

Indiana Utility Regulatory Commission



Electric Service Quality



George Stevens
Utility Analyst
October 5, 2006





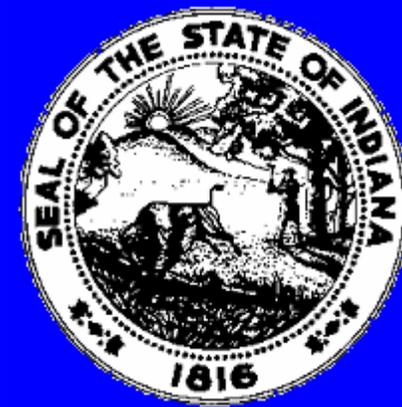
Electric Service Quality

- Service Quality
- Safety
- Statutory Requirement
- Reasonably Adequate Service
- Why Does Service Quality Matter?
- IURC Service Quality Rules (pre 2002)
- IP&L Service Quality Investigation
- IP&L Service Quality Cause No. 41962 (2002)
- IURC Service Quality Workshops(2002-3)
- IURC Service Quality Rule (2004)
- IURC Reliability Indices
- IURC Outage Reporting Rules



Service Quality

- Reliability of electric service to end-use customers
 - residential, commercial, industrial
 - Maintenance of voltage and frequency standards – 60 cycles/second plus/minus 5%, residential voltage plus/minus 5%
 - Interaction between a utility and its customers regarding service outages and emergencies, billing questions, billing disputes
 - Identifiable, measurable utility internal and external service quality standards
 - Informational exchanges between the utility and the regulator regarding outages and day-to-day reliability
 - Complaint procedure in place for resolution of service quality disputes
-



Safety

- Safety is another component of service quality. Indiana public utilities are required to provide reasonably adequate service which is safe and secure. Utilities are required to maintain their equipment in compliance with the National Electrical Safety Code.
- The National Electrical Safety Code is a set of practical rules and standards compiled by engineers and industry representatives to govern the safe installation, operation, and maintenance of electric supply lines and equipment.
- These rules insure the safety of utility employees who may need to make repairs, as well as that of residential, commercial, or industrial customers who may come into contact with downed power lines or other equipment.



Statutory Requirement

Indiana Code § 8-1-2-4

“Every public utility is required to furnish reasonably adequate service and facilities.”



Reasonably Adequate Service

- The Indiana Court of Appeals has said the IURC's purpose is to insure that public utilities provide constant, reliable, and efficient service to its customers, who are the citizens of the State of Indiana.
- Another fundamental concept of reasonably adequate service is that service be provided at nondiscriminatory prices which reflect the utility's actual costs.



Why Does Service Quality Matter?

- Investor owned, for-profit utilities have a vested interest in providing quality service to customers. Interruptions or disconnections in service represent lost revenue.
- Large numbers of customer complaints can draw additional scrutiny from regulators. Poor service quality can become a media issue creating public relations problems for a utility.
- Most importantly, residential, commercial, and industrial customers PAY for a commodity which they demand, and deserve, to have delivered in a safe, efficient, and reliable manner.
- If service is going to be interrupted for an extended period of time, customers expect to know the reasons and the duration. Customers also expect to not be billed for service they did not use or receive.



IURC Service Quality Rules

The IURC has promulgated rules on many issues which impact service quality:

- record retention by utilities
- location, inspection, and repair of meters
- meter accuracy and testing
- bills and billing adjustments
- disconnection and reconnection of service
- customer complaints
- notice to customers of rate changes
- notice to customers of their rights and responsibilities

IP&L Service Quality Investigation



IP&L was in the process of reducing its workforce in the summer of 2001. During this time, heavy summer storms struck the Indianapolis area, leaving thousands of customers without power:

- 7,512 without power for over 48 hours
- 20,706 without power for 36 to 48 hours
- 27,099 without power for at least 24 hours

The utility experienced a ten-fold increase in customer service complaints between July 1, 2001, and July 25, 2001, over its monthly average for the previous two years.

