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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 | March 14, 2025 |

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| Market Segment | Independent Generator |

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| Comments |

ENEL appreciates the opportunity to submit comments on Planning Guide Revision Request (PGRR) 120. ENEL understand the severity of Subsynchronous Oscillations (SSO) and the impact they can have on transmission infrastructure. However, ENEL believes that a full ban of generation interconnections on series compensated lines with an N-1 configuration radially connected to a Generation Resource is not a reasonable solution to this problem.

In addition to supporting the positions that AEP, Lonestar and Splight presented in their comments on January 28, February 7 and February 13 respectively, ENEL would like to add the following comments for consideration:

1. SSR Study scope review: ENEL believes that the SSR Study scope still leaves room for improvement, to clearly cover specific situations like the one suffered by one of its Plants (Anchor Wind). The project was linked to an SSFR event that was easily reproduced by simulation but never caught during the study phase because it wasn’t part of the cases to be analyzed. The SSFR event could have been prevented if the right mitigating measure had been identified during the study phase.
2. A coordinated implementation of SSO mitigation solutions by Transmission Service Providers (TSPs), where feasible, should be the starting point of a long-term solution of this problem (as proposed by Lonestar on Feb 7), after all conceivable scenarios have been covered during the study phase for all the projects in the area. A complete ban of new generation to remove the risk of potential events, especially where technical and operational solutions to mitigate are available, seems extreme.

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| Revised Cover Page Language |

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| Planning Guide Sections Requiring Revision  | 5.2.10, Subsynchronous Resonance (SSR) Risk Reduction (new) |

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| Revised Proposed Guide Language |

***5.2.10 Subsynchronous Resonance (SSR) Risk Reduction***

(1) A proposal to interconnect a generator, as described in paragraph (1)(a) or (1)(b) of Section 5.2.1, Applicability, will cause that generator to bear the cost of ERCOT and TSP identified SSR mitigation, including but not limited to greenfield transmission, if the number of Credible Single Contingencies causing the generator to become radial to a series capacitor(s) post contingency is greater than zero. 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 Resonance (SSR) is not observed or that generator bears the cost of ERCOT and TSP identified SSR mitigation, including but not limited to greenfield transmission.

(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.