BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Proposed Rule 4 CSR 240-23.030 Establishing Vegetation Management Standards for Investor – Owned Electrical Corporations.	))))	Case No. EX-2008-0232

NOTICE OF COMPLIANCE

COMES NOW Union Electric Company d/b/a AmerenUE ("AmerenUE") and states to the Missouri Public Service Commission ("Commission") as follows:

1. Pursuant to an Order of Rulemaking in this case, the Commission adopted a new rule entitled Electrical Corporation Vegetation Management Standards and Reporting Requirements, which is codified at 4 CSR 240-23.030. Subsection (4)(C) of that rule provides, in pertinent part, as follows:

> Each electrical corporation shall file a copy of its vegetation management standards, guidelines and procedures at the commission by July 1, 2008, with verification by affidavit of an officer who has knowledge of the matters stated herein.

2. Pursuant to the Commission directive set forth above, AmerenUE submits herewith documentation concerning its Missouri Vegetation Management Standards and related information.

Respectfully submitted,

UNION ELECTRIC COMPANY,
d/b/a AmerenUE

By: */s/ Wendy K. Tatro*
Steven R. Sullivan, # 33102

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the foregoing Notice of Compliance was delivered by electronic mail (e-mail) on this 1st day of July, 2008.

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/s/ Wendy K. Tatro
Wendy K. Tatro

VERIFICATION

STATE OF MISSOURI)
) SS
CITY OF ST. LOUIS)

Ron C. Zdellar, first being duly sworn upon oath, deposes and says that he is Vice President Energy Delivery – Distribution Services of UNION ELECTRIC COMPANY d/b/a AmerenUE, a Missouri corporation; that he is the witness who sponsors the support of 4 CSR 240-23.030 Electrical Corporation Vegetation Management Standards; that said standards were prepared by him and under his direction and supervision; that if inquiries were made as to the facts, he would respond as therein set forth; and that the aforesaid is true and correct to the best of his knowledge, information, and belief.

R C Zdellar
Ron C. Zdellar

Subscribed and sworn to before me this 1st day of July, 2008.

Amanda Tesdall - Notary Public
Notary Seal, State of
Missouri - St. Louis County
Commission #07158967
My Commission Expires 7/29/2011

Amanda Tesdall
Notary Public

AmerenUE
Vegetation Management

Program and Practices

AmerenUE
Vegetation Management Program and Practices

The AmerenUE Vegetation Management Program is predicated on minimizing tree-caused outages and thereby enhances reliable service to our customers and promotes public safety. The actual tree trimming process is based on the concept of providing adequate clearance with minimum reduction in tree values.

Physical and environmental conditions are constantly changing. As these factors change, they must be reflected in similar changes in the Vegetation Management Program. Since many factors influence such a program, it must be flexible and must require considerable judgment in its application.

Vegetation Management Program

General

Tree trimming should be done according to the natural pruning technique recommended by the International Society of Arboriculture (ISA). The standard recognized by the ISA is ANSI A300-2001. Since this method utilizes existing knowledge of natural physiological responses of trimmed trees, it provides several important benefits: (1) it leaves a more natural appearance to the trees or limbs pruned and (2) it reduces the number and vigor of sucker sprouts, which maximizes the effectiveness of the trimming process while removing a minimum amount of foliage from the tree.

Except in the case of emergency, all vegetation management operations should be done on a routine basis utilizing systematic crew scheduling to maximize system reliability and operating efficiencies. Circuit maps should be used for crew assignments and accumulating pertinent statistical data.

All trimming, whether done for new construction or maintenance, is intended to provide clearance to acceptable industry standards in both urban and rural areas.

Trees located directly under primary lines, requiring repeated trimming, should be removed if the cost of removal does not exceed that necessary to accomplish two trimming operations. Before removing any trees that are located within a formal landscaped setting, a signed permit shall be obtained from the property owner. Trees located at the base of poles or near poles should be sufficiently removed or cleared to allow for lineman access.

Trees or limbs cleared in the process of restoring service after a storm should be left for the customer's disposal; however, care should be taken in how and where the brush is left. Streets, alleys, sidewalks, etc. should not be blocked. If practical, brush should be placed on the owner's property; otherwise, it should be left where tree or limb would have fallen if the line had not been there.

On routine trimming where dead trees are encountered that in falling will hit a primary line, the trees should be cut down or the portion likely to hit the line removed, whichever requires the least time. If possible, written consent should be obtained and the brush and logs left for the customer's disposal.

Written consent shall be obtained from governmental authorities where required by law and signed permits obtained from property owners before proceeding with any trimming or removal to clear for new line construction.

When trimming trees for routine maintenance work, a diligent effort should be made to notify the property owner or residents that trimming is to be performed. Pre-notification letters shall be mailed to all property owners or occupants on the circuit at least seven (7) days, but not more than ninety (90) days, prior to performing planned vegetation management. Crews should also attempt to contact the customer on the day of trimming. Pre-notification letters shall be mailed to all municipal and county official's no later than two (2) months in advance of planned maintenance trimming. The letter should include the location (substation(s)) and a timeframe for the work.

If a tree house, swing, climbing steps, etc., are observed within a tree that if used will bring a person into contact with an energized line, the property owner shall be promptly notified to remove the tree house, etc. using trained personnel. If the tree crew obtains permission from the owner, the tree crew should remove the tree house, etc. If a property owner refuses to cooperate, legal remedies shall be pursued.

Where it is evident that children are using a tree for climbing, the tree should be examined for its proximity to energized lines and be either trimmed or removed to prevent contact with energized wires.

Where appropriate, tree growth should be controlled by using the appropriate herbicide and application method. Herbicides, even if applied by a contractor, must be approved by the Ameren Services Environmental, Safety and Health Department and the Superintendent of Vegetation Management. Brush cutting by hand or other mechanical means is acceptable only when or where the use of herbicides is impractical.

Customer Relations

Personnel engaged in vegetation management work, supervisors and tree crews have frequent contact with individual customers. It is important that they make every effort to maintain good customer relations. If a customer or property owner refuses to allow for proper clearance to be obtained between the vegetation and AmerenUE facilities, then the location should be noted on the circuit map by recording the address and customer name. The crew or general foreman shall also fill out an AmerenUE refusal form and forward to the AmerenUE vegetation supervisor within 48 hours.

In the event that a customer threatens a crew then the crew shall exit the property and promptly contact their supervisor. The supervisor shall contact the AmerenUE vegetation management supervisor who will in turn notify AmerenUE security department.

AmerenUE requires all contractor personnel to conduct themselves in a professional manner. Vendors are expected to keep their equipment in good working order. Contractor personnel should provide property owners with explanations, as needed, of the work to be done on their property.

When an agreement is reached with a customer to leave brush or logs on the premises, brush shall be removed from roofs, driveways, sidewalks, etc. unless a prior agreement has been made that the customer will provide on-site assistance.

During routine trimming operations, brush should be moved from sidewalks and driveways if there will be a time lapse of over fifteen minutes between trimming and brush cleanup. Limbs falling into the street shall be moved immediately. In remote areas all effort should be made to contact property owners before leaving brush neatly wind-row in the same direction as the line.

Customer Requests

Customer requests are generally field inspected to determine AmerenUE's interest and responsibilities.

When assistance is given that requires placing a portion of the tree on adjoining property, streets, alleys, driveways, etc., no work should be done until the customer has an arborist on the job or otherwise demonstrates that they will carry out their portion of the work. AmerenUE vegetation personnel or contractors must have a signed permit from the customer stating that the customer is responsible for all wood and brush disposal. This permit must be obtained before work commences.

