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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: Vegetation Management Standards
(4 CSR 240-23.030)**

Dear Ms. Dale:

Pursuant to 4 CSR 240-23.030(4)(C), attached please find a copy of the vegetation management standards, guidelines, and procedures of Kansas City Power & Light Company concerning the Commission's recently-promulgated vegetation management standards for electric utilities.

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

Sincerely,



attachment

Kansas City Power & Light Company

TRANSMISSION and DISTRIBUTION RIGHT-OF-WAY VEGETATION MANAGEMENT PROGRAM

July 1, 2008

This program document applies to maintenance of vegetation on all overhead KCP&L transmission and distribution power lines and contains minimum requirements of the Missouri Public Service Commission Rule 4 CSR 240-23.030 Electrical Corporation Vegetation Management Standards and Reporting Requirements.

July 2008

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1.0 Introduction

The purpose of this KCP&L Transmission and Distribution Vegetation Management Program document is to describe the strategy, key processes, and guidelines necessary to accomplish the orderly, uniform, safe and efficient accomplishment of KCP&L's objectives relative to the maintenance of vegetation affecting the overhead delivery system. The Program may be modified from time-to-time based on performance as measured by tree-related service reliability, changes in program efficiency, evaluations of customer satisfaction, changes in regulatory requirements, or other program drivers.

2.0 Safety and Reliability

The purpose of KCP&L's Transmission and Distribution vegetation management programs is to help maintain safe and reliable electric service. Without proper maintenance, trees can become a major cause of service interruptions and can contribute to dangerous conditions such as downed power lines. Vegetation maintenance is also the primary means of complying with the National Electric Safety Code Vegetation Management Section 218 (2007).

All crews performing vegetation management work on or near KCP&L facilities, rights-of-way (ROW) or easements shall follow approved safety guidelines and procedures. All contractors performing work for KCP&L shall comply with all applicable governmental safety and health regulations and the safety and health provisions of their respective contract.

All contractors must, at all times, be aware of the nature and characteristics of KCP&L electric facilities before work begins. Contractors need to understand that electric facilities must remain energized during the performance of work unless special arrangements are made with an authorized KCP&L representative.

3.0 Vegetation Manager

KCP&L employs a vegetation manager to oversee the vegetation management program, to ensure compliance with regulatory requirements including the implementation of the program described in this document.

4.0 Distribution Vegetation Management Program Strategy

4.1. PROGRAM OBJECTIVES

The Distribution Vegetation Management Program objective is to help maintain safe, reliable and least cost electric service, while complying with all regulatory requirements. The Program helps achieve this overall objective by efficiently managing vegetation to reduce outage risk. Left unmanaged, trees and other vegetation can become a leading source of power interruptions during non-storm events and can delay outage restoration associated with major and minor weather events. The Distribution Vegetation Management Program strategy focuses on those maintenance activities that help reduce tree-caused outage risks associated with trees that grow into lines, and affect risks associated with trees that break and fall onto lines.

4.2. MAINTENANCE SCHEDULING STRATEGY

The Distribution Vegetation Management Program maintenance scheduling strategy utilizes time-based maintenance intervals that also consider voltage, historical reliability, the potential for vegetation to interfere with energized lines, and the relative importance of the line to maintaining safe and reliable service. Different lines are designated with different primary maintenance cycles based on customer density (urban or rural¹). Mid-cycle line inspections of all primary distribution lines are scheduled to help identify conditions that may require maintenance in advance of the primary cycle. Table 1 lists the applicable cycles for urban and rural circuits in Missouri.

TABLE 1. Missouri Cycle Lengths in Years

Circuit Description	Primary Cycle Length (Years)	Mid-cycle Inspection/selective Tree Maintenance (Years)
Urban Circuits	4	2
Rural Circuits	5 to 6	2 to 3

The primary maintenance cycle will result in 25 percent of total urban distribution miles being maintained annually, and 25 percent of rural distribution miles being maintained at least every 18 months.

4.2.1. Tree Selection Criteria

KCP&L utilizes a highly prescriptive approach to selection of trees to maintain. Professional utility arborists are assigned to create a work plan designating specific vegetation to be pruned, removed or treated by contract crews. Trees are selected for maintenance based on risk factors and not on fixed distances from conductors. Not every tree exhibiting some risk factors will be selected for pruning or removal, but only those trees that are observable, predictable and significant threats to service reliability. General criteria for selection of trees to be maintained includes:

- Potential to cause an interruption through growth into or across energized conductors before the next inspection or the next scheduled trim cycle
- Obvious defects that predispose the tree to failure and damage to electrical facilities
- Existing dead or broken branches hanging over electrical facilities

Factors to be considered include:

- The natural growth rate of the tree
- The expected re-growth rate following pruning of the tree
- The relative wood strength of the tree species and potential for breakage
- Voltage, construction type, conductor spacing and conductor covering

¹ Urban circuits are defined as those with customer density equal to or greater than 35 customers per line mile. Rural circuits are defined as those with customer density less than 35 customers per line mile.

- Legal rights to access the area
- Extent of the defects (decay, splits, weak branch attachments, etc.), customers affected by the line, and potential for tree limbs or trunks to strike primary conductors if they were to break or fall.
- Sag of conductors at elevated temperatures and under wind and ice loading and combined displacement of vegetation, supporting structures, and conductors under adverse weather or routine wind conditions.

Trees affecting secondary service lines are not normally maintained but are the property owner's responsibility. However, trees growing into service lines may be maintained to avoid deflection of these secondary voltage conductors by tree limbs as part of the primary scheduled maintenance cycle.

4.2.2. Tree Removal (trees larger than 4 inches diameter)

Tree removal, together with stump treatment to prevent resprouting, provides permanent clearance, eliminates the potential for removed trees to break and cause damage and reduces future maintenance costs. However, it is neither practical, environmentally desirable, nor welcome by property owners to remove all trees that could affect power lines. Consequently, designation of trees selected for removal is based on cost effectiveness, failure risk and signed permission of the property owner. Trees may be designated for removal if:

- Pruning will result in a significant adverse impact on the health of the tree.
- The tree is a hazard tree that poses an unacceptable risk to overhead lines.
- It is economically advantageous to remove rather than periodically prune the tree.

4.2.3. Hazard Trees

Structurally unsound trees (on or off the easement or ROW) that could fall into electrical conductors should be evaluated for possible removal. Hazard tree conditions could include but are not limited to the following symptoms:

- | | |
|-----------------|----------------------------------|
| • Dead or dying | • Cankers |
| • Severe lean | • Conks (fungal fruiting bodies) |
| • Weak branches | • Internal decay |
| • Root failure | |

4.2.4. Brush and Vines (trees smaller than 4 inches diameter)

Removal and/or treatment of brush with herbicides when it is still small can be a cost effective means of reducing future workload and associated maintenance costs before it grows large enough to affect power lines. Brush growing below conductors is designated for removal and stump treatment, mowing and foliar treatment, or individual stem treatment prior to growing to wire height and when it can be cost effectively treated. Vines are selected for cutting and treatment with approved herbicides as they are observed growing on poles and guy wires. Pruning brush should be avoided.

4.2.5. Integrated Vegetation Management (IVM)

KCP&L utilizes principles of Integrated Vegetation Management (IVM) to control brush on distribution ROW. IVM is an approach that considers the use of mechanical mowing, hand cutting, and herbicide applications, together with the benefits of biological control to manage undesirable woody vegetation on a ROW. The responsible, targeted use of herbicides is an important component of this approach.

Foliar application of herbicides for control of ROW brush on rights-of-ways as well as basal and cut stump methods will be used when most appropriate. Cut stumps should be treated with an appropriate herbicide mixture to prevent resprouting. Even small diameter brush stumps should be treated unless a follow-up foliar application is definitely scheduled.

In rural locations herbicide application may be scheduled to occur 1 to 2 years in advance of tree maintenance. Any brush stems missed in the herbicide application can be retreated or cut during the tree maintenance cycle. If brush is too tall to control with herbicides and requires hand cutting or mowing, herbicide application should be scheduled approximately one growing season following cutting.

4.3. CONTRACTING STRATEGY

KCP&L contracts with utility tree maintenance contractors rather than performing vegetation maintenance with its own employees. Multiple contractors are utilized to perform the work through contracts that combine time and equipment with performance-based components.

