# BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

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| In the Matter of an Investigation of<br>Union Electric Company d/b/a/ Ameren UE's<br>Storm Preparation and Restoration Efforts | )<br>)<br>) | **Case No. EO-2008-0218** |

## CONCURRING OPINION OF COMMISSIONER ROBERT M. CLAYTON III

This Commissioner concurs in the Order opening an investigation into the performance of AmerenUE (the utility) in recent storm-related electrical outages. The public deserves an accounting of the utility's performance before, during and after the ice storm that crippled its ability to supply safe and reliable service to its customers in late 2007. This Commissioner supports opening a docket to collect and analyze information that leads to recommendations for improved electric service. It is important that the Commission receive from its staff a full description of events throughout Missouri during the ice storms and further determine whether each electric utility acted appropriately. It is imperative that the Commission critically review those recommendations, critically assess the utility's performance, and, if appropriate, take steps to implement new rulemakings, issue Commission Orders or impose penalties.

### 1. Case Designation

This Commissioner supports opening a formal investigative docket, classified as an "uncontested case," as was done in the AmerenUE investigation, docketed as Case Number EO-2007-0037. This docket is designed to receive the staff report and recommendations. Upon the receipt of that information, including any allegations of rule violations or failure to provide safe and reliable service, the Commission can convert the

case to a contested matter seeking penalties or rulemakings. This Commissioner suggests that an "uncontested" investigative docket or case be established to take testimony and provide a vehicle for a report with recommendations.

Several colleagues suggest that judicial economy encourages combining the investigation and the prosecution into one docket. Yet, the Commission will not be able to act substantively against the utility, regardless of how the case is opened, until the utility has notice of specific examples of rule, Order, or statute violations so that it can respond. Until the Commission receives its staff report, any such case is premature. In addition, an "uncontested" docket can be converted to "contested" status at any time with full notice to all the parties.

Opening a "prosecutorial" contested case with no specific evidence of rule, Order, or statute violation sets a problematic precedent for future action and investigations by the Commission. Today, any customer is free to file a formal complaint and open such a case with a defined request for relief. It diminishes the seriousness of past investigations that were opened as "uncontested" investigations, such as the cases respecting Taum Sauk, the AmerenUE storm outages of 2004, 2005 and 2006, and numerous natural gas explosions that have injured citizens and destroyed property, just to name a few. The time to act substantively is during the evaluation of staff recommendations which may or may not go far enough to address the issues outlined in the opening of the investigation. Clearly written Orders and rules stemming from staff investigations and recommendations set the best policies for improved utility performance.

**2. Need for an Investigation**

This Commissioner does not dispute that the ice storms that affected the region were serious and devastating in many respects, but it is unclear whether the utility is doing enough with regard to its tree trimming and infrastructure inspection programs. Despite state-wide reliability problems highlighted in recent years, this Commission still has no rules in place to bring about any improvement in electric service as it relates to storms and every day reliability.

This investigation should identify the strengths and weaknesses of the utility's programs for tree trimming and infrastructure inspection and replacement programs. Staff should specifically identify what is working in the unique character of the utility's foot print and what is not working. Further, staff should be fully evaluating the utility's efforts at offering reliable service, outside of periods of bad weather, and calculating whether the utility's reliability measurement indices are at levels of excellent performance. This staff report will be useless without such timely information.

There are three rulemakings pending at the present time including rules relating to tree trimming, infrastructure inspection and reporting as well as reliability standards and reporting. Information obtained through this docket should be used to reevaluate how those rules should be drafted. A critical review needs to be made in light of recent outages throughout the state to ensure that our rules are addressing the problems that are identified. This Commissioner has attached his version of the draft rules for consideration in this docket.

This Commissioner requests that staff include in its analysis the following items in its final investigative report. These items were not specifically listed in the majority

Order and warrant specific consideration and attention. This Commissioner requests the staff include responses addressing each issue in no particular order of importance. Staff is requested to include the following in its report:

1) Analysis of the age, siting, durability and quality of the utility's infrastructure, including the placement of distribution lines in light of the ice storm outages of 2007;

2) A comprehensive compliance review of Commission Orders stemming from prior storms and outages applicable to the utility;

3) An analysis of all assistance requested or offered and whether the utility accepted or denied the offers of assistance by other entities;

4) An analysis of the Call Center Operations during the storm and any observations about customer service issues;

5) An analysis of the utility's current tree trimming schedule and input on whether there is the need to amend the current program or consider alternative programs suggested through other Commission cases;

6) An evaluation of the communication, cooperation and assistance between the affected utilities, citizens and city, county and state officials;

7) If any of the utility's service area lost electrical service for a prolonged amount of time, provide an analysis of what caused the prolonged outage;

8) An assessment of the coordination of the efforts to ensure that critical operations facilities such as hospitals, residential care facilities, police and fire department buildings had temporary electric needs satisfied until service from the grid could be restored;

9) An assessment of the interdependence among all PSC certificated utilities as well as with utilities not certificated by the PSC in the affected area;

10) An analysis that includes a comparison of utility performance with other utilities that had significant outages during the same time period;

11) If damage was caused by vegetation, a detailed overview of the type and extent of damage caused by various scenarios including whether the vegetation was located in the easement or right of way, whether the vegetation fell from outside the right of way, whether the vegetation was diseased or particularly weak, whether the vegetation fell vertically from above the electrical conductors and whether the vegetation had been appropriately addressed prior to the storm in

accordance with the utility's vegetation management plan. Further, what percentage of the damage would have been prevented by the utility strictly adhering to its vegetation plan? What percentage of the damage would have been prevented by the utility if strictly adhering to the vegetation management plan proposal attached to this Opinion?

12) If the damage was caused by infrastructure failure aside from vegetation contact, identify more detailed reasons how and why the infrastructure failed, i.e., age, design, etc., and what can be done to strengthen the infrastructure.

13) An analysis of the economic impact on customers who experienced a disruption of power during the ice storms; and

14) Any and all recommendations to improve utility response to weather related and day to day electric outages in the future.

This investigation should be promptly but thoroughly conducted to ensure an accurate, timely response for improving utility performance. The information obtained should remain public so all customers and rate payers affected by the outages can monitor the response.

**3. State-wide Investigation**

This Commissioner believes that this investigation should not be limited to this particular utility. Significant power outages occurred in the service territories of Aquila, KCP&L, Empire and AmerenUE, and the customers in each service area deserve an "accounting" with analysis and study to determine what can be done to prevent or reduce the frequency, duration or extent of future power outages. Because of the state-wide reach of the ice storms, the Commission will have data to compare and contrast the performance of utilities in how their individual infrastructures withstood the storms, how the utility responded and how service was affected by the storms. Dockets relating to each of those utilities have been opened to address those concerns.

**4. Request for Local Public Hearings**

In conclusion, this Commissioner applauds the majority Order which solicits public input through comments to be filed in the case. This Commissioner would further recommend that local public hearings be held in the service area of the utility to ensure that customers have the ability to make any concerns or complaints known. This option was afforded to customers in the St. Louis region and should be afforded to the customers in the utility's area of service affected by power outages. Those customers should be encouraged to provide testimony regarding storm-related power outages as well as general day-to-day reliability.

For the foregoing reasons, this Commissioner concurs.

Respectfully submitted,

Robert M. Clayton III, Commissioner
Dated this 15th day of January 2008.

# Exhibit 1

# Proposed Reliability Standards and Reporting Rule

**DRAFT 08-02-07**

**Reliability Rule**

**4 CSR 240-23.010**

**(1) Purpose and Scope**

This rule sets forth requirements based on a uniform methodology for measuring reliability and ensuring quality of the electric distribution service that is being delivered to Missouri customers by electrical corporations operating in Missouri subject to the Commission's regulatory authority.

**(2) Applicability**

This rule, which include requirements for data maintenance, records retention and service interruption information, establishes standards to measure the reliability of service on an annual and as needed basis under all operating conditions. It is the general obligation of a regulated electrical corporation to provide sufficient resources in order to provide safe, adequate and proper service to its customers. The Commission may also consider other factors in determining whether or not an electric corporation has provided safe and adequate service.

Electric corporations are encouraged to explore the use of proven state of the art technology and to promote distribution reliability service improvements. Finally, this rule also sets forth requirements for the implementation and scope of outage management systems.

**(3) Installation of New Lines**

(A) To the greatest extent possible, consistent with utility easements and applicable law, electrical corporations shall locate all newly installed electrical corporation-owned distribution facilities in subdivisions underground.

(B) Conversion of existing overhead feeder line to underground shall not be required for those new buildings or multiple-occupancy buildings on lots that abut an existing overhead feeder line.

**(4) Definitions**

The following words and terms, as used in this rule, shall have the following meanings, unless the context clearly indicates otherwise.

(A) "Answer" means that an electrical corporation representative, voice response unit, or automated operator system begins to process the call. An acknowledgement that the customer is waiting on the line does not constitute an answer.

(B) "Average System Availability Index" (ASAI) is the ratio of time the system provided service to each customer. ASAI is expressed by the following formula:

ASAI = Total customer hours service was available / Total customer hours service was demanded.

