

ALABAMA POWER COMPANY MECHANICAL R/W RECLEARING PROGRAM¹

by J.B. Gibbs

First let me outline some basic facts about Alabama Power Company. At present we have some 7,869 structure miles of transmission lines traversing most of the state. On these transmission line rights-of-way there are in excess of 40,000 acres of brush that must be maintained at a level low enough to ensure reliable electric service to our customers. Transmission outages caused by high brush are not only expensive, but preventable under a well-planned program of brush control.

In order to understand the complexity of the brush control problems in Alabama, you should be aware of the unique conditions that exist not only in our state but throughout the South.

The rate of growth of the weeds, vines, and trees is the principal factor in determining the length of our cutting cycle. This rate of growth can only be described as phenomenal. Kudzu and honeysuckle vines multiply and spread so rapidly that they are a constant threat to our facilities all over the state. Cottonwoods, willows, maples, tulip poplars, and chinaberrys are the fastest growing species of trees we have, and unless some type of herbicide is used periodically to control them, they will dictate the cutting cycle for us.

The terrain is quite diversified from the bottomless swamps just north of Mobile to the foothills of the Appalachians between Birmingham and Anniston.

Basically our overall right-of-way brush control program employs the use of both mechanical and chemical methods of control. The two are so closely interrelated that one cannot be discussed without mentioning the other. Our re-clearing of transmission line rights-of-way is done entirely on a contract basis utilizing both

bid and cost plus work. Reclearing includes both the felling of "danger trees" adjacent to the right-of-way and the cutting of the woody growth on the right-of-way.

The principal equipment utilized by our contractors to re-clear the right-of-way is as follows:

1. Ford 5000 tractor or its equivalent with a 6' heavy duty Marvel cutter.
2. DC-4 series dozer or its equivalent with a shear blade.
3. Hydro Ax (limited use)
4. All necessary trucks to haul men and equipment.
5. And finally the necessary chain saws.

The cost plus right-of-way re-clearing crews generally have two units—one for mowing and the other for felling danger trees. The mowing unit cuts every possible brush acre with their machines, at the same time recording all areas that must be skipped because of swampy conditions, rough, rocky, or extremely steep terrain, and inaccessible sections. Every effort is made to keep the amount of hand cutting to a minimum, by applying herbicide, preferably by helicopter, to as many of the skipped areas as possible. The remaining brush acres must be felled by chain saws and brush hooks. The danger tree cutting unit is responsible for felling all danger trees adjacent to the rights-of-way. Cost plus work is preferred by most of the contractors because it enables them to stabilize their operation and offer year-round employment. Some re-clearing work is also awarded on a bid basis. However, because this operation is quite often marginal in nature, competent, qualified contractors who will submit bids on re-clearing rights-of-way are a scarce commodity.

1. Presented at the 50th International Shade Tree Conference in Atlanta, Georgia in August, 1974.

Some of the principal problems in keeping the costs of reclearing the right-of-way down are rapidly rising cost of labor and equipment, difficulty in finding reliable labor sources, frequent turnovers in personnel, and equipment breakdowns.

The inflationary rising costs of labor and equipment is a problem everyone is faced with and there seems to be no end to it. Maintenance budgets must keep pace with this rise or you run the risk of losing a brush control program, and slip back into simply "putting out fires" when and where they occur.

All contractors have expressed their frustration in locating reliable labor sources. When the contractor is unable to hire labor that he can depend on to be on the job each day and give a full day's work for a day's pay, then he must either pull out or work substandard labor resulting in a substandard job. The hiring of this substandard labor also often results in frequent turnovers and the constant retraining of new men to operate machinery is costly to both APCo and the contractor. Another contributing factor to frequent labor turnovers is extensive out-of-town travel. Equivalent paying jobs with less travel are too readily available.

Equipment breakdowns are a real deterrent to reclearing R/W economically. By its very nature, R/W reclearing is an expensive undertaking and requires the movement of men and equipment for long distances over an endless

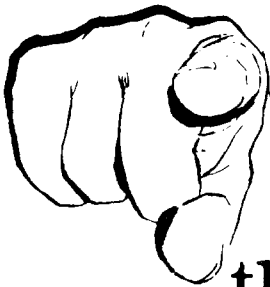
variety of terrain. The most frequent breakdowns that occur on the rubber-tired tractors are: flat tires, seals breaking on brush cutter, drive shafts shearing both on cutter and PTO on tractors, the back wheel on the brush cutter breaking off, and radiators becoming clogged with dust and debris, causing the motor to run hot.

In order to minimize the above breakdown problems, the following improvements have been made by our contractors:

1. Using steel belted tires on some tractors having frequent flat tires to virtually eliminate them.
2. The addition of an air compressor on those crews which have tractors running excessively hot. The compressor has saved as much as 10-12 hours of productive time per week, and it extends the life of the tractors by keeping the radiators free of debris and providing air for flat tires.
3. Policing the R/W each time it is cut, removing scrap metal, concrete blocks and other debris to prevent further damage to the drive shafts and the seals underneath the cutter.
4. Welding skids on the brush cutter to replace the back wheel.

We realize that there are many improvements that need to be made; however, we have come a long way from the days of hand-cutting right-of-way.

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