This issue of "The Clarifier" is published by the Kansas Rural Water Association and is provided to water and wastewater utilities, associate members, agencies and other friends. Have a comment? Send it to KRWA at P.O. Box 226, Seneca, KS 66538; ph. 785/336-3760; e-mail: krwa@krwa.net. This newsletter is in addition to KRWA's regular news magazine, The Kansas Lifeline.



May 2014 Vol. 3

USDA Rural Development Announces Nearly \$7 Million in Kansas Water Infrastructure Projects

griculture Secretary Tom Vilsack celebrated Earth Day on Tuesday, April 22, by announcing record support for 116 projects that will improve water and wastewater services for rural Americans and benefit the environment. USDA announced that three cities and one rural water district in the Kansas are receiving financial assistance to complete their water infrastructure projects. USDA Rural Development selected the city of Richmond to receive the 2014 Earth Day Award.

"USDA partners with rural communities to provide needed financing for water and wastewater infrastructure projects that are vital to the health and safety of rural communities," said Sháne Hastings, USDA Rural Development Community Programs Director in Kansas. "The city of Richmond has taken the initiative to improve its water infrastructure, which will provide residents with clean water at affordable rates for many years to come."

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USDA Rural Development staff and representatives of the City of Richmond were on hand to celebrate Earth Day on April 22. Those shown in the above photo are Brian Kingsley, BG Consultants; Sheldon (Scott) Snow, Richmond Mayor; Shane Hastings, USDA Program Director; Dan Fischer, Area Loan Specialist; Doug McIntosh, Council Member; Jake Strobel, City maintenance employee. In the foreground are Steve Tharman, USDA Loan Specialist; Marla Gadelman, City Clerk; Helen Feuerborn and Claire Blackburn, Council Members. USDA celebrates Earth Day by highlighting investments in rural water and wastewater infrastructure projects that improve water quality and protect the environment. The City of Richmond received the 2014 Earth Day Award.

The announcement was USDA's largest Earth Day investment in rural water and wastewater systems. Nearly \$387 million was awarded to 116 recipients in 40 states and the Commonwealth of Puerto Rico. The Department is providing \$150 million in grants through the 2014 Farm Bill plus \$237 million in loans and grants from USDA's Water and Environmental Program.

In Kansas, four projects are receiving USDA Rural Development financing to upgrade their water infrastructure.

City of Richmond (Population 464)
 \$742,000 loan and \$606,000 grant –
 USDA funds will be used to install nearly
 30,000 linear feet of water distribution

lines, 25 fire hydrants, 210 pit and meter units, and 40 gate valves, as well as purchasing an automatic meter reading system and telemetry system. Agency funds were accompanied by a \$500,000 Kansas Department of Commerce Community Development Block Grant.

• City of Conway Springs (Population 1,272) \$2.022 million loan and \$2.558 million grant — USDA funds will be used to replace approximately 62,000 linear feet of water distribution lines, and build a new 300,000 gallon water storage tank. A centralized water treatment facility will be constructed in the city with \$2.32 million in funding coming from the Kansas Department of Health & Environment.

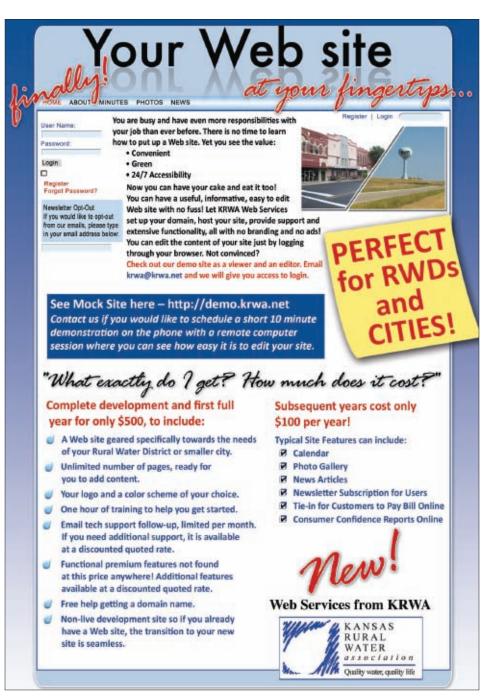
Continued on Page 2



USDA Rural Development, continued from page 1

The City of Conway Springs is contributing \$495,000.

