



JEA Saves Money, Improves Efficiency and Increases Revenues with Electronic Forms Solution

By Mark Brousseau

In the past, JEA deployed meter readers to conduct monthly manual reads of electric and water meters and to perform a monthly inspection of each meter in the system.

Recently, the company implemented an Automated Meter Reading (AMR) system to increase overall meter reading efficiency. However, reduced physical “eyes on” inspection of meters is a consequence of the new technology. The challenge was to establish a formal, reliable system of validating and inspecting over 700,000 meters within current budgetary and manpower constraints – and without disrupting the utility’s current daily operations, procedures and processes.

JEA’s success in this initiative earned the utility a TAWPI Innovation Award during a ceremony at the TAWPI 2009 Forum & Expo in Washington, D.C.

The Solution

JEA implemented technology involving the integration of multiple devices and systems – old and new – through an “in-house” developed software application. JEA decided to develop its own solution after a thorough departmental analysis of the business problem and potential solutions.

The application provides various forms to support unique database entries, information screens, and report displays. The electronic forms are designed to provide easy, rapid and accurate data entry utilizing a handheld PDA, Microsoft Access, and data sources ranging from GIS to GPS to manual entries from field technicians. The application also allows for collected field data to be exported to a Microsoft Access database and downloaded to numerous business owners. The development of the process to support dissemination of the information was built upon consolidated and enhanced existing processes between at least four different business owners.

The Results

JEA’s principle objective of this project was to implement a biennial meter validation and inventory program. So far, the results have met or exceeded expectations.

A dedicated, robust training program brought field technicians up to speed quickly on the use of the “E-Forms” on the PDAs. This resulted in data gathering from an average of 550 meters per man-day. The E-forms are key to the extremely high data entry rates each day; the error rate for incorrect data entries has been negligible, JEA reports. What’s more, the enormous volume of data has been used to effectively update the utility’s GIS database and validate the condition of the meter assets in the field.



Left to right: Doug Hartsema, TAWPI Board Member, Document Management award winner Donald Nasby – JEA and Eric Weiheimer from The Cara Program

The timeliness of gathering and disseminating the data was drastically improved by the initiative. The application allows business owners to make specific data collection requests, which can be used by all stakeholders.

In addition, the quality of data was improved by a process that enabled field technicians to enter data into the system on-site, to explain important observations.



Finally, the instantaneous availability of data for review, analysis and trending allows for ready access by all external stakeholders and minimizes the need to conduct multiple field trips. The accuracy of the initial data being displayed on the PDA combined with the easy to use “E-form” on the PDA has resulted in a tremendous volume of data (has high as 750 meters per technician/day) and very accurate and valuable metrics being collected. Similarly, the synchronization of back-office applications used to transfer and manage the large numbers of records (between 100,000 and 180,000 every day) is critical. JEA says the use of Microsoft Access database has been instrumental in maintaining the input, output and history tables being updated on a daily basis.

The Benefits

- Cost savings of \$80,000 over the first two months
- Improved efficiency and productivity
- Increased revenue
- Improved meter inventory
- Decrease in theft and tampering
- Substantial improvement in quality

The Future

The solution implemented by JEA will surely enable further improvements in the future.

There are strong indications that the revenue increases that JEA has seen as a result of implementing its electronic forms solution will increase, along with the company’s ability to identify tampering and theft. The GPS coordinate data that is being collected on every single meter is also being made available to not only the GIS department within the company but is also being made available to “Fire and Rescue” departments within the city for use during an emergency.

In addition, the “meter validation and inspection program” is being considered for application in other operational areas within the utility as the tool of choice for conducting inventory of large scale area assets such as streetlights, stop lights, etc. And customer needs are being met as the utility uses data from its E-Forms initiative to address those meters which are unsafe, damaged or giving incorrect readings.

It’s for these reasons that JEA earned a TAWPI Innovation Award.



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