

DEMCO RIGHT-OF-WAY DEPARTMENT'S LINE CLEARANCE PROCEDURES MANUAL

I. PREFACE

Dixie Electric Membership Corporation (“DEMCO”) submits this manual in response to Louisiana Public Service Commission (“LPSC”) General Order dated September 13, 1993 and entitled “*Investigation of Utility Line Clearing Practices in Louisiana.*”¹ DEMCO first submitted its Line Clearance Procedures Manual to the LPSC in 1994. The following revised Line Clearance Procedures Manual shall be considered effective April 11, 2011.

II. INTRODUCTION

DEMCO was established on August 8, 1938 as a private, non-profit electric membership cooperative dedicated to the principle of providing its customers with reliable electric service at the lowest possible rates. A significant aspect in furthering this principle is effective right-of-way management.

Management of the vegetation in and adjacent to DEMCO’s rights-of-way enables it to significantly reduce exposure of electrical hazards to the public at large, encourages healthy forests, and promotes long-term, cost-effective maintenance of DEMCO’s electric distribution system. A failure to maintain adequate clearance between electric lines and trees increases the chance of critical injury to the public, increases the chance of critical injury to DEMCO’s line personnel, increases the chance of critical injury to third party contractor or licenses who perform work on DEMCO’s lines, causes “blinking lights” and power outages, and leads to significant “line loss”. Line loss is the diversion of electricity from its intended flow path due to the contact of an electric line with a foreign object, such as a tree. Line loss increases the cost of providing electric service to DEMCO’s customers, a cost which is passed on in the form of higher electric bills.

Over the past 73 years, DEMCO has utilized a variety of methods to manage its rights-of-way. Since 1990, however, DEMCO has increased total spending on management of its rights-of-way. From 2002 to the present, DEMCO has invested \$29 million in right-of-way management at an average cost of \$3.2 million per year. Since 1993, DEMCO has invested over \$58 million in its right-of-way program at an average cost of \$3.3 million per year. This increase in spending results, in large part, from greater expectations of the public and the LPSC for the provision of reliable low-cost electric service.

The demand for reliable electric service became evident at an LPSC hearing in the year 2000 whereby customers voiced a need for more reliable electric service. As a result of the hearing, the LPSC ordered Louisiana’s electric companies to meet the expectations of its customers. DEMCO reviewed all reliability related issues and prepared a reliability

¹ Exhibit 1.

work plan which recommended, among other things, a reduction in the length of its right-of-way maintenance cycles. Historically, DEMCO performed mechanical maintenance on a seven to nine year cycle. However, DEMCO decided to allocate additional funding to its program in order to reduce the length of its maintenance cycles and, concomitantly, meet its customers' demands for more reliable electric service. In 2001, DEMCO invested \$11 million in its right-of-way management program and, as a result, was able to reduce its mechanical maintenance cycle to five years and its herbicide applications cycle to two years.

Generally speaking, DEMCO's right-of-way management program entails mechanical trimming of rights-of-way from substations to the end of circuits. An emphasis is placed on the removal of all trees that are located directly under the conductors. Herbicide applications follow within six to twelve months thereafter. Selective herbicide applications and natural control methods are utilized until the next mechanical trimming cycle. This method of right-of-way maintenance is very cost effective for our customers. DEMCO has been able to show a 50.9% reduction in costs per mile for mechanical maintenance.²

DEMCO utilizes vegetation management schedules³ to track the timing of circuit maintenance on its distribution and transmission lines. The maintenance items on these schedules include mechanical trimming, herbicide applications, transmission reclamation, and acquisition of additional transmission rights-of-way.

Overall system safety and reliability has improved since DEMCO first submitted its Line Clearance Procedures Manual in 1994. Its right-of-way management program is biologically sound, economically feasible, aesthetically pleasing, and benefits native wildlife species. DEMCO is a leader in the field of right-of-way management in Louisiana and can confidently state that its right-of-way management program has resulted, and continues to result, in the benefits mandated by the LPSC's September 13, 1994 General Order discussed above, namely, long-term cost-effective maintenance of its electric distribution system, reduction of tree related service outages, greater service reliability, increased customer satisfaction, and improved health of trees located outside of rights-of-way.