4.4. CUSTOMER RELATIONS

4.4.1. Customer Inquiries

An appropriate vegetation management individual through personal contact, telephone or letter, responds to customer requests generated through the KCP&L Call Center or other designated source. Requests for tree trimming, removal assistance, or other requests are normally inspected prior to assignment of work to a maintenance crew. Service provided to customers who request assistance with tree removal for the customer's convenience, normally include removal of overhanging branches and all limbs within 10 feet of energized conductors and debris is left at the site of the work.

4.4.2. Property Owner Notification

KCP&L provides notification of pending tree maintenance to affected property owners or occupants. Notification is accomplished through a combination of personal contact, door hangers or mailings at least seven and not more than 90 days prior to performing scheduled maintenance.

4.4.3. County and Municipal Notification

Appropriate municipal and county officials that may be affected by vegetation management activities are notified in writing at least two months in advance of the planned work. This notice includes planned dates and locations of scheduled vegetation maintenance and other information relevant to the particular municipality or county. The primary contact for each municipality or county is the individual

selected by mutual agreement between KCP&L and the highest elected official in the jurisdiction or highest appointed official if there is no elected official.

4.4.4. Public Outreach

KCP&L provides information to the public regarding the vegetation management program and appropriate trees to plant near overhead lines through the website, publications, and community events. At least annually, KCP&L mails information regarding vegetation management to customers throughout the service territory.

4.5. VEGETATION MANAGEMENT PRACTICES

4.5.1. Industry Standards

Vegetation management contractors are required to comply with all federal, state and local laws and regulations, including those of the U.S. Occupational Safety and Health Administration. Vegetation management contractors are also required to follow industry safety standards such as the American National Standards Institute (ANSI) Z133.1 - 2006 Pruning, Trimming, Repairing, Maintaining, and Removing Trees and Cutting Brush – Safety Requirements, 2006. ANSI A-300 (Part 1) - 2001 Tree, Shrub and Other Woody Plant Maintenance – Standard Practices is a requirement as it applies to utility tree pruning. Contractors are also required to implement the pruning concepts presented in the booklet “Pruning Trees Near Electric Utility Lines” by Dr. Alex L. Shigo.

4.5.2. KCP&L Vegetation Management Guidelines and Clearance Standards

KCP&L Vegetation Management Guidelines (Appendix A) are designed to provide guidance to the performance of work by the vegetation management contractors. Included in these guidelines are standards for clearance at the time vegetation is maintained. For conductors energized at 600 to 50,000 volts, the minimum required clearance is 10 feet or clearance to the edge of the ROW, whichever is less. Mature trees whose trunks or limbs have sufficient strength and rigidity to prevent the trunk or limbs from damaging the conductor under reasonably foreseeable wind and weather conditions may be retained within 10 feet of conductors.

4.5.3. Post-Work Inspection and Acceptance

KCP&L implements, as part of a contract management process, inspection of work following completion by vegetation maintenance contractors and prior to final acceptance. This inspection/audit process helps assure acceptable quality and completeness of work performed in accordance with work plans and specifications.

4.6. REPORTS AND RECORD KEEPING

4.6.1. Operational Reporting

Adequate records and reporting are important to effective management of any program. Records shall be maintained of key aspects of the vegetation management program to document program performance and provide information necessary for ongoing program management including:

- Completed work metrics (substation and circuit designation, date worked, crew size, supervisor and type of work performed)

- Cost metrics (cost per mile, cost per circuit, scheduled work, reactive work, etc.)
- Contractor performance (man-hours per unit, miles completed, schedule attainment, etc.)
- Schedule of future work by substation and circuit
- Safety hazards encountered by contractors and OSHA reportable events or accidents

4.6.2. Regulatory Reporting

KCP&L shall prepare an annual report for the Missouri Public Service Commission (MPSC) summarizing the vegetation management program results for the previous year and include a plan for the current year by April 1 of each year, and verified by affidavit of an officer who has knowledge of the matters stated therein. Any changes to be made in the vegetation management standards, guidelines, or standards will be filed at the commission not later than thirty (30) days prior to implementing the change and verified by affidavit of an officer who has knowledge of the matters stated therein. The report shall also include:

- expenditures for vegetation management for the preceding year;
- vegetation management budget for the current year;
- circuits, completion dates and miles trimmed in the preceding year;
- circuits, completion dates and miles scheduled for the current year; and
- total distribution miles for the system and corresponding classification between rural and urban.

KCP&L shall report to the MPSC its own violations of the Electrical Corporation Vegetation Management Standards and Reporting Requirements (4 CSR 240-23.030) within 30 days of discovery and include a plan for correcting the violation.

APPENDICES

APPENDIX A

KCP&L DISTRIBUTION VEGETATION MANAGEMENT GUIDELINES

KCP&L DISTRIBUTION LINE CLEARANCE GUIDELINES

About This Guideline

The following information is intended as a contractor's guide to the effective implementation of the KCP&L Distribution Vegetation Management Program. Each tree and tree species has its own unique growth pattern, condition, proximity to conductors, structures and other obstacles, requiring the exercise of professional judgment in implementing the guidelines.

These guidelines apply to vegetation management of the KCP&L distribution system including voltages from 600 to 35,000 Volts. They are not intended as personal safety guidelines.

(1) Introduction

A copy of these Guidelines and the book "Pruning Trees Near Electric Utility Lines" by Dr. Alex L. Shigo shall be kept on each crew truck/work location.

The Distribution Vegetation Management Program (hereinafter called the "Program") objective is to help maintain safe, reliable and least cost electric service, while complying with all regulatory requirements. The Program helps achieve this overall objective by efficiently managing vegetation to reduce outage risk. Left unmanaged, trees and other vegetation can become a leading source of power interruptions during non-storm events and can delay outage restoration associated with major and minor weather events. The Distribution Vegetation Management Program strategy focuses on those maintenance activities that help reduce tree-caused outage risks associated with trees that grow into lines, and affect risks associated with trees that break and fall onto lines.

The objectives of the Program are to be achieved while maintaining positive customer relations and utilizing sound environmental practices. The Program provides an incentive to the Contractor for exceeding certain production and quality criteria and assesses penalties for failing to maintain certain production and quality criteria. KCP&L, and or its designated representative is responsible for program oversight.

(2) Line Clearance Guidelines

(A) Pruning and Removal Guidelines

All tree pruning shall be governed by approved principles of modern arboriculture and shall adhere to industry standards, including, ANSI A-300 and Z-133 standards and the natural pruning method. KCP&L representatives, in cases, can grant exceptions to these pruning standards where mechanical trimming equipment is used. Pruning shall be done in a manner that protects current tree health and with regard for future growth and development.

(B) Voltages

1. Vegetation management for voltages of (35,000) volts and higher are considered to be Transmission voltages and are deferred to the Transmission Program.
2. Vegetation management for distribution lines energized at 35 kV and below are maintained by the Program. Primary voltages range from 600 to 34,500 Volts, and are further defined as follows: Backbone consists of (3) energized conductors, and Lateral consists of (1) or (2) energized conductors. Conductors with voltages of less than 600

Volts are considered Secondary voltage. The neutral wire has the potential to carry primary voltage, which CONTRACTOR shall take into consideration when clearing primary lines.

(C) Clearance for Primary voltages

1. For primary conductors, radial clearance to be achieved at the time of maintenance is 10 feet.
2. Sub-transmission lines and Backbone lines shall be trimmed vertically to remove overhanging limbs to the widths prescribed in paragraphs (2)(C)1.
3. Any tree affecting or potentially affecting a primary distribution line shall be trimmed to help maintain reliable service. The following factors are considered during the clearance process: The natural growth rate per species; The re-growth rate of the tree species (how fast the branches grow back after pruning), see Section 9 "Tree Re-growth Rates"; The wood strength of the tree species (what is the chance of the branch breaking under the load of strong wind, snow, ice); the voltage conducted by the line (the risk presented by the branch contacting the line; the higher the voltage, the greater the risk); branches rubbing insulated wires and broken or hanging tree branches.
4. The radial clearances in subsection (2)(C) 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 conflicts with any other materials within this section, the strictest rules shall apply.
5. Notwithstanding any provision to the contrary in this section (2), mature trees whose trunks or limbs have sufficient strength and rigidity to prevent the trunk or limbs from damaging the conductor under reasonably foreseeable wind and weather conditions are exempt from the minimum clearance requirements in this section (2).
6. Minimum clearances may be subject to limitations of right-of-way width or legal access.
7. All dead wood shall be removed when it is a risk to conductors or when the KCP&L directs the CONTRACTOR to do so.

(D) Clearance considerations for Secondary Conductors, (600) volts or less

1. Open Wire secondary shall be cleared to the same standards as lateral primary conductors.
2. Triplex, street light and service lines shall be cleared only to remove **hard contact**, or deflection of the line's intended path.
3. All dead wood shall be removed when it is a risk to conductors or when the KCP&L directs the CONTRACTOR to do so.

