

April 6, 2012

800 NE Oregon St.
Portland, Oregon 97232-2162
Voice (971) 673-0405
FAX or TTY (971) 673-0694

Mark E. Hampton, P.E.
Civil West Engineering Services, Inc.
486 E Street
Coos Bay, OR 97420

**Re: Row River Valley Water System Improvements – Membrane WTP
(PWS #4101515, PR # 42-2010)
Final Approval**

We have received confirmation that the referenced project was completed in February 2011, in accordance with the DWP *Conditional Approval* letter dated April 30, 2010. This phase of the project was the installation of an AXIA XS-24 membrane treatment unit and controls.

Operational Conditions:

- 1) Maximum capacity of the treatment plant in the current configuration is 120 gallons per minute.
- 2) DWP has granted the Siemens Memcor S10V modules 4.0 log removal for *Cryptosporidium*, and 4.0 log removal for *Giardia*. The assigned removal credit is dependent on the membrane plant passing a daily pressure decay test at an applied pressure greater than or equal to 17.4 psi, and a pressure decay rate less than or equal to 2.0 psi/min.
- 3) The system is required to achieve 0.5 log *Giardia* inactivation post-filtration, which is currently achieved through chlorine contact time within the transmission line prior to the first user. CT (the product of chlorine concentration and contact time) is required to be calculated each day the plant is in use, and reported to our office monthly.

- 4) The maximum effluent turbidity must never exceed 5.49 NTU, and must not exceed 1.49 NTU in 95% of the daily readings.

This completes the plan review process for the membrane treatment plant and final approval is granted.

If you have any questions, please contact me at 971.673.0407 or via email at fred.n.kalish@state.or.us.

Sincerely,

Fred Kalish, P.E.
Regional Engineer
DHS Drinking Water Program

Cc: John Kirk, P.O. Box 1, Dorena, OR 97434
Casey Lyon, DWP Springfield