

PUBLIC HEARING – APRIL 21, 2021

WILLIAM FISHER MEMORIAL WATER COMPANY

PRESENTATION OF POINT-OF-USE (POU)
ARSENIC TREATMENT

WELCOME

HEARING AGENDA

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INTRODUCTIONS AND PRESENTERS

- Tricia Wathen, P.E. – Public Hearing Officer, Central California Section Chief, Division of Drinking Water (DDW), State Water Resources Control Board (SWRCB)
- Jaswinder (Jesse) Dhaliwal, P.E. – District Engineer, Tehachapi District, SWRCB-DDW
- Helena Gutierrez – Community Development Specialist, Self Help Enterprises, Technical Assistance Provider
- Dennis Gatson, McMor Chlorination (court appointed Receiver)
- Matthew Pavelchik, Senior Engineering Geologist, Division of Financial Assistance (DFA), SWRCB

SYSTEM DESCRIPTION

- This is a Community Water System
- Service Connections = 16, Approximate Population = 56
- Well No. 2 is the only source of water and receives disinfection treatment with chlorination.
- William Fisher Memorial Water Company (WFMWC or System) has been under receivership of McMor Chlorination, Inc. since March 30, 2017.
- This water system's water supply violates the arsenic drinking water standard.

Figure 1-1 Well No. 02 Location



SYSTEM COMPLIANCE ISSUES

- On November 3, 2017- Division of Drinking Water (DDW) issued a compliance order to the System for violation of the arsenic MCL.
- On January 30, 2018 – Final Corrective Action Plan was submitted to resolve their arsenic problem by November 30, 2020.
- The System receiver, McMor Chlorination, must take quarterly arsenic water samples, provide quarterly public notification of the arsenic violation, and send the DDW quarterly reports until safe drinking water is reached.



SYSTEM COMPLIANCE ISSUES AND STEPS TAKEN

- Self-Help Enterprises was contracted by the State Water Resources Control Board (SWRCB), Division of Financial Assistance (DFA) to provide technical assistance (TA) to this system.
- AM Consulting Engineers was paid with State funding to perform a POU (point of use) arsenic pilot study and to complete a feasibility study to find the best and most affordable water treatment.
- A Study of three different water treatment systems was completed (centralized, point of use and point of entry treatment). The POU arsenic filtration treatment system was recommended as the best and most affordable way to remove the arsenic.
- POU treatment devices will be the most affordable solution to provide safe drinking water.
- The POU arsenic treatment equipment will be installed under or near the kitchen sink in each house.....IF the community votes for the POU arsenic treatment system .

ARSENIC MCL AND ADVERSE HEALTH EFFECTS

Some people who drink water containing arsenic above the drinking water standard, for many years may experience skin damage or circulatory system problems and may have an increased risk of getting cancer.*

- Arsenic levels in the water system's Well No. 2 are above the MCL of 10 µg/L. Your drinking water has high levels of arsenic and the arsenic must be removed.
- The next slide shows the historical arsenic concentration in the water produced by Well No. 2 since 2019. The average concentration for 2020 was 21 µg/L. This average is over twice the drinking water standard and must be fixed.

***(64465-D, Title 22, California Code of Regulations: Source: <https://govt.westlaw.com/calregs/>)**

HISTORICAL ARSENIC RESULTS

Sample Date	Arsenic Result
Feb 2, 2019	21 µg/L
August 8, 2019	22 µg/L
Nov 6, 2019	21 µg/L
Jan 2, 2020	19 µg/L
April 1, 2020	22 µg/L
August 3, 2020	22 µg/L
October 7, 2020	19 µg/L

All Historical Results can be found at CA Drinking Water Watch at:
<https://sdwis.waterboards.ca.gov/PDWW/>

ARSENIC TREATMENT FEASIBILITY STUDY AND CHOSEN ALTERNATIVE

Feasibility Study of Potential Solutions to remove arsenic

- AM Consulting Engineers prepared “Water Supply Feasibility Study” dated April 2020 to evaluate three treatment alternatives:
- Centralized treatment at the well – Treats all the water the community uses.
- Point of entry treatment - At each property. Treats all the water that YOU use.
- Point of use treatment (POU) – Inside each house at one faucet to treat only water you drink/cook with.

ARSENIC TREATMENT FEASIBILITY STUDY AND CHOSEN ALTERNATIVE

Point of Use treatment was the chosen alternative and the most cost effective-see table below:

