

MUNICIPAL LINE CLEARANCE¹

by James Wallace and Mark Heuberger

Abstract. Many people, unless they also are in the utility business, do not realize that the process of blending natural beauty (trees) with good electric service is such a large job. This presentation provides a general overview of procedures used by our Forestry department and its contractors in maintaining beauty and service in a city with many trees. Our utility has established a computer-aided Forestry Notification Program, which is in its infant stages, that works with nurseries and customers to encourage the planting of low-growing trees in the right-of-way.

The Memphis Light, Gas & Water Division is the largest three-service public utility in the nation. It serves a 750-square-mile area in the southwest corner of Tennessee, the western gateway to the deep south. Its administrative offices overlook the Mississippi River where millions of tons of cargo traverse the currents of America's longest and mightiest water highway each day.

MLGW's 307,000 customers are served by 2750 employees, neighbors to nearly 1,000,000 residents of metropolitan Memphis, a city rich in tradition. It was here W.C. Handy gave birth to the blues, and it was here Elvis Presley cut his first record. These are things for which Memphis is well-known, but there is something else that draws people to Memphis, its trees. Thousands of trees, hundreds of thousands of trees.

Memphis, long considered the hardwood capital of the nation, has a climate conducive to the lush growth of trees and other vegetation in the area. Flowering trees treat Memphians to yearly displays of dazzling colors, welcoming the advent of spring. When flowers give way to foliage, the giant oak, gum and sycamore provide refuge from summer's heat. And soon the prelude to winter caps off our growing season with a kaleidoscope of unimaginable color. But they also put a four million dollar per year strain on the pocketbooks of utility rate payers.

There are some Memphians who would argue the value of trees. When the family car is sliced in two or your favorite room is separated from the rest of the house, it's hard to find something nice to say about a tree. Decaying root systems of old trees loosen their grip upon the earth and, after a spell of wet weather, fall victims to springs' gusty winds. Power lines are just as vulnerable to their wrath as autos and houses and the problem is typical of those pursued by forestry departments of utilities throughout the nation. The Memphis Light, Gas and Water Division retains two private contractors to maintain 3,659 miles of distribution right-of-way.

Neatly trimmed rows of pine line much of the commercial properties in Shelby County. The trees are well balanced, still provide good screening and are topped sufficiently to last through another trimming cycle. There are many such pine trees in the city and their height, rapid growth and popularity present a special challenge to MLGW's Forestry Department, not only in trimming the tree, but in convincing the customer to let them do it.

Street distribution lines are the most convenient to care for because of accessibility, but can also be the most dangerous because of the higher voltage and pole clutter normally associated with such lines. Usually, MLGW side trims these trees, but occasionally when all sides of the tree are accessible and the customer requests it, we will shape the tree, if justified in the judgement of the Forestry Department. The drop crotch trimming method is used and all cuts two inches in diameter or more are treated with tree wound dressing. Although treating cuts has been found to be of questionable value, most customers prefer that it be done for the sake of appearance.

Our trimming schedule is two-and-a-half years for the city and three years in rural areas. Forty-six

1. Presented by Roy T. Baxter at the annual conference of the International Society of Arboriculture in Indianapolis, Indiana in August 1983.

crews maintain some 300,000 trees per year, 14 percent of which are removals. A 20 percent removal rate would be more to our liking. MLGW has both bucket and manual crews, with bucket crews consisting of three men and the manual crews, four.

Keeping track of so many crews requires considerable paperwork. We use daily work reports and weekly time reports. Work reports indicate the time spent on each job and the number and size of trees topped, trimmed or removed. The weekly time reports log equipment hours as well as man-hours. The report shows the type of equipment and number of hours used each day. It includes the work record of each crew member for the week and the total number and size of trees handled.

We also use an inspector's report, listing the location of the inspection, crew members on the job, condition of equipment and any other documentation deemed necessary by the inspector.

Thousands of trees sprout voluntarily from seed in the Memphis area and thousands more are sold by nurseries. Despite efforts to educate the public, hundreds of these trees are allowed to grow or are deliberately planted under power lines.

Where feasible, our crews will remove all of the underbrush in the easement in order for mowing equipment to be able to maintain the right-of-way and keep saplings from growing. In some cases, where the site is not accessible to mower equipment, chemicals are used to keep the easement clear.

In many of Memphis' older neighborhoods, trees have outgrown their surroundings. In some instances, street widening projects have reduced their growing space or simply the size of the tree has called for severe topping. This is not the kind of cutting we like to do, but the alternative is removal. Our customers usually prefer to keep the tree to take advantage of whatever shade the tree can provide.

Small trees, too, fall victim to severe topping

when low hanging secondary or other utility lines are threatened.

Severe side trimming is also necessary at times in our attempt to maintain a 15-foot primary clearance. Side trimmed trees maintain clearance longer than severely topped trees since all the tree's energy is not directed toward new growth.

In most cases, however, trees are far enough from the easement that side trimming does not measurably detract from its appearance. Our customers are, when available, notified in advance of tree trimming and a very small percentage of those customers refuse. After a few years, most people realize their mistake in planting tall growing trees under or too close to power lines and are reconciled to the periodic trimming.

We try to keep our customers informed about our tree trimming policy and how, where and what to plant. This is done with brochures, bill stuffers and speakers from MLGW's Public Education Program.

Clearing easements of urban transmission lines to rural distribution systems is an expensive never-ending task. From city streets to backyard rights-of-way, we mix skill, diplomacy and compassion to insure the most trouble-free service possible, but after all is said and done, there is no substitute for proper planning and hard work.

Memphis is blessed with a number of natural assets: the Mississippi River, the longest navigable river in the nation, an abundant supply of pure artesian water, a 203-day growing season for mid-south farmers who grow everything from cotton to beef cattle, and trees: trees for lumber, trees for food, trees for shade, and trees just for showing off. And proper planning on our part and the part of our customers keeps our Memphis trees in good shape.

*Forestry Department
Memphis Light, Gas and Water Division
P.O. Box 388
Memphis, Tennessee 38101*