- Rural Water District No. 1A Osborne County, \$123,000 loan, \$100,500 grant USDA funds will be used to install approximately 11,000 linear feet of water line for approximately 90 rural Osborne County residents.
- City of Cuba (Population 156) \$189,000 loan and \$391,000 grant — USDA funds will be used to replace 15,000 linear feet of water distribution lines, and install 114 meters and service lines. Agency funds will be accompanied by a \$312,000 Kansas Dept. of Commerce Community Development Block Grant.



Richmond, Kansas – Earth Day Award

The City of Richmond's original water distribution system was installed in 1954 and was built with ductile iron pipe. The water pipes are now brittle and are filling with hard water deposits, which has caused frequent line breaks and restricted water flow. Water line breaks have led to extra maintenance for city staff and a significant amount of water loss. Through USDA financing, the city will be able to replace nearly 30,000 linear feet of ductile iron pipe with PVC pipe. The new water infrastructure will provide the city with adequate water well into the future.

"Without the financial investment of USDA Rural Development and the Kansas Department of Commerce this project wouldn't have been possible," said Marla Gadelman, Richmond City Clerk. "The new water infrastructure will help protect the city's water supply for future generations."

Earth Day is observed annually on April 22 to raise awareness about the role each person can play to protect vital natural resources and safeguard the environment. Since the first Earth Day celebration in 1970, the event has expanded to include citizens and governments in more than 195 countries.

USDA, through its Rural Development mission area, has a portfolio of programs designed to improve the economic stability of rural communities, businesses, residents, farmers and ranchers and improve the quality of life in rural America.

USDA is an equal opportunity provider and employer. To file a complaint of discrimination, write:

USDA, Office of the Assistant Secretary for Civil Rights, Office of Adjudication, 1400 Independence Ave., SW, Washington, DC 20250-9410 or call (866) 632-9992 (Tollfree Customer



Service), (800) 877-8339 (Local or Federal relay), (866) 377-8642 (Relay voice users)

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Safe Drinking Water Act Compliance Training

RWA recently conducted the first of five Safe Drinking Water Act (SDWA) Compliance Training sessions that will be offered this spring and summer. The first session was held in Colby on April 9; a total of 33 people attended.

The focus of these training sessions is to provide water systems with information on how to comply with EPA and State of Kansas regulations. No matter what your role is at your water system (operator, manager, governing body member, office manager, etc.) or your level of experience, these sessions will cover topics relevant to your position. Specific issues to be covered will include:

Chlorination

- Types of disinfection
- Basic chemistry of the chlorination process
- The difference between free and combined residuals and how to properly monitor for such residuals.
- The process of feeding ammonia to convert free chlorine to combined chlorine will also be addressed.
- How disinfection byproducts (DBPs) are created and factors that cause elevated levels of such byproducts.

Regulatory Review

- Total Coliform Rule (including revisions)
- Lead & Copper Rule
- Ground Water Rule
- Stage 2 DBP Rule
- Long Term 2 (LT2) Enhanced Surface Water Treatment Rule
- Radionuclides and Arsenic Rules
- Consumer Confidence Report Rule
- Public Notification Rule
- Recordkeeping

Distribution System Operation and Maintenance

- Valve exercising, maintenance and rejuvenation
- Line and hydrant flushing
- Meter testing
- Water loss control

All materials will be presented by KRWA staff members Pat McCool, Bert Zerr, Monica Wurtz, and Greg Metz.

Upcoming sessions are scheduled for these locations and dates:

Enterprise - June 3

Pittsburg - June 10

Emporia - August 19

Salina - September 10

Comment by Mike Schultz, City of Brewster, who attended the Colby training session:

"The city of Brewster has been a member of KRWA for 25 years. KRWA classes are invaluable; no one can put a price on the knowledge and experience of the personnel at KRWA.