(C) "Benchmark" means the top 25$^{th}$ percentile of CAIDI, CAIFI, SAIDI, SAIFI, and ASAI or a value determined by the Commission.

(D) "Call" means a measurable effort by a customer to obtain a telephone connection whether the connection is completed or not.

(E) "Call blockage factor" means the percentage of calls that do not get answered. The call blockage factor is calculated by multiplying the remainder obtained by subtracting the number of answers from the number of calls by 100 and then dividing that value by the total number of calls.

(F) "Complaint response" or "response" means a communication from the electrical corporation to the customer that identifies the problem and a solution to the complaint.

(G) "Complaint response factor" means the annual percentage of the complaints forwarded to an electrical corporation by the commission that are responded to within the time period prescribed by these rules.

(H) "Corrective action" means the maintenance, repair, or replacement of electric corporation system components and structures to allow them to function safely and reliably.

(I) "Customer Average Interruption Duration Index (CAIDI)" represents the average time in minutes required to restore service to those customers that experienced sustained interruptions during the reporting period. CAIDI is defined as follows:

CAIDI = Sum of customer interruption durations/ Total number of customer interruptions.

(J) "Customer Average Interruption Frequency Index" (CAIFI) represents the average frequency of sustained interruptions for those customers experiencing sustained interruptions during the year. The customer is counted once regardless

of the number of times interrupted for this calculation. CAIFI is expressed by the following formula:

CAIFI = Total number of customer interruptions / Total number of customers interrupted.

(K) "Customers Experiencing Long Interruption Durations8" ('CELID8')" represents the total number of customers that have experienced a cumulative total of more than eight hours of outages.

(L) "Customers Experiencing Multiple Interruptions6 ('CEMI6')" is an index that represents the total number of customers that have experienced nine or more interruptions in a single reporting year. CEMI6 is expressed by the following formula:

CEMI6: total number of customers that experienced more than six (6) sustained interruptions / total number of customers served.

(M) "Distribution circuit" means a three phase set of conductors emanating from a distribution substation circuit breaker serving customers in a defined local distribution area. This includes three phase, two phase and single phase branches.

(N) "Subdivision Distribution systems" refers to terminal poles, manholes, feeder lines, service lines, switchgear, pad-mounted or submersible transformers, and pedestals utilized to provide electric service to subdivisions.

(O) "Electric corporation" means an electrical corporation as defined in § 386.020(15), RSMo. Cum. Supp. 2005.

(P) "Electric distribution system" means that portion of an electric system which delivers electric energy from transformation points on the transmission system to points of connection at the customers' premises.

(Q) "Subdivision Feeder lines" are the portions of single-phase or three-phase circuits extending from terminal poles or manholes at or near the perimeter of the subdivision into and throughout the subdivision, used to provide service within the subdivision and from which the submersible or pad-mounted transformers are energized. Subdivision feeder lines also include that portion of the secondary circuit extending from a transformer to pedestals, but excluding service lines.

(R) "Interruption" means the loss of electric service to one or more customers. See "outage" and "major event." The types of interruption include momentary event, sustained and scheduled.

(S) "Interruption, duration" means the period (measured in minutes, hours, or days) from the start of an interruption of electric service until service is restored to

the customer. An interruption may require step-restoration tracking to provide reliable index calculations.

(T) "Interruption, momentary event" means an interruption of electric service to one or more customers of duration limited to the period required to restore service by an interrupting device. Such switching operations by interrupting devices must be completed in five minutes or less. This includes all reclosing operations which occur within five minutes of the first interruption. For example, if a recloser or breaker operates two, three, or four times and then holds within five minutes, the event shall be considered one momentary event interruption.

(U) "Interruption, scheduled" means an interruption of electric power that results when one or more components are deliberately taken out of service at a selected time, usually for the purposes of preventative maintenance, repair or construction.

1. This interruption does not apply to generation interruptions.

2. To determine if the loss of electric service should be classified as a scheduled interruptions. If it is possible to defer the interruption, the interruption is a scheduled interruption. Scheduled interruptions shall not be included in the SAIDI, SAIFI, CAIDI, CAIFI, and ASAI calculations.

(V) "Interruption, sustained" means an interruption of electric service to one or more customers which is longer than five minutes in duration.

(W) "Interrupting device" means a device capable of being reclosed whose purpose includes interrupting fault currents, isolating faulted components, disconnecting loads and restoring service. These devices can be manual, automatic, or motor operated. Examples include transmission and distribution breakers, line reclosers, motor operated switches, fuses or other devices.

(X) "Major event" means any of the following:

1. A sustained interruption of electric service resulting from conditions beyond the control of the electrical corporation. Causes may include, but are not limited to, thunderstorms, tornadoes, hurricanes, heat waves or snow and ice storms, which affect at least 10 percent of the customers in an operating area. The major event shall be deemed to extend to those other operating areas of that electrical corporation which provide assistance to the affected area(s). The Commission retains authority to examine the characterization of a major event;

2. An unscheduled interruption, which affects one or more customers, of electric service resulting from an action:

a. Taken by an electrical corporation under the direction of an Independent System Operator;

b. Taken by the electrical corporation to prevent an uncontrolled or cascading interruption of electric service; or

c. Taken by the electrical corporation to maintain the adequacy and security of the electric system, including emergency load control, emergency switching and energy conservation procedures;

3. A sustained interruption occurring during an event which is outside the control of the electrical corporation and is of sufficient intensity to give rise to a state of emergency or disaster being declared by State government; and

4. When an electrical corporation provides mutual aid to another electrical corporation or utility, the assisting electrical corporation may apply to the Commission for permission to exclude its sustained interruptions from its SAIDI, SAIFI, CAIDI, CAIFI, and ASAI calculations.

a. Interruptions occurring during a major event in one or more operating areas shall not be included in the electrical corporation's SAIDI, SAIFI, CAIDI, CAIFI, and ASAI calculations of those affected operating area(s). However, interruption data for major events shall be collected, according to the reporting requirements outlined in 4 CSR 240-23.010(11).

(Y) "Minimum bill prorated on a daily basis" means the amount that results from dividing the customer's minimum bill amount by the number of days in the billing period and then by multiplying that quotient by the number of days during which the customer remained out of service.

(Z) "Minimum reliability level" is defined as the minimum acceptable reliability as measured by SAIDI, SAIFI, CAIDI, CAIFI, and ASAI data and outlined in 4 CSR 240-23.010(9). Performance equal to or better than the minimum reliability level is acceptable. Performance worse than the minimum reliability level is unacceptable and may be subject to penalty as permitted under Missouri statutes.

(AA) "Operating area" means a geographical subdivision of each electrical corporation's service area as defined by the electrical corporation. These areas may also be referred to as regions, divisions or districts.

(BB) "Out-of-service" means the current operational status of a component that cannot perform its intended function due to its condition.

1. An out-of-service component may or may not cause an interruption of electric service to customers, depending on system configuration.
2. This definition does not apply to generation equipment.

(CC) "Outage Management System" (OMS) as described under 4 CSR 240-23.010(18).

(DD) "Power quality" means the characteristics of electric power received by the customer, with the exception of interruptions. Power quality characteristics include waveform irregularities and voltage variations--either prolonged or transient. Power quality problems include, but are not limited to, disturbances such as high or low voltage, voltage spikes or transients, flickers and voltage sags, surges and short-time overvoltages, as well as harmonics and noise.

(EE) "Reliability" means providing safe, proper and adequate electric service is supplied to customers without interruption.

(FF) "Same-circuit repetitive interruption" means a grouping of more than 10 customers on a distribution circuit who experience multiple interruptions under all conditions.

(GG) "Service line" is that portion of the distribution circuit extending from a transformer or pole, directly to the point of delivery to the customer at the building or multiple-occupancy building.

(HH) "Service restoration" means that the interruption condition has been corrected and that the interrupted customer(s) have regained normal electric service.

(II) "Step restoration" means the restoration of service to blocks of customers in an area until the entire area or circuit is restored.

(JJ) A "subdivision" is a lot, tract, or parcel of land divided into two or more lots, plots, sites, or other divisions for use for new residential buildings or on which is constructed new multiple-occupancy buildings pursuant to a recorded plat (if recording is required).

(KK) "System Average Interruption Duration Index" (SAIDI) represents the average time each customer experiences a sustained interruption. SAIDI is expressed by the following formula:

SAIDI = total number of customer sustained interruption durations / Total number of customers served.

(LL) "System Average Interruption Frequency Index" (SAIFI) represents the average frequency of sustained interruptions per customer during the reporting period. SAIFI is expressed by the following formula

SAIFI = total number of customer sustained interruptions / total number of customer's served.

(MM) "Total number of customers served" means the number of active metered accounts as of the last day of the prior year or the average of 12 months of active monthly metered accounts. This number generally excludes all street lighting (dusk-to-dawn lighting, municipal street lighting, traffic lights) and sales to other electric utilities.

**(5) Reliability performance levels**

(A) An electrical corporation at year-end shall calculate SAIDI, SAIFI, ASAI, CAIDI, CAIFI, CELID8, and CEMI6 indices, with and without major events:

1. On a system wide basis;
2. For each operating area; and
3. For each distribution circuit.

(B) Data included in the above calculations shall include all interruptions associated with or related to high voltage components (above 600 volts).

