

WORK MEASUREMENT SYSTEM¹

by Edward L. Cunningham

The three operating companies under General Public Utilities (GPU) -- Metropolitan Edison (Meted), Reading, PA; Pennsylvania Electric (Pennelec), Johnstown, PA; Jersey Central Power & Light (JCP&L), Morristown, NJ -- jointly developed and use a record-keeping program known as the GPU Forestry Report. The program was developed approximately fourteen years ago. The type of information gathered and the method reported is standard throughout the GPU system. With uniform, standard information, valid comparisons can be made within each operating company and between them system wide.

Key is a uniform time sheet which is standard throughout all operating companies for all contractors. All coded information used on the time sheet is shared, i.e. contractor I.D. codes, accounting information, equipment description, etc.

The type of information gathered on the time sheet includes week ending date, location code (Division), crew foreman name and code, equipment used and hours, crew members working and labor hours and work completed (trees trimmed, trees removed, acres cut/sprayed, and mile accomplished). This information is coded as firm price or time and material and is also captured as maintenance or capital. Hours lost to inclement weather are captured as is miscellaneous work hours spent on non-circuit type work (landscape related, special projects, etc.). The time sheets are checked weekly by the Division foresters, and formal audits are conducted by the general office staff throughout the year to check accuracy and compliancy with clearance guidelines as well as adherence to established policies and procedures. The time sheets are completed on a weekly basis.

The information on the time sheet is summarized by the various contractors into a contractor summary report. From this document, input is made to the main frame computer via one of

several methods: direct on screen input by the utility; direct input from contractor supplied tape/disc; keypunching of input by vendor who then supplies tape/disc. Input can be made directly from the time sheet, but at the present time, most time sheet information is transcribed to an input document by the contractor for data entry by one of the means previously mentioned. The method used varies from company to company.

The reports generated vary, and the selection has been increased over the years as specific needs arose. Reports are broken down into the primary work functions: distribution and transmission, maintenance and capital work, landscape maintenance, substation weed control. The reports vary from highly detailed to summary type. They are available for circuit historical analysis and contractor performance. The reports are on a division basis with company summaries. Report time frame covers a calendar month as the shortest period available. They can also be requested by any combination of months desired.

Productivity measures include cost per mile (the main productivity measure), cost per tree trimmed, cost per tree removed, cost per acre (mowed/sprayed), and manhours per mile, trees trimmed, trees removed and acres maintained.

Certain historical reports are only generated annually to develop year-end reports. Others are used on a monthly basis to track progress and monitor crew productivity.

Due to the age of our programs, there are several deficiencies. The program is written in an outdated format and language. Changes in the program are very costly and slow to be completed, and there are certain changes which cannot be accomplished. The program was developed as a record keeping tool and to monitor production when the majority of our work was completed on an hourly basis. Today most of our work is done

1. U.A.A. Panel Discussion presented at the 67th Annual Conference in Philadelphia, PA. August 14, 1991.

via firm price which does not fit the program very well. The major drawback is that of monitoring expenses against budget. The program was never designed to be a budget tracking tool; therefore, its use in accurately monitoring expenses on a monthly basis in a timely fashion is lacking. Another problem for JCP&L is in the input of data. The present method is to have contractors forward input documents, verify them, and then have an outside vendor input data to disc.

This process is time-consuming and expensive, causes time delays in providing reports (information on report of no value to field when they finally get it);

and due to passing data through so many hands, accuracy suffers greatly.

To overcome these shortfalls, PC programs have been developed and purchased to fill in the gaps of the main frame program until a new system can be implemented.

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