ELECTRONIC SANITARY SURVEY PROJECT BULLETIN

DRINKING WATER ACADEMY — DWA

BENEFITS OF ELECTRONIC SURVEYS INCLUDE:

Standardizing the sanitary survey format to provide greater consistency

Increasing the efficiency of survey inspectors

Making survey data more accessible to drinking water managers

Providing the ability to analyze survey data much more quickly

ABOUT THE ELECTRONIC SANITARY SURVEY PROJECT

For the last five months, the Drinking Water Academy has been building on work pioneered by the State of Idaho's Drinking Water Program to develop an electronic version of the sanitary survey. A set of questions incorporating the eight elements of a sanitary survey has been integrated into software for personal digital assistants (PDAs); inspectors will be able to use PDAs to gather and record survey data, and states will be able to tailor the question set to suit their specific needs. Use of PDAs makes it easier to store and analyze gathered information.

There are three major steps to the electronic sanitary survey process:

1. The inspector uses the sanitary survey software on the PDA to gather and record data as he or she conducts the survey.

2. When the survey is complete, the inspector downloads the data to an Access database on a desktop computer.

3. A report-writing mechanism generates reports from the database.

The sanitary survey plays a critical role as the first line of defense in protecting public water systems and public health; the electronic version will support this role by providing states with a better understanding of the conditions of the systems they regulate and offering a number of additional benefits, as outlined at left.

PHASE ONE: AS REGION 1 GOES, SO GOES THE NATION...

An initial pilot of the electronic sanitary survey took place during the beginning of June. Four out of six states from EPA Region 1 New England participated. Representatives from Maine, New Hampshire, Vermont, and Rhode Island worked with the Drinking Water Academy and its contractors to iron out some of the initial software hurdles uncovered during the pilot project. The experience was highly positive and generated a great deal of useful feedback which has since been incorporated into the system.

Training on the first phase of the PDA software is slated for the first week of September and will involve all of the states from Region 1.

Software is expected to be available nationally by fall 2003. A strategy for national rollout of the software is currently being developed.

SOFTWARE UPDATE

Electronic sanitary survey software incorporates questions from the eight elements of a sanitary survey into an easy-to-use checklist format for the PDA. A standard set of questions has been developed and tested. States will have the flexibility to customize this initial question set to fit their specific needs.

The software is being developed so that after the inspector answers a few initial questions, the program will select a small subset of questions relevant to the particular system. Once the applicable questions have been determined, the inspector proceeds with the survey; data is saved into the PDA and can later be downloaded to a database on a desktop computer.

Once the data has been downloaded into the database, the last phase of the project is ready to begin—report generation. The software will automatically generate a sanitary survey report which will allow the report to be generated and sent to the system more expeditiously.

We are now collecting examples of what kinds of reports states are currently using to fulfill this report-out function. If you have any examples you would like to offer, please email them to Jamie Bourne at Bourne.James@epa.gov or fax them to (202) 564-5737.

Phase one software training will take place in September with all Region 1 states (see page 1 for more details).

MINIMUM PDA SPECS:

While many states are using the Compaq iPaq 3955, PDAs by other manufacturers may also work if they meet the following minimum specifications:

400 MHZ INTEL PROCESSOR

64 MB SDRAM, 32 MB ROM

64K TFT COLOR DISPLAY

SD MEMORY EXPANSION SLOT

PEN-AND-TOUCH INTERFACE

HANDWRITING RECOGNITION

VOICE RECORDING/PLAYBACK

MICROSOFT POCKET PC SOFTWARE

OPERATING SYSTEM: WINDOWS CE

SDWIS/STATE BRIDGE: HOW IT ALL FITS IN

The ability to move data from the PDA to state databases and back to the PDA once again is an essential component of the electronic sanitary survey project. To this end, EPA SDWIS/State staff are working with the Drinking Water Academy to ensure compatibility between the two programs and to develop a bridge with which to seamlessly transfer data to and from SDWIS/State.
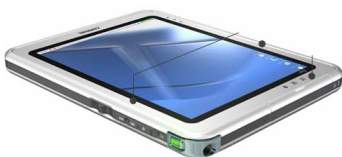
The PDA software makes use of XML protocol to migrate data to and from the PDA. Use of XML makes it easier for states that do not use Microsoft Access to migrate information to their databases and assists integration with SDWIS/State.

When the bridge is complete, data should be able to flow easily from the personal digital assistants to databases in individual locations to SDWIS/State, making it much easier for everyone to store, track, and analyze information across the board.

THE TABLET PC

The Tablet PC is a new type of portable computer, which features a convertible screen that can be written on using a stylus. Tablets come in a variety of models and could potentially offer a number of benefits to the electronic sanitary survey process. They can store more data and support material than PDAs, which may allow for inclusion of an electronic version of laws and regulations to assist inspectors. As full-sized notebook computers, they also present the advantage of working with the full capabilities of Microsoft software, in contrast to the smaller version available on PDAs. Other features of the Tablet include a full page screen, digital pen input, and handwriting and speech recognition.

Unfortunately, the Tablet also presents some challenges to potential users. At 7 to 8 pounds, it can be cumbersome in the field. Battery life is relatively short, at 2 to 3 hours of operating time. Also, initial startup costs can be very high, especially for more durable models.

The Tablet PC will probably be pursued as an option after the national rollout of the personal digital assistants and software.

ABOUT THE DRINKING WATER ACADEMY

The Drinking Water Academy is a long-term training initiative whose primary goal is to expand EPA, State, and Tribal capabilities to implement the 1996 Amendments to the Safe Drinking Water Act.

For more information, please contact Jamie Bourne at Bourne.James@epa.gov or at (202) 564-4095.