Florida Public Service Commission

Consumer Bulletin

Braulio L. Baez, Chairman

How Electric Reliability Is Measured

Among the responsibilities of the Florida Public Service Commission is the assurance of reliable, affordable electricity from investor-owned utilities to the state's consumers. In times of skyrocketing oil and natural gas prices, reaching consensus on a definition of the term "affordable" may be a difficult task. On the other hand, most consumers have a clear idea of what reliability means: When they flip a switch and the lights go on, service is reliable.

Absolute reliability is an elusive goal. This is especially true of a system that encompasses more than 130,000 miles of transmission and distribution lines delivering service to more than six million consumers. However, the Public Service Commission has strict accountability standards for reliability for the state's five investor-owned electric utilities.

To insure these accountability standards are met, the Commission's staff routinely compiles data on the number of interruptions and the causes of outages. In addition, audits of utilities are conducted to determine how much companies spend to avoid service interruptions and to identify what additional steps can be taken, when necessary, to prevent further outages.

To understand the methods used by the Commission to measure electric reliability requires a brief introduction to the alphabet soup:

MAIFIe: Momentary Average Interruption Event Frequency Index
What it means: This is a measure of the total number of momentary interruptions relative to the total number of customers served. A momentary interruption is a service disruption lasting less than one minute and is usually far less, like a fraction of a second. These are the interruptions that cause consumers to have to reset their digital clocks, but have little or no lasting effects.

CAIDI: Customer Average Interruption Duration Index
What it means: A measure of the average length of interruptions experienced by a company's individual customers.

SAIDI: System Average Interruption Duration Index
What it means: A measure of the average length of interruptions for all the customers served by a company. In other words, when power is lost, what is the average length of time it stays off?

SAIFI: System Average Interruption Frequency Index
What it means: A way of measuring the average frequency of interruptions to the customer, or, put another way, how often, on average, is power lost?

It is probably important to note that catastrophic events, such as hurricanes, are not included in the indices noted above. In the case of a documented meteorological event that adversely affects the generation of electricity or its transmission to consumers, a utility can petition the Commission to have specific weather-related outages excluded, but there is no guarantee of an outcome favorable decision from the Commission.

So now the jargon used in measuring reliability has been explained, what is the value of these standards in assessing an electric utility's performance? Using these reliability indicators in combination with audits and field assessments by Commission staff can point to specific areas where more attention by the utility may be necessary to improve reliability.

Causes of outages can be identified on a systemic basis and improvement plans can be developed. A common finding, for example, is that a lack of "vegetation management" (commonly referred to as tree trimming) is responsible for outages along specific circuits. There may be a number of reasons why foliage has grown too close to power lines and the fix is relatively simple.

The extent to which a company routinely inspects utility poles to determine which are most susceptible to deterioration and collapse (another cause for interruptions) can be discerned from evaluating reliability indices, as may the need to enhance lightning protection measures.

Other reasons for interruptions may be more difficult to diagnose, such as the animals on poles or along wires, resulting in shorts and the ensuing interruptions.

Whatever the reason for an interruption or a series of interruptions, the diagnostic tools exist to assist the Commission in getting to the root causes of outages. Once the cause is identified, the Commission can work with the service provider to develop a plan to restore the reliable flow of electricity to customers.

Consumers with questions about the reliability of electric service provided by an investor-owned utility can contact the Public Service Commission for answers. The consumer assistance line is 1-800-342-3552. Assistance is also available via e-mail at contact@psc.state.fl.us or through the Commission's website at www.floridapsc.com.

Braulio L. Baez is the Chairman of the Florida Public Service Commission. The PSC sets the rates regulated utility companies charge for natural gas, electric and telephone service within the state. In 36 counties, it sets the price you pay for the water you drink, if your water company is privately owned.