The following guide should be used in determining the extent and nature of the tree work to be done:

Primaries - If a tree which the customer wants to trim or remove interferes with our lines or has close overhang, the portion of the tree which overhangs the line will be removed or line cover provided. At a minimum, overhanging branches shall be removed to provide the necessary clearance as described in Table 2 of ANSI133.1-2000 – Minimum approach distances to energized conductors for persons other than qualified line-clearance arborist and qualified line clearance arborist trainees. A signed permit must be obtained by the crew before work begins.

Generally, help jobs will be scheduled to optimize maintenance schedule efficiency. The AmerenUE Vegetation Management department will schedule

help jobs as per the agreed to time frame noted on the permit and as field conditions warrant. Delays may occur due to weather conditions or changes in operating conditions.

Service Drops - Trees should not be trimmed, removed, or topped for removal to clear service drops, but the wires should be temporarily dropped by a Troubleman so the customer can remove or trim the tree. Troublemen may do limited amounts of limb removal based on customer requests.

Street Light and DD Circuits - Same policy as service drops.

Secondary - Trees should not generally be trimmed, removed or topped for removal except when a dead tree is involved and the tree or wire condition poses a hazard to AmerenUE facilities or workmen. All other assistance is done on a routine basis when a crew is in the area. When possible, secondary wires should be dropped if the cost is less than the tree work involved.

General Practices

The amount and type of line clearance will depends on the voltage and importance of the line involved. Priority is given as follows: 345kV, 161kV, 138kV, 69kV, 34.5kV, 12.47kV, 4.16kV, 7.2kV, 2.4kV, secondary, street light circuits and services. Clearances should consider the potential combined movement of the vegetation and conductors during routine winds.

All trimming personnel, while working for AmerenUE, should follow the American National Standard Z133.1-2000 for arboricultural operations – pruning, repairing, maintaining and removing trees and cutting brush – safety requirements.

1. **345, 161, 138kV** - All of the transmission system should be patrolled systematically and necessary work should be accomplished to maintain system reliability, including the removal of obvious off right-of-way danger trees. AmerenUE's transmission vegetation management program (TVMP) provides details of clearance requirements and patrol frequencies and is included as Appendix 1.

2. **69kV and 34.5kV Circuits -** The sub-transmission system shall be systematically patrolled, with special attention given to isolated circuits, and necessary work should be scheduled so as to maintain system reliability. All obvious danger trees that can be removed should be cut down or trimmed down below the line.

   - Overhang - All overhanging branches should be removed from over the conductors. The final cut should be made in accordance with ANSI A300 standards and, to the extent possible, lateral branches left should be those growing in a direction away from the conductor.

   - Under - if the circuit is without under build, 10 feet of clearance

should be obtained.

- Side - 10 feet of clearance should be obtained or clearance to the edge of the RIGHT-OF-WAY whichever is less and limbs should be swept back to prevent their contacting conductors if they would happen to break and hinge over. 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. Exceptions should be noted by the contractor supervisor on the maintenance maps and approved by the AmerenUE vegetation supervisor by dating and initialing after field checking.

3. **12.47, 4.16, 7.2 and 2.4kV** - AmerenUE service areas shall be trimmed on a 4 or 6 year cycle depending upon the classification of the feeder as either urban or rural. Urban feeders are defined as having on average 35 or more customers per total circuit mile and should be managed for a 4 year cycle length. Rural feeders are defined as having on average less than 35 customers per total circuit mile and should be managed for a 6 year cycle length.

Three-Phase Circuits

- Three (3) phase circuits (portion of a distribution system directly interconnected with the distribution substation and prior to the first protective device) shall be trimmed vertically to remove overhanging limbs to 10 feet or the edge of the right of way, whichever is less. Three phase circuits beyond the first protective device should also be trimmed accordingly. 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. Exceptions should be noted by the contractor supervisor on the maintenance maps and approved by the AmerenUE vegetation supervisor by dating and initialing after field checking.

- Under - If secondary conductors are present, trees should be cut to clear the lowest wire by 3 feet. If no secondary under build is present, trees should be cut clear of the neutral wire providing at least 10 feet of clearance between tree growth and the primary conductors.

- Side – Normally, a minimum of 10 feet clearance is required between the conductors and tree growth or to the edge of the RIGHT-OF-WAY whichever is less. Also, long, slender limbs should be swept back or shortened to prevent them from breaking and falling across the wires.

Single and Two-Phase Circuits

- Overhang - On softwood trees (see Exhibit J1), all overhanging limbs located up to 15 ft. above the conductor should be trimmed at a minimum to eliminate the overhanging limb. The final cut should be made in accordance with ANSI A300 standards and to the extent possible, lateral branches left should be those growing in a direction away from the conductor. The terminal ends of larger limbs should be lightened.

  On hardwood trees, all overhanging limbs located up to 10 feet above the conductor should be trimmed at a minimum to eliminate the overhanging limb. The final cut should be made in accordance with ANSI A300 standards and to the extent possible, lateral branches left should be those growing in a direction away from the conductor. The terminal ends of large limbs should be lightened.

- Under - Same as three-phase.

- Side – Clearance of 10 feet clearance or to the edge of the RIGHT-OF-WAY, whichever is less, shall be required between the conductors and tree growth. Also, long, slender limbs should be swept back or shortened to prevent them from breaking and falling across the wires.

4. Reliability Improvement

In an effort to improve distribution system reliability AmerenUE has developed a prescriptive trim approach for circuits that have performed poorly with respect to tree caused outages. There may be divisions with in each operating company where a prescriptive approach is not required. See appendix J-2 AmerenUE Prescriptive trim program.
In addition, a mid-cycle (based on feeder classification of urban or rural) vegetation patrol shall be performed. The intent of the patrol is to identify where vegetation management is needed. Items noted should include dead or dying trees, excessive vine conditions, and storm damage. Once identified the need for vegetation management work should be done in a timely manner.

5. Secondary - Secondaries should be trimmed incidental to trimming on primary circuits. Any additional trimming necessary should be done as the result of tree problems reported.

6. Street Light System

- Circuits - No routine trimming should be done exclusively for street light circuits. Some of these circuits are trimmed incidental to trimming on primary circuits and any additional trimming necessary should be done as the result of tree trouble reported.

- Luminaries - No routine trimming should be done to remove limbs

which interfere with distribution from street light luminaries, except as incidental to other trimming. Clearing trees for light distribution is the responsibility of the city or other governing body having jurisdiction over the trees and lights. In some districts, however, because of different policy in the past or inclusion of tree trimming in the sales program, it may be necessary to do a limited amount of trimming for light distribution.

Tree trimming should be done upon initial installation of dusk to dawn lights. On initial contact, customers should be informed that the billing rate does not include any future trimming for light distribution or clearance around the fixture.

- Service Drops - Tree trimming crews should do a minimum amount of work on services and only in conjunction with clearing primary circuits.

7. Quality Assurance

AmerenUE's Vegetation Management requires each contractor's compliance with AmerenUE's clearance specifications. At a minimum, contractor management will submit one formal written audit per crew, per month (~~2~~ 4 days of work). AmerenUE supervision will then be responsible for reviewing all audits and field checking a minimum of 30 % of the audits (see Appendix A-1). Contractor management will also patrol the entire circuit or mark off as crews progress such that the entire circuit is patrolled before the map is turned in as complete to AmerenUE. AmerenUE supervision will review the map to make sure all lines are marked as completed.

AmerenUE supervision will be responsible for performing monthly drive-by audits (see Appendix B) of contractor crews to monitor compliance with safety, specifications, performance and invoicing. Herbicide application efficacy audits should review at a minimum 15% of the total work.

