

# Partnering with New Operators to Help Them “Hit the Ground Running”



**Jeff Ochs, Operator at the city of Wakefield and KRWA Wastewater tech Charlie Schwindamann, (on right) discuss the need to check the lift station hours on a regular basis. Such information is beneficial when troubleshooting a lift station.**

**T**he Kansas Rural Water Association (KRWA) staff provides a great deal of assistance to new operators. Assisting new operators with the skills needed to do their jobs as wastewater operators is one aspect of work at KRWA that is personally rewarding to me. Even after twenty years with KRWA, I never tire of trying to help a new operator. Helping train new operators involves more than stopping by for a short visit, but instead, becoming a trusted partner with them as they learn and fulfill the tasks of their new utility job. In this article, I will showcase a recent experience with one new wastewater operator.

Julie Murphy, City Clerk at Wakefield, Kansas, contacted me to provide assistance to Jeff Ochs, the city’s Operator-in-Training, with the operation of the municipal wastewater treatment system. Wakefield is located in the southeast corner of Clay County near Milford Reservoir in northcentral Kansas. The city services approximately 400 connections on its water and wastewater system.

On April 13, 2020, I met with Jeff for more than four hours. This was shortly after the city hired him. Julie also contacted KRWA Circuit Rider Greg Metz to ask that KRWA provide training and assistance with water system operations. During my initial visit, Jeff exhibited good skill sets that indicated he would become a good operator. He had

worked in construction as a remodeling contractor; he also worked as a financial advisor, which will obviously be an asset in budgeting. He worked for United Rental which made him familiar with the basics of operating and understanding numerous pieces of equipment.

Jeff’s resume indicated a lot of experience. I think knowing something about a person’s background helps with how training is provided. Some new operators will have no experience and need more in-depth training, while those with construction and mechanical skills usually can more readily understand the operations of water and wastewater systems. Rather than drop a motherlode of information on a new operator, it’s best to hold shorter sessions to ensure the information provided is understood by the new operator and to review what was discussed in previous meetings.

One of my “go-to” recommendations is that all operators have a Basic Operations Guide on file either on a computer or in a cabinet drawer. It can even be a 3-ring binder but it should include copies of the system’s most recent wastewater operating permit, sewer use ordinance and policies, past KDHE inspections of the system, and discharge monitoring reports. If it is a discharging system, then the Operations Guide should include incident report forms, lift station records and the flow monitoring records, the collection system maps and maintenance records. Other items that should be included are the system’s Emergency

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Response Plan and Vulnerability Assessment, and a basic operations schedule. While it seems extensive, these documents provide the basic information every operator needs to have, plus it provides the information to help train a new operator. The information will also be requested during an inspection by KDHE or EPA.

Jeff and I reviewed and discussed all of the important information on my first visit. We then went to the lagoons and discussed the basics of how lagoons operate, sample collection, and the needed maintenance. During the discussion on how and when to take samples I mentioned its best to take samples as early in the quarter as possible as there may not be a discharge later in the quarter eliminating the opportunity to collect a



**Jeff Ochs, Operator in Training for the city of Wakefield, checks the wet well for proper levels to help ensure no backups occur in the city collection system.**

sample. Later, I received a call for help as a sample was not collected early and the end of the quarter was nearing when discharge had occurred earlier, but due to evaporation there was no discharge at this time. About two weeks were remaining in the quarter; rain was expected the next week. It was suggested that we wait for the expected rain to perhaps see if the lagoons were discharging. It did rain the following week and the samples were collected. Jeff mentioned that he remembered me telling him to take samples as soon as possible in the beginning of the quarter. Jeff agreed that was good advice that would not be forgotten.

We then went to the lift station to discuss operations and maintenance. We discussed

## Important documents for wastewater systems . . .

Here is a listing of the most important documents every wastewater utility should have.

First, **the permit** provides the rules and regulations from KDHE and EPA the system must follow as well as most of the design information such as the size of the system, design flow and monitoring requirements and permit limits. The permits are routinely reissued every five years so there may be changes or modifications. It is important that the most recent permit be retained and older permits should be discarded.

**Sewer use ordinances and policies** provide the rules that the city's wastewater customers need to abide by. One ordinance that is not generally in these is the reference to customer back-ups or discharges from cleanouts, for example. Such issues are usually found in the city's nuisance ordinances. These should be referenced in the sewer ordinances as they provide the operator with instructions on how to deal with these incidents in a timely manner.

**Past KDHE inspections** provide information on any discrepancies that need to be addressed by the operator. This might include items such as mowing lagoon dikes or taking out trees around the lagoon. The KDHE inspections also give a window of how the system is doing if there are no discrepancies.

