

**WILLIAM P. HERDEGEN III**  
*Vice President, Customer Operations*

July 1, 2008

Ms. Colleen M. Dale  
Secretary and Chief Regulatory Law Judge  
Missouri Public Service Commission  
200 Madison Street, Suite 100  
P.O. Box 360  
Jefferson City, MO 65102

**Re: Infrastructure Standards Compliance Plan  
(4 CSR 240-23.020)**

Dear Ms. Dale:

Pursuant to 4 CSR 240-23.020(3)(B), attached please find the compliance plan of Kansas City Power & Light Company for the inspections and record keeping required by the Commission's recently-promulgated infrastructure standards for electric utilities.

Please contact me should you have any questions or need any additional information at (816) 556-2407.

Sincerely,



attachment

# **KCP&L Plan for Compliance with the State of Missouri's Electrical Corporation Infrastructure Standards (4 CSR 240-23.020)**

**July 1, 2008**

## **Purpose**

To define KCP&L's plan for compliance with the State of Missouri's Electrical Corporation Infrastructure Standards, 4 CSR 240-23.020, as published in the Missouri Register on January 2, 2008. This rule will be referred to as the Missouri Infrastructure Rule (MoIR).

## **Policy**

KCP&L shall prepare an internal policy stating KCP&L's objective to comply with the requirements of the MoIR. The policy shall require the development and maintenance of internal programs to ensure compliance with the MoIR. The policy will be completed and approved by 10/01/2008.

## **General Compliance Provisions**

KCP&L plans to perform electrical infrastructure inspections per the requirements set forth in the MoIR. The MoIR has six (6) provisional components:

1. Applicability – paragraph (1)
2. Definitions – paragraph (2)
3. Standards for Inspection, Record Keeping, and Reporting – paragraph (3)
4. Cost Recovery – paragraph (4)
5. Variances – paragraph (5)
6. Electrical Corporation System Inspection Cycles Table ("MoIR Table")

With the Exception of number six (6), these provisional components are reproduced below along with a discussion intended to add clarity to the provision's meaning or applicability at KCP&L. The Rule Text present was extracted from the version published in the Missouri Register on January 2, 2008.

## **Applicability - MolR Paragraph (1)**

### **Rule Text:**

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

### **Compliance Discussion**

The rule applies to KCP&L.

## **Definitions – MolR Paragraph (2)**

The rule presents definitions in alphabetical order. It is important to note that the styles of inspections increase in complexity from (2)(E) Patrols, to (2)(B) Detailed, to (2)(C) Intrusive. It may be beneficial to read these definitions and discussion in order of increasing complexity to envision how they might build upon each other.

### **Rule Text:**

*(2)(A) Corrective action means maintenance, repair, or replacement of electrical corporation equipment and structures so that they function properly and safely. Temporary interruption of service or remedial action is appropriate until corrective action can be completed*  
*Discussion;*

### **Compliance Discussion**

No discussion. The rule text is self explanatory.

### **Rule Text:**

*(2)(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 practicable and if useful information can be so gathered) opened, and the condition of each rated and recorded;*

### **Compliance Discussion**

#### *Overhead Distribution and Transmission:*

Structure-by-structure visual inspection using a checklist and/or documented procedure to perform a condition assessment of the structure, and structural supporting components, insulators, attached conductors and equipment. The condition assessment checklist and/or procedure shall target conditions that will affect public or employee safety and system reliability. (Note: detailed inspection of wood poles is covered during Intrusive Inspection Cycles under paragraph (2)(C)).

#### *Pad-mounted Distribution:*

Location-by-location visual inspection using a checklist and/or documented procedure of equipment situated on pads or foundations such that the equipment is typically located above grade level. (In certain circumstances, switchgear may be located in vaults or inside a customer's premises.) Detailed inspection shall include an external visual inspection to assess the integrity of the equipment case, equipment foundation, and locking mechanisms (i.e., a "patrol"). Internal equipment compartments shall be opened and visually examined when it is safe to do so without de-energizing the

equipment or unnecessarily causing service interruptions to customers. Diagnostic tests beyond visual inspection *may* be performed under specific criteria. The condition assessment checklist and/or procedure shall target conditions that will affect public or employee safety and system reliability.

**Underground Distribution and Transmission:**

Location-by-location visual inspection using a checklist and/or documented procedure of structures and equipment connected to/by underground Distribution and Transmission circuit cables. These structures and equipment are typically located in manholes, hand-holes, vaults, tunnels, bridges, or pull-boxes. Detailed inspection shall include an external visual inspection to assess the obvious external structural conditions, conditions affecting the entryway and external ventilation portals (i.e., a "patrol"). Structures shall be opened, and visually examined to assess the condition of the structure, equipment, cables, joints and supporting hardware within the boundaries of the structure. Diagnostic tests beyond visual inspection *may* be performed under specific criteria. The condition assessment checklist and/or procedure shall target conditions that will affect public or employee safety and system reliability.

**Rule Text:**

*(2)(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;*

**Compliance Discussion**

**Overhead Distribution and Transmission Wood Poles/Structures:**

Structure-by-structure inspection including visual and diagnostic techniques to perform a condition assessment of the structure to ensure it meets NESC structural strength requirements. Wood poles shall be sounded, excavated at the ground line and visually inspected for decay, insect infestation, or other causes for loss of structural integrity. Life extension treatments may be applied during the intrusive inspection.

To comply with Note 1 in the MoIR Table, poles will receive an intrusive inspection if the pole is seven (7) years old or older during the inspection cycle. Poles younger than seven years will receive an initial intrusive inspection at the next 12 year cycle. This ensures that new poles receive an intrusive inspection before reaching an age of eighteen (18) years as required by the MoIR Table.

**Rule Text:**

*(2)(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;*

**Compliance Discussion**

KCP&L plans to use existing District/Center boundaries for geographical subdivisions. On July 1, 2008 these include Northland, F&M, Dodson and East District in Missouri. Transmission will be reported as a separate Operating Area for the MoIR. These may

be modified from time-to-time for operational efficiencies, or business reasons unrelated to the MoIR

**Rule Text:**

*(2)(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;*

**Compliance Discussion**

*Overhead Distribution and Transmission:*

Visual inspection of circuits and circuit sections to identify obvious structural problems and hazards with structures and equipment. The inspection shall target hazards that will affect public or employee safety and system reliability. In accordance with the rule, individual structure-by-structure assessment is not required. The focus is on obvious hazards and on the performance of circuit systems, not individual components.

