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Introduction

This introduction is not part of IEEE 1547a™-2020, IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces—Amendment 1 to IEEE Std 1547-2018 to provide more flexibility for adoption of abnormal operating performance Category III.

This amendment of IEEE Std 1547™-2018 is intended to maintain harmonization of DER interconnection and interoperability requirements across the jurisdictions applying IEEE Std 1547-2018. Without this amendment, stakeholders in the process of adopting IEEE Std 1547-2018 may be forced to add their own, regionally-specific requirements, which could either complicate or even contradict the requirements specified in IEEE Std 1547-2018. This amendment provides more flexibility for adoption of abnormal operating performance Category III with wider ranges of allowable trip settings for UV1 and UV2 clearing times, and thereby broadens and simplifies the adoption of the standard.

This amendment is anticipated to increase the deployment of DER with Category III capabilities that can provide the highest bulk system reliability, compared to DER that is capable of the lower Category II. This amendment allows for voltage trip clearing times *inside* the ride-through capability regions of Category III-capable DER to achieve safe and reliable coordination of DER ride-through with prevailing distribution protection objectives and practices. The amendment can also lead to increased deployment of DER that address integration issues such as power quality and distribution grid or substation overloads caused by DER tripping in local Area EPS that have very high levels of DER penetration.

The approval and publication dates of this amendment were intended to harmonize with the drafting and application of regional reliability guidelines by regional reliability coordinators in North America ([B1], [B9], [B6], [B7]), and the publication and implementation of test and verification for IEEE Std 1547-2018 compliant DER equipment as specified in a revised IEEE Std 1547.1™.[1,2] Learnings from latest research, leading industry practices, and specific case studies substantiate the need for and direction of this amendment ([B1], [B2], [B3], [B3], [B5], [B8]).

Acknowledgments

Grateful acknowledgements to Electric Power Research Institute (EPRI) for use of Figure H.9.

[1] This may also pertain to certification of inverter-based DER as specified in a revised UL 1741 certification standard.
[2] The numbers in brackets correspond to those of the bibliography in Annex A.

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