

RIGHTS-OF-WAY THE NEW LOOK

By HAROLD F. POMEROY

RIGHTS-OF-WAY needed for electric lines to carry energy are under wide-spread discussion.

The public is greatly concerned with their locations, and also with appearance, the methods of clearing and disposing of the trees and brush, and, finally, the maintenance programs used to control the vegetation.

The utility is even more concerned than the public. In Northeast Utilities, every effort is being made to fully utilize existing rights-of-way in order to minimize the need for new rights-of-way. When new transmission lines are planned, one of the first steps is to study present and future land use to insure that a new right-of-way does not conflict with some other best use of the land. Efforts are also made to locate lines on the sides of hills rather than along the ridges, to cross high-ways at right angles, and to insert angles in the lines in order to keep visibility objections to a minimum.

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The clearance of rights-of-way has received intense consideration. Our specifications require that those areas in prominent public view such as those adjacent to roads, parks or rivers be cleared selectively. All desirable species, with mature heights that will not interfere with the conductors, are saved. The better appearing trees that are tall enough or that would grow tall enough to cause the line to trip out are trimmed back. Where the trees are too tall to permit aesthetically pleasing trimming, they are removed. Gradually, over a period of years with proper planned removal of the tall, potentially interfering trees, the area is opened up and the desirable species such as dogwoods and shrubs take over and make a natural screen for the rights-of-way.

In the areas remote from general public view, all vegetation that would interfere with construction is removed. This cutting is confined primarily to the central portion of the right-of-way which is directly under the conductors. Within the right-of-way, on the sides of this cleared area, we endeavor to obtain a tapered appearance by selective-

ly removing only those trees which could cause line failure at maturity.

So called "Danger Trees" are removed along the sides of the right-of-way. These are the trees tall enough or in poor condition which could fall into the lines. As time passes and the trees grow, it is usually necessary to remove additional trees along the right-of-way sides to prevent line failure for the same reasons.

Desirable species, such as laurel, dogwoods and others shrubs are not cut in either the selective cutting areas or in the remote areas. The end result with our right-of-way clearing and future vegetation management programs will be not only the natural development of a scenic, good looking, compatible area but also the establishment of potential multiple use land with greater benefits to wildlife.

After cutting comes the big problem of disposal of the cuttings. Our specification offers alternative methods applicable to the different conditions and areas of cutting.

Sawlogs and other smaller logs are normally left neatly piled where they will not interfere with construction. Occasionally, where logs will not be utilized and burning is permitted, whole trees are piled and burned.

In the selective cutting area, logs are piled out of sight, and we dispose of all the brush that can be seen. This may be by physical removal to another portion of the right-of-way or by chipping. In the remote areas, our plan calls for disposal of brush up to 4 inches in diameter by one of the following methods or a combination of them: (a) chipping, (b) burning, or (c) leaving it piled for wildlife habitat and natural decay.

Both the states of Connecticut and Massachusetts in which we operate recognize the difficulty of the disposal problem associated with the clearing of wooded areas. Both states exercise rigorous controls over open burning and we are cooperating with their regulations.

The one time burning of brush as a means of disposal has some very desirable benefits without being a major contributor to the air pollution problem.

Recent research in California has disclosed the fact that the high visibility of open burning is the main reason for protest. Intensifying heat during open burning tends to reduce the particulates and hence the appearance of smoke. Dr. Ellis Darley's research found that the burning of brush contributes relatively



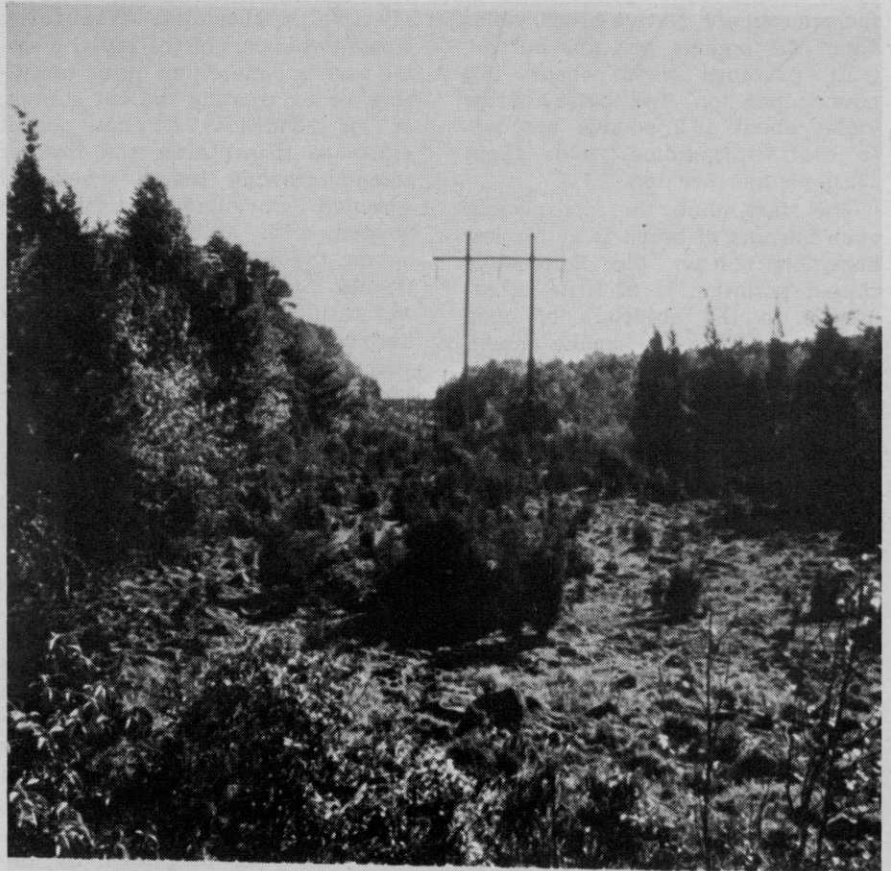
Northeast Utilities burns cleared brush using fanned air and kerosene to intensify burning with less air pollution.



