



INTER COUNTY
ENERGY COOPERATIVE

A Touchstone Energy Cooperative 

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NOV 28 2007

PUBLIC SERVICE
COMMISSION

November 26, 2007


Mr. Jim Welch
Director of Engineering
Kentucky Public Service Commission
P.O. Box 615
Frankfort, KY 40602-0615

Dear Mr. Welch:

Enclosed is Inter-County Energy's Vegetation Management Plan pursuant to the Public Service Commission's Order dated October 26, 2007 for Case No. 2006-00494.

If you have any further questions or comments, please direct those to Marvin Graham, Vice President of Operations. His direct line is 859-936-7815 or by email can be reached at marvin@intercountyenergy.net.

Sincerely,


James L. Jacobus
President/CEO


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NOV 28 2007

PUBLIC SERVICE
COMMISSION

**INTER-COUNTY ENERGY
COOPERATIVE
CORPORATION**
Danville, Kentucky



A Touchstone Energy Cooperative 

Vegetation Management Plan
Case No. 2006-00494

November 26, 2007

As part of Inter-County Energy's efforts to provide reliable electric service, right-of-way maintenance and clearing is a necessary function of the operation's department. There are a large number of trees within Inter-County Energy's service territory boundaries. Land owners and public agencies have an interest in these trees and of the trees' appearance in their communities. Trees are the property of land owners. Land owners convey the right to trim or remove trees and other vegetation, but they retain full rights to their land. Maintaining a vegetation free corridor for the distribution of electricity is a necessary requirement to operate a reliable distribution system. In keeping distribution lines clear of vegetation, safe working conditions are maintained for Inter-County Energy employees, the public risk of electrical contact is reduced, and reliability of electric service is improved. This vegetation management plan outlines maintenance practices and time tables to be used by Inter-County Energy and its contractors.

Inter-County Energy consumers are served from 12 distribution substations operated and maintained by East Kentucky Power Cooperation. The following list provides the names of each of these substations, the name of each of the circuits associated with each substation, the number of primary circuit miles for each circuit, and the number of consumers associated with each circuit. Inter-County RUS form 7 indicates a total of 3550 circuit miles including services, overhead primary, and underground primary conductor.

<u>SUBSTATION</u>	<u>CIRCUIT NAME</u>	<u>CIRCUIT MILES</u>	<u>CIRCUIT CONSUMERS</u>
Ballard	Paradise Camp	21	515
Ballard	Wells Landing	26	469
Ballard	WDKY	113	1326
Gooch	Preachersville	121	1156
Gooch	Crab Orchard	88	863
Gooch	Fairgrounds	61	953
Gooch	Danville	36	596
Gooch	Lancaster	46	876
H. T. Adams	Harrodsburg	37	561
H. T. Adams	Dixville	65	662
Highland	Ottenheim	92	951
Highland	Waynesburg	35	562
Highland	Green River	133	1332
Highland	Horse Ridge	2	13
Lancaster	Buckeye	122	951
Lancaster	Paint Lick	70	554
Lancaster	Gilberts Creek	39	554
Lancaster	Lexington Rd.	88	845
Lebanon	Miller Pike	83	749
Lebanon	Danville	173	1399
Loretto	Makers Mark	59	530
Loretto	Spencer	11	87
Loretto	Lebanon	18	155
Marion Ind.	Miller Pike	61	530

CONTINUED

<u>SUBSTATION</u>	<u>CIRCUIT NAME</u>	<u>CIRCUIT MILES</u>	<u>CIRCUIT CONSUMERS</u>
Marion Ind.	TBMK	.35	2
Marion Ind.	Industrial	1.4	6
Perryville	Harrodsburg	55	415
Perryville	Mitchellsburg	81	893
Perryville	Gravel Switch	122	1034
Perryville	Battlefield	62	315
Peyton's Store	Jack Town	136	1126
Peyton's Store	Little South	53	276
Peyton's Store	Hustonville	131	1062
Shelby City	Alum Springs	76	1075
Shelby City	Junk Yard	56	1062
Shelby City	Hustonville	29	275
Shelby City	Stanford	23	718
Sulphur Creek	New Hope	31	252
Sulphur Creek	Howardstown	51	295
Sullphur Creek	Raywick	165	1248

Inter-County Energy currently employs five (5) contract line clearing crews in the winter clearing season and four (4) line clearing and two (2) spray crews in the summer clearing season. Using four line clearing crews to maintain a five year cycle and one line clearing crew for spot work produces the following clearing schedule. Each year is allocated 200 weeks for cycle vegetation management.