(E) Clearance considerations for other electrical equipment

1. The neutral wire has the potential to carry primary voltage, which CONTRACTOR shall take into consideration when clearing primary lines.
2. Guy Wires and poles shall be cleared on a case by case basis as determined necessary during field inspection, to free them from weight, strain, or displacement caused by contact with trees.
3. All dead wood shall be removed when it is a risk to conductors or when the KCP&L directs the CONTRACTOR to do so.

(F) Removal Considerations for trees greater than 4" DBH

1. If the amount of tree crown to be removed in order to obtain adequate clearance will have an adverse impact on the overall long term health of the tree, the tree will be considered for removal.
2. Tall-growing trees within the width of the right-of-way shall be considered for removal.
3. Hazard trees that pose a risk to the utilities overhead facilities shall be considered for removal. Hazard tree conditions could include, but are not limited to the following symptoms: Dead or dying, severe lean, weak branches, root failures, cankers, conks or internal decay.

4. All removed trees should be cut as close to the ground as practical and chemically treated to prevent resprouting.
5. Trees where the cost of removing is equal to or less than the cost of trimming shall be considered for removal.

(G) Brush considerations

1. Brush is defined as any tall growing tree that is less than 4" DBH. Brush also includes vines growing on or around KCP&L's overhead facilities.
2. Brush that has been planned to be removed shall be basal treated or cut as close to ground level as practical and chemically treated to prevent resprouting.
3. Vines shall be cut off approximately one foot above ground level. All vines shall be treated with herbicides below the cut.
4. Brush (as defined in (2)(G)1) that has been selected for removal and is located within the width of the right-of-way shall be removed and treated.
5. Second growth from stumps cut on previous pruning cycles shall be removed if it has been planned.

(H) Debris disposal

1. Unless specified otherwise, CONTRACTOR shall dispose of all debris resulting from scheduled maintenance work. Wood too large to be chipped shall be cut into fireplace lengths (approximately 18" lengths) and stacked on-site unless the homeowner requests the wood to be removed.
2. CONTRACTOR shall remove all debris produced from scheduled maintenance within 5 business days, unless property owner gives consent to leave debris.
3. Disposal of chips, wood and brush is the responsibility of the contractor.
4. Any debris resulting from outages and/or storms will be left on site.

(I) Herbicide treatment

1. The CONTRACTOR shall provide all necessary herbicide products and comply with applicable Laws regarding the application, storage and handling.
2. The CONTRACTOR shall use the most effective herbicide available for any given situation to prevent regeneration of vegetation and subject to approval by KCP&L. The applicable Material Safety Data Sheet, (MSDS) shall be submitted as part of the approval process. Herbicides shall be applied according to manufacturer instructions. Consideration must be given to the surrounding vegetation and soil conditions to prevent damage to other growth or surface water or ground water.
3. CONTRACTOR shall warranty herbicide treatment for one (1) year after application and remedy any new growth identified.

(3) Maintenance Cycle

(A) Missouri Maintenance Cycle

1. Urban circuits are defined as circuits with a customer density equal to or greater than 35 customers per line mile.
2. Rural circuits are defined as circuits with customer density less than 35 customers per line mile.
3. Urban circuits, both backbone and lateral, shall be maintained on a four (4) year cycle.
4. Rural circuits, both backbone and lateral, shall be maintained on a five (5) or six (6) year cycle.
5. Urban circuits shall be inspected every two (2) years. Where needed, vegetation maintenance will occur in a timely manner.
6. Rural circuits shall be inspected at least every three (3) years. Where needed, vegetation maintenance will occur in a timely manner.

(4) Outage/Storm Response

(A) On-Call/Call Out

1. In the event of an emergency and when specifically requested by KCP&L, contractors shall provide crews to perform work after hours and on week-ends and holidays, as necessitated by the emergency. Work that is unrelated to the restoration of reliable electric service shall not be performed. On such emergencies, only essential work (i.e. no chipping of brush) shall be done per tree as required to restore electric service rapidly.
2. If necessary a Vegetation Management Supervisor will report to dispatch headquarters to aid in the dispatching of tree crews.
3. Improper pruning during outage/storm response work may occur due to unsafe conditions.
4. Fallen trees, broken limbs and all trimmings and cut vegetation associated with service restoration are left on site. Crews shall not inform customers that KCP&L will return at a later day to clean up the trimmings and cut vegetation.

(5) Customer Request Process

(A) Customer requests

1. Customer requests generated from KCP&L's call center or other designated source are managed by the vegetation management staff. Customer requests can include but are not limited to: Trim for Line Clearance; Customer Assisted Removal; Check for Drop Service; Pick Up Brush.
2. Customer requests will be inspected and the customer will be notified with the specific action that will be taken.
3. Under some circumstances, a customer request may be answered by a standard letter.
4. Response time to customer requests will vary depending on the number of requests in the system and the type of work required.
5. When necessary and with customer consent, brush will be left on-site.
6. For customer requested assistance for tree removal, any tree(s) to be removed by customer will have all overhang removed and ten feet (10') of clearance from all energized conductors will be provided.

(6) Notification Process

(A) Landowner Notification

1. For regularly schedule maintenance, customers will be notified in person or by door card with appropriate contact number, by a KCP&L representative. Questions regarding the scheduled work will be answered at this time. Notice to affected property owners or occupants will occur at least seven (7) days, but not more than ninety (90) days, prior to performing planned vegetation maintenance. Alternative notification methods may include direct mail, postcard or bill insert. KCP&L shall maintain a record of the dates, content, and addresses to which all notices provided were given until the subsequent scheduled vegetation management cycle has occurred for each affected property owner or occupant.
2. KCP&L and or its representative must secure signed permission to remove any tree equal to or greater than 4" DBH.
3. If vegetation management is necessary and the landowner refuses permission, the concern will be addressed by KCP&L and or its representative.
4. The vegetation manager's name and contact information is posted on KCP&L's website and is included on all notifications in the state of Missouri.

(B) Public notification

1. KCP&L shall provide written notice of any pending vegetation management activities to a primary contact for each county and municipality affected. The primary contact shall be selected by mutual agreement between KCP&L and the highest elected official, or if no elected official, then the highest appointed official, of the county and municipality.
2. Notice shall be made in writing to the primary contact designated under subsection above (6)(B)1, 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.

(7) Contractor Guidelines

(A) Appearance and Conduct

All contract line clearance workers shall maintain professional appearance and conduct and shall adhere to the following guidelines. The following guidelines are neither intended to be nor should they be considered to be inclusive. The contractor:

1. shall be courteous to customers at all times;
2. shall not engage in "horseplay" while on the job;
3. shall not use language that is profane, boisterous, derogatory, racial, or of an ethnic nature;
4. shall not display sexually suggestive objects or pictures, such as t-shirts, magazines, calendars or posters;
5. shall not use customers' property (i.e. patios, picnic tables, etc.) for breaks;
6. shall not leave refuse from lunches, etc. on private or public property;
7. shall not enter the customer's house;
8. shall refrain from climbing over or standing on any fence, garage, tool shed, etc. unless absolutely necessary to access work and only when it can be done safely and without damaging customers' property;
9. shall not solicit private work, including tree work, while performing work pursuant to this Contract;
10. shall not obligate KCP&L to make any payments to another party, nor make any promises or representations of any nature to another party for or on behalf of KCP&L;
11. shall maintain neat appearance at all times and;
12. shall wear clothing and hard hat displaying CONTRACTOR's color and/or emblem.

(B) Supervision

1. The CONTRACTOR shall ensure that it has adequate supervisory personnel on the property to ensure that all of the CONTRACTOR's crews on the property are properly supervised. CONTRACTOR's personnel shall provide the interaction and communication with KCP&L as required by this Contract. Such supervisory personnel shall be called "General Foremen" in these guidelines.
2. All contract supervisors and General Foreman will be Certified Arborists through the International Society of Arboriculture (ISA). Employees currently in these positions will have six months to obtain the certification; newly assigned supervisors and general foreman shall obtain their certification within twelve months.

(C) Identification

All General Foreman and Crew Forman shall possess identification stating employee name, employer, as well as documentation stating the contractor is providing vegetation management services for KCP&L.

(D) Employment expectations

1. CONTRACTOR shall conduct pre-employment and random drug and alcohol screening to detect the presence of amphetamines, cocaine, marijuana, opiates, and phencyclidine, at no additional cost to KCP&L.

