IEEE

IEEE Guide for Test Procedures for Synchronous Machines

Part I—Acceptance and Performance Testing

Part II—Test Procedures and Parameter Determination for Dynamic Analysis

115™

IEEE Power & Energy Society

Sponsored by the
Electric Machinery Committee

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Approved 9 December 2009

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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, parameter determination, synchronous machines

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Introduction

This introduction is not part of IEEE Std 115-2009, IEEE Guide for Test Procedures for Synchronous Machines: Part I—Acceptance and Performance Testing and Part II—Test Procedures and Parameter Determination for Dynamic Analysis.

IEEE Std 115-2009 incorporates and updates virtually all of the 1995 edition (reaffirmed in 2002).

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 #7, which produced this guide, was formed in June 2005, and the Project Authorization Request (PAR) was approved by the IEEE-SA Standards Board in March 2005 and again in March 2009. This PAR included a proposal by the working group to revise the procedure of 7.3.6 to correct errors in the previous edition, to add a new subclause about vibration testing procedure, and to update the entire document to reflect state-of-the-art practices and technology.

The working group decided to keep the format and titles of the guide the same as the previous edition, i.e., in two parts with the overall title of "Test Procedures for Synchronous Machines" and the following titles for the parts:

- Part I, Acceptance and Performance Testing
- Part II, Test Procedures and Parameter Determination for Dynamic Analysis

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