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TE EXHIBIT _

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

LEO JEFFERS, et al.,	)	
	)	
Complainants,	)	
	)	
v.	)	**Case No. 10-430-EL-CSS**
	)	
THE TOLEDO EDISON COMPANY,	)	
	)	
Respondent.	)	
	)	

DIRECT TESTIMONY OF KATHERINE M. BLOSS ON BEHALF OF THE TOLEDO EDISON COMPANY

TABLE OF CONTENTS

I. INTRODUCTION

Q1. Please introduce yourself.

A1. My name is Katherine Bloss. I work for FirstEnergy Service Company ("Service Company"), which provides services to the electric operating companies of FirstEnergy Corp., including The Toledo Edison Company ("Toledo Edison"). I am a Supervisor of Transmission Vegetation Management.

Q2. Please describe your educational background and work experience.

A2. I obtained a Bachelor of Science in Resource Management and Environmental Forest Biology from the State University of New York College of Environmental Science and Forestry (Syracuse, NY) in 1997. From 1999 to 2002, I was a Distribution Forester for The Cleveland Electric Illuminating Company. From 2002 until 2006, I was a Distribution and Transmission Specialist for Metropolitan Edison in Pennsylvania. In 2006, I became an employee of the Service Company as a Supervisor of Transmission Vegetation Management ("TVM"). Currently, six vegetation management specialists report to me.

Q3. Do you hold any certifications or licenses?

A3. I am a certified arborist and received my certification from the International Society of Arboriculture ("ISA") in 2001. As an ISA Certified Arborist, I have been trained in all aspects of arboriculture, including tree identification, tree biology, pruning standards, soil biology, tree nutrition and fertilization, and best vegetation management safety practices. To maintain my certificate, I am required to complete 30 continuing education units every three years.

Q4. What are your responsibilities as a Supervisor of Transmission Vegetation Management?

A4. My responsibilities include ensuring that all of the transmission lines for Toledo Edison, The Cleveland Electric Illuminating Company and Ohio Edison Company comply with the Transmission Vegetation Management Plan ("Plan") and the TVM Specifications ("Specifications"), which comprise the consolidated, system-wide utility vegetation management transmission-line program ("TVM Program"). A true and accurate copy of the Plan is attached hereto as Toledo Edison Exhibit KB-1 and a true and accurate copy of the Specifications in effect when the Complainants' trees were removed from the Complainants' property is attached as Toledo Edison Exhibit KB-2. I oversee the implementation of, and compliance with, the Specifications by contractors. I conduct field visits to supervise and inspect the work of contractors and transmission specialists. I also participate in aerial patrols to locate vegetation that might pose a threat to the safe and reliable operation of the Service Company's transmission lines. I work with property owners to resolve work refusals and claims related to the TVM Program. I work with local, state, and federal government agencies to find vegetation management solutions that works with both of our objectives.

Q5. Are you familiar with Toledo Edison's policies and practices regarding vegetation management?

A5. Yes. I understand both current and historical TVM policies and practices at Toledo Edison. Since my appointment as Supervisor of Transmission Vegetation Management, I have worked with the TVM Program on a near-daily basis and have instructed others,

including contractors, on the proper application of the TVM Program to vegetation conditions in the field. I also have provided input into revisions of the TVM Program.

Q6. Have you ever visited Complainants' property?

A6. Yes. I have visited Complaints' property twice, on February 22, 2010, during the removal of the trees that were incompatible with Toledo Edison's transmission lines, and on May 16, 2012, during a site visit with counsel and Toledo Edison witnesses Christopher Hahn and David Kozy. I also viewed this property from the road during the initial refusal process.

Q7. What is the purpose of your testimony?

A7. The purpose of my testimony is to describe the TVM Program as it pertains to the 69 kV line at issue and the TVM Program's requirements regarding the removal and pruning of vegetation to ensure the continued safety and reliability of the transmission system.

II. TOLEDO EDISON'S TVM PROGRAM

Q8. Please describe the TVM Program.

A8. The TVM Program is set forth in a document entitled, "TVM Transmission Plan and The Transmission Vegetation Management Specifications." The objective of the TVM Program is "to maintain safe, reliable and economical electric service, through effective line clearance and satisfactory public relations." (Specifications, TE Ex. KB-2, p. 4.) The Plan, which was submitted for the Commission's review in January 2001, establishes a five-year maintenance cycle for all of the Company's transmission lines. This means that the vegetation in the area of each line must be maintained no less frequently than every five years. The Specifications generally mandate the "control" of "incompatible vegetation." Controlling vegetation generally means the removal and/or an application of

herbicide to vegetation that will grow tall enough to interfere with transmission conductors. In situations when incompatible vegetation cannot be removed (e.g., when there is no easement permitting removal), the Plan establishes the clearances that are to be achieved on different types of transmission lines, depending on the voltage they carry. The Specifications incorporate and elaborate on the Plan and contain the Company's instructions to contractors regarding, among other things, the safe and effective implementation of the Plan's requirements.

Q9. Are the Plan and Specifications provided to the Commission?

A9. Yes. In 2001, the Plan was submitted to the Commission and reviewed by Commission Staff. Although the Commission retained authority to order a hearing if it objected to the Plan, it never did so. The Specifications were revised in 2007.

Q10. Does the TVM Program include routine circuit inspections of vegetation?

A10. Yes. The Service Company conducts an aerial inspection and associated ground patrols on an annual basis, encompassing transmission facilities system-wide. These inspections and patrols are done for the specific purpose of assessing the state of the vegetation on or around the corridor to determine whether (and where) mitigation is necessary.

The Service Company also conducts bi-annual aerial patrols of transmission lines, generally in the fall and spring, with the primary purpose to inspect the overall condition of the lines and equipment. Problematic vegetation spotted on those patrols is reported to the Transmission Vegetation Management Department for follow-up inspection and, if necessary, on-site mitigation.

Q11. Are you familiar with the type of transmission line at issue in this case?

A11. Yes. The Toledo Edison line crossing over Complainants' property is a 69 kV transmission line.

Q12. What do the Plan and Specifications require with respect to 69 kV transmission lines?

A12. The TVM Plan and Specifications prescribe a five-year maintenance "cycle," during which the Service Company inspects and maintains all vegetation within and adjacent to its transmission "clearing zone corridors" – the areas beneath and around the lines. (*See* Plan, TE Ex. KB-1, pp. 1-2; Specifications, TE Ex. KB-2, p. 13.) The width of the "clearing zone corridor" varies according to size of the easement obtained by the utility, the pole construction involved, and the voltage of the transmission line. For this line, the clearing zone is the entire width of the easement, i.e., twenty feet on either side of this line.

The TVM Program specifically emphasizes removal of vegetation that may interfere with transmission lines in the clearing zone. The Plan provides that, in maintaining vegetation, "[e]mphasis is to be placed on controlling all incompatible vegetation within [the] clearing zone." (Plan, TE Ex. KB-1, p. 1; Specifications, TE Ex. KB-2, p. 13.) The Specifications define "incompatible vegetation" to mean "all vegetation that will grow tall enough to interfere with overhead electric facilities." (Specifications, TE Ex. KB-2, p. 25.) "Controlling" means "that all incompatible vegetation must be removed with herbicide or be removed mechanically . . .," when such vegetation "has the potential to interfere with the safe and efficient operation of the transmission system." (*Id.* at 24; Plan, TE Ex. KB-1, p. 1.)

Q13. Does the TVM Program allow for pruning of incompatible vegetation rather than removal?

A13. Yes, in certain limited situations, such as when the utility does not have an easement authorizing it to remove vegetation and cannot otherwise obtain permission from the landowner (Plan, TE Ex. KB-1, p. 1; Specifications, TE Ex. KB-2, p. 13.). In such cases, vegetation is pruned so as to "achieve a minimum of five years' clearance," meaning that enough clearance should be achieved at the time of maintenance such that no additional pruning will be required for five years. (*Id.*) The amount of pruning required to achieve five years' clearance depends on the species and growth rate of the tree and other site-specific conditions.

In some instances, for example, when there are no easement rights or restricted easement rights, it may not be possible to achieve five years' clearance. In those cases, for 69 kV lines, the Plan provides that vegetation "shall be cleared no less than fifteen feet (15') from the conductor." (Plan, TE Ex. KB-1, p. 1; Specifications, TE Ex. KB-2, p. 13.)

In sum, when incompatible vegetation cannot be removed, it is pruned to ensure the vegetation is clear of the lines for five years. Otherwise, it should be pruned to achieve a minimum clearance of 15 feet.

Q14. Why does Toledo Edison's TVM program call for removal rather than pruning of incompatible vegetation?

A14. There are at least three reasons. First, if vegetation will grow close enough to touch or otherwise interfere with the lines – "incompatible vegetation," by definition – then the only certain way to avoid future interference is to remove it. Pruning, by contrast, leaves

uncertainty. Even TVM professionals can make only educated estimates of the amount a tree can grow over time. Growth rates are influenced by many variables, some of which are predictable (*e.g.*, tree species, climate), some of which less so (*e.g.*, precipitation or availability of water, natural variability among trees and branching habits, availability of sunlight). Thus, it is difficult to predict whether, for example, a tree that is fifteen feet away from a transmission wire in year one will grow to within ten or five feet (or closer) before the Service Company is next able to observe and, if necessary, trim it. Under those circumstances, the best policy is to remove the incompatible vegetation.