<u>SUBSTATION</u>	<u>CIRCUIT NAME</u>	<u>ALLOTTED WEEKS PER CIRCUIT</u>
Ballard	Paradise Camp	8
Ballard	Wells Landing	10
Ballard	WDKY	39
Gooch	Preachersville	45
Gooch	Crab Orchard	32
Gooch	Fairgrounds	23
Gooch	Danville	13
Gooch	Lancaster	17
H. T. Adams	Harrodsburg	14
H. T. Adams	Dixville	24
Highland	Ottenham	34
Highland	Waynesburg	13
Highland	Green River	49
Highland	Horse Ridge	1
Lancaster	Buckeye	45
Lancaster	Paint Lick	26
Lancaster	Gilberts Creek	14
Lancaster	Lexington Rd.	33

CONTINUED

<u>SUBSTATION</u>	<u>CIRCUIT NAME</u>	<u>ALLOTTED WEEKS PER CIRCUIT</u>
Lebanon	Miller Pike	31
Lebanon	Danville	64
Loretto	Makers Mark	22
Loretto	Spencer	4
Loretto	Lebanon	7
Marion Ind.	Miller Pike	22
Marion Ind.	TBMK	0
Marion Ind.	Industrial	0
Perryville	Harrodsburg	20
Perryville	Mitchellsburg	30
Perryville	Gravel Switch	45
Perryville	Battlefield	23
Peyton's Store	Jack Town	50
Peyton's Store	Little South	19
Peyton's Store	Hustonville	48
Shelby City	Alum Springs	28
Shelby City	Junk Yard	21
Shelby City	Hustonville	11
Shelby City	Stanford	24
Sulphur Creek	New Hope	11
Sulphur Creek	Howardstown	19
Sullphur Creek	Raywick	61

In 2007 Inter-County Energy was audited by Environmental Consultants, Inc., a company that specializes in industry line clearing practices. Before this audit Inter-County Energy cleared distribution lines based on recommendations from service line technicians, customer requests, and observations made by management, staff and other employees. Based on Environmental Consultants, Inc. comparison of Inter-County Energy's vegetation outages per 100 line-miles for all primary voltages to various benchmark groups and some individual utilities in the Southeast, Inter-County energy was among the top performers in preventing vegetation caused outages. Environmental Consultants, Inc. recommended a defined cycle clearing schedule be set, perform more line clearing crew audits, observe safe work practices of its contractors, perform vegetation trimming according to industry standards and reduce three (3) men bucket clearing crews to two (2) men bucket crews. Inter-County Energy has assigned a crew leader to be directly responsible for observing production and safe work practices of the contract line clearing crews. This crew leader reports directly to the operations maintenance superintendent. This crew leader is responsible for maintaining the above circuit clearing schedule, moving line clearing crews to different circuits when allotted scheduled time for each circuit has been met, evaluating hot spot work, observing work practices for safety and productivity, insuring monthly clearing reports are filled out correct and complete, and noting trouble spots inside and outside the standard trimming corridor. Distribution line clearing cycle progress will be reported on the monthly Right-Of-Way

board of directors' report, copy of a sample report attached. The circuit being worked on will be noted. The number of weeks allocated to this circuit and the number of weeks that clearing has been preformed will also be noted. This crew leader, with the help of the clearing contractor, will maintain records of the location and application date of herbicides applied to Inter-County Energy's right-of-ways.

Line clearing standard practices will be as follows:

- 1) The main three (3) phase and two (2) phase sections of each circuit will be cleared first.
- 2) The single (1) phase and two (2) phase taps will be cleared after the main sections of each circuit have been cleared. Any taps not fused will be reported to the operations superintendent.
- 3) Line clearing will be preformed according to industry standards, exhibits attached.
- 4) Trees shall be trimmed only. Trees shall only be removed if less time is involved in the removal process, the tree possesses an immediate danger to the distribution line, or if removal benefits future clearing cycle work. Trees, other than danger trees, should be removed at the end of each circuit's allotted clearing time if time allows for such work.
- 5) Right-of-Way will be maintained according to RUS standard M1.30G, copy attached, with the cooperation of land owners thru which the distribution lines pass. As stated above trees are the property of the land owners. In the application of these specifications, reasonable latitude will be found to adequately meet a wide range of conditions.
- 6) Low voltage conductor will not normally be cleared except if there is a conductor rubbing danger or danger to the public.

Environmental Consultants, Inc. indicated that a measure of how successful a vegetation management program was should be based upon a five year average for the number of vegetation caused outages per 100 distribution line-miles. They quoted any thing less than 11 outages per year based on a 5 year average is very good. Using Environmental Consultants, Inc. analysis, Inter-County Energy's average was 4.1 outages for the 5 years of data used, 2002 through 2006.

