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Proposal by opponents of lake water has serious flaws

Waukesha says opponents fail to comply with radium standards, protect the environment, provide enough water, or account for all costs

A recent memo that claims to show Waukesha has an alternative to a Lake Michigan water supply has several critical flaws.

"The proposal by our opponents fails to recognize environmental impacts, fails to supply the volume of water claimed, fails to comply with radium standards, and fails to account for predictable costs," according to Waukesha Water Utility General Manager Dan Duchniak.

The July 9, 2015 memo was prepared for the Compact Implementation Coalition, a Milwaukee-based group that opposes Waukesha's proposal to withdraw Lake Michigan water. Waukesha would withdraw one one-millionth of 1% of Great Lakes water and return about the same amount after use and treatment, with no harm to the lake. It would also use the return flow water to improve the flow and quality of the Root River, a Lake Michigan tributary.

"During the past several years, as the City developed its application for a Lake Michigan supply, we have welcomed public input," Duchniak said. "Those comments have resulted in changes to the application. However, the opponents' recent proposal for continued use of our groundwater wells is nothing new. It was appropriately considered by the utility and by the Department of Natural Resources (DNR) but was rejected, primarily due to environmental impacts."

The proposal denies the environmental impacts of groundwater use

According to a summary by the coalition, its proposal that Waukesha simply continue to use its existing groundwater wells, "means there is no environmental impact to surrounding wetlands, surface waters or the deep groundwater aquifer."

However, the DNR released draft reports in June on its five-year analysis of Waukesha's 3,000-page application for Great Lakes water. As part of its analysis, the agency conducted groundwater modeling to determine the environmental impacts of groundwater use. In fact, to be conservative, the DNR ran the models with levels of water use that are far below what it says are reasonable. That way, it could determine whether using less water than needed – as the opponents insist on – could prevent the environmental impacts.

"Even at artificially low levels of groundwater use, the DNR found negative impacts to 700 to 2,300 acres of wetlands, along with negative impacts to streams, lakes and groundwater aquifers," Duchniak said. "Ignoring the significant loss of wetlands is a serious flaw in the proposal by opponents."

Deep groundwater is currently Waukesha's primary water supply. The deep aquifer is down hundreds of feet due to a geological feature in the area – a layer of shale that restricts the ability of precipitation to recharge the groundwater – as well as heavy regional use in the densely populated region of southeastern Wisconsin and northeastern Illinois.

"There are many expert, peer reviewed studies that have drawn attention to the sustainability problems and stresses on this aquifer," Duchniak said. "Many communities have gotten off the deep aquifer. The DNR has designated it as one of two Groundwater Management Areas in the state. Persistent use will only continue the adverse environmental impacts on this resource and on the surface waters it is connected to."

The proposal cannot deliver the volume of water claimed

The DNR has said water use projections of 10.1 million gallons per day (mgd) on average and 16.7 mgd on peak days are reasonable forecasts of Waukesha's eventual need. Opponents, however, assume in their proposal that Waukesha could ignore state planning laws and limit its use at build-out (in about 2050) to only 6.7 mgd average and 11.1 mgd on peak days. However, the coalition proposal – that Waukesha should continue to simply use its existing wells – fails to provide sufficient capacity for even those low levels.

"Their memo overestimates the capacity of our existing shallow wells, and also does not consider that the capacity of city wells would be reduced even further by any extended drought," Duchniak said.

"They fail to properly size the needed infrastructure and ignore the significant costs of developing new wells or replacing old equipment if we were to stay on groundwater instead of Lake Michigan water.

"Wells lose capacity over time, become contaminated, and equipment wears out. Some of our wells are already 80 years old. And we have lost two wells in recent years due to contamination concerns," he added.

"The opponents' memo ignores the costs and environmental impacts of the additional wells that would be needed, even to provide water volumes that are well below what the DNR said are reasonable," he said.

The proposal fails to meet radium standards

Waukesha's water currently exceeds federal drinking water standards for radium, a naturally-occurring carcinogen. The utility is under a court order to provide a healthy water supply that meets the standards.

However, the memo by opponents ignores the requirement to comply with radium standards. "Their proposal fails to comply with radium standards under all water usage conditions. And, when radium levels increase in the deep aquifer, the compliance problem will be even worse," Duchniak said.

Reverse osmosis is rare in WI, due to financial and environmental costs

The opponents also incorrectly assume that a proposed water treatment technology is common in Wisconsin. The author of the report said, "[r]everse osmosis, or RO, that's used on 40 or more different community-based water treatment supply areas here in Wisconsin to treat radium." In fact, reverse osmosis is only used by one municipality in Wisconsin, in a much smaller community where the quantity of the waste product from the process is far less.

"RO is rare here, not the common treatment that the opponents claim it is," Duchniak said. "RO creates a large waste stream of salty brine. Many Midwest utilities have studied how RO waste could be disposed of in this part of the country, and determined that the environmental impacts and permitting issues prevent it from being simply discharged to a sewer. The opponents ignore this important issue. Without the ability to discharge the waste into a sewer, treatment costs would add more than $200 million in present value to the opponents' proposal. Those missing costs would more than double the claimed costs."

Duchniak said, "We have asked the coalition for their assumptions about these financial and environmental issues. We have not received that information, which raises additional questions about the credibility of their proposal."

He added that water wasted in the reverse osmosis process also requires 10% to 20% more water to be pumped from the ground. "RO wastes water. That is water that is taken from our local environment and lost forever," he said. "It is contrary to our goals of water conservation and efficiency."

He added that the opponents' memo also fails to consider the costs of additional shallow groundwater treatment for contaminants located nearby.

Using and returning Lake Michigan water is the only reasonable alternative

Duchniak said, "water supply infrastructure is very expensive. It is designed to last for generations. The opponents of a reliable and healthy water supply for Waukesha are suggesting short-term proposals that – even if the financial and environmental costs were accurately accounted for – would ultimately need to be abandoned in favor of a second huge investment in a new long-term water supply. The residents of Waukesha cannot afford to do this twice. We must get it right the first time."

The Waukesha Water Utility examined the water supply alternatives for more than a decade, and determined that using and returning Lake Michigan water is the only reasonable water supply alternative. Regional planners at the Southeastern Wisconsin Regional Planning Commission created a panel of 32 experts to look at regional water supplies and reached the same conclusion. The DNR's five-year analysis of Waukesha's application confirmed the studies by others – that using and returning approximately the same volume of water to Lake Michigan is the only reasonable water supply alternative for Waukesha. The proposal by the Compact Implementation Coalition has not been rigorously reviewed by anyone other than themselves.

For more information about Waukesha's proposal, see www.waukesha-water.com.