IP&L Service Quality Investigation



- This situation prompted an IURC investigation of all matters relating to Indianapolis Power and Light Company's statutory obligation to provide reasonable service, Cause No. 41962.
- Order issued February 6, 2002



IP&L Service Quality Cause No. 41962

- The order established specific performance measures for IP&L based on average frequency and durations of interruptions in service for customers.
- The utility was also required to answer all telephone calls to its customer call center in an average time of sixty seconds.
- The order also required the utility to report to the IURC on its employment and staffing levels.



IP&L Service Quality Cause No. 41962

- The order established financial penalties for the utility if it did not meet the performance measures: a maximum of 7 million dollars annually or up to 1.75 million dollars each quarter.
- The order also required that IP&L issue a \$100 bill credit to customers who were without service for 36 to 48 hours.
- IP&L voluntarily established a “bonus pool” of money from which to pay \$1,000 to each full-time employee at the end of each year IP&L was not penalized. This provided an excellent incentive for utility employees to work toward exceeding the performance measurements.

IURC Service Quality Workshops



- Indiana electric utilities have increasingly relied on new technology or procedures to maintain electric service quality. However, in 2002 the IURC became concerned that technology and procedures alone may not be enough to maintain electric service quality at the highest possible level. In addition, the IURC wanted the level of reliability to be consistent among electric service providers in Indiana.
- The IURC initiated a series of 5 workshops with electric utilities to address service quality issues, the IURC's new outage reporting process, and the development of reporting criteria for reliability statistics.



IURC Service Quality Workshops

Utilities responded to these and other IURC questions:

- How do utilities identify outages--as momentary or sustained?
- How do utilities respond to and report outages?
- What are utility policies on the use of service crews?
- What information and statistics do utilities collect about outages and customer service requests?
- How do utilities relate the age of equipment to outages?
- What measures do utilities take to ensure public safety with regard to damaged or downed equipment?



IURC Service Quality Rule

- On November 17, 2004, IURC rule 170 IAC 4-1-23 concerning electricity interruptions and outage reporting became effective.
- The rule sets forth specific reporting requirements for all regulated electric utilities when sustained outages occur.
- On March 1 of each year, investor owned utilities must report:
 - CAIDI, SAIDI, AND SAIFI with and without major events;
 - Definition of major events;
 - Number of customers used in the indices calculations; and
 - Definition of customer.
 - Historic data for calculation of these indices shall be maintained for a minimum of seven (7) years.
- REMCs that maintain sufficient electronic records to comply with this rule shall also file a reliability indices report.



IURC Reliability Indices

- CAIDI – Customer Average Interruption Duration Index – Calculated by dividing the summation of sustained service interruptions for a specified period of time by the total number of customers interrupted. This index indicates the average time required to restore a sustained service interruption.
- SAIDI - System Average Interruption Duration Index – Calculated by dividing the summation of sustained service interruption durations for a specified period of time by the total number of customers served. This index indicates the total duration of a sustained service interruption for the average customer during a specified period of time.
- SAIFI - System Average Interruption frequency Index – Calculated by dividing the summation of customers that experienced sustained service interruptions over a specified period of time by the total number of customers served. This index indicates how many sustained service interruptions a customer experiences over a specified period of time.



IURC Outage Reporting Rules

- **Sustained Service Interruption**
 - A service interruption that is greater than or equal to five (5) minutes unless defined as five (5) minutes or less by an individual utility
 - **Reporting Threshold**
 - For investor owned utilities, interruptions of service lasting two (2) hours or more and affecting two percent (2%) or five thousand (5,000) customers, whichever is fewer
 - For REMCs, interruptions of service lasting two (2) hours or more and affecting one thousand five hundred (1,500) or more customers
 - **Reporting Time Intervals/Format**
 - On business days: 6:00 a.m., 9:00 a.m., 11:00 a.m., 2:00 p.m., 4:00 p.m. and 9:00 p.m. Indianapolis time; on non business days: 6:00 a.m., 2:00 p.m., and 9:00 p.m. Indianapolis time
 - Reports shall be submitted electronically using the commission prescribed format
 - See www.cinergy.com/outages/maps/psimap.htm for an example of an outage reporting map.
-



IURC Electric Service Quality

- Discussion
- Questions