**(6) Service reliability**

(A) Each electrical corporation shall have reasonable programs and procedures necessary to maintain the minimum reliability levels for its respective operating areas.

(B) The programs shall be designed to sustain reliability and, where appropriate, improve reliability. Each electrical corporation shall utilize appropriate and qualified resources to maintain at a minimum the minimum reliability levels for its respective operating areas.

(C) Interruptions shall not be reduced by unduly characterizing a sustained interruption as a series of momentary event interruptions. Electric service interruptions shall be reported to Commission staff in accordance with this rule.

**(7) Power quality**

(A) Each electrical corporation shall consider power quality in the design and maintenance of its distribution system components. Each electrical corporation shall mitigate, to the extent feasible and cost effective, power quality disturbances under its control that adversely affect customers' properly designed equipment.

(B) Each electrical corporation shall, as a minimum, maintain a power quality program that includes objectives and procedures. The program shall provide for prompt response to customer reports of power quality problems. The program shall

prevent, mitigate or resolve power quality problems within the electrical corporation's control to the extent feasible and cost-effective.

(C) The electrical corporation's power quality program shall be filed with the Commission by January 31, 2008, and verified by an officer who has knowledge of the matters stated therein.

**(8) Individual circuit reliability performance**

(A) Each electrical corporation shall maintain records of reliability performance levels for each circuit on its system. The SAIDI, SAIFI, CAIDI, CAIFI, and ASAI values shall be calculated for each circuit.

(B) Each electrical corporation shall identify poor performing circuits. A poor performing circuit is one that serves ten or more customers that sustain a SAIDI, SAIFI, CAIDI, ASAI, or CAIFI value for a reporting year that is among the highest (worst) 10% of that EC's circuits each year.

(C) Each electrical corporation shall maintain and operate its distribution system so that no distribution circuit during any two consecutive reporting years exceeds a SAIDI, SAIFI, CAIDI, CAIFI, or ASAI value for a reporting year by more than 300% greater than the electric corporation's total Missouri system wide average of all circuits, or exceed 1.5 times it's respective benchmark set for the system under 4 CSR 240-23.010(9).

(D) Each electrical corporation shall identify and analyze poor performing circuit(s) in accordance with 4 CSR 240-23.010(10)(J).

**(9) Establishment of benchmark service level values**

(A) An electrical corporation's reliability performance level is established as follows:

1. The CAIDI benchmark for the operating areas and the total Missouri system wide area is the top 25$^{th}$ percentile of the best performing electrical corporations and rural electric cooperatives in the prior year's national average or a value determined by the Commission;
2. The SAIDI benchmark for operating areas and the total Missouri system wide area is the top 25$^{th}$ percentile of the best performing electrical corporation and rural electric cooperatives in the prior year's national average or a value determined by the Commission;
3. The SAIFI benchmark for operating areas and the total Missouri system wide area is the top 25$^{th}$ percentile of the best performing electrical corporation and rural electric cooperatives in the prior year's national average or a value determined by the Commission;
4. The CAIFI benchmark for operating areas and the total Missouri system wide area is the top 25$^{th}$ percentile of the best performing electrical corporation and rural electric cooperatives in the prior year's national average or a value determined by the Commission;
5. The ASAI benchmark for operating areas and the total Missouri system wide area is the top 25$^{th}$ percentile of the best performing electrical

corporation and rural electric cooperatives in the prior year's national average or a value determined by the Commission.

(B) When the CAIDI, SAIDI, SAIFI, ASAI, and CAIFI levels of an electrical corporation's operating areas and total Missouri system area do not meet the minimum reliability level, further review, analysis and corrective action are required to explain how to meet and implement the benchmark standard.

(C) The initial minimum reliability is:

1. Total Missouri system wide area CAIDI = 90 minutes, SAIDI = 100 minutes, SAIFI = 1.2 occurrences, and CAIFI = 1.9 occurrences.
2. Operating area CAIDI = 110 minutes, SAIDI = 150 minutes, SAIFI = 1.4 occurrences, and CAIFI = 2.2 occurrences.

(D) The minimum reliability level to be assigned to each operating area shall be reviewed and may be adjusted for subsequent years after consideration of various factors including:

1. A comparison of actual multi-year CAIDI, SAIDI, SAIFI, ASAI, and CAIFI;
2. Trends among indices;
3. The average high and low values of multi-year indices;
4. Local geography, weather and electric system design of an operating area;
5. The relative performance of an operating area in relation to other operating areas of a given electrical corporation's franchise area;
6. A comparison of the performance of all operating areas of all electrical corporation; and
7. A comparison of the performance of the electrical corporation to other states or industry statistics.

**(10) Annual System Performance Report**

(A) Each electrical corporation shall file with the Commission, on January 31st of each year, an Annual System Performance Report (the "Annual Report") verified by an officer who has knowledge of the matters stated therein.

(B) The Annual Report shall include the electric service reliability performance for the electric corporation's system, by operating area and distribution circuit, levels of SAIFI, SAIDI, CAIFI, CAIDI, and ASAI. The report filed on January 31st of each year shall cover the preceding operating year.

(C) The Annual Report shall include a summary of:

1. The electrical corporation's reliability programs, including inspection and maintenance programs;

2. Changes and exceptions to the electrical corporation's current program(s);
3. The electrical corporation's new reliability program(s);
4. The electrical corporation's power quality program
5. Technology initiatives to improve reliability;
6. The number of personnel (broken down by bargaining and non-bargaining unit) in each electrical corporation's operating area(s) and a summary statement referencing each electrical corporation's reliability enhancement training program; and
7. Verification by an officer of the electrical corporation that the electric corporation is funding and addressing, in its business plan, the reliability programs to achieve the benchmark reliability levels and as a minimum to maintain the minimum reliability levels for each operating area.
8. The call blockage factor. If the call blockage factor is more than 5%, then the annual report shall contain a detailed explanation of the steps that the electrical corporation is taking to bring its performance to at least that level.
9. The complaint response factor. If the complaint response factor is less than 90% within 3 business days, then the annual report shall contain a detailed explanation of the steps that the electrical corporation is taking to bring it performance to at least that level.
10. The average customer call answer time. If the average customer call time is 90 seconds or more, then the report shall contain a detailed explanation of the steps that the electrical corporation is taking to bring its performance to at least that level.
11. The service restoration factor for all conditions. If the service restoration factor is less than 90% of customers restored within 36 hours or less, then the report shall contain a detailed explanation of the steps that the electrical corporation is taking to bring its performance to at least that level.
12. The service restoration factor for normal conditions. If the service restoration factor is less than 90% of customers restored within 8 hours or less, then the report shall contain a detailed explanation of the steps that the electrical corporation is taking to bring its performance to at least that level.
13. The service restoration factor for major events. If the service restoration factor is less than 90% of customers restored within 60 hours or less, then the report shall contain a detailed explanation of the steps that the electrical corporation is taking to bring its performance to at least that level.
14. The same-circuit repetitive interruption factor. If the same circuit repetitive interruption factor is more than 5% of circuits experiencing 5 or more same-circuit repetitive interruptions within a 12-month period, then the report shall contain a detailed explanation of the steps that the electric al corporation is taking to bring its performance to at least that level.
15. Identify 2% of distribution feeders or 10 feeders, whichever is more, that have the poorest reliability. The electrical corporation shall identify the

method used to determine the feeders with the poorest reliability and shall indicate any planned corrective actions to improve feeder performance and target dates for completion or explain why no action is required. The electrical corporation shall ensure that feeders, identified as having the poorest reliability, shall not appear in any two consecutive Performance Reports without corrective action.

(D) The Annual Report shall also include statistical tables and charts as follows for electrical corporation reliability performance Statewide and by each operating area and circuit:

1. Current year and ten years of SAIDI, SAIFI, CAIDI, CAIFI, CEMI6, CELID8, and ASAI classified by system, operating area, and circuit; and
2. Ten years of causes of interruptions.

(E) The Annual Report shall provide the Commission with the ability to assess the electrical corporation's efforts to maintain reliable electric service to all customers in the State of Missouri. Such reporting shall include the following items:

1. Current year expenditures, labor resource hours, and progress measures for each capital and/or maintenance program designed to support reliable electric service, overall and broken down into the following components:
    a. Transmission vegetation maintenance;
    b. Transmission maintenance, excluding vegetation, by total, preventive, and corrective categories;
    c. Transmission capital infrastructure improvements;
    d. Distribution vegetation maintenance;
    e. Distribution maintenance, excluding vegetation, by total, preventive and corrective categories;
    f. Distribution capital infrastructure improvements; and
    g. Any related process, practice or material improvements.

(F) The Annual Report shall also include current operations management system (OMS) data to include:

1. Number of outages by outage type;
2. Number of outages by outage cause;
3. Total number of customers at year end;
4. Total number of customers that experienced an outage; and
5. Total customer minutes of outage time.

(G) Causes of interruptions compared to the previous ten-year (10 year) performance. Example of categories to be evaluated include:

1. Ice;
2. Wind;
3. Rain;
4. Customer equipment;

5. Equipment failure;
6. Animals;
7. Human element;
8. Lightning;
9. Loss of supply;
10. Major events;
11. Scheduled outages;
12. Tree contacts; and
13. Unknown.