Second, the implications of vegetation contacts with a transmission line are severe. As discussed in detail by Toledo Edison witness David Kozy, contacts may result in loss of power to large numbers of customers as well as potential personal injury and property damage due to fires or electrocutions. Vegetation near the lines also may impede our work crews' ingress and egress to transmission lines and facilities. Prevention of tree/line contacts thus is critical to the safety and reliability of FirstEnergy's transmission operations.

Third, as also discussed by Mr. Kozy, various industry groups, such as the North American Electric Reliability Corporation and the Institute of Electrical and Electronic Engineers, which publishes the National Electrical Safety Code ("NESC"), mandate that certain clearances be maintained for transmission lines. These standards have become the industry practice for utilities across the country. In fact, the Commission has incorporated the NESC guidelines into its rules. *See* Rule 4901:1-10-06, Ohio Administrative Code. The Service Company's removal policy thus not only helps ensure

the safety and reliability of our operations, but also best enables us to meet the industry and Ohio standards, thereby assuring the safety and reliability of our operation.

Q15. Has the Service Company's approach to transmission line vegetation management changed over the years?

A15. Yes. In the early 2000s, we began to more aggressively pursue our easement rights to remove incompatible vegetation. During that time, the FirstEnergy Corp. operating companies (Toledo Edison, Ohio Edison Company, and The Cleveland Electric Illuminating Company) initiated a series of improvements to their TVM program, including not only a more aggressive approach to removals, but also centralization of the TVM program in the Service Company, enhanced vegetation-specific line patrols, and standard documentation of contractor work and related inspections. Toledo Edison's current approach to TVM is a better way of ensuring the safety and reliability of our system and is consistent with industry practice.

Q16. Did the trees that were removed from the Complainants' property pose a threat to the safe and reliable operation of the transmission line?

A16. Yes. The trees were either within or approaching the minimum clearance called for by the NESC. As Mr. Kozy discusses in his testimony, trees within such distances and the potential for sagging and swaying of lines could lead to arcing and contact.

Q17. Could the threat have been avoided by having Complainants or some party under contract with them merely trim the tops of the trees every few years?

A17. No. Leaving vegetation management maintenance practices in the hands of homeowners would jeopardize the safe and reliable operation of the Toledo Edison's transmission lines and unduly burden the Service Company. The Service Company engages in

vegetation management along its transmission lines on a five-year maintenance cycle. Contractors who report directly to the Service Company are responsible for ensuring that all incompatible vegetation is controlled to prevent tee-transmission line contacts. Permitting individual homeowners to take on this responsibility is simply not an option. As discussed by Toledo Edison witness Christopher Hahn, were Complainants permitted to have exercised this responsibility on behalf of the Service Company, Toledo Edison would have had no control over how frequently that vegetation would have been maintained, the techniques used to maintain it, or any assurance of adequate clearances. In fact, permitting individual homeowners to prune would still require the Service Company and Toledo Edison to police such activities to prevent outages and ensure the safe and reliable operation of its transmission lines. Keeping track of every individual homeowner who elects to self-prune would clearly overstretch the Service Company's vegetation management resources and prove unworkable.

Q18. Have there been any situations along the Midway-Tontogany 69 kV transmission line when trees were permitted to remain?

A18. Yes. But on those properties there is "distribution underbuilt." In cases of distribution underbuilt, a distribution line runs directly underneath, and several feet below, a corresponding transmission line. As explained below, on such properties, the Service Company's distribution vegetation management program and the presence of the lower distribution line itself prevents the growth of trees into the higher transmission line.

The Service Company has separate departments for distribution line vegetation management and for transmission line vegetation management. The distribution department trims on a four-year maintenance cycle, while the transmission department

trims on a five-year cycle. The distribution department manages the vegetation more often and thereby can ensure that the proper clearances are achieved. Because the trees would be trimmed several feet below the distribution line, which is in turn several feet below the transmission line the distribution department helps to ensure that the safe and reliable operation of the transmission line is achieved.

Q19. Why doesn't the transmission department remove trees in instances when there is distribution underbuilt?

A19. As noted above, the shorter distribution vegetation management maintenance cycle generally prevents a tree from growing into the transmission line at issue. Removal of such trees by the transmission department is thus normally not necessary. Generally, the transmission department does target the removal of incompatible vegetation in these areas if the vegetation does not have 5 years of clearance at the time of maintenance.

Q20. Does the TVM Program require the "clear cutting" of all vegetation inside the transmission clearing zone corridor?

A20. No. Only incompatible vegetation must be removed from transmission corridors. Compatible vegetation – vegetation that will not grow tall enough to interfere with the wires – need not be removed. For example, a dogwood tree, which grows to around eight feet at maturity, is compatible vegetation, and under our TVM program, it could remain in the corridor.

Q21. Does this conclude your testimony?

A21. Yes.

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing was delivered to the following persons by First Class U.S. Mail, postage prepaid, this 24th day of September, 2012:

Kimberly A. Conklin, Esq.
Steven D. Hartman, Esq.
Kerger & Hartman, LLC
33 S. Michigan St., Suite 100
Toledo, Ohio 43604

Attorneys for Complainants

Jeffrey Dakes per authority AEH
An Attorney For Respondent The Toledo Edison Company

EXHIBIT
KB-1

Rule 27(2)(E)

Right-of-way Vegetation Control - Transmission

(a) Description and identification of each program's objectives and desired outcome(s).

Vegetation management is required to ensure the continued and safe operation of transmission circuits. Vegetation control is the removal of vegetation that has the potential to interfere with the safe and efficient operation of the transmission system. Clearing vegetation located in a specified corridor is performed by contractors in accordance with pre-established schedules, or as required to maintain line reliability and access, make repairs, or restore service. All routine vegetation clearing work is performed in compliance with ANSI Z133.1 and A-300 Standards, and according to the requirements given by OSHA.

(b) Description and overview of each program's procedures.
(c) Identification of equipment examined under each program.

The transmission clearing zone corridor width is identified by a FirstEnergy Forestry Services representative and its information given to the Contractor prior to commencement of corridor maintenance activities. Emphasis is placed on controlling all incompatible vegetation within this clearing zone. All incompatible vegetation overhanging the clearing zone corridor shall be pruned back to the main stem. In cases where incompatible vegetation is not controlled, vegetation shall be pruned following directional pruning methods as defined in the ANSI 300 Standards and Amendments.

Pruning for the transmission corridor is dependent on the voltage of the conductor and shall be done in such a manner to achieve the following clearances:

- Transmission lines operating at 23kV – 69kV shall be cleared no less than fifteen feet (15') from the conductor.
- Transmission lines operating at 115kV – 138kV shall be cleared no less than twenty-five feet (25') from the conductor.
- Transmission lines operating above 138kV shall be cleared no less than thirty feet (30') from the conductor.

Emphasis is placed on maintaining "Priority Trees" that are adjacent to the clearing zone corridor. A "Priority Tree" is a tree with its trunk adjacent to the corridor and of such height that if it fell it would pass within 10 ft from any line conductor (measured at maximum sag) or strike any structure. "Priority Trees" targeted for removal include those that are unhealthy, leaning toward the conductors, or are significantly encroaching the clearing zone corridor.

Details of the program and procedures are contained in the FirstEnergy Vegetation Management Specifications.

(d) Justification and supporting rationale for each program's schedule(s).

The frequency of vegetation control activities depends on several factors, such as:

- Growth Conditions
- Control Method Previously Used
- Results of Aerial or Ground Inspections
- Line Parameters (Height, Sag, Terrain, etc.)
- Line Performance (Reliability) History

A periodicity of five years has proven adequate for most locations. Some locations require more-frequent spot-control, such as urban areas or where conditions limit tree to conductor clearances.

(e) Description of the process for documenting and recording each program's activities.

Scheduling, inspecting, and monitoring of vegetation control activities are the responsibility of the Regional Forestry Services Section. Work is documented on the vegetation management weekly timesheets by the contractors and is entered into the Vegetation Management System.

(f) Description of the company's internal process for reviewing and assessing each program's results/findings and for making repairs and replacements based on those program results/findings.

FirstEnergy has the responsibility for inspecting and approving work performed by contracted vegetation management contractors to ensure specification compliance.

(g) Description of the company's process for incorporating its assessment of each program's results/findings and for making repairs and replacements based on those program results/findings.

Each year dollars are allocated to each Region for vegetation management. Schedules are based upon reliability and the last time maintenance was performed. CRI, the corporate reliability measure, is calculated both monthly and yearly. CRI Teams review each of the circuits (monthly/quarterly) and make recommendations for additional vegetation management work.

(h) Description of the company's process for reviewing and assessing the progress and effectiveness of each program and implementing change where needed.