III. DEFINITION OF WORKLOAD

DEMCO serves primarily rural areas in the parishes of West Feliciana, East Feliciana, East Baton Rouge, Ascension, Livingston, St. Helena, and Tangipahoa. DEMCO currently provides electric service to approximately 98,000 customers.

DEMCO manages approximately 4,000 miles of overhead distribution line rights-of-way and 215 miles of transmission line rights-of-way. System-wide, DEMCO must

² Historical costs for circuits vs. bid price for 2005 and 2010 Mechanical Re-trimming, as Exhibit 2.

³ DEMCO's distribution and transmission management schedules for the years 2010 through 2020 are attached hereto, in globo, as Exhibit 3.

maintain approximately 15,000 acres of overhead and underground distribution and transmission rights-of-way in order to distribute electricity to its customers.

DEMCO’s target mechanical pruning cycle is five years. This five year cycle is based primarily on the provisions of the National Electrical Safety Code (“NESC”). Section 218 of the NESC⁴ lists the following factors to be considered in determining the extent to which rights-of-way must be acquired and maintained: normal tree growth, the combined movement of trees and conductors under adverse weather conditions, voltage, and sagging of conductors at elevated temperatures. Of these, tree growth has been the subject of a study conducted by DEMCO in recent months.

DEMCO’s Limb Re-Growth Study⁵ was undertaken to determine tree growth characteristics and factors which affect those characteristics, to provide support data for developing guidelines for right-of-way widths, to provide support data for determining necessary re-trim cycles, and to provide support for NESC horizontal clearance calculations. The study entailed the collection of limb samples from 153 trees of 32 different species that had been trimmed within the previous one to six year period. Data collected from the samples included tree species, year last trimmed, quality of cut, location below or beside the line, extent of cutting, diameter at breast height of the tree, and tree location. An analysis of the data indicates that limb growth averages thirteen feet (13.0’) per re-trim cycle on DEMCO’s system. As a result of the study, DEMCO can reasonably justify the acquisition and maintenance of greater horizontal clearances with respect to its electric lines. For example, the horizontal clearance for a 14.4 kv, multi-phase line would be calculated as follows⁶:

normal tree growth	13.0' (Per 5 year re-trim cycle)
tree movement	1.3' (Assuming the conductor is at 34', the 10% sway expectation for severe weather requires an additional 3.4' of clearance; however, under normal weather conditions one would expect moderate limb movement - approx. 1/3 of 3.4')
conductor movement	2.0' (Under high wind conditions, the conductor would be expected to displace from its normal position equal to the sag at mid-span - 6.0'; however, under moderate weather conditions one must assume less conductor displacement - approx. 1/3 of 6.0')
voltage sag	4.5' (Required horizontal clearance under the NESC for this voltage line with wind displacement)
cross arm	3.5' (Conductor attached approximately 3.5' from the center of pole)
TOTAL	21.9' Per side of centerline

⁴ Exhibit 4.

⁵ Exhibit 5.

⁶This calculation assumes a five (5) year re-trim cycle, line construction RUS VC-1, high wind conditions (winds over 100 mph), tree movement 10% of height of tree, and conductor sag at design temperature of 6.0’.

The above example calculation is presented to provide an explanation of trimming and removal requirements necessary for safe clearances. To date similar field observations validate the results of the study above.

DEMCO utilizes the circuit method as the basis for management of its rights-of-way. Circuits are bid out annually based on limb re-growth, years elapsed since last cut, safety, and concerns for reliable distribution. Circuit maintenance is tracked on DEMCO's vegetation management schedules. Although subject to change at DEMCO's discretion, the schedules are nonetheless intended to be a guide through the year 2020. The transmission schedule addresses reclamation and herbicide applications.

