



## INFORMATIONAL MEMORANDUM

TO: **Transportation & Infrastructure Committee**  
FROM: **Bob Giberson, Public Works Director** *BJ*  
BY: **Pat Brodin, Public Works Manager**  
CC: **Mayor Ekberg**  
DATE: **June 9, 2017**  
SUBJECT: **Purchase Multi-Channel Water Monitoring System**

### **ISSUE**

Committee approval of the purchase of capital equipment in accordance with City policy.

### **BACKGROUND**

The City of Tukwila's purchasing policies require all unbudgeted capital equipment valued over \$5,000 be approved by Council Committee and the Mayor. This multi-channel water monitoring system was not listed in the Water fund's capital machinery and equipment budget for 2017, therefore it requires Committee approval.

The Department of Health requires that systems must measure their water distribution system's disinfectant residuals in surface water at the same time and location that total coliform bacteria are sampled in the water distribution system, or once per day, whichever is greater.

Previously, Washington State Department of Health approved a regional monitoring plan for Seattle Public Utilities to conduct this monitoring on behalf of all their wholesale water distribution systems. This approval has now changed and the Department of Health is now requiring each wholesale customer to conduct the required distribution residual monitoring. As the City of Tukwila's water district is a wholesale water customer of Seattle Public Utilities, the City will now be required to conduct the testing.

### **ANALYSIS**

The Kuntze Multi-Channel Water Monitoring System will enable automated 24/7 monitoring and data logging of chlorine residual within the City's water distribution system.

### **FINANCIAL IMPACT**

The \$7,704.40 purchase of the Kuntze Multi-Channel Water Monitoring System is within the Water Fund's 2017 capital machinery and equipment budget of \$25,000.

### **RECOMMENDATION**

Committee approval to purchase the Kuntze Multi-Channel Water Monitoring System from the sole source vendor, Correct Equipment in Redmond, Washington for \$7,704.40.

Attachments: Department of Health 3/30/17 Letter  
Invoice and flyer for the Multi-channel water monitoring system



STATE OF WASHINGTON  
DEPARTMENT OF HEALTH

NORTHWEST DRINKING WATER REGIONAL OPERATIONS  
20425 72nd Avenue South, Suite 310, Kent Washington 98032-2388

RECEIVED

APR 05 2017

CITY OF TUKWILA  
MINKLER SHOP

March 30, 2017

PAT BRODIN  
TUKWILA WATER DEPARTMENT  
600 MINKLER BLVD  
TUKWILA, WA 98188

Subject: Tukwila Water Department (ID #89500)  
King County  
SWTR Monthly Report: Distribution System Chlorine Residual

Dear Pat Brodin:

The Department of Health has taken a closer look at monthly surface water reports in follow up to waterborne disease outbreaks that have occurred in the United States and Canada. As the manager of a water system that purchases treated surface water you are responsible for maintaining a detectible chlorine residual throughout your distribution system.

Previously, we had approved a regional monitoring plan for Seattle Public Utilities to conduct this monitoring on behalf of all of their wholesale systems. This approval has now changed and we are requiring each wholesale customer to conduct the required distribution residual monitoring.

Maintaining a chlorine residual is an important protective measure for your system. It can help prevent bacterial regrowth and protect your users from contamination by

- Treatment breakthrough,
- Leaking pipes, valves, and joint seals,
- Cross-connection and backflow,
- Unsecured openings in water storage tanks,
- Improper treatment of equipment or materials before and during main repair, and
- Intentional introduction of contaminants into distribution system.

Monitoring the residual on a regular basis helps you to identify problems that might put your system at risk.

You have three requirements under the Drinking Water Regulations (see applicable WAC References below):

1. measure the chlorine residual within the distribution system on a daily basis and at the same time and location as coliform sampling.

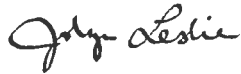
2. maintain a detectible chlorine residual within the distribution system in at least 95 percent of the measurements taken each calendar month. Unless you have specially-designed testing equipment such as continuous chlorine analyzers, detectible means a minimum residual of 0.2 mg/L.
3. report the results of that monitoring to the Department of Health on a monthly basis.

Enclosed is a master copy of the current report form. Please make copies and start using it right away. The monthly report is due by the tenth day of the following month.