2. CONTRACTOR shall conduct pre-employment background check for felony criminal convictions and motor vehicle violations for all states of residency within the past five (5) years, at no additional cost to KCP&L.

(E) Vehicles

1. All vehicles and equipment shall be in good working condition, kept clean and organized at all times, maintaining a professional appearance. All trucks shall clearly display CONTRACTOR markings and vehicle numbers. Truck numbering should be visible from both side and the back. Also, the numbering should be large enough to be legible from a distance commonly encountered in traffic, i.e., several car lengths or across a four-lane intersection.
2. Each General Foreman and Crew shall be equipped with a two-way communication device at no additional cost to KCP&L. If radios are supplied by KCP&L, the contractor will replace all lost or stolen radios.
3. Cones will be placed at a highly visible area (street intersections, driveways, alleys, etc.) when a crew's work location is not readily detectable.

(F) Time Fulfillment

1. All work shall be performed Monday through Friday, except under special circumstances as agreed by KCP&L. The CONTRACTOR and KCP&L shall mutually agree to the working hours in accordance to IBEW local 53. Any approved overtime shall be paid at the rates set forth in contract, depending on the circumstances, by KCP&L for any work performed in excess of 40 hours per week.
2. While on **stand-by**, crew(s) shall be dumping chips, fueling trucks, maintaining chainsaws, and engaging in other productive duties. *Crews sitting for the 2-hour show up time shall not charge time towards their perspective equipment.*
3. Holidays - CONTRACTOR may, upon receipt of permission from KCP&L, work at straight time on any KCP&L-observed holiday.

(G) Certification and permits

The CONTRACTOR shall acquire all certifications and permits required by local, county, municipality, state, tribal and federal agencies in which the CONTRACTOR's crews will be performing work pursuant to this Contract.

(H) Refusal/Access

1. In the event that the CONTRACTOR encounters conditions prohibiting performance of Work, the crew foreman will make, and document on Work Log, all reasonable efforts to secure access. CONTRACTOR shall notify KCP&L after all reasonable efforts to secure access have failed. A locked gate shall not, in and of itself, constitute "No Access". CONTRACTOR shall not be entitled to additional compensation for No Access.
2. In the event that a property owner refuses access to the work scheduled, the crew foreman will notify KCP&L and move on to the next job site. Work will not be performed until KCP&L has notified the CONTRACTOR that access has been granted.

(I) Reporting

The CONTRACTOR shall collect and report key aspects of the vegetation management program to document program performance and provide information necessary for ongoing program management including:

1. CONTRACTOR Weekly Work Log
2. Weekly TRES timesheets
3. Daily Crew Locations
4. A record of any safety hazards encountered
5. 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.
6. Additional documentation as requested by KCP&L

(J) Contact information

KCP&L and the CONTRACTOR shall provide each other as needed, a list of all Vegetation Management personnel, and the phone numbers where each can be contacted, including pagers/beepers/cell phones.

(K) Communication

During the progress of the work, CONTRACTOR shall provide crew locations to KCP&L staff as requested. In the event the CONTRACTOR plans to deviate from the normal work schedule, e.g. leaving the job site or starting location due to inclement weather or other cause, the foreman shall notify the appropriate personnel immediately.

(L) System Awareness

1. The CONTRACTOR shall at all times be aware of the nature and characteristics of the electric facilities, including circuit voltage. It is understood that all circuits shall remain energized during the performance of work. Any exceptions must be authorized and scheduled by KCP&L. If in the judgment of the Contractor's general foreman/supervisor, it is hazardous to prune or remove trees with the circuits energized, the Contractor must contact an authorized KCP&L representative. If appropriate KCP&L will provide the necessary protective materials or de-energize circuits to ensure the safe pruning or removal of the tree(s).
2. Should the Contractor knock down or come into contact with conductors (power lines), the Contractor shall immediately notify KCP&L and take the necessary protective measures. All Contractor-caused electric service interruptions are subject to repair at the Contractor's expense. This includes any damage to customers' property, including any electrical damage.
3. In the event a Contractor becomes aware of any broken, damaged, loose or faulty line facilities in the normal course of its line clearance performance, the Contractor shall promptly notify KCP&L as to the exact location(s) and nature of the condition found.
4. The CONTRACTOR's Representative (i.e. Regional Manager or designated representative) and General Foreman shall attend meetings as scheduled by KCP&L to discuss work practices and issues.

(M) Expectations

1. CONTRACTOR shall insure that crew's are being productive at all times.
2. CONTRACTOR shall perform Work as identified by KCP&L. The CONTRACTOR shall only accept work assignments from KCP&L's designated representative. The CONTRACTOR shall make an attempt to contact the homeowner at each property they have planned work.

(8) Definitions

basal treatment - Herbicide application covering the entire stem to approximately 18 inches above the soil

brush - a woody plant that is less than 4 inches DBH, that is not part of an existing tree, and that may reach the conductor at maturity.

brush work – trimming, clearing brush and applying a herbicide to the cut stems, or only applying herbicide to brush.

clearance - the distance between vegetation and the conductors.

coniferous - any of the cone-bearing trees or shrubs, mostly evergreens.

DBH - "diameter at breast height" – the diameter of individual tree trunks or individual stems of brush measured at a point 4.5 feet above the ground.

deciduous - any perennial plant that sheds its leaves annually at the end of a growing season.

demand tree trimming - trimming or removing trees on a customer requested or emergency basis. Also may include tree work associated with line construction projects. This is typically required when trees have grown into the conductors, or are close to the conductors, and have created a potentially dangerous situation. This may also include special trimming or chipping work when requested by the Utility. Customer requested only Utility authorized representatives may assign demand tree work.

directional pruning - a form of natural pruning used to encourage tree regrowth away from the conductor. It is accomplished by removing limbs growing toward the conductors entirely at the branch collar near the trunk of the tree, or by pruning to lateral branches that are at least one-third the diameter of the limb being cut and are growing away from the conductor.

drop-crotching - is a crown reduction technique in which a tree trimmer makes proper pruning cuts at crotches, removing the larger limb and favoring the smaller. For electric line clearance, the trimmer would remove limbs growing toward the conductors and favor those growing away from the conductors. This usually results in a "V" shaped appearance of the tree crown and is frequently referred to as "V-trimming". See definition of "natural pruning" for further description.

evergreen - any plant that retains its leaves/needles year-round.

foliar herbicide application - the application of a herbicide to the leaves or needles of a target plant.

hazard trees - trees that are located off the right of way, have a high probability for failure and are of sufficient height to contact the conductors and/or structures and guy wires if they were to fall in that direction, and should be cleared. Conditions could include but are not limited to the following: Dead, dying or diseased, leaning trees, weak branches, shallow root system, root failure, internal decay, canker or canker root.

herbicide - a chemical pesticide used to control, suppress, or kill plants.

natural pruning - a method by which branches are cut to the branch collar at a suitable parent limb, the trunk of the tree, or an appropriately sized lateral branch. This method of pruning is sometimes called "drop-crotching", "proper pruning", the "Shigo method" or "lateral trimming."

preventative maintenance - trimming or removing vegetation on a systematic basis typically by, but not limited to, circuit or grid, and in a manner intended to achieve system reliability.

pruning - the removal of dead, dying, diseased, interfering, objectionable, and/or weak branches of trees or shrubs using proper arboricultural techniques.

removal - completely removing an entire tree as close as practical to ground level and applying herbicide to the cut stump when appropriate.

right-of-way - a transmission or distribution right-of-way, an easement, a utility easement, or any other corridor of land paralleling, on both sides, an overhead transmission or distribution line, and in respect of which the Utility has certain rights.

rounding over - the making of many small cuts so that a tree underneath the conductors is rounded over in a uniform curve. This creates an unhealthy tree condition and results in rapid regrowth directly back toward the electrical conductors. This is not an acceptable practice.

safety zone work – removing all overhang and cutting back limbs to a minimum clearance of 10 feet from the energized conductor.

selective herbicide - a herbicide that, when applied to a mixed population of plants, will control specific species without injury to others.

shearing - the making of many small cuts so that a tree adjacent to the conductors is sheared in a uniform line. This is not a generally acceptable practice.

show-up site – site where CONTRACTOR crews receive work assignments.

side pruning - using natural pruning methods to cut back or removing side branches that are threatening the conductors; required where trees are growing adjacent to conductors.

stump treatment - applying an approved herbicide to the outer ring (cambium) portion of the stump to reduce or eliminate re-growth.