All work found to be non-compliant shall be corrected promptly to meet AmerenUE specifications. If non-compliant work is found, then the contractor will audit 100% of the work done by that crew as reviewed and determined by AmerenUE on all circuits where work was performed and correct any deficiencies at contractor expense.

8. Performance Management

AmerenUE vegetation management personnel will also hold quarterly performance management review sessions with all contractors. The sessions will generally be conducted within 6 weeks of each quarter year's end. Discussions will focus on all four quadrants of the performance scorecard that have been agreed upon by AmerenUE and the contractor. See Appendix J-3 (Performance Management Scorecard).

The performance management scorecard will be reviewed annually and adjustments may be made to key indicators measured in each quadrant and year-end targeted performance.

9. Public Education and Outreach

In an effort to educate the public, AmerenUE will keep current pertinent information on vegetation management on the AmerenUE web page. Information will include such topics as Right Tree Right Place and reasons for vegetation management, and shall address some of the more common questions. In addition this type of information will be in brochure format and available to the general public.

AmerenUE will also provide an annual public outreach program to all of its customers. This program at a minimum will provide similar educational components.

10. Reporting

Beginning in 2009, AmerenUE will file an annual report on April 1st of each year documenting

a) Expenditures for vegetation management in the proceeding year.
b) Vegetation management budget for the current year.
c) Circuits, completion dates and miles trimmed in the previous year.
d) Circuits, completion dates and miles scheduled for the current year.
e) Total distribution miles for the system and corresponding classification between rural and urban.

A copy of every vegetation management filing AmerenUE makes to FERC or NERC shall also be sent to the MPSC energy department.

Ameren Transmission Vegetation Management Program

This Document applies to the following NERC Reliability Standard

Standard Number & Revision	Registered Entity	NERC Functional Model
FAC-003-1	Ameren Services	Transmission Owner

Documental Approvals

Title	Approved by	Signature
Vice President Energy Delivery Technical Services	D.J. Schepers	
Manager Resource Management	R.M. Wiesehan	

Document Revision Status

Version Number	Date Issued	Major changes from previous Version
0	04/12/07	Defined Clearance 1 and Clearance 2
1	11/21/07	Clarified how clearances were determined and clarified patrols for lines 200kV and above. Removed “Safety” from title of “Safety and Resource Management”, updated transmission vegetation outage report form, updated transmission audit form.
2	01/09/08	Editorial changes for clarification.
3	06/02/08	Editorial changes to reflect practices and changes to patrol form.

NERC Standard to Ameren Document Cross Reference

NERC Standard: FAC-003-1

NERC Requirement or Measure	Document Section
R1	Pages 1-10
R1.1	Pages 1- 2
R1.2	Pages 2- 4
R1.3	Pages 4- 5
R1.4	Pages 5- 6
R1.5	Page 6
R2	Page 6- 9
R3	Page 10
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M1	Pages 1-10
M1.1	Pages 1- 2
M1.2	Page 2- 4
M1.3	Pages 4- 5
M1.4	Pages 5- 6
M1.5	Pages 6
M3	Page 10
M4	Page 10

NERC Standard:

NERC Requirement or Measure	Document Section

Document Distribution List

Recipient	Company

Ameren
Transmission Vegetation Management Program

Ameren's objective for managing vegetation on transmission rights-of-way will be to prevent outages from vegetation located on transmission rights-of-way and minimize outages from vegetation located adjacent to the right-of-way.

The Ameren Transmission Vegetation Management Annual Work Plan will document the methods to be utilized and the circuits that will have vegetation management work performed in that year. See Appendix "H" Ameren annual Transmission Vegetation Management Work Plan.

In developing the annual work plan, considerations will include but are not limited to line voltage, circuit criticality, historical data, and annual vegetation patrols which will take into account the future growth of vegetation. The annual work plan may change throughout the year as the result of changing conditions.

Ameren will manage vegetation on transmission rights-of-way using a zoned approach where possible. Typically, a right-of-way will consist of two zones:

Zone 1 is the Wire Zone and shall be defined as the area occupied by the structures and conductors. The zone will start at the centerline of the structure and extend out 20 ft. beyond the outside conductor. The width of this zone will vary with types of construction found on the ROW.

Zone 2 is the Border Zone and shall be defined as the area from the outside edge of the wire zone extending to the mature tree line and/or the outside edge of the defined ROW. Some rights-of-way, due to existing easement width, may not have a border zone.

Patrol Policy

Ameren will patrol lines >100 kV and ≤ 200 kV by air or ground once per year. Patrols will be done during the growing season (May 1 - October 15).

All lines 200kV and above and circuits deemed critical to the *reliable operation of the Ameren Transmission system* will be patrolled twice per year. One patrol will be completed during the growing season (May 1 - October 15), the second will be completed throughout the calendar year. One patrol will be completed by using ground patrol resources, the second patrol will be by ground or aerial resources. Ameren Vegetation Supervisors are required to complete one of the two patrols. One patrol may be completed using trained outside contractor resources. A patrol schedule has been developed and is kept on file. Ameren Vegetation Supervisors have the flexibility to patrol lines more often due to environmental and operational factors as needed. Factors can include major storms, flooding or circuit load due to excessive heat. Ameren Vegetation Supervisors also have the flexibility to patrol lines more often due to anticipated growth such as yard trees.

All patrol dates shall be recorded in Ameren transmission patrol log located within the Ameren Tree Manager software.

All patrols are to record data as specified on the Ameren Hot Spot Patrol form and Vegetation Management Plan. Each Ameren Vegetation Supervisor shall be responsible for issuing and verifying completion of any and all hot spot work reported on the patrol. All work is to be completed in the time frame specified by ratings criteria on the patrol form. All completed work shall meet the specifications as defined in the **CLEARANCE 1 SPECIFICATIONS** section of the AmerenUE, AmerenCIPS, AmerenCILCO and AmerenIP Vegetation Management Program.

Ameren vegetation supervision shall record all patrol dates in the Ameren Master Patrol log.

Stage 2 – Ameren and contractor supervision will do a joint efficacy audit on each circuit that has had herbicide applications. The purpose of the audit is to ensure that acceptable efficacy levels are obtained as a result of the herbicide application per Ameren specifications. Timing of this audit will be dependent upon the application technique employed and the time of year that the application was done (see Appendix D).

In addition to the audits listed above, Ameren supervision reviews all completed work as they do circuit patrols.

All work found to be non-compliant is to be corrected immediately to meet Ameren specifications. If non-compliant work is found, then the contractor will audit 100% of the work completed by that crew on all circuits where work was performed and corrected at the contractor's expense.

Clearance Specifications

Maximum operating conditions and movement of conductors and vegetation due to wind were considered when developing the clearance requirements. Ameren's definition of Clearance 1 and Clearance 2 does not allow any vegetation to overhang any conductors, guy wires or structures anywhere on a transmission circuit which satisfies the requirements of Section B of NESC 218.

Clearance 1

(Clearance to be achieved at the time of transmission utility vegetation management work.)

Voltage 200kV and Above

Wire Zone

1. Vegetation in this zone should be managed to promote the growth of native plant species that have a mature height less than 10 ft. All plant species that normally reach a mature height greater than 10 ft. tall should be removed by mechanical methods or controlled by approved herbicide applications. Exceptions may be permissible for locations where the clearance between the conductor and vegetation is greater than 20 ft.

2. If operating conditions cause conductors to sag such that ground to conductor clearance is less than 30 ft., then all vegetation should be maintained for a mature height of less than10 ft. tall.

3. If operating conditions cause conductors to sag such that ground to conductor clearance is greater than 30 ft., then all vegetation should be maintained to provide a minimum of 20 ft. clearance.

