

Overview of Stipulated Order Understanding Water Rates

H₂Opportunities



Greater Oakland GOP
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Today, I'm going to talk about three things – the stipulated court order that has been in the news recently, water rates, a subject that has been on a lot of people's minds, and H₂Opportunities, something I established to help bring new opportunities and new technology to a very conservative and traditional environment. H₂Opportunities can provide a new vision for effectively dealing with some of our more complex challenges.



As the Oakland County Water Resources Commissioner, I am an elected official.

As the elected Water Resources Commissioner, I have the job of providing numerous water and wastewater-related services to the public in an efficient and cost-effective manner. With the loss of state and federal dollars, that job is becoming increasingly more difficult.

The environmental advocates, the regulators and a subset of my constituents often push to broaden my responsibilities. While I welcome the challenges of providing increasing services, I can do so only if there is money to pay for those services. Additionally, quite a bit of what I do as the water resources commissioner is dictated by state law.

Stipulated Court Order

- **Seven-member board**
 - True suburban representation
 - Supermajority required on major issues
 - Members must be highly qualified
- **Oakland withdraws motion**
- **Within six months, case is dismissed**
 - Provided substantial compliance
 - With NPDES Permit
 - Consent Judgments

First I want to talk about a recent development with a lawsuit that began in 1977.

As part of the agreement between Detroit, Oakland, Macomb and Wayne counties, the Detroit Water and Sewerage Department will be governed by a seven-member board, as it is today, with four members from Detroit and the remaining three representing Oakland, Macomb and Wayne counties. The big differences are that the suburban counties now will be permitted to select their own representatives and important decisions, such as setting the rates and establishing a five-year capital improvement plan, will require a super-majority for passage. Members must be highly qualified and have at least seven years of experience in a regulated industry, engineering, finance or law. They'll be compensated at \$10,000 per year and \$250 per meeting not to exceed \$20,000 annually.

They'll also have a three-person staff. One must be an attorney, one must have expertise in finance and one must have technical experience either in engineering or water or wastewater operations.

As part of the agreement, I withdrew my motion calling for the creation of a regional oversight panel.

A copy of the order is available on our Web site. I'll post the address at the end of this presentation.

Rates will continue to rise

- **State and federal mandates**
- **Fixed costs**
- **No federal or state subsidies**

Here's the bad news.

I'm often asked when will we see a reduction in water rates. My answer is, unfortunately, we won't – at least not in the foreseeable future. Rates will continue to increase for a number of reasons. There are state and federal mandates that must be met. But, perhaps the biggest reason can be associated with "fixed costs."

Typical Rate Components

- **Water / Sewer Provider Costs**
- **Operations & Maintenance Costs**
 - County / Local
- **Reserve Account Contributions**
 - County / Local
- **Capital Improvement Plan Contributions**
 - County / Local

When we talk about typical rate components, we first must consider the initial cost to buy water from the water supplier. There are costs associated with the treatment of the water and the cost to transport it from intake locations such as Lake Huron or the Detroit River to your community. Rates can vary depending on the distance water needs to be transported before reaching its final destination.

Operations and maintenance costs includes things such as valve exercising and repair, pressure regulating valve maintenance, hydrant maintenance, main break repair, meter reading and billing.

The reserve contributions provide funds to deal with aging infrastructure while protecting and preserving the system to ensure reliable service. It also is used for unanticipated emergencies. It varies by community, but make no mistake about it, communities need to have a savings plan to deal with these inevitable costs.

The capital improvement plan contributions provide for infrastructure replacement and special programs and projects such as security upgrades, fencing and lighting projects.

Reserve Contributions

- Infrastructure replacement
- Emergencies
- Special programs and projects



Reserve contributions are necessary for such things as infrastructure replacement associated with aging Infrastructure. As I indicated earlier, it also is used to protect and preserve the system and ensure reliable service. It cannot be overstated how important it is to have a savings plan for these inevitable costs. I also want to mention that these funds earn interest which is used to offset rates.

Information Gathering

- **Review prior fiscal year sales**
(bills to residents)
- **Review prior fiscal year purchases**
(charges from Detroit)
- **Estimate water loss**
(water lost through leaks in the system, purchases less sales)
- **Consider customer growth projections**
- **Consider weather patterns**

As part of our information gathering process, we review prior fiscal year sales, and we look at purchases from either the Detroit Water and Sewerage Department or another authority. We also estimate water loss caused by water main breaks, leaks, water used in fire protection, and in some cases, theft.

We also consider customer growth projections because slow growth translates into reduced residential and commercial water use.

Finally, the weather greatly impacts water sales. If there is a wet summer, less water is used for lawns and landscaping. Conversely, water sales increase during dry summers.