Vegetation issues are monitored through CRI statistics and if problem areas are identified they are corrected. Quarterly meetings are conducted with the Regional Engineers, Dispatch Supervisors, Line Supervisors, and Forestry Supervisors, if the field personnel observe unusual problems with vegetation conditions issues are raised and discussed at these meetings. Benchmarking surveys of internal processes among regional operations and surveys with other utility companies are performed.

(i) Description of the training and re-training process of company personnel for implementing the programs.

Qualified vegetation management contractors are contractedto clear trees away from electric conductors. The contractors are qualified line clearance tree professionals trained in OSHA safety standards and in proper pruning techniques. All contractor personnel are required to carry photo identification, which includes the employee name, company name and office telephone number.

Employees attend industry trade conferences and maintain memberships in industry trade organizations, such as Utility Arborist Association and International Society of Arboriculture.

EXHIBIT
KB-2

FIRSTENERGY VEGETATION

MANAGEMENT

SPECIFICATIONS

FirstEnergy.

Forestry Services

"Clearing the Way"

Revision 2007

TABLE OF CONTENTS

OBJECTIVE

The objective of all work covered by these documents is to maintain safe, reliable and economical electric service, through effective line clearance and satisfactory public relations.

SCOPE OF SERVICES

The right-of-way shall be free of all vegetative obstructions which interfere or may interfere with the construction, operation, maintenance and repair of the electric facilities. The Contractor's work is described in detail and shall be completed in conformance with these specifications and all other provisions of the contract documents.

GENERAL POLICY STATEMENT

This contract will be under the direct supervision of the contracting agency or its authorized representatives. FirstEnergy, at its sole discretion may make changes altering, adding to, or reducing the extent of the Work. Such changes shall be initiated by written order of FirstEnergy and Contractor shall submit the proposed cost or credit to FirstEnergy for any changes in the Work within 15 working days after receipt of the written order for FirstEnergy's approval. Such changes to the Work shall not proceed without FirstEnergy's approval.

The Contractor shall furnish competent supervision as required, and may designate a Supervisor as the Contractor's representative in all manners relating to the work to be performed. The Contractor shall have full responsibility for the work and good conduct of its employees. Directions and instructions shall be given to such employees by the Contractor or its representatives and in no circumstances by FirstEnergy or its representatives.

A copy of the FirstEnergy Vegetation Management Specifications shall be given to every crew before starting work on any project and Contractor and the Contract Supervisor shall go over the FirstEnergy Vegetation Management Specification with every crew

member prior to starting work under any project.

CONTRACTOR EMPLOYEE STAFFING

The Contractor shall keep and be able to provide to FirstEnergy a list of employees working on FirstEnergy property including name, classification and home phone of all employees.

When projects have begun there will be sufficient personnel and equipment working on that project to maintain a presence at all times until the job is completed unless otherwise approved by the FirstEnergy Representative.

REPLACEMENT OF CONTRACTOR EMPLOYEES

The Contractor shall employ personnel qualified to perform the work. If a FirstEnergy Representative determines Contractor's employee to be unsatisfactory, the Contractor shall replace this employee immediately. This does not require the Contractor to terminate the employment of any employee replaced.

IDENTIFICATION OF CONTRACTOR'S EMPLOYEES AND EQUIPMENT

All Contractor personnel shall have photo identification that includes the employee name, company and the Contractor's office telephone number.

All vehicles utilized for work under this specification shall be clearly marked with Contractor's name or logo.

APPEARANCE OF CONTRACTOR'S EMPLOYEES AND EQUIPMENT It shall be Contractor's responsibility to provide employees which are neat and orderly. Contractor's equipment shall be maintained in a safe, clean and satisfactory working condition to keep downtime to a minimum. Charges shall cease for any labor and/or equipment that becomes unproductive by incapacitated equipment. Charges will resume when equipment is restored to its normal operating condition.

STORM EMERGENCY WORK

Throughout the term of the contract it may become necessary for the Contractor to assist FirstEnergy in providing emergency tree clearing services. The Contractor shall provide telephone numbers in order to be reached on a 24-hour basis.

EMERGENCY CALL OUT

In the event of an emergency, including but not limited to a storm, First Energy shall have the right to direct the Contractor to relocate crews working in the system to areas where they are needed, as a result of the emergency. All requests for line clearance tree crews to be released to another utility for storm work (or any other reason) shall be approved by FirstEnergy, prior to relocation of any crews.

When severe winds, ice storms, or other conditions require emergency assistance, the Contractor shall provide necessary labor and equipment within 45 minutes of receiving the call-out request from FirstEnergy. Charges for call-out work will begin when the crew reports to the FirstEnergy reporting location and will end when the crew is advised that work is no longer required by FirstEnergy. The Contractor shall maintain equipment, materials and supplies in preparedness for storm or emergency work and provide emergency assistance in the manner as set forth by FirstEnergy.

COMMUNICATION BETWEEN CONTRACTOR AND UTILITY

All Contractor field supervisors shall provide a mobile communication system that will enable the FirstEnergy representative to contact them regarding both routine and emergency issues. This system shall be capable of transmitting and receiving communications.

CONTRACTOR COMPLIANCE

The Contractor shall review assigned work in progress to ensure compliance with clearance requirements, work standards, planned work procedures, and efficient utilization of personnel, equipment, tools, and material. Contractor personnel shall be properly trained to perform the work proficiently and safely so as to comply with all

applicable laws, regulations, and local ordinances. Contractor shall adhere to the requirements and intent of this Specification which requires that the necessary forms and reports are properly prepared and processed.

COMPLAINT RESOLUTION

The Contractor shall make every effort to contact the customer within 48 hours after a claim is turned in to FirstEnergy. The Contractor shall make every effort to satisfactorily settle, within a reasonable time any loss, damage, or liability after it arises or occurs for which the Contractor is responsible under these specifications. A written report of the claim and settlement shall be submitted within one week of settlement as directed to do so by a FirstEnergy representative. (Exhibit 1, Form 1014)

DAMAGES AND UNPLANNED OUTAGES CAUSED BY CONTRACTORS ACTIONS

The Contractor will be billed by FirstEnergy for any unplanned outages resulting from the Contractor's actions, including the cost incurred by FirstEnergy to repair facilities that are damaged by the Contractor's negligent action.

The Contractor shall do all things necessary or expedient to properly protect any and all parallel, converging or intersecting lines, joint line poles, highways and any and all property of others from damage. In the event that damage occurs in the course of the work, the Contractor shall, at its own expense, restore any of all such damaged property immediately to as good a state as before such damage occurred. The Contractor shall report the outcome to FirstEnergy as directed to do so by a FirstEnergy representative.

In case of power line flash, line contact, interruption, or damage FirstEnergy Dispatching shall be notified immediately and then Regional Forestry. If a tree should contact a sub-transmission or transmission line, the Contractor should not remove the tree from the conductor until a FirstEnergy Representative states that the Contractor is clear to remove the tree.

DAMAGED ELECTRICAL EQUIPMENT NOT CAUSED BY CONTRACTOR'S ACTIONS

Damaged electrical equipment (for example: broken crossarms, broken insulators, loose guy wires, leaking transformers, etc.), unusual vegetative conditions, or unsafe electrical conditions shall be reported to FirstEnergy.

TRAFFIC CONTROL

The Contractor shall follow all appropriate Federal, State and Local traffic control laws and procedures while performing any work under this specification. The Contractor shall provide safe and effective work areas and warn, control, protect and expedite vehicular and pedestrian traffic.

GUARDS AND PROTECTIVE DEVICES

The Contractor shall provide and keep the necessary guards and protective devices at locations where work is being performed to prevent accidents to the public or damage to the property of FirstEnergy or the Public.

SAFETY PRECAUTIONS AND PROTECTION TO PROPERTY

The Contractor shall plan and conduct the work to adequately safeguard all persons and property from injury.

The Contractor shall take the necessary precautions to render the Work secure in order to decrease the probability of accident from any cause and to avoid delay in completion of Work. The Contractor shall use proper safety appliances and provide first aid treatment and ambulance for emergency treatment of injuries and shall comply with all applicable Federal, State and Local Laws, rules and regulations with regard to the safe performance of the work.

SCHEDULING

The Contractor shall schedule and report daily and annual work, coordinate and assign labor, equipment, tools and material required for efficient and timely completion of assigned work.

Work locations of all crews must be reported to the respective FirstEnergy office *before 8:00am each day or as directed by an authorized FirstEnergy representative.*

The scheduling of all projects is the Contractor's responsibility except in cases of critical need as determined by FirstEnergy. FirstEnergy may, at its discretion, require that specific sites be completed in order to maintain service reliability.

PROGRESSION OF WORK

The Contractor shall work progressively along the main circuit feeder from the substation and shall complete all work in the circuit before starting work on another circuit.

LANDOWNER NOTIFICATION

Except in outage situations or emergency restoration, the Contractor shall make reasonable attempts to notify all landowners, municipalities, government agencies or others having jurisdiction, prior to doing work, unless such notification has been attained and furnished to the Contractor in writing by FirstEnergy. Upon request the contractor shall provide proof of notification for removal and or application of a FirstEnergy approved herbicide to brush or trees that interfere or could interfere with conductors.

