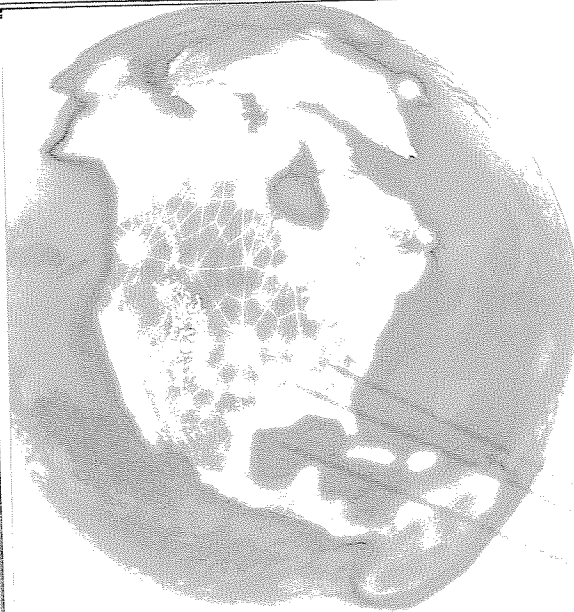




Alabama Power Case Study

By Phillip Miles

MANAGEMENT OF RIGHT OF WAY ASSET INFORMATION REQUIRES A COMPUTER-BASED SYSTEM TO OPTIMALLY DELIVER CORRECT BUSINESS FUNCTIONALITY. A FOLLOW-UP TO "HOW TO BUILD A WORLD-CLASS SOLUTION," PUBLISHED IN THE JANUARY/FEBRUARY 2001 ISSUE OF RIGHT OF WAY MAGAZINE, AUTHOR PHILLIP MILES REVISITS THE ALABAMA POWER COMPANY'S DATA ENGINEERING CHALLENGES, AND TAKES A CLOSER LOOK AT HOW THE SOFTWARE PRISM HELPED THEM OVERCOME, SUPPORT AND EFFECTIVELY MANAGE COMPLEX INFORMATION SUCH AS RIGHT OF WAY ASSETS.



One of the biggest challenges right of way professionals face is researching and retrieving information related to property. Whether it is finding the grantor, examining the engineering sketch or plat map, or locating where inside a set of Section-Township-Range coordinates a piece of land resides, the challenge of locating information can be one of the most time-consuming tasks right of way professionals face. Alabama Power Company's previous attempts to use technology to give them the means to locate this type of information were not satisfactory. The inability to quickly and accurately retrieve property information was not acceptable for APCO and forced the utility to rethink how they were archiving data, but more importantly, how they should retrieve this information.

Today APCO owns 22 generation plants and over 75,000 miles of power lines delivering electricity to 1.3 million customers over 44,500 square miles of territory. During the last decade APCO has experienced tremendous growth in conjunction with the growth of the state. Alabama's population grew over 10 percent during the last decade, which ranks it in the top half of the country. This growth, along with factors like deregulation, competition, and the gradual change from an agricultural based economy to one based on manufacturing and service has given APCO many new challenges.

The real estate department has also experienced a new set of challenges, which range from acquisition to construction issues. New transmission and distribution lines were being built everyday and yet the utility was struggling to manage information about where they had rights and ownership. Inefficiency impacted new construction and exposed APCO to legal issues over property rights, which then forced APCO to examine how the records relating to their real estate were being stored, but more importantly how this information was being retrieved and distributed.

For most of the 1990s several attempts had been made to use technology to store property information. Various departments used several systems, but no one system allowed everyone to research property information. Each department had important information; however, very little of the relevant property information was shared due to the lack in communication and system integration. At one point APCO had multiple systems storing property information and it was not clear where one would go to get the correct information. More importantly, APCO was making a fundamental mistake that would take nearly ten years to correct.