IV. DEFINITION OF PROGRAM GOALS

DEMCO's overriding goal as an electric cooperative is the distribution of electricity in a safe, reliable, and cost-effective manner. Right-of-way management is the primary means by which it accomplishes this goal.

DEMCO has set the following specific goals with respect to its right-of-way management program:

- **Reduction of right-of-way related outages to 0.5 hours or less per customer per year.** Right-of-way related outages were 2.46 hours per customer in 2007, 2.69 hours per customer in 2008, 2.32 hours per customer in 2009, and 1.28 hours per customer in 2010. This reduction in right-of-way related outages directly correlates with increased spending on right-of-way management (\$44.5 million since 2000).
- **Four to five year mechanical maintenance cycle and two year herbicide maintenance cycle.**

V. SPECIFICATIONS

Safety is the paramount consideration in determining line clearance distances. DEMCO utilizes the NESC, the Occupational Safety and Health Standards set forth in 29 CFR 1910 et seq.⁷, ANSI Standard Z133.1-2006⁸, the Association of Louisiana Electric Cooperatives Safety Manual⁹ and its Limb Re-Growth Study in determining safe work practices and line clearance distances. These specifications are set forth in an addendum entitled "Special Specifications: Rights-of-Way Re-Clearing"¹⁰ which is attached to each contract entered between DEMCO and the contractors it retains to assist in right-of-way management.

⁷ 29 CFR 1910.266 and 29 CFR 1910.269 are attached hereto, in globo, as Exhibits 6 and 7.

⁸ Exhibit 8

⁹ Exhibit 9

¹⁰ Exhibit 23

Upon determination of the horizontal and vertical clearances for a particular line, cutting and trimming is performed in accordance with the *International Society of Arboriculture Certification Manual* and the *Pruning Trees Near Electric Utility Lines* manual as mandated by the Louisiana Horticulture Law, La. R.S. 3:3801 et seq.¹¹ Special care is used when performing right-of-way maintenance near trees listed in the Registry of Historic Trees¹².

DEMCO must also maintain the vegetation in its rights-of-way in accordance with right-of-way agreements between it and landowners. The width specified in these right-of-way agreements have varied over the years. Many older right-of-way agreements do not specify a width. In such case, the above standards and regulations as well as the needs and expectations of DEMCO and the landowner control the width of the right-of-way.

It is DEMCO's practice to record right-of-way agreements in the public records of the parish in which the property is situated. This ensures that the right-of-way agreement will "run with the land" and be binding upon subsequent landowners. Notwithstanding, La. R.S. 12:428 affords protection to electric cooperatives who have failed to record a right-of-way agreement or failed to acquire a right-of-agreement from a landowner by granting to them a servitude by prescription. In this regard, La. R.S. 12:428 provides:

A cooperative shall acquire a servitude on an immovable, unless such immovable is owned by the federal or state government or any agency or subdivision thereof, for the operation and maintenance of its electric transmission and distribution lines, along, upon, under or across any such immovable by virtue of the uninterrupted maintenance of such lines without the written or other consent of the owner thereof, along, upon, under or across the immovable for a period of one year; provided such servitude and operation does not interfere with the use of said property by other public utilities; provided further that in all cases where the written consent of the owner for the establishment of a servitude has been obtained and a line has been constructed along, upon, under or across the property under said consent it is not necessary that the written consent be recorded in the conveyance or other records of the parish where the property is located in order to make the servitude effective as to third parties.

Notwithstanding, the underlying objective of DEMCO's right-of-way management program is to ensure the removal of minimal growth in successive line clearance cycles while still allowing trees to have enough green-leaf surface area to grow and develop naturally. To accomplish this, DEMCO either trims trees away from its conductors or removes them completely.

The objective of side trimming is to direct the growth away from energized conductors while permitting trees to maintain a natural growth pattern. In this regard, right-of-way workers emphasize removal of dead, dying, weak and structurally unsound

¹¹ A copy of La. R.S. 3:3801 et seq is attached hereto as Exhibit 10.