Right of Way Report October 2007

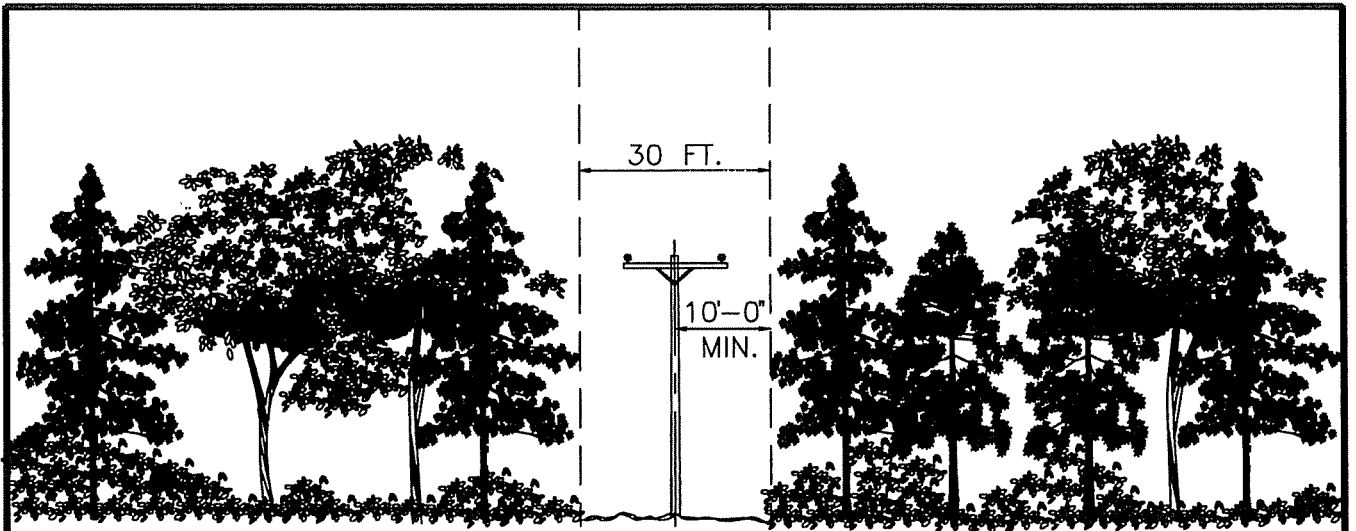
During the month of October **Townsend Crew #1** cut approximately **550'** of right-of-way 40' wide or wider when possible. Trimmed trees in line. This work is from **10/6/2007 to 11/3/2007**. They cleared out approximately **2.2** miles of line. They worked on Peck Hollow Road, Deep Well Woods Road, Hwy 27, Logantown Road and Kocker Road in Lincoln County; Penn Store Road and Hwy 243 in Casey County; Alum Springs Road in Boyle County; Hughley Lane in Mercer County and Rodgers Road, Hwy 27 and Eastland Acres in Garrard County. Ballard Sub – Paradise Camp: allotted 39 weeks, completed 28 weeks.

During the month of October **Townsend Crew #2** cut approximately **2535'** of right-of-way 40' wide or wider when possible. Trimmed trees in line. This work is from **10/6/2007 to 11/3/2007**. They cleared approximately **4.9** miles of line. They worked on Butchertown Road, Moores Lane, Knoblick Road and McCormacks Church Road in Lincoln County. Highland Sub – Green River: allotted 49 weeks, completed 12 weeks.

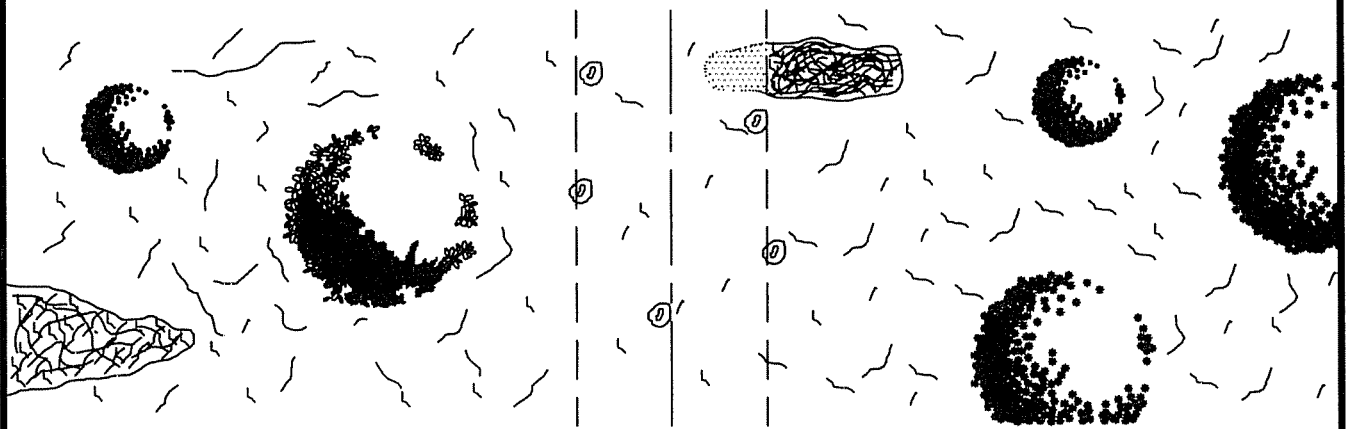
During the month of October **Townsend Crew #3** cut approximately **1575'** of right-of-way 40' wide or wider when possible. Trimmed trees in line. This work is from **10/6/2007 to 11/3/2007**. They cleared approximately **4.1** miles of line. They worked on St Joe Road, Hwy 289, Fairgrounds Road, Sulfur Springs Road, Sulfur Lick Road, Charlie Allen Road, Levelwoods Road, Raywick Road, and Holy Cross Road in Marion County. Lebanon Sub – Danville: allotted 31 weeks, completed 19 weeks.