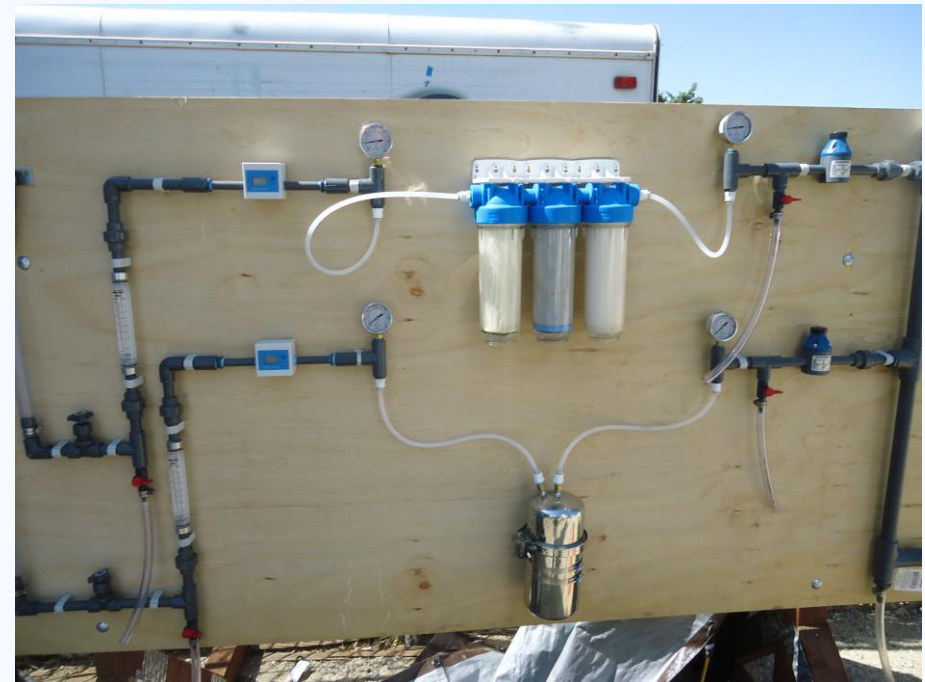
Alternative	Projected Annual O & M Cost	Projected Increase in Monthly Water Bill	Projected New Monthly Water Bill*
Centralized Treatment	\$132,070	\$688	\$771
Point of Use Treatment	\$5,760	\$30	\$113
Point of Entry Treatment	\$132,220	\$689	\$772

*The current water rate per month is \$83.00 which is included in this projected new total monthly water rate.

ARSENIC TREATMENT PILOT STUDY OVERVIEW

- The arsenic treatment pilot study was done for six months from July 2018 to January 2019.
- Two POU arsenic removal systems were studied:
 - Isolux (top in the picture)
 - Multipure MP880 (bottom in the picture)
- Multipure demonstrated a longer media life of 4,940 gallons and arsenic concentration was still non-detect after six months.
- Isolux unit treated 2,870 gallons before arsenic breakthrough occurred and 3,442 gallons before arsenic concentration reached the MCL.
- **Multipure was the best POU unit to use due to lower operation and maintenance cost.**

ISOLUX AND MULTIPURE PILOT STUDY UNITS



POU TREATMENT STRATEGY OVERVIEW

- Installing POU treatment inside all the homes.
- POU's are usually installed under the kitchen sink.
- With the POU system, water from Well No. 2, will only be treated at one POU location in each house.
 - Places such as the shower, bathroom sinks, lawns, gardens or other locations will not be treated.
- Installation, sampling and filter replacement at each POU location in each house will be part of the ongoing maintenance and monitoring program.
- The water system operator must inspect, test and replace the POU filter. They will need to schedule their visit with the owners or renters.



MULTIPURE MP880

ROLES AND RESPONSIBILITIES – WHO DOES WHAT

The Water System

- Must meet the arsenic standard.
- McMor Chlorination Inc. will serve as the operator and will be in charge of installation, water testing, POU filter change outs, leaks and customer questions.

WFMWC Customers

- 100% arsenic filter use by the customers is needed.
- Before the POU filter can be installed at least 51% of the customers must vote for POU treatment to allow installation and regularly scheduled sampling and maintenance.
- Customer education about the POU filters will be provided before the POU filters are put in and every year afterwards.
- **PLEASE UNDERSTAND**
- **WFMWC will be subject to enforcement action by the State Water Board if it is unable to return to getting clean water because one or more of its customers does not participate in the POU treatment system.**

POU CUSTOMER SURVEY/AGREEMENT

- A customer survey for POU treatment acceptance needs to be conducted prior to installation of the POU treatment.
- Every water user must agree to installation of POU treatment device and routine sampling and maintenance.
- An agreement will give McMor Chlorination permission to schedule a visit to the house, to enter the premises of each customer's property to install, maintain, repair, and test or replace the POU arsenic treatment filters.
- Customers will have 30 days to return the completed survey to McMor Chlorination. The survey is posted on the Self-Help Website <https://www.selfhelpenterprises.org/public-hearings/> along with the information about the public hearing. The Survey and public hearing information were also mailed to each customer by McMor Chlorination.

WILLIAM FISHER MEMORIAL WATER COMPANY

SURVEY

Statement of Support and Understanding Point-of-Use (POU) Treatment Devices

Customer Name: _____ Phone: _____

Address: _____

Type of Building: House Apartment Business

Business with residential dwellings Other: _____

Are you the property owner? Yes No

If no, please provide the contact information for the property owner.

Property Owner Name: _____ Phone: _____

Property Owner Address: _____ → →

PLEASE SELECT ONE:

I vote FOR the use of Point-of-Use treatment devices. POU treatment provides treated water at one location faucet at each property where you drink and cook. It is the most cost-effective treatment alternative for William Fisher MWC.

