

KRWA's first registered apprentice,
Clint Bivens, City of Sabetha



WATER AND WASTEWATER OPERATORS ARE ESSENTIAL TO EVERY COMMUNITY, CREATING A STABLE JOB OPPORTUNITY FOR LONG-TERM CAREERS.



Learn and Earn!

Kansas Rural Water Association

**APPRENTICESHIP
PROGRAM**

The KRWA Registered Apprenticeship Program is recognized by the Kansas Department of Labor and with other state associations through National Rural Water Association, under the U.S. Department of Labor. The Apprenticeship Program is designed to help train the next generation of skilled workers and provide standardized training across the nation in Drinking Water and Wastewater professionals' occupations. Apprentices will earn-while-they-learn in a structured two-year training program that combines on-the-job training with related technical instruction. Apprentices work with knowledgeable and passionate people who ensure that Americans can continue relying on safe drinking water and vital wastewater services that protect public health and the environment.

Water and wastewater workers provide an invaluable service -- day in and day out. Their work is essential to protecting public health and the environment. See the next page for more information about the KRWA Apprenticeship Program. To apply, contact KRWA Apprenticeship Coordinator Monica Wurtz.

Program Overview

Over the next decade, the water sector is expected to lose between 30 and 50 percent of the workforce to retirement. To combat disproportionate retirement, KRWA has partnered with the National Rural Water Association to develop an Apprenticeship Program that will offer two new career paths – Water System Operation Specialist and Wastewater System Operation Specialist.

Minimum Requirements for Apprentices:

1. At least 18 years of age
2. High school diploma, GED or equivalent
3. Physically capable of performing essential functions
4. Take and pass drug screen
5. Pass a background check
6. Valid state issued driver's license



The mission of the Kansas Rural Water Association is:

Provide education and leadership necessary to enhance the effectiveness of Kansas' water and wastewater utilities.

Benefit for Apprentices

Water and Wastewater System Operators help provide safe drinking water to millions of Kansans and protect our natural waterways. Operators are a vital part of our communities. Without properly trained personnel in these roles communities can suffer. During their training, apprentices will work alongside professional operators, learn skills that can be taken anywhere, and earn a wage while they learn.

Participating Apprentices will be required to:

- Meet the Minimum Requirements for apprentices
- Register as an Apprentice with KRWA
- Be employed or be willing to become employed by a Participating Member System
- Complete the 2-year program:
 - 4,000 on-the-job training hours
 - 288 related instruction hours (classroom hours)

Benefit for Systems

Many Water and Wastewater Operators in Kansas have worked at the same utility for most of their career. With retirement, they will depart with decades of valuable institutional knowledge. These training programs will offer member systems a way to pass down and retain critical skills and knowledge of their water and wastewater systems to the next generation of industry workers.

Participating Systems will be expected to:

- Identify and support an experienced mentor to provide guidance and on-site training to apprentices
- Pay the apprentice's wages
- Take advantage of Program Coordinator to resolve concerns and ensure best outcome for apprentice
- Strongly consider retaining apprentices following program completion

If you are interested in registering as an Apprentice or becoming a Participating Member System contact KRWA Apprenticeship Program Coordinator:

Monica Wurtz, KRWA Technical Assistant
email: monica@krwa.net
cell: 785-262-7301



KRWA Apprenticeship – The Future of the Water and Wastewater Industries

You may have read in previous issues of *The Kansas Lifeline* magazine (March and November 2020) about the Kansas Rural Water Association’s new Apprenticeship Program. The program's goal is to recruit, train, and educate new water and wastewater operators as our industry expects to lose up to 50 percent of its employees to retirement over the next decade. Apprentices can apply to the program whether they are employed by a water or wastewater utility or not. The program is nearly a two-year commitment, during which the apprentice must complete 4,000 hours of on-the-job training and 288 hours

of course work. An apprentice may be awarded partial credit for previous experience and/or course work, which must be approved by KRWA.

There are many benefits to the program - not just for the apprentice but also for the employer/utility. Apprentices can work alongside professional operators and learn valuable skills while earning a wage. The employer can take advantage of a structured training program while passing down critical skills and knowledge of their systems to the next generation of industry workers.