¹² Exhibit 11.

wood. The relative shape of the conductor zone cleared depends on tree species within its vicinity and the type of energized structure. When making these cuts, proper pruning techniques are observed. These techniques are briefly specified in the attached National Arborist Association pamphlet entitled “Making Proper Pruning Cuts”¹³.

If excessive trimming is required to obtain safe clearance between trees and conductors, complete removal may be necessary. This is especially the case when trees are situated underneath conductors. Most tree species in the southern United States attain mature heights between 60’ and 150’ feet. Consequently, it is DEMCO’s practice to remove these trees in order to maintain the vertical and horizontal clearances mandated by the NESC.

Prior to removing a tree, DEMCO Right-of-way Department employees and its contractors always attempt to notify the customer. If the customer is not at home, a notice¹⁴ is left at their residence informing them that trees will be removed from the right-of-way on their property. In the event there is no physical residence to leave a card, contractors are instructed to notify DEMCO whereupon DEMCO will review its records to ascertain contact information for the customer. If a customer steadfastly refuses to permit the requested trimming or removal, the matter shall be referred to the Manager of Lands and Right-of-way or Forester.

After the tree has been cut down, DEMCO or its contractors properly disposes of all limbs and wood. DEMCO recommends disposal of wood chips by either leaving them for the customer (with the customer’s permission) or disposing of them at an approved wood waste disposal site. Stump grinding is performed at DEMCO’s sole discretion. Often times, logs are cut into sections and left with the customer for firewood.

To the extent that federal, state, parish and local regulations permit, DEMCO also grinds and/or burns trees and limbs on site.

During power restoration, the applicability of the above standards may vary. Trees that are considered a hazard to the public are removed as quickly as possible and without notification to the landowner.

VI. INITIAL CLEARING OF RIGHTS-OF-WAY

Prior to clearing a right-of-way, DEMCO enters into a right-of-way agreement¹⁵ with the landowner. Clearing is accomplished by removing trees, hedge, and brush from the right-of-way. Specifications and instructions are provided to the clearing crew or contract supervisor before the commencement of clearing. Special requests and agreements between DEMCO and the property owners are also conveyed at this time.

¹³ Exhibit 12

¹⁴ Exhibit 13

¹⁵ Exhibit 14

All trees are cut as low as the root structure will permit (not to exceed six inches above the ground) and the stumps are treated with herbicides to prevent re-sprouting. An indicator dye is used to make the stump treatments visible. Trees can be cut into pulpwood or saw-log lengths (varies for pine and hardwood); cut into firewood sections, or removed depending on the landowner's wishes. Wood that is not merchantable is disposed of on-site or at an approved wood waste facility.

All brush is cut as close to the ground line as possible by mowing or hand-sawing. The brush is thereafter treated with herbicides to prevent re-sprouting. All wood chips are disposed of properly.

Leaning trees, dead trees, trees with exposed root structures and diseased trees located outside the limits of the right-of-way but tall enough to strike the wires in falling are also removed and disposed of properly.

VII. GENERAL RIGHT-OF-WAY MANAGEMENT

Landowners often make special requests by phone, letter, or in person. Their requests are recorded on notes, Exhibit B forms¹⁶, or service order forms¹⁷. A job briefing shall be conducted on each job before work is performed.¹⁸ A Cutting and Trimming Agreement¹⁹ may be used depending on the request.

Once a request has been made, workers from the district in which the tree is located will first inspect the tree and thereafter refer the request to the right-of-way department as necessary.

All requests are tracked by computer²⁰ at DEMCO's headquarters and district offices. Open service orders are closed out by the right-of-way department when completed with the vegetation management crew worksheet²¹ attached. Outage reports²² are also reviewed weekly to determine if right-of-way related outages are occurring in the same locations.