"The session at Colby on April 9 was great!!! The information on chlorination and chlorination safety was excellent; this kind of training is very important. I appreciate the way KRWA staff teaches from real handson experience as well as having staff who are knowledgeable on the regulations and how to keep public water systems updated and in compliance."

Visit the KRWA training calendar at www.krwa.net/training/calendar.asp to find out more about these FREE training sessions and register online for these and many other KRWA-sponsored sessions.



The Heartbleed Bug: Let's Get to the Heart of the Matter

bug. Seems like an innocuous nuisance more than what it has the potential to be. While some "bugs" or errors simply break a program and keep it from running, other mistakes could go undetected and expose an entire system

to vulnerability to attack. That's exactly the case with the "Heartbleed Bug" discovered earlier this month by a Google engineer. According to the New York Times, very soon after, two other Google engineers crafted a fix for this bug, originally referred in technical yet boring terms as a "TLS heartbeat read overrun." The name Heartbleed by contrast more appropriately conjures images of looming devastation.

How bad is it?

A graduate student's code update on New Year's Eve 2011 inadvertently included this bug in the open source solution OpenSSL code designed to handle a secure server connection to collect sensitive data securely online. Open source software is any body of work that is openly developed and collaborated among many programmers; it involves anyone who wants to contribute to the project. In this case however, there has been largely only one sparsely paid contributor yet many big name users. According to the project's website, OpenSSL, has only full-time developer, British programmer Dr. Stephen N. Henson and he operates on an annual budget of approximately \$2,000 in donations, despite its widespread use by

the likes of Amazon, Facebook, Netflix, Yahoo, the F.B.I., Canada's tax agency, and Pentagon weapons systems, as well as devices like Android smartphones, Cisco desktop phones and home Wi-Fi routers. There are many other open source and

options available that do the same function as OpenSSL.

Because OpenSSL is open source and free to use by simply including a credit, many users enjoy its features yet few take the time to dig deeper.

"This bug was introduced two ars ago, and yet nobody took

proprietary (pay for)

years ago, and yet nobody took the time to notice it," said Columbia University computer science professor Steven M. Bellovin. "Everybody's job is not anybody's job." Truly, the Heartbleed bug has put

many consumers' user names and passwords at risk. By some estimates, the bug affected as much as two-thirds of the Internet. Yet given the list of systems, businesses and agencies that use this free, open source code, and the fact that the vulnerability has been available for two years, surprisingly, *The Washington Post* reports that "no examples have surfaced of anyone actually exploiting the vulnerability" among the estimated 500,000 affected sites.

So is this just hype?

Half a million Web sites seems like a lot. However, according to Google's estimated indexing, there are around 23 billion pages on the Internet. According to Internet Live Stats, there are almost 1 billion Web sites, defined as a unique hostname that can be resolved using a name server into an actual IP address.

See the chart below taken from http://www.internetlivestats.com/total-number-of-websites/

Reflecting this huge growth over the past five years, ICANN is now offering other domain extensions as alternates to the traditional .com or .net, such as .guru, .school, .anything-you-want-almost.

So, half a million in 1 billion is .05 percent! Despite some big names using *OpenSSL*, most of Web's most critical sites — those belonging to banks and governments — were not vulnerable to Heartbleed in the first place. And those who were affected, such as Facebook, Dropbox, OkCupid and Netflix, are in the process of reissuing their SSL certificates or have completed the process.

Is there really a problem then?

Thankfully in this case, hackers have historically targeted Windows/Microsoft or other large conglomerate solutions for political reasons and have left open source development alone. While it is unlikely the Heartbleed bug did more than scare quite a few developers and Internet users, the heart of the matter lies with a growing assumption by coders as well as end users to have services, pay nothing for them, and know nothing about them.