In addition to the monitoring and reporting requirements, there are ongoing requirements for routine verification (every 5 days) of continuous chlorine analyzers.

If you have questions or need technical assistance, please contact me at (253) 395-6762 or by email at [Jolyn.Leslie@doh.wa.gov](mailto:Jolyn.Leslie@doh.wa.gov).

Sincerely,



Jolyn Leslie, P.E.  
Regional Engineer  
Northwest Drinking Water Operations

Enclosure

cc: Public Health – Seattle & King County  
Brietta Carter, PE – DOH

RECEIVED

APR 05 2017

CITY OF TUKWILA  
MINKLER SHOP

WAC References

Maintaining a residual – WAC 246-290-692(5)  
Monitoring – WAC 246-290-694(8); WAC 246-290-300(2)(b)  
Reporting – WAC 246-290-696(4)  
Verification of continuous analyzers – WAC 246-290-638(5)



14576 NE 95th St  
 Redmond, WA 98052  
 877-371-4555

Quote

Date	Quote #
4/28/2017	3329

Name / Address
City of Tukwila Sewer District 600 Minkler Tukwila, WA 98188

Job Name		Terms	Rep	Project
		Net 30	HT	
Item	Description	Qty	Cost	Total
Kuntze	Part# 70153000KI Krypton® Multi Chlor/pH - Stabiflow Measuring system for free chlorine, chlorine dioxide, ozone or hydrogen peroxide with automatic pH & temperature compensation. Includes: * Neon® Multi chlorine/pH * Argon® Stabiflow * Zirkon® FTG * Zirkon® DES * Zirkon® pH Features: * 5 mA outputs * ASR - Automatic Sensor Cleaning * PID Control * Automatic Sample Flow Control to 30 l/hr.	1	5,500.00	5,500.00T
Freight	Freight Estimate (prepay and add)*****Freight is only Estimated and will be adjusted upon delivery. Please note: Your freight charges may differ from the freight estimated	1	54.00	54.00T
Kuntze	Optional Adder Conductivity Probe and Chamber Tukwila	1	1,450.00 10.00%	1,450.00T 700.40
			<b>Total</b>	<b>\$7,704.40</b>

## Multi channel water monitoring system

Controlled and reliable measurements driven by Kuntze Krypton® systems. The measuring system includes all customers need for disinfectant measurement: instrument, sensors, assembly and cables.

The Krypton® Multi is a measuring system for disinfectant, pH and temperature - optional ORP and 5th measuring input (Cl<sub>2</sub>, TCl or conductivity).



Kuntze Krypton® Multi are delivered fully assembled and ready to use.

Neon® Multi's water measurement process can be controlled at any time, from any place, on any device via Kuntze's Cloud Connect® service.

All Kuntze products are Made in Germany.

### Parameter

#### Disinfectants

- Free chlorine, chlorine dioxide:  
0.. 5.00 / 10.00 / 20.00 mg/l
- Ozone:  
0.. 5.00 / 10.00 mg/l
- Hydrogen peroxide  
0.. 30.00 mg/l

#### pH

- 0-14.00 pH

#### Temperature

- 0.. 50.0 °C / 32.0.. 122 °F

#### ORP (optional)

- -1500.. +1500 mV

#### 5<sup>th</sup> measuring input (optional)

##### Total Chlorine:

- 0.. 10.00 mg/l

##### or conductivity:

- 0 - 100,0 mS/cm

#### Digital inputs

- Flow control, external controller stop,  
2x level control, activation 2<sup>nd</sup> od 3<sup>rd</sup> control parameter set

### StabiFlow®

StabiFlow® is an assembly for precise measurement of disinfectants. Values are:

- Constant flow of approx. 30 l/h
- Stable, precise and reliable measurements
- Increased life expectancy of the electrodes

### Cloud Connect®

Controlled water measurement process at any time, from any place, on any device. The solution is Kuntze Cloud Connect® service.

### ASR®

ASR® is our patented automatic sensor cleaning process.

- It keeps the electrode surfaces clean and reduces maintenance efforts automatically
- ASR® is available for measurement of free chlorine, chlorine dioxide, ozone and hydrogen peroxide

Cost reduction due to less maintenance

- No manual cleaning
- No refill of chemical or physical agents
- Strongly reduced calibration demand



**CLEAR. CONTROL. CONNECT.**