

**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—ensure 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, that structures,~~ which is designed to identify obvious structural problems and hazards. Patrols may be carried out in the course of other ~~company—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.

~~(GF) Rural means those areas with a population of less than one thousand (1,000) persons per square mile as determined by the most recent United States census shall be defined as those areas where there are less than thirty-five (35) customers per circuit mile; and~~

~~(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~~

~~(IG) Urban means those areas with a population of more than one thousand (1,000) persons per square mile as determined by the most recent United States census 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 ~~January~~ 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 company-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, ~~company-electrical corporation~~ records shall specify the circuit, area, or equipment inspected, ~~the name of the inspector,~~ 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, ~~companies-electrical corporations~~ shall also rate the condition of inspected equipment. Upon completion of corrective action, ~~company-electrical corporation~~ records will show the nature of the work ~~and , the date the work was performed, and the identity of persons performing the work.~~

(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; ~~and/or Reliability Rules, 4 CSR 240-23.030~~ 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.

(GH) 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.

(HI) If the ~~company-electrical corporation~~ discovers, or should have discovered, upon inspection as required under this rule, or the ~~company-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 ~~such corrective remedial~~ action shall be ~~made 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 ~~imposed 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. ~~Upon receipt of the written notice of violation, the electrical corporation shall have five (5) 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) 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.

(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)**

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

Note 1: No intrusive inspection required for first 12 years after installation, however, intrusive inspection required between years 12 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 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

## Electrical Corporation System Inspection Cycles (Maximum Intervals in Years)

|  | Patrol |       | Detailed |       | Intrusive |       |
|--|--------|-------|----------|-------|-----------|-------|
|  | Urban  | Rural | Urban    | Rural | Urban     | Rural |
| <b>Transformers</b>  |        |       |          |       |           |       |
| Overhead   | 1      | 2     | 5        | 5     | ---       | ---   |
| Underground – Direct Buried Distribution Circuits  | 1      | 2     | 3        | 3     |           |       |
| Underground- Buried Distribution Circuits constructed of Ethylene Propylene Rubber (EPR) | 1      | 2     | 5        | 5     |           |       |
| Padmounted   | 1      | 2     | 5        | 5     | ---       | ---   |
| <b>Switching/Protective Devices</b>  |        |       |          |       |           |       |
| Overhead   | 1      | 2     | 5        | 5     | ---       | ---   |
| Underground – Direct Buried Distribution Circuits  | 1      | 2     | 3        | 3     |           |       |
| Underground- Buried Distribution Circuits constructed of (EPR)                           | 1      | 2     | 5        | 5     |           |       |
| Padmounted   | 1      | 2     | 5        | 5     | ---       | ---   |
| <b>Regulators/Capacitors</b>   |        |       |          |       |           |       |
| Overhead   | 1      | 2     | 5        | 5     | ---       | ---   |
| Underground – Direct Buried Distribution Circuits  | 1      | 2     | 3        | 3     |           |       |
| Underground- Buried Distribution Circuits constructed of (EPR)                           | 1      | 2     | 5        | 5     |           |       |
| Padmounted   | 1      | 2     | 5        | 5     | ---       | ---   |
| Overhead Conductor and Cables  | 1      | 2     | 5        | 5     | ---       | ---   |
| Streetlighting   | 1      | 2     | x        | x     | ---       | ---   |
| Wood Poles under 15 years  | 1      | 2     | x        | x     | ---       | ---   |
| Wood Poles over 15 years which have not been subject to intrusive inspection             | 1      | 2     | x        | x     | 10        | 10    |
| Wood poles which passed intrusive inspection   | ---    | ---   | ---      | ---   | 12        | 12    |