I vote AGAINST the use of Point-of-Use treatment devices. A vote against POU means that you want William Fisher to install either centralized treatment (provides treated water to all water used by customers including irrigation) or Point-of-Entry (POE) treatment (provides treated water to all water used inside the property). Both centralized treatment and POE treatment are more expensive treatment alternatives per the William Fisher MWC April 2020 treatment study.

COMPLIANCE = GETTING SAFE DRINKING WATER

POU TREATMENT OPTION

- Over 50 % of homes must vote for POU arsenic treatment to complete the funding application and installation of the arsenic POU filters.
- Compliance is necessary and mandatory; the other arsenic treatment options for WFMWC are expensive.
- This water system is eligible for funding from the State Water Board. Self-Help Enterprises will apply for funding to purchase and install the POU arsenic treatment equipment.

Survey – Customer's Action item: Vote **yes** or **no**

- A survey is important because it is needed to see if this water system can move forward with the POU treatment units.
- The survey was mailed to you by McMor Chlorination with the public hearing notice (also on the Self-Help website)
- All water customers will be sent a survey.
- Customers will have 30 days to send in their completed survey.
- The survey results will be counted and water system customers will be notified by McMor Chlorination.

POU OPERATION & MAINTENANCE

- Each POU device will include a flow meter to measure how much water has been treated for arsenic (see yellow circle in the picture).
- During the System's pilot study, the Multipure POU filter treated 4,900 gallons without any arsenic detected.
- Based on the System's pilot study, each *Multipure* POU will be allowed to treat up to 3,000 gallons before a change out is scheduled.
- Each month the customer needs to report the flow meter reading to McMor chlorination by email, phone, letter or text.
- In addition, each customer are required to report any damages or defects in POU arsenic treatment filters.



POU ARSENIC SAMPLING

POU arsenic sampling required for compliance

- Monthly arsenic sampling of a portion of devices (1 or 2 units each month) will be completed by McMor Chlorination. They will coordinate with each customer directly.
- Each property needs to be sampled for arsenic annually.
- After one year of POU treatment operation and monthly arsenic sampling, the System may request for reduced monitoring to quarterly. This will be dependent on all treated arsenic sampling results being below 75% of the MCL (for arsenic this would be 7.5 ppb).
- If reduced arsenic monitoring is approved, it will return to monthly monitoring if any treated arsenic samples are greater than 7.5 ppb.
- All POU arsenic results will be posted on the DDW Drinking Water Watch website for public review.

<https://sdwis.waterboards.ca.gov/PDWW/>



ANTICIPATED POU ARSENIC TREATMENT COSTS & INCREASES TO EXISTING RATES

Treatment Annual O&M Costs for POU Treatment

Item	Cost
Media Replacement	\$3,040
Operations	\$1,020
Sampling	\$1,200
Treatment Equipment Repairs	\$500
Total	\$5,760
Estimated Monthly Water Rate Increase (per connection) ⁽¹⁾	\$30
Current Monthly Water Rate	\$83
Estimated Monthly Water Rate	\$113
Note: ⁽¹⁾ $((\$5,760 \text{ Annual O\&M} / 12 \text{ months}) / 16 \text{ Active Connections}) = \$30 \text{ Rate Increase per Month}$	

POU ARSENIC FILTER OPERATION & MAINTENANCE COST EXPLAINED

The \$30 cost per month for the POU treatment filter includes: filter replacement, labor, repairs, and sampling. The information below explains on how the O&M costs have been calculated:

- **Annual replacement of 1 filter:** - Replacement of one filter costs \$16 / month. This includes tax, shipping and installation of the replacement filter.
- **Operations = \$5/month** - Approximately 1 hour of work per month at a rate of \$85 per hour.
- **Sampling = \$6/ month** - One twelfth of the POU treatment units will be sampled after installation and every month thereafter. Each sample analysis costs approximately \$50 (24 samples).
- **Treatment Equipment Repairs = \$3 / month** – Estimated cost of annual repairs of the POU treatment units.

SUMMARY

- WFMWC has been in violation of the arsenic drinking water standard since January 2009.
- Per November 2017 Compliance Order, deadline for WFMWC to provide safe drinking water that meets the arsenic standard was November 30, 2020.
- WFMWC needs to install treatment to meet the arsenic standard. Based on the pilot study, the best and most affordable choice is POU Arsenic treatment.

NEXT STEPS

- WFMWC Customers need to fill in the survey and agreement; then return it back to McMor Chlorination within 30 days (May 21, 2021).
- **If majority of customers vote yes.** This system will move forward with the POU treatment alternative and apply for State money to install the POU arsenic treatment filter equipment.
- **If a majority of customers vote against POU arsenic treatment or do not vote.** WFMWC will be subject to additional enforcement action by the State Water Board.

CONTACTS

McMor Chlorination - <https://www.mcmorchlor.com/>

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CONTACTS

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https://www.waterboards.ca.gov/drinking_water/programs/

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