During the month of October **Townsend Crew #4** cut approximately **960'** of right-of-way 40' wide or wider when possible. Trimmed trees in line. This work is from **10/6/2007 to 11/3/2007**. They cleared approximately **3.0** miles of line. They worked on Moores Lane and Hwy 300 in Lincoln County, Snake Ridge Road, Peyton Ridge Road, Hwy 127 and Short Town Road in Casey County and Cream Ridge Road in Boyle County. Peyton Store Sub – Jacktown: allotted 50 weeks, completed 41 weeks.

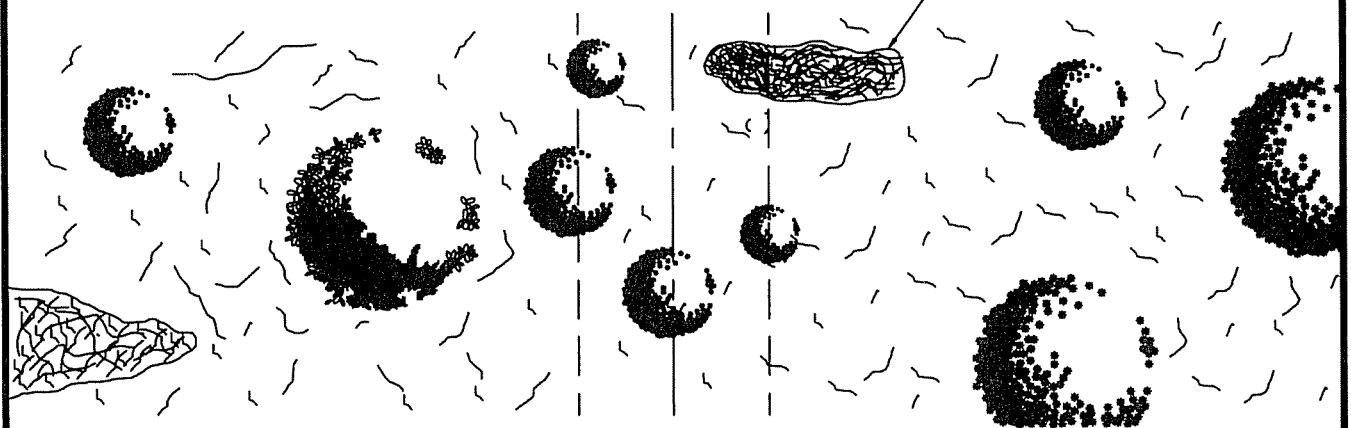
During the month of October **Townsend Crew #5** cut approximately **1720'** of right-of-way 40' wide or wider when possible. Trimmed trees in line. This work is from **10/6/2007 to 11/3/2007**. They cleared approximately **5.3** miles of line. They worked on Old Danville Road, Deep Well Woods Road and Peck Hollow Road in Lincoln County, Alum Springs Crosspike, Lebanon Road, Worldstown Road and Whites Ridge Road in Boyle County and Narrow Gap Road in Garrard County.



ELEVATION



AFTER CLEARING



BEFORE CLEARING

NOTE:
Change suffix of drawing number to designate clearing width. (e.g. M1.30G specifies 30 foot wide clearing).

RIGHT-OF-WAY CLEARING GUIDE

DEC 1998

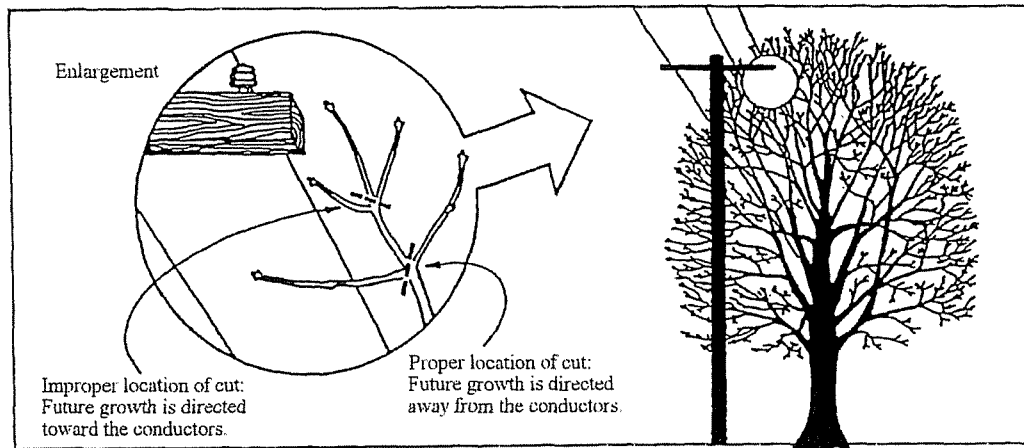
RUS

M1.30G

Appendix D: Natural Pruning



This document contains information that is proprietary to ECI and Inter-County Energy Cooperative. Review or use by other parties is prohibited without first obtaining written consent from ECI and Inter-County Energy Cooperative.