KRWA’s Apprenticeship Development Committee put much time and effort into creating a training curriculum for both water and wastewater apprentices. The training model combines on-the-job training with course work that increases an apprentice’s skill level and knowledge.

KRWA Training Trailer

For KRWA to provide hands-on training for apprentices, the KRWA has invested in developing a mobile training trailer. The trailer has a variety of equipment and parts necessary for the every day operation, maintenance, and repair of water and wastewater systems. The trailer includes a variable frequency drive which is set up to control a pump that pumps water through a simulated distribution system with several treatment options such as gas chlorine injection and peristaltic pump injection. The trailer is also equipped with pumps and chlorinator heads for apprentices to take apart and rebuild. There are two different types of gas chlorination systems: peristaltic pumps and two different types of diaphragm pumps. The trailer has two different types of chlorine analyzers set up and other lab testing equipment. The trailer also contains equipment used to demonstrate live taps on a main. Apprentices can also view a cutaway of a fire hydrant to see how a hydrant operates. The trailer also has all the different types of fittings and connections that are commonly used in building and maintaining a water distribution system and a wastewater collection system.

On-the-Job Training

Each apprentice will be required to work alongside a mentor at the employing water or wastewater system. The mentor serves as the subject matter expert; sharing a lifetime of skills and experience onto the next generation. The mentor is responsible for the day to day on-the-job training (OJT) of the apprentice. OJT is broken down into the following categories:

KRWA’s program procedures list specific skills under

WORK PROCESSES	Approximate Hours
A. Tools, Equipment and Work Place Safety	240
B. Vehicles and Heavy Equipment	400
C. System Operations & Maintenance	1920
D. Quality Control	960
E. Logistics, Reports and Supervision	480
TOTAL HOURS	4000

each of the work processes listed above that are unique to water system operations and wastewater system operations, depending on which track the apprentice is taking.

The apprentice is responsible for keeping track of his/her hourly progress using the National Rural Water





KRWA's training trailer is being assembled by KRWA staff. Greg Metz manufactured this section of aluminum cabinets.

Association's Apprenticeship Tracking System. The mentor must sign off on the apprentice's progress and provide feedback regarding the apprentice to KRWA.

Related Technical Instruction (Course Work)

As previously mentioned, an apprentice must complete 288 hours of course work (144 hours per year) in order to successfully complete the program. KRWA's Apprenticeship Development Committee worked to create a comprehensive list of courses that would provide a well-rounded education for apprentices using a combination of online and classroom delivery.

Online courses are provided through a portal called SunCoast Learning Systems. SunCoast has been in the online water and wastewater training business since 2002 and has partnered with more than 30 rural water associations to provide quality online training for water and wastewater operators.

Wastewater Year 1 Curriculum- 144 Hours		
Required Course Work	Hours	Course Provider
Intro to Apprenticeship	2	KRWA
Operation of WW Treatment Plants, Vol. 1	36	KRWA - California State Univ. Sacramento Materials
O & M of WW Collection Systems, Vol. 1	36	KRWA - California State Univ. Sacramento Materials
Applied Confined Space Safety	5	SunCoast
Basic Wastewater	10	SunCoast
Math Review	10	SunCoast
Operator Handbook	10	SunCoast
Pump and Motor Maintenance	10	SunCoast
Wastewater Collection	10	SunCoast
Wastewater: Preliminary Treatment	5	SunCoast
Hands-On Lab Training	5	KRWA
Troubleshooting Electrical Motors & VFDs	5	KRWA
Total Related Technical Instruction Hours	144	

Wastewater Year 2 Curriculum- 144 Hours		
Required Course Work	Hours	Course Provider
Apprenticeship Updates	2	KRWA
Operation of WW Treatment Plants, Vol. 2	36	KRWA - California State Univ. Sacramento Materials
O & M of WW Collection Systems, Vol. 2	36	KRWA - California State Univ. Sacramento Materials
Basic Board of Council Training	5	SunCoast
Hazard Communications	5	SunCoast
Wastewater Disinfection	5	SunCoast
Wastewater Treatment	10	SunCoast
Competant Person for Trenching & Excavating	5	KRWA
Confined Space Entry	5	KRWA
Emergency Response Training	5	KRWA
Intro to Construction Management	5	KRWA
Hands-On Lab Training	10	KRWA
Programmable Logic Controllers	5	KRWA
Total Related Technical Instruction Hours	144	



The training trailer will be equipped with a host of components used by water and wastewater systems. This photo shows a VFD and PLC which will control a pumping unit.