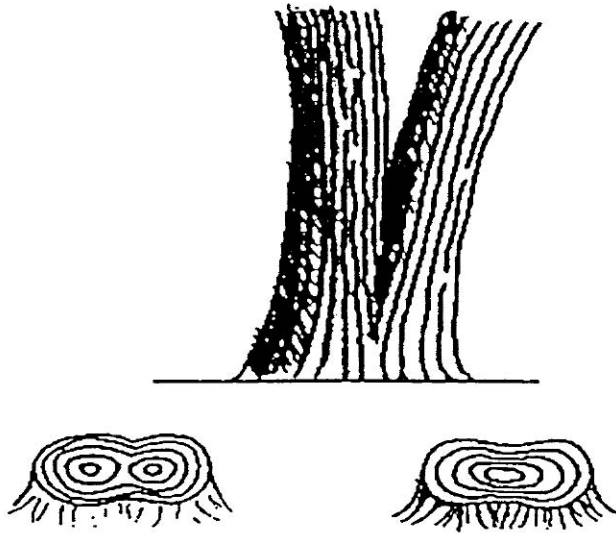
sucker growth - the re-growth within the tree that originates near the cuts made during the previous trimming.

the property - any work site associated with this contract.

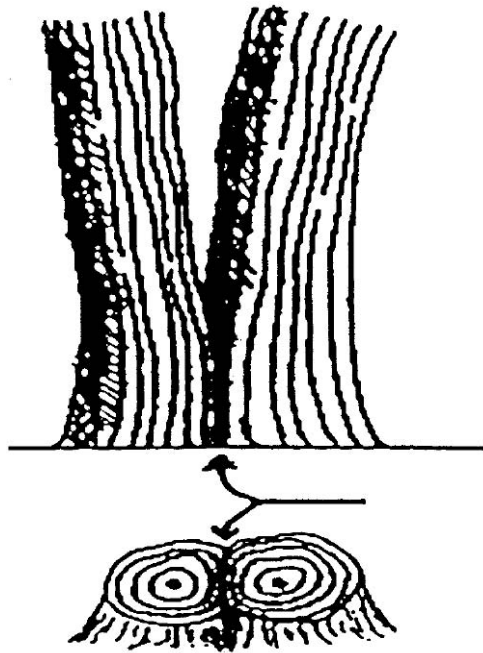
topping - cutting back the upper crown of a tree to a uniform horizontal line, leaving multiple stubs. This is an improper and unacceptable trimming technique.

tree - a perennial plant with a woody trunk measuring at least four (4) inches DBH, and having one set of annual rings at ground level or more than one set of annual rings not separated by included bark. Trees that grow adjacent to one another and share an apparent common base completely separated by "included bark" are considered to be distinct trees. "Included bark" is bark that is included within the wood of a tree, or between the woody stems of separate trees, creating a physical separation between the trees.

single tree- a tree that splits above the ground line and has no visible included bark seam down to the ground line.



multiple trees- Any tree that splits at the ground line or any tree that splits above the ground line but has a visible included bark seam down to the ground line.



tree size classifications - tree diameter as measured at breast height (DBH):

4" to 8", 8" to 12", 12" to 24", 24" and greater

tree crown - the upper portion of the tree; the branches or leaf area.

trimming - cutting back tree branches or shrubs to shape or reduce the size of the tree or shrub.

V-trim - using natural pruning methods to cut back large portions of the upper crown of a tree. This is required when trees are located directly beneath a conductor. Also known as crown reduction pruning or drop crotching.

vegetation - all the plant (flora) life in a particular region. A plant community, assemblage, or aggregation with distinguishable characteristics.

(9) Tree Re-growth Rates**Average Annual Re-growth Rates For Individual Species on The KCP&L Distribution System.**

<u>Species</u>	<u>Pruning Type</u>	<u>Inches of Re-growth by Age of Sprout</u>					
		<u>1 Yr.</u>	<u>2 Yr.</u>	<u>3 Yr.</u>	<u>4 Yr.</u>	<u>5 Yr.</u>	<u>6 Yr.</u>
Silver Maple	Side	55	67	84	101	118	135
	Top	71	92	113	134	155	176
Hackberry	Side	36	56	78	87	100	104
	Top	53	81	104	120	140	161
Ash	Side	33	63	84	98	115	132
	Top	26	61	88	118	134	161
Honeylocust	Side	36	68	91	115	135	162
	Top	48	81	115	128	147	173
Black Walnut	Side	43	71	87	103	119	130
	Top	69	103	144	166	183	212
Eastern Red cedar	Side	7	11	17	22	27	34
	Top	17	29	41	53	65	79
Osage-Orange	Side	67	89	111	133	155	177
	Top	81	105	129	153	177	201
Mulberry	Side	28	50	75	86	126	141
	Top	52	96	129	163	202	241
Scots Pine	Side	12	22	29	37	46	54
	Top	13	25	35	44	53	59
Sycamore	Side	71	112	137	158	176	194
	Top	26	96	132	176	225	275
Eastern Cottonwood	Side	48	80	101	128	160	192
	Top	67	105	147	176	196	209
Shingle Oak	Side	43	57	71	87	94	103
	Top	17	36	54	66	77	88
Pin Oak	Side	27	45	57	68	82	91
	Top	30	59	80	94	106	126
Elm	Side	50	83	111	133	152	203
	Top	53	93	124	158	193	226

APPENDIX B

2008 DISTRIBUTION VEGETATION MANAGEMENT SCHEDULE

Appendix B – 2008 Distribution Vegetation Management Schedule

KCP&L 2008 Circuit Schedule - Missouri

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<u>District</u>	<u>Circuit</u>	<u>Segment</u>	<u>Area</u>	<u>Miles</u>	<u>District</u>	<u>Circuit</u>	<u>Segment</u>	<u>Area</u>	<u>Miles</u>
Dodson	2301	L	U	4.18	Dodson	7511	B	U	1.87
Dodson	2303	L	U	2.24	Dodson	7511	L	U	0.39
Dodson	2333	B	U	4.08	Dodson	7514	L	U	0.78
Dodson	2333	L	U	6.69	Dodson	7522	L	U	0.85
Dodson	2334	L	U	4.88	Dodson	7584	B	U	0.96
Dodson	2335	B	U	1.15	East	12212	B	R	0.96
Dodson	2335	L	U	1.56	East	13611	B	U	0.07
Dodson	2342	B	U	4.47	East	2511	B	R	13.64
Dodson	2342	L	U	3.22	East	2511	L	R	40.87
Dodson	2344	B	U	1.25	East	3212	B	R	0.90
Dodson	2373	B	U	4.22	East	4222	B	U	0.06
Dodson	2373	L	U	3.81	East	4222	L	U	4.08
Dodson	2374	B	U	2.83	East	4311	B	R	15.50
Dodson	2392	B	U	1.44	East	4311	L	R	20.18
Dodson	2392	L	U	0.41	East	6011	B	R	6.00
Dodson	2394	B	U	2.75	East	6011	L	R	87.42
Dodson	2394	L	U	4.58	F&M	11801	B	U	6.40
Dodson	3021	L	U	7.01	F&M	1521	B	U	0.19
Dodson	3122	B	U	4.32	F&M	1521	L	U	0.09
Dodson	3122	L	U	6.74	F&M	1576	L	U	0.12
Dodson	3123	B	U	0.94	F&M	2422	L	U	3.10
Dodson	3123	L	U	0.58	F&M	5338	B	U	1.88
Dodson	3132	B	U	6.33	F&M	5373	B	R	2.79
Dodson	3132	L	U	12.42	F&M	5373	L	R	0.45
Dodson	3142	B	U	0.64	F&M	5381	L	U	3.44
Dodson	3142	L	U	0.35	F&M	5382	L	R	4.30
Dodson	3144	B	U	4.20	F&M	5383	B	U	5.50
Dodson	3144	L	U	3.56	F&M	5383	L	U	5.75
Dodson	3151	B	U	2.03	F&M	5712	L	U	8.87
Dodson	3151	L	U	5.62	F&M	6111	L	U	11.49
Dodson	3511	B	U	2.57	F&M	6113	B	U	9.36
Dodson	3511	L	U	2.05	F&M	6113	L	U	9.65
Dodson	3513	B	U	3.49	F&M	6122	B	U	7.23
Dodson	3513	L	U	11.61	F&M	6122	L	U	4.32
Dodson	3532	B	U	4.49	F&M	6131	B	U	4.88
Dodson	3532	L	U	10.98	F&M	6131	L	U	11.82
Dodson	3542	B	U	3.86	F&M	6144	B	U	1.48
Dodson	3542	L	U	11.37	F&M	6144	L	U	0.32
Dodson	3543	B	U	1.47	F&M	6151	B	U	3.14
Dodson	3544	B	U	5.26	F&M	6153	B	U	4.09
Dodson	3544	L	U	8.75	F&M	6153	L	U	4.98
Dodson	3553	B	U	0.37	F&M	6163	L	U	8.89
Dodson	4842	L	U	0.01	F&M	6164	B	U	6.33
Dodson	4854	B	U	1.98	F&M	6164	L	U	8.34
Dodson	4854	L	U	1.00	F&M	7411	B	U	0.65

