

Clean Drinking Water Fee Funds On-Site Assistance – A Key Service for Many Public Water Systems

The Kansas Water Office administers a contract with the Kansas Rural Water Association to provide on-site technical assistance in the operation, maintenance, finance, management, regulatory requirements to public water supplies in Kansas.

Part of the contract requires assistance to cities and rural water districts in reducing the amount of unaccounted for water loss (UFW). Kansas Rural Water Association (KRWA) assists public water systems by conducting water loss surveys and help in developing water conservation plans.

In order to find the contributing factors to high UFW KRWA will assist in testing meters, review monthly production and amount of water sold and actively search for leaks. Other tasks that the contract funded through the Clean Drinking Water Fee provides include the myriad of operational and technical issues from troubleshooting treatment systems to reviewing water rates.

KRWA also completes a report at the end of each fiscal year for the contract. The report is provided to the Kansas Water Office and the Kansas Water Authority. The report is posted on the KRWA Website at <http://www.krwa.net/TECHNICAL-ASSISTANCE/Assistance-via-KWO-Contract>. The report can be sorted by Regional Planning Area or viewers can search for specific systems that have received help through that contract.

During State Fiscal Year 2016 (July 1, 2015 – June 30, 2016), KRWA provided assistance to 202 cities and 150 rural water districts, public wholesale systems and other public water supply systems through the contract funded by the Clean Drinking Water Fee. In FY16, KRWA personnel conducted 184 water loss surveys which accounted for 408,785,400 gallons of loss on an annual basis. The cost of

production or purchase of this water totaled \$1,378,890. Emergency leaks are reduced by at least fifty percent.

Conducting water loss surveys involves not only looking for leaks. Many people too often immediately assume that water loss is due to leaking pipes. Leaking pipes may not be the reason for the high unaccounted for water. Contributors to water loss include inaccurate meter reading and reporting, inaccurate meters, storage tanks that overflow, leaking check valves, etc.

Large leaks are typically located by system personnel. Usually something is noticed to alert personnel to the problem, such as low water pressure or an increase in the amount of water being pumped. High UFW from one month

to another can also alert personnel. However, there are many leaks that are very difficult to locate.

KRWA has equipment to assist water systems in locating leaks and has staff who have first-hand experience in operating leak detection equipment. The equipment ranges from sonic listening devices to using a leak correlator to

pinpoint leakage. When using the correlator the system information programmed into the unit must be accurate to ensure accurate results. Not having knowledge of the size and type of pipeline is a real handicap when trying to use the correlation equipment. The sonic listening equipment performs very well when used on hard surfaces such as concrete and asphalt. However, the sound of a leak is lost very quickly in grassy areas, on soil or gravel surfaces. Another limitation on PVC pipelines is that PVC does not transmit sound nearly as well as cast iron or other pipeline made of metal.

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Last, not every leak is locatable. If the leak is very small then the sound made by the leak may be too faint to be identified. Different approaches will be needed in locating these very small leaks. At times a simple probe is the best tool to use when searching for leaks in a small area with grass cover.

Assistance with Water Conservation Plans

KRWA worked with 22 public water suppliers in developing or revising their Water Conservation Plan in FY16. The development of a water conservation plan takes time and some thought. The goal is to have the plan be a tool that provides system personnel the direction to take when water supplies are low or threatened.

Each community's water conservation is just as unique as is each system. KRWA works with system to obtain the necessary information and provides assistance to tailor the plan to fit the respective water system. Once all the information is obtained, KRWA then revises the plan, custom formats the plan and sends the plan for approval by that entity's governing body. If there are no changes the system sends the plan to the Kansas Water Office requesting approval.

The Kansas Water Office then reviews the plan and forwards to the Kansas Department of Agriculture, Division of Water Resources (DWR) with a request to have the plan approved as presented. DWR will then review the plan and either approve the plan or they may suggest changes before approval.

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History of Water Loss Surveys conducted, July 1, 1991 - December 31, 2016				
	FY 92	FY 93	FY 94	FY 95
Number of Surveys	64	55	38	26
GPM detected	530.25	285.25	457.5	137.5
GPY detected	278,699,400	149,927,400	240,462,000	72,270,000
\$ Cost Savings	\$280,981	\$270,011	\$340,610	\$92,176
	FY96	FY 97	FY 98	FY 99
Number of Surveys	23	29	25	54
GPM detected	268.25	238	151.75	632.75
GPY detected	140,992,200	125,092,800	79,759,800	332,573,400
\$ Cost Savings	\$180,985	\$192,555	\$150,771	\$572,037
	FY 00	FY 01	FY 02	FY03
Number of Surveys	50	49	49	38
GPM detected	393.25	448.75	454	275
GPY detected	206,692,200	235,863,000	238,622,400	144,540,000
\$ Cost Savings	\$339,137	\$607,989	\$423,858	\$225,522
	FY 04	FY 05	FY 06	FY 07
Number of Surveys	40	44	40	53
GPM detected	246	256.5	261	463
GPY detected	129,297,600	134,816,400	137,181,600	243,352,800
\$ Cost Savings	\$421,953	\$278,814	\$253,846	\$650,564
	FY08	FY09	FY10	FY11
Number of Surveys	65	87	136	129
GPM detected	674	1009.5	1121.5	654.25
GPY detected	354,254,400	530,593,200	589,460,400	343,873,800
\$ Cost Savings	\$888,549	\$1,497,122	\$1,405,972	\$863,177
	FY12	FY13	FY14	FY 15
Number of Surveys	128	63	111	136
GPM detected	653	612	386.5	496.75
GPY detected	343,216,800	321,667,200	203,144,400	261,091,800
\$ Cost Savings	\$757,802	\$705,749	\$595,707	\$694,819
	FY 16	July - Dec. 2016	Total: July 1, 1991 - December 31, 2016	
Number of Surveys	184	83	1799	
GPM detected	778	277.75	12162	
GPY detected	408,785,400	145,985,400	6,393,945,240	
\$ Cost Savings	\$1,378,890	\$359,549	\$14,429,145	

As you can imagine, the process does take some time to make sure that all required elements are included in the plan. Taking the time to complete the plan as thoroughly as possible can save headaches for the system staff in the future if the need arises to implement certain stages of the plan.

I also invite readers to consider attending the KRWA Annual Conference and Exhibition, March 28 – 30 at Century II Convention Center in Wichita. This is an excellent opportunity to attend training seminars and visit with Associate Members and state and federal agencies in the EXPO Hall. The is also an excellent opportunity to visit with friends and create new alliances. Everyone has the same goal – that is to provide the best service possible. "Knowledge, Experience & You – The Key To Great Service!"

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