Support Associate Members

When a city or rural water district needs products or services,

SHOP ASSOCIATES FIRST

for a current directory, with contact, e-mail addresses and Web site information for

Associate Members, check out

www.krwa.net

(under membership)

KRWA apprentices will have the opportunity to take courses through SunCoast at no cost to the apprentice or employer. Courses offered by SunCoast typically cost \$150 to \$225 per course. The SunCoast courses offer flexibility to the apprentices by allowing them to complete the courses at their own pace and on their own schedule (evenings, weekends).

In addition to online, courses will also be offered in a classroom setting by KRWA staff. Some of these courses will be taught using



The KRWA training trailer is shown in early stage of development in December 2020.

Drinking Water Year 1 Curriculum- 144 Hours		
Required Course Work	Hours	Course Provider
Apprenticeship Updates	2	KRWA
Intro to Apprenticeship	3	KRWA
Small Water System O & M	36	KRWA - California State Univ. Sacramento Materials
Applied Confined Space Safety	5	SunCoast
Basic Board and Council Training	5	SunCoast
Chemical Feed Systems and Pump Calibrations	5	SunCoast
Chlorinator Systems and Chemical Handling	10	SunCoast
Customer Service Inspection and Cross-Connection Control	5	SunCoast
Hazard Communications	5	SunCoast
Math Review	10	SunCoast
Operator Handbook	10	SunCoast
Small Water Systems 1	5	SunCoast
Surface Water Production 1	10	SunCoast
Water Transmission and Distribution	10	SunCoast
Water Utility Safety	10	SunCoast
Hands-On Lab Training	10	KRWA
Troubleshooting Electrical Motors & VFDs	5	KRWA
Total Related Technical Instruction Hours	144	

Drinking Water Year 2 Curriculum- 144 Hours		
Required Course Work	Hours	Course Provider
Apprenticeship Updates	3	KRWA
Water Treatment Plant Operation, Vol. 1	36	KRWA - California State Univ. Sacramento Materials
Advanced Math	10	SunCoast
Corrosion Control Treatment Optimization	10	SunCoast
Drinking Water Filtration A to Z	10	SunCoast
Pump and Motor Maintenance	10	SunCoast
Small Water Systems 2	10	SunCoast
Surface Water Production 2	10	SunCoast
Competant Person for Trenching & Excavating	5	KRWA
Confined Space Entry	5	KRWA
Emergency Response Training	5	KRWA
Programmable Logic Controllers	5	KRWA
Cross-Connection Backflow Prevention	10	KRWA
Hands-On Lab Training	10	KRWA
Intro to Construction Management	5	KRWA
Total Related Technical Instruction Hours	144	

material from the California State University, Sacramento (CSUS), Office of Water Programs. The CSUS operator courses have a reputation as some of the best operator training material in the country. Apprentices will receive CSUS textbooks and have the option of receiving college credit for the courses. These CSUS courses and textbooks typically cost \$95-\$145 per course, KRWA apprentices will have the opportunity to take these courses at no cost.

Funding for the KRWA Apprenticeship Program is obtained through a contract with the National Rural Water Association with funding provided by a grant from the US Department of Agriculture.

From the start of the program, the employer and apprentice must agree upon a progressively increasing wage schedule. As the apprentice advances through the program (every 1,000 hours of OJT, completion of course work, and satisfactory evaluation), the employer must increase the apprentice's wage. The minimum starting wage is \$11 per hour and the minimum completion wage is \$15 per hour.

More information regarding KRWA's Apprenticeship Program can be found online at <https://krwa.net/TECHNICAL-ASSISTANCE/Apprenticeship-Program>. If you have any questions about apprenticeship, contact KRWA's Apprenticeship Coordinator, Monica Wurtz, at monica@krwa.net or (785) 262-7301.

Monica Wurtz began work with KRWA in October 2013. She previously worked at the Kansas Department of Health and Environment and also worked at US EPA Region 7 for four years. Monica is considered a national expert on various drinking water regulations.



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