4. No tree growth will be allowed to overhang any conductor, structure or guy line associated with any transmission circuit or structure.

Border Zone

1. All vegetation should be maintained with a side clearance of 40 ft. from the conductor or to the existing maintained right-of-way.

2. In the border zone floor, vegetation should be managed to promote plant species with a mature height less than 20 ft. tall. All plant species that normally reach a mature height greater than 20 ft. tall should be removed by mechanical methods or controlled by approved herbicide applications. Exceptions may be permissible for locations where the clearance between the conductor and vegetation is greater than 20 ft.
3. In an area where the conductor sag places the line at less than 30 ft. of clearance from the ground, then vegetation in the border zone shall be managed to promote species which are less than 10 ft. tall at maturity.

No tree growth shall be allowed to overhang any conductor, structure or guy line associated with any transmission circuit or structure.

Circuits with Operating Voltages ≤ 200kV and >100kV

Wire Zone

1. Vegetation in this zone should be managed to promote the growth of native plant species that have a mature height less than 10 ft. All plant species that normally reach a mature height greater than 10 ft. tall should be removed by mechanical methods or controlled by approved herbicide applications. Exceptions may be permissible for locations where the clearance between the conductor and vegetation is greater than 20 ft.

2. If operating conditions cause conductors to sag such that ground to conductor clearance is less than 30 ft., then all vegetation should be maintained for a mature height of less than 10 ft. tall.

3. If operating conditions cause conductors to sag such that ground to conductor clearance is greater than 30 ft., then all vegetation should be maintained to provide a minimum of 20 ft. clearance.

4. No tree growth will be allowed to overhang any conductor, structure or guy line associated with any transmission circuit or structure.

Border Zone

1. All vegetation should be maintained with a side clearance of 30 ft. from the conductor or to the existing maintained right-of-way.

2. In the border zone floor, vegetation should be managed to promote plant species with a mature height less than 20 ft. tall. All plant species that normally reach a mature height greater than 20 ft. tall should be removed by mechanical methods or controlled by approved herbicide applications. Exceptions may be permissible for locations where the clearance between the conductor and vegetation is greater than 20 ft.

3. In an area where the conductor sag places the line at less than 30 ft. of clearance from the ground, then vegetation in the border zone shall be managed to promote species which are less than 10 ft. tall at maturity.

4. No tree growth will be allowed to overhang any conductor, structure or guy line associated with any transmission circuit or structure.

Any deviations or exceptions from the above Clearance 1 shall be reported both verbally and in writing (within 24 hours) to the Ameren Vegetation Supervisor or Superintendent. In addition, the specific location and description of the deviation or exception should be noted on crew/patrol map.

Clearance 2

(Minimum clearance distance to be maintained at all times)

Voltage 200kV and Above

1. At no time shall minimum clearances be less than those set forth in the Institute of Electrical and Electronics Engineers (IEEE) Standard 516-2003 (*Guide for Maintenance Methods on Energized Power Lines)* and as specified in its Section 4.2.4, Minimum Air Insulation Distances without Tools in the Air Gap.
2. All vegetation within the wire zone should be maintained at minimum clearance distance of 20 ft. from the conductor with a minimum side clearance of 20 ft.
3. If a line normally operates with less than 30 ft. of ground clearance, then all vegetation within the wire zone should be maintained at a height less than 10 ft. tall within the wire zone and the border zone.
4. No tree growth shall be allowed to overhang any conductor, structure or guy line associated with any transmission circuit or structure.
5. Any deviations from the above Clearance 2 definition shall be recorded as a Priority 1***** condition.

Circuits with Operating Voltages ≤ 200kV and >100kV

1. At no time shall minimum clearances be less than those set forth in the Institute of Electrical and Electronics Engineers (IEEE) Standard 516-2003 (*Guide for Maintenance Methods on Energized Power Lines)* and as specified in its Section 4.2.4, Minimum Air Insulation Distances without Tools in the Air Gap.
2. All vegetation within the wire zone should be maintained at a minimum distance of 15 ft. from the conductor.
3. Vegetation within the border zone should be maintained with a minimum side clearance of 15 ft.

4. No vegetation shall be allowed to overhang any conductor, structure or guy line associated with any transmission circuit or structure.
5. Any deviations from the above Clearance two definition shall be recorded as a Priority 1* condition.

Personnel Qualifications

Ameren Vegetation Supervisors

Education:
High school graduate. Prefer Bachelor of Science or Bachelor of Arts Degree in Forestry or related field.

Experience:
Five or more years of experience in Forestry/Horticulture with knowledge of overhead construction and operations. Successful applicant will be required to obtain International Society of Arboriculture Arborist Certification within one year of acceptance of a Vegetation Management Supervisor position.

Other:
Successful applicant must sign agreement stating that they will gain ISA certification within one year of accepting supervisor position. Ameren Vegetation Supervisors should maintain their arborists' certification as long as they are employed as an Ameren Vegetation Supervisor. Good leadership, decision-making, communication and human relations skills, particularly relating to customer relations.

Ameren Vegetation Management Superintendent

Education:
High school graduate. Prefer Bachelor of Science or Bachelor of Arts Degree in Forestry or related field.

Experience:
Must have 5 or more years of experience in the utility vegetation management field. Must have knowledge of overhead electrical construction and operations.

Other:
Must be an ISA Certified Arborist. Shall maintain their arborist's certification as long as they are employed in this position. Must maintain appropriate state pesticide license. Good leadership, decision-making, communication, and human relations skills, particularly relating to customer relations.

Contractor Personnel

All contractor first line supervision must attain ISA arborist certification within one year of accepting a position as a general foreman. All contractor supervisory personnel must demonstrate knowledge of overhead electrical construction and operations and have thorough knowledge of ANSI 133.1 and ANSI A300-2001standards.

All contractor personnel shall be line clearance qualified trimmers and shall follow ANSI 133.1 and ANSI A300-2001 standards when performing line clearance trimming work. All contractor

personnel applying herbicides on Ameren rights-of-way shall possess all applicable state and federal licenses and certifications required for this work. In addition, all contractor personnel shall meet the qualifications required by their companies before performing work as line clearance qualified employees on Ameren's system.

Each contractor will be required to certify that all of their employees will have the required training, licenses and certifications to perform vegetation management on Ameren rights-of-way.

Mitigation Procedure

Mitigating circumstances, including yard trees, are handled on a case-by-case basis. If issues such as easement language, environmental issues or property owner objections prevent work from being done to Clearance 1 standards, then at a minimum clearances greater than Clearance 2 should be obtained and these locations and corresponding documentation will be filed in department's G drive..

Every effort will be made to remove vegetation that is preventing Clearance 1 standards from being achieved with an emphasis being placed on yard trees located within either zone. We will include such incentives as tree replacements for property owners with an understanding that the replacement trees will be planted off the right-of-way.

Ameren vegetation supervision will then schedule work for this location in the appropriate time frame to maintain clearances greater than those listed in Clearance 2.

Ameren Vegetation Management supervision will work with the appropriate Ameren personnel, property owners and outside agencies to achieve clearances as defined in Clearance 1.

Definition of a Priority 1 Condition:

- Vegetation in the "**Wire Zone**" within **20 feet** of the conductor on voltages greater than 100kV
- Vegetation in the "**Border Zone**" within **20 feet** to the side of the conductor for **200kV & above**
- Vegetation within **15 feet** to the side of the conductor for **below 200kV and above 100kV**
- Any dead or hazard tree located on or off the right-of-way that if it were to fail could contact the conductor, structure or guy wire.