While it is unlikely the Heartbleed bug did more than scare quite a few developers and Internet users, the heart of the matter lies with a growing assumption by coders as well as end users to have services, pay nothing for them, and know nothing about them.

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The philosophy of "open source" has been largely responsible for the existence of the Web, as exemplified by the 1989 launch of the first Web site ever, http://info.cern.ch/ by CERN scientist Tim Berners-Lee, literally the inventor of the World Wide Web (WWW). Berners-Lee made his code along with instructions for installation available freely and openly. Yet this is just one and the first example; the Internet would not be prominent without this open source philosophy embraced by many talented programmers. Open source, however, does not mean all take and no give. The difference now is that coders and end users take for granted that "the other guy" will contribute and troubleshoot, and choose simply to enjoy the fruits of others' labor, then complain loudly if it breaks. The story of the Little Red Hen comes to mind.

What should municipalities and RWDs with Web sites do?

If your city or RWD currently has a SSL certificate in place on your Web site, for example for taking payments online,

check with your provider and ask if you should have that SSL certificate revoked and replaced with a new one. If you have been contacted by any online service urging you to change your username and/or password, do so. If you have or plan to implement a solution or service that is open source or has a free version available, research into its historical stability and the likelihood of its viability for future use. Keep abreast of the updates the software provides and learn a little about how it works; knowledge is power. Stay aware of risks - yet balance your caution so it does not become irrational fear.

The Heartbleed bug resembles the "take heed" warning followed by relief you might have, arriving home to discover you left your front door unlocked all day, but no one broke in.

The Heartbleed bug resembles the "take heed" warning followed by relief you might have, arriving home to discover you left your front door unlocked all day, but no one broke in.

A personal note from Jen:

Those who know me, know that I have an open source philosophy and often give links to free or discounted services and software in presentations that I make for KRWA. It might help you to know that I also contribute to others needing development work and programming in ways that pool resources, reuse code, and attempt to contribute my part in paying back to the open source community.

About the author: Since 1997, Jen Sharp (JenSharp.com) has served business and government across Kansas and the US and even internationally, specializing in Web development, design & programming including e-Learning, ecommerce, content management systems, and other small business solutions.

QuickBooks and Excel Training Helps Office Staff – and Operators Too!

Since early in 2013, KRWA has been able to provide 10 QuickBooks and Excel training classes for cities and RWDs. While these sessions have been extremely popular with city clerks and RWD administrative staff, several operators have also attended. Many operators are using these software programs in



This photo shows a portion of the computer lab at Washburn Tech where instructor Karen Skillman has provided training on QuickBooks and Excel for KRWA. Additional sessions are scheduled for June 10, 11 and July 9.

their work, professionally and personally. A total of 142 people have attended from 96 cities or RWDs.

This QuickBooks training session provides an opportunity for municipal and rural water district office staff to learn about the features of QuickBooks. From learning how to modify and present a chart of accounts to making bank deposits, this training will benefit new users and those with some experience. Upon successful completion of this session, attendees will have a good idea of many features that QuickBooks offers.

Microsoft Excel is one of today's most powerful and versatile business tools, but if you're not familiar with its basic functions, formulas, commands and keystrokes, you're setting yourself up for frustration and disappointment. This Excel training seminar gives strong fundamentals to build on. The Excel training session will benefit new users and those with some experience.

KRWA is pleased to announce that a Beginning QuickBooks training will be held Tuesday, June 10 with an Advanced QuickBooks on Wednesday, June 11. An Excel training will be held on July 9. These sessions will be conducted by Karen Skillman and will be held at Washburn Tech in Topeka. To register, go to www.krwa.net and then select the "Training" link.

KRWA-sponsored Training Schedule for 2014

The listing below shows the tentative training schedule for 2014 by KRWA. Always check the KRWA Web site at www.krwa.net, and then under the "Training" link to verify any changes in the schedule. More sessions will be added.

