



January 9, 2012

710 NW WALL STREET
PO BOX 431
BEND, OR 97701
[541] 388-5505 TEL
[541] 385-6676 FAX
WWW.CI.BEND.OR.US

Gail R. Shibley, JD, Administrator
Office of Environmental Public Health
Public Health Division, Oregon Health Authority
800 NE Oregon Street
Portland, OR 97232

*Re: Long Term 2 Enhanced Surface Water Treatment Rule
Compliance Issues and Bend System Specific Considerations*

JEFF EAGER
Mayor

Dear Ms. Shibley:

JODIE BARRAM
Mayor Pro Tem

TOM GREENE
City Councilor

KATHIE ECKMAN
City Councilor

JIM CLINTON
City Councilor

MARK CAPELL
City Councilor

SCOTT RAMSAY
City Councilor

ERIC KING
City Manager

We want to thank you for taking the time to talk to Mayor Jeff Eager, Councilors Tom Greene and Scott Ramsay, as well as the City Manager, City Attorney, City Engineer and Water Resources Manager on December 6, 2011 regarding Long Term 2 Enhanced Surface Treatment Rule ("LT2") compliance issues as they relate to the City of Bend's surface water system and Safe Drinking Water Act treatment requirements. The conversation was very helpful, and we appreciated your candor and willingness to consider Bend's unique situation and challenges.

This letter will first confirm our understanding related to the variance process, and the recent proposed Order granting a 10-year variance from treatment to Portland. The Portland Order identified two critical reasons for finding that treatment is not necessary to protect public health: (1) Portland's extensive year-long testing program detected no *Cryptosporidium* oocysts (the EPA standard being that an unfiltered water system may show a level at or below 0.075 per 1000 liters, which translates to 0.000075 oocysts per liter); and (2) the various legal protections for the Bull Run Watershed, as well as the fact that it is a closed and protected watershed where the public is not allowed and no logging or other operations are permitted. While you stated that you could not pre-judge any application by the City of Bend, it was clear from our conversation and the above-listed criteria that it is extremely unlikely that Bend would qualify for a variance. Unlike Portland, Bend has had seven documented positive test results for

Cryptosporidium in our surface water supply since sampling began in 2005 which ranged from 0.1 to 0.2 oocysts per liter, which is above the EPA standard requirement. In addition, Bend's municipal watershed is open and accessible to the public as compared to Portland's Bull Run watershed, which is closed to all public access.

During the call, we discussed that a variance application would require extensive, expensive testing that the City does not presently undertake. Considering that our current testing at lower volumes demonstrates "hits" above the EPA standard, additional testing would not likely yield less detection of oocysts per liter. Please let us know if our understanding is in any way inaccurate, but suffice it to say that we were left with very little optimism that a variance is a viable approach for the City of Bend.

Nonetheless, during the call there was a lengthy and helpful conversation about ensuring that Bend had a feasible compliance schedule. That is, whether there may be specific, articulable facts that warrant a compliance schedule adjustment, beyond the October 1, 2014 deadline. You mentioned an EPA letter of November 30, 2011 to Mayor Richards of Rochester, New York, which notes that many public water systems face multiple challenges in managing, maintaining and operating those systems. In her letter to Mayor Richards, Acting Assistant Administrator Stoner further states:

Infrastructure construction projects can also present challenges. It is entirely appropriate for primacy agencies to consider these system specific facts when evaluating a request to adjust a compliance schedule. If a schedule adjustment is appropriate, the public water system should have in place robust interim measures to ensure public health protection, and those interim measures should remain in effect until that system comes into compliance with the rule.

We understand the distinction between a compliance schedule for an open reservoir system and a source treatment deadline, and that Mayor Richard's query was with regard to the open reservoir requirements. The follow-up email from our regional Manager, Dave Leland, confirmed that if a system is not in compliance with source treatment by the specified date (10/1/2014, in the case of Bend), the Department must begin formal enforcement. We respect that this is the position you must take.

To ensure that the public is protected and that the City has the flexibility required to fully comply with the rule, we would like to explore a negotiated administrative order that accounts for the additional time the City will need to begin treating the source water. We believe such an approach fits well within the parameters of the purpose of the regulations and our common goals of protecting the public health and safety and our ability to maintain the high quality dual supply source of water here in Bend. In

advancing that discussion, we thought a letter outlining Bend's particular circumstances would be a helpful place to start the conversation.

Extenuating Circumstances

To fully and effectively accomplish LT2 compliance, Bend must undertake two significant projects. The first is replacing transmission lines that deliver the source water and would service the new treatment facility. The second project would be the actual construction of the treatment facility. For both technical feasibility reasons and because of Bend ratepayer's unique situation described below, we believe that these projects must be sequenced in a way that requires additional time for construction of the treatment facility.

