



January 6, 2017

Jason McGibbon, P.E.
HBH Consulting Engineers, Inc.
2316 Portland Road, Suite H
Newberg, OR 97132

**Re: Membrane Replacement, Jetty Creek Water Treatment Plant (PR#1-2017)
City of Rockaway Beach (PWS ID#00708)
Conditional Approval**

Dear Mr. McGibbon:

Thank you for your submittal to the Oregon Health Authority's Drinking Water Services (DWS) of plan review information for the membrane replacement for the City of Rockaway Beach. On January 5, 2017, our office received a set of plans, a narrative of the project and a plan review fee of \$825.

The project includes replacement of the two existing WesTech Polymem UF 120S2 modules and replacing them with two Inge dizzer XL 0.9 MB 70 W(T) ultrafiltration modules.

The plans are approved with the following conditions:

- A new Upper Control Limit (UCL, measured in psi/min) must be established. This calculation is typically provided by the manufacturer. WesTech will be able to provide you with this value, based on the new variables for the Inge modules. They should provide you with the calculation of the UCL, along with the equation, variables and assumptions used.
- A direct integrity test (DIT) must be performed if the turbidity is greater than 0.15 NTU for more than 15 minutes. This must be programmed into the SCADA unit. A DIT is also required each day of operation. If the DIT fails, then the unit must be automatically taken off-line. The manufacturer's reps should be able to address these points during the installation of the new modules.
- Each unit must have inlet and outlet pressure transducers. These transducers must be able to be calibrated (so they must be installed such that they are accessible). The sensitivity of the transducers must be less than 10% of the UCL – so the water system may need new pressure transducers depending on the newly calculated UCL as required above.

- The water system's operation and maintenance manual must be updated to include a diagnosis and repair plan for the new modules. The manufacturer's reps should be able to address this.

Until we receive verification that the conditions have been met and final approval has been issued, the facility is not approved for use. Documentation demonstrating how the above conditions were met should reference Plan Review #1-2017 and can be emailed to me at james.b.nusrala@state.or.us or Carrie.L.Gentry@state.or.us or mailed to:

Attn: Carrie Gentry/ James Nusrala
OHA-Oregon Drinking Water Services
PO Box 14450
Portland, OR 97293-0450

In addition to the above conditions, please note that there will be a rule change in the near future that requires membrane treatment plant SCADA systems to be able to calculate the Log Removal Value (LRV) – i.e. continuous calculation of the LRV using inputs. While I cannot require the water system to have this ability at this time, **I strongly recommend that the water system make this change at this time.**

The water system should also have the ability to track permeability, normalized permeability and resistance for the purpose of tracking performance over time. Transmembrane pressure, flux, DIT results and turbidity are all needed for compliance purposes and should be able to be easily determined.

If you have any questions, please feel free to call me at (971) 673-0459.

Sincerely,

James Nusrala, PE
Regional Engineer
Drinking Water Services

cc: Mike Henry, P.E., HBH Consulting Engineers, 2316 Portland Road, Suite H, Newberg, OR 97132

Luke Shepard, City of Rockaway Beach, P.O. Box 5, Rockaway Beach, OR 97136
Carrie Gentry, Gregg Baird, OHA/DWS