



# ELECTRONIC SANITARY SURVEY PROJECT BULLETIN

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## INSIDE THIS ISSUE:

ESS SOFTWARE ENHANCEMENTS OCTOBER 2005 TO FEBRUARY 2006

TEAMWORK TO COMPLETE SDWIS TO ESS BRIDGES

ESS TECHNOLOGY CONFIGURATION (MINIMUM REQUIREMENTS)



## 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 on the DWA or on the electronic sanitary survey project, visit the Web site at [www.epa.gov/safewater/dwa.html](http://www.epa.gov/safewater/dwa.html) or contact Jamie Bourne at [Bourne.James@epa.gov](mailto:Bourne.James@epa.gov) or at (202) 564-4095.

## HIGHLIGHTS OF ESS ACTIVITIES IN UTAH AND ALASKA

### Utah

Utah is a SDWIS Oracle state with about 1,700 water systems in its database. Utah had been using the older version of ESS software since 2004. When ESS was upgraded in 2005, the Drinking Water Academy (DWA) team assisted Utah in converting to the new ESS format. Since the conversion, the program has conducted nearly 60 electronic surveys.

Utah received ESS training (desktop and PDA) during the second week of October 2005. Like many other states, Utah delegates certain types of surveys to local health departments. These local health departments are not able to access the drinking water program's ESS files. In order to accommodate Utah's setup, the DWA ESS team enabled Utah to create an export version of the electronic sanitary survey that could be completed by the local health departments and returned to the drinking water program electronically so the sanitary survey information could be added to the central ESS database.

In addition, various enhancements and improvements to the software have been made to accommodate specific needs of

Utah, and they will be available to all users. They include a customized deficiency report, survey list sort capability, several new deficiency fields, and the development of new deficiency reports with "add notes" capability.

Several of the state inspectors have been testing the ESS software by conducting surveys on the desktop and with PDAs. Utah is in the final stages of converting water system data from its data system to SDWIS/State Oracle. Utah plans to implement ESS with all its

sanitary survey inspectors during spring and summer 2006.

### Alaska

Alaska is a SDWIS SQL Server state with an inventory of approximately 1,700 public water systems in the Alaska Department of Environmental Conservation (ADEC) database. The DWA team assisted Alaska in developing and installing the new ESS application. ADEC drinking water program staff received ESS training (desktop, tablet,

*(Continued on page 2)*

## BRIEF OVERVIEW OF OTHER STATE ESS ACTIVITIES

The following is an update on other states using ESS on the desktop and with PDAs or tablets.

**Arizona** is working to create SDWIS 8.1 installation to access the ESS. Despite losing two key people during the past few months, Arizona is planning to move ahead with ESS implementation this spring.

**California** received a demonstration of ESS software in November, and the state is interested in using the ESS

software, initially on small systems. Further follow-up is required to move forward with ESS installation.

**Connecticut** has reviewed the ESS software and tested it in the field. The state is refining the sanitary survey question sets and testing the SDWIS uploads and downloads with ESS.

**Delaware** was successful in finally being allowed to use Microsoft Access, which was necessary before the drinking

*(Continued on page 4)*

## UTAH AND ALASKA HIGHLIGHTS

*Continued from page 1*

and PDA) from February 7 to February 9, 2006.

Alaska is unique among the states in who is allowed to conduct sanitary surveys. Due to the vast distances and high cost of getting to all of its systems, the state began certifying qualified independent/third-party inspectors several years ago with the help of the Drinking Water Academy and the Alaska Training and Technical Assistance Center in Sitka, (a designated DWA sanitary survey training center). These certified third-party inspectors now conduct a large portion of the sanitary surveys completed annually. The DWA ESS team developed and enhanced the field desktop functionality component of the desktop ESS software to accommodate this variation in how the state undertakes surveys.

To speed the adoption of the electronic sanitary survey system in Alaska, the DWA ESS team developed a bridge database to download public water system (PWS) data from the SDWIS SQL Server to the Alaska ESS. This temporary bridge will be used until the permanent bridge is completed in early spring 2006 (see article below). In addition, the DWA ESS team implemented various enhancements and fixes to the software to accommodate specific needs for Alaska. These included a customized

deficiency report, a customized cover letter, blank survey responses report, help in customizing their question sets, and addition of "Year suffix" to the name of the surveys to better organize the surveys.