*Pad-mounted Distribution:*

Location-by-location visual inspection of equipment situated on pads or foundations such that the equipment is typically located above grade level. (In certain circumstances, switchgear may be located in vaults or inside a customer's premises.) Pad-mounted patrols shall include an external visual inspection to assess the integrity of the equipment case, equipment foundation, and locking mechanisms. The inspection shall target conditions that will affect public or employee safety and system reliability.

*Underground Distribution and Transmission:*

Location-by-location visual inspection of structures and equipment connected to/by underground Distribution and Transmission circuit cables. These structures and equipment are typically located in manholes, hand-holes, vaults, tunnels, bridges or pull-boxes. Patrols shall include an external visual inspection to identify obvious external structural conditions, conditions affecting the entryway and external ventilation portals. The inspection shall target conditions that will affect public or employee safety and system reliability.

**Rule Text:**

*(2)(F) Remedial Action means action taken immediately or as soon as possible to eliminate an imminent hazard to person or property. Remedial action may be temporary, pending final corrective action. Remedial action may include the temporary interruption of service;*

**Compliance Discussion**

No discussion. The rule text is self explanatory.

**Rule Text:**

*(2)(G) Rural means those areas where there are fewer than thirty-five (35) customers per circuit mile;*

**Compliance Discussion**

The number of customers per circuit mile may need to be estimated. KCP&L plans to treat entire distribution circuits as either 100% Rural or 100% Urban (exceptions to this will be noted in program documents).

**Rule Text:**

*(2)(H) Underground Network means an electrical distribution system typically located in manholes, vaults, tunnels, and other underground structures;*

**Compliance Discussion**

KCP&L internal inspection program documents will provide further definition and breakdown of Underground Network components.

**Rule Text:**

*(2)(I) Urban means those areas where there are thirty-five (35) or more customers per circuit mile.*

**Compliance Discussion**

The number of customers per circuit mile may need to be estimated. KCP&L plans to treat entire distribution circuits as either 100% Rural or 100% Urban (exceptions to this will be noted in program documents).

## **Standards for Inspection, Record Keeping, and Reporting – MoIR Paragraph (3)**

### **Rule Text:**

*(3)(A) Each electrical corporation subject to this rule shall have personnel sufficiently trained in inspections conduct inspections of its transmission and distribution facilities operated above six hundred (600) volts, as necessary to provide safe and adequate service pursuant to section 393.130.1, RSMo Supp. 2006, 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).”*

### **Compliance Discussion**

#### *Inspection Personnel:*

KCP&L will utilize qualified personnel to perform inspections and condition assessments.

A resource plan will be developed and frequently re-assessed to identify qualified resources to fulfill compliance requirements in an efficient and cost-effective manner.

#### *Inspection of Transmission and Distribution Facilities above 600V:*

KCP&L plans to inspect Distribution System circuit components from the circuit's exit from the circuit's source substation and including circuit components and structures as required in the MoIR Table. This includes all components operating between 601V and 35,000V, as well as KCP&L-owned street light standards (street light poles, support brackets, and luminaire heads). For the purposes of the MoIR, Distribution Circuits operate between 601V and 35,000V, line-to-line, and also include street lights.

KCP&L plans to inspect Transmission Line components from the line's exit from its source and/or load terminal substations, including line components and structures as required in the MoIR Table. For the purposes of the MoIR, Transmission Lines are lines operated above 35,000V, line-to-line.

#### *Period Between Inspections:*

Inspection cycles are addressed under paragraph (3)(B).

### **Rule Text:**

*(3)(B) Each electrical corporation subject to this rule shall file at the commission by no later than July 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 shall 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 July 1 through December 31, 2008 and the coming calendar year. The electrical corporation's compliance plans shall include a projected schedule for completing a full cycle for each infrastructure classification shown in the attached table titled “Electrical Corporation System Inspection Cycles (Maximum Intervals in Years).” The commission may prescribe changes to an individual electric corporation's obligations relating to reporting and record keeping formats and forms when and as necessary. None of these changes may conflict with the requirements of this rule unless specifically approved by the commission through a variance.*

## Compliance Discussion

### Compliance Plan:

This document embodies KCP&L's Compliance Plan. Forms and formats for annual reports are addressed under paragraph (3)(C).

### Plans for Inspections between July 1 and December 31, 2008:

For calendar year 2008, KCP&L plans to continue executing its portfolio of Asset Management and Maintenance programs that has been in place prior to adoption of the MoIR. This portfolio includes the following:

#### **Distribution System (2008):**

1. Distribution System Inventory and Condition Assessment
  - a. Inventory and Inspection of KCP&L's overhead distribution system in a manner that satisfies the MoIR's detailed inspection requirement. This is part of KCP&L's Comprehensive Energy Plan (CEP) and includes quarterly reporting to the Commission under that plan.
  - b. The scope includes approximately 145,000 distribution poles, associated circuits and equipment to be completed in Missouri by the end of 2008, in KCP&L's Northland, F&M and Dodson service centers. Another 42,000 poles in the East District are targeted for completion in 2009.
2. Capacitor Inspection
  - a. Automated Capacitor Monitoring
  - b. Visual Inspection and Repair of Non-automated Capacitors
3. Automated Underground Network Monitoring
  - a. KCP&L will complete its Underground Network Automation project in 2008. This automation allows the network system to be continuously monitored via 2-way wireless communication connected to Intelligent Relays and Monitors installed in network vaults and network equipment.
  - b. Installation of the automation system is part of the Distribution Automation project under the CEP and includes quarterly reporting to the Commission.
4. High Outage Count Customer Program
  - a. KCP&L plans to inspect poor performing pocket areas and make corrective repairs to improve circuit and lateral performance.
  - b. Certain areas will be selected for Infrared Thermal-Imaging inspections and repairs.
5. Pilot of Underground Cable Diagnostic Testing
  - a. KCP&L plans to award a contract to perform Diagnostic Testing of underground Feeder Cables and URD Cables to assess the condition of these cable systems. The plan is to employ non-destructive testing to identify levels of Partial Discharge to provide indication of the health of the cable.
  - b. Results of the pilot will be reviewed to determine if the testing should become a part of KCP&L's Asset Management and Maintenance Portfolio.
6. Wood Pole Inspection and Treatment (Intrusive)
7. Street Lighting Inspections
  - a. Visual inspection of 100% of KCP&L-owned municipal street lights



8. Daily Inspections in Normal Course of Work
  - a. KCP&L employees are at work on a continuous basis. As such, KCP&L circuits, structures, and equipment are informally inspected continuously.
  - b. Operations and Construction personnel frequently make repairs as conditions are identified in the field. Other conditions that affect safety or have significant reliability impact are identified and prioritized in the Corrective Action Request System (CARS) and managed in the Distribution Work Management process.