Natural Pruning

Natural pruning is a method by which branches are cut at a suitable parent limb back toward the center of the tree. The cut should be made as close as possible to the branch collar at the branch base, however the branch collar should not be injured or removed. Every branch has a branch bark ridge that separates the branch from the main stem. The cut should be made on the outer side of the ridge. If the cut is made on the inner side of the branch bark ridge, a "larger" wound will result that may inhibit the trees ability to naturally compartmentalize the wound, increasing wound closure time and the risk of entry for microorganisms. This method of pruning is sometimes called "drop-crotch pruning", "directional pruning" or "lateral pruning." Large branches should be removed to laterals at least one-third the diameter of the branch being removed. Natural pruning is especially adapted to the topping of large trees where a great deal of wood must be removed.

In natural pruning, almost all cuts are made with a saw, and very little pole pruning work is required. This results in a natural looking tree when finished, even if a large amount of wood has been removed. However, a hydraulic or manual pole pruner is required to trim those smaller laterals that cannot be properly trimmed using the pole saw and each crew shall be equipped with the necessary hydraulic pruners for lift crews and manual pruners for climbing crews.

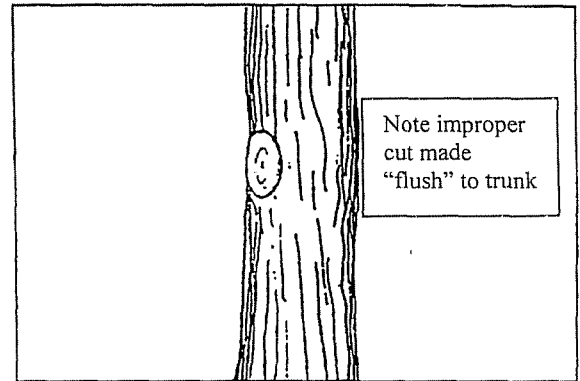
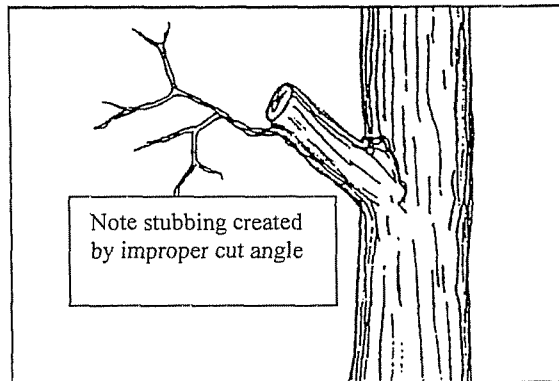
Natural pruning is also directional pruning, since it tends to guide the growth of the tree away from the wires. Stubbing or pole-clip clearance, on the other hand, tends to promote rapid sucker growth right back into the conductors. It is important to remember that natural pruning does work, and that two or three pruning cycles done in this manner will bring about an ideal situation for both the utility and the tree owner. Most shade trees lend themselves easily to this type of pruning.

Natural pruning techniques should be used for top pruning, side pruning, under pruning, and combinations as described on the following pages.



Natural Pruning Details

Improper Trimming Techniques

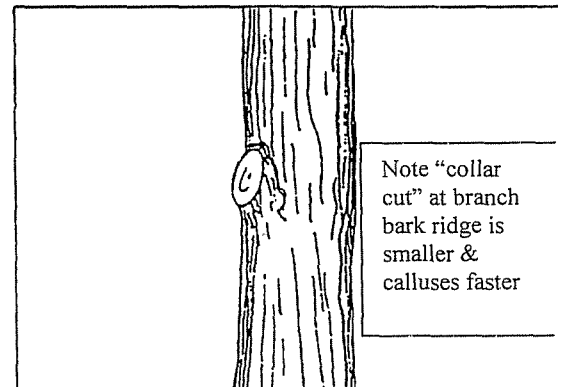
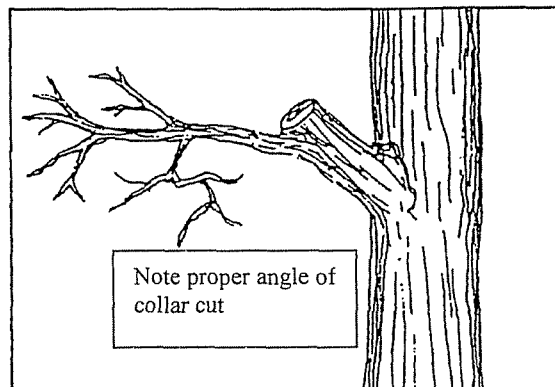


