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| SCR Number | [831](https://www.ercot.com/mktrules/issues/SCR831) | SCR Title | Short Circuit Model Integration |
| Date of Decision | | September 17, 2025 | |
| Action | | Recommended Approval | |
| Timeline | | Normal | |
| Estimated Impacts | | Cost/Budgetary: Between $100k and $200k  Project Duration: 7 to 10 months | |
| Proposed Effective Date | | Upon system implementation | |
| Priority and Rank Assigned | | Priority – 2026; Rank – 4810 | |
| Supporting Protocol or Guide Sections/Related Documents | | Planning Guide Section 6.3, Process for Developing Short Circuit Cases | |
| System Change Description | | This System Change Request (SCR) modifies the Network Model Management System (NMMS), ODMS, Topology Processor, and Modeling on Demand system to incorporate short circuit modeling data for maintaining short circuit models built by the System Protection Working Group (SPWG). | |
| 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 | | This modification would support the development and maintenance of short circuit models by aligning the models with operational data every case build and would reduce the workload across Transmission Service Providers (TSPs) and ERCOT who must engage in dual modeling across multiple cases. It will also improve the quality of the short circuit models by ensuring data is consistent across operations, steady state planning, and short circuit planning models. | |
| PRS Decision | | On 2/12/25, PRS voted unanimously to table SCR831 and refer the issue to ROS. All Market Segments participated in the vote.  On 8/13/25, PRS voted unanimously to recommend approval of SCR831 as submitted. All Market Segments participated in the vote.  On 9/17/25, PRS voted unanimously to endorse and forward to TAC the 8/13/25 PRS Report and 1/15/25 Impact Analysis for SCR831 with a recommended priority of 2026 and rank of 4810. All Market Segments participated in the vote. | |
| Summary of PRS Discussion | | On 2/12/25, the sponsor provided an overview of SCR831.  On 8/13/25, participants noted the 8/8/25 ROS comments to SCR831  On 9/17/25, participants reviewed the 1/15/25 Impact Analysis and the justification for SCR831. | |

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| **Opinions** | |
| **Credit Review** | Not applicable |
| **Independent Market Monitor Opinion** | To be determined |
| **ERCOT Opinion** | ERCOT supports approval of SCR831. |
| **ERCOT Market Impact Statement** | ERCOT Staff has reviewed SCR831 and believes it supports the development and maintenance of short circuit models by aligning the models with operational data every case build, reduces the workload across TSPs and ERCOT, and improves the quality of the short circuit models by ensuring data is consistent across operations, steady state planning, and short circuit planning models. |

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| Sponsor | |
| Name | Eric Meier |
| E-mail Address | [Eric.Meier@ercot.com](mailto:Eric.Meier@ercot.com) |
| Company | ERCOT |
| Phone Number | 512-248-6770 |
| Cell Number |  |
| Market Segment | Not applicable |

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| **Market Rules Staff Contact** | | | |
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| **Comments Received** | | | |
| **Comment Author** | | **Comment Summary** | |
| ROS 030625 | | Requested PRS continue to table SCR831 for further review by the SPWG, Steady State Working Group (SSWG) and Network Data Support Working Group (NDSWG) | |
| Joint TSP 073025 | | Acknowledged potential benefits of SCR831; recommended it be implemented within three years of Public Utility Commission of Texas (PUCT) approval; and emphasized that support should not constitute a commitment to provide or maintain data related to the initiative until the implementation details have been proposed in writing by ERCOT for TSP review and comment, and TSPs are fully satisfied with the implementation details | |
| ROS 080825 | | Endorsed SCR831 as submitted | |
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| **Market Rules Notes** | | | |

None

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| Proposed System Change |

**Issue:**

Each year ERCOT produces six short circuit transmission models representing the current year to five years in the future as required by Planning Guide Section 6.3. These cases are currently built by ERCOT and the System Protection Working Group (SPWG) using an entirely manual process that is not synchronized with operational changes in the Network Model Management System (NMMS). This means changes made in NMMS are not reflected in the short circuit models unless changes are manually made and submitted by the short circuit modeler. Additionally, as both ERCOT and TSPs must model planned changes in both the steady state and short circuit planning cases when new projects are added into Model on Demand (MOD), the changes do not flow to the short circuit cases. This results in both ERCOT and TSPs performing duplicate work to maintain operational and planned changes in the operations, steady state planning, and short circuit planning models. Currently change files to update the short circuit models by adding future transmission projects are exchanged via email between ERCOT and TSPs, which are then manually applied to cases one by one. This is a very intensive manual effort without the access control, security, data tracking, and automation afforded by MOD.

**Resolution:**

The requested change integrates short circuit model data into both the operational and planning modeling systems, NMMS and MOD, respectively.

1. Update the NMMS to allow short circuit data to be included and used for short circuit model development and maintenance.
2. Update the output of ERCOT Topology Processor to include short circuit data in the RAW file output and to generate sequence files.
3. Update MOD to add all necessary short circuit attributes to MOD and implement workflow improvements to support multiple types of models in a single system.
4. Data elements to be included (not an exclusive list):
   1. Zero Sequence R, X, & B;
   2. Mutual Coupling;
   3. Transformer Connection Codes;
   4. Generator sequence data (saturated values for transient, subtransient, synchronous, negative R&X, zero R&X, and grounding); and
   5. All other data currently included in short circuit models.