In selective initial clearing, chipper is used to help handle brush.



Selective basal spray by back pack power sprayer is part of maintenance program.



A 115 KV right-of-way under good control as the result of selective basal sprays. Ornamental steel poles are in background.



Selective initial clearing for a 345 KV line through a public recreation area includes a narrow access road with small trees and shrubs saved.

small quantities of hydrocarbons to the atmosphere. Native brush yields about 6.7 pounds per ton burned, fruit prunings yield about 13.9 pounds per ton, and barley straw yields about 18.2 pounds per ton. In contrast, gasoline yields about 130.0 pounds per ton.

The fact that the conspicuous open burning of brush is by far less hazardous than the automobile caused pollution is of little consequence to the objectors of open burning because the smoke caused by brush fires can be easily seen.

The leaving of the brush along the right-of-way has the advantage of providing a habitat for small game, however, large piles of brush are unsightly and do provide some concern as a potential fire hazard.

The chipping of the brush has been limited primarily to the areas along the travelled ways where trailer mounted chippers can dispose of limbs up to about 4 inches in diameter. Larger chippers have been developed that can handle trees of a foot or more in diameter. These larger machines are not too adaptable to rights-of-way disposal.

Our program for control of the woody vegetation along the rights-of-way varies in accordance with needs and regulatory requirements. The use of chemical herbicides is

strictly controlled and limited to selective applications. Herbicide treatment is part of the initial clearing and is done either prior to cutting, or by treating the cut stumps, or (if conditions do not permit either of these) after the first or second growing season when the sprouted unwanted vegetation is treated with a basal application during the dormant season, if practicable. Selective methods of control results in the minimum use of herbicides. Re-applications in later years are less frequent and the amount of herbicide used per application is less as the rights-of-way become filled in with desirable species that are not sprayed but left to grow and mature. These methods avoid objectionable brown out when used during the dormant seasons.

In public supply watershed areas of both Connecticut and Massachusetts, "Ammate X-NI" is presently approved by the states as the herbicide to use. This requires a waterborne application during the growing season which unfortunately does produce visual brown-out, and greatly reduces selectivity.

The concern with the use of herbicides has been magnified by the news media. Extensive research and long years of actual application of these chemicals, without any

documented hazardous effects seemingly has not convinced the public that this is a safe and beneficial method of control. The increase in productivity of farm crop lands and range or pasture lands has been achieved largely through the use of those chemicals that eradicate the undesirable herbaceous and woody weeds. Unless a person is directly involved with land use, it is most difficult to appreciate the benefits the whole population has enjoyed through the use of these chemicals.

NU, seriously concerned with our vegetation control program, solicited the services of an independent consultant to thoroughly review our practices. This consultant, the "Center for the Environment and Man, Incorporated," has completed its study and made its report. It confirms that the methods of control used are safe and in accordance with the regulatory requirements. The consultant investigated our practices in the field and discussed them with leading herbicide authorities. The report is available for public review, and has been widely disseminated since its introduction last December.

The investor owned utilities through their organization, The Edison Electric Institute, has initiated a research project RP-103, "Environmental Effects of Herbicides."

The project is a continuation of several research efforts that have been conducted in the past. The research effort will be applied to soil ecology and the persistence of chemicals when applied in the rights-of-way. It will provide continuous monitoring of this important method of control.

It has been said that a problem recognized is a problem solved. Surely the problems of our environment are being fully recognized. Our needs for industrial expansion were recognized and it appears now that we put on blinders to overlook the side effects, thus creating many of the pollution problems we have today. Let us not again put on blinders and attack the pollution problems as an independent item. We must establish priorities for methodical solutions, and we must consider interrelationships in the total picture.

Communication is the basic requirement for effective preservation of a healthy environment. The most difficult job ahead will be keeping the public informed of the facts and influencing sound decisions based on those facts. This will not be an easy task, but it is in good, capable hands.