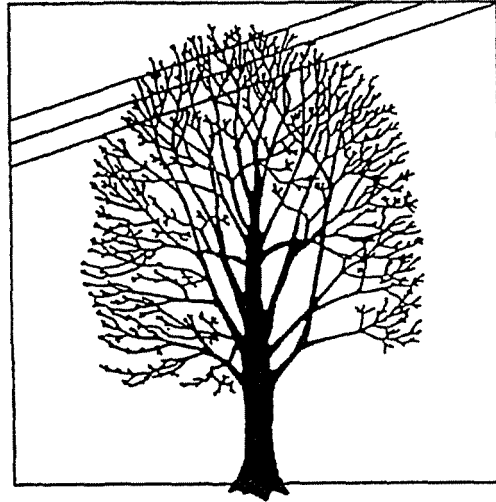
Details of improper trimming and proper natural pruning techniques are shown here. The branch at left above was cut back to a lateral that is too small. Branches should be cut back to a lateral that is at least one-third the size of the branch being removed as shown at left below. If a proper lateral is not available, the branch should be cut back to the trunk. Note that the remaining limb should be trimmed in a manner that meets the minimum clearance requirements while "training" it to grow away from the conductors. When limbs growing toward the conductors cannot be trimmed to meet these requirements, they should be removed back to the truck of the tree.

The cut shown at right above is an improper flush cut where the branch collar was removed. The cut at right below shows the proper method to remove the branch at the trunk, leaving the branch collar but not a stub.

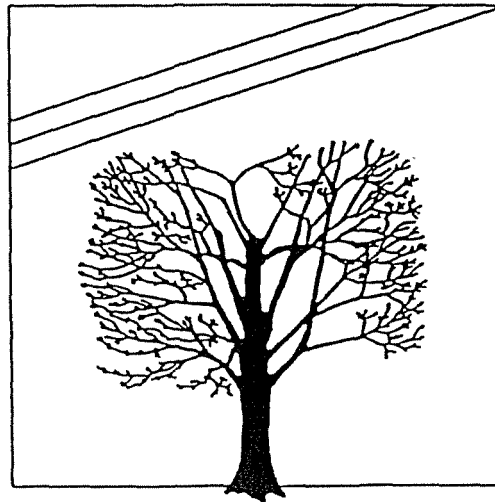
The CONTRACTOR shall remove all past stubbing, correctly pruning these limbs back to a lateral one third the size of the parent limb, or removing them back to the trunk of the tree, to promote proper callus formation. Removal back to the trunk will be the preferred method when it would create a "cleaner" appearance and minimize future re-growth and pruning.

Proper Pruning Techniques





Before Top Pruning



After Top Pruning

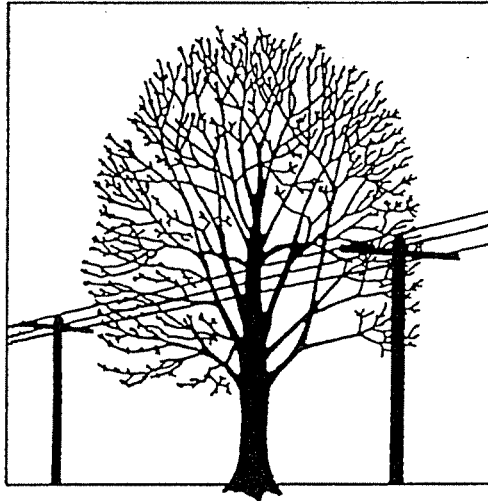
1. TOP PRUNING

Top pruning involves cutting back large portions of the upper crown of the tree. Top pruning is often required where a tree is located directly beneath a line. The main leader or leaders are cut back to a suitable lateral. (The lateral should be at least one-third the diameter of the limb being removed.) While most cuts should be made with a saw; a hydraulic or manual pole pruner is still required to properly prune the small lateral limbs that cannot be properly pruned using a pole saw.

For the sake of appearance and to limit the amount of regrowth, it is best not to remove more than one-fourth of the crown when top pruning. In certain species, removal of too much of the crown may result in death of the tree.

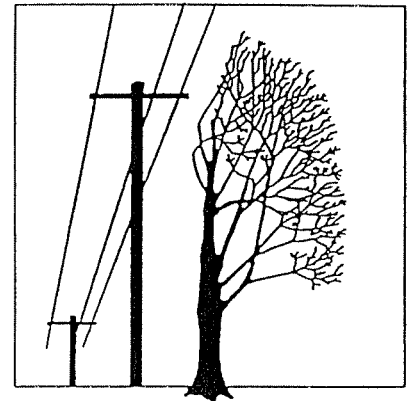
Top pruning is generally required to address the situation where a tall growing tree has been planted or grown underneath the lines. Top pruning should NOT be used on those trees that are located partially under the line, where part of the tree could be trained to grow away from and/or beside the line, unless specifically required by the property owner and approved by the utility. Side pruning is discussed below.