Priority 1 Notification Procedure

All Priority 1 conditions found during a patrol or while performing vegetation management activities shall be recorded on the Hot Spot Patrol form or circuit map and called to the appropriate Ameren Vegetation Supervisor immediately. If this supervisor is not available, then the information shall be called to the Vegetation Management Superintendent of transmission. An electronic message containing a copy of the Hot Spot Patrol form (Appendix F) with the Priority 1 condition recorded should be e-mailed to the Vegetation Supervisor and the Vegetation Superintendent. Priority 1 conditions will be scheduled for work immediately. Work to be performed should provide clearance as stated in the requirements for Clearance 1.

Communication of Vegetation Conditions that Pose an Immediate Threat to System Reliability

The condition shall be reported immediately upon discovery to the appropriate Ameren Vegetation Supervisor or the Ameren Vegetation Superintendent **and** the Ameren Transmission Operations Supervisor. Ameren supervisor and superintendent phone numbers are provided to the vegetation contractors. The information reported shall include the location of the violation, the line involved, the time required to correct the situation, and any observed transmission facility damage.

The Ameren Vegetation Supervisor will request, from the Ameren transmission operations supervisor, any equipment outages required to complete the work. Outages will be granted as system conditions permit.

If the situation can be resolved without an outage, the work shall begin immediately and the Ameren Vegetation Supervisor will notify all parties when the work is complete.

Dead and Hazard Trees

Dead and hazardous trees should be cut down or trimmed to a point that if they were to fail would not cause a flashover on the circuit or any facility including guy wires. This applies to all trees that are determined to be a hazard whether they are located within the right-of-way boundary or outside the right-of-way boundary. Hazardous trees typically are those trees that have apparent structural defects. Hazard and danger trees may include dead or live trees.

If any dead or hazard tree is determined to be an immediate reliability concern, Priority 1 notification procedures shall be followed.

Tree Trimming

All trimming shall be performed in accordance with ANSI A300 standard, specifically Section 5.9 which refers to utility pruning. In addition, all trimming personnel shall follow as a minimum the safe work practices as stated in ANSI 133.1-2000. ANSI A300 and ANSI 133.1-2000 have been adopted by the International Society of Arboriculture and the National Arborist Association as pruning standards for the utility industry.

Ameren supervision shall record all work activities in the Ameren Master Maintenance log. Data recorded shall include trim order numbers, work type, start and completed date, supervisor responsible for the work and contractor information.

Work types include manual trimming and trimming with a variety of mechanized equipment such as boom-mounted saws or aerial saws depending on the terrain and accessibility. Mechanical mowing is also utilized to control vegetation when vegetation may be too tall for herbicide applications, in areas where herbicides may be incompatible to the surrounding environment or when customers object to the use of herbicides on private property.

Herbicide Applications

General Statement

As part of Ameren's commitment to provide reliable service to our customers in a safe, economical and environmentally sound manner, herbicide applications are required to maintain vegetation within the transmission rights-of-way. Only EPA approved herbicides shall be applied on Ameren rights-of-way. All herbicides applied shall be approved by Ameren. Contractors shall be required to submit a Pesticide Use Request form before any applications are made to Ameren rights-of-way.

- Ameren shall contract with firms that meet industry standards and employ personnel that meet all the requirements to perform applications as specified in the Missouri and Illinois pesticide use acts.
- Contractors shall keep application records as specified by the Missouri and Illinois pesticide Use Acts depending upon which state the applications are made.
- Ameren personnel shall document all applications in the Ameren Master Maintenance log.

Application Techniques

All herbicides are to be mixed and applied in accordance with product labels. Applications may be done using the following methods if approved by Ameren Vegetation Management personnel:

- Aerial foliar applications (helicopter only)
- Low volume foliar applications
- High volume foliar applications
- Dormant stem (basal) applications
- Cut stubble applications
- Cut stump applications

All ground applications are to be done using selective application methods. Only woody plants, vines and noxious vegetation should be targeted. Forbes, legumes, grasses and wild flowers are not to be treated. Cultivated berry bushes, ornamental shrubs, fruit trees and yard trees are not to be treated except under specific instructions from Ameren Vegetation Management supervision.

Brush located along roadways, fences, railroad rights-of-way that could fail and cause a public hazard should not be treated.

Generally, woody brush up to 10 feet tall may be targeted.

Ameren Vegetation Management supervision shall be notified of any herbicide applications that are to take place in a dedicated wetland type environment. Only herbicides labeled specifically for wetlands shall be applied. Every effort should be made for applications outside of the peak nesting period for waterfowl (April/May).

All foliar applications should be done between May 15th and October 31st. If climatic and environmental conditions change that may impact the desired application window, then applications should be adjusted to accommodate this change.

Customer Contact

Property owners are to be notified of the intent to do herbicide applications. The contractor doing the applications shall be responsible for property owner notification. Ameren will review any printed material before it is distributed.

Property owner shall be given two weeks to reply to the notification. The Ameren Vegetation Supervisor shall be informed prior to any applications of properties where notification cannot be confirmed or concerns expressed.

In the interest of good customer relations, contact should be made where possible before a crew enters a property.

Right-of-Way Access

Where possible, all access should be along the transmission rights-of-way or through Ameren approved routes. At no time shall a contractor enter into an agreement with a property owner for access through an alternative route without prior approval from Ameren supervision. Contractors are responsible for any and all damage claims that may take place as a result of their use of alternative access routes.

Right-of-way access routes are to be kept clear of vehicles at all times. Where possible, all access should be along the transmission rights-of-way or through Ameren approved routes. At no time shall a contractor enter into an agreement with a property owner for access thru an alternative route with out prior approval from Ameren supervision. Contractors are responsible for any and all damage claims that may take place as a result of their use of alternative access routes.

Right-of-way access routes are to be kept clear of vehicles at all times.

Permits

Transmission lines located on U.S. Forest Service lands and other governmental lands may require special permits before scheduled vegetation management can be performed. Time required for contact and permission will be taken into consideration when scheduling maintenance activities on these lands. Alternative types of vegetation management may be required depending on approval of permits.

Audit Policy

The audit process will encompass all types of contractor work including trimming, planning and patrolling activities and herbicide applications on all Ameren companies' transmission rights-of-way.

The Ameren Vegetation Management Transmission audit is designed to ensure contractor's compliance to Ameren's clearance specifications, trimming standards and patrol procedures.

1. Trimming Crew Audits

At a minimum, contractor management will submit one completed Ameren Transmission audit per crew (see Appendix A), per month (2 days of work). Ameren supervision will then be responsible for reviewing all audits and field checking a minimum of 20% of the audits.

2. Patrol Audits

Ameren Vegetation Management Supervisors will schedule two audit sessions per quarter in the field with contractor planner/patrol personnel.

The audit sessions should focus on recording data as required per the Ameren Transmission Hot Spot Patrol form and Ameren Transmission Vegetation Management plan for patrol work completed and patrol work to be done in the future.

One session should review patrol work completed in that quarter and will focus on the accuracy of information on patrols done in that quarter. The other session should be dedicated to training associated with documenting clearance requirements, work type and other data as required on the Ameren Transmission Vegetation Management Plan.

If audits reveal deficiencies in recording accurate clearance information, then the contractor shall re-patrol all circuits assigned to the individual planner who performed the circuit patrol. The re-patrols should be done at no additional costs to Ameren and should be scheduled immediately upon discovery of deficiencies.

3. Drive-by Audits

Ameren supervision will be responsible for performing monthly drive-by audits to monitor compliance with safety, crew configuration including equipment and personnel, contractor performance and invoicing (see Appendix B).