Determine Projected Expenses

- **Operations & Maintenance**
 - Review Prior Year Expenses
 - Future Inflationary Increase
 - Extraordinary Expenses
 - New Programs
- **System Specific Needs**
 - Capital Improvements

Prior year expenses are from the fiscal year financial report. The inflationary increase is forecasted from reasonable assumptions that include such things as the county's annual salary adjustment, cost of living forecasts and increasing energy costs.

New programs may include those mandated by the Michigan Department of Environmental Quality (MDEQ) and system component maintenance.

Capital improvements addresses aging infrastructure issues such as replacing and/or relining water mains. Identification of high priority projects that address fire flow, redundancy, high break areas and vulnerability on the existing water supply system. Based on the need to protect and preserve our system and ensure continued reliable service to our current customers, a water infrastructure replacement program was initiated.

How Estimates Impact Rates

$$\frac{\text{Total Estimated Cost}}{\text{Estimated Sales in MCF}} = \text{Rate (\$/MCF)}$$

$$\frac{\$14,000,000}{450,000 \text{ MCF}} = \$31 \text{ per MCF}$$

In this case, the total estimated cost (or numerator) is \$14 million. As you can see, if we had estimated sales of 450,000 MCF, the result would be a cost per unit of water purchased, or \$31 per MCF. Remember MCF refers to 1,000 cubic feet of water. One cubic foot amounts to about 7.5 gallons.

If the reduction in the amount of water sold, the denominator (or bottom number) is smaller. Consequently, even with the total estimated cost being the same, the reduction in sales results in a higher rate.

To sum it up, the process of determining rates is never an exact science.

Rate Calculation

Water / Sewer Provider Rate

+

Operation & Maintenance Rate

+

Capital Improvement and Reserves

Community Water / Sewer Rate

Now let's talk about what goes into the rate calculation equation. First, we have the water supplier rate. We add our operation and maintenance costs and the funds we set aside for capital improvements and reserves and those figures, added together, results in your community water rate. But we don't stop there.

At the WRC, we're doing what we can to reduce costs and save money for our customers. Employees have taken a pay cut and are scheduled to take another pay reduction next year. We've reduced the size of our workforce, reduced the number of vehicles in our fleet and cut vehicle use. We've also consolidated and realigned jobs to save money.

These are just a few of the steps we've taken to ensure that we provide the best possible service at the lowest possible cost while providing quality drinking water and maintaining a reliable infrastructure system.

Example of Rate Calculation

| Rate Components | \$/mcf |
|---|--------------------|
| Provider | \$20.00 |
| Operation and Maintenance | 8.00 |
| Water Loss | 1.00 |
| Capital Improvement and Reserves | <u>2.00</u> |
| Total Rate | \$31.00 |

Water rates are typically expressed in dollars per mcf or dollars per 1,000 cubic feet.

Typical water bills are shown in dollars per 100s of cubic feet or ccf.

H₂Opportunities

- A business and technology accelerator
- Leveraging technology
 - Engineering
 - Manufacturing prowess
- Launching water tech businesses to create jobs.

- Identify promising technologies
 - “Real World” Testing and Evaluation
 - Regulatory Assistance
 - Funding Resources
 - Business Planning

Future funding via relationships built on success

H₂Opportunities holds the promise of finding solutions through new technology ventures.

H₂Opportunities gives us the opportunity of taking it to the next level, of expanding our approach and broadening our horizons in our quest for water quality improvement or protection.

Cutting-Edge Technology Today

DynamOx

Proprietary technology

Delivers large amounts of oxygen to waste streams

EPC Ltd.

Decentralized wastewater treatment

Appropriate for small, community systems

EMEFY

Biological and nanotechnology

Generates electricity directly from wastewater

Miya

Identifies and priorities leaks in water delivery systems

Reduces O&M costs and minimizes energy use

DynamOx – A demonstration project in Franklin has been fully funded with EPA grants and system maintenance funds to match the federal grants.

EPC – The Michigan Economic Development Corporation (MEDC) has provided \$90,000 to assist in establishing a demonstration project. We're currently in discussions with five communities, Highland, Springfield, White Lake, Leonard and St. Clair, that have shown an interest in this technology to address their wastewater treatment challenges.

EMEFY – offers an Israeli technology that relies on natural biological processes and nanotechnology to directly generate electricity from wastewater. It works in municipal waste, agricultural waste, and food processing waste, all of which are current challenges to the state of Michigan. One kilogram of biochemical oxygen demand generates 1 kilowatt of energy. The MEDC has committed \$200,000 to test the technology with an existing wastewater treatment process. This demonstration project will document the costs and reliability associated with this process.

Miya – The MEDC has provided \$304,000 to support a Farmington Hills demonstration project and the community matched that grant with a \$156,000 commitment of in-kind system funds.

**For additional information,
please visit our Web site:**

www.oakgov.com/water