VIII. TREE REMOVAL AND REPLACEMENT

Tree removal is recommended when the main stem of the tree is located within the limits of the right-of-way. If stump grinding is necessary, an underground utility locate is requested from Louisiana One Call (1-800-272-3020). After removal is completed, DEMCO may provide a tree or shrub of the landowner's choice to replace the tree that was removed; however, this tree is planted outside the limits of the right-of-way. Smaller shrubs may be planted at closer distances to the line depending on the height it

¹⁶ Exhibit 15

¹⁷ Exhibit 16

¹⁸ Exhibit 17

¹⁹ Exhibit 18

²⁰ An example printout of the computer log is attached hereto as Exhibit 19.

²¹ Exhibit 20

²² Exhibit 21

attains at maturity. The shrub or tree should be selected from species that are native to Louisiana. The following is a brief list of recommended native trees, shrubs, and grasses:

Large trees

- Live Oak (*Quercus virginiana*)
- Bald-cypress (*Taxodium distichum*)
- Pond-cypress (*Taxodium ascendens*)
- Cherrybark Oak (*Quercus pagodifolia*)
- Black Tupelo (*Nyssa sylvatica*)
- Laurel Oak (*Quercus laurifolia*)
- Longleaf Pine (*Pinus palustris*)

Medium sized trees and shrubs

- Flowering Dogwood (*Cornus florida*)
- Florida Maple (*Acer barbatum*)
- Smooth Sumac (*Rhus glabra*)
- Parsley Hawthorn (*Crataegus marshallii*)
- Tree Sparkelberry (*Vaccinium arboretum*)
- Wax Myrtle (*Myrica cerifera*)
- Carolina Laurel Cherry (*Prunus caroliniana*)

Flowers/Grasses

- Coreopsis (*Coreopsis tinctoria*)
- Button-bush (*Cephalanthus occidentalis*)
- Trillium (*Trillium ludovicianum*)
- Red Buckeye (*Aesculus pavia*)
- Coral Bean (*Erythrina herbaceae*)
- Little Bluestem (*Andropogon scoparius*)
- Broom Sedge (*Andropogon virginicus*)

Customers can contact their local nursery or search for native plants on the web at www.fs.fed.us/database/feis/plants.

The customer or DEMCO representative may complete the Tree Removal and Replacement Form²³, which provides a record for following up with planting.

DEMCO will also consider planting trees, shrubs, and flowers for customers during the winter or spring months. DEMCO recommends planting small trees that do not have to be staked. A plant that is able to grow and develop naturally with resistance to the wind will develop a stronger, more tapered base over time. It is DEMCO's

²³ Exhibit 22

practice to discuss with the landowner the anticipated size of the tree and its location to other objects such as homes, driveways, and utilities.

IX. CUSTOMER RELATIONS

Except in emergency situations, customers are notified when maintenance activities are scheduled on DEMCO's rights-of-way. Customers are notified by the DEMCO newsletter Along These Lines, DEMCO IVR Phone System, door cards, and on DEMCO's website, www.demco.org.

The newsletter Along These Lines provides customers with information concerning the type and location of right-of-way work being performed on DEMCO's system. The information is categorized by parish and then followed with specific location information. Customers can also obtain information by contacting a DEMCO Right-of-way Department representative directly. Notification is also made by individual customer contact at the time the work is being performed. If the customer is not at home, a door card is left at the customer's residence describing the type of work planned for the right-of-way on their property. A telephone number is also provided on the card should the customer have questions or comments. After right-of-way work has been completed, a customer can contact a DEMCO Right-of-way Department representative regarding any problems or concerns they may have as follows:

- Contact by phone at 225-261-1221, ext. 439 or ext. 346.
- Contact by email at phillz@demco.org or samr@demco.org.
- By mail addressed to DEMCO, Right-Of-Way Department, P.O. Box 15659, Baton Rouge, Louisiana 70895.
- Visit DEMCO's headquarters in Greenwell Springs, or one of the branch offices in St. Francisville, Greensburg, Zachary, Livingston, or Galvez.