**Transmission System (2008):**

1. Transmission System Asset Management under Comprehensive Energy Plan
  - a. This program consists of inspection and repair/replacement of aging Transmission Infrastructure. This is part of KCP&L's Comprehensive Energy Plan and includes quarterly reporting to the Commission under that plan.
  - b. The scope includes Replacement of Wood Poles, Arms, Structural Members, and Shield Wire.
2. Wood Pole Inspection and Treatment (Intrusive)
  - a. Approximately 800 wood poles are targeted for intrusive inspection across the system in 2008 based on unit pricing and historical results. However, only 30 structures are within Missouri.
3. Overhead Transmission Line Patrol
  - a. KCP&L expects to patrol 100% of the Overhead Transmission system in 2008.
4. Underground Transmission Line Patrol
  - a. KCP&L expects to patrol 100% of the Underground Transmission system in 2008.

**Plans for Inspections Starting January 1, 2009 (projected schedule):**

**Inspection Program Development and Documentation:**

KCP&L will develop and approve a portfolio of Missouri Infrastructure Inspection Programs to establish standard procedures for performing Infrastructure Inspections. These programs will establish standard cycles for inspections, establish standard condition assessment checklists, provide definitions of specific conditions, provide condition rating criteria, and specify inspection record-keeping and retention requirements, including the location of source records. The portfolio shall prescribe reporting requirements, specifically to ensure compliance with the MoIR.

Each program will contain provisions to address the MoIR's requirements for imminent hazards and prudent repairs in paragraph (3)(H). Each program shall contain provisions to record details required in paragraph (3)(E), namely:

- Circuit or line identifier,
- Area or equipment inspected,
- Date of inspection,
- Problems identified during inspection,
- Schedule for corrective action,

- Condition rating for Detailed and Intrusive Inspections, and
- Description of the nature of the work for completed corrective actions.

Whenever possible, the programs will take advantage of opportunities to complete inspections in the normal course of daily work activities, even if the specific inspection is not “due”. An illustrative example is to complete an inspection of pad-mounted switchgear when performing planned switching in the switchgear. Program procedures need to provide for capturing/documenting these “opportunistic” inspections for MoIR compliance.

Programs will attempt to bundle inspections whenever practical. An illustrative example would be bundling a detailed pole/circuit inspection together with intrusive wood pole inspection.

The portfolio of programs will be developed and approved by KCP&L management by December 1, 2008.

### **Proposed Missouri Infrastructure Program Portfolio:**

#### **Distribution Infrastructure Inspection Programs**

- 1) Overhead Distribution
  - a) Intrusive Wood Pole Inspection
  - b) Overhead Circuit, Structure and Equipment Inspection
  - c) Overhead System Support Equipment Inspection
    - i) Reclosers (including automatic/electronic Sectionalizers)
    - ii) Regulators
    - iii) Capacitors
    - iv) Overhead Automatic Throw-Over Switches
    - v) Gang-Operated Switches
- 2) Pad-mounted Distribution
  - a) Pad-mounted Automatic Throw-Over Switchgear
  - b) Pad-mounted Manual Switchgear
  - c) In-Line/High-Bay Switchgear
  - d) Pad-mounted transformers
  - e) Pad-mounted Capacitors
- 3) Underground Distribution
  - a) Manholes – Non-Equipment/Cables Only (including Handholes)
  - b) Manholes/Vaults
    - i) Network Equipment Vaults
    - ii) Network Connections (“Birdcages”)
    - iii) Non-Network Equipment Manholes/Vaults (Containing Transformers, Switches, Capacitors, etc)
    - iv) Other Underground/Cable Structures (Tunnels, Bridges, etc)

### **Transmission Infrastructure Inspection Programs**

- 1) Overhead Transmission
  - a) Intrusive Wood Pole Inspection
  - b) Overhead Line, Structure and Equipment Inspection
- 2) Underground Transmission
  - a) Underground Transmission Structures (Manholes, Tunnels, Bridges, etc)
  - b) Underground Transmission Cable Systems and Equipment
    - i) Underground Transmission Terminals
    - ii) Underground Transmission Pumping Systems
    - iii) Underground Cables

### **Level Annual Scheduling:**

KCP&L's strategy is to schedule inspections in a manner to create a Level Annual Scope of work whenever possible and practicable. The intent is to avoid extreme peaks and valleys in budget and resource levels on a year-to-year basis. This strategy may not be practical or possible in all scenarios. Each program and class of assets will continually be reviewed to determine the most efficient and cost-effective cycles for performing MoIR Inspections. For example, unforeseen constraints or opportunities for efficiency may require 100% of an asset class to be inspected in a single year, rather than spread evenly over the length of the required cycle.

One exception to level annual scheduling may result from incorporating KCP&L's Distribution System Inventory project into the circuit and pole inspection cycles. KCP&L will complete a detailed inspection of the entire overhead distribution system between 2007 and 2009. This is essentially a "peak" in the cycle for this infrastructure.

### **Projected Schedule for Completing a Full Cycle:**

A proposed schedule for completing a full cycle for each infrastructure classification in the MoIR Table is included in Appendix B.

**Detail and Patrol Overlaps:** KCP&L plans to design Detailed Inspections such that the requirement of a Patrol are encompassed with the Detailed Inspection. Since the MoIR Table typically requires Patrols to be performed twice as frequently as Detailed Inspections, Detailed Inspections will fulfill the requirement for approximately half of the Patrols.

Example: Circuit ABCD is required to be patrolled ever 4 years with detailed occurring every 8 years. If the first Patrol occurs in year 2, the table below illustrates how Patrol requirements are fulfilled by Detailed Inspections.