Appendix B – 2008 Distribution Vegetation Management Schedule

KCP&L 2008 Circuit Schedule - Missouri

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<u>District</u>	<u>Circuit</u>	<u>Segment</u>	<u>Area</u>	<u>Miles</u>	<u>District</u>	<u>Circuit</u>	<u>Segment</u>	<u>Area</u>	<u>Miles</u>
F&M	7413	B	U	0.69	Northland	4943	L	U	18.30
F&M	7414	L	U	7.09	Northland	4952	B	U	5.52
F&M	7421	B	R	4.10	Northland	4952	L	U	1.13
F&M	7421	L	R	0.11	Northland	4961	L	U	1.89
F&M	7491	L	U	5.93	Northland	4962	B	U	6.12
F&M	7492	B	U	3.45	Northland	4962	L	U	13.22
F&M	7492	L	U	5.81	Northland	5261	B	U	5.58
F&M	7494	L	U	6.40	Northland	5261	L	U	9.68
F&M	8613	B	U	7.72	Northland	5263	B	U	5.87
F&M	8613	L	U	7.95	Northland	6311	L	U	5.11
Northland	1142	L	U	3.37	Northland	6331	L	U	9.63
Northland	2713	L	U	0.09	Northland	7143	B	R	0.56
Northland	2724	B	U	2.17	Northland	7811	B	U	3.64
Northland	2724	L	U	1.72	Northland	7811	L	U	6.94
Northland	2732	L	U	13.13	Northland	7813	B	U	0.26
Northland	2734	B	U	2.08	Northland	7813	L	U	3.89
Northland	2741	B	U	7.74	Northland	7821	B	U	0.58
Northland	2741	L	U	9.81	Northland	7821	L	U	0.36
Northland	2743	B	U	3.50	Northland	7831	B	U	4.77
Northland	2752	B	U	3.84	Northland	7831	L	U	8.86
Northland	2752	L	U	7.02	Northland	7832	B	U	2.74
Northland	2761	B	R	1.52	Northland	7861	B	U	4.62
Northland	2762	L	U	4.76	Northland	9412	L	U	0.33
Northland	3913	L	U	0.78	Northland	9421	L	U	0.11
Northland	4912	B	U	9.99	Northland	9443	L	R	0.28
Northland	4912	L	U	9.78	Northland	9842	L	U	2.09
Northland	4943	B	U	7.59					

	Urban	Rural	Total
Miles	572.78	199.58	772.36
Percent of Plan	28%	11%	

Budget forecast for 2008 associated with this schedule is \$4,875,459

APPENDIX C
CONTAINS
HIGHLY CONFIDENTIAL
SENSITIVE OPERATIONAL AND SYSTEM INFORMATION
NOT AVAILABLE TO THE PUBLIC

APPENDIX D

KCP&L TRANSMISSION VEGETATION MANAGEMENT GUIDELINES



P.O. Box 418679 ■ KANSAS CITY, MO 64141-9679

A Great Plains Energy Company

TRANSMISSION VEGETATION MANAGEMENT

CONTRACTOR GUIDELINES

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1.0 **PURPOSE:**

The transmission vegetation management (TVM) guidelines aid the tree contractor in the implementation of the transmission vegetation management program (TVMP).

2.0 **OBJECTIVE**

The objective of this TVMP is to improve the reliability of the electric transmission system associated with vegetation contacting KCPL's transmission system by: maintaining clearances between transmission lines and vegetation on and along transmission rights-of-way (ROW); and minimizing outages from vegetation located adjacent to transmission ROW. The vegetation management program is to provide for safe and reliable electrical service while adhering to the recommendations of the International Society of Arborists and Utility Arborists Association and other requirements as identified and defined within this document.

3.0 **REGULATORY AND CODE REQUIREMENTS:**

The North American Electric Reliability Council's (NERC) standard, **FAC-003-1** on TVMPs, in effect as of April 7, 2006, is intended to improve the reliability of the nation's electric transmission grid. To meet compliance with this standard KCP&L has prepared and keeps current a formal, documented TVMP. The program includes our program objectives, practices, approved procedures work specifications and:

The National Electrical Safety Code provides guidance for a vegetation management program. The **NESC C2-1997, Rule 218** reads, "Trees that may interfere with ungrounded supply conductors should be trimmed or removed. Note: normal tree growth, the combined movement of trees and conductors under adverse weather conditions, voltage, and sagging of conductors at elevated temperatures are among the factors to be considered in determining the extent of trimming required."

"Pruning, Trimming, Repairing, Maintaining, and Removing Trees and Cutting Brush – Safety Requirements, 2006" This document also known as **ANSI Z133.1-2006**, is published by the American National Standards Institute, 1819 L Street, NW., Suite 600, Washington, DC 20036.

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

This rule sets forth requirements that electrical corporations shall follow in managing vegetation in proximity to an energized distribution conductor and sets reporting requirements for transmission line vegetation management in order to promote a safe, efficient and reliable supply of electric power. The requirement of this rule provides the minimum standards for the vegetation management programs of electric corporations.

Each electrical corporation must have a vegetation management plan and keep appropriate records to ensure timely vegetation management is accomplished. These records must be made available to the Missouri Public Service Commission upon request.

4.0 **COMMUNICATIONS REQUIREMENTS:**

Notification: Contractor will make a diligent effort to notify all property owners or occupants that may be affected by cycle-related vegetation management. Notification will be made at least seven (7) days, but not more than ninety (90) days prior to performing vegetation management. Notice may be provided by direct mailing, door hanger, postcard, bill insert or personal contact.

Contractor will provide to Company a record of dates, content, and addresses to which notices will be maintained until the subsequent vegetation management cycle has occurred for each property owner or occupant.

KCP&L shall make reasonable efforts to provide written notice of cycle-related vegetation management activities to a primary contact for each county and municipality affected. This notice will be provided at least two (2) months in advance of the planned vegetation management.

Customer Inquiries: Customers or residents with questions concerning the transmission tree program shall be referred to the KCP&L Transmission or System Forester. Customer inquiries can be directed via email to *vm@kcpl.com*.

Internal: KCP&L informs its contractors of all applicable federal, state, county and municipal laws and regulations that apply to this program and demand compliance to each.

KCP&L has posted the VM manager's name and contact information on its website and all external notifications.

KCP&L will conduct an annual public education program to inform customers, as well as political subdivisions in our service territory, of the importance of vegetation management, and of the electrical corporation's role in managing vegetation near electric lines. This notification may be by direct mail, bill inserts or other means of communication. These public education materials will be on our website.

KCP&L's brochure, The Right Tree in the Right Place, is available upon request. This brochure explains the need for vegetation management, provides species selection and planting guidelines to prevent future tree problems. This brochure is available online at: <http://www.kcpl.com/brochures/RightTree.pdf>

KCP&L Vegetation Management group shall be responsible for providing safe and reliable service as associated with the vegetation management program.

KCP&L Vegetation Management and the Transmission Operations group shall establish and maintain all schedules and budgets.

KCP&L Vegetation Management shall approve all herbicide treatment activities on rights of way and substations.

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KCP&L Vegetation Management shall assist Dispatch and Transmission Operations during storm emergencies to secure additional tree crews and to provide supervision of the restoration work.

5.0 CONTRACTORS' REQUIREMENTS:

The Vegetation Management contractors shall meet all OSHA Standard 29 CFR Part 1910.269 Vertical Standards.

The latest revision of ANSI Z 133.1 outlines the training and safety requirements.

The latest revision of ANSI A300 Parts 1 and 7 outlining the standard practices for tree maintenance.

The Vegetation Management contractors shall meet all Local, State and Federal motor carrier safety regulations.

The Vegetation Management contractors shall obtain all required permits and licenses prior to commencement of vegetation management.

Vegetation Management contractors shall adhere to all their company safety standards.

The Vegetation Management contractor using chemical or biological agents shall comply with any laws or regulations governing the use of those biological or chemical agents.