Customers can also search DEMCO's website, www.demco.org, "Reliability Improvements", for up-to-date mechanical maintenance and herbicide application project locations.

X. HERBICIDES

A long term cost effective right-of-way management program should incorporate mechanical, herbicide, and natural control methods. After mechanical trimming is performed, herbicides are used to control the re-growth of many tree and brush species. DEMCO employees and contractors apply herbicides according to label directions and contract specifications²⁴. Through the years 1993 to 2003, DEMCO's rights-of-way consisted primarily of non-native plants such as the Chinese tallow and privet species. These plants are invasive and constitute a source of degradation to native plant communities. However, through the selective use of herbicides over the last eight years, DEMCO has succeeded in converting the majority of its 15,000 acres of utility corridors

²⁴ Exhibit 24

back to native plant communities. These natural control methods permit DEMCO to maintain its rights-of-way with low growing, native, early succession plants.

The selective use of herbicides by DEMCO in its right-of-way management program has proven to be beneficial to wildlife, native plants, and DEMCO's customers. This fact was evidenced in 2002 when DEMCO received the BASF Habitat Restoration Award for promoting native plant communities that benefit wildlife habitats.

Additionally, the selective use of herbicides has proven to be a cost-effective means by which to maintain right-of-way vegetation. One need only compare the cost of mechanically re-trimming circuits that were controlled with herbicides to those that were not back from 1993 to 2004. Whereas the former's mechanical costs increased by only 10.7% from one cycle to the next, the latter's mechanical costs increased by over 80%. DEMCO, at the same time, has been able to reduce the herbicide maintenance cost per mile by 30%.

Herbicides are used by DEMCO in accordance with local, state, and federal regulations. The Federal Insecticide, Rodenticide, and Fungicide Act of 1972 and the Louisiana Pesticide Law²⁵, are the respective federal and state laws governing the application of pesticides to DEMCO's rights-of-way. Only herbicides that have been approved and registered with the Environmental Protection Agency ("EPA") for use on utility rights-of-way are used by DEMCO. Additionally, only licensed applicators with a Louisiana Commercial Pesticide Applicator's license are permitted to apply herbicides to DEMCO's rights-of-way. DEMCO also requires that a licensed applicator be present at the job site at all times.

Notification regarding the application of herbicides is made to DEMCO's customers through the newsletter "Along These Lines", door hangers, personal contact, or on DEMCO's web site at www.demco.org. DEMCO receives and reviews the state Pesticide Hypersensitivity and Organic Nursery lists²⁶ annually to determine if changes have been made thereto. DEMCO does not currently serve any hypersensitive customers, but currently serves the following organic nursery: Berry Sweet Orchards, 5110 Brown Road, Ethel, LA, CS45-49-3, Clinton South Circuit.

DEMCO maintains its herbicide records for a period of three (3) years. Records include the circuit name, various addresses or pole numbers throughout the circuit, and general location where herbicides were applied, the name of the herbicide(s), the application rate, and the name of the certified applicator. Contract crews also provide DEMCO with this information after completing a circuit²⁷. A DEMCO Daily Chemical report²⁸ is also filled out for herbicide applications made by employees of the DEMCO Right-of-way Department.

²⁵ The Louisiana Pesticide Law found at La. R.S. 3:3201 is attached hereto as Exhibit 25.

²⁶ Attached hereto, in globo, as Exhibits 26 & 27.

