Expert Panel Advises Lake Oswego Tigard Water Partnership on Treatment Decision

Water Treatment Upgrade Planned

The Lake Oswego Tigard Water Partnership is planning to expand Lake Oswego's existing drinking water infrastructure to serve both communities. Under the partnership agreement, Lake's Oswego's existing water treatment plant will be upgraded to meet both communities' needs into the future. The upgraded facility will use a proven treatment technology that produces safe, pleasant tasting water that meets or exceeds all drinking water regulations and can be adapted to meet future regulations.

National and regional experts in water treatment and public health are teaming up with staff and community members from Lake Oswego and Tigard to evaluate different treatment methods. A subcommittee of policymakers from Lake Oswego and Tigard, the Oversight Committee, will recommend the best treatment option to both City Councils for their consideration.

Expert Panel
A five member "expert panel" is being convened to advise the treatment decision. Panel members include:

Pete Kreft, P.E., MWH
Matthew Marshall, P.E., Carollo
Jeff Neeman, P.E., Black and Veatch
Eva Nieminski, PhD, Utah Department of Environmental Quality and Utah State University
Lee Odell, P.E., CH2MHill

The water treatment decision team will participate in workshops over a four-month period, March – June, 2010, concluding with a treatment recommendation forwarded to both City Councils. The first workshop was held on March 10, 2010.

March 10 Workshop Results
The first workshop began by reviewing the Partnership's plans for improving the Lake Oswego water treatment facility. The plant capacity will be expanded from 16 mgd (million gallons per day) to 32 mgd and ultimately to 38 mgd. The goal is for the new plant to be in service by July 1,2016.

A 2006 study concluded that the plant should be converted from the current direct filtration process to conventional filtration to better meet current regulatory requirements. Conventional filtration can also handle high turbidity events (muddy water) better than direct filtration. The baseline price for treatment plant expansion/conversion is estimated at $40 million (2006 dollars) with costs to be shared by both communities.

Expert panelists agreed with the study that a new filtration process is needed. At the workshop, the panel reviewed three alternative treatment methods for meeting current regulations and providing necessary particulate removal:

Conventional filtration (recommended earlier)

High rate conventional filtration
Membrane filtration

Knowing what future regulations are coming is important in selecting the best treatment method. Dr. Eva Nieminski, panel member and expert in drinking water regulations, told fellow panelists that changes in federal/state regulations are likely in only one area – disinfection byproducts (DBPs). DBPs are contaminants formed when organic materials in water react with disinfection agents (e.g., chorine). A proposed rule would require water suppliers to report the amount of DBPs found in every test at every sampling location, rather than the current practice of averaging test results. This will make the
standards more difficult to meet – although Lake Oswego has had little problem to date with DBPs. No other major regulatory changes are on the horizon.
The expert panel also identified several supplemental treatment technologies to address five additional water quality goals and parameters (beyond meeting current regulations):

Removing organic materials that help form disinfection byproducts
Seasonal taste and odor
Trace organics such as pesticides and herbicides
Microbes such as *Cryptosporidium* and *Giardia*
Biostabiilty – making sure drinking water remains safe to drink after treatment

The supplemental treatment technologies which expert panelists deemed appropriate to add to filtration methods include: ozone, granular activated carbon, powdered activated carbon, enhanced coagulation and UV (ultraviolet) disinfection.

In their upcoming workshop on April 21, the panel will evaluate the various treatment options, selected at the March 10 workshop. The panelists' evaluation factors include costs and benefits, economic, environmental and community risks and opportunities. On June 10, the expert panel will conclude their review by recommending a preferred treatment method.