Background and Setting

Over the last two decades, Bend has been characterized by an exceptionally high growth rate, becoming the fastest growing city of comparable size in the state. By 2005, Bend's population had surpassed its 2020 forecast, 15 years earlier than anticipated, growing by over 60,000 people, or 365%, since the last urban growth boundary expansion in 1981. Adopted projections predict that the population will swell to 115,065 by 2028. This growth resulted in significant increases in water and sewer demands and the City needed to commit to the accompanying infrastructure improvements required to keep pace with that growth, as well as projected population increases. As you are well aware, Bend, along with the rest of Oregon and the country, has been hit by the worst recession in recent memory. As the bottom fell out of the economy, Bend's reliance on two volatile industries—real estate/development and tourism—made it especially susceptible to alarming levels of unemployment, foreclosures, and poverty.

Bend has one of the highest unemployment rates in the State, stubbornly remaining above 12%. Even modest utility rate increases during such a period of high unemployment became a serious burden on rate payers already struggling to make ends meet. Over 15% of Deschutes County residents have incomes below the poverty level and over half of children in the County are eligible for free or reduced lunch rates. While foreclosures have been in the national spotlight, Bend has been an epicenter for the crisis as our foreclosure rate rose again to over five percent.

As is well known even in the national news, Bend's economy has been dependent on the real estate development industry to provide employment. The continued drag on housing development and the lack of other primary industries will mean that the City's economic recovery will be slow and unemployment will remain high. Substantial water rate increases during this period of slow economic recovery and high unemployment is detrimental to Bend's struggling families. Bend's economy, even more heavily today, relies on tourism. That

tourism is served by a network of small family owned businesses, like restaurants that use a large volume of water. Significant water rate increases impact these small businesses and hamper their ability to survive this recession and slow recovery.

Water Line Replacement

The City has two transmission mains that deliver high quality Bridge Creek water to Bend. One of these lines was built in the 1920's and the other in the 1950's. These lines currently run through forest service property as well as private property. Years of unmanaged vegetative growth threaten the integrity of the pipes. In addition, residential structures have encroached upon the lines -- in many cases either on the pipes or within a few feet. This encroachment poses a serious potential danger for health and life safety if either of these lines were to fail. Lastly, these lines run at velocities that are well beyond standard engineering design practices today. As a result, the velocity has degraded the interior wall linings of the pipes and poses the risk of line collapse. All of these factors have put the City of Bend in a position that in order to continue the use of the Bridge Creek water supply, the City must replace these lines.

Complicating replacement of these lines, the Federal Highway Administration ("FHWA") and Deschutes County are planning on a complete rebuild of the existing Skyliners Road, under which the City wishes to relocate the transmission lines. A map of Skyliners Road and the City's project is attached. Federal funding is available for replacement of the road and the FHWA currently plans on project construction occurring in 2013. The County, FHWA, and the City of Bend have all been working together so that the City can install the pipeline in the roadway prior to the reconstruction. The City is at 90% design for the pipe replacement project, and has been working closely with the Forest Service on the NEPA process. In addition, the design of the new pipe will actually improve some environmental conditions. The City is not able to shut down the current lines on a routine basis, and thus the City diverts a constant rate of 18.2 cfs, even if the City does not take that much water into its distribution system. The replacement of the transmission lines with a thick walled steel pipe designed to hold the water pressure will allow the City to only take water when the system demands warrant, and when the City demand does not warrant, the water will by-pass the intake on Bridge Creek, and the flow will remain in the upper reach of Tumalo Creek below Tumalo Falls and end the potential for erosion.

Because of the financial circumstances related to the road reconstruction and potential collapse of the lines, replacement of the lines must precede construction required for LT2 treatment. If line replacement were delayed, not only is line failure a very real and present threat, but if the 2013 road construction window is missed, the federal funding for the roadway project could be jeopardized. If the treatment facility required by the LT2 rule were constructed first, it is also entirely possible that the

lines would fail and the treatment plant would become a stranded asset, essentially useless until the City could replace/repair the failed pipe.

Further, while it is not certain (although thought likely) that the federal funding schedule would be lost, if the City decided to delay line replacement, current County code would not allow the replacement of the lines for five years; even if that limitation were waived, the City would be required to entirely reconstruct a lane of the newly reconstructed road. A low estimate of this additional cost is \$4-7 million dollars; a more likely estimate is closer to ten million dollars depending on what the County ultimately requires the City to reconstruct. Moreover, the City has already pre-purchased steel for the 6.5 miles of the pipeline at a cost of approximately \$4 million dollars, at a time when steel prices were relatively low. In short, delay of the line replacement is impractical, expensive and makes LT2 treatment potentially ineffective.

The estimated cost of the pipeline replacement on its current schedule is \$30 million.