(H) The Annual Report shall include a summary of each major event.

(I) In the event that an electrical corporation's reliability performance in an operating area does not meet the minimum reliability level for the calendar year, the Annual Report shall include the following:

1. An analysis of the service interruption causes, patterns and trends;
2. A description of the corrective actions taken or to be taken by the electrical corporation and the target dates for completion; and
3. If no corrective actions are planned, an explanation shall be provided.

(J) Each annual report shall, at a minimum, provide the following information for each distribution circuit:

1. Circuit identification number;
2. The location of each distribution circuit;
3. The number of outages and their cause by distribution circuit;
4. The worst performing distribution circuits as set out in 4 CSR 240-23.010(8)(B); and
5. All the circuits that do not meet the standards set out in 4 CSR 240-23.010(8)(C).
    a. For circuits identified under this rule, 4 CSR 240-23.010(10)(J)(4 & 5), the electrical corporation shall indicate any planned corrective action to improve circuit performance and target dates for completion.
    b. The electrical corporation shall ensure that circuits, identified as having the poorest reliability, under either 4 CSR 240-23.010(8)(B) or (C), shall not appear in any two consecutive Annual System Performance Reports without initiated corrective action. If a circuit appears three or more times in any five year period then the Commission may seek penalties against the electric corporation.

(K) Each electrical corporation shall report the age, current conditions, reliability and performance of the jurisdictional entity's existing transmission, distribution facilities and circuits.

(L) Each electrical corporation shall, within 15 business days after filing the annual report, make it available to the public and the media. The electrical corporation shall also make the annual report available on its website.

**(11) Major event report**

(A) The electrical corporation shall, within 15 business days after the end of a major event, file a report to the Commission verified by an officer who has knowledge of the matters stated therein, which shall include the following:

1. The date and time when the electrical corporation's storm center opened and closed;

2. By operating area or distribution circuit, the total number of customers out of service over the course of the major event, by four hour intervals.

3. The date and time when 75%, 95% and 100% of customers affected by a major event were restored;

4. The total number of trouble assignments repaired by facility classifications (poles, miles of wire, transformers)

5. The number of trouble locations and classifications;

6. The total number of customers affected;

7. The location, substation and feeder identifiers of all affected facilities;

8. The total number of customer-minutes of the event (sum of the interruption durations times the number of customers affected)

9. The time at which the mutual aid and non-company contractor crews were requested, arrived for duty and were released, and the mutual aid and non-contractor response(s) to the request(s) for assistance;

10. A timeline profile of the number of company line crews, mutual aid crews, non-company contractor line and tree crews working on restoration activities during the duration of the major event; and

11. A timeline profile of the number of company crews sent to an affected operating area to assist in the restoration effort.

(B) The electrical corporation shall continue to cooperate with any Commission request for information before, during and after a major event.

(C) The electrical corporation is expected to restore service to customers as quickly and safely as permitted by major event conditions.

**(12) Interruptions of service**

(A) Each electrical corporation shall exercise reasonable diligence to avoid interruptions of service and, when such interruptions occur, service shall be restored promptly, in accordance with 4 CSR 240-23.010(13), consistent with safe practice. Each electrical corporation shall keep a record for a period of three year of each reported interruption of service.

(B) Records of the interruptions of service shall be kept in a manner suitable for analysis for the purpose of minimizing possible future interruptions and shall include the time, cause, and duration of the interruptions as well as the remedial action taken.

(C) Interruptions to service made in accordance with provision in interruptible service contracts between the electrical corporation and its customers need not be reported.

**(13) Prompt restoration standards**

(A) Electrical corporations shall begin the restoration of service to an affected operating area within two hours of notification by two or more customers of any loss of electric service affecting those customers served by the same affected distribution circuit protective device within the system. Beginning restoration of service shall be defined as dispatching an individual or crew to an affected area to begin the restoration process.

(B) The electrical corporation shall meet the following restoration standards:

1. Under normal conditions, an electrical corporation shall restore service within 8 hours of notification to not less than 90% of its customers experiencing service interruptions.
2. In response to major events, an electrical corporation shall restore service within 60 hours of notification to not less than 90% of its customers experiencing service interruptions.
3. In the aggregate when responding to both outages during normal conditions and major events, an electrical corporation shall restore service within 36 hours of notification to not less than 90% of its customers experiencing service interruptions.
4. Considering data derived through the amalgamation of data from both normal and catastrophic conditions, an electrical corporation shall not experience not more than four (4) same circuit repetitive interruptions in a 12-month period on more than five percent (5%) of its circuits.

(C) When possible, each electrical corporation shall place the highest priority on responding to emergency (safety) situations and high priority on restoring service to other facilities essential to the public welfare. These priority requests may

come from police, fire, rescue, authorized emergency service providers or public facility operators.

(D) In situations where it is not practicable to respond within two hours to a reported interruption (including but not limited to safety reasons, inaccessibility, multiple simultaneous interruptions, storms or other system emergencies), the electrical corporation shall respond as soon as the situation permits.

**(14) Service Quality Levels of Performance**

(A) An electrical corporation shall meet the following service quality standards:

1. An average customer call time of less than 90 seconds.
2. A call blockage factor of 5% or less.
3. A complaint response factor of 90% or more within 3 business days.
4. An electrical corporation shall have a meter reading factor of 85% or more within the approved period, including customer reads.
5. Complete 90% or more of its is new service installations within 15 business days.

**(15) Customer Credits for Failure to Restore Service Promptly (Major event)**

(A) Unless an electrical corporation requests a waiver pursuant to (§_____) of these rules, an electrical corporation that fails to restore service to a customer within 120 hours after an interruption that occurred during the course of a major event shall provide to any affected customer a bill credit on the customer's next bill. The amount of the credit provided to a residential customer shall be the greater of $25.00 or the customer's monthly customer charge.

**(16) Customer Credits for failure to restore service promptly (normal conditions)**

(A) Unless an electrical corporation request a waiver pursuant to _____ of these rules, an electrical corporation that fails to restore service to a customer within 16 hours after an interruption that occurred during normal conditions shall provide to any affected customer that notifies the electrical corporation of the interruption a bill credit on the customer's next bill. The amount of the credit provided to a residential customer shall be the greater of $25.00 or the customer's monthly customer charge. The amount of the credit provided to any other distribution customer shall be the customer's minimum bill prorated on a daily basis.

**(17) Multiple Billing Credits allowed**

(A) An electrical corporation's obligation to provide a customer with billing credit for one reason does not excuse the obligation to provide an additional billing credit in the same month for another reason.

**(18) Credits for repetitive interruptions same circuit**

(A) Unless an electrical corporation request a waiver from the Commission pursuant to _____, a customer of an electrical corporation that experiences and notifies the electrical corporation of more than 7 interruptions in a 12 month period due to a same-circuit repetitive interruption shall be entitled to a billing credit on the customer's next bill. The amount of the credit provided to a residential customer shall be the greater of $100.00 or the customer's monthly customer charge. The amount of the credit provided to any other distribution customer shall be the customer's minimum bill prorated on daily basis.

(B) Following provision of the billing credit to a customer experiencing more than 7 interruptions in a 12 month period due to a same-circuit repetitive interruption, the electrical corporation s interruption counter shall be reset to zero to ensure that another credit to the customer will be processed only after the occurrence of another 8 interruptions in a 12 month period.

**(19) Outage management systems (OMS)**

(A) Each electrical corporation shall substantially implement the outage management system as described in this section by December 31, 2008.

(B) At a minimum the outage management system shall consist of a fully integrated geographic information system (GIS), a voice response unit (VRU), a software driven outage assessment tool and an energy management system/supervisory control and data acquisition (EMS/ SCADA).

(C) When fully implemented the outage management system shall be able to digitally map the entire electric distribution system, group customers who are out of service to the most probable interrupting device that operated, associate customers with distribution facilities, generate street-map indicating outage locations, dispatch crews and/or troubleshooters via computer (mobile data terminals), the accurately identify the number of customers without electric service, accurately communicate the number of customers without electric service and estimate their expected restoration time, and accurately communicate the number and when customers were restored.

**(20) Filing of an Emergency Operations Plan**

(A) Emergency Operations Plan.

1. **Filing requirements.** By December 31, 2007, each electrical corporation shall file with the commission a general description of its emergency operations plan verified by an officer who has knowledge of the matters stated therein. The electrical corporation's senior operations officer shall verify that all relevant operating personnel within the electrical corporation are familiar with the plan,

and will follow the plan and its provisions in the event of a system or local emergency. Each time an electrical corporation updates its plan, it shall file with the commission, a description of the updates to the plan at least 30 days before such changes take effect.