PROCEDURE FOR REFUSALS AND SKIPS AND INTERRUPTION OF ELECTRIC SERVICE

When work is refused or limited in such a manner as to not allow prescribed clearances in accordance with the FirstEnergy Vegetation Management Specification, the Contractor shall not perform any work on the property until the refusal is resolved. The Contractor shall notify FirstEnergy in writing within ten working days.

FirstEnergy will attempt to resolve work refusals within 60 days or before Contractor relocates to another area (greater than 15 miles from reporting location). When work refusals are not resolved within 60 days or before Contractor relocates to another area (greater than 15 miles from reporting location) only travel time to complete refusal work will be paid on a Time and Material basis.

When consent for herbicide application is refused or when an area is intentionally skipped, the Contractor shall notify FirstEnergy promptly in writing.

The following information is to be provided for work refusals and herbicide refusals: 1) name and address of property owner refusing or owner of area skipped, 2) when and by whom the request was made including the nature of the request, 3) the reason for the refusal or skip, 4) the location of the refusal or skip in relation to FirstEnergy facilities, 5) a description of the type and amount of work which needs to be performed, 6) any other background information which may be of assistance in determining the location of the property owner, and 7) the nature of refusal or possible solutions. (Exhibit 3, Form 418).

When it is necessary to interrupt electric service due to the hazardous condition of the vegetation the Contractor shall notify FirstEnergy promptly in writing. FirstEnergy will attempt to schedule the interruption of electric service within 60 days or before Contractor relocates to another area (greater than 15 miles from reporting location). When the interruption of electric service is not scheduled within 60 days or before Contractor relocates to another area (greater than 15 miles from reporting location) only travel time to complete the work will be paid on a Time and Material basis.

RECORD KEEPING

The Contractor shall complete weekly timesheets supplied by FirstEnergy for all work completed during the previous week. The timesheets are to be submitted by the following Tuesday morning to the Regional Forestry Office. When filling out the weekly Timesheets, the Contractor shall refer to the Instructions for Filling out the FirstEnergy Weekly Timesheets. (Exhibit 4- Form 400.1).

For recording purposes, a tree qualified for "tree pruned" status shall be defined as being a plant with a central trunk that is six inches (6") in diameter at breast height (DBH). Breast height shall be 4.5 feet above ground level. Multiple trunks originating from the same common root crown shall be considered as one (1) tree. The trunk with the largest diameter will be considered to be the size of the tree.

DISTRIBUTION CLEARING ZONE

The degree and type of tree clearance required for electric lines to function effectively is dependent on the voltage of the conductor, the type of tree, its growth rate and branching habit.

The distribution clearing zone is defined as a corridor measured at a distance of fifteen feet (15') on either side of the pole line or to the established large tree edge, whichever is greater in width. Emphasis is to be placed on controlling all incompatible vegetation within this clearing zone. All incompatible vegetation overhanging the clearing zone corridor shall be pruned back to the main stem, only if specified by Regional Forestry. In cases where incompatible vegetation is not controlled, such as in maintained lawn areas, vegetation shall be pruned following directional pruning methods and as further defined in the current ANSI 300 Standards and Amendments. Pruning shall be done in such a manner to achieve a minimum of four years of clearance from FirstEnergy primary conductors based on tree species and growing conditions. In cases where four years of clearance is unattainable twelve feet (12') of clearance around primary conductors shall be achieved. (Refer to Procedure for Refusals and Skips page 9.)

Regardless of tree species, structures with fuses or disconnects must have all woody vegetation cleared within an eight foot (8') radius of the fuse/disconnect side of the structure.

When pruning for an individual tree on an assigned circuit, the contractor must clear for all circuits on the structure whether it is Transmission or Distribution.

When pruning for overhang clearance, dead or structurally weak limbs which could fall or blow into the conductor shall be removed.

Priority trees located in the inspection zone, which is the area between fifteen feet (15') and twenty feet (20') from pole line, shall be maintained as directed by an authorized FirstEnergy representative, to mitigate obvious hazards to FirstEnergy facilities. Priority trees located outside the inspection zone shall be addressed as directed by the FirstEnergy representative.

SECONDARY VOLTAGES CLEARING ZONE

The degree and type of tree clearance required for secondary voltages to function effectively is dependent on the construction of the conductor, the type of tree, its growth rate and branching habit.

Secondary circuits include all facilities between the transformer pole and the final pole on the line. Services are defined as the span from the last pole to the customer's service entrance.

Open Wire Secondary Conductors Branches that are contacting bare open wire secondary conductors are to be pruned to achieve four feet (4') of clearance and/or eliminate mechanical strain, displacement or abrasion of the conductor. Parent branches and the main tree trunk may remain in the secondary clearing zone providing that the branches and the tree are structurally sound and not mechanically straining, displacing or in direct contact with the conductors.

Open Wire and Triplex Services and Triplex Secondary Conductors Branches that are contacting open wire and triplex services and triplex secondary conductors that are creating mechanical strain, displacement, or abrasion shall be pruned to eliminate the strain, displacement or abrasion of the conductor. Large limbs in excess of 3-inches in diameter that are contacting the conductor and are causing mechanical strain, displacement or abrasion shall be reported in writing to the Forestry Representative.

Street Light Wire and Luminaries *This work is only required as directed by an authorized FirstEnergy representative.* When required, branches contacting street light wires shall be pruned to provide at least one foot (1') of clearance. The clearing zone for street light luminaries extends five feet (5') from, and 360 degrees around the luminary horizontally. The area below the luminary shall be cleared in the manner of a cone with 45-degree sides.

TRANSMISSION CLEARING ZONE

The transmission clearing zone corridor will be identified and its information given to the Contractor prior to commencement of corridor maintenance activities. Emphasis is to be placed on controlling all incompatible vegetation within this identified clearing zone corridor or to the large tree edge, whichever is greater in width. In cases where incompatible vegetation is not controlled, vegetation shall be pruned following directional pruning methods as defined in the ANSI 300 Standards and Amendments. Pruning for the transmission corridor is dependent on the voltage of the conductor and shall be done in such a manner to achieve a minimum of five years of clearance. In cases where five years of clearance is unattainable the following clearances shall apply:

- **Transmission lines operating at 23kV – 69kV** shall be cleared fifteen feet (15') from the conductor.
- **Transmission lines operating at 115kV – 138kV** shall be cleared twenty-five feet (25') from the conductor.
- **Transmission lines operating above 138kV** shall be cleared thirty feet (30') from the conductor.

In New Jersey, 34.5 off road corridors, not on common corridor with transmission, all incompatible vegetation overhanging the clearing zone corridor shall be pruned back to the main stem. If a tree cannot be pruned properly, then the tree should be removed.

For 34.5kV cable construction *in New Jersey*, vegetation shall be pruned to provide a minimum of five feet (5') of clearance from the cable or equipment. Any growth within five (5') feet should be pruned back to the main stem. If the tree cannot be pruned in this manner it should be removed.

Transmission & Distribution on a Common Corridor

All vegetation management for the transmission facilities will be performed on the transmission vegetation management cycle. In cases where distribution facilities are located on the transmission corridor, incompatible brush on the floor of the transmission corridor will be controlled. All other vegetation activities for distribution facilities within the transmission corridor will be performed on the distribution cycle. Distribution facilities include primary, secondary and services. Note: in *New Jersey*, where 34.5 facilities are within the transmission corridor the entire corridor will be managed on the transmission vegetation management cycle. Also, the 34.5/distribution corridor will be maintained on the 34.5 maintenance cycle in *New Jersey*.

Transmission Facilities with Distribution Under build

Transmission over build will be maintained with the transmission facilities on a 4 or 5 year transmission vegetation management cycle. An inspection of the distribution facility will be performed and if work is required Distribution Forestry will be notified.

Distribution under build will be maintained with the distribution facilities on a 4 year vegetation management cycle. An inspection of the transmission facility will be performed and if work is required Transmission Forestry will be notified.

Common Corridor- Highest Voltage Hierarchy

Vegetation management work on transmission corridors that have multiple transmission facilities running parallel on a common corridor shall be performed in accordance with the schedule for the highest voltage line on the corridor. (Example a 345kV line runs parallel with a 138 kV line. If the 345kV facility is on schedule for maintenance then the entire corridor is managed. If the 138kV is on schedule then this common corridor area is not maintained until the 345 kV vegetation management schedule).

Requirements for Clearing Access

On transmission clearing zone corridors, a fifteen foot (15') wide access lane shall be cut and treated with herbicide to allow travel from structure to structure (including fence

rows). This access lane shall be wide enough for line maintenance and vegetation control equipment and personnel for the duration of the maintenance cycle. Where practical, utilize the path of least resistance or existing access lanes located on the corridor. The access path is required on corridors that are accessible by mechanical equipment, unless otherwise specified by FirstEnergy.