Several ADEC-approved sanitary survey inspectors and DW program staff members

have beta tested, and continue to test, the ESS software by conducting surveys on the desktop and tablets and by using PDAs. The Alaska DW program coordinated all the users' testing efforts, reported issues, and provided recommendations to the DWA ESS team for immediate fixes and

support. The DW program is providing a series of sanitary survey inspector training workshops throughout the state before implementing the Alaska ESS statewide on April 1, 2006.

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## ESS SOFTWARE ENHANCEMENTS OCTOBER 2005 TO FEBRUARY 2006

### Enhancements to ESS Software

- Enhanced question-set management to include additional deficiency information such as "Days to Correct Deficiency," "Regulatory Reference Code," "Demerit Points."
- Developed seamless download of SQL Server SDWIS/State data using SQL Bridge to populate water system data in the survey (primarily for Alaska).
- Improved functionality related to sorting and filtering the list of sanitary surveys so users can more quickly locate a particular survey.
- Revised water system component management to match SDWIS coding of system components/inventory.
- Improved functionality related to attaching pictures

- to individual sanitary survey questions.
- Revised reports to display deficiency information and changes in SDWIS data and water system inventories.
- Developed state-specific survey cover letters for Maine and Alaska.
- Enhanced software code for preparing the survey for SDWIS/State updates.
- Tested "Generate Text Files" with survey updates for SDWIS/State migration (SQL Server version).
- Developed new field desktop functionality to accommodate field (remote) users who do not have access to the state network.
- Enhanced survey question form and code to accommodate new deficiency fields and functionality.
- Enhanced ability to exclude questions on the survey questions form.

- Fixed code and enhanced functionality based on issues reported by various state users.
- Integrated state-specific deficiency reports.

### Tablet Enhancements

- Changed the table structures in the tablet version to reflect desktop ESS.
- Enhanced tab order functionality.
- Created pop-up display to highlight potential deficiency based on the correct answer.
- Fixed code and functionality based on issues reported by various state users.

## TEAMWORK TO COMPLETE SDWIS TO ESS BRIDGES

On behalf of ESS users, the Drinking Water Academy wishes to express its appreciation to the SDWIS/State team and its contractors for completing bridges from the ESS software to SDWIS/State for Oracle users and for the final push to complete the last piece of the bridge for SQL server states. The SDWIS team and its contractors will initiate work on the bridge to the new Web-based version soon.

### SQL Server Bridge

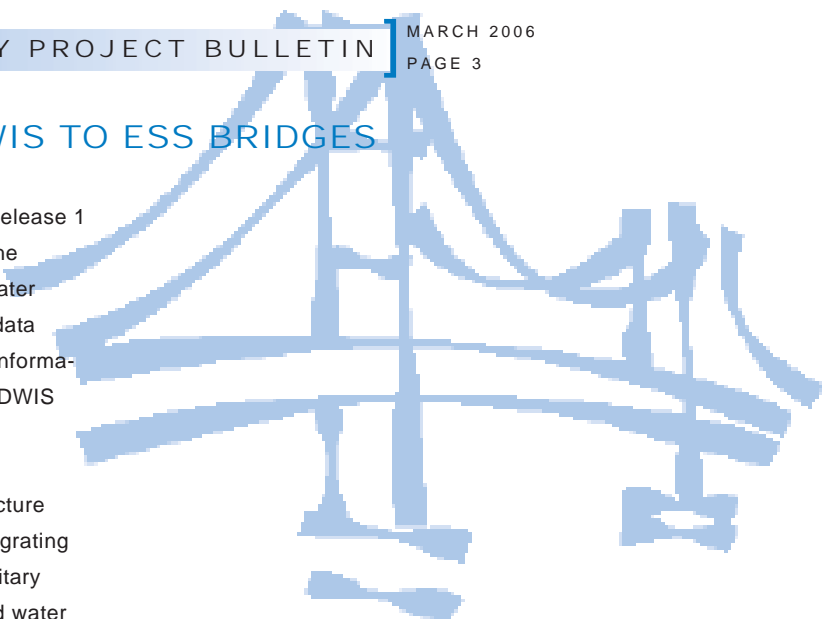
EPA's SDWIS/State contractor is working to complete the last piece of the bridge to provide SDWIS SQL Server states with the same capability that Oracle states have to seamlessly download water system and inventory data from SDWIS to ESS. It is expected that this component of the SQL bridge will be completed in early spring 2006. In order to assist states that require this capability immediately, the DWA team developed an interim solution (bridge) program to download data from SDWIS/State system. Alaska is using this bridge until the permanent solution is available.

