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IEEE Guide for Test Procedures for Synchronous Machines Including Acceptance and Performance Testing and Parameter Determination for Dynamic Analysis

STANDARDS

IEEE Power and Energy Society

Developed by the
Electric Machinery Committee

IEEE Std 115™-2019
(Revision of IEEE Std 115-2009)

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IEEE SA Standards Board

Abstract: Instructions for conducting generally applicable and accepted tests to determine the performance characteristics of synchronous machines are contained in this guide. Although the tests described are applicable in general to synchronous generators, synchronous motors (larger than fractional horsepower), synchronous condensers, and synchronous frequency changers, the descriptions make reference primarily to synchronous generators and synchronous motors.

Keywords: acceptance and performance testing, dynamic analysis, IEEE 115™, parameter determination, synchronous machines

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The working group recognizes the contributions made by Prof. Ahmed El Serafi to the standard since 1992. Prof. El Serafi passed away on 9 April 2018.

The following members of the individual balloting committee voted on this guide. Balloters may have voted for approval, disapproval, or abstention.

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Introduction

This introduction is not part of IEEE Std 115-2019, IEEE Guide for Test Procedures for Synchronous Machines Including Acceptance and Performance Testing and Parameter Determination for Dynamic Analysis

IEEE Std 115-2019 incorporates and updates the contents of the 2009 edition.

The first AIEE "Test Code" for Synchronous Machines (#503) was issued in 1945 and formed the basis for the subsequent IEEE Std 115, which was first published in 1965.

The Generator Subcommittee's Working Group (WG) #7, which produced this guide, was formed in July 2015 at the IEEE PES General Meeting, and the Project Authorization Request (PAR) was approved by the IEEE SA Standards Board in December 2015. This PAR included a proposal by the WG to update the entire document to reflect the state-of-the-art practices and technology. All corrections sent by users of the standard to IEEE SA were reviewed by the WG and implemented as needed.

The WG decided to keep the format and titles of the guide the same as in the previous edition.

During editorial review, it was recommended that the working group discontinue the title in two parts and make one title including the previous separate titles.