

IEEE Guide for Electric Power Distribution Reliability Indices

IEEE Power & Energy Society

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IEEE Guide for Electric Power Distribution Reliability Indices

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**Transmission and Distribution Committee
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IEEE Power & Energy Society**

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Abstract: Distribution reliability indices and factors that affect their calculations are defined in this guide. The indices are intended to apply to distribution systems, substations, circuits, and defined regions.

Keywords: circuits, distribution reliability indices, distribution systems, electric power, IEEE 1366, reliability indices

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Introduction

This introduction is not part of IEEE Std 1366-2012, IEEE Guide for Electric Power Distribution Reliability Indices.

This guide was originally developed in 1998 to create indices specifically designed for distribution systems. Other groups have 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.

This guide was updated in the 2003 revision to clarify existing definitions and to introduce a statistically based definition for classification of Major Event Days. The working group created a methodology, 2.5 Beta Method, for determination of Major Event Days. Once days are classified as normal or Major Event Days, appropriate analysis and reporting can be conducted.

This 2012 revision of the guide clarified several of the definitions and introduced two new indices. The new indices are CELID-s and CELID-t, customers experiencing long interruption durations (both single and total). A section was also added to explain the investigation of catastrophic days.

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1. Overview

1.1 Introduction

This full-use guide has been updated to clarify existing definitions, introduce two additional reliability indices, and add a discussion of Major Event Days and catastrophic days (see 5.3).

1.2 Scope

This guide identifies distribution reliability indices and factors that affect their calculation. It includes indices, which 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.

1.3 Purpose

The purpose of this guide is twofold. First, it is to present a set of terms and definitions which can be used to foster uniformity in the development of distribution service reliability indices, to identify factors which 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