### Development of Web-based ESS Bridge

SDWIS Web Release 1 (SSWR1) data structures have undergone significant changes from the SDWIS/State 8.0.5 version. The SDWIS contractor is working on the Migration to State for the Web release to

provide SDWIS Web Release 1 (SSWR1) states with the capability to migrate water system and inventory data updates and site visit information from ESS to the SDWIS Web-based version.

ESS uses SDWIS structure sets in creating and migrating data from updated sanitary surveys to SDWIS, and water system and inventory data from SDWIS. The Drinking Water Academy's ESS team will assess the impact of the changes to the SDWIS structure sets and make necessary data and programming changes to ESS. States that are planning to migrate to SDWIS Web Release 1 need to coordinate the move with the Drinking Water Academy's ESS team.

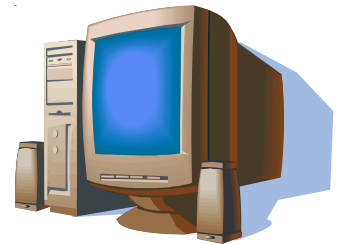


### ESS TECHNOLOGY CONFIGURATION (MINIMUM REQUIREMENTS)

For those of you looking to purchase equipment to use the ESS software, the minimum requirements for each platform are listed below. If you have questions, please feel free to contact Jamie Bourne at (202) 564-4095 prior to your purchase.

#### DESKTOP ESS

1. Pentium-based processor.
2. 256 MB RAM.
3. 20 GB hard disk.
4. Windows 2000/ME/XP.
5. Microsoft Access 2000 or higher.
6. Microsoft Word 2000 or higher.
7. Microsoft Active Sync Software (for PDA Connection).



#### PERSONAL DIGITAL ASSISTANT (PDA)

1. Microsoft Windows 2003 for Pocket PC. (Palm platform is not compatible.)
2. Intel 400 MHZ processor or higher.
3. 64 MD SDRAM.
4. 256 MB Flash Memory card (optional).



#### TABLET ESS

1. Tablet PC hardware.
2. Pentium-based processor.
3. 256 MB RAM.
4. 20 GB hard disk.
5. Windows XP Tablet PC Edition.
6. Microsoft Access 2000 or higher.



## OVERVIEW OF STATE ACTIVITIES

*Continued from page 1*

water program could initiate implementation of the ESS program. The state is receiving assistance to install the latest ESS and SDWIS 8.1 scripts, and it has received an overview of the ESS functionality. Delaware is working on refining its survey question sets before they are used in the field.

**Hawaii** previously conducted surveys using PDAs with the original ESS software. The state is modifying its question sets to work with the new software and to expand the types of systems to be surveyed electronically. Hawaii plans to implement SDWIS/State during the summer of 2006 and will formally roll out the ESS afterward.

**Illinois** is very excited about using the ESS software. It is developing an enterprise-wide data repository for water and wastewater and plans to tie the ESS software into that project. The DWA ESS team will provide support to the state as requested.

**Indiana** purchased new tablet PCs for sanitary inspectors and ESS staff. The state received an overview of the ESS functionality and is reworking one of the sanitary survey question sets before formally testing the software. The program plans to conduct some ESS training before formally rolling out the electronic survey in the field.

**Maine** has been working steadily in the field using ESS and has conducted over 70 surveys using PDAs. In addition to the Transient Non-Community question set it started with, the drinking water program is expanding its question sets to include other small systems. Maine is looking to work with compatible global positioning system software and to expand the number of capacity questions in its survey.

**Missouri** has purchased tablet PCs for its drinking water program to use in the field and is in the process of loading Access 2000 and ESS software.

**North Carolina** has installed ESS software and has tested linking it to SDWIS. The DWA, through a Webcast, provided the state with an overview of ESS functionality for both the tablet and PDA software versions. The state is refining its question sets and will review SDWIS inventory data for duplicates. North Carolina is planning ESS training for its inspectors prior to formally rolling out the software in the field.

**Rhode Island** has tested the ESS software. The drinking water program plans to complete its question sets and roll out ESS implementation after finishing the SDWIS roll out this spring.