Before Side Pruning

**After Side Pruning
Rural – R/W areas**



2. SIDE PRUNING IN NON-RESIDENTIAL RIGHT-OF-WAY AREAS

In non-residential or rural right of way situations side pruning consists of cutting back or removing the side branches that are threatening the conductors from ground to sky. Side pruning is required where trees are growing adjacent to utility lines. Limbs should be removed at a lateral branch or the main trunk wherever possible to minimize future re-growth. All branches beneath the conductors should be removed to prevent them from growing up into the lines. Avoid unsightly notches in the tree, if possible.

3. SIDE PRUNING IN RESIDENTIAL AREAS

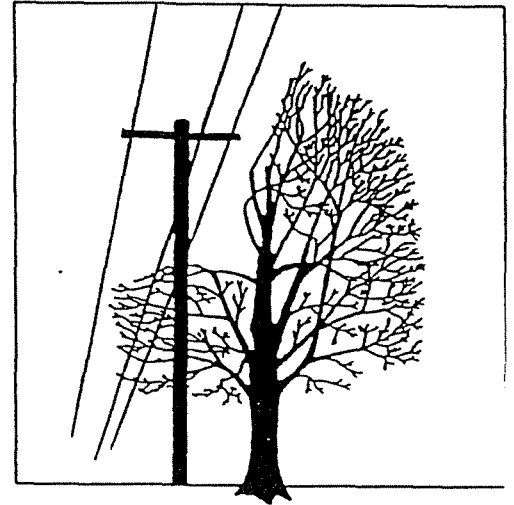
In residential situations, where the tree to be trimmed is part of a lawn or landscape setting it is often necessary to leave a "shelf" of branches below the phone cable level, or at least 12–15 feet below the primary level. While this is NOT a preferred pruning method, it is commonly required in residential areas in order to maintain as much of the natural appearance, screening and shade value of the tree as possible. Trees that would require excessive pruning or create serious visual impacts for the property owner should be candidates for removal.

When shelf pruning is performed the remaining branches shall be trimmed so as to train them to grow in a horizontal direction, or down and away from the conductors.



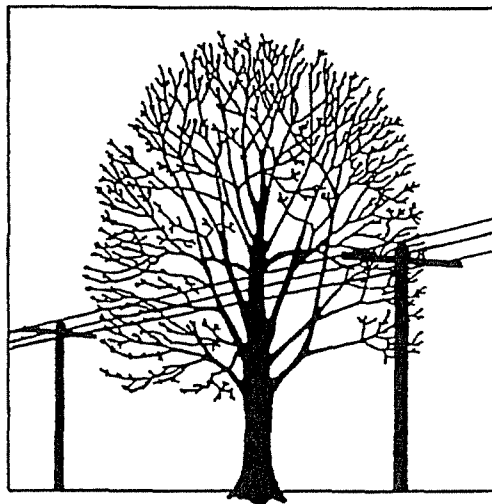
Branches growing up, toward the overhead conductors should be removed or trimmed to laterals growing away from the wires.

After Side Pruning
Residential Areas

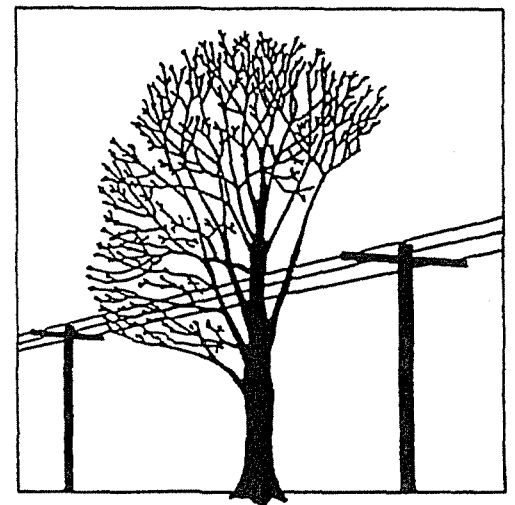


4. UNDER PRUNING

Under pruning involves removing the lower limbs of the tree to allow wires to pass below the tree crown. All cuts should be made as close as possible to the branch bark ridge at the branch collar, to avoid leaving unsightly stubs. The natural shape of the tree is retained in this type of pruning, and the tree can continue its normal growth. Overhangs shall be trimmed or removed in accordance with the defined clearance requirements. Where overhangs will be allowed to remain, the CONTRACTOR shall visually inspect the remaining overhang to identify dead, decayed, cracked, split or weak conditions that may exist at the time of pruning and could damage the facilities if they broke out the tree and fell on the lines. Hazardous conditions shall be promptly reported to the utility.



