

"OPERATION SPECIALIST'S CORNER"

By Steven Carroll, Superintendent of Wastewater NYS 3A

Operation Specialists...This is your chance to share your experiences, new or unique inventions that have made your daily operation easier, technologies you've discovered, or general information with your fellow Operation Specialists. We all know the value of networking.

What do you know today, fellow operation specialists A greeting I stole from a colleague back in my county days. Ole Rick Marshal who passed not long ago, always had a smile and a greeting for everyone. This gentleman could paint a whole facility and never get a drop of paint on himself. An old farmer that seemed to be able to not get flustered or upset. HE just figured out how to get it done by chugging away and finding the simplest, efficient, and effective means to accomplish the task at hand. You can learn a lot from watching others, networking, soaking up all the good bad and the ugly. Implementing skills from success and mistakes alike. I like to think I learn from everyone I cross paths with and have taken the experience to my current employment where things are done in the manner I prefer with success.

We fell into a procedure, new to us anyway, that makes perfect sense in the right application. I'll try not to make this awfully long winded.

A little back story, I moved from county plant operations (13 years as a NYS grade 3 and 2A) where they operated a couple of wastewater plants in two different locations as well as monitored water systems throughout the county. Opportunity knocked as a plant in equal vicinity to home needed an Operation Specialist in a Village setting. A difficult and interesting feeling leaving one known for the unknown. Here we are almost 8 years later enjoying my work more than ever. See, in one setting I didn't have the freedom to excel, make the necessary changes to really achieve my goals I had for myself, and the processes known to operation specialists. Things just didn't mesh as I felt they needed to for my own satisfaction. This new normal is exactly what I needed for myself. The buck starts and stops with me. From housekeeping to capitol improvements. If you love what you do, you don't work a day in your life.....so true.

My tips for those who are willing to listen, never for everyone but it works great for us. Has to deal with gear boxes. Who loves to change oil and maintain gear boxes on clarifiers? They never ever have an issue on nice, beautiful days. Its always during a weather event or overnight.

We had issues when we first came to this facility. Things just needed TLC and willing workers. We will leave it at that. The clarifiers have gear reducers (x3 ea. and a reservoir for the Bull gear), 3 of the boxes take one kind of oil and the other takes a second kind. Then in the original O&M there are 2 kinds of oil to utilize one for spring and one in the fall to prepare for winter.



Abandoned clarifier. Note the oil on the bull gear reservoir and rags tied on the oil leaks. This is where there are 3 reducers w oil reservoirs and one bull gear oil reservoir.



The operating clarifier 1 of 2 total. This one was operational, but still needed to be refurbished to remedy noise and leaks.



Secondary Clarifier - This clarifier was left for dead. A few days of welding and finding parts to repair the gear boxes. Oil seals and speedy sleeves from NAPA re huge helps. Sheets of gasket material are nice to have on hand to make your own gaskets. No more rags tied around leaks from previous operators SOP's. This tank was in this condition for an undetermined amount of time.



First two reducers needed refurbishing to stop the noise and leaks.

Tip #1 Call your oil representative where you buy oil. Technology has changed in the oil industry; you can have them recommend an alternate oil to cover all your seasons. Of course, this is at your own risk...disclaimer.....

Tip #2 In any configuration you have it can be difficult to see an oil leak right away, oil is a dark color, as is the wastewater in many cases. Every configuration is different with manufacturer, bridges, grating, and process application. Get yourself some dye to add to the oil. Pick any color you like or different colors for different sections..... Mark on the case the oil it takes and the color dye you added and mark on your oil containers in stock. No more guessing, searching, or confusion. Anyone who is sent out there will know all they need to know about leaks, where they came from and simply can grab the right oil off the shelf without going to the O & M manual. Leaks are identified faster before damage to your gear box gets worse or your microbiology may be affected.

Tip #3 Keep oil absorbent pads in stock. The white ones are oil absorbent but do not soak up water. These pads also float, for a long time. We just toss them on the center well to clean up the oil slick as needed and remove them with a gaff pole or garden rake. The DEC had us toss in Peet Moss for one spill where fuel was delivered to a house basement tank that was previously removed. All that fuel was sent through a sump in the basement directly to the public sewer. The peat soaked up the fuel, but we had to skim it all off the surface manually with pool skimmers.



Examples of drive units.

Tip #4 Sight glasses on gear boxes in the Northeast. Seems like a good idea to see what oil levels are in a hurry. It is and it isn't. One manufacturer's recommendation is absolutely but indoors only. Outdoor gear configurations in our climate can accumulate condensation or rainwater. Any water in a sight glass can freeze and over time break the sight glass assembly. What happens next? Oil has the potential to drain out, leaving an empty reservoir. Empty reservoir leads to a ruined gearbox. Where I am concerned, we err on the side of safety. Therefore, in this case we will keep the extra steps it takes to check the levels. Plus, with dye in the reservoir, we will see the leak asap.



An example of dye for oil leak tracing.

Tip #5 Clean your clarifiers well. Even the old oil spills and leaks. If you make sure things are clean and painted nicely, it just makes your life easier. A neat clean surface provides you with instant recognition of new leaks.

My final tip is for new operation specialists. Join up in all the groups you can find in Water and Wastewater. Look at it like the game show *Who Wants to be a Millionaire*. When you really don't have all the answers your network is your lifeline. Call a friend, we rely on each other to make this thing work..... Learn who your people are, from Regulatory Agencies, Equipment suppliers, Manufacturers, Engineers, Biologists, Watershed Committees.....The network of people you can rely on is endless.

I'll close with this..... Call on me if you need more tips. What would you like to know? What trainings do you desire to see at local events?

There is Always a way to make it work, the trick is being the willing worker, swallow that pride pick up the phone, your colleagues are a phone call away. 💧💧

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