

Lease vs. Purchase: A Guide To Maximum Cost Savings For Chlorine Dioxide Systems

Chemical dosing for disinfection is a critical step in the drinking water treatment process, but the available solutions are often expensive. A high-quality chlorine dioxide system can address the need for disinfection as well as taste and odor control while minimizing disinfection byproducts, but the acquisition should be properly structured to be as economical as possible.

Chlorine dioxide generation systems are offered by solutions providers in one of two ways: A lease — which includes the equipment, the cost of the chemical as well as service in the price — or a capital purchase of the equipment, where chemicals and service are paid for separately.

Water Online spoke with JCS Industries President Brian Whitmore about the important factors to consider in determining which option for a chlorine dioxide system makes the most financial sense.

What are the key differences between leasing and purchasing the equipment?

With leased systems, you have three components: the chemical, the equipment, and the support, which includes maintenance and testing to ensure the equipment is running optimally. With a capital purchase, the equipment is bought separately while the sodium chlorite is purchased as a



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commodity. The operator is responsible for the day-to-day testing and possibly maintenance. A service contract can be optional.

How do the numbers compare between the two?

Let's say a lease agreement that includes the equipment might cost \$1.35 per pound for the chemical inputs, even though they could be acquired on the open market at \$0.70 per pound. That's a markup of \$0.65 per pound, which can be pretty significant based on usage.

Here is an example of a lease agreement:

Municipality with an annual usage of 177,760 lbs./year

Price per pound (includes equipment, chemical, and maintenance): \$1.35/lb.

Cost for year 1: \$239,976.00

Cost for year 2: \$239,976.00

Cost for year 3: \$239,976.00

Lease total for 3 years: \$719,928.00

By comparison, buying the sodium chlorite for about \$0.70 per pound as

a commodity while purchasing the equipment for about \$60,000.00 allows municipalities to come out way ahead, especially in a 10- to 15-year amortization. And depending on the size of the system, you could see a cost payback in just six months to a year.

Here is an example of a capital purchase:

Municipality with an annual usage of 177,760 lbs./year

Capital equipment purchase: \$64,000.00

Commodity chemical purchase: \$0.70/lb.

Maintenance option: \$2,500.00/year

Cost for year 1: \$190,932.00

Cost for year 2: \$126,932.00

Cost for year 3: \$126,932.00

Capital equipment purchase total for 3 years: \$444,796.00

Cost savings for purchasing equipment rather than leasing in 3 years: \$275,132.00

So, why are many operators fixated on leasing chlorine dioxide systems?

As a new product about 30 years ago, the systems were originally sold under what was known as an “evergreen” agreement, which we now call a lease. Users paid by

the pound for sodium chlorite, one of the two precursors to making chlorine dioxide, and the cost of equipment and service was wrapped up in that per-pound pricing.

During the early years, solutions providers assigned engineers to monitor the processes and work with the operators to establish targets. However, it’s been 30 years. The process is pretty straightforward, so operators these days are very aware of the doses and feed rates. You’re trying to create chlorine dioxide at an efficiency greater than 95 percent and, in dosing the numbers are repeatable.

The evergreen agreements may seem like a good way for the operators to go, because we’re all creatures of habit and we’ve been doing it for decades, so there must be a lot of validity to them. Plus, a lot of the municipal facilities have been led by the hand for a long time and it’s the only way they know. But this process is the only chemical treatment method I am aware of where the operator doesn’t purchase, install, and maintain the equipment while bidding the sodium chlorite out as a commodity.

What’s the biggest mistake that water utilities make when evaluating the lease versus purchase options?

There’s a misguided notion that every time a contract ends and is rebid as a

structured lease, that they’re going to get new equipment. However, if you dig down into the way many proposals are written, it’s either new or like new. In other words, if you start a new contract with new equipment, and after three years that vendor submits a bid to continue with that “like new” verbiage, they can simply install refurbished equipment and continue the warranty.

For municipalities where the purchase option makes sense, but they don’t have the capital budget immediately available, does JCS have ways to help?

Certainly. Over the course of a year, we can break up the cost — interest-free — for that equipment. There are all sorts of ways we can work with municipalities that don’t have sufficient resources. And by knowing there will be a savings by going out for bid on chemicals, plant managers can be assured they will recoup much, if not all, of that capital outlay over the course of that first year.

How does service factor into the equation?

Monthly service programs can significantly add to the total cost of a lease agreement, but it’s difficult to pinpoint because those fees are hidden in the price. Those who purchase a system from JCS can also buy a tailored service program from JCS — bimonthly, quarterly, or annually — or simply purchase service as needed. ■