2. **Copy available for inspection.** A general description of the plan shall also be made available at the electrical corporation's main office for inspection by the public.
3. **Information to be included in the plan.** Each electrical corporation's emergency plan must include, but need not be limited to, the following:
    a. A registry of critical loads directly served by the electrical corporation. This registry shall be updated as necessary, but not less often than annually. The description of the plan filed with the commission shall include the location of the registry, how the electrical corporation ensures that it is maintaining an accurate registry, how the electrical corporation will provide assistance to critical load customers in the event of an unplanned outage, how the electrical corporation intends to communicate with the critical load customers, and how the electrical corporation is training its staff with respect to serving critical customers and loads
    b. A communications plan that describes the procedures for contacting the media, customers and critical loads directly served by the electrical corporation as soon as reasonably possible either before or at the onset of an electrical emergency. The communications plan should also address how the electrical corporation's telephone system and complaint-handling procedures will be augmented during an emergency. Electrical corporations should make every reasonable effort to solicit help from cogenerators and independent power producers during times of generation shortages to prevent interruptions in service;
    c. Curtailment priorities and procedures for shedding load and rotating black-outs;
    d. Priorities for restoration of service;
    e. A summary of power plant weatherization plans and procedures; and
4. A summary of the electrical corporation's alternative fuel and storage capacity.

**(21) Penalties, Fines, Sanctions and/or Ratemaking Disallowances**

(A) Failure to comply with any provision of this rule may subject the violator to penalties, fines, sanctions and /or ratemaking disallowances in accordance with the Commission's statutory authority. No penalties, fines, sanctions and/or ratemaking disallowances shall be imposed for violations of this rule for a period of six months from the effective date of this rule.

(B) An electrical corporation that violates this rule may be subject to a penalty of not less than one hundred dollars ($100.00) and not more than two thousand dollars ($2,000.00) per day per violation, for each day the violation occurs as permitted under Missouri Statutes. The Commission shall notify the electrical corporation of the violation(s) in writing. Upon receipt of the written notice of violation, the electrical corporation shall

have five business days to correct the violation(s). Any failure to correct the violation may subject the electrical corporation to a penalty of not less than $100.00 per day for each violation, calculated from the day such written notice was received by the electrical corporation.

(C) The Commission may consider violations of this rule as a relevant factor in setting rates for the electrical corporation in a case where the Commission is examining the propriety of the electrical corporation's rates.

(D) Penalties, fines, sanctions and/or ratemaking disallowances imposed for violations of this rule are in addition to, not a replacement for, other penalties, fines and/or sanctions that apply under other State laws and regulations and under Federal laws and regulations.

(E) In determining the appropriate penalties, fines, sanctions and/or ratemaking disallowances for violation of this rule, the Commission shall consider the following criteria, and any other factors deemed appropriate and material to the electrical corporation's delay or failure to comply:

1. The good faith efforts, if any, of the electrical corporation in attempting to comply with this rule;
2. The gravity of the violation;
3. The number of past violations by the electrical corporation, including violations of this rule, as well as of other standards, guidelines and procedures adopted by the Commission;
4. The appropriateness of the sanction(s) in light of the size of the electrical corporation;
5. Events judged by the Commission to be beyond the control of the electrical corporation; and
6. Mitigating factors.

**(22) Variances**

A variance from a provision of this rule may be granted only for good cause shown.

# Exhibit 2

# Infrastructure Inspection and Reporting Rule

**Title 4—DEPARTMENT OF ECONOMIC DEVELOPMENT**
**Division 240—Public Service Commission**
**Chapter 23—Electric Utility Operational Standards**

**PROPOSED RULE**

**4 CSR 240-23.020 Electrical Corporation Infrastructure Standards**

*PURPOSE: This rule establishes the minimum requirements for the distribution and transmission facilities of electrical corporations as defined in section 386.020(15), RSMo Cum. Supp. 2006 regarding inspection (including maximum allowable inspection cycle lengths), condition rating, scheduling and performance of corrective action, record keeping, and reporting, in order to strive to achieve safe, reliable, and high-quality electrical service. These requirements shall be based on factors such as applicable industry codes, national electric industry practices, manufacturer's recommendations, sound engineering judgment and past experience.*

(1) Applicability. This rule applies to all electrical corporations as defined in section 386.020(15), RSMo Cum. Supp. 2006.

(2) Definitions. For the purpose of this rule:

(A) Corrective action means permanent maintenance, repair, or replacement of electrical corporation equipment and structures so that they function properly and safely;

(B) Detailed inspection means an inspection where individual pieces of equipment and structures are carefully examined, visually and through use of routine diagnostic testing, as appropriate, and (if practical and if useful information can be so gathered) opened, and the condition of each rated and recorded. This definition does not prohibit each electrical corporation from designing its own detailed inspection process and rating system for each type of equipment, in addition to the requirements of this rule;

(C) Intrusive inspection means an inspection involving movement of soil, taking samples for analysis, and/or using more sophisticated diagnostic tools beyond visual inspections or instrument reading;

(D) Operating area means a geographical subdivision of each electrical corporation's franchise territory as defined by the electrical corporation. These areas may also be referred to as regions, divisions or districts;

(E) Patrol means a simple visual inspection, of applicable electrical corporation equipment and structures, which is designed to identify obvious structural problems and hazards. Patrols may be carried out in the course of other electrical

corporation business;(F) Remedial Action means immediate action taken to eliminate an imminent hazard to person or property. Remedial action may be temporary, pending permanent corrective action. Remedial action may include the temporary interruption of service.
(G) Rural shall be defined as those areas where there are less than thirty-five (35) customers per circuit mile; (H) Underground Network means an electrical distribution system typically located in manholes, vaults, tunnels, and other underground structures. An underground network typically serves the central portion of a large metropolitan area.
and
(I) Urban shall be defined as those areas where there are thirty-five (35) or more customers per circuit mile.

(3) Standards for Inspection, Record keeping, and Reporting.
(A) Each electrical corporation subject to this rule shall conduct inspections of its distribution and transmission facilities, as necessary, to assure reliable, high-quality, and safe operation, but in no case may the period between inspections (measured in years) exceed the time specified in the table, included herein, titled "Electrical Corporation System Inspection Cycles (Maximum Intervals in Years)."
(B) Each electrical corporation subject to this rule shall file at the commission by no later than April 1, 2008, compliance plans for the inspections and record keeping required by this rule, with verification by affidavit of an officer who has knowledge of the matters stated therein. These compliance plans will include the proposed forms and formats for annual reports and source records, as well as the electrical corporation's plans for the types of inspections and equipment to be inspected during the coming year. For detailed and intrusive inspections, schedules should be detailed enough (in terms of the months of inspection and the circuit, area, or equipment to be inspected) to allow commission staff to confirm that scheduled inspections are proceeding as planned. For patrol inspections, electrical corporations should explain how all required facilities will be covered during the year. The energy department or any successor staff departments may prescribe changes relating to reporting and record keeping formats and forms when and as necessary as approved by the commission if the electrical corporation does not voluntarily agree to the changes requested by staff. None of these changes may conflict with the requirements of this rule unless specifically approved by the commission through a variance.
(C) Each electrical corporation subject to this rule shall file at the commission an annual report detailing its compliance with this rule, with verification by affidavit of an officer who has knowledge of the matters stated therein. The first report required under this section shall be filed with the commission by no later than July 1, 2009. Each electrical corporation shall file subsequent annual reports for every following year by no later than July 1. The report shall identify the number of facilities, by type, which have been inspected during the previous period. It shall identify those facilities which were scheduled for inspection but which were not inspected according to schedule and shall explain why the inspections were

not conducted, and a date certain by which the required inspection will occur. The report shall also present the total and percentage breakdown of equipment rated at each condition rating level, including that equipment determined to be in need of corrective action. Where corrective action was scheduled during the reporting period, the report will present the total and percentage of equipment which was and was not corrected during the reporting period. For the latter, an explanation will be provided, including a date certain by which required corrective action will occur. The report will also present totals and the percentage of equipment in need of corrective action, but with a scheduled date beyond the reporting period, classified by the amount of time remaining before the scheduled action. All of the above information shall be presented for each type of facility identified in the table, included herein, titled "Electrical Corporation System Inspection Cycles (Maximum Intervals in Years)" and shall be aggregated by operating area. If periodic reporting of infrastructure inspection results is required by another agency, those reports will also be filed at the commission.

(D) The electrical corporation shall maintain records of inspection activities which shall be made available to commission staff for inspection pursuant to section 393.140, RSMo Cum. Supp. 2000 and 4 CSR 240-10.010.

(E) For all inspections, within a reasonable period, electrical corporation records shall specify the circuit, area, or equipment inspected, the date of the inspection, and any problems identified during each inspection, as well as the scheduled date of corrective action. For detailed and intrusive inspections, electrical corporations shall also rate the condition of inspected equipment. Upon completion of corrective action, electrical corporation records will show the nature of the work and the date the work was performed.

(F) Where facilities are exposed to extraordinary conditions or when an electrical corporation has demonstrated a pattern of non-compliance with Commission Safety Standards, 4 CSR 240-18; Electrical Corporation Infrastructure Standards, 4 CSR 240-23.020; or any other rules relating to electrical system reliability, the commission may require a shorter interval between inspections.

(G) The electrical corporation shall conduct an annual review of inspection cycle results to determine if efficiencies could be realized by modifying inspection intervals, without reducing service quality, reliability, or safety. A variance, in accordance with Section (5) of this rule, shall be submitted to modify inspection intervals.

(H) Commission staff shall review each electrical corporation's annual report and shall inspect and verify that the electrical corporation is in compliance with this rule.

