

GUIDELINES FOR THE MONITORING OF QUALITY RELIABILITY INDEX (QRI) FOR DISTRIBUTION UTILITIES

Pursuant to Section 43 (b) of Republic Act No. 9136, Rule 3 Section 4 (g) of its Implementing Rules and Regulations, and Articles 3.2, 3.3, and 5.2 of the Philippine Distribution Code (PDC), the Energy Regulatory Commission (ERC) hereby adopts and promulgates the following Guidelines for the Enforcement of Quality and Reliability Index.

ARTICLE I

GENERAL PROVISIONS

Section 1. Objectives. These Guidelines shall have the following objectives:

- a) To present a set of terms and definitions which can be used to promote uniformity in the gathering of appropriate data for calculating the Quality Reliability Index, to identify factors which affect the index, and to aid in reliable reporting practices among Distribution Utilities.
- b) To provide tools for comparison of quality of service performance over time for a given Distribution Utility or among Distribution Utilities.

ARTICLE II

SCOPE AND DEFINITION OF TERMS

Section 1. Scope. These Guidelines shall apply to:

- a) Privately-owned Distribution Utilities;
- b) Electric Cooperatives;
- c) Local government unit owned-and-operated Distribution Utilities;
- d) Entities duly authorized to own, operate and maintain Distribution facilities within the economic zones; and

- e) Other duly authorized entities engaged in the Distribution of Electricity.

Section 2. Definition of Terms. As used in these Guidelines, the following terms shall have the following respective meanings:

- (a) **“Distribution System”** refers to the system of wires and associated facilities belonging to a franchised Distribution Utility extending between the delivery points on the transmission, sub-transmission System, or generating plant connection and the point of connection to the premises of the End-User.
- (b) **“Distribution Utility”** refers to any electric cooperative, private corporation, government-owned utility or existing local government unit which has an exclusive franchise to operate a Distribution System in accordance with its franchise and the Act.
- (c) **“Distributor”** has the same meaning as Distribution Utility.
- (d) **“Energy Regulatory Commission” or “ERC”** refers to the regulatory agency created under Republic Act No. 9136.
- (e) **“MAIFI”** refers to the average number of momentary interruptions per year.
- (f) **“Momentary Interruption”** refers to a state of zero voltage of a Component that lasts not more than five (5) minutes.
- (g) **“Power Quality”** refers to the quality of the voltage including its frequency and resulting current, that are measured in the Grid, Distribution System, or any User System.
- (h) **“Reliability”** refers to the probability that a System or Component will perform a required task or mission for a specified time in a specified environment. It is the ability of a power System to continuously provide service to its Customers.
- (i) **“SAIDI”** refers to the average customer-minutes of interruption per customer.
- (j) **“SAIFI”** refers to the average number of sustained interruptions per customer per year.

ARTICLE III

QRI MECHANISM

Section 1. Reliability Performance Targets. The performance targets for SAIFI, SAIDI, and MAIFI that was filed by the Distributor in accordance with Section 1, Article V of the “Guidelines for the Monitoring of Reliability Standards for Distribution Utilities” and approved by the ERC shall be integrated into a Quality Reliability Index (QRI) together with the Distributor’s benchmark for System Performance on Voltage Variation Index (SPVVI).

Section 2. System Performance on Voltage Variation Index (SPVVI). System Performance on Voltage Variation Index (SPVVI) is the average percentage of the number of probability levels below the allowable limit experienced by the Distribution System. It is calculated by dividing the average number of feeders with probability levels below the allowable limit during the period by the total number of feeders in the Distribution System.

Section 3. Benchmark for System Performance on Voltage Variation Index (SPVVI). Each Distribution Utility shall be required to conduct voltage tests at all connection points for each feeder in its Distribution System for the month of December 2004, and submit to the ERC the records using the prescribed Table-1PQ in Annex A of the “Guidelines for the Monitoring of Power Quality Standards for Distribution Utilities”. The data shall be used as the basis for computing the benchmark for the System Performance on Voltage Variation Index (SPVVI).

The benchmark for the SPVVI as computed, shall be integrated into a Quality Reliability Index (QRI) together with the performance targets for SAIFI, SAIDI, and MAIFI that was filed by the Distributor in accordance with Section 1, Article V of the “Guidelines for the Monitoring of Reliability Standards for Distribution Utilities”.

Section 4. Weighting Factors for the Different Indices. The following weighting factors which are based on the impact to the customers shall be applied correspondingly to each index for Reliability and Power Quality:

- a) 25 % for SAIFI
- b) 30 % for SAIDI
- c) 5 % for MAIFI
- d) 40 % for SPVVI

Section 5. Computing the QRI. The QRI which will be used to indicate the annual level of service performance of a Distribution Utility shall be computed by adding all the indices for Reliability and Power Quality with their corresponding weighting factors.

The initial computed QRI shall become the basis for comparison of the service performance of the Distribution Utility or among other Distribution Utilities for the succeeding years.

The QRI shall be adjusted every three years based on the average QRI of the three previous years.

Section 6. Summary of QRI. The ERC shall publish in its web site the summary of the QRI of all Distribution Utilities before the end of the first semester of each year, starting year 2006, for the purpose of comparison of the service performance among Distribution Utilities.

Section 6. Integration of QRI into the PBR Mechanism. The QRI Mechanism will be used to measure the annual power quality and reliability performance of a Distribution Utility. The QRI may later on be integrated into the PBR mechanism that will reward a performance exceeding the benchmark and will penalize a performance below the benchmark.

ARTICLE IV

REPEAL AND SEPARABILITY

Section 1. Repeal and Separability. All existing rules, regulations or orders or any part thereof inconsistent with this Rules are hereby repealed, amended or modified accordingly. If any part or provision of these Rules is declared unconstitutional or illegal, the other parts or provisions shall remain valid.

ARTICLE V
EFFECTIVITY

Section 1. Effectivity. These Rules shall take effect fifteen (15) days after publication in two newspapers of general circulation in the country.

Pasig City, _____, 2004.

RODOLFO B. ALBANO, JR.
Chairman

OLIVER B. BUTALID
Commissioner

JESUS N. ALCORDO
Commissioner

RAUF A. TAN
Commissioner

ALEJANDRO Z. BARIN, JR.
Commissioner

Annex A

Formula for computing the System Performance on Voltage Variation Index (SPVVI).

System Performance on Voltage Variation Index (SPVVI) is the average percentage of the number of probability levels below the allowable limit experienced by the Distribution Utility. It is calculated by dividing the average number of feeders with probability levels below the allowable limit during a period by the total number of feeders in the Distribution System.

$$SPVVI = \frac{F_{BL}}{F_T}$$

Where:

$$F_{BL} = \frac{\Sigma \text{ Feeders with probability levels below the allowable limit}}{2}$$

F_T = total number of feeders in the Distribution System

Formula for computing the QRI. QRI shall be computed by adding all the indices for Reliability and Power Quality with their corresponding weighting factors.

$$QRI = (0.25 \times SAIFI) + (0.30 \times SAIDI) + (0.05 \times MAIFI) + (0.40 \times SPVVI)$$