All brush and trees shall be removed and treated in the tower centers. All brush and trees shall be cleared from all structures at the ground line to a distance of five feet (5') unless otherwise specified by FirstEnergy.

CLEARING ZONE CORRIDOR CLEARANCE FOR NEW DISTRIBUTION, SUBTRANSMISSION, OR TRANMISSION CONDUCTORS

On new construction, the clearing zone corridor shall be cleared to the width and under the conditions as stated on the detailed property and provision list furnished by FirstEnergy, or as otherwise instructed by FirstEnergy.

Trees dangerous to the conductor located on the clearing zone corridor and those adjacent to the clearing zone corridor shall be removed as determined by FirstEnergy.

All vegetation that is removed shall be cut as closely to the ground line as possible and shall not exceed a height of three inches (3") above the ground level unless otherwise specified by FirstEnergy.

Trees, brushwood, and slash shall be placed or disposed of as designated by the detailed property and provision list or specified by FirstEnergy. Designated trees are to be left in lengths as long as possible, preferably whole tree lengths and shall be placed in neat piles with the tree lengths parallel to and along the edge of the clearing zone corridor and separated from other piles or wind rows.

Slash and brushwood generated from the clearing operation shall be placed in piles or windrows along the edge of the clearing zone corridor and separated from other piles unless otherwise specified by FirstEnergy. Any disposal of brush, wood, slash, logs or trees shall be in accordance with the laws and regulations of the appropriate governing

authority.

TREE PRUNING METHODS

All pruning, both initial and re-pruning, shall be done in accordance with modern arboriculture standards using the current ANSI 300 Standards and Amendments. Directional pruning is the preferred method of line clearance pruning. Whenever possible, the Contractor shall obtain clearance in this manner.

The drop crotch method will be used.

Pruning cuts are to be made back to the main stem; or to a lateral branch which is at least one third the diameter of the portion being removed. Limbs shall not be stubbed off at the edge of the clearing limits. Pruning shall be done in a manner that will promote growth away from the power lines.

Dead branches and structurally weak limbs overhanging primary conductors shall be removed.

A minimum number of cuts shall be utilized to achieve required clearances.

Where practical, cuts should be primarily restricted to large diameter branches, made well within the crown. Shaping through the use of small diameter branches in the outer crown shall be avoided.

Cuts are to be made outside the branch bark ridge leaving no stub.

Precautions shall be taken to avoid stripping or tearing of bark when cutting limbs.

All severed twigs, branches and limbs shall be removed from pruned trees.

The practices known as "shearing", "stubbing", pollarding, or "rounding over" shall be avoided. Exceptions to drop crotch and directional pruning techniques shall be used only when indicated as being acceptable by the FirstEnergy representative.

TREE REMOVAL

A woody plant six inches (6") in diameter at four and one-half feet (4.5') above the ground (DBH) will be considered for purposes of recording a tree. All growths less than this measurement will be considered brush.
Trees that are expected to be removed are those that are:

- Dead or defective which constitute a hazard to the conductor.
- Trees that have fast growth rates or trees that cannot be pruned for effective conductor clearance.
- Immature trees, generally classified as brush.
- Trees that are overhanging the primary conductors and are unhealthy or structurally weak.
- All priority trees located adjacent to the sub-transmission and transmission clearing zone corridor that are leaning towards the conductors, are diseased, or are significantly encroaching the clearing zone corridor.
- All incompatible trees that are located within the clearing zone corridor.

All trees removed shall be cut flush with the ground line except where other treatment is designated by mutual agreement with property owners or public authorities. All live stumps (except conifers) shall be treated with a FirstEnergy approved herbicide.

BRUSH REMOVAL

Brush that is interfering with the conductor or may grow to such height that will interfere with the conductor shall be removed and or treated with a herbicide.

The Contractor shall remove all incompatible brush and shall not prune brush.

All tree and brush removals shall be cut as low as practical, no higher than three inches (3") from and parallel to the ground line.

Mowing of brush on the clearing zone corridor by use of a hydroaxe, brushog, etc., is only permitted with prior authorization of an authorized FirstEnergy representative. Mowing shall be performed as specified by FirstEnergy. Every effort shall be made, during mowing, to preserve patches of desirable vegetation.

HERBICIDE BRUSH CONTROL

The contractor shall use the proper and appropriate herbicide treatment in accordance with the FirstEnergy Guide to Vegetation Control with Herbicides. FirstEnergy expects all incompatible vegetation on the corridor be controlled, with the cut surface treatment being the minimum chosen treatment. In cases where a landowner will not allow at least the minimum treatment, the contractor will consider this a refusal and provide the required refusal information to the FirstEnergy representative, as described in this specification.

Unless otherwise specified, the herbicides used shall be provided by FirstEnergy. All herbicides shall be applied by the Contractor in accordance with the manufacture's label instructions.

The Contractor shall meet the following requirements when applying herbicides: Hold a current and appropriate pesticide application license from the appropriate State Department of Agriculture or its approved equivalent. Conform to all state, local and federal laws governing the herbicide used. Apply the herbicide under the direct supervision of a certified applicator and in accordance with the herbicide label instructions.

Herbicide applications are to be made in a manner assuring restriction of applied material to the target.

Areas of treated clearing zone showing evidence of incomplete coverage shall be re-treated immediately. It shall be the responsibility of the Contractor to inspect the treated clearing zone within one month of treatment and retreat those areas which have received incomplete application.

Areas requiring re-treatment will be determined by inspection during the year following the treatment and shall be done at no additional cost to FirstEnergy. Re-treatment will be with the original herbicide solution and will be applied according to the guideline in effect at the time of initial treatment. An authorized FirstEnergy representative will determine the necessity for re-treatment. The general criteria for re-treatment of brush is reduction of brush density and reduction in average height of brush.

All areas left untreated by the Contractor or that do not pass inspection shall be treated during the next treatment season at no cost to FirstEnergy.

All stems of treated brush that are within five (5') of distribution voltages and that are within fifteen feet (15') of the lines that are 23kV or above shall be cut. This shall apply to all herbicide treatments and to locations where the conductor height is less than one-hundred feet (100').

All areas that have conductor height of one-hundred feet (100') or more at center line must be approved by FirstEnergy before the area is left untreated. In areas where conductor height is less than twenty-five feet (25'), all brush over five feet (5') must be treated and removed on 23kV and above.

The Contractor shall furnish all mixing and application equipment and shall be responsible for transporting, storing, handling, mixing and applying herbicides used in the immediate current operation. The Contractor shall supply the liquid carrier for the herbicides unless it is made available by FirstEnergy.

Empty herbicide containers shall be triple rinsed by the Contractor using the manufacture's label instructions unless refillable/returnable storage containers are being used.

The contractor shall dispose of all empty herbicide containers by following all local, state and federal requirements.

HERBICIDE APPLICATION METHODS & TREATMENT

Herbicide application methods and treatment shall follow the guideline and be in accordance with the FirstEnergy Guide for Vegetation Control with Herbicides.

SPECIAL CONDITIONS

On clearing zone corridors, a fifteen-foot-wide (15') access lane shall be cut and treated with herbicide, to allow travel from structure to structure, unless otherwise specified by FirstEnergy.

All brush and trees shall be cleared away from all structures at the ground line to a distance of three feet (3') unless otherwise specified by FirstEnergy.

When tree houses are observed in trees that require pruning for clearance from the conductors, the Contractor shall contact the property owner, explain the hazard, and offer to remove the tree house. If consent is given, the contractor shall remove the tree house at that time and prune the tree to the proper clearance distance or remove the tree if consent is given.

If the property owner refuses to allow the contractor to remove the tree house, the contractor shall prune the tree for line clearance at that time and notify FirstEnergy by phone. While clearing the tree from the conductor, the contractor shall obtain the property owner's name, address and phone number and reason for refusal. The contractor is also to notify the FirstEnergy representative promptly in writing, giving property owner's name, address, phone number and reason for refusal. A copy of the written notice is to be sent to the Corporate Claims Department, 76 South Main St. Akron, OH 44308.

Trees that are near conductors and show signs of being climbed or being used in children's play require special attention. The contractor observing this situation shall contact the property owner, explain the hazard, and offer to remove the tree. If the property owner consents to having the tree removed, it should be removed immediately.

If the property owner refuses to allow the tree to be removed, the contractor shall prune the tree for line clearance at that time, and notify the FirstEnergy representative by phone. While clearing the tree from the conductor, obtain the property owner's name, address and phone number, and reason for refusal. The contractor is also to notify the FirstEnergy representative promptly in writing, giving property owner's name, address, phone number, and reason for refusal. A copy of the written notice is to be sent to the Corporate Claims Department, 76 South Main Street, Akron, Ohio 44308.

Down and span guys are to be freed of weight, strain or displacement because of pressure caused by contact with tree parts, particularly from fast-growing trees. Vines growing on poles, towers, and guy wires will be cut at ground line and as high as can be safely reached from the ground. Stumps of vines will be treated using an approved cut surface treatment. Notification to the property owner shall be given prior to removing cultivated vines. All noxious vines should be removed, as directed by the designated FirstEnergy representative, from poles, towers, and guys and treated with an appropriate herbicide. If vines are entwined in electrical equipment, FirstEnergy shall be notified.

