

# UTILITIES AND "TROUBLE-FREE TREES"<sup>1</sup>

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**Abstract.** The purpose of this presentation is to acknowledge a common problem known to all right-of-way managers, and to show the initial step that Duke Power Company has taken in order to combat the source rather than the results of the problem. The problem: to keep large-growing species of trees from being planted in locations incompatible with their growth habits.

Aerial buckets, conventional crews, injected and surface-applied growth retardants, and tree replacement programs are all integral components for treating a common problem. The "problem" is one that each and every right-of-way vegetation manager is familiar with, namely, an urban tree has found itself in a location that causes it to be conflicting with electric utility lines. There are, theoretically, three reasons why a situation such as this may exist. The tree may have been established before the line was installed, it is a volunteer which has chosen an urban location on it's own, or an individual has planted this tree after the line was installed, not realizing that tree and line conflicts are certain to arise in the future. This third possibility is the most important to address because it is most common and the one we can most easily control. Through the education of our customers we can have an impact on this common right-of-way maintenance problem.

In the past we have attacked the results of the problem and not the problem itself. We are now beginning to face the issue confronting us. Utilities are spending millions of dollars in the area of right-of-way maintenance, some part of which could be eliminated in the future by choosing the proper planting locations of urban trees.

We at Duke Power have made our first attempt toward a long-range right-of-way maintenance cost reduction program. It consists of a slide/cassette presentation aimed at familiarizing the general public with "planting the right tree in the right place." It focuses on the problems associated with planting large-growing trees near power lines, but also illustrates sites either

favorable or undesirable as a planting location. The 92-slide program is designed to make customers aware that we as an electric utility are well aware of how important trees are to the well-being of society. It also illustrates that we are experienced in the problems that trees can cause to the distribution of our product, electricity, which we are dedicated to providing as reliably and as economically as possible. In order to meet this objective, clearances between trees and lines must be maintained. If we can keep potential problem-causing trees from being placed in undesirable locations, we can reduce our line clearance expenses and thus play a part in helping hold the front on future rate increases.

There is a great public relations problem associated with trees that we must continually trim. Many times hard feelings will be fostered by the customers to whom the tree belongs, especially if that customer had initially planted the tree in the given location. Avoiding this problem is an intangible benefit.

clearances must be maintained and the dissimilarities of rural and urban rights-of-way. The main thrust is to persuade people to "plan before they plant." One needs to evaluate the planting site as well as the characteristics of the tree species before making a decision on what to plant and where. The most widely misplanted species in the Duke Power Company service area (the Piedmont Carolinas) is the willow oak. It is well adapted to our area and a prolific sprouter when heavily trimmed. It has the capacity to attain heights of 80-100 feet, but when planted underneath utility lines we must restrict its growth to approximately 30 feet. These trees represent a severe maintenance liability to the company, but could have been an asset had anyone properly considered the planting location.

The presentation shows examples of how large trees can be sources of liability when located

1. Presented at The 58th Annual International Society of Arboriculture Conference, Louisville, Kentucky in August 1982.

close to traffic lanes. The trees' root systems may cause expensive maintenance repair on curbs, sidewalks, and streets when planted in narrow planting strips adjacent to streets. Weak-wooded species may well cause problems wherever they are planted. This is especially true if they are located where broken portions of the tree may fall into pedestrian or traffic paths during periods of inclement weather. Some trees such as the silver maple are surface-rooted. These roots will become a nuisance to lawn mowers as the tree matures. Roots of trees such as weeping willow may cause problems in septic and drainage systems. The sweetgum is a hardy tree, but would be undesirable in many locations due to the fruit it produces. These are some examples of characteristics for different species and planting locations that should be evaluated before a tree planting decision is made.

The trees we have mentioned are not necessarily undesirable. It simply requires that we be more selective in the choosing of planting sites for trees.

Alternatives to the planting of large-growing species in restricted growing sites include a number of small low-growing species native to our area such as the dogwood and redbud. Other species, cultivars, and varieties of small maturing trees are available from nurseries. Some of these trees and their special characteristics are shown in the presentation. These characteristics are flowering quality, fruiting habits, appealing foliage, fall color, intriguing bark design, and mature size. We stress the importance of consulting with

nursery people, arborists, or urban foresters who are invaluable in evaluating the alternative species available. These knowledgeable people can assist customers in deciding which trees will be most compatible with conditions the trees will be subjected to.

We encourage customers to request copies of our company booklet on trees and the rights-of-way. This booklet entitled "Trouble-Free Trees" discusses in general terms some of the same information discussed in this article.

The slide/cassette program is available to any interested group. Municipal organizations, civic groups, and garden clubs are encouraged to utilize the program at any of Duke's 30 independent operating locations. A copy of the program has been provided to the urban forestry section of the Division of Forest Resources in North Carolina. Their work involves considerable contact with cities and towns throughout the state. We feel that only positive results can be realized through the distribution of the ideas presented in this slide program. The benefits will be realized by us as a utility, but also by everyone who can appreciate the beauty of trees planted in locations compatible with their growth habits. This allows them to achieve their natural form in a man-made environment.

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