

The “Flushable” Nightmare



by James Barnes

One problem plaguing many wastewater plants these days is the practice of flushing objects down the toilet that the plant isn't equipped to handle. It seems that in recent years this problem has escalated. Television ads abound with flushable wipes, diapers, and even toilet bowl scrubbers that really have no business being in our sewers. And if these advertised items aren't bad enough, mountains of plastic invade our wastewater plants each year. As you well know, all of these items can cause the operator to have nightmares. They plug lines, valves, and pumps. Plastic, especially, seems to have an unmatched ability to make its way entirely through a treatment facility and wind up in your effluent, especially when you have visitors.

Most of the plants that I've visited, unless they've been recently upgraded, are forced to fight this battle with unacceptable equipment. Some plants have nothing but a manually cleaned bar screen. Of course this problem is compounded if the plant design didn't include a primary clarifier. (Oh yes, those plants do exist. You operators with primaries now have something to feel good about.) Many small plants have only a worn out comminutor. Even if the comminutor is in good condition, shredded plastic is still plastic. Your biological system isn't going to break down shredded plastic any better than whole pieces.

Undoubtedly, the best solution to this problem is to remove these foreign objects from the waste stream. There is some really nice equipment out there that does this job for us in a very efficient manner. At most plants, where there have been recent upgrades, screw screens or mechanically cleaned bar screens have been installed and seem to be working well. There are some pros and cons as to which of these removal systems is best. It's my understanding that a well designed, mechanically cleaned, bar screen will normally require less maintenance and energy than a screw screen. The biggest problem with either is the cost. One of these units for a .5 MGD plant will run somewhere between \$30K to \$50K. As an operator, you shouldn't allow yourself to be frightened by these dollars. There are some grants and low to zero interest loans available, but you have to be willing to put forth some effort. (Seeking and obtaining funding is another topic for another article.)

While you're waiting to receive your new equipment, don't despair, and don't sit on your hands

either. There are some inexpensive solutions that you might give a try.

The ingenuity of a good operator knows no bounds. I know of a plant that installed a homemade (aluminum grate) bar screen near the aeration basin effluent weir a few years ago. It's still there, and has caught an unbelievable amount of hair and plastic from entering the final clarifiers. I know of another plant that has installed screens in their chlorine contact chamber to prevent plastics from making it all the way to the receiving stream. Both of these suggestions are going to require some additional labor from having to be manually cleaned, but the results just might be worth it.

Lastly, don't rule out educating the public about your problems. You could try an ad in your local paper or possibly print some pamphlets to leave at the Village Hall and local stores. Yes, I know, most people won't care, but some might. One thing is for certain, if people aren't aware of the problem, you certainly can't expect them to change.

The vast majority of the operators I've met in my travels are very conscientious people who are doing an exemplary job. I'd like to encourage you to not give up. Don't let those nightmares get to you! Remember, we're the last line of defense to keep pollution, including foreign material like plastics, out of our receiving streams.

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