4. Herbicide Application Audits

Audits for herbicide applications will be done in two stages. Stage 1 - Ameren Vegetation Supervisors will audit the crew activity at the time of the herbicide application. The purpose of this audit will be to monitor the following: safe work practices, adequate coverage, no sprays are recorded and proper application techniques are followed (see Appendix C and E).

Stage 2 – Ameren and contractor supervision will do a joint efficacy audit on each circuit that has had herbicide applications. The purpose of the audit is to ensure that acceptable efficacy levels are obtained as a result of the herbicide application per Ameren specifications. Timing of this audit will be dependent upon the application technique employed and the time of year that the application was done (see Appendix D).

In addition to the audits listed above, Ameren supervision reviews all completed work as they do circuit patrols.

All work found to be non-compliant is to be corrected immediately to meet Ameren specifications. If non-compliant work is found, then the contractor will audit 100% of the work done by that crew on all circuits where work was performed and correct at contractor's expense.

Outage Reporting

When a reported vegetation-related outage occurs on Ameren transmission lines, the Energy Supply Office (ESO) and/or Transmission Department will notify the Vegetation Management Supervisor and/or Superintendent of the occurrence by email or phone call. Also, a Circuit Interruption Data – Relay Target Data report is automatically sent to the Vegetation Management Superintendent when an interruption occurs.

All reported vegetation-caused outages shall be inspected by the Ameren Vegetation Management Supervisor to determine the cause and classification. The supervisor shall fill out the Ameren Transmission Outage Report form and forward to the Ameren Vegetation Management Superintendent of Transmission (see Appendix G). The Superintendent shall provide the Manager of Resource Management a monthly report on the number and types of vegetation-related transmission outages. The Manager of the Resource Management Department will complete the quarterly outage reports and file with the RRO as required by NERC FAC-003-1.

VEGETATION MANAGEMENT TRANSMISSION AUDIT

AmerenUE ☐ AmerenCIPS ☐ AmerenCILCO ☐ AmerenIP ☐

APPENDIX A

Month: _____
Contractor: _____

Crew #: _____
Foreman: _____
Circuit: _____

CREW TYPE

Bucket ☐ PP ☐ ATAB ☐ Timberland ☐
Mower ☐ Aerial Saw ☐ Plan/Patrol ☐

Date Audited: _____

WORK AUDIT

Maintenance Work ☐ New Construction ☐ Hot Spot ☐ Plan/Patrol ☐

	Satisfactory	Improvement Needed
Proper priority ratings assigned to locations per Ameren Patrol Procedure	☐	☐
Effective work type identified and recorded on Patrol Form	☐	☐
Access information recorded properly on Patrol Form	☐	☐
Overall accuracy of data recorded by Planner/Patroller	☐	☐
All tower bases, down guys, guy wires, and poles cleared of vines and woody brush	☐	☐
Side clearance as per Clearance 1: >30 ft. for 138kV, >40 ft. for 200kV and above	☐	☐
No overhang present on conductors, down guys, poles and structures	☐	☐
Proper cuts to branch bark ridge not flush or stubs	☐	☐
Cut to proper laterals, directional pruning, favoring larger diameter cuts	☐	☐
Bark rips, tears, excess wounding	☐	☐
Danger trees/dead wood effectively cleared including off-ROW trees	☐	☐
Stump height 3 or less inches	☐	☐
Hangers/general clean-up	☐	☐
Herbicide application technique acceptable and proper; no skips	☐	☐
Preservation of desirable cover consistent with site	☐	☐
ROW floor clearance; no brush > 10 ft. tall with < 30 ft. clearance (includes yard trees)	☐	☐
If refusal, noted on timesheet and map and called to Ameren supervisor	☐	☐
Slash disposal consistent with site	☐	☐
Timesheet legible with accurate locations for start/stops	☐	☐
Timesheet accurate on work units and the division of time reported	☐	☐
Men and equipment consistent with site	☐	☐
Production consistent with site	☐	☐

GENERAL FOREMAN'S REVIEW

If **"Improvement Needed"** is marked, explain actions taken. _____

_____

_____

CREW ACTIVITY

Maintenance Work ☐ New Construction ☐

Hot Spot ☐ Plan/Patrol ☐

On Arrival
Date: _____ Time: _____

F:
T:
B:

Proper Work Site Set-Up	☐	☐
All equipment to specifications and serviceable (chip quality, saws, etc.)	☐	☐
Herbicide labels/MSDS and container storage (disposal)	☐	☐
Project circuit map marked and current with notes as needed	☐	☐
Crew ID's / personal appearance	☐	☐

GENERAL FOREMAN'S REVIEW

If **"Improvement Needed"** is marked, explain actions taken. _____

_____

_____

Forestry Supervisor: _____ Date Reviewed:_____

Pass ☐ Fail ☐ (If fail, please explain) _____

_____

APPENDIX A-1
VEGETATION MANAGEMENT DISTRIBUTION AUDIT

AmerenUE ☐ AmerenCIPS ☐ AmerenCILCO ☐ AmerenIP ☐

Month: _____
Contractor: _____
_____

Crew #: _____
Foreman: _____
Circuit: _____

CREW TYPE
Bucket ☐ PP ☐ ATAB ☐ Timberland ☐
Mower ☐ Aerial Saw ☐

Date Audited: _____

WORK AUDIT
Maintenance Work ☐ New Construction ☐ Hot Spot ☐

	Satisfactory	Improvement Needed
Proper cuts to branch bark ridge not flush or stubs	☐	☐
Cut to proper laterals, directional pruning, favoring larger diameter cuts	☐	☐
Bark rips, tears, excess wounding	☐	☐
Danger trees/dead wood effectively cleared including off-ROW trees	☐	☐
Stump height 3 or less inches	☐	☐
Hangers/general clean-up	☐	☐
Herbicide application technique acceptable and proper; no skips	☐	☐
Preservation of desirable cover consistent with site	☐	☐
Clearance on top, side, and overhang for voltage present	☐	☐
If refusal, noted on timesheet and map and called to Ameren supervisor	☐	☐
Slash disposal consistent with site	☐	☐
Timesheet legible with accurate locations for start/stops	☐	☐
Timesheet accurate on work units and the division of time reported	☐	☐
Men and equipment consistent with site	☐	☐
Production consistent with site	☐	☐
Removals consistent with site and within guidelines	☐	☐

GENERAL FOREMAN'S REVIEW

If **"Improvement Needed"** is marked, explain actions taken. _____

_____

_____

CREW ACTIVITY

Maintenance Work ☐ New Construction ☐

Hot Spot ☐

On Arrival
Date: _____ Time: _____

F:
T:
B:

Proper Work Site Set-Up	☐	☐
All equipment to specifications and serviceable (chip quality, saws, etc.)	☐	☐
Herbicide labels/MSDS and container storage (disposal)	☐	☐
Project circuit map marked and current with notes as needed	☐	☐
Crew ID's / personal appearance	☐	☐

GENERAL FOREMAN'S REVIEW

If **"Improvement Needed"** is marked, explain actions taken. _____

_____

_____

Forestry Supervisor: _____ Date Reviewed:_____

Pass ☐ Fail ☐ (If fail, please explain) _____

_____

Appendix B

Ameren

RY DRIVE BY AUDIT

MONTH: ______ **CONTRACTOR** ______

DISTRICT ______

CREW #:		FOREMAN NAME:		JOB SAFETY OBSERVATION (JSO)		
EQUIPMENT		CREW ACTIVITY UPON ARRIVAL:			Meets Expectations	✔ If Footnoted
LIFT		DATE:	TIME:	1 PPE:	Y / N	
DUMP TRUCK		FOREMAN		2 TRAFFIC PROTECTION:	Y / N	
CHIPPER		TRIMMER		3 WORK ZONE:	Y / N	
SAWS		BRUSHY		4 MIN. APPROACH DIST:	Y / N	
OTHER		LOCATION / FDR		5 EQUIP. OPERATION:	Y / N	