The **discharge monitoring reports** and lab results are required to be retained for three years. Longer retention though would be especially helpful as some results during wet and dry weather periods could be significantly different.

**Incident report forms**, such as bypass reports, are also only required to be retained for three years. Again, I recommend holding them longer if quarterly monitoring for the same reason as some incidents may only occur during rain events.

**Lift station and flow data** should also be retained, not due to regulations but because that data provides valuable information to operators and consultants reviewing design flows, including Inflow and Infiltration.

It's obvious that **maps of the collection system and maintenance records** be maintained because with proper documentation, the records can assist in reduction of insurance claims. It also may benefit consultants or contractors with issues that may be found when repairs are needed on the collection system. This also may become a significant deficiency during a KDHE inspection if maintenance is not performed.

All systems should have an **emergency operation plan and vulnerability assessment**. These may be required to receive state or federal funding if or when improvements are needed at some point in the future. They also assist system operators and board/councilmembers in case of emergencies as to priorities, such as power for lift stations and treatment facilities.

Last, a **basic operations guide** on how to operate the system daily, weekly, monthly, and yearly is also a real benefit to have. This is useful in case of an operator leaving without a backup available to step in.

recording the pump hours regularly, such as daily or three times per week to determine issues before they become real problems.

We also discussed the backup power and ensured that it would transfer power to operate the lift station if electricity failed. I recommend that operators make sure the standby power functions with the power off. Shut off the main power and turn on the standby power and make sure it

operates the entire system or at least the essential equipment.

There was also an issue when the water level in Milford Reservoir rose in 2019 due to extreme rain events. The city's wastewater system was challenged with an enormous amount of stormwater entering the lift station. Excessive run times resulted in a pump failure and the need to replace at least one pump.

Since the location of the sewer backup was not marked on the map, I recommended smoke testing that area. We found several places where abandoned service lines were connected to the sanitary sewer system. The same area had also flooded in 2019 and previous years too. We determined that the old lines could be plugged to prevent future inflow and pump failures due to excessive wear.

During a follow-up visit to discuss the old sewer mains that are still connected and how to eliminate that issue, Jeff received a call on a

### My experience in Marysville . . .

The author of this article had a situation early in his career as a wastewater treatment plant operator. It was at Marysville, Kan. during the flooding in 1993. At the time, Marysville operated an activated sludge sewer plant with a main lift station to pump to the plant. The utility power had failed. It was my job to check the sewer plant on the weekend. At the plant, I noted the power was out on one leg. There were lights on at the plant and the system's backup generator was operating. I immediately called my supervisor to let him know that the power had failed but the generator was running. He told me to return to the shop and that he would contact the power company. What I failed to do was to confirm that the standby generator was operating. In this case, it was not. What was actually happening was the generator engine was running, but the generator had a failure and no power was being produced. Lighting was on because of one leg of the power. The result was several sewer backups and a subsequent lawsuit from customers. Yes, I had to give a deposition on what I had done and why I responded in the way that I had.

**Every system is different and the cost comparison from contracting the work or owning the equipment should be reviewed.**

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**Jeff Ochs stands near a hole found when smoke testing; he looks to his right where another problem had been located. The locations where there were old service lines had not been properly capped.**

waterline break. Since I was there, I went to be of help. Wakefield hires a contractor to repair leaks as the city has very few leaks. It is more feasible to hire a contractor than owning the equipment and paying for insurance. Every system is different and the cost comparison from contracting the work or owning the equipment should be reviewed. This leak was not easily repaired as the main lines could not be isolated in the area. This problem required the city's

elevated water storage to be shut off. I told Jeff if this was the case, KDHE needed to be advised and a boil water advisory would most likely be required. Before the tank was shut off, I suggested Jeff contact KDHE, the schools, nursing home and restaurants to advise that a boil advisory would likely be issued. A boil advisory was declared and in place only a couple of days as the follow-up bacteriological sample results were negative.

The boil advisory was something else Jeff was not aware of. We contacted Greg Metz to provide follow up training and possibly valve exercising so future boil advisories can be avoided by having the valves on the water system be in operating order.

So, within the first six months of Jeff's tenure with the city of Wakefield, he experienced more issues than most operators do in several years. He handled them all very professionally.

KRWA is ready, willing and able to help provide training and help to any new operator. And if we do, we will develop a partnership with the operator so that he or she knows that someone at KRWA will answer any call, any time.

*Charlie Schwindamann has been Wastewater Tech at KRWA since September 1999. Charlie holds Class II Water and Class I Wastewater Operator certification. He has also served as a member of the Marysville, Kansas city council.*



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