²⁷ Exhibit 28

²⁸ Exhibit 30

Copies of the current herbicide and adjuvant labels that are used on DEMCO's system are attached hereto.²⁹

XI. MANAGEMENT ORGANIZATION

DEMCO's Right-of-way Department is structured as follows:

- The Board of Directors, General Manager/CEO, promulgate all policies relating to the program.
- The Vice President of Engineering and Operations implements the program and establishes program goals.
- The Manager of Lands and Right-of-way supervises the operations of the DEMCO Right-of-way Department.
- The Forester establishes specifications and practices for the conduct of the contract crews and the work that they perform. The Forester also coordinates work plans, establishes mechanical re-trim and herbicide application cycles, and measures the performance of the Right-of-way Coordinators within the Right-of-way department.
- The Operations Assistant (Right-of-way) directs and supervises the efforts of the DEMCO In-House Vegetation Management crew. They also supervise: new construction Right-of-way clearing, the Right-of-way contract work (both of mechanical clearing and herbicide application crews) and ensure the completion of customer service order requests within their area of responsibility. They also measure crew performance and provide training in safe work practices to all crews they supervise.
- The DEMCO Right-of-way Coordinators (3) supervise: new construction right-of-way clearing, Right-of-way contract work (both of mechanical clearing and herbicide application crews), and ensure the completion of customer service order requests within their area of responsibility. They also measure contract crew performance and provide training in safe work practices to all crews they supervise.
- The Crew Leader is a working foreman and directly supervises the DEMCO Right-of-way crew personnel.
- The Utility Arborists are responsible for working in a safe and efficient manner.

The quality of work and the professionalism of the DEMCO Right-of-way Department directly affect the number of customer complaints and ultimately the total cost of electric service. The quality of mechanical trimming or removal activity and the application of herbicides can determine the future cost and timing of these activities. Accordingly, to ensure quality control, the Operations Assistant (Right-of-way) and the Right-of-Way Coordinators inspect a sufficient quantity of cutting and spraying within their area of responsibility to ensure the contract crews are performing quality work. A

²⁹ Exhibit 31

right-of-way maintenance report (mechanical/herbicide)³⁰ is executed for each circuit maintained.

A contractor evaluation form³¹ is used to evaluate each contractor's performance, whether mechanical or herbicidal. A database of circuit re-trimming costs and herbicide application costs³² is also maintained at DEMCO's headquarters. Finally, a list of Right-of-way Department employees and their qualifications is attached hereto.³³

XII. TRAINING

Employees and contractors are required to be trained in utility right-of-way management on a regular basis and must attend weekly safety meetings. Employees and contractors are also required to be trained on an annual basis in utility line and tree hazards, proper pruning and felling techniques, herbicide applications, legislation, equipment safety, and tree identification.

Employees and contractors with utility arborist licenses are required to attend approved continuing education training courses annually. These courses must meet the requirements set forth by the Horticulture Commission of the Louisiana Department of Agriculture and Forestry.

Employees and contractors with commercial pesticide applicators licenses are required to attend approved continuing education training courses once every three years. These courses must meet the requirements of the Louisiana Department of Agriculture and Forestry.

Finally, DEMCO Right-of-way Department employees are required to be trained in the subject areas indicated on the Training Completion Form attached hereto.³⁴

XIII. CONTINUED DEVELOPMENT

DEMCO's overriding goal as an electric utility cooperative is to provide safe, reliable, low cost electric service to its customers. This requires an unwavering, professional commitment to right-of-way management and a desire not only to strictly adhere to the specific provisions of its plan, but to initiate change as the need may arise.

The basis of American forestry practices can only be understood by having first observed the native species growing and developing naturally. Bernard Eduard Fernow said, "if any one should ask me what he or she should do to acquire the first practical knowledge of silviculture, I would answer: go into the woods and observe the behavior

³⁰ Exhibit 29

³¹ Exhibit 32

³² Exhibit 33

³³ Exhibit 34

³⁴ Exhibit 35

of trees with regard to the light conditions under which they grow”.³⁵ Credit is hereby given to God for trees, his creation. The understanding of tree growth, forest development, and right-of-way maintenance should begin at this point.

This manual will be updated as additional information pertinent thereto becomes available. Notwithstanding, DEMCO intends to formally review this manual periodically and resubmit a revised manual when changes take place in the DEMCO Right-of-way Department’s Line Clearance Procedures Manual.

³⁵ Bernhard Eduard Fernow (1851-1923), the father of North American Forestry