(I) If the electrical corporation discovers, or should have discovered, upon inspection as required under this rule, or the electrical corporation is otherwise given notice that corrective action of an electrical corporation's facility is required due to standards to be exercised by a prudent electrical corporation, then the electrical corporation shall take such corrective action within a reasonable period of time. If harm to person or property is possible if corrective action is not taken, then remedial action shall be taken immediately.

(4) Penalties, Fines, Sanctions and/or Ratemaking Disallowances.

(A) Failure to comply with any provision of this rule may subject the violator to penalties, fines, sanctions and/or ratemaking disallowances in accordance with the commission's statutory authority (Section 386.570.1, RSMo. Cum. Supp. 2006). No penalties, fines, sanctions and/or ratemaking disallowances shall be commenced or prosecuted for violations of this rule for a period of six (6) months from the effective date of this rule.

(B) An electrical corporation that violates this rule may be subject to a penalty of not less than one hundred dollars ($100) and not more than two thousand dollars ($2,000) per day per violation, for each day the violation occurs as permitted under Missouri statutes. The commission shall notify the electrical corporation of the violation(s) in writing.

(C) The commission may consider violations of this rule as a relevant factor in setting rates for the electrical corporation in a case where the commission is examining the propriety of the electrical corporation's rates.

(D) Penalties, fines, sanctions and/or ratemaking disallowances imposed for violations of this rule are in addition to, not a replacement for, other penalties, fines and/or sanctions that apply under other state laws and regulations and under federal laws and regulations.

(E) In determining the appropriate penalties, fines, sanctions and/or ratemaking disallowances for violation of this rule, the commission shall consider the following criteria, and any other factors deemed appropriate and material to the electrical corporation's delay or failure to comply:

1. The good faith efforts, if any, of the electrical corporation in attempting to comply with this rule;
2. The gravity of the violation;
3. The number of past violations by the electrical corporation, including violations of this rule, as well as of other standards, guidelines and procedures adopted by the commission;
4. The appropriateness of the sanction(s) in light of the size of the electrical corporation;
5. Events judged by the commission to be beyond the control of the electrical corporation; and
6. Mitigating factors.

(5) Variances. A variance from a provision of this rule may be granted only for good cause shown. Nothing in this rule shall prevent an electrical corporation from proposing and the Commission from approving an alternative infrastructure inspection program varying from the table, included herein, titled "Electrical Corporation System Inspection Cycles (Maximum Intervals in Years)" if the electrical corporation can establish that the alternative infrastructure inspection program has previously produced greater reliability performance than what would be produced under this rule or that the alternative infrastructure inspection program shall produce greater reliability performance in the future than what would be produced under this rule.

## Electrical Corporation System Inspection Intervals
**(Maximum intervals in Years)**

| | Automated with Real-Time Monitoring | Patrol | | Detailed | | Intrusive | | Notes |
|---|---|---|---|---|---|---|---|---|
| | | Urban | Rural | Urban | Rural | Urban | Rural | |
| **Poles/Overhead Structures** | | | | | | | | |
| Wood | --- | 2 | 3 | --- | --- | 12 | 12 | Note 1 |
| Non-wood | --- | 2 | 3 | 12 | 12 | --- | --- | Note 2 |
| | | | | | | | | |
| **Conductors, Transformers, Reclosers, Regulators, Capacitors, Switching/Protective Devices, and Streetlighting** | | | | | | | | |
| Overhead | --- | 2 | 3 | 6 | 6 | --- | --- | |
| Overhead (with real-time monitoring) | Continuous | --- | --- | 12 | 12 | --- | --- | |
| | | | | | | | | |
| Underground-direct buried and conduit | --- | 2 | 3 | 6 | 6 | --- | --- | Note 3 |
| Underground-direct buried and conduit (with real-time monitoring) | Continuous | --- | --- | 12 | 12 | --- | --- | Note 3 |
| | | | | | | | | |
| Underground Networks | --- | 1 | --- | 2 | --- | --- | --- | |
| Underground Networks (with real-time monitoring) | Continuous | --- | --- | 12 | --- | --- | --- | |
| | | | | | | | | |
| **Manholes, vaults, tunnels, and Other underground structures** | --- | 1 | 1 | 2 | 2 | --- | --- | |
| | | | | | | | | |

| |
|---|
| Note 1: No intrusive inspection required for first 12 years after installation, however, intrusive inspection required between years 12<br>and 18. For poles/structures greater than 12 years of age at inception of program, intrusive inspections must be completed within 12 years. |
| Note 2: No detailed inspection required for first 12 years after installation, however, detailed inspection required between years 12<br>and 18. For poles/structures greater than 12 years of age at inception of program, detailed inspections must be completed within 12 years. |
| Note 3: Some components of underground-direct buried and conduit distribution systems are above ground (e.g., pad-mounted transformers, pad-mounted switches, pad-mounted reclosers, secondary pedestals, etc.) The inspection intervals also apply to these above ground devices. These inspection requirements do not apply to direct-buried cable or cable installed in underground conduit. |

# Exhibit 3

# Vegetation Management Standards and Reporting Rule

Title 4-DEPARTMENT OF ECONOMIC DEVELOPMENT
Division 240 - Public Service Commission
Chapter 23 - Electric Utility Operational Standard

PROPOSED RULE

4 CSR 240-23.030
Electrical Corporation Vegetation Management Standards and Reporting Requirements.

(1) Definitions. The following words and terms, when used in this rule, shall have the following meaning unless the context clearly indicates otherwise.

(A) Arboriculture means the cultivation of trees, shrubs and other woody plants.

(B) Agricultural crop means a cash crop which is sold for money.

(C) Border zone means the space from the edge of the wire zone, as defined herein, to the outer boundary of the right-of-way.

(D) Contractor means a person or entity, other than the commission, with which electrical corporation contracts to perform work, furnish information and/or material. This term includes all subcontractors engaged by a contractor to perform any of the obligations required by contract.

(E) Distribution line means a primary electric voltage line, wire or cable, including supporting structures and appurtenant facilities, which deliver electricity from transformation points on the transmission system to points of connection at a customer's premises that would not be considered a transmission line as set forth in this definition section.

(F) Energized conductor means an electric circuit or equipment through which electricity is flowing or usually flows within the transmission or distribution system.

(G) Electrical corporation means electrical corporation as defined in Section 386.020(15), RSMo Cum. Supp. 2005.

(H) Electric utility arborist means a person that has been certified as a Utility Specialist by the International Society of Arboriculture.

(I) Grass means a type of plant with jointed stems, slender flat leaves and spike-like flowers.

(J) Major event means any of the following:

A sustained interruption of electric service resulting from conditions beyond the control of the electrical corporation, which may include, but is not limited to, thunderstorms, tornadoes, hurricanes, heat waves or snow and ice storms, which affect at least ten (10) percent of the customers in an operating area. Due to an electrical corporation's documentable need to allocate field resources to restore service to affected areas(s) when one operating area experiences a major event, the major event shall be deemed to extend to those other operating areas of that electrical corporation which are providing assistance to the area(s) affected by the major event. The commission retains authority to examine the characterization of a major event;

2. An unscheduled interruption of electric service resulting from an action:

A. Taken by an electrical corporation under the direction of an independent system operator or regional transmission organization;

B. Taken by the electrical corporation to prevent an uncontrolled or cascading interruption of electric service; or

C. Taken by the electrical corporation to maintain the adequacy and security of the electric system, including emergency load control, emergency switching and energy conservation procedures, which affects one or more customers;

3. A sustained interruption occurring during an event which is outside the control of the electrical corporation and is of sufficient intensity to give rise to a state of emergency or disaster being declared by State government.

(K) Operating Area means a geographical subdivision of each electrical corporation's franchise territory as defined by the electrical corporation. These areas may also be referred to as regions, divisions or districts.

(L) Readily climbable means vegetation having both of the following characteristics:

1. Low limbs, accessible from the ground and sufficiently close together so that the vegetation can be climbed by a child or average person without using a ladder or other special equipment; and
2. A main stem or major branch that would support a child or average person either within arms' reach of an uninsulated energized electric line or within such proximity to

the electric line that the climber could be injured by direct or indirect contact with the line.

(M) Right-of-way means less than fee interest in property, which gives a public utility a limited right to use land owned by another person or entity for the purpose of transmitting or distributing electricity. This right is typically memorialized in an easement. This term also includes the parcel of land for which a public utility holds a right-of-way or easement.

(N) Transmission line means an electrical line, wire or cable, (including the supporting structures) and appurtenant facilities which transmits electricity from a generating plant to electric distribution lines. An electric transmission line usually has a rating exceeding sixty-nine (69) kilovolts.

(O) Tree means a perennial woody plant with a main trunk and branches forming a distinct elevated crown at a height exceeding three (3) feet at maturity.

(P) Vegetation means trees, shrubs and other woody plants.

(Q) Vegetation management means the removal of vegetation or the prevention of vegetative growth, to maintain safe conditions around energized conductor(s) and ensure reliable electric service. Vegetation management consists of biological, chemical, cultural, manual and mechanical methods to control vegetation in order to prevent hazards caused by the encroachment of vegetation on energized conductor(s), and to provide utility access to the conductor.