Communication conductors owned by FirstEnergy shall be maintained to the same clearance as secondary voltages, or as directed by the designated FirstEnergy representative. Allowance shall be made for wire sag and horizontal displacement due to extreme weather conditions and high winds.

Antennas, their supports or other objects attached to or in a tree such that their placement or maintenance has or would cause someone to be in close proximity to the conductor are to be reported promptly in writing to FirstEnergy.

DEBRIS & WOOD DISPOSAL

The Contractor shall leave the wood that is too large to be chipped in handling lengths for the property owner to cut into final firewood lengths. The Contractor shall communicate this to the property owner at the time of notification. The Contractor shall document this notification as directed by FirstEnergy.

The Contractor shall satisfactorily dispose of all tree parts that are pruned or removed in a manner that is acceptable to the landowner and FirstEnergy. Accepted FirstEnergy methods of disposal include windrowing, chipping, lopping, and stacking. Lopping must be below knee height. Brush and logs must not be left in any waterway or within fifteen (15') feet of the centerline of any distribution line or more than ten feet (10') from the edge of a transmission line clearing zone, in areas accessible by mechanical equipment. Debris from clearing zone areas that are adjacent to a road shall be kept on the edge of the clearing zone away from the edge of the road.

Debris that is generated from emergency work, where tree clearing is required, is to be left in a reasonably safe manner. Under these conditions an Emergency Work door card (Form 441) is to be left for the property owner. Situations may occur that require debris generated by emergency work to be cleaned up, the work shall be done at the direction of FirstEnergy.

WORK SITE APPEARANCE UPON COMPLETION OF WORK

Work sites shall be left in a condition equal to that which existed prior to the commencement of the Contractor's operations.

All Contractor-generated trash, including empty drinking cups, lunch papers, oil containers, cigarette butts etc. must be properly disposed of and not left on site.

WORK INSPECTION

FirstEnergy has the responsibility for inspecting and approving work performed under these specifications. The exercise of this responsibility by FirstEnergy Forestry shall not lessen or relieve the Contractor from responsibility under this agreement. The purpose of this inspection is to ensure specification compliance. Payment will be withheld for areas that cannot be satisfactorily cleared and will not be included in payment for the overall project.

An authorized FirstEnergy representative shall make a final inspection of the completed work, to insure all line clearance work has been completed in accordance with the line clearance specifications. FirstEnergy will inspect and communicate findings to the Contractor, in a form that is acceptable to both parties, within 30 days of receiving notification that work is completed.

Any work not done to FirstEnergy's satisfaction and acceptance shall be redone by the Contractor at no additional cost to FirstEnergy. All re-work done at the Contractor's expense shall not be counted as work units. The Contractor shall complete all rework within 30 days of receiving an inspection form and/or map from the FirstEnergy representative. (Exhibit 5- Form 1051) A penalty may be assessed for re-work that is not completed within 30 days of receiving notice from FirstEnergy.

A 10 percent penalty, calculated based on the percentage of work not completed, will be assessed to each project not completed on time.

If more than two inspections are required for a location then the contractor will be billed for the FirstEnergy inspector's time and vehicle mileage for additional trips to the same work site.

DEFINITIONS

"As Required", "As Permitted", "Approved", Acceptable", "Satisfactory", or similar terms shall mean by or to FirstEnergy.

Bidder: Party or parties submitting a proposal for the specified work.

Brush: Incompatible vegetation with trunk diameter less than six (6") in diameter at breast height.

Brush Acre: Brush acre is calculated to by multiplying the length by the width of the Transmission span. If the span is able to support incompatible vegetation within the span then the entire span is to be counted. In cases where there is an agricultural farm field, pavement, or a large body of water such as a lake, these areas are not to be included in the acreage.

Contract: the agreement, between FirstEnergy and Contractor, including the specification, insurance requirements, and any bond, together with any other material specifically incorporated therein.

Contractor: The party or parties entering into this contract with FirstEnergy for work.

Contractor's Representative: Contractor's employee who is directly responsible for the work.

Control: Means that all incompatible vegetation must be removed with a herbicide or be removed mechanically along with a herbicide application to eliminate the root system.

Critical Tree: Any tree identified as a cost effective candidate for removal for removal, growing under or very near overhead conductors. (Not a DANGER TREE)

Days: Unless otherwise specified shall mean calendar days.

FirstEnergy's Representative: An authorized representative of the utility as specified in the Contract and in the "Terms and Conditions Labor Services-Forestry".

Hazard Materials and Hazard Wastes: *Any material defined as such in any local, state* or federal rule, regulation, law or code in the location in which the work is performed.

Incompatible Vegetation: Is defined as all vegetation that will grow tall enough *to interfere with overhead electric facilities.*

Inspection Zone: Is defined as area between 15' (fifteen feet) and 20'(twenty feet) from the pole line.

Maintain: Ensuring line reliability.

Maintained Lawn Area: Defined as an area where conductor(s) are located, typically residential, where the area is covered with grass that is kept closely mowed and/or areas where the landscape is being cultivated. Cultivated landscapes may include flower beds, hedge rows and landscape plantings. This does not include wooded, agricultural, industrial sites, or areas along county and state highways.

Non-Maintained Lawn Area: Defined as a rural setting where the area covered with grass is Not kept closely mowed and/or areas where the landscape is Not being cultivated. Including wooded, agricultural, industrial sites and areas along county and state highways, etc.

Notification: To inform and let landowners know that tree work will be performed on the property for power line clearance. Notification may take place using door card, personal contact, or other approved methods.

Priority Tree(s): Tree(s) located adjacent to the clearing zone corridor that are either dead, diseased, declining, severely leaning or significantly encroaching the clearing zone.

Specification: FirstEnergy's requirement including these general conditions, the specific conditions, and other documents specified under the contents page.

Structurally Weak Limbs: Is defined as limbs that have narrow angle of attachment, included bark, co-dominant stems of equal diameter or any other structural condition that may cause limbs to fail.

Subcontractor: The party or parties entering into a subcontract with Contractor or another subcontractor to perform a portion of the work covered by this contract.

Work: Labor, material, equipment, and all requirements specified.

FIGURES

The following pages contain examples of various clearing distances, requirements and directional pruning.