Date	Session Title	Location
5/7/2014	Making Excel Work For You	Topeka
5/8/2014	Electrical Safety: Understanding and Implementing NFPA 70E For A Safer Workplace	Larned
5/21/2014	Competent Person for Trenching & Excavation	Chanute
5/22/2014	Confined Space Entry	Chanute
6/3/2014	Safe Drinking Water Act Compliance Training	Enterprise
6/4-5/2014	Understanding and Troubleshooting Electrical Motors and Variable Speed Drives	Pratt
6/5/2014	Helping Small System Office Professionals Succeed	Hesston
6/10/2014	Wastewater Stabilization Ponds	Hoisington
6/10/2014	Beginning Quickbooks	Topeka
6/11/2014	Advanced Quickbooks	Topeka
6/10/2014	Safe Drinking Water Act Compliance Training	Pittsburg
6/11-12/2014	Advanced Electrical Maintenance & Troubleshooting	Haysville
6/16/2014	Chlorine Safety, Chlorination, Chlorinators and Pumps	Tonganoxie
6/17/2014	Chlorine Safety, Chlorination, Chlorinators and Pumps	Parsons
6/18/2014	Chlorine Safety, Chlorination, Chlorinators and Pumps	Mcpherson
6/19/2014	Chlorine Safety, Chlorination, Chlorinators and Pumps	Manhattan
6/24-25/2014	Advanced Electrical Maintenance & Troubleshooting	Smith Center
6/25/2014	Competent Person for Trenching and Excavation	Larned
6/26/2014	Confined Space Entry	Larned
6/26/2014	Making Excel Work For You	Topeka
7/8/2014	Collection Systems and Lift Stations	Jetmore
7/9-10/2014	Programmable Logic Controllers	Hiawatha
7/15/2014	Basic Water Analysis	Chanute
7/16/2014	Operation, Calibration and Performance Verification of Analyzers	Chanute
7/17/2014	Simplified Wastewater Analysis	Chanute
7/16/2014	Sustainable Management for Rural and Small Systems	Iola
7/16-17/2014	Understanding and Troubleshooting Electrical Motors and Variable Speed Drives	Abilene
7/22-25/2014	Backflow Prevention / Cross Connection Control	Chanute
7/22/2014	Competent Person for Trenching and Excavation	Newton
7/23/2014	Confined Space Entry	Newton
7/30-31/2014	Basic Electrical Maintenance & Troubleshooting	Hoisington
8/6/2014	Sustainable Management for Rural and Small Systems	Hays
8/6-7/2014	Programmable Logic Controllers	Lawrence
8/12/2014	Collection Systems and Lift Stations	Manhattan
8/13/2014	Water Components for Administrative Personnel	Mayetta
8/19/2014	Safe Drinking Water Act Compliance Training	Emporia
8/21/2014	Wastewater Stabilization Ponds	Burlington
8/20/2014	Emergency Response Planning; Tabletop Exercises	Tonganoxie
8/21/2014	Emergency Response Planning; Tabletop Exercises	Valley Center
8/26/2014	Emergency Response Planning; Tabletop Exercises	Great Bend
8/27/2014	Competent Person for Trenching and Excavation	Abilene
8/28/2014	Confined Space Entry	Abilene
9/4/2014	Wastewater Stabilization Ponds	Effingham
9/10/2014	Safe Drinking Water Act Compliance Training	Salina
9/17/2014	Confined Space Entry	Beloit
9/18/2014	Competent Person for Trenching and Excavation	Beloit
9/23-26/2014	Backflow Prevention / Cross Connection Control	Liberal
9/25/2014	Sustainable Management for Small Systems	Topeka
10/1/2014	Water Components for Administrative Personnel	Abilene
10/7/2104	Small Systems Operation & Management	Tonganoxie
10/9/2014	Small Systems Operation & Management	Augusta
10/15/2014	Sustainable Management for Small Systems	Kechi
10/15/2014	Competent Person for Trenching and Excavation	Manhattan
10/16/2014	Confined Space Entry	Manhattan
10/21-24/2014	Backflow Prevention / Cross Connection Control	Lawrence
10/23/2014	Wastewater Stabilization Ponds	Hillsboro
10/28/2014	Small Systems Operation & Management	Altoona
11/5/2014	Small Systems Operation & Management Small Systems Operation & Management	Liberal
11/18/2014	Small Systems Operation & Management Backflow Prevention / Cross Connection Control	Mayetta
12/2-5/2014		Topeka
12/10/2014	Small Systems Operation & Management	lola Wichita
3/24-26/2015	KRWA Annual Conference & Exhibition	Wichita