A Master Service Agreement details contractor requirements, terms and conditions.

6.0 PROGRAM REQUIREMENTS:

The following directions are intended to help optimize vegetation management pruning and removal activities.

Vegetation Management scheduling shall be done by the TVM department.

The Transmission VM department shall determine the required work on the transmission line by patrolling each line.

If the field inspection of any KCP&L transmission line identifies vegetation conditions that pose an immediate threat to public safety or operation of the KCP&L transmission system, KCP&L will be immediately notified. Qualified KCP&L personnel will be dispatched to verify vegetation conditions are hazardous. This individual will communicate with the KCP&L transmission system operators, who will decide on appropriate action to be taken to relieve the hazardous condition. These actions may include reducing the loading (reduce line sag) on the threatened transmission line or removing it from service entirely (de-energize). Work crews will be assigned to correct any hazardous condition as soon as possible.

Contact with any conductor shall be reported to KCP&L as soon as possible. In the event that a conductor is knocked to the ground, at least one man on the crew will

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remain at the site to warn the public of potential danger, while the crew foremen makes notification.

Damage to KCP&L's or customers' property caused by contract tree crews engaged in routine pruning or removal will be resolved by the general foreman in a timely manner, and will not be the responsibility of KCP&L.

7.0 TRANSMISSION SYSTEM VEGETATION MANAGEMENT PROCEDURES

These TVM guidelines shall apply to lines rated 69kV and above.

The following specifications govern transmission vegetation management activities on the KCP&L system, except when superseded by federal, state or local regulations.

Note: KCP&L will submit to the Missouri Public Service Commission's (MPSC) Energy Department a copy of every vegetation management filing it makes on its transmission lines with the FERC, NERC or the Regional Reliability Organization.

7.1 Cycle Length

Please refer to KCPL Transmission Vegetation Management Program, Appendix C - Section IV of this submittal for clarification of cycle length. An overview of cycle length is also included in the TVM specification Summary table in Section 9.0 on page 14 of this document.

7.2 Target Clearances

All trees within the ROW are removal candidates.

After notification is made the tree(s) shall be safely cleared to voltage specific clearances (below) to the nearest conductor which clearances already take into account high humidity, lowest possible conductor sag, and greatest conductor sway.

It is very important that target clearances be obtained and that exceptions are kept to an absolute minimum. The KCP&L Foresters should be notified, verbally, about any trees that can not be cleared to the target clearances.

A. 69 KV Target Clearance

Trees requiring side clearing will be pruned to clear the nearest KCP&L conductor at least fifteen feet (15') or edge of the right-of-way, whichever is less and to fifteen feet (15') below the lowest conductor.

The 69kV Target Clearance referenced here is greater than the current KCP&L Transmission Vegetation Management Program as previously submitted to the NERC.

The intent is to bring the two clearance requirements into a single value within the 4-year time frame required by the MPSC rule.

B. 161 KV Target Clearance

Trees requiring side clearing will be pruned to clear the nearest KCP&L conductor at least twenty-five feet (25') or edge of the right-of-way, whichever is less and to fifteen feet (15') below the lowest conductor.

C. 230 & 345 KV Target Clearance

Trees requiring side clearing will be pruned to clear the nearest KCP&L conductor at least thirty-five feet (35') or edge of the right-of-way, whichever is less and to twenty feet (20') below the lowest conductor.

7.3 Cleanup

A. Urban Transmission Cleanup

All trimmings associated with the tree work performed on cycle-related clearing shall be removed from the property within 5 business days unless property owner consents otherwise.

Large limbs and trunks shall be cut and stacked in piles for the use of the resident unless requested by customer to be removed.

B. Rural Transmission Cleanup

Trimmings from pruning or removal work performed on cycle-related clearing shall be chipped, burned or stacked as conditions allow.

Large limbs and trunks shall be cut and stacked in piles for the use of the resident unless requested by customer to be removed.

Where practical, chippers may be set to discharge along the side of the road or within the ROW rather than into trucks, provided that chips are not allowed to accumulate into piles. Under no circumstances will brush be thrown into streams, ponds or lakes.

C. Hazard Trees

Structurally unsound trees that pose a potential threat to transmission system facilities on or off the right-of-way should be evaluated for possible remediation.

If removal of the vegetation requires KCP&L to access or cross property for which it does not hold an easement or other legal authorization, KCP&L shall make reasonable efforts to obtain permission from the property owner and remove or remedy the potential safety concern as promptly as possible.

7.4 Proper pruning techniques

Natural Tree Pruning: The latest revision of ANSI A300 outlines the standard practices for tree maintenance.

7.5 Herbicide treatments

KCPL does not currently employ the use of herbicides in the TVMP. However, we anticipate beginning use of herbicides as part of our 2009 program and beyond. Once herbicides are part of the TVMP the following minimum standards shall be strictly adhered to except when exceeded by applicable regulations or manufacturers' specifications.

7.5.1 Herbicide Application Certification

The Contractor shall be fully responsible for equipment and personnel licenses as required by federal, state, and local regulations pertaining to herbicide treatment and related operations.

The KCP&L Foresters shall have a certified non-commercial applicators license.

7.5.2 Professionalism and Safety

The Contractor shall perform all herbicide treatment and related operations in a proper manner according to all applicable regulations and label instructions.

Work practices shall optimize current safety practices: public, private, and environmental interests.

Any performance attempted or accomplished violating an existing applicable law, regulation or approved safety practice, shall be the Contractor's sole responsibility.

7.5.3 Materials and Work Responsibility

Contractor will determine and notify KCPL of the herbicide treatment to be applied by the Contractor including the herbicides and the carriers, the mix formulation and the methods, rates and timing of such applications, and follow all label instructions.

Applicators will be trained and licensed in the jurisdiction in which the application will be applied. The contractor shall implement the herbicide treatment in a careful, non-negligent and workmanlike manner.

The Contractor shall be liable for all damages incurred as a result of herbicide treatments only if and to the extent that Contractor fails to implement the herbicide treatment in conformity with the written instructions provided by KCP&L or in a careful, non-negligent and workmanlike manner.

The contractor shall make all necessary arrangements for right-of-way entry and exit. Any shrubbery, flowers, crops, or other susceptible vegetation must be noted to avoid off target damage.

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The Contractor shall make frequent right-of-way width measurements to assure uniform treatment boundaries and avoid exceeding the right-of-way in application.

The Contractor shall guarantee 100% coverage and 95 percent or greater plant control. If the plant control is less than 95 percent, the Contractor shall re-treat the designated area within a reasonable time and in the most effective manner. Re-treatment under these conditions will be at the Contractor's expense.

No herbicides shall be applied during rain, or when the plant portion to receive treatment is wet from rain. Surfaces treated or sprayed less than 30 minutes prior to rain will be re-treated or re-sprayed. No foliar sprays shall be applied in winds exceeding 15 mph.

7.5.4 Herbicide Containers

The contractor shall provide and warehouse all chemicals used on KCP&L property. The chemical shall be billed to KCP&L after application of the chemicals.

All herbicides will be kept in specified, manufacturer-approved containers at all times. It is the responsibility of the contractor to dispose of containers properly.

Depleted herbicide containers will be triple-rinsed, punctured, and disposed of in accordance with federal and state environmental laws and container label requirements.

Empty containers shall never be left on right-of-ways, roadsides, or in garbage containers.

7.5.5 Herbicide Spills

All herbicide spills in excess of one gallon shall be verbally reported to the KCP&L Forester immediately then followed up by a written description of the incident.

Herbicide spills in excess of a "Reportable Quantity (RQ)", as defined by regulations promulgated under the Comprehensive Environmental Response, Compensation, and Liability Act shall be reported immediately to the National Response Center, the appropriate state emergency response commission, and the local emergency planning committee and the KCP&L Forester.

Releases of any amount to a public drinking water supply or surface water shall be reported immediately as required by state and federal regulations promulgated under the Safe Drinking Water Act and the Clean Water Act. Further, it shall be the responsibility of the

Contractor to make all appropriate verbal and written notifications as required by federal and state environmental regulations.

It shall also be the responsibility of the Contractor to take all necessary steps to remediate and/or arrange for the remediation of contaminated property and water supplies.

All costs of remediation shall be burdened by the Contractor until such time as a "clean Bill of Health" is issued by the appropriate state and federal agencies.

7.5.6 **Herbicide Application Methods**

KCP&L will determine the appropriate herbicide program for the transmission system. Best Management Practices have been prepared to assist in the planning and implementation of an herbicide program.

The following factors are considered when writing an herbicide prescription for any given line.