THE PROBLEM

APCO had to reexamine how the company's information was stored. Although APCO officials were concerned about identifying the right system that would allow the company to input information, no one focused on how the information would be retrieved. In November 1997, APCO had no central place where an employee could go to do research, with several different repositories located throughout the company. There was no unified way to retrieve property information. APCO needed the real estate and right of way information to reside in a central repository or library, not hidden away in a vault so that an employee can search and retrieve documents quickly and easily. Substantial resources were spent on data conversion efforts that resulted in a number of dissatisfied users.

The question then becomes why, after all of this money and effort, did APCO decide to take one more attempt at solving this problem? The answer lies in the simple fact that the information needed to allow relevant employees, especially the field engineers, to perform their job was not adequate. As mentioned earlier there were consequences to not solving this problem of information retrieval. Issues such as legal property rights, transmission line sighting and construction and plant construction were either being slowed or halted because of a lack of information. These issues had significant financial implications.

The real estate team took a step back and asked a very basic question, Who is the consumer of our data? By truly understanding the answer, it would provide some clues as to how the system should perform. If the answer was "Transmission," that meant the system must have certain functionality. If the answer was "Acquisition," it meant different functionality.

THE VISION

With the advancement of technology, a vision for the real estate function was being developed, which involved the integration between real estate data and Geographic Information System (GIS) tools. Corporate Real Estate (CRE) envisioned a system where a user across the company could access a map of the service territory and on any point on the map drill down to a scanned image of the actual signed document conveying rights. This capability requires a solid foundation of real estate data integrated with a functioning GIS system.

At this point, APCO decided to partner with Computer Technology Solutions (CTS) of Birmingham, Ala., to gather requirements, design the solution and build a state-of-the-art system to manage property rights.



In November 1997, CTS began their quest to determine the consumer of APCO's real estate data. Over 100 employees from all departments were interviewed and soon CTS realized that the whole company needed access to the data, and have the ability to rapidly and easily retrieve and disseminate associated permit and deed documents. What resulted was the Property Record Information System Manager (PRISM), a right of way asset management system that allowed APCO to develop and maintain an accurate, centralized record of their property rights and holdings.

APCO made several demands on functionality at the beginning and not surprisingly these demands took into account data retrieval as its most important feature. APCO wanted a query engine that would reside on the company Intranet and be available to anyone with access to the domain. This engine had to be intuitive so that the user did not have to be a real estate professional to gain benefit from it. This requirement resulted in a clean, simple interface. Other desired functionality included retrieval of documents in less than 20 seconds, one repository for all real estate data and rapid entry of all new documents.

APCO was determined to give everyone inside the company access to its real estate information. This meant that right of way agents in the transmission department or engineers did not have to ask someone in the records department to search for a document and wait for the information they needed to know now. This kind of open access to information required a change in the corporate culture, and these concerns were addressed so that efforts to move PRISM's development were not impeded. APCO had to work very hard with all stakeholders to make them understand the vision that had been created.

Throughout 1998-2000 CTS built and implemented PRISM. There are three main data entry modules covering distribution, transmission and fee property. The most important feature is the query engine, which was designed in accordance with the information provided to CTS during the requirements phase. This query engine allows a user to build a query using one of over 1,000 attributes.

Once APCO was happy (or satisfied) with the functionality of the system, CTS still had two large tasks to achieve in order to complete APCO's "vision," as mentioned earlier. The first task involved the conversion of all historical real estate data; and the second task required integration with the company's GIS system. APCO wanted the historical data converted first because it would provide the foundation for the rest of the system.

"The power of PRISM is the availability of information to all the users," says IRWA member Vince Petix, who serves as manager of GIS and Land Research for APCO. "We had to reap the benefits of our investment and we could only reach that goal by quickly converting the 1.5 million plus documents."

DATA CONVERSION

Data conversion can be a very messy business. Several factors can make the endeavor a failure: poor scanning quality, inaccurate data entry, no quality control checks on the data entry, lack of oversight and management, and a lack of funds to finish the task. However what most companies fail to see is that data conversion is a people problem. Relevant data to one person may not be to another. There must be a consensus from all stakeholders that relevant data needs to be captured and entered. (Remember APCO's most important goal for PRISM was the retrieval of data so what got entered into the system was very important.)

