the inclusion of weather scenarios and transmission outage sensitivities in certain economic project evaluations by referencing the white paper *Impact of Weather Uncertainty and Transmission Outages on Economic Project Evaluations* in the Protocols |
| Reliant 101824 | Proposed language to detail how the congestion cost savings test calculation will work, to increase transparency of modeling inputs and outputs, and to provide guardrails to ensure the congestion cost savings test does not produce outcomes inconsistent with the intent of the methodology; also proposed language to utilize PUCT’s most recently approved Value of Lost Load (VOLL) in cases where unserved energy cost needs to be incorporated in the congestion cost savings methodology |
| Joint Commenters 102324 | Identified a perceived absence of economic analyses and criteria details in the Planning Guide and proposed codifying ERCOT practices by referencing white papers *Impact of Weather Uncertainty and Transmission Outages on Economic Project Evaluations* and *Congestion Cost Savings Test Evaluation Guideline* in the Protocols until the Protocols and/or Planning Guide are updated in response; and requested that ERCOT provide comments clarifying their interpretation of the language, "If the B/C ratio for the transmission project is within +/- 5% of the economic criteria...", as located in the white paper, *Impact of Weather Uncertainty and Transmission Outages on Economic Project Evaluations* |
| ERCOT 102324 | Responded to the 10/18/24 Reliant and 10/23/24 Joint Commenters comments with a request that NPRR1247 not reference VOLL as unserved energy is rarely observed in economic project evaluation; requested that the subject of adding generation or scaling load in planning models be addressed in a separate PGRR; and expressed concern against referencing white papers within the Protocols, citing precedence, best practices, and discretion granted to ERCOT via 16 Texas Administrative Code § 25.101(b)(3)(A)(i) regarding whether to include a project’s costs and benefits depending on whether such analysis is appropriate for a specific project |
| Luminant 102824 | Established a stakeholder procedural history of the development of the congestion cost savings test; shared identified concerns; and suggested next steps including a request for more time to review NPRR1247 and related materials ahead of ERCOT’s intended use of the test |
| ERCOT 110124 | Expressed intention to assess requirements around adding generation to planning models in a forthcoming PGRR; reiterated its position on excluding white paper references from the Protocols; and committed to previewing any changes to relevant white papers to stakeholders for feedback before changes become effective; urged ROS to adopt NPRR1247 as proposed in the 10/23/24 ERCOT comments |
| ROS 110824 | Endorsed NPRR1247 as amended by the 10/23/24 ERCOT comments |
| ERCOT 111124 | Proposed revising the Revision Description to reference *Impact of Weather Uncertainty and Transmission Outages on Economic Project Evaluations* and *Congestion Cost Savings Test Evaluation Guideline* to further publicize such white papers and promote greater transparency |
| Luminant 111524 | Reiterated concern regarding suboptimal outcomes that might arise from an expedited stakeholder process; proposed ERCOT use a factor of 0.25 to discount benefits that are calculated by the suggested congestion cost savings test; argued that an after-tax weighted average cost of capitol is a more appropriate financing cost than a 2% inflation rate in the economic project evaluation; and expressed caution that the consumer benefits test framework goes beyond the congestion savings policy directive from Senate Bill (SB) 1281 and 16 Texas Administrative Code § 25.101 |
| ERCOT 111924 | Responded to the 11/15/24 Luminant comments by citing E3’s recommendation of the System-Wide GLC Test as the best option to fit with the rules and structure of the ERCOT market, per their *Congestion Cost Savings Test for Economic Evaluation of ERCOT Transmission Projects* report; argued that the impact of applying a discount factor of 0.25 to the congestion cost savings test is unknown due to insufficient data available to accurately inform a congestion hedging methodology; noted that the inflation rate applied to economic project evaluation is solely used to capture the time value of money when the economic benefits are calculated; and requested that TAC recommend approval of NPRR1247 as amended by the 11/11/24 ERCOT comments |
| ERCOT 112624 | Provided background information to the Reliability and Markets Committee and ERCOT Board leading to the development of NPRR1247, ERCOT’s position on NPRR1247, and a summary of stakeholder comments and ERCOT responses |

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| **Market Rules Notes** |

Please note that the following NPRR(s) also propose revisions to Section 3.11.2:

* NPRR1070, Planning Criteria for GTC Exit Solutions

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| Proposed Protocol Language Revision |

3.11.2 Planning Criteria

(1) ERCOT and Transmission Service Providers (TSPs) shall evaluate the need for transmission system improvements and shall evaluate the relative value of alternative improvements based on established technical and economic criteria.