- Species
- Height and density of brush and trees
- Nearby water e.g. lakes, streams, wells, karst topography etc.
- Land use: within and adjacent to the right-of-way
- Label restrictions
- Natural and man-made restrictions

The following chart is used when writing an herbicide prescription:

Technique	Average Height		Density		
	< 8 ft.	> 8 ft	Light	Medium	Heavy
Low volume foliage	Yes	No	Yes	Yes	No
High volume foliage	No	Yes	No	Yes	Yes
Low volume basal	Yes	Yes	Yes	Yes	No
Cut surface	No	Yes	Yes	Yes	No

7.5.7 **Technique Descriptions**

Low volume foliar, (LVF) is effective in controlling low to medium stem densities of brush with heights seven feet or less. Crews apply LVF to the foliage of individual plants using a backpack sprayer. LVR requires minimum equipment, herbicide and personnel. LVF is limited to the growing seasons.

High volume foliar, (HVF) is effective in controlling heavy stem densities of brush with heights greater than eight feet. Crews apply HVF to foliage to the entire right of way with a high volume pump sprayer mounted on a 4x4 vehicle. HVF is a non-selective treatment and limited by accessibility. High volume foliar is not normally used on KCP&L properties.

Low volume basal, (LVB) is effective in controlling low to medium stem densities of brush and trees. Crews apply LVB to the lower 18 - 20 inches of the tree trunk using a

back pack sprayer. LVB is very selective, requires minimum equipment, herbicide and personnel. LVB can be applied year-round except when snow or water prevents treatment.

Cut stump treatments are effective in preventing re-sprouting after the vegetation has been removed. Crews apply the treatment to the stump surface using a hand-held sprayer or backpack sprayer. The stump surface shall be cut as close to the ground as possible. Trees removed on KCP&L property are expected to be stump treated.

7.6 Crew Reporting Procedures

The following procedures shall govern the reporting of all transmission system related tree, brush, and spray crews under contract with KCP&L.

7.6.1 Definitions

A. Tree

A tree is defined as a woody perennial plant, normally maturing at 12 or more feet in height usually having a single trunk and a definite foliage crown.

Tree classifications are determined by measuring the trunk at diameter breast height, DBH (4.5 feet above the ground). Small trees measure 4-8", medium trees 8-12", large trees 12-24" and extra large trees are 24" or greater.

Trees with multiple trunks that have a clearly defined bark inclusion on both sides of the tree extending to ground level are recorded as multiple trees.

B. Brush

Brush is defined as a tree presently less than four inches (DBH). Brush shall be removed and counted as square feet of brush.

Square yardage of brush cut shall be determined by crown cover. Thus, if the crown of a bush covers one square yard on the ground directly under it, that bush occupies one square yard.

Tally all trees and brush. If a tree stands in the middle of a brush area, and that tree is pruned or removed, count the tree as well as square yardage of brush cut.

C. Brush treated

Estimated square footage of brush or trees chemically treated by multiplying length times the width of the area treated.

7.6.2 Timesheets

Time sheets and other paperwork shall be delivered to KCP&L Transmission or the System Forester no later than Tuesday following the previous week ending.

Time sheets shall indicate names of foreperson and crew members, date and day of the week, type of work performed, and line & structure numbers where the work was performed.

7.6.3 Herbicide Records

All crews involved in herbicide application will be required to turn in weekly herbicide reports to the KCP&L Forester along with the weekly operation report.

Contractor will use their own company herbicide report to comply with state regulations.

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These reports will include: species treated, type of herbicide, quantity used, total brush acreage sprayed/treated, total number of spans sprayed/treated, temperature, precipitation, wind conditions, location, and locations bypassed for any reason.

7.7 On-Site Crew Inspections

A. Safety

Adherence to all safety provisions as required by the Occupational Safety and Health Act.

Adherence to all Local, State, and Federal motor carrier safety regulations.

Tree crews shall exercise all due caution when working in the vicinity of energized conductors. All vegetation management shall be done in such a way as to prevent service interruptions.

B. Pruning Techniques

All crews will be checked to determine whether or not they are abiding by the rules and regulations referenced in this document.

C. Clearance Verification

A random check of cleared trees is made to determine if proper clearances by voltage class are being obtained.

D. Clean up

Yards and properties must be left in a condition comparable to or better than conditions as found upon the crew's arrival.

E. Equipment and Personnel

Trucks, chippers, lifts and other equipment should appear clean and well maintained and in good working order. Inoperative equipment shall not be billed to KCP&L.

A KCP&L decal "Contracting for KCP&L" shall be on all trucks, one on each side of the dump bed.

All personnel shall maintain a reasonable appearance. No sleeveless shirts are permitted. No shirts with any printing other than the Contractor's logo are permitted. All clothing must be free of rips or tears at the start of the work day.

KCP&L reserves the right to require the Contractor to remove any individual whose appearance or conduct reflects negatively on the Utility.

F. Crew Courtesy

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KCP&L will visit with customers whose trees have been cleared to determine if contract tree crews are performing professionally.

G. Crew Evaluation

KCP&L will perform crew evaluations and audits to include: safety, job site setup, proper clearance, arboriculturally sound practices, production obtained, time sheet accuracy and crew appearance.

Crews will be also evaluated on the basis of time sheets, survey cards and supervisor inspections. Time sheets are subject to verification at any time.

Customer survey cards will be used to evaluate crew professionalism and courtesy. The survey cards are to be left at each residence where work is performed.

8.0 RECORDKEEPING AND REPORTING REQUIREMENTS

A copy of KCP&L's vegetation management standards shall be filed with the Missouri Public Service Commission by July 1, 2008 with verification by affidavit of an officer who has knowledge of the matters stated therein.

If changes are made to the vegetation management and vegetation management standards, a copy of the revised standard shall be filed with the Missouri Public Service Commission no later than thirty (30) days prior to implementing the change.

KCP&L will monitor and document all scheduled vegetation management and related activities to include but not limited to:

- Identification of each line or line segment where vegetation management was performed.
- The type of vegetation management performed including removals, trimming and spraying and methods used.
- The crew size and supervisor's name.
- The date of the activity.
- Any safety hazards encountered.
- 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.

KCP&L will provide a summary of the information above about its vegetation management during the past year and vegetation management planned for the following year to the Missouri Public Service Commission as specified by the Missouri Public Service Commission.

The annual report shall also include the following items:

- Expenditures for vegetation management in the preceding year

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- Vegetation management budget for the current year
- Line or line segment completion dates and miles trimmed in the preceding year
- Line or line segments, scheduled completion dates, and miles scheduled for the current year

9.0 TRANSMISSION VEGETATION MANAGEMENT SPECIFICATION SUMMARY

Voltage

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Subject	230 / 345KV	161KV	69KV
Range of ROW Maintained	130 to 260 feet. The majority of lines are in a rural setting	70-160 feet. A significant portion of lines are in an urban setting.	Up to 50 feet. The majority of lines are in an urban setting running along public roads.
Minimum Clearance Assumptions	MINIMUM 14' - vertical and horizontal TARGETED CLEARANCE Side: 35 feet Under: 20 feet	MINIMUM 7' - vertical and horizontal TARGETED CLEARANCE Side: 25 feet Under: 15 feet	MINIMUM 4' - vertical and horizontal TARGETED CLEARANCE Side: 15 feet Under: 15 feet
Standards Referenced for Clearances	KCP&L's Transmission Vegetation Management Program		
Calendar Year Inspection	100% inspection each calendar year by one of the following methods: aerial, vehicle, ATV or foot. Additional spot inspections of some lines occur throughout the year.		
VM Strategy	Rural sections of these ROW's are mowed their full width on a 3 year cycle. Urban sections are cleared with manual or bucket crews. Side trimming: 4 years. Trimming beneath conductors: 2-3 years. KCP&L TVM will initiate a rural foliar herbicide program in 2009.	Rural sections of these ROW's are mowed their full width on a 3 year cycle. Urban sections are cleared with manual or bucket crews. Side trimming: 4 years. Trimming beneath conductors: 2-3 years. KCP&L TVM will initiate a rural foliar herbicide program in 2009.	Urban sections are cleared with manual or bucket crews and rural sections are mowed their full width. Cycle may be adjusted per calendar year inspection. KCP&L TVM will initiate a rural foliar herbicide program in 2009.

**APPENDICES E AND F
CONTAIN
HIGHLY CONFIDENTIAL
SENSITIVE OPERATIONAL AND SYSTEM INFORMATION
NOT AVAILABLE TO THE PUBLIC**