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Highest Attendance Ever at 2014 KRWA Conference

The Annual Conference & Exhibition sponsored by Kansas Rural Water Association is known across the U.S. as being among the best water and wastewater conferences. The 2014 conference was a testament to that as the highest number of people ever registered.

Registration totaled 2,237 people. They represented 320 cities and 192 rural water districts and other public water systems. Of that attendance, there were 1,008 operators who registered. The EXPO Hall was filled with 327 exhibit spaces, bringing in many Associated Members.

Attendees came from 31 different states.



Many of the presenters at the 56 training sessions during the 2014 KRWA conference were greeted by capacity audiences.

A total of seven food functions were held during the three-day conference. This photo shows a portion of the 1,224 people who attended the Wednesday noon luncheon. With eight double buffet lines, everyone was served in 27 minutes.

Award Winners

KRWA congratulates the following award winners:
City Clerk Brenda Chance, city of Phillipsburg; Rural
Water Manager Greg Drinovsky, Jackson County RWD
1; Municipal Wastewater Operator G. D. Hite, city of
Abilene; Rural Water Manager Greg Drinovsky,
Jackson RWD 1; Municipal Water Operator David
Gerhke, city of Herington; Rural Water Office
Manager Mary Jane Gouvion, Crawford County RWD
6; City Manager Jonathan Mitchell, city of Hoisington
and, Rural Water Operator Dan Hoobler,
Pottawatomie RWD 4.

The Association gave special recognition to Ron Grage of Stuart, Florida for his many years of



The KRWA conference is recognized across the U.S. as one of the best places for water and wastewater industry service providers, consultants and manufacturers to set up exhibits. The 2014 conference showcased products and services in 327 booth spaces. The 93,000 sq. feet of EXPO Hall at the Century II Convention Center is fully carpeted for the KRWA conference.

providing training concerning chlorine safety and chlorinator maintenance, and to Ned Marks, owner of Terrane Resources in Stafford, Kan., for work in addressing water well construction and groundwater protection. The Association also recognized Rural Water District No. 2 of Pottawatomie County as the most improved water system in the state. Public Wholesale District No. 4, which treats water from Bill Big Reservoir near Cherryvale, placed first in the "Best Tasting Water in Kansas" contest.

Technical sessions at the conference included 56 seminars on all aspects of water and wastewater utility operations and management. Special guest speakers included John Padalino, Administrator of USDA Rural Development, Washington, D.C.; Tracy Streeter, Director of the Kansas Water Office, Topeka, and Charles Hilton, Exec. Vice-President of the National Rural Water Association.

An extensive Conference Review will be carried in the July issue of The Kansas Lifeline magazine.



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ROVIDING TRAINING IS CENTRAL TO KRWA'S MISSION

The mission of the Kansas Rural Water Association is: Provide education and leadership necessary to enhance the effectiveness of Kansas' water and wastewater utilities.

KRWA is proud of its long history of providing training for both water and wastewater systems. Since 1976, KRWA has facilitated, sponsored or conducted more than 2,247 sessions. Since that first session on April 3, 1976 when 101 people from 48 systems attended a water system training seminar in Iola, KRWA's history of providing training remains unmatched in Kansas.

Always check KRWA's training calendar at www.krwa.net to learn what sessions are scheduled. Register online also. KRWA encourages operators, board/council members, agencies, engineering firms and others to forward any suggestions for future KRWA sessions. KRWA Training is a partnership with your Association staff, associate members and a host of other, experienced resources.