Figure 1. Street Light Luminaire Clearing Requirements

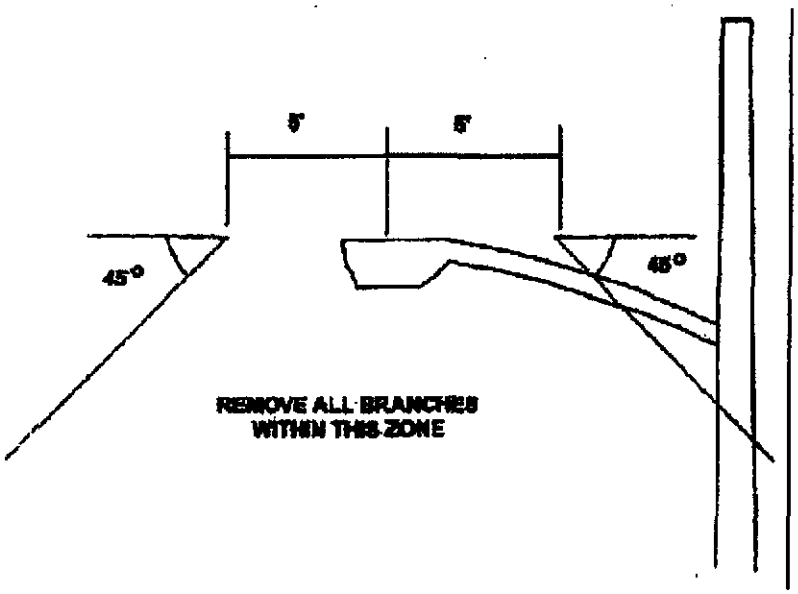


Figure 2. Natural Target Pruning Figure

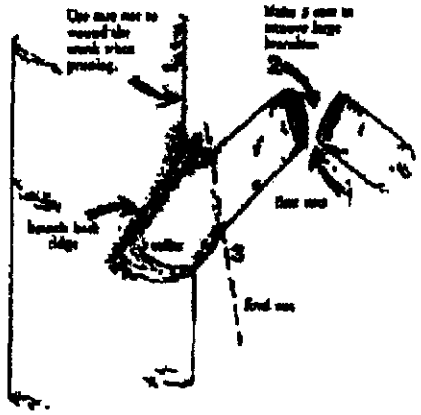


Figure 3. Removing Leader on Young Trees

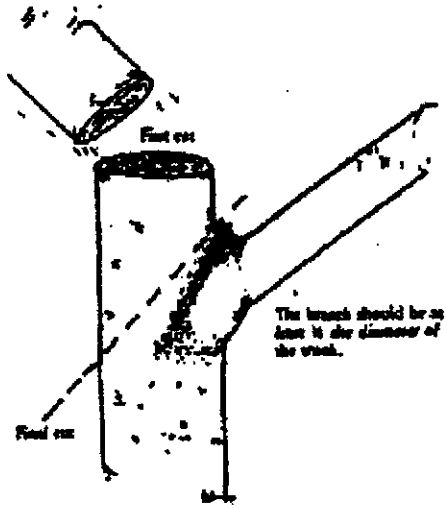


Figure 4. No Set Angle for a Correct Cut Figure

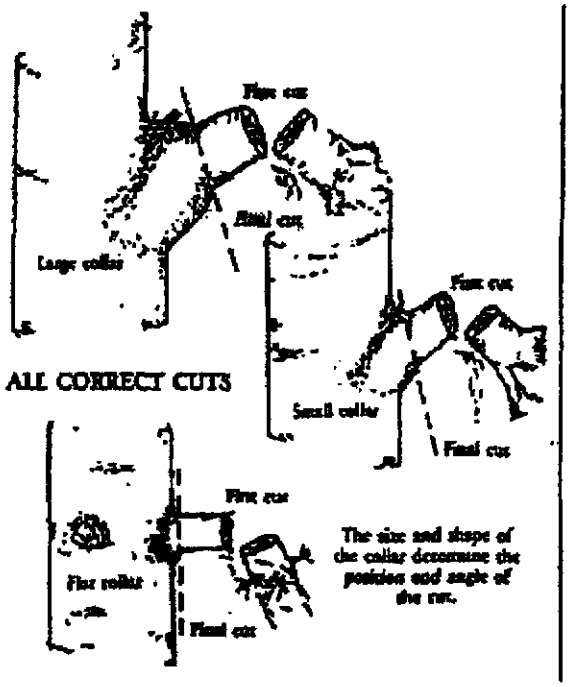


Figure 5. Primary Distribution Clearing Zone, 15 Feet

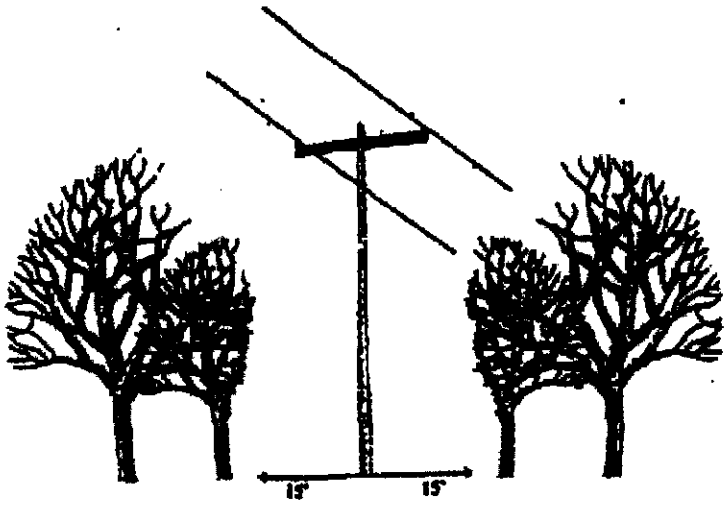


Figure 6a. Secondary Distribution Clearing Zone, 4 feet
Open Three Wire

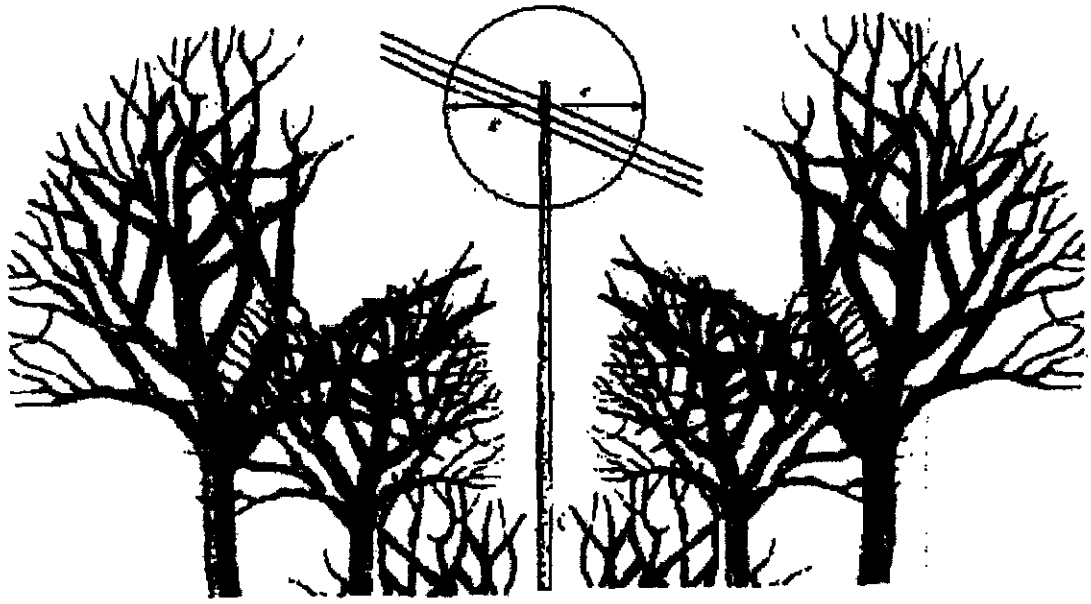


Figure 6b. Secondary Distribution Clearing Zone, 4 feet

Triplex

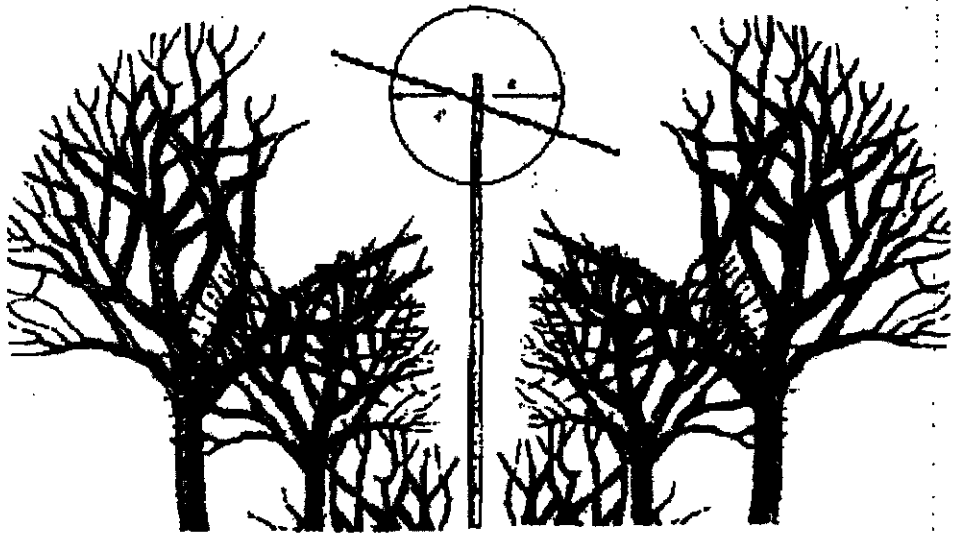
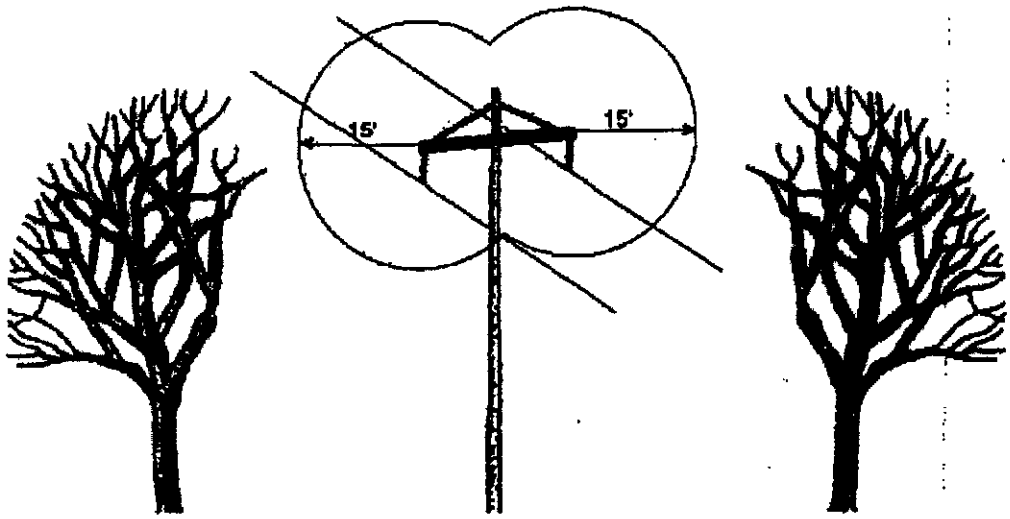


