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| **Date:** | December 2, 2021 |
| **To:** | Board of Directors |
| **From:** | Clif Lange, Technical Advisory Committee (TAC) Chair |
| **Subject:** | Unopposed Revision Requests Recommended by TAC for Approval |

## Issue for the ERCOT Board of Directors

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| **ERCOT Board of Directors Meeting Date:** December 9-10, 2021  **Item No.:** 5.1 |

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| **Issue:**Consideration of the following Revision Requests: Nodal Protocol Revision Requests (NPRRs), Nodal Operating Guide Revision Request (NOGRR), Other Binding Document Revision Request (OBDRR), Planning Guide Revision Request (PGRR), and Resource Registration Glossary Revision Request (RRGRR)) recommended for approval by TAC (with no opposing votes recorded):  * NPRR1077, Extension of Self-Limiting Facility Concept to Settlement Only Generators (SOGs) and Telemetry Requirements for SOGs; * NPRR1091, Changes to Address Market Impacts of Additional Non-Spin Procurement – URGENT; * NPRR1094, Allow Under Frequency Relay Load to be Manually Shed During EEA3; * NPRR1101, Create Non-Spin Deployment Groups made up of Generation Resources Providing Off-Line Non-Spinning Reserve and Load Resources that are Not Controllable Load Resources Providing Non-Spinning Reserve – URGENT; * NPRR1103, Securitization – PURA Subchapter M Default Charges – URGENT; * NPRR1104, As-Built Definition of Real Time Liability Extrapolated (RTLE) – URGENT; * NPRR1107, Addition of Weatherization Inspection Fees to the ERCOT Fee Schedule and Clarification of Generation Interconnection Request Fees – URGENT; * NOGRR233, Related to NPRR1094, Allow Under Frequency Relay Load to be Manually Shed During EEA3; * OBDRR035, Related to NPRR1101, Create Non-Spin Deployment Groups made up of Generation Resources Providing Off-Line Non-Spinning Reserve and Load Resources that are Not Controllable Load Resources Providing Non-Spinning Reserve; * PGRR092, Related to NPRR1077, Extension of Self-Limiting Facility Concept to Settlement Only Generators (SOGs) and Telemetry Requirements for SOGs; and * RRGRR029, Related to NPRR1077, Extension of Self-Limiting Facility Concept to Settlement Only Generators (SOGs) and Telemetry Requirements for SOGs. |
| **Background/History:** **Unless otherwise noted: (i) all Market Segments participated in each vote; (ii) For NPRRs, ERCOT Credit Staff and the Credit Work Group (Credit WG) have reviewed the NPRR and do not believe it requires changes to credit monitoring activity or the calculation of liability; and (iii) ERCOT supports the revision request.**   * ***NPRR1077, Extension of Self-Limiting Facility Concept to Settlement Only Generators (SOGs) and Telemetry Requirements for SOGs [ERCOT]***   **Proposed Effective Date:** Upon system implementation – Priority 2022; Rank 3550  **ERCOT Impact Analysis:** Between $100k and $160k; no impacts to ERCOT staffing; impacts to Resource Integration and Ongoing Operations (RIOO), Energy Management System (EMS), and Grid Modeling Systems; no impacts to ERCOT business processes; no impacts to ERCOT grid operations and practices.  **Revision Description:** This NPRR expands the Self-Limiting Facility concept introduced in NPRR1026, BESTF-7 Self-Limiting Facilities, to include sites with one or more Settlement Only Generators (SOGs). This NPRR also introduces a number of additional revisions to fully address requirements for generators and Energy Storage Systems (ESSs) that are connected at distribution voltage. In order to ensure that SOGs in Self-Limiting Facilities abide by established MW Injection and MW Withdrawal limits, and in order to ensure that ERCOT operators and system planners have clear visibility into the performance of SOGs, this NPRR requires the Qualified Scheduling Entity (QSE) for any SOG to provide telemetry of the injection or withdrawal at the Point of Interconnection (POI) (for transmission-connected sites) or Point of Common Coupling (POCC) (for distribution-connected sites) as well as telemetry of gross real power injection and withdrawal at the generator terminals and the status of each SOG’s breaker. Self-Limiting Facilities that include SOGs would be subject to the same consequences as other Self-Limiting Facilities when the MW Injection or MW Withdrawal limit is exceeded.  **TAC Decision:** On 11/29/21, TAC unanimously voted via roll call to recommend approval of NPRR1077 as recommended by PRS in the 11/10/21 PRS Report as amended by the 11/22/21 ERCOT comments.  **ERCOT Market Impact Statement:** ERCOT Staff has reviewed NPRR1077 and believes NPRR1077 will benefit the development of facilities by allowing co-located storage and solar to share a common inverter without counting the aggregate output of each source of generation, and that net telemetry will provide greater visibility of SOG performance to ERCOT operations and planning personnel.   * ***NPRR1091, Changes to Address Market Impacts of Additional Non-Spin Procurement – URGENT [Shell]***   **Proposed Effective Date:** Upon system implementation – Priority 2022; Rank 3195  **ERCOT Impact Analysis:** Between $120k and $160k; no impacts to ERCOT staffing; impacts to Market Operation Systems, Data Management & Analytic Systems, EMS; no impacts to ERCOT business processes; no impacts to ERCOT grid operations and practices.  **Revision Description:** This NPRR makes two changes to address the energy price suppression and liquidity issues created by ERCOT’s urgent change to procure more Ancillary Service and deploying it early. Specifically, this NPRR extends the treatment of must-take energy from Reliability Unit Commitments (RUCs) in pricing run to Off-Line Non-Spinning Reserve (Non-Spin), when it is manually deployed, by setting the Low Sustained Limit (LSL), Low Ancillary Service Limit (LASL), and Low Dispatch Limit (LDL) of Off-Line Non-Spin Resources to zero in the pricing run; and increases the amount of Responsive Reserve (RRS) and Non-Spin that an Entity can self-arrange above its obligation.  **TAC Decision:** On 11/29/21, TAC unanimously voted via roll call to recommend approval of NPRR1091 as recommended by PRS in the 11/10/21 PRS Report with a recommended priority of 2022 and rank of 3195.  **ERCOT Market Impact Statement:** ERCOT Staff has reviewed NPRR1091 and believes the market impact for NPRR1091 addresses potential energy price suppression and liquidity issues related to recent changes in Non-Spin.   * ***NPRR1094, Allow Under Frequency Relay Load to be Manually Shed During EEA3 [Oncor]***   **Proposed Effective Date:** Upon Public Utility Commission of Texas (PUCT) approval – December 17, 2021  **ERCOT Impact Analysis:** No budgetary impact; no impacts to ERCOT staffing; no impacts to ERCOT computer systems; ERCOT business processes will be updated; no impacts to ERCOT grid operations and practices.  **Revision Description:** This NPRR allows a Transmission Operator (TO) and a Transmission and/or Distribution Service Provider (TDSP) to manually shed Load connected to under-frequency relays during an Energy Emergency Alert (EEA) Level 3 if the affected TO can meet its overall Under-Frequency Load Shed (UFLS) requirement in Nodal Operating Guide Section 2.6.1, Automatic Firm Load Shedding, and its Load shed obligation under Nodal Operating Guide Section 4.5.3.4, Load Shed Obligation.  **TAC Decision:** On 11/29/21, TAC unanimously voted via roll call to recommend approval of NPRR1094 as recommended by PRS in the 10/14/21 PRS Report with a recommended effective date of upon PUCT approval.  **ERCOT Market Impact Statement:** ERCOT Staff has reviewed NPRR1094 and believes NPRR1094 improves efficiency and reliability by removing restrictions on manually shedding UFLS feeder-connected Load during an EEA Level 3.   * ***NPRR1101, Create Non-Spin Deployment Groups made up of Generation Resources Providing Off-Line Non-Spinning Reserve and Load Resources that are Not Controllable Load Resources Providing Non-Spinning Reserve – URGENT [ERCOT]***   **Proposed Effective Date:** Upon system implementation – Priority 2022; Rank 3195  **ERCOT Impact Analysis:** Between $30k and $50k; no impacts to ERCOT staffing; impacts to Data Management & Analytic Systems and Market Operation Systems; no impacts to ERCOT business processes; ERCOT grid operations and practices will be updated.  **Revision Description:** This NPRR modifies the deployment grouping requirements for Load Resources that are not Controllable Load Resources (“NCLRs”) providing Non-Spin to include Generation Resources providing Off-Line Non-Spin. This deployment grouping process only addresses NCLR and Off-Line Generation Resources. Other Resources providing Non-Spin are not addressed in the proposed revisions.  **TAC Decision:** On 11/29/21, TAC unanimously voted via roll call to recommend approval of NPRR1101 as recommended by PRS in the 11/10/21 PRS Report as amended by the 11/19/21 ERCOT comments.  **ERCOT Market Impact Statement:** ERCOT Staff has reviewed NPRR1101 and believes the market impact for NPRR1101 will improve ERCOT’s ability to deploy Non-Spin Service in a technology agnostic manner, improve offer liquidity, and will allow ERCOT to procure the required quantities of Non-Spin more competitively.   * ***NPRR1103, Securitization – PURA Subchapter M Default Charges – URGENT [ERCOT]***   **Proposed Effective Date:** Phase 1: Upon PUCT approval – December 17, 2021; Phase 2: Upon system implementation – Priority 2021; Rank 320  **ERCOT Impact Analysis:** Between $1.5M and $2M; there will be ongoing operational impacts to Settlement Services and Commercial Application Services to support this NPRR, but these departments are able to absorb the effort and will not require additional staff; impacts to Credit Management Systems (CMM), Credit, Settlements & Billing Systems, Data Management & Analytic Systems, Integration Systems, Financial Management Systems, ERCOT Website and Market Information System (MIS) Systems, and CRM & Registration Systems; ERCOT business processes will be updated; no impacts to ERCOT grid operations and practices.  **Revision Description:** This NPRR establishes processes for the assessment and collection of Default Charges and Default Charge Escrow Deposits to QSEs and Congestion Revenue Right (CRR) Account Holders pursuant to the Debt Obligation Order (DOO) issued in Public Utility Commission of Texas (PUCT) Docket No. 52321, Application of Electric Reliability Council of Texas, Inc. for a Debt Obligation Order Pursuant to Chapter 39, Subchapter M, of the Public Utility Regulatory Act (PURA).  **TAC Decision:** On 11/29/21, TAC voted via roll call to recommend approval of NPRR1103 as recommended by PRS in the 11/10/21 PRS Report with a recommended effective date of upon PUCT approval for Phase 1. There was one abstention from the Municipal (CPS Energy) Market Segment.  **ERCOT Market Impact Statement:** ERCOT Staff has reviewed NPRR1103 and believes the market impact for NPRR1103 establishes processes for assessment and collection of Default Charges and Default Escrow Deposits to QSEs and CRR Account Holders as reflected in the DOO issued in PUCT Docket No. 52321, Subchapter M, of PURA.  **Credit WG Review:** See 11/11/21 Credit WG comments   * ***NPRR1104, As-Built Definition of Real Time Liability Extrapolated (RTLE) – URGENT [ERCOT]***   **Proposed Effective Date:** Upon PUCT approval – December 17, 2021  **ERCOT Impact Analysis:** No budgetary impact; no impacts to ERCOT staffing; no impacts to ERCOT computer systems; no impacts to ERCOT business processes; no impacts to ERCOT grid operations and practices.  **Revision Description:** This NPRR corrects the definition of Real Time Liability Extrapolated (RTLE) to include market activity for Entities that have no Load or generation but have Real-Time exposure. It has come to ERCOT’s attention that the current definition of RTLE is erroneously tied to QSEs that represent Load or generation, and conflicts with the implementation of RTLE in ERCOT’s credit system.  **TAC Decision:** On 11/29/21, TAC unanimously voted via roll call to recommend approval of NPRR1104 as recommended by PRS in the 11/10/21 PRS Report with a recommended effective date of upon PUCT approval.  **ERCOT Market Impact Statement:** ERCOT Staff has reviewed NPRR1104 and believes the market impact for NPRR1104 brings Protocols in line with current credit systems and more appropriately reflects the forward risk related to the RTLE calculation.  **Credit WG Review:** See 11/11/21 Credit WG comments   * ***NPRR1107, Addition of Weatherization Inspection Fees to the ERCOT Fee Schedule and Clarification of Generation Interconnection Request Fees – URGENT [ERCOT]***   **Proposed Effective Date:** Upon system implementation until September 1, 2022  **ERCOT Impact Analysis:** Less than $10k (O&M); no impacts to ERCOT staffing; impacts to ERCOT Website and MIS Systems; ERCOT business processes will be updated; no impacts to ERCOT grid operations and practices.  **Revision Description:** This NPRR adds new fees for weatherization inspections conducted by ERCOT to the ERCOT Fee Schedule. This NPRR further clarifies that the existing Generation Interconnection or Change Request (GINR) fees apply to all generation interconnection projects regardless of whether they will interconnect at the transmission or distribution level.  **TAC Decision:** On 11/29/21, TAC voted via roll call to recommend approval of NPRR1107 as recommended by PRS in the 11/17/21 PRS Report as amended by the 11/23/21 ERCOT comments and the Revised Impact Analysis. There were two abstentions from the Independent Generator (ENGIE, Avangrid Renewables) Market Segment.  **ERCOT Market Impact Statement:** ERCOT Staff has reviewed NPRR1107 and believes the market impact for NPRR1107 addresses current regulatory requirements by adding weatherization inspection fees to the ERCOT Fee Schedule and clarifying that existing GINR fees apply to all generation interconnection projects.   * ***NOGRR233, Related to NPRR1094, Allow Under Frequency Relay Load to be Manually Shed During EEA3 [Oncor]***   **Proposed Effective Date:** Upon implementation of NPRR1094  **ERCOT Impact Analysis:** No budgetary impact; no impacts to ERCOT staffing; no impacts to ERCOT computer systems; no impacts to ERCOT business processes; no impacts to ERCOT grid operations and practices. (There are no additional impacts to this NOGRR beyond what was captured in the Impact Analysis for NPRR1094)  **Revision Description**: This NOGRR will allow a TO and a TDSP to manually shed Load connected to under-frequency relays during an EEA Level 3 if the affected TO can meet its overall UFLS requirement in Section 2.6.1, Automatic Firm Load Shedding, and its Load shed obligation under Section 4.5.3.4, Load Shed Obligation.  **TAC Decision:** On 11/29/21, TAC unanimously voted via roll call to recommend approval of NOGRR233 as recommended by ROS in the 11/4/21 ROS Report.  **ERCOT Market Impact Statement:** ERCOT Staff has reviewed NOGRR233 and believes NOGRR233 improves efficiency and reliability by removing restrictions on manually shedding UFLS feeder-connected Load during an EEA Level 3.   * ***OBDRR035, Related to NPRR1101, Create Non-Spin Deployment Groups made up of Generation Resources Providing Off-Line Non-Spinning Reserve and Load Resources that are Not Controllable Load Resources Providing Non-Spinning Reserve [ERCOT]***   **Proposed Effective Date:** Upon system implementation of NPRR1101  **ERCOT Impact Analysis:** No budgetary impact; no impacts to ERCOT staffing; no impacts to ERCOT computer systems; no impacts to ERCOT business processes; no impacts to ERCOT grid operations and practices. (There are no additional impacts to this OBDRR beyond what was captured in the Impact Analysis for NPRR1101)  **Revision Description:** This Other Binding Document Revision Request (OBDRR) aligns the Non-Spinning Reserve Deployment and Recall Procedure with revisions from NPRR1101.  **TAC Decision:** On 11/29/21, TAC unanimously voted via roll call to recommend approval of OBDRR035 as amended by the 11/19/21 ERCOT comments; and the Impact Analysis for OBDRR035.  **ERCOT Market Impact Statement:** ERCOT Staff has reviewed OBDRR035 and believes the market impact for OBDRR35 will improve ERCOT’s ability to deploy Non-Spin Service in a technology agnostic manner, improve offer liquidity, and will allow ERCOT to procure the required quantities of Non-Spin more competitively.   * ***PGRR092, Related to NPRR1077, Extension of Self-Limiting Facility Concept to Settlement Only Generators (SOGs) and Telemetry Requirements for SOGs [ERCOT]***   **Proposed Effective Date:** Upon system implementation of NPRR1077  **ERCOT Impact Analysis:** No budgetary impact; no impacts to ERCOT staffing; no impacts to ERCOT computer systems; no impacts to ERCOT business processes; no impacts to ERCOT grid operations and practices. (There are no additional impacts to this PGRR beyond what was captured in the Impact Analysis for NPRR1077.)  **Revision Description:** This PGRR allows an Interconnecting Entity (IE) proposing a SOG to designate that SOG as part of a Self-Limiting Facility for the purposes of the GIM process. The PGRR is consistent with NPRR1077, which broadens the Self-Limiting Facility concept in the Protocols to allow SOGs to be designated as part of a Self-Limiting Facility.  **TAC Decision:** On 11/29/21, TAC unanimously voted via roll call to recommend approval of PGRR092 as recommended by ROS in the 11/17/21 ROS Report.  **ERCOT Market Impact Statement:** ERCOT Staff has reviewed PGRR092 and believe PGRR92 enables the siting of multiple SOGs without altering inverter rating by clarifying studies and tests conducted as part of the interconnection process.   * ***RRGRR029, Related to NPRR1077, Extension of Self-Limiting Facility Concept to Settlement Only Generators (SOGs) and Telemetry Requirements for SOGs [ERCOT]***   **Proposed Effective Date:** Upon system implementation of NPRR1077  **ERCOT Impact Analysis:** No budgetary impact; no impacts to ERCOT staffing; no impacts to ERCOT computer systems; no impacts to ERCOT business processes; no impacts to ERCOT grid operations and practices. (There are no additional impacts to this PGRR beyond what was captured in the Impact Analysis for NPRR1077.)  **Revision Description:** This RRGRR allows an IE proposing a SOG to designate that SOG as part of a Self-Limiting Facility for the purposes of the GIM process and provide that information using the same fields that RRGRR023, Related to NPRR1002, BESTF-5 Energy Storage Resource Single Model Registration and Charging Restrictions in Emergency Conditions, introduced for that purpose. The RRGRR is consistent with NPRR1077, which broadens the Self-Limiting Facility concept in the Protocols to allow SOGs to be designated as part of a Self-Limiting Facility.  **TAC Decision:** On 11/29/21, TAC unanimously voted via roll call to recommend approval of RRGRR029 as recommended by ROS in the 11/17/21 ROS Report.  **ERCOT Market Impact Statement:** ERCOT Staff has reviewed RRGRR029 and believes the market impact of RRGRR029 will allow an IE proposing an SOG to designate that SOG as part of a Self-Limiting Facility, and ERCOT systems to identify the amount of the maximum MW Injection, the maximum MW Withdrawal, in addition to the nameplate amount of capacity added.  The TAC Reports and Impact Analyses for these Revision Requests are included in the [ERCOT Board meeting materials](https://www.ercot.com/calendar/event?id=1635171859710).  In addition, these Revision Requests ([NPRRs](https://www.ercot.com/mktrules/issues/nprr), [NOGRR](https://www.ercot.com/mktrules/issues/nogrr), [OBDRR](https://www.ercot.com/mktrules/issues/obdrr), [PGRR](http://www.ercot.com/mktrules/issues/pgrr), and [RRGRR](http://www.ercot.com/mktrules/issues/rrgrr)) and supporting materials are posted on the ERCOT website. |
| **Key Factors Influencing Issue:** The PRS met, via Webex, discussed the issues, and submitted reports to TAC regarding NPRRs 1077, 1091, 1094, 1101, 1103, 1104, and 1107.  The ROS met, via Webex, discussed the issues, and submitted reports to TAC regarding NOGRR233, PGRR092, and RRGRR029.  The TAC met, via Webex, discussed the issues, and took action on OBDRR035. |
| **Conclusion/Recommendation:** As more specifically described above, TAC recommends that the ERCOT Board recommend approval of NPRRs 1077, 1091, 1094, 1101, 1103, 1104, and 1107; NOGRR233; PGRR092; RRGRR029; and OBDRR035. |

**ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.**

**BOARD OF DIRECTORS RESOLUTION**

WHEREAS, after due consideration of the alternatives, the Board of Directors (Board) of Electric Reliability Council of Texas, Inc. (ERCOT) deems it desirable and in the best interest of ERCOT to recommend approval of the following Nodal Protocol Revision Requests (NPRRs), Nodal Operating Guide Revision Request (NOGRR), Other Binding Document Revision Request (OBDRR), Planning Guide Revision Request (PGRR), and Resource Registration Glossary Revision Request (RRGRR) recommended for approval by TAC:

* NPRR1077, Extension of Self-Limiting Facility Concept to Settlement Only Generators (SOGs) and Telemetry Requirements for SOGs;
* NPRR1091, Changes to Address Market Impacts of Additional Non-Spin Procurement – URGENT;
* NPRR1094, Allow Under Frequency Relay Load to be Manually Shed During EEA3;
* NPRR1101, Create Non-Spin Deployment Groups made up of Generation Resources Providing Off-Line Non-Spinning Reserve and Load Resources that are Not Controllable Load Resources Providing Non-Spinning Reserve – URGENT;
* NPRR1103, Securitization – PURA Subchapter M Default Charges – URGENT;
* NPRR1104, As-Built Definition of Real Time Liability Extrapolated (RTLE) – URGENT;
* NPRR1107, Addition of Weatherization Inspection Fees to the ERCOT Fee Schedule and Clarification of Generation Interconnection Request Fees – URGENT;
* NOGRR233, Related to NPRR1094, Allow Under Frequency Relay Load to be Manually Shed During EEA3;
* OBDRR035, Related to NPRR1101, Create Non-Spin Deployment Groups made up of Generation Resources Providing Off-Line Non-Spinning Reserve and Load Resources that are Not Controllable Load Resources Providing Non-Spinning Reserve;
* PGRR092, Related to NPRR1077, Extension of Self-Limiting Facility Concept to Settlement Only Generators (SOGs) and Telemetry Requirements for SOGs; and
* RRGRR029, Related to NPRR1077, Extension of Self-Limiting Facility Concept to Settlement Only Generators (SOGs) and Telemetry Requirements for SOGs.

THEREFORE, BE IT RESOLVED, that the ERCOT Board hereby recommends approval of NPRRs 1077, 1091, 1094, 1101, 1103, 1104, and 1107; NOGRR233; PGRR092; RRGRR029; and OBDRR035.

**CORPORATE SECRETARY’S CERTIFICATE**

I, Jonathan M. Levine, Assistant Corporate Secretary of ERCOT, do hereby certify that, at its December 9-10, 2021 meeting, the Board passed a motion approving the above Resolution by \_\_\_\_\_\_.

IN WITNESS WHEREOF, I have hereunto set my hand this \_\_\_ day of December 2021.

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Jonathan M. Levine

Assistant Corporate Secretary