

IEEE Guide for Electric Power Distribution Reliability Indices

Sponsor

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Abstract: Useful distribution reliability indices, and factors that affect their calculation, are identified. This guide includes indices that are useful today as well as ones that may be useful in the future. The indices are intended to apply to distribution systems, substations, circuits, and defined regions.

Keywords: circuits, distribution reliability indices, distribution systems, electric power, reliability indices

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Introduction

(This introduction is not part of IEEE Std 1366, 2001 Edition, IEEE Guide for Electric Power Distribution Reliability Indices.)

An active committee that saw a need to create indices specifically designed for distribution systems created this guide. Other groups had created indices for transmission and industrial systems, but none were available for distribution. This group will continue working in this area by refining the information contained in this guide.

Participants

At the time this guide was completed, the Task Group on Distribution Reliability Indices and Factors had the following membership:

Cheri Warren, Chair

R.B. Adler
Ronald Ammon
Gene Baker
A. J. Braun
Joseph F. Buch
James J. Burke
Raymond L. Capra
Donald M. Chamberlin
William Day
R. Clay Doyle
Paul Eichin
Dan Flick
George Garner

Thomas J. Gentile*
David Gilmer
Robert Goto
J. J. Grainger
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Vittal Rebbapragada

P. R. Reed
David Russo
Michael Sheehan
Tom Short
John Spare
Anthony St. John
Z. Sumic
Lee Taylor
Betty Tobin
Gregg Vincent
Daniel J. Ward
Carl Warn
Gregory Welch

*Previous Chair

The following members of the balloting committee voted on this guide:

Gene Baker
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Joseph F. Buch
Kris K. Buchholz
James J. Burke
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Turen Gonen
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George E. Hudson
Wasył Janischewskyj
Jurgen O. C. Kansog
Nestor Kolcio
Samy G. Krishnasamy
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Paul E. Orehek
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David Russo
Michael Sheehan
Tom Short
Frank Stepniak
Betty Tobin
Alvaro Torres
J. G. Tzimirangas
Harry T. Vollkommer
Daniel J. Ward
Cheryl A. Warren
Gregory Welch
Arthur C. Westrom

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Donald W. Zipse

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Valerie E. Zelenty
IEEE Standards Project Editor

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Gary S. Robinson
Akio Tojo
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*Member Emeritus

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1. Overview

1.1 Scope

This guide identifies useful distribution reliability indices and factors that affect their calculation. It includes indices that are useful today as well as ones that may be useful in the future. The indices are intended to apply to distribution systems, substations, circuits, and defined regions.

1.2 Purpose

The purpose of this guide is twofold. First, it is to present a set of terms and definitions that can be used to foster uniformity in the development of distribution service reliability indices, to identify factors that affect the indices, and to aid in consistent reporting practices among utilities. Secondly, it is to provide guidance for new personnel in the reliability area and to provide tools for internal as well as external comparisons. In the past, other groups have defined reliability indices for transmission, generation, and distribution but some of the definitions already in use are not specific enough to be wholly adopted for distribution. It is recognized that not all utilities will have the data available to calculate all the indices. However, as systems become more sophisticated, the index calculation will become broader and all of these will be able to be calculated.

2. References

This guide shall be used in conjunction with the following standards. When the following standards are superseded by an approved revision, the revision shall apply.

IEEE Std 100-1996, IEEE Standard Dictionary of Electrical and Electronics Terms.¹

IEEE Std 859-1987 (Reaff 1993), IEEE Standard Terms for Reporting and Analyzing Outage Occurrences and Outage States of Electrical Transmission Facilities.

¹IEEE publications are available from the Institute of Electrical and Electronics Engineers, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331, USA (<http://www.standards.ieee.org/>).