Year	Patrol – 4 year Cycle	Detailed – 8 Year Cycle
2	Yes – Patrol Only	No
6	Yes – Fulfilled by Detailed Inspection	Yes
10	Yes – Patrol Only	No
14	Yes – Fulfilled by Detailed Inspection	Yes
18	Yes – Patrol Only	No
22	Yes – Fulfilled by Detailed Inspection	Yes

#### **Effectiveness/Efficiency Reviews:**

KCP&L will review the effectiveness of each program from time-to-time or when conditions warrant. Adjustments or revisions may be made to a program's scope or cycle frequency when justified during a review. Revisions will be noted in the internal KCP&L program documentation.

KCP&L continues to evaluate and pilot new technologies to improve the transmission and distribution systems. The effects of these new technologies will be factored into the effectiveness reviews.

#### **Cycle Differences:**

KCP&L plans to inspect infrastructure with the MoIR Table providing the minimum cycle frequency requirement. In certain cases, KCP&L may choose to perform inspections more frequently than required by the MoIR Table for performance or business reasons. Should business conditions change and require KCP&L's cycle to lengthen, the MoIR minimum will still be met.

As allowed under paragraph (5) of the rule, KCP&L may exercise a variance to the MoIR Table and perform inspections less frequently. These would be cases where an effectiveness review or historical performance justifies the longer cycle. An explanation will be provided in the Annual Compliance Report for cases where cycles will be less frequent than the MoIR Table.

#### **Rule Text:**

*(3)(C) Each electrical corporation subject to this rule shall file with the commission an annual report detailing its compliance with this rule during the prior calendar year, 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 and will cover calendar year 2008. Each electrical corporation shall file subsequent annual reports for every following year by no later than July 1 covering the prior calendar year. The report shall identify the number of facilities, by type, which have been inspected during the previous reporting period. It shall identify those facilities that were scheduled for inspection but that were not inspected according to schedule and shall explain why the inspections were not conducted, and provide the electrical corporation's recovery plan to perform the required inspections. The report shall also present the total number 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 shall present the total number and percentage of equipment that was or was not corrected during the reporting period. For those instances in which equipment was scheduled to have corrective action but the equipment was not corrected during the reporting period, an explanation shall be provided, including a date certain by which required corrective action will occur. The report shall 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)." If periodic reporting of infrastructure inspection results is required by another governmental entity, those reports shall also be filed at the commission.*

### **Compliance Discussion**

A proposed Annual Report format is included in Appendix A.

#### **Rule Text:**

*(3)(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 2000 and 4 CSR 240-10.010.*

### **Compliance Discussion**

KCP&L will maintain records in accordance with this paragraph. The individual program documents within the Missouri Infrastructure Program Portfolio shall prescribe the forms, formats, source records and storage requirements for the inspections covered within the specific program.

#### **Rule Text:**

*(3)(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 shall show the nature of the work and the date the work was performed.*

### **Compliance Discussion**

KCP&L will maintain records in accordance with this paragraph. The individual program documents within the Missouri Infrastructure Program Portfolio shall prescribe the forms, formats, source records and storage requirements for the inspections covered within the specific program. Individual program documents shall provide criteria for rating the condition of inspected equipment and standard timeframes for repair of each condition. Certain conditions may only require monitoring the equipment in the future for any observed signs of degradation.

**Rule Text(s):**

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

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

*(3)(H) 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 prudent operation of facilities would require corrective action, then it shall take such corrective action within a reasonable period of time. If harm to person or property is imminent, then corrective or remedial action shall be taken immediately, or as soon as possible.*

**Compliance Discussion**

No discussion. The rule text is self explanatory.

**Cost Recovery – MolR Paragraph (4)****Rule Text:**

*(4) In the event an electrical corporation incurs expenses as a result of this rule in excess of the costs included in current rates, the corporation may submit a request to the commission for accounting authorization to defer recognition and possible recovery of these excess expenses until the effective date of rates resulting from its next general rate case, filed after the effective date of this rule, using a tracking mechanism to record the difference between the actually incurred expenses as a result of this rule and the amount included in the corporation's rates, or if there is no identifiable amount included in the corporation's rates, the amount reflected in the appropriate accounts for infrastructure inspection and maintenance on the corporation's books for the test year (as updated) from the corporation's last rate case will be used to determine the amount included in current rates. In the event that such authorization is granted, the next general rate case must be filed no later than five (5) years after the effective date of this rule. Parties to any electrical corporation request for accounting authorization pursuant to this rule may ask the commission to require the electrical corporation to collect and maintain data (such as actual revenues and actual infrastructure inspection expenses) until such time as the commission addresses ratemaking for the deferrals. The commission will address the ratemaking of any costs deferred under these accounting authorizations at the time the electrical corporation seeks ratemaking in a general rate case.*

**Compliance Discussion**

No discussion. The rule text is self explanatory.

## **Variances – MolR Paragraph (5)**

### **Rule Text:**

*(5) Variances. A variance from a provision of this rule may be granted 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 equal to or greater reliability performance than what would be produced under this rule or that the alternative infrastructure inspection program shall produce equal to or greater reliability performance in the future than what would be produced under this rule.*

### **Compliance Discussion**

As discussed under paragraph (3) (B), KCP&L will perform effectiveness reviews of the portfolio of programs. Adjustments or revisions may be made to a program's scope or cycle frequency when justified during a review.

In the event that KCP&L judges that an alternative infrastructure inspection program will produce equal or greater reliability (or had previously done so), such alternative program will be presented to the Commission.

## Electrical Corporation System Inspection Cycles – (“MoIR Table”)

The table from the MoIR is reproduced below. This is referred to as the “MoIR Table” in other areas of this Compliance Plan.