Figure 7. Transmission Pruning Clearance 23 kV – 69kv, 15 feet



*** Transmission Clearing Zone Corridor will be identified prior to start of maintenance activities.**

Figure 8. Transmission Pruning Clearance 115kv – 138kv, 25 feet

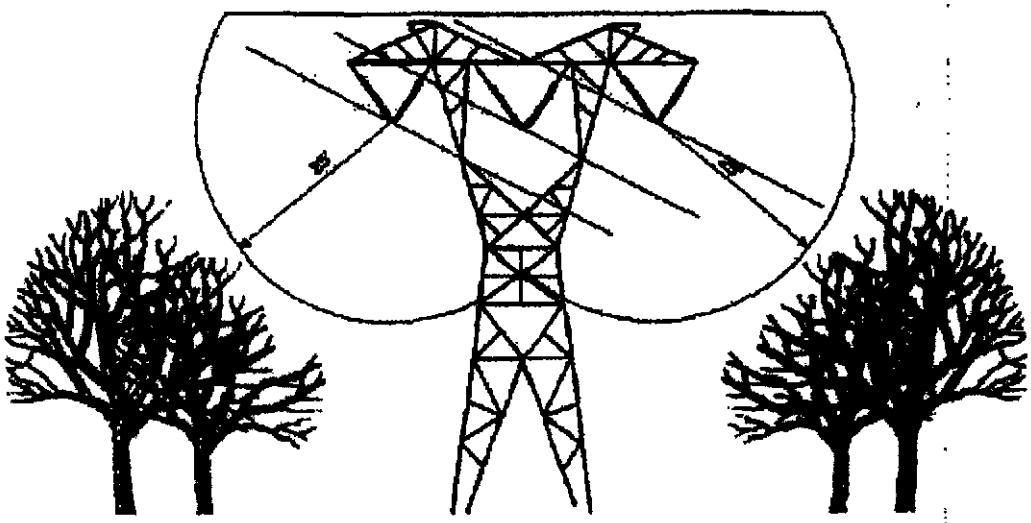
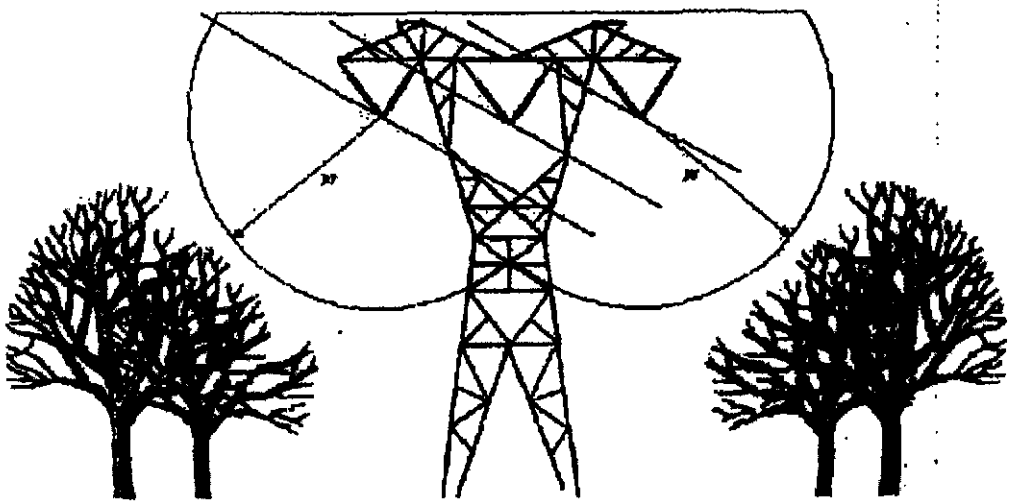
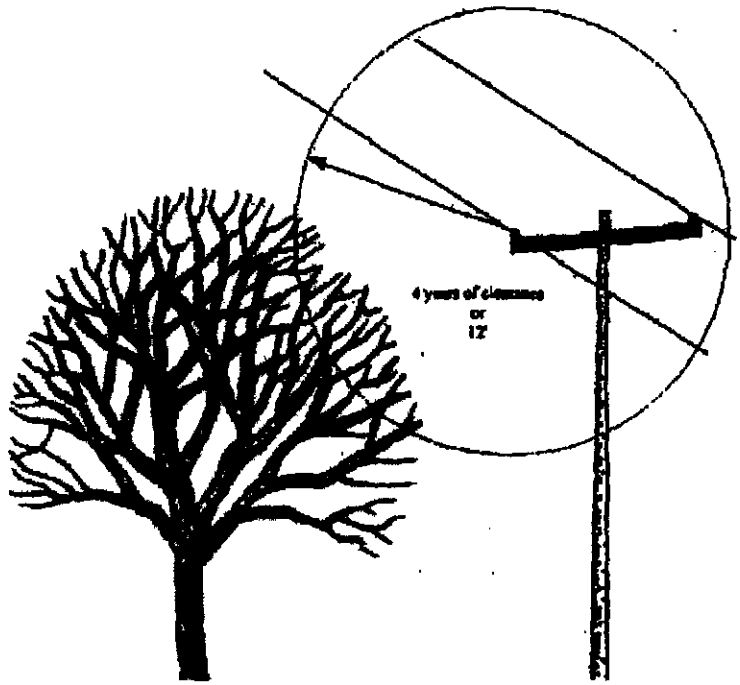


Figure 9. Transmission Pruning Clearance above 138kv, 30 feet



*** Transmission Clearing Zone Corridor will be identified prior to start of maintenance activities. Clearance Required – diagram 1**

Figure 10. Example of Directional Pruning (2 diagrams)



Continuation of Figure 10. Example of Directional Pruning (2 diagrams)

Appearance Of Tree Pruned For Clearance Using Directional Pruning - diagram 2

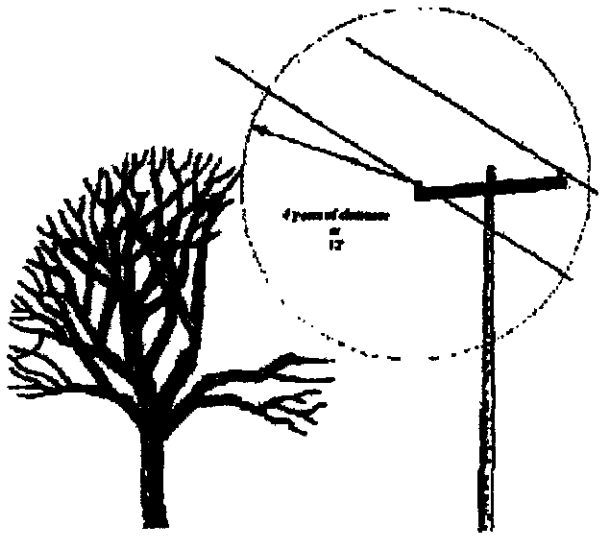
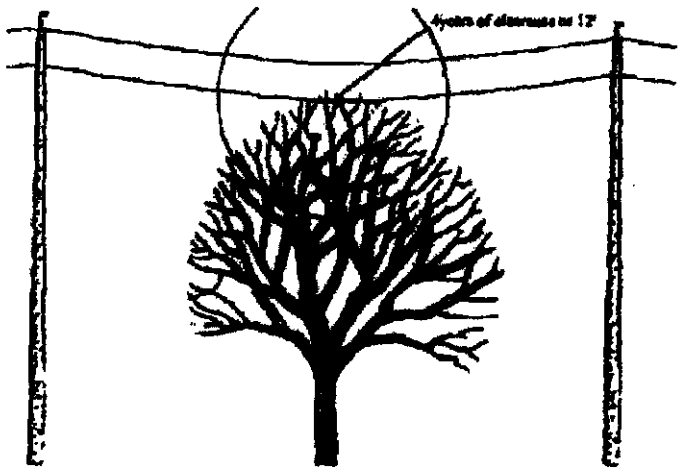


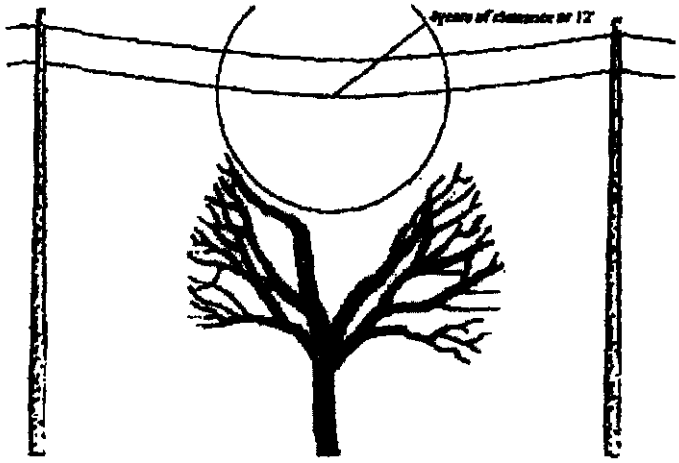
Figure 11. Example of Directional Pruning (2 diagrams)

Clearance Required - Diagram 1



Continued Example of Directional Pruning

Appearance Of Tree Pruned For Clearance Using Directional Pruning When Tree Is Under Line – Diagram 2



INDEX

T

V

W

Z