(R) Volts means nominal voltage levels, measured phase-to-phase.

(S) Wire zone means the land located directly under the widest portion of a transmission line. The wire zone is bounded on each side by a location on the ground that is directly under the outermost transmission wire.

(T) Woody plant means any vascular plant that has a perennial woody stem and supports continued vegetative growth above ground from year to year and includes trees.

(2) General provisions

(A) An electrical corporation shall ensure that vegetation management is conducted in accordance with this rule on energized conductors of six hundred (600) volts and higher, whether for distribution or transmission, that the electrical corporation owns, in whole or in part.

(B) Each electrical corporation shall obtain, and shall ensure that its contractors obtain, all required permits and licenses prior to commencement of vegetation management.

(C) An electrical corporation that utilizes chemical or biological agents in vegetation management shall comply with any laws or regulations governing the use of those biological and chemical agents.

(D) Each electrical corporation shall employ a vegetation manager, who is an electric utility arborist, as defined in section 1 . The vegetation manager shall be an employee of the electrical corporation, not a contractor. The electrical corporation shall provide the vegetation manager with the authority and the resources to administer all aspects of the electrical corporation's vegetation management program, and the vegetation manager shall ensure that the electrical corporation complies with this rule. The vegetation manager's name and contact information shall be posted on the electrical corporation's web site and shall be included on all notifications provided pursuant to the notice requirements of section 6.

(E) Each electrical corporation shall ensure that all contractors hired to perform vegetation management inform its workers of all applicable federal, state, county, and municipal laws, rules or regulations that apply to the work performed under this rule. The electrical corporation shall also ensure that all contractors comply with each applicable requirement of this rule.

(F) An electrical corporation that performs vegetation . management at the request of a municipality or government agency, other than vegetation management required under this rule, may require the requesting party to pay any cost above the electrical corporation's cost to perform the vegetation management required by this rule. An electrical corporation shall not perform such additional vegetation management if the additional vegetation management would decrease the reliability or safety of an energized conductor.

(G) Upon a written request from a municipality, the commission may authorize an electrical corporation to temporarily suspend compliance with one or more of the vegetation management requirements of this rule, within the following limits:

1. The suspension of compliance shall apply only to the distribution system, and shall not apply to vegetation management under transmission lines;

2. The suspension of compliance shall apply only to those portions of a distribution system that are located within the municipality, and that do not affect service to any adjacent municipality;

3. The electrical corporation shall not suspend compliance with any requirement if the suspension would result in danger to the public; and

4. If the suspension results in additional costs to the electrical corporation due to lack of tree trimming, the municipality shall reimburse the electrical corporation for these costs.

(H) An electrical corporation may seek recovery in rates of the distribution and transmission portion of vegetation management program costs required under this rule in future rate proceedings. However, the commission may deny recovery in future rate proceedings of costs an electrical corporation incurs due to a delay in implementing a tree trimming program or costs associated with meeting compliance standards after failure to achieve the standards. Upon a showing of good cause by the electrical corporation for the delay or the failure to meet the compliance standards, the commission may allow such recovery.

(I) Upon an electrical corporation's receiving notice of, or having actual knowledge of, any dead, rotten, or diseased vegetation which overhangs, leans toward, or may fall into an energized conductor or guy, the electrical corporation shall promptly remove or remedy the potential safety concern. If removal of the vegetation requires the electrical corporation to access or cross property for which it does not hold an easement or other legal authorization, the electrical corporation shall take all reasonable steps to obtain any necessary permission from the property owner and remove or remedy the potential safety concern as promptly as possible. In response to a major event, the electrical corporation will only be required to remedy the potentially dangerous condition.

(3) Maintenance cycle.

(A) An electrical corporation shall perform a visual inspection at least once every two (2) years of all energized conductors, to determine whether vegetation management is needed. Where vegetation is close enough to pose a threat to its energized conductors, the electrical corporation shall perform vegetation management. The visual inspection may be performed' from the ground except in cases where the conductor is not visible from the ground. The electrical corporation shall take into account the height of the vegetation and the distance of the vegetation from the energized conductor, in determining whether vegetation management is needed. Vegetation management performed along a circuit in compliance with this rule shall meet this two (2) year visual inspection requirement.

(B) In addition to the maintenance required in (A) above, if an electrical corporation becomes aware either through notification or during the inspections required under (A) above or at any other time, of any vegetation close enough to pose a threat to its energized conductor, which is likely to affect reliability or safety prior to the next required vegetation management, the electrical corporation shall ensure that necessary vegetation management is promptly performed as required under section 4.

(4) Technical standards for vegetation management.

(A) Each electrical corporation shall ensure that vegetation management conducted on its energized conductors is performed in accordance with the standards, guidelines and procedures set forth in this rule, which includes to the extent not otherwise inconsistent with this rule, the following publications:

1. Pruning Trees Near Electric Utility Lines, by Dr. Alex L. Shigo. This publication may be available from Shigo and Tree Associates, P.O. Box 769, Durham, New Hampshire 03824;

2. Part 1 of the document entitled Tree, Shrub, and Other Woody Plant Maintenance-Standard Practices. This document, also known as ANSI A300, is published by the American National Standards Institute;

3. Best Management Practices, Utility Pruning of Trees, 2004. This title is published by the International Society of Arboriculture;

4. Environmental Stewardship Strategy for Electric Utility Rights-of-Way, (2002). Thistitle is published by the Edison Electric Institute Vegetation Management Task Force;

5. Pruning, Trimming, Repairing, Maintaining, and Removing Trees, and Cutting Brush-Safety Requirements, 1994. This document, also known as ANSI Z133.1, is published by the American National Standards Institute;

6. Native Trees, Shrubs And Vines For Urban And Rural America: A Planting Design Manual for Environmental Designers, by Hightshoe, G.L., 1987, is published by John Wiley and Sons;

7. Manual of woody landscape plants 5th Ed., by Michael A. Dirr. Stipes Publishing, LLC; 5th edition (August, 1998);

8. Hortus Third: A concise dictionary of plants cultivated in the United States and Canada, by L.H. Bailey Hortorium, 1976; and

9. National Electric Safety Code as referred to in 4 CSR 240-18.

(B) Where multiple standards, guidelines and procedures listed at (A) above would apply or conflict, the vegetation manager, or his or her designee, shall select the most appropriate standard, guideline or procedure.

(C) Each electrical corporation shall develop its own vegetation management standards, guidelines and procedures, which shall be consistent with this rule. In developing these standards, guidelines and procedures, an electrical corporation shall prioritize its vegetation management based upon:

1. The extent of the potential for vegetation to interfere with the energized conductor; and

2. The voltage of the affected energized conductor; and the relative importance of the affected energized conductor in maintaining safety and reliability.

(D) Each electrical corporation shall file a copy of its vegetation management standards, guidelines and procedures at the commission by January 1, 2008, with verification by affidavit of an officer who has knowledge of the matters stated therein. If an electrical corporation makes a change in its vegetation management standards, guidelines or procedures, it shall file a copy of the change at the commission no later than thirty (30) days prior to implementing the change, with verification by affidavit of an officer who has knowledge of the matters stated therein.

(E) Each electrical corporation's vegetation management standards, guidelines and procedures shall cover, at a minimum, all of the following activities:

1. Tree pruning and removal;

2. Vegetation management around poles, substations and energized conductors;

3. Manual, mechanical, or chemical vegetation management along rights-of-way;

4. Inspection of areas where vegetation management is performed, both before and after the vegetation management;

5. Research and development of improved vegetation management; and

6. Public education.

(F) Among the factors the electrical corporation shall consider in determining the extent of vegetation management to be performed at a particular site are:

1. The rate at which each species of vegetation is likely to grow back;

2. The voltage of the energized conductor, with higher voltages requiring larger clearances, including but not limited to:

A. Location;

B. Configuration; and

C. Sag of conductors at elevated temperatures and under wind and ice loading, and growth habit, strength, and health of vegetation growing adjacent to the conductor with the combined displacement of the vegetation, supporting structures, and conductors under adverse weather or routine wind conditions;

3. The potential movement of the energized conductor during various weather conditions;

4. The potential movement of trees or other vegetation during various weather conditions; and

5. The electrical corporation's legal rights to access the area where vegetation management is to be performed.

(G) The electrical corporation shall remove all trimmings and cut vegetation resulting from vegetation management that are part of the electrical corporation's regular maintenance cycle, within five (5) business days after the vegetation was cut, except if:

1. The electrical corporation obtains consent from the owner of the property upon which the trimmings or cut vegetation are located to leave the trimmings or cut vegetation; or

2. The vegetation management is performed as a direct result of a major event, in which case the electrical corporation shall remove the trimmings and cut vegetation that was cut or trimmed as part of its vegetation management activities after the conclusion of the major event.

(5) Transmission line vegetation management.

(A) In addition to the other requirements of this rule, transmission lines, as defined at section 1, are subject to the requirements in this section.