(2) The technical reliability criteria are established by the Planning Guide, Operating Guides, and the North American Electric Reliability Corporation (NERC) Reliability Standards. ERCOT and TSPs shall strongly endeavor to meet these criteria, identify current and future violations thereof and initiate solutions necessary to ensure continual compliance.

(3) ERCOT shall attempt to meet these reliability criteria as economically as possible and shall actively study the need for economic projects to meet this goal.

(4) For economic projects, the net economic benefit of a proposed project, or set of projects, will be assessed over the project’s life based on the net benefit that is reasonably expected to accrue from the project as demonstrated through the production cost savings test or the congestion cost savings test.

The current set of financial assumptions upon which the revenue requirement calculations for these tests are based will be reviewed annually, updated as necessary by ERCOT, and posted on the Market Information System (MIS) Secure Area. The expected economic benefits are based on chronological simulations of the security-constrained unit commitment and economic dispatch of the generators connected to the ERCOT Transmission Grid to serve the expected ERCOT System Load over the planning horizon, comparing simulations with and without the project. These market simulations are intended to provide a reasonable representation of how the ERCOT System is expected to be operated over the simulated time period. From a practical standpoint, it is not feasible to perform these simulations for the entire 30 to 40 year expected life of the project. Therefore, the economic benefits are projected over the period for which simulations are feasible, which is the planning horizon established in Planning Guide Section 3.1.1.2, Regional Transmission Plan, and a qualitative assessment is made of whether the factors driving the economic benefits due to the project can reasonably be expected to continue.

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| ***[NPRR1183: Replace paragraph (4) above with the following upon system implementation:]***  (4) For economic projects, the net economic benefit of a proposed project, or set of projects, will be assessed over the project’s life based on the net benefit that is reasonably expected to accrue from the project as demonstrated through the production cost savings test or the congestion cost savings test. The current set of financial assumptions upon which the revenue requirement calculations for these tests are based will be reviewed annually, updated as necessary by ERCOT, and posted on the ERCOT website. The expected economic benefits are based on chronological simulations of the security-constrained unit commitment and economic dispatch of the generators connected to the ERCOT Transmission Grid to serve the expected ERCOT System Load over the planning horizon, comparing simulations with and without the project. These market simulations are intended to provide a reasonable representation of how the ERCOT System is expected to be operated over the simulated time period. From a practical standpoint, it is not feasible to perform these simulations for the entire 30 to 40 year expected life of the project. Therefore, the economic benefits are projected over the period for which simulations are feasible, which is the planning horizon established in Planning Guide Section 3.1.1.2, Regional Transmission Plan, and a qualitative assessment is made of whether the factors driving the economic benefits due to the project can reasonably be expected to continue. |

(5) To determine the economic benefits of a proposed project under the production cost savings test, the revenue requirement of the capital cost of the project is compared to the expected savings in system production costs resulting from the project over the expected life of the project. Outputs from the market simulations described in paragraph (4) above will be used to provide an estimate of the expected reduction in total system-wide production cost due to the project. Other adequately quantifiable and ongoing direct and indirect costs and benefits to the transmission system attributable to the project may be considered as appropriate. If the levelized ERCOT-wide annual production cost savings equals or exceeds the first-year annual revenue requirement of the transmission project, the project will be deemed to demonstrate sufficient economic benefit and will be recommended. ERCOT will publish requested non-confidential modeling inputs, assumptions, and outputs utilized in the production cost savings test if that information can be feasibly provided.

(6) To determine the economic benefits of a proposed project under the congestion cost savings test, the revenue requirement of the capital cost of the project is compared to the expected system-wide consumer energy cost reduction resulting from the project over the expected life of the project. Outputs from the market simulations described in paragraph (4) above will be used to provide an estimate of the expected reduction in total system-wide consumer energy cost due to the project. In the market simulations, system-wide consumer energy cost will be calculated using hourly load in MWh multiplied by hourly load nodal energy prices in $/MWh. Other adequately quantifiable and ongoing direct and indirect costs and benefits to the transmission system attributable to the project may be considered as appropriate. If the levelized system-wide consumer energy cost reduction equals or exceeds the average of the first three years’ annual revenue requirement for the project, the project will be deemed to demonstrate sufficient economic benefit and will be recommended. ERCOT will publish requested non-confidential modeling inputs, assumptions, and outputs utilized in the congestion cost savings test if that information can be feasibly provided.