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

	Patrol		Detailed		Intrusive		Notes
	Urban	Rural	Urban	Rural	Urban	Rural	
<b>Poles/Overhead Structures</b>							
Wood	4	6	---	---	12	12	Note 1
Non-Wood	4	6	12	12	---	---	Note 2
<b>Conductors, Transformers, Reclosers, Regulators, Capacitors, Switching/Protective Devices, and Streetlighting</b>							
Overhead	4	6	8	12	---	---	
Overhead (with real-time remote monitoring)	---	---	12	12	---	---	
Underground-direct buried and conduit	4	6	8	12	---	---	Note 3
Underground-direct buried and conduit (with real-time remote monitoring)	---	---	12	12	---	---	Note 3
Underground Networks	4	---	8	---	---	---	
Underground Networks (with real-time monitoring)	---	---	12	---	---	---	
<b>Manholes, Vaults, Tunnels, and Other Underground Structures</b>	4	6	8	12	---	---	

**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, 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.



## **Appendix A – Proposed Format for Annual Infrastructure Compliance Report**

*(Note: this proposed format is presented for illustrative purposes to show the types of information and level of detail intended for inclusion. The data presented here is fictitious and for illustrative purposes only. The format of each annual report will vary as the reports are populated with actual data. The format proposed here is intended to follow the first full year of inspections (reported on July 1, 2010 for inspections in calendar year 2009).*

**Report Date: July 1, 2011**  
**Period Covered: January 1, 2010 to January 31, 2010**

### **KCP&L Infrastructure Compliance Plan for Calendar Year 2010**

#### ***Section 1 – Introduction and Summary***

This Compliance Report is filed to comply with the requirements set forth in the State of Missouri's Electrical Corporation Infrastructure Standards, 4 CSR 240-23.020.

KCP&L is in compliance with 4 CSR 240-23.020. Annual Patrols, Detailed Inspections and Intrusive Inspections have been completed with a few minor exceptions. In all cases where inspections were not completed, they have been scheduled for completion in the current calendar year.

Most repairs were completed as scheduled, again with a few minor exceptions where human resource constraints limited KCP&L's ability to finish all the repairs. Highest priority repairs were completed with lower priority repairs being scheduled for completion between 2011 and 2012.

Facility Inspection details are summarized in Section 2. Corrective Action details are summarized on Section 3. Each section contains notes with details on Inspections and Corrective Actions that were not completed in 2010 as planned along with the plan and timeline for completing the backlogged items.

Further details and source records on individual facilities are on file at KCP&L and available for inspection by the Commission or Commission's Staff.

KCP&L personnel involved in the Inspection and Corrective Action processes are available to provide additional information or to answer questions.

#### **Infrastructure Inspection Program Portfolio Changes:**

Minor changes were made to KCP&L's Infrastructure Inspection Program Portfolio since the previous annual report. These changes consist of adding clarity to the condition definitions in the *Distribution Overhead Circuit, Structure and Equipment* program. Photographs of conditions have been added to the written descriptions to enhance consistency amongst inspectors in identifying issues requiring Corrective Action.

## Section 2 – Facility Inspection Summary

### Distribution

System Class	Inspection Type	Facility Type	Units	Inspections Planned for 2010	Inspections Completed During 2010	Inspections Completed Prior to 2010 (ahead of Schedule)	Inspections Not Completed in 2010 (behind schedule) <sup>(2)</sup>
Dist	Patrol	Overhead Circuits, Structures & Equipment	Circuits	87	87	0	0
		Pad-mounted Equipment	Equipment Locations	3089	3089	0	0
		Underground Structures and Equipment	Structure Locations	770	764	4	2 <sup>(2)</sup>
	Detail	Overhead Circuits, Structures & Equipment	Circuits (Poles as Subset)	44 (41,000) <sup>(1)</sup>	44 (41,009)	0	0
		Pad-mounted Equipment	Equipment Locations	1544	1566	10	0
		Underground Structures and Equipment	Structure Locations	385	385	0	0
	Intrusive	Wood Poles	Poles	13,000	13,000	0	0

(1) Estimated.

(2) Two underground structures were not completed in 2010 due to resource constraints. These have been added to the 2011 program and will be completed prior to December 31, 2011.

### Transmission

System Class	Inspection Type	Facility Type	Units	Inspections Planned for 2010	Inspections Completed During 2010	Inspections Completed Prior to 2010 (ahead of Schedule)	Inspections Not Completed in 2010 (behind schedule)
TSM	Patrol	Overhead Lines, Structures & Equipment	Line Miles	778 <sup>(3)</sup>	778 <sup>(3)</sup>	0 <sup>(3)</sup>	0
		Underground Structures and Equipment	Structure Locations	23 <sup>(3)</sup>	23 <sup>(3)</sup>	0 <sup>(3)</sup>	0
	Detail	Overhead Circuits, Structures & Equipment	Line Miles	71	71	0	0
		Underground Structures and Equipment	Structure Locations	3	3	0	0
	Intrusive	Wood Poles	Poles	1,260	1,260	0	0

(3) Although the Rule requires less frequent cycles, KCP&L Overhead and Underground Transmission Lines and Structures are patrolled a minimum of once each calendar year.

## Section 3 – Equipment Condition Rating Summary

### Distribution

System Class	Inspection Type	Facility Type	Component	Condition 0 – Immediate Repair	Condition 1 – Repair in x Days	Condition 3 – Repair between x & y Days	Condition x – Acceptable – No Repair Necessary
Dist	Detail	Overhead Circuits, Structures & Equipment	Poles	14 (.03%)	28 (.07%)	20 (.04%)	41,888 (99.86%)
			Transformer	13 (x%)	43 (x%)	18 (x%)	2633 (x%)
			Capacitor	14 (x%)	46 (x%)	0 (x%)	3000 (x%)
			Regulator	8 (x%)	32 (x%)	0 (x%)	340 (x%)
			Recloser	9 (x%)	38 (x%)	18 (x%)	360 (x%)
			Switch / Line Fuse	32 (x%)	42 (x%)	44 (x%)	1600 (x%)
			Arrester	16 (x%)	132 (x%)	80 (x%)	2300 * (x%)
			Other Equip	8 (x%)	14 (x%)	22 (x%)	Not Avail
		Pad-mounted Equipment	Transformer	13 (x%)	43 (x%)	18 (x%)	2633 (x%)
			Capacitor	14 (x%)	46 (x%)	0 (x%)	3000 (x%)
			Switchgear	8 (x%)	32 (x%)	0 (x%)	340 (x%)
			Other Equip	8 (x%)	14 (x%)	22 (x%)	Not Avail
		Underground Structures and Equipment	Manhole, Handhole, or Vault Structure	4 (.03%)	28 (.07%)	20 (.04%)	3600 (99.86%)
			Transformer	13 (x%)	43 (x%)	18 (x%)	2633 (x%)
			Network Protector	14 (x%)	46 (x%)	0 (x%)	3000 (x%)
			Switch / Line Fuse	8 (x%)	32 (x%)	0 (x%)	340 (x%)
			Cable & Joints	9 (x%)	38 (x%)	18 (x%)	360 (x%)
			Cable Hangars	16 (x%)	132 (x%)	80 (x%)	2300 * (x%)
			Other Equip	8 (x%)	14 (x%)	22 (x%)	Not Avail
Dist	Intrusive	Poles/Overhead Structures - WOOD	Poles	21 (.1%)	40 (.2%)	787 (4.7%)	16,152 (95%)

\*Estimated.

