



CASE STUDY



Broward County, Florida

Client:

Environmental Protection Department,
Broward County, Florida

Business Challenge:

Creation of a new Mobile Inspection and Monitoring System for environmental regulation and enforcement

Solution:

POSSE, POSSE Mobile PC

Industry:

Public Sector – County Government

POSSE has exceeded expectations by becoming the standard for other licensing and permitting programs throughout EPD and at other Broward County Departments.

Summary

Broward County (pop. 1.8 million) is the second largest county in Florida. The Pollution Prevention and Remediation Division (PPRD) of the County's Environmental Protection Department (EPD) has regulatory oversight of nine diverse programs covering approximately 7,000 facilities, ranging from underground storage tanks to solid waste facilities. A fundamental element of work for all the programs is field inspections.

Prior to implementing POSSE in 2001, inspectors would record inspection results on paper forms, take film photographs, and draw diagrams. Returning to the office, the film would be sent out for developing, the inspection results re-keyed into the computer using a non-intuitive AS400 "green screen" database interface, and finally all paper records filed in a central filing room.

Broward County replaced its paper-based environmental inspection process with an e-Inspection process using POSSE. Field inspections are now automatically scheduled and completed using electronic media, mobile and home-based offices, and the inspection database electronically populated in near real-time and made available to all EPD staff.

Project Goals

The Broward County Board of County Commissioners required the improvement of County services through e-initiatives. With this mandate, PPRD established goals for the Mobile Inspection and Monitoring System to:

1. Improve the quality of product delivered to the customer – comprehensive, complete reports.
2. Improve the efficiency of PPRD's inspections, completing more inspections with greater quality and consistency; eliminate inspector travel to and from the office, and eliminate film development and hand data re-entry.
3. Improve the quality and availability of inspection information.
4. Improve inspection monitoring and enforcement.
5. Encourage staff to develop personal computer skills.

Methodology

EPD chose to limit the initial POSSE project scope to two of PPRD's programs. Using the POSSE configuration tool, the workflow of both programs was configured to include one inspection process. Computronix personnel completed this initial configuration concurrently as key EPD staff received training on the POSSE client and Mobile applications, configuration, and report writing.

PPRD staff then began fully configuring the inspection processes to be used in the field by inspectors using POSSE Mobile PC. Configuration work included development of all possible deficiencies of Broward County's regulatory code using check boxes or other data collection fields and tabs. Functionality included text fields for comments; ability to create inventories of all hazardous materials at facilities being inspected; saving completed inspection reports as PDFs; digital signature capture using touch-screen technology integrated into final report

Inspectors were also trained on POSSE Mobile PC and hardware. In general, PPRD inspectors had limited computer experience. For a period of six months, inspectors only accessed their schedules off POSSE Mobile PC, to become familiar with hardware, software and the synchronization process without impacting work loads.

After this initiation period, the inspection process was fully configured and inspectors were required to stop all paper-based inspections and complete all inspections electronically using POSSE Mobile PC. Photographs are taken with digital cameras and imported onto the inspection process. Site diagrams are completed in PowerPoint and imported onto the inspection process. Upon completion of the inspection, inspectors generate an inspection report in PDF format, which is printed and given to the customer. If required, inspectors can automatically schedule a follow up inspection.

At the end of the day, inspectors return home and synchronize with the EPD POSSE database using DSL connections. Once synchronized, all EPD staff have access to inspection results, including a copy of the inspection results provided to the customer.

Once the first version of POSSE was configured, data conversion from the legacy system to POSSE was completed. The initial e-inspection programs went live approximately one year after Computronix was awarded the bid.



Success Factors

Technology Benefits

The configurability and flexibility of POSSE enables data pertinent to individual inspections and inspectors to be downloaded to the inspector's laptop computer. Downloads can be full or incremental, with incremental downloads reducing synchronization time. Through secure VPN connections to the POSSE database, inspectors complete work from home, which benefits EPD and the inspector.

Benefits to the inspector include:

1. Eliminates travel time to and from the office;
2. Work independently.

Benefits to EPD include:

1. Eliminates EPD provision of County office space – vehicle is inspector's office;
2. Reduced mileage on County vehicles;
3. Inspections results can be viewed concurrently by all POSSE users;
4. The rapid application development capabilities of POSSE and its use of integrated reports to include photos and various file formats allowed the mobile inspection team manager to create custom inspections;
5. Inspection jobs are automatically generated, assigned and tracked based on procedures created by management staff;
6. Found deficiencies automatically trigger a field enforcement notice, reducing rework and staff time back in the office.

Stakeholder Benefits

Public:

Customers now receive inspection results in a legible, professional format and the public can access inspection results on-line.

Inspectors:

Inspectors now have only one inspection form that has been configured to facilitate ease of

completion, regardless the type of inspection they are completing. All pertinent regulatory cites for a given regulatory deficiency are related to that deficiency, assisting the inspector in identifying the specific regulatory language supporting a given deficiency.

EPD Office Staff:

EPD staff can now access all inspection results, history, status, photographs and diagrams from their desktops, no longer making requests to the file room and waiting until files are pulled. EPD staff, regardless what program they may belong to, can communicate alerts and other information to inspection staff via the inspection process.

Management:

Management has immediate and easy access to knowledge-based reports drawn directly from the inspection database with data no more than 24 hours old. Management can easily assign inspections from their desktops, communicating those reassignments to field staff each time the staff synchronizes their laptops.

Project Success

The project has achieved its original goal of handling mobile inspections integrated with a licensing and enforcement program. Further it has exceeded expectations by becoming the standard for other licensing and permitting programs throughout EPD and at other Broward County Departments. Its success is also demonstrated by the Broward County Board of County Commissioners declaring POSSE its enterprise solution for inspection, licensing, and permitting software within the County — a significant designation in the public sector world.

Plans for the future include converting the remainder of EPD inspectors to the mobile inspection program with inspections configuring to meet their programs' specific needs, use of wireless connectivity to replace the inspectors DSL connections, and finally the integration of GIS with POSSE

Source: Broward County EPD's award-winning Computerworld Honors Award 2005 submission.

Project Results

1. Average quality of inspections has increased from 50 per cent error free rate to 92 per cent error free rate.
2. Average quantity of inspections has increased from 2.5 inspections per inspector per day to 2.9.
3. Customers receive a professionally formatted and legible inspection document.
4. The public can view a facility's inspection history over the Web.
5. Multiple, static paper-based inspection forms have been replaced with one electronic, easily configurable inspection form.
6. Management staff can now access management and executive reports built on almost real time data (less than 24 hours old).
7. Desired changes in the inspection form format can be implemented immediately among all inspectors.
8. Alerts can be issued to all inspectors and prominently displayed on the inspection process to facility resolution of specific performance or field problems.
9. Inspection processes can be configured with mandatory fields (the inspection process cannot be completed until the field is completed), assisting in collection of specific information and helping to remind inspectors of specific inspection related tasks to be completed while in the field.
10. Inspections are now configured into the Licensing workflow, allowing all EPD staff to easily view the inspection status of any facility and to drill down to the actual inspection report handed out on-site if so desired.
11. Within the boundaries of the initial implementation at EPD, all paper-based inspections have been eliminated.
12. Film photography eliminated.
13. To date, at least three other Broward County Departments have adopted POSSE realizing significant improvement in communication between these Departments and their field staff.
14. Electronic documents, such as regulatory information, brochures, etc., have replaced paper documents.
15. All field staff have developed a considerable PC skill set.



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