

Activities of an Electric Company Real Estate Division

by Howard G. Loflin

RIGHT OF WAY magazine is featuring the Utilities Industry in its June 1983 issue. "Activities of an Electric Company Real Estate Division" is a preview of this very special issue. If you wish to contribute to the Utility Industry issue final manuscripts must be submitted before January 15, 1983.

Over a period of years, as times change and rules and regulations become more sophisticated and complex, the Real Estate Division along with many other Departments within the Company have found it necessary, as a part of its role in meeting responsibilities involving the Company's Operations, to become involved in various unique activities not previously encountered in its normal day-to-day operations. It has been the experience of the Real Estate Division that this potpourri of unusual activities, often times of a critical nature, requires flexibility, diversification and vision in order to guarantee the full potential of success as an end result. It is several of these unique activities which I would like to focus on.

1. Conowingo Re-Licensing

The first topic involves our surveying function as it relates to the Re-Survey of the Conowingo Project required by the Federal Energy Regulatory Commission in accordance with the provisions of the License for Conowingo Project 405 issued August 14, 1980. The License requires the Company to make a thorough study regarding the relation-

ship of over 600 cottage sites and recreational areas to both the design flood line and the 100 year flood line. We are also required to develop a new project boundary, by metes and bounds, to be set 5 feet above the design flood line. This is a mammoth undertaking, considering the size of the project, the terrain and the poor accessibility of much of the project. No existing mapping is available which is accurate enough to meet these requirements, and the locations of cottage sites are known only approximately at best.

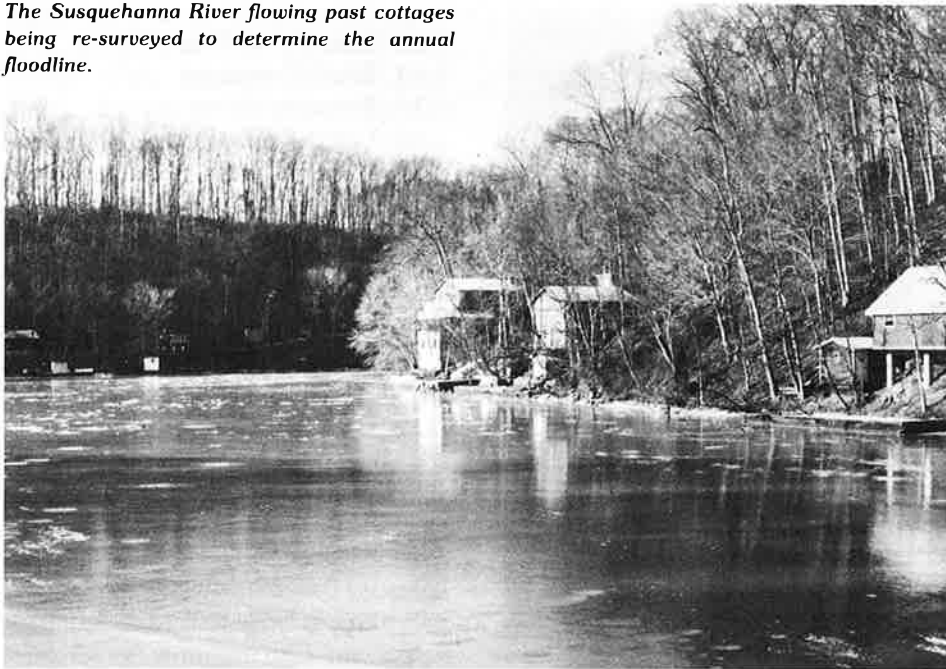
To locate the cottages, recreation areas and flood lines by conventional survey methods, would require over two years of work and almost half a million dollars. Experience gained in a Regional Mapping and Land Records project at Norristown Pennsylvania in which Philadelphia Electric Company was involved, along with others, convinced us that photogrammetric methodology would not only be more accurate but also more economical. The one drawback would be the necessity of surveying the many points required to control the photography which could be extremely time consuming and expensive in terrain such as exists within this area. However, in recent years a new surveying technology has been developed, whereby inertial guidance systems utilized in nuclear submarines are mounted in vehicles and helicopters. Using this methodology, the vehicle is driven from point to point and stopped over each point, where the device computes x-y coordinates and elevation. The Conowingo Project re-survey appeared to be a perfect test for this



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Currently Loflin is Education Chairman of Pennsylvania Chapter 9. He also has chaired the Land and Land Rights Committee of the Pennsylvania Electric Association.

The Susquehanna River flowing past cottages being re-surveyed to determine the annual floodline.



new system due to its sheer magnitude. Over 100 control points would have to be established in an area of over 200 square miles. Utilizing this new inertial system, the necessary information was obtained in only three days, the majority of which was well within accuracy requirements. For that data which did not meet the requirements, a mathematical method of correction was developed. The method worked, for we have since been told that the information supplied to the photogrammetric contractor was among the most accurate which they had ever worked with.

A savings of approximately \$100,000 was realized by using the new inertial surveying methodology as opposed to performing the photogrammetric control portion of the work by conventional methods, which also would have added 200 days to the time required to complete this phase of the work.

To date, the photogrammetric



Pictured is the Inertial Guidance System and the control point determined for each area surveyed.

ground control, aerial photography, geodetic survey and analytics have been completed on schedule. The new computerized mapping is being performed and new project plans are expected to be completed on schedule.

2. Forest Management Program

We have an ongoing Forest Management Program in the Conowingo Basin area which was initiated in the Spring of 1976. A study of our license for the Conowingo Hydroelectric Project issued by the Federal Government affecting property along the Susquehanna River indicated that prudent management of our forest land was acceptable. Four pilot areas were selected by our property agent with the guidance of a Forester from the Maryland Forestry Department. These four sites were located on the West bank of the Susquehanna River between the Conowingo Hydroelectric Dam in Maryland and the Peach Bottom Nuclear Generating Station in Pennsylvania. In addition to the four pilot areas, there are several thousand additional acres of timber within our Conowingo Project area from which we would average approxi-

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