CREW #:		FOREMAN NAME:		JOB SAFETY OBSERVATION (JSO)		
EQUIPMENT		CREW ACTIVITY UPON ARRIVAL:			Meets Expectations	✔ If Footnoted
LIFT		DATE:	TIME:	1 PPE:	Y / N	
DUMP TRUCK		FOREMAN		2 TRAFFIC PROTECTION:	Y / N	
CHIPPER		TRIMMER		3 WORK ZONE:	Y / N	
SAWS		BRUSHY		4 MIN. APPROACH DIST:	Y / N	
OTHER		LOCATION / FDR		5 EQUIP. OPERATION:	Y / N	

CREW #:		FOREMAN NAME:		JOB SAFETY OBSERVATION (JSO)		
EQUIPMENT		CREW ACTIVITY UPON ARRIVAL:			Meets Expectations	✔ If Footnoted
LIFT		DATE:	TIME:	1 PPE:	Y / N	
DUMP TRUCK		FOREMAN		2 TRAFFIC PROTECTION:	Y / N	
CHIPPER		TRIMMER		3 WORK ZONE:	Y / N	
SAWS		BRUSHY		4 MIN. APPROACH DIST:	Y / N	
OTHER		LOCATION / FDR		5 EQUIP. OPERATION:	Y / N	

CREW #:		FOREMAN NAME:		JOB SAFETY OBSERVATION (JSO)		
EQUIPMENT		CREW ACTIVITY UPON ARRIVAL:			Meets Expectations	✔ If Footnoted
LIFT		DATE:	TIME:	1 PPE:	Y / N	
DUMP TRUCK		FOREMAN		2 TRAFFIC PROTECTION:	Y / N	
CHIPPER		TRIMMER		3 WORK ZONE:	Y / N	
SAWS		BRUSHY		4 MIN. APPROACH DIST:	Y / N	
OTHER		LOCATION / FDR		5 EQUIP. OPERATION:	Y / N	

General Foreman Remarks

Forestry Supervisor Remarks:

upervisor ______ **Date:** ______ **General Foreman** ______ **Date:** ______

Appendix C

AMEREN / SPRAY CREW APPLICATION AUDIT FORM

Contractor _____

Auditor_____ Audit Date_____

Paperwork Week End_____ Crew #_____

District_____ Line / Feeder_____

Distribution_____ I.D.'s Audited_____

Transmission_____ Spans Audited_____

WORK AUDIT

	SATISFACTORY	IMPROVEMENT NEEDED
PRE-TRIM_____		
MAINTENANCE____		
MOWER _____		
PROPER APPLICATION FOR BRUSH PRESENT		
HACKING/FRILLING AS NECESSARY		
NOT TREATING DESIRABLES		
NO SPRAYS CLEARLY MARKED		
BUFFERS LEFT AS REQUIRED		
MEASUREMENTS ACCURATE ON TIMESHEET (1/4-Spans or Acres)		
TIMESHEET LEGIBLE WITH ACCURATE START/STOP LOCATIONS		
TIMESHEET ACCURATE ON MEASUREMENTS AND DIVISION OF TIME REPORTED		
PRODUCTION CONSISTENT WITH DENSITIES		
COVERAGE OF BRUSH TO BE TREATED		

AUDITOR'S REVIEW:

CREW ACTIVITY

	ON ARRIVAL	
PRE-TRIM_____		
MAINTENANCE_____	DATE:	TIME:
MOWER_____	SF	
	SA	
	SA	
	SA	
	SA	
PROPER CREW STAGING (parking, location,proximity to work)		
APPLICATION TECHNIQUE (coverage, pattern)		
VINES ON POLES (cut AND sprayed)		
ALL EQUIPMENT TO SPECIFICATIONS AND SERVICED		
HERBICIDE LABELS/M.S.D.S. AND CONTAINER STORAGE		
SPRAY WORK HASHED AND NOTED APPROPRIATELY		
CREW ID'S VISIBLE		
OVERALL APPEARANCE		

AUDITORS REVIEW:

ACTIONS TAKEN:

FORESTRY SUPERVISOR_____ DATE REVIEWED_____

Appendix D

Ameren Efficacy Audit

Circuit Name:

Location

(Tower #'s)

Work dates Audited:

Acres Audited:(number of acres)

Date of audit:

Contractor:

Application method: Basal Lvf Hvf

Tank Mix Used:

Control: Acceptable > 90% Unacceptable <90%

Comments:

Stem Density: Sparse: > 1000 stems/acre
Medium: 1000- 5000 stems/acre
Heavy: 5000- 8000 stems/acre

Crew report of Units Accurate; Y/N (if No explain)

Ameren Supervisor:

Contractor General Foreman:

Ameren

SPRAY CREW DRIVE BY AUDIT

MONTH: _____ **CONTRACTOR** _____

DISTRICT _____

CREW #: _____ Truck # _____ FOREMAN NAME: _____

EQUIPMENT — CREW ACTIVITY UPON ARRIVAL:

SVC TRUCK _____ DATE: _____ TIME: _____

ATV _____ FOREMAN _____

OTHER — APPLICATOR _____

APPLICATOR _____

APPLICATOR _____

LOCATION/CIRCUIT

JOB SAFETY OBSERVATION (JSO)

		Meets Expectations	✓ If Footnoted
1	PPE:	Y / N	
2	TRAFFIC PROTECTION:	Y / N	
3	WORK ZONE:	Y / N	
4	MIN. APPROACH DIST:	Y / N	
5	EQUIP. OPERATION:	Y / N	

CREW #: _____ Truck # _____ FOREMAN NAME: _____

EQUIPMENT — CREW ACTIVITY UPON ARRIVAL:

SVC TRUCK _____ DATE: _____ TIME: _____

ATV _____ FOREMAN _____

OTHER — APPLICATOR _____

APPLICATOR _____

APPLICATOR _____

LOCATION/CIRCUIT

JOB SAFETY OBSERVATION (JSO)

		Meets Expectations	✓ If Footnoted
1	PPE:	Y / N	
2	TRAFFIC PROTECTION:	Y / N	
3	WORK ZONE:	Y / N	
4	MIN. APPROACH DIST:	Y / N	
5	EQUIP. OPERATION:	Y / N	

CREW #: _____ Truck # _____ FOREMAN NAME: _____

EQUIPMENT — CREW ACTIVITY UPON ARRIVAL:

SVC TRUCK _____ DATE: _____ TIME: _____

ATV _____ FOREMAN _____

OTHER — APPLICATOR _____

APPLICATOR _____

APPLICATOR _____

LOCATION/CIRCUIT

JOB SAFETY OBSERVATION (JSO)

		Meets Expectations	✓ If Footnoted
1	PPE:	Y / N	
2	TRAFFIC PROTECTION:	Y / N	
3	WORK ZONE:	Y / N	
4	MIN. APPROACH DIST:	Y / N	
5	EQUIP. OPERATION:	Y / N	

CREW #: _____ Truck # _____ FOREMAN NAME: _____

EQUIPMENT — CREW ACTIVITY UPON ARRIVAL:

SVC TRUCK _____ DATE: _____ TIME: _____

ATV _____ FOREMAN _____

OTHER — APPLICATOR _____

APPLICATOR _____

APPLICATOR _____

LOCATION/CIRCUIT

JOB SAFETY OBSERVATION (JSO)