### Transmission

(Similar tables will be prepared for TSM Detail Intrusive Inspections.)

### Section 3 – Corrective Action (CA) Summary

#### Distribution

System Class	Inspection Type	Facility Type	Component	CA Planned in 2009	CA Completed in 2009	CA Planned in 2010	CA Planned beyond 2010
Dist	Detail	Overhead Circuits, Structures & Equipment	Poles	784	766 <sup>(1)</sup>	900	28
			Transformer	70	70	62	0
			Capacitor	53	53	12	0
			Regulator	40	40	3	0
			Recloser	65	65	0	0
			Switch / Line Fuse	112	112	89	0
			Arrester	231	231	168	0
			Other Equip	31	31	21	0
		Pad-mounted Equipment	Transformer	75	75	52	0
			Capacitor	60	60	12	0
			Switchgear	40	40	32	0
			Other Equip	44	44	28	1
		Underground Structures and Equipment	Manhole, Handhole, or Vault Structure	52	52	45	8
			Transformer	52	52	38	12
			Network Protector	14	14	12	2
			Switch / Line Fuse	34	34	12	0
			Cable & Joints	68	36 <sup>(2)</sup>	54	16
			Cable Hangars	140	140	130	80
			Other Equip	43	43	23	12
Dist	Intrusive	Poles/Overhead Structures - WOOD	Poles	61	61	787	604

(1) 8 poles planned for replacement in 2009 were not completed. These have been placed into the 2010 replacement program to be completed by December 31, 2010.

(2) 32 cable joints planned for replacement in 2009 were not completed due to limited lead splicing resources. These 32 joints will be completed in the 2010 and 2011 calendar years (16 each year).

#### Transmission

(A similar table will be prepared for TSM Corrective Actions.)

**Appendix B –  
Projected Schedule for Completing a Full Cycle of Inspections**

**Appendix B Schedules on Following Pages**

**Require 11 x 17 Paper to Print**

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Delivery System	Urban/Rural	Facility Types / Inspection Program	Inspection Type	Proposed KCPL Cycle (Yrs)	Required Rule Cycle	Comments and Program Bundling	Units	Estimated Total # of MO Units	Annual %	Annual Units	Year # / Calendar Year													
											1	2	3	4	5	6	7	8	9	10	11	12		
DISTRIBUTION		Poles/Overhead Structures - Wood Poles (KCPL-Owned)	Intrusive	12	12	- Not bundled with other programs due to specialized resource requirements. - Patrols Age 7 Years and Older	Poles (1000s)	106	8.33%	9	1 - 9	9 - 18	18 - 27	27 - 35	35 - 44	44 - 53	53 - 62	62 - 71	71 - 80	80 - 88	88 - 97	97 - 106		
			Patrol	4	4	Bundled with Overhead Circ Inspection.					w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ		
		Poles/Overhead Structures - Non-Wood (KCPL-Owned)	Detail	8	12	- Bundled with Overhead Circ Inspection. - Cycle is shorter than rule due to bundling.					w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ		
			Patrol	4	4	Bundled with Overhead Circ Inspection.					w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ	w/ Overhead Circ		
		Overhead Circuits, Structures & Equipment (Regulators, Capacitors, Switches/Protective Devices, Street Lights)	Detail	8	8	- Each DETAIL Inspection fulfills a PATROL requirement. (If of Units is approximate.)	Circuits	302	12.50%	38	1 - 38	39 - 76	77 - 113	114 - 151	152 - 189	190 - 227	228 - 264	265 - 302	303 - 339	340 - 376	377 - 413	414 - 451	452 - 489	
			Patrols via Detail	8	8	- Each DETAIL Inspection fulfills a PATROL requirement. (If of Units is approximate.)	Circuits	302	12.50%	38	1 - 38	39 - 76	77 - 113	114 - 151	152 - 189	190 - 227	228 - 264	265 - 302	303 - 339	340 - 376	377 - 413	414 - 451	452 - 489	
			Patrols Stand Alone	8	8	- Patrols Stand Alone	Circuits	302	12.50%	38	152 - 189	190 - 227	228 - 264	265 - 302	303 - 339	340 - 376	377 - 413	414 - 451	452 - 489	490 - 527	528 - 564	565 - 602	603 - 640	
			Total Patrols	4	4		Circuits	302	25.00%	76	76	76	76	76	76	76	76	76	76	76	76	76	76	
				Pad-mounted Equipment (PME)	Detail	8	8	- Each DETAIL Inspection fulfills a PATROL requirement. (If of Units is approximate.)	PME Locations	12169	12.50%	1521	1 - 1521	1522 - 3042	3043 - 4564	4565 - 6086	6087 - 7608	7609 - 9127	9128 - 10649	10650 - 12169	1 - 1521	1522 - 3042	3043 - 4564	4565 - 6086
					Patrols via Detail	8	8	- Each DETAIL Inspection fulfills a PATROL requirement. (If of Units is approximate.)	PME Locations	12169	12.50%	1521	1 - 1521	1522 - 3042	3043 - 4564	4565 - 6086	6087 - 7608	7609 - 9127	9128 - 10649	10650 - 12169	1 - 1521	1522 - 3042	3043 - 4564	4565 - 6086
URBAN		(Switchgear, Capacitors, Highway Gear)	Patrols Stand Alone	8	8	- Each DETAIL Inspection fulfills a PATROL requirement. (If of Units is Estimated.)	Locations	12169	12.50%	1521	6085 - 7606	7607 - 9127	9128 - 10648	10649 - 12169	1 - 1521	1522 - 3042	3043 - 4564	4565 - 6086	6085 - 7606	7607 - 9127	9128 - 10648	10649 - 12169		
			Total Patrols	4	4		PME Locs	12,169	25.00%	3,042	3,042	3,042	3,042	3,042	3,042	3,042	3,042	3,042	3,042	3,042	3,042	3,042		
		Underground Structures - Non-Equipment/Cable Only Locations	Detail	8	8	- Each DETAIL Inspection fulfills a PATROL requirement. (If of Units is Estimated.)	Structures	2841	12.50%	355	1 - 355	356 - 710	711 - 1065	1066 - 1421	1422 - 1776	1777 - 2131	2132 - 2486	2487 - 2841	1 - 355	356 - 710	711 - 1065	1066 - 1421		
			Patrols via Detail	8	8	- Each DETAIL Inspection fulfills a PATROL requirement. (If of Units is Estimated.)	Structures	2841	12.50%	355	1 - 355	356 - 710	711 - 1065	1066 - 1421	1422 - 1776	1777 - 2131	2132 - 2486	2487 - 2841	1 - 355	356 - 710	711 - 1065	1066 - 1421		
			Patrols Stand Alone	8	8	- Patrols Stand Alone	Structures	2841	12.50%	355	1422 - 1776	1777 - 2131	2132 - 2486	2487 - 2841	1 - 355	356 - 710	711 - 1065	1066 - 1421	1422 - 1776	1777 - 2131	2132 - 2486	2487 - 2841		
			Total Patrols	4	4		Structures	2,841	25.00%	710	710	710	710	710	710	710	710	710	710	710	710	710	710	
			Underground Structures - Equipment Locations (Transformers, Network Equipment, etc)	Detail	8	8	- Each DETAIL Inspection fulfills a PATROL requirement. (If of Units is Estimated.)	Structures	238	12.50%	30	1 - 30	31 - 60	61 - 89	90 - 119	120 - 149	150 - 179	180 - 208	209 - 238	1 - 30	31 - 60	61 - 89	90 - 119	
				Patrols via Detail	8	8	- Each DETAIL Inspection fulfills a PATROL requirement. (If of Units is Estimated.)	Structures	238	12.50%	30	1 - 30	31 - 60	61 - 89	90 - 119	120 - 149	150 - 179	180 - 208	209 - 238	1 - 30	31 - 60	61 - 89	90 - 119	
				Patrols Stand Alone	8	8	- Patrols Stand Alone	Structures	238	12.50%	30	120 - 149	150 - 179	180 - 208	209 - 238	1 - 30	31 - 60	61 - 89	90 - 119	120 - 149	150 - 179	180 - 208	209 - 238	
					Total Patrols	4	4		Structures	238	25.00%	60	60	60	60	60	60	60	60	60	60	60	60	60