(B) In addition to meeting the other requirements in this section, each electrical corporation shall ensure that the following requirements for transmission lines are met:

1. Clearing under and over transmission lines shall be wide enough so that no vegetation or parts of vegetation will grow or fall into the transmission lines prior to the next scheduled vegetation management cycle;

2. An electrical corporation shall not allow any vegetation that grows taller than fifteen (15) feet at maturity to grow anywhere within a transmission line right-of-way;

3. Landowners and political subdivisions may request the right to allow woody plants that naturally mature above three (3) feet tall to grow in the wire zone and/or border zone. The electrical corporation's vegetation manager or his/her designee will be responsible for determining if these woody plants are permissible;

4. The electrical corporation shall not allow any woody plant species that naturally matures above fifteen (15) feet to grow in the border zone;

5. Grass vegetation and non-woody agricultural crops, not exceeding twelve (12) feet in height at maturity, shall be permitted to grow anywhere in the right-of-way;

6. Where an electrical corporation has cleared a right-of-way of vegetation and bare soil is exposed, the electrical corporation shall comply with the soil erosion requirements of the applicable soil conservation district in order to prevent soil erosion;

7. To the extent that any plant species identified by the Missouri Department of Conservation as invasive and non-indigenous to Missouri poses a hazard to electrical transmission conductors, the electrical corporation shall make reasonable efforts to eliminate the species from the entire right-of-way. To do so, the electrical corporation shall use the best integrated vegetation management practices available and practical; and

8. In each electrical corporation's March billing cycle for customers in which vegetation management is scheduled that year, or two months prior to the commencement of vegetation management on a particular property, whichever is earlier, each electrical corporation shall notify owners of land upon which the electrical corporation holds a right-of-way of the requirements in this subsection, through a separate direct mailing.

(C) For the purposes of this section, the mature height of woody and non-woody agricultural crops shall be determined in accordance with the publications incorporated in this rule in section 4(A).

(D) Each year, before June 1, each electrical corporation shall develop a schedule for transmission line vegetation management. (The schedule shall be included in the electrical corporation's annual system performance report as required by 4 CSR 240-23.010(6)(D)). The schedule shall:

1. List the transmission lines planned for vegetation management for the next four (4) years;

2. Ensure that transmission line vegetation management is performed prior to vegetation becoming a threat to safety or service reliability; and

3. Be distributed to municipalities served by, or whose residents are served by, or through, transmission lines of the electrical corporation or those with such lines located within the boundaries of the municipality.

(6) Training, recordkeeping and reporting.

(A) Each electrical corporation shall ensure that all persons who perform vegetation management for the electrical corporation, whether employees or contractors, are trained in the proper care of trees and other woody plants, are knowledgeable regarding safety practices and line clearance techniques, and have demonstrated the ability to perform vegetation management safely.

(B) Each electrical corporation shall keep a record of all personnel used by a contractor or the electrical corporation to perform vegetation management for the electrical corporation, and the dates and types of training that each has received.

(C) The electrical corporation shall monitor and document all vegetation management and related activities it or its contractors performs. Documentation shall include, but shall not be limited to:

1. The municipality in which the work was performed;

2. Identification of each circuit and substation where vegetation management was performed;

3. The type of vegetation management performed including removal, trimming and spraying and methods used;

4. The crew size and supervisor's name;

5. The date of activity;

6. Any safety hazards encountered;

7. Any unexpected occurrence or accident resulting in death, life-threatening or serious injury to a person assigned to perform vegetation management activities or the public; and

8. Vegetation management planned for the following year.

(D) Each electrical corporation shall include a summary of the information required in (C) above about its vegetation management during the past year, and vegetation management planned for the following year in an annual report to be filed with the commission by May 31 each year, with verification by affidavit of an officer who has knowledge of the matters stated therein. This information shall include, at a minimum, the name of each municipality in which the electrical corporation conducted vegetation management during the preceding year, and all circuits and operating areas affected.

(E) Each electrical corporation shall report its own violations of this rule to the commission within thirty (30) days of discovery and include its plan for correcting the violation.

(F) The Staff of the commission shall review each electrical corporation's vegetation management annual report for compliance with the provisions of this rule. The Staff shall identify any deficiencies in the annual report of each electrical corporation and file its analysis and recommendations for each electrical corporation complying with the provisions of this rule.

(7) Public notice of planned vegetation management.

(A) Each electrical corporation shall make a diligent attempt to notify all property owners or occupants that may be affected by planned vegetation management. This requirement will be satisfied if the electrical corporation provides notice to affected property owners or occupants at least seven (7) days, but not more than forty-five (45) days, prior to performing any vegetation management activity. Notice shall be provided by direct

mailing, door hanger, post card, bill insert, personal contact or any other commission-approved method.

(B) Each electrical corporation shall maintain a record of the dates, content, and addresses to which all notices provided under (A) were given until the subsequent vegetation management cycle has occurred for each affected property owner or occupant.

(C) Each electrical corporation or its contractor shall provide written notice of any pending vegetation management activities to a primary contact for each political subdivision affected. The primary contact shall be selected by mutual agreement between the electrical corporation and the highest elected official, or if no elected official, then the highest appointed official, of the political subdivision.

(D) An electrical corporation shall notify all political subdivisions that may be affected by vegetation management activities. The notice shall be made in writing to the primary contact designated under (C) above, at least two (2) months in advance of the planned vegetation management. This notice shall include the planned dates and locations of the vegetation management. In addition, the notice of vegetation management shall be in a form appropriate to each electrical corporation's procedures and easement rights.

(8) Outreach programs.

(A) Each electrical corporation shall conduct an annual public education program to inform its customers, as well as the political subdivisions in the electric public utility's service territory, of the importance of vegetation management, and of the electrical corporation's role and responsibility in managing vegetation near electric lines.

(B) The public education program required under this section shall be implemented by direct mail or another method approved by the commission.

(C) Each electrical corporation shall post its public education materials on its website.

(9) Penalties, Fines, Sanctions and/or Ratemaking Disallowances.

(A) Failure to comply with any provision of this rule may subject the violator to penalties, fines, sanctions and/or ratemaking disallowances in accordance with the commission's statutory authority. No penalties, fines, sanctions and/or ratemaking disallowances shall be imposed for violations of this rule for a period of six (6) months from the effective date of this rule.

(B) An electrical corporation that violates this rule may be subject to a penalty of not less than one hundred dollars ($100) and not more than two thousand dollars ($2,000) per day per violation, for each day the violation occurs as permitted under Missouri Statutes. The commission shall notify the electrical corporation of the violation(s) in writing. Upon receipt of the written notice of violation, the electrical corporation shall have five business days to correct the violation(s). Any failure to correct the violation may subject

the electrical corporation to a penalty of not less than one hundred dollars ($100.00) per day for each violation, calculated from the day such written notice was received by the electrical corporation.

(C) The commission may consider violations of this rule as a relevant factor in setting rates for the electrical corporation in a case where the commission is examining the propriety of the electrical corporation's rates.

(D) Penalties, fines, sanctions and/or ratemaking disallowances imposed for violations of this rule are in addition to, not a replacement for, other penalties, fines and/or sanctions that apply under other state laws and regulations and under federal laws and regulations.

(E) In determining the appropriate penalties, fines, sanctions and/or ratemaking disallowances for violation of this rule, the commission shall consider the following criteria, and any other factors deemed appropriate and material to the electrical corporation's delay or failure to comply:

1. The good faith efforts, if any, of the electrical corporation in attempting to comply with this rule;

2. The gravity of the violation;

3. The number of past violations by the electrical corporation, including violations of this rule, as well as of other standards, guidelines and procedures adopted by the commission;

4. The appropriateness of the sanction(s) in light of the size of the electrical corporation;

5. Events judged by the commission to be beyond the control of the electrical corporation; and

6. Mitigating factors.

(10) Specific Requirements.

(A) Each electrical corporation shall comply with the tree trimming standards of this rule by trimming to the extent of

1. Thirty-three and one-third percent (33 1/3%) of total number of trees required trimming by the twelve (12)-month anniversary of the adoption of this rule;

2. Sixty-six and two-thirds percent (66 2/3%) of the total number of trees requiring trimming by the eighteen (18)-month anniversary of the adoption of this rule; and

3. One hundred percent (100%) compliance by the two (2)-year anniversary of the adoption of this rule.

(B) Each electrical corporation must maintain the following minimum clearances of vegetation from conductors:

1. Twenty-five (25) feet for conductors energized above fifty thousand (50,000) volts.

2. Ten (10) feet for conductors energized at six hundred (600) through fifty thousand (50,000) volts, except clearances may be reduced to three (3) feet if the vegetation is not readily climbable.

3. Intrusion of limited small branches and new tree growth into the minimum clearance areas of paragraphs 1 and 2 above is acceptable provided the vegetation does not come closer than six (6) inches from the conductor.

4. Subtransmission lines and three (3) -phase distribution feeders / backbone circuits (portion of distribution system directly interconnected with distribution substation and prior to the first protective device) shall be trimmed vertically to remove overhanging limbs to the widths prescribed in paragraphs 1, 2 and 3 above. The radial clearances in subsection 10(13) are minimum clearances that should be established between the vegetation and the energized conductors and associated live parts where practicable. Vegetation management practices may make it advantageous to obtain greater clearances than those listed. In the event that the specific trimming conflict with any other materials within this chapter the strictest rules shall apply.

(11) Variances. A variance from a provision of this rule may be granted only for good cause shown.