Until October of 2001 APCO had been using student interns and contract labor to sort through historical documents, enter data into the system and then have the documents scanned. PRISM would take care of associating the information to the scanned image. The quality of their work was outstanding with a very high accuracy rate. The only downside was the speed with which the conversion was moving. In one year the students had entered only 250,000 documents. At this pace it would take nearly eight years to enter all of the historical information, approximately 1.5 million documents dating back to the early 1900s. APCO again asked CTS to assist them and help speed up the data conversion. The sooner the data was entered, the faster APCO could begin to see a return of their investment.

In an effort to keep the conversion costs as low as possible, CTS wanted to use data entry companies overseas, specifically India. The quality of the work being done in India is as high as any firm in the U.S., but at one-third of the cost. APCO supported this decision fully and sent CTS to interview companies in India. Because the documents were not allowed to leave the building, CTS was also responsible for finding a scanning company that would come on-site at APCO and scan the remaining documents. Once CTS and APCO were comfortable with the parties involved, CTS mapped out the process for conversion. Documents would be scanned on-site, the images burned onto a CD and sent to India, data entry completed in India, and the data sent back to APCO where it would be imported into PRISM. Finally CTS and APCO wanted to start small by running a 50,000- document pilot before tackling the remaining documents. The conversion



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effort would not move forward until the pilot was completed.

The first 50,000 documents were converted in January of 2002 with a quality of 95 percent, and APCO was pleased with the results.

"CTS has worked very closely with us and has understood our concerns and issues in a very complex project," says Petix. "Their strength has been the ability to work more as a partner than a contractor."

The remaining documents will be converted by April. The total length of the project will be seven months and when finished, nearly 1.5 million historical real estate documents will be loaded into the PRISM system.

The second phase of the PRISM project, integration with the GIS system, will also begin this year. APCO uses ESRI tools and along with CTS has done some proof of concept testing where a map of the Transmission system has been linked to a transmission line permit conveying rights. The test has gone well and APCO has a goal of full integration by the end of 2002.

"The integration of PRISM and GIS will provide the first comprehensive tool for managing land assets related to our electric facilities," says Petix. "This is a major advantage to APCO in remaining competitive in a changing regulatory environment."

PRISM'S IMPACT: DIRECT vs. INDIRECT SAVINGS

How does APCO plan to get a return on their investment? There are several areas where a fully operational PRISM system will help save money. These savings can come in both direct and indirect forms. The most direct savings will come in the form of staff redeployment. These reductions redeployment will occur at corporate headquarters in Birmingham in addition to division and district offices. Other direct savings include reduced liability and legal expenses, reduced storage space and improved customer service.

The hardest savings to quantify are the indirect savings, although they are clearly visible. For example, a fully operational PRISM will help APCO construct a new transmission line faster by identifying where the utility already has rights before construction begins and allow real estate acquisition to be more focused in their efforts. This means that the line gets completed faster than it would have even three years ago. The cost savings for APCO are in the future and hard to quantify yet understandable.

Glenn Metts, Manager of Acquisition and Appraisal for APCO, was instrumental in helping design the functionality of PRISM.

"PRISM is a tremendous tool that allows for input, storage and query of real estate assets in an electronic format providing efficiencies in the construction, operation and maintenance of our electrical system," says Metts, who is also an IRWA member. "Additional benefits will be realized as the data conversion to our GIS land base is completed. This GIS layer will provide a geographical link between all of our land assets and our electrical system."

These efficiencies (cost savings) include but are not limited to: 1) generation of up to date reports for job tracking purposes; 2) more efficient use of manpower in the input of data; 3) reduced manpower requirements for data research in the Information Center; and 4) time savings in receiving accurate, historical data of land assets from any location with intranet access, says Metts.

APCO is seeing the fruits of their labor. The vision that was first articulated in 1997 will be completely realized in 2002. PRISM will help APCO be more efficient and more competitive in a fast moving and changing industry.

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