Delivery System		Year # / Calendar Year																						
		1	2	3	4	5	6	7	8	9	10	11	12											
DISTRIBUTION	Facility Types / Inspection Program	Inspection Type	Proposed KCP&L Cycle (Yrs)	Comments and Program Bundling	Units	Estimated Total # of MC Units	Annual %	Annual Units	Year # / Calendar Year															
									1	2	3	4	5	6	7	8	9	10	11	12				
	Poles/Overhead Structures - Wood Poles (KCP&L-Owned)	Intrusive	12	12	- Not bundled with other programs due to specialized resource requirements. - Inspect Poles Age 7 Years and Older	Poles (1000's)	43	8.33%	4	1 - 4	4 - 7	7 - 11	11 - 14	14 - 18	18 - 22	22 - 25	25 - 29	29 - 32	32 - 36	36 - 39	39 - 43			
		Patrol	6	6	- Bundled with Overhd Circ Inspection.						w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ				
		Detail	12	12	- Bundled with Overhead Circ Inspection. - Cycle is shorter than rule due to bundling.						w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ				
		Patrol	6	6	- Bundled with Overhd Circ Inspection.						w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ	w/ Overhd Circ				
	Overhead Circuits, Structures & Equipment (Conductors, Transformers, Regulators, Capacitors, Switches/Protective Devices, Street Lights)	Detail	12	12	- Each DETAIL Inspection fulfills a PATROL requirement. (# of Units is Estimated.)	Circuits	68	8.33%	6	1 - 6	7 - 11	12 - 17	18 - 23	24 - 28	29 - 34	35 - 40	41 - 45	46 - 51	52 - 57	58 - 62	63 - 68			
		Patrols - via Detail	12	12	- Each DETAIL Inspection fulfills a PATROL requirement. (# of Units is Estimated.)	Circuits	68	8.33%	6	1 - 6	7 - 11	12 - 17	18 - 23	24 - 28	29 - 34	35 - 40	41 - 45	46 - 51	52 - 57	58 - 62	63 - 68			
		Patrols - Stand Alone	12	12	- Poles/Overhd Structures Included in Program.	Circuits	68	8.33%	6	35 - 40	41 - 45	46 - 51	52 - 57	58 - 62	63 - 68	69 - 74	75 - 79	80 - 84	85 - 89	90 - 94	95 - 99			
		Total Patrols	6	6		Circuits	68	16.67%	11	11	11	11	11	11	11	11	11	11	11	11	11			
	Pad-mounted Equipment (PME) (Switchgear, Capacitors, Highbay Gear)	Detail	12	12	- Each DETAIL Inspection fulfills a PATROL requirement. (# of Units is approximate.)	PME Locations	279	8.33%	23	1 - 23	24 - 47	48 - 70	71 - 93	94 - 116	117 - 140	141 - 163	164 - 186	187 - 209	210 - 233	234 - 256	257 - 279			
		Patrols - via Detail	12	12	- Each DETAIL Inspection fulfills a PATROL requirement. (# of Units is approximate.)	PME Locations	279	8.33%	23	1 - 23	24 - 47	48 - 70	71 - 93	94 - 116	117 - 140	141 - 163	164 - 186	187 - 209	210 - 233	234 - 256	257 - 279			
		Patrols - Stand Alone	12	12	- Stand Alone	PME Locations	279	8.33%	23	141 - 163	164 - 186	187 - 209	210 - 233	234 - 256	257 - 279	280 - 302	303 - 325	326 - 348	349 - 371	372 - 394	395 - 417			
		Total Patrols	6	6		PME Locs	279	16.67%	47	47	47	47	47	47	47	47	47	47	47	47	47			
	Underground Structures - Non-Equipment/Cable Only Locations	Detail	12	12	- Each DETAIL Inspection fulfills a PATROL requirement. (# of Units is Estimated.)	Structures	0	8.33%	0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0			
		Patrols - via Detail	12	12	- Each DETAIL Inspection fulfills a PATROL requirement. (# of Units is Estimated.)	Structures	0	8.33%	0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0			
Patrols - Stand Alone		12	12	- Stand Alone	Structures	0	8.33%	0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0				
Total Patrols		6	6		Structures	0	16.67%	0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0				
Underground Structures - Equipment Locations (Transformers, Network Equipment, etc)	Detail	12	12	- Each DETAIL Inspection fulfills a PATROL requirement. (# of Units is Estimated.)	Structures	0	8.33%	0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0				
	Patrols - via Detail	12	12	- Each DETAIL Inspection fulfills a PATROL requirement. (# of Units is Estimated.)	Structures	0	8.33%	0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0				
	Patrols - Stand Alone	12	12	- Stand Alone	Structures	0	8.33%	0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0				
	Total Patrols	6	6		Structures	0	16.67%	0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0				