Before Under Pruning



After Under Pruning



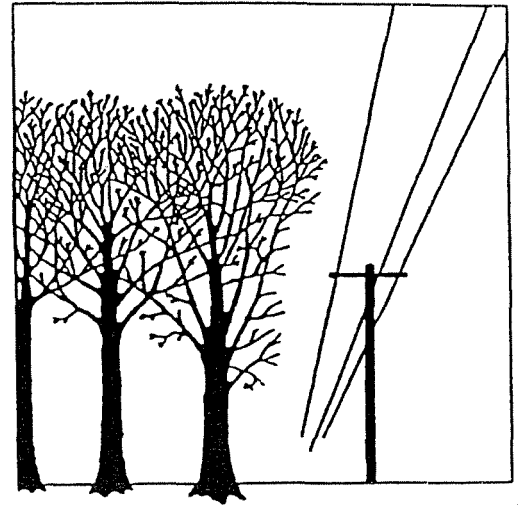
5. COMBINATIONS

It may be necessary to combine several pruning types in order to achieve a good-looking job and to obtain adequate clearances.

Improper Trimming Methods

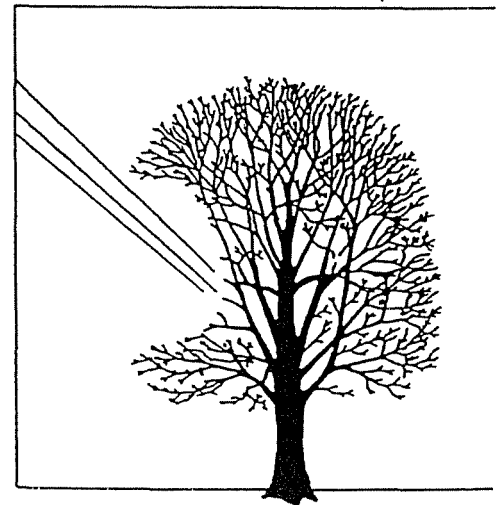
6. SIDE TRIM STUBBING

This is done by stubbing off portions of limbs along the side of the tree to obtain clearance. Cutting off portions of limbs (leaving stubs) to obtain clearance creates many fast-growing suckers that become a serious line clearance problem. Corrective pruning will be required to eliminate and repair past stubbing practices when they are encountered.



7. "SHAPING" AROUND LINES

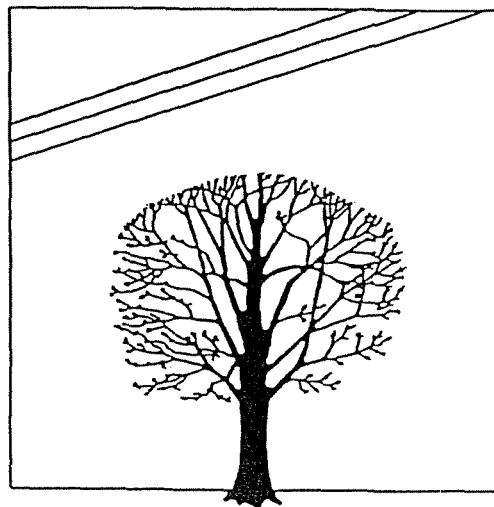
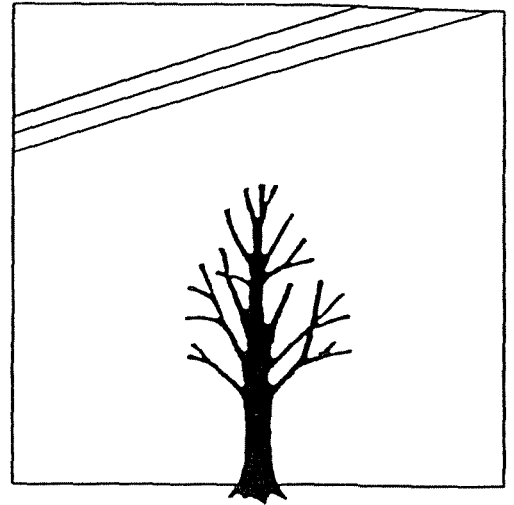
"Shaping" is done by trimming limbs in an arc to obtain clearance. This unsightly method of trimming leaves branches above the conductors that could bend or break, causing outages. Shaping also creates many fast-growing suckers.



8. POLLARDING

Pollarding is done by stubbing off major limbs to greatly reduce the size of the tree crown. The result is not only unsightly, but promotes a multitude of fast-growing suckers that sprout from the stubs. The combination of stubbing and re-sprouting leads to weak limb attachments, disease and decay, which then lead to a serious reliability and line clearance problem.

Pollarding is unacceptable.



9. ROUNDING OVER

Rounding over (or shearing) is done by making many small cuts so that the treetop is sheared in a uniform line. This creates an unhealthy tree condition and results in rapid regrowth of suckers directly toward the electric conductors.

When a round over is done using a pole saw the trimmer usually leaves numerous stubs, rather than following drop crotch and directional pruning principles. This stubbing commonly leads to decay, disease and rapid re-growth. This condition is unacceptable, except when mandated by customer requirements, and even then should be a last resort.

When a round over must be done, it shall be completed using the proper hydraulic or manual pruning tools, following the proper collar cut procedures. Stubbing is unacceptable. The utility shall be notified before a round over is performed.