		Meets Expectations	✓ If Footnoted
1	PPE:	Y / N	
2	TRAFFIC PROTECTION:	Y / N	
3	WORK ZONE:	Y / N	
4	MIN. APPROACH DIST:	Y / N	
5	EQUIP. OPERATION:	Y / N	

General Foreman Remarks

Forestry Supervisor Remarks:

Forestry Supervisor **Date:** **General Foreman** **Date:**

TRANSMISSION VEGETATION PATROL/INVENTORY FORM:

Line Name/Voltage_____ **Inspected by:** _____ **Date:** _____ **Patrol Type:** _____

Priority 1 - IMMEDIATE (clearance violation or hazard tree) **Priority 2** - Perform work before the next growing season (before May 1) **Priority 3** - Perform work within one year of patrol date

Priority	Stucture		Tree Work Required				Brush Work Required			Brush	Spot	Special
Rating	From	To	Trims	Removals	Hazards	Strategy	% of ROW	Density	Strategy	Acres	Patrol(Y)	Information

Yard Trees	Low Conductor	Mitigation Area	Narrowed ROW	No Spray	River/Creek Crossings	Government Land	Pasture/Crop	Livestock	Rough Terrain	Fence Crossings	Swamp/Flooded	Distribution Underbuild	Date Work Completed	Crew Number

Appendix F

Appendix G

Vegetation Management Department
Transmission Tree-Caused Outage Report

Circuit Name: Date: Time:
Duration of Outage: Location:
Category: 1 ☐ 2 ☐ or 3 ☐ (1 - Grow-in, 2 - Fall-in inside ROW, or 3 - Fall-in outside ROW)
Voltage: Weather Conditions:

Damage to Facilities: (Explain)

OUTSIDE ROW	INSIDE ROW
Species:	Species:
Size:	Size:
Alive ☐ Dead ☐	Alive ☐ Dead ☐
Cause:	Cause:
☐ Split ☐ Uproot ☐ Washout ☐ Rotted at base ☐ Overhang ☐ Tree Trimmer ☐ Growth Contact	☐ Split ☐ Uproot ☐ Washout ☐ Rotted at base ☐ Overhang ☐ Tree Trimmer ☐ Growth Contact
Distance off ROW:	Overhang Clearance:
Growth Clearance:	Growth Clearance:

☐ Preventable ☐ Preventable with Policy Change ☐ Non-Preventable

Explain:

Checked by: Date Checked:

Last Patrol Date: Patrolled by:

If outage was caused by tree trimmer, please list the contractor data.

Contractor: GF:

Crew Number: Crew Foreman: Crew Type:

Damage of Claim to be Filed:

Exhibit J-1

A-1 Softwood – fast growing species-

1. Silver Maple *Acer saccharinum*
2. Cottonwood
3. Tulip Poplar *Liriodendron tulipifera*
4. Ailanthus –tree of heaven-
5. Mulberry
6. Siberian Elm *Ulmus pumila*
7. Chinese Elm *Ulmus parvifolia*
8. American Elm *Ulmus americana*
9. Locust – all varieties-
10. Sweet gum *Liquidambar styraciflua*
11. Willow – all varieties –
12. Catalpa *Catalpa speciosa*
13. Callery pear – specifically “Bradford” cultivar
14. Walnut- included due to weight that nuts add to limbs-
15. White Ash *Fraxinus Americana*
16. Wild Cherry *Prunus serotina*
17. Basswood *Tilia americana*
18. River Birch *Betula nigra*
19. Cucumber tree *Magnolia acuminata*
20. Hackberry *Celtis occidentalis*
21. Red Maple *Acer rubrum*
22. Sycamore-London Plane Tree- *Platanus acerifolia*
23. Kentucky Coffee Tree – *Gymnocladus dioicus*

Appendix J-2

Ameren Prescriptive Trim Program

Process Recommendations

- Vegetation Supervisor access Reliability Eng.Pivot table in September of each year
- Select worst performing feeders based on Tree Caused Customer Interruptions per feeder outage over the last 5 years and discuss selection with Supt. Note: run report for sub-transmission and Device outages along with distribution.
- Do patrol based on criteria below. Make notes on customer notification needed and cost implications. Take into account the tree crew time, GF/Planner time, and tree replacement dollars as applicable.
- Patrol all 3 phase and unfused taps from the substation until the first protective device.
- Discuss recommendations and cost implications with Supt.and build into following year plan under Performance Mgt. by December.
- Do tree work, especially if feeder will not be trimmed on regular maintenance in current year, before May.
- Document in excel spreadsheet the circuits researched each year and any action taken. This will help to document the cost/benefit of the program in several years.

Vegetation Issues to be aware of:

- Problem species-silver maple, elms, cottonwood, sycamore, Bradford pears, pines/spruces/cedars uprooting or snow/ice loading.
- Health and growth characteristics of trees (included bark, poor laterals, locusts uprooting, obvious defects/diseases (Tree Risk Assessment Team)
- Trees located on the west side of line.
- Past trimming methods such as homeowner “hat racked”, overhang left with tree species present.
- Removals of fast growing species especially near substations.
- Wind firmness-take into account that the trees on the edge of a Row are by far the most wind firm, may open up to wind throw of remaining trees.
- Geography concerns-hillside, creeks, etc with root exposure or leans.
- Animal caused-beaver and solutions such as caging, trapping, stubbing, etc
- Soil conditions-loose soils in river bottoms, compaction and grade changes near construction sites such as new roads/buildings
- Obtain 3ph clearances on 1ph up to the device.

APPENDIX J-3

Vegetation Management

Partnering Agreement

Ameren and Vendor

Performance Score Card 2008

Financial					
Key Performance Indicator	***Value***	***Measure***	***Total Miles Scheduled***	***YTD***	***Total Miles Completed at Year End***
Production – Total Miles Trimmed vs. Total Miles Scheduled	25%	Less than 91.5---------0% >92----------20% >94----------40% >95----------50% >96----------60% >98----------80% = to or>100----------100% Separate incentive agreement if total miles schedule are completed AND rating is >105%	**AmerenUE = Rating**		

Process Efficiency/Innovation			
Key Performance Indicator	***Value***	***Measure***	***Date Plan Submitted***
One new business plan/idea per year on new method/process	10%	Plan should be data driven with cost/benefit. Plan should be of a minimum .25% of expected gross sales.	
Tier 1-Submittal	5%	Plan submitted on/before June 1 of each year	
Tier 2-Final documentation of plan	5%	Final Plan Documentation by Dec. 31 of each year	

Employee				
Key Performance Indicator	***Value***	***Measure***	***YTD***	***Year End Target***
Safety - Total	25%	Incidents x 200,000 divided by total Man Hours = Incident Rate		
Personal Injuries	10%	OSHA with Lost Time Incident Rate		Reward <. Neutral . Penalty >
	5%	OSHA Recordable Incident Rate		Reward < Neutral Penalty >
Wire Incidents	10%	Wire Incidents – Primary (69kv to 2.4kv) Flashes = 1 Outages = 1 Wire Down = 2 34/69kv = Double		Reward < Neutral Penalty >

Customer				
Key Performance Indicator	***Value***	***Measure***	***YTD***	***Year End Target***
Customer Satisfaction - Total	40%			
Survey	5%	CMI Phone Survey 2 times/yr		
Property Damage Claims	10%	Claims settled above $200 Incident Rate	0.0	
Reliability	25%	**2 weeks after tree is trimmed** **4/5 of KPI first year** **1/5 of KPI second year**		0

☑ Meeting YTD 2008 Target ⊘ Not meeting YTD 2008 Target