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| PGRR Number | [120](https://www.ercot.com/mktrules/issues/PGRR120) | PGRR Title | SSO Prevention for Generator Interconnection |

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| Date | February 7, 2025 |

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| Market Segment | Investor-Owned Utility (IOU) |

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| Comments |

Lone Star appreciates the opportunity to submit comments on Planning Guide Revision Request (PGRR) 120. While Lone Star is fully aware of the reliability risks that Subsynchronous Oscillation (SSO) poses to the system, it believes that a blanket ban by ERCOT on series-compensated lines is not a prudent solution, as several other regions in the U.S. have successfully managed series-compensated lines with effective solutions over the past several decades. Lone Star also supports AEP's comments submitted on Jan 28, 2025, that the risk of Subsynchronous Resonance (SSR) should be reduced by reinforcing the transmission system through increased networking, rather than by canceling the generator interconnection request.

Lone Star proposes the following modifications to PGRR120:

1. Modify the proposed PGRR120 language to include valid exceptions for generators and allow Transmission Service Providers (TSPs) to propose mitigations to eliminate SSO risks without impacting the reliability and economic performance of the system;
2. Propose cost-effective, short-lead-time operational or protection schemes to reduce SSO risk in the near term, and long-term transmission-networking-based solutions to eliminate series compensation, as proposed in a new paragraph (4) of Section 5.2.10.

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| Revised Cover Page Language |

None

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| Revised Proposed Guide Language |

***5.2.10 Subsynchronous Oscillation (SSO) Prevention***

(1) A proposal to interconnect a generator, as described in paragraph (1)(a) or (1)(b) of Section 5.2.1, Applicability, will be subject to cancellation as described in Section 5.2.6, Project Cancellation Due to Failure to Comply with Requirements, if the number of Credible Single Contingencies causing the generator to become radial to a series capacitor(s) post contingency is not greater than one and proposed generators study indicates an unmitigable risk of SSO through studies. Credible Single Contingencies will be determined as follows:

(a) Large generators shall have the number of Credible Single Contingencies that cause a generator to become radial to a series capacitor(s) determined during the topology-check in the Security Screening Study, as described in Section 5.3.1, Security Screening Study.

(b) Small generators shall have the number of Credible Single Contingencies that cause a generator to become radial to a series capacitor(s) determined by the TDSP.

(2) A proposal to modify a generator, as described in paragraph (1)(c) of Section 5.2.1, that is interconnected such that a Credible Single Contingency causes the generator to become radial to a series capacitor(s) shall be allowed only if simulations demonstrate that Subsynchronous Oscillation (SSO) is not observed.

(3) If any SSO is observed during operations, ERCOT may prohibit the generator from operating until it is demonstrated to ERCOT’s reasonable satisfaction that SSO has been fully mitigated.

(4) A Transmission Service Provider (TSP) shall be allowed to provide mitigation to prevent the risk of SSO under the listed configuration in paragraph (1) above. Such mitigations will include, but are not limited to, operational schemes such as breaker configuration, switching mechanisms like the cross-tripping of series capacitors for the credible N-1 condition, the replacement of series capacitors with grid-enhancing technologies such as Smart Wires, TCSC, UPFC, STATCOMs, etc., or eliminating the need for series capacitors via networking with new or existing lines.