Impact to Community of Two Significant Projects

The LT2 treatment and pipeline replacement projects, as well as other necessary sewer projects (treatment plant and interceptors) are all critical to the public health and economic stability of our community. Bend residents and businesses simply cannot afford to pay for both of the water projects simultaneously. The City has been aggressive in pursuing both the line replacement (already purchasing the steel) and in moving towards the design of the treatment facility. However, as the recession has lasted longer than expected and Bend's recovery will be even slower, it has become abundantly clear that these two projects need to be sequenced. The City is doing everything it can to pursue other funding sources for these projects, but other than low interest loans, the City has not been able to get any type of grant funding for these major capital investments.

Given the logistical and economic challenges associated with simultaneously moving forward in these projects it is imperative that we stage them to achieve maximum utility, cost effectiveness and protect public health. We believe that achieving full compliance with LT2 later than 2014 is crucial to achieving those goals.

A Path Forward

Based on all of the above, the City is seeking an opportunity to work with the State to develop an LT2 compliance schedule. The City is fully aware that the State must enforce its date certain requirements on treatment mandated by the EPA and understands that the State may need to place the City under an administrative order with a defined schedule for compliance. We would like to start those constructive

conversations now. The City offers the following concepts as a way that the City and the State could work together to find such an agreement.

1. Continued Pursuit of Treatment

The City of Bend has been spending millions of dollars on designing a membrane system to meet the treatment deadline, and is currently beyond the 60% design level for the treatment portion of the project. To date, the City has spent approximately \$6.6 million for feasibility, design and other costs associated with this project. The City of Bend is proposing to continue with the design of the water treatment plant to the 100% design level. This would not only include design, but a full set of bid ready construction and specification documents. With design and project documents complete, Bend would have a shovel ready project.

2. Watershed Management Practices

Existing:

The City meets the current exemption criteria for unfiltered surface water sources by demonstrating control of human activity in the watershed. Our watershed is jointly managed with the U.S. Forest Service, under a 1926 Cooperative Agreement with the Dept. of Agriculture as well as a 1991 Memorandum of Understanding (“USFS MOU”) that further outlines the exemption criteria. This includes re-routing a popular trail back in the 1990’s away from Bridge Creek to further protect it from human contact and additional threats to water quality. The City has also installed and maintained self-issued permit stations at all trail entrances to the delineated watershed. Copies of the permits are collected by City staff. In addition, we have a funding agreement that pays for a USFS staff to help patrol the watershed and surrounding areas and educate and inform the public of the rules excluding pets, camping and contamination of the watershed. Other measures put in place over the last five years include increased security monitoring at the intake with remotely controlled cameras and motion detection equipment.

Proposed Additional Protections:

In addition to the regular watershed activities already occurring, the City proposes to explore opportunities and work with the Forest Service to enhance the protection of the watershed from additional threat of contamination from human activities in and around the delineated watershed. These could include additional signage, closing off of the watershed with additional gates, enhancing public education such as through the kiosk at Tumalo Falls and creating/implementing an ongoing seasonal public outreach campaign related to human use in the watershed, and the like. The City could also begin an update of the 1991 USFS MOU to reflect current conditions and changes since the original agreement was put in place. The City is open to working with the State to explore

other ideas and opportunities for additional protections. We believe that while these additional protections do not create a totally closed watershed such as Portland's, they would help eliminate unauthorized entry to the watershed and thus create additional characteristics of protection for the watershed that would contribute to an even lower risk of *Cryptosporidium*.

3. Shutdown Limitations

Currently, the City is required to shut down if the turbidity reaches 5 ntu. However, the City's normal operating protocol never allows system diversions at the 5 ntu level. The City closely monitors turbidity and when the turbidity hits 1 ntu, City staff is paged at which point they begin monitoring the trending of the turbidity. If the turbidity continues to trend up beyond 1.2 ntu, the City begins shutting down the surface water supply. At no point does the City continue to divert above a 1.5 ntu. This is done to protect the public to ensure that drinking water standards are always met.

4. Alternative Compliance Schedule

The City is requesting to delay implementation of the membrane filtration construction by a number of years. The City would construct the new pipeline, and would design and construct the pipeline system so that the treatment facility could be easily added and in a manner that does not double up the costs to the Bend community of financing both projects simultaneously. The City still proposes difficult rates increases to build reserves over the course of an agreed upon number of years as part of its compliance schedule. The hope is by spreading them out, the impact will be less devastating to the ratepayers and citizens of Bend.

The City of Bend welcomes the opportunity to discuss these ideas with you and your staff to explore the opportunity for an extended compliance schedule for treatment.

Respectfully,

Bend City Council

Jeff Eager, Mayor

Scott Ramsay, Councilor

Mark Capell, Councilor

Kathie Eckman, Councilor

Jim Clinton, Councilor

Tom Greene, Councilor

Jodie Barram, Councilor