Delivery System	Urban/Rural	Facility Types / Inspection Program	Inspection Type	Proposed KCP&L Cycle (yrs)	Required Rule Cycle (yrs)	Comments and Program Bundling	Units	Estimated Total # of MO Units	Annual %	Annual Units	Year # / Calendar Year											
											1	2	3	4	5	6	7	8	9	10	11	12
TRANSMISSION		Poles/Overhead Structures - Wood Poles	Intrusive	11	12	- Not bundled with other programs due to specialized resource requirements. - Inspect Poles Age 7 Years and Older	Poles	13,900	9.09%	1,264	1 - 1264	1264 - 2527	2527 - 3791	3791 - 5055	5055 - 6318	6318 - 7582	7582 - 8845	8845 - 10109	10109 - 11373	11373 - 12636	12636 - 13900	1 - 1265
			Patrol	1	4/6	Bundled with Ovoid TSM Line Inspection.	Poles	13,900			w/ Ovoid T-Line	w/ Ovoid T-Line	w/ Ovoid T-Line	w/ Ovoid T-Line	w/ Ovoid T-Line	w/ Ovoid T-Line	w/ Ovoid T-Line	w/ Ovoid T-Line	w/ Ovoid T-Line	w/ Ovoid T-Line	w/ Ovoid T-Line	w/ Ovoid T-Line
			Detail	11	12	Bundled with Ovoid TSM Line Inspection.	Structures	2,100	9.09%	191	1 - 191	191 - 382	382 - 573	573 - 764	764 - 955	955 - 1145	1145 - 1336	1336 - 1527	1527 - 1718	1718 - 1909	1909 - 2100	1 - 192
			Patrol	1	4/6	Bundled with Ovoid TSM Line Inspection.	Structures	2,100			w/ Ovoid T-Line	w/ Ovoid T-Line	w/ Ovoid T-Line	w/ Ovoid T-Line	w/ Ovoid T-Line	w/ Ovoid T-Line	w/ Ovoid T-Line	w/ Ovoid T-Line	w/ Ovoid T-Line	w/ Ovoid T-Line	w/ Ovoid T-Line	w/ Ovoid T-Line
		Overhead TSM Lines, Structures and Equipment (Conductors, Switches/Protective Devices) (All have Real Time Monitoring)	Detail	11	12	Each DETAIL Inspection fulfills a PATROL - Includes Poles/Ovoid Structures - Non-Wood	Line Miles	778	9.09%	71	1 - 71	71 - 141	141 - 212	212 - 283	283 - 354	354 - 424	424 - 495	495 - 566	566 - 637	637 - 707	707 - 778	1 - 71
			Patrols via Detail	11	12	Each DETAIL Inspection fulfills a PATROL - Includes Poles/Ovoid Structures - Non-Wood	Line Miles	778	9.09%	71	1 - 71	71 - 141	141 - 212	212 - 283	283 - 354	354 - 424	424 - 495	495 - 566	566 - 637	637 - 707	707 - 778	1 - 71
			Stand Alone	1	4/6	Stand Alone Patrols performed each calendar year on ALL TSM Lines that are NOT Detail - Includes Poles/Ovoid Structures - Non-Wood - The total of Patrols vs Detailed Inspection due Stand Alone Patrols will cover 100% of the Ovoid TSM lines each calendar year. - Includes Poles/Ovoid Structures - Non-Wood	Line Miles	778	91.0%	708	72 - 778	142 - 778	213 - 778	284 - 778	355 - 778	425 - 778	496 - 778	567 - 778	638 - 778	708 - 778	-	72 - 778
			Total Patrols	1	4/6		Line Miles	778	100%	778	778	778	778	778	778	778	778	778	778	778	778	778
		Underground TSM Structures (Manholes, Tunnels, Bridges, etc.) (All are Urban)	Detail	8	8	Performed bundled with Underground TSM Cable Systems and Equipment.	Structures	24	12.50%	3	1 - 3	4 - 6	7 - 9	10 - 12	13 - 15	16 - 18	19 - 21	22 - 24	1 - 3	4 - 6	7 - 9	10 - 12
			Patrol	1	4/6	- Patrolled a minimum of once annually. - Combined Patrol with Underground TSM Cable Systems.	Structures	24	100%	24	1 - 24	1 - 24	1 - 24	1 - 24	1 - 24	1 - 24	1 - 24	1 - 24	1 - 24	1 - 24	1 - 24	1 - 24
		Underground TSM Cable Systems and Equipment (Terminals, Pump Stations, Cables) (All are Urban)	Detail	8	12	Cycle is shorter than required in order to bundle with Underground TSM Structures Detailed Inspection.	Equipment Locations	23	12.50%	2,875	1 - 3	4 - 6	7 - 9	10 - 12	13 - 14	15 - 17	18 - 20	21 - 23	1 - 3	4 - 6	7 - 9	10 - 12
			Patrol	1	4/6	- Patrolled a minimum of once annually. - Combined Patrol with Underground TSM Structures.	Equipment Locations	23	100%	23	1 - 23	1 - 23	1 - 23	1 - 23	1 - 23	1 - 23	1 - 23	1 - 